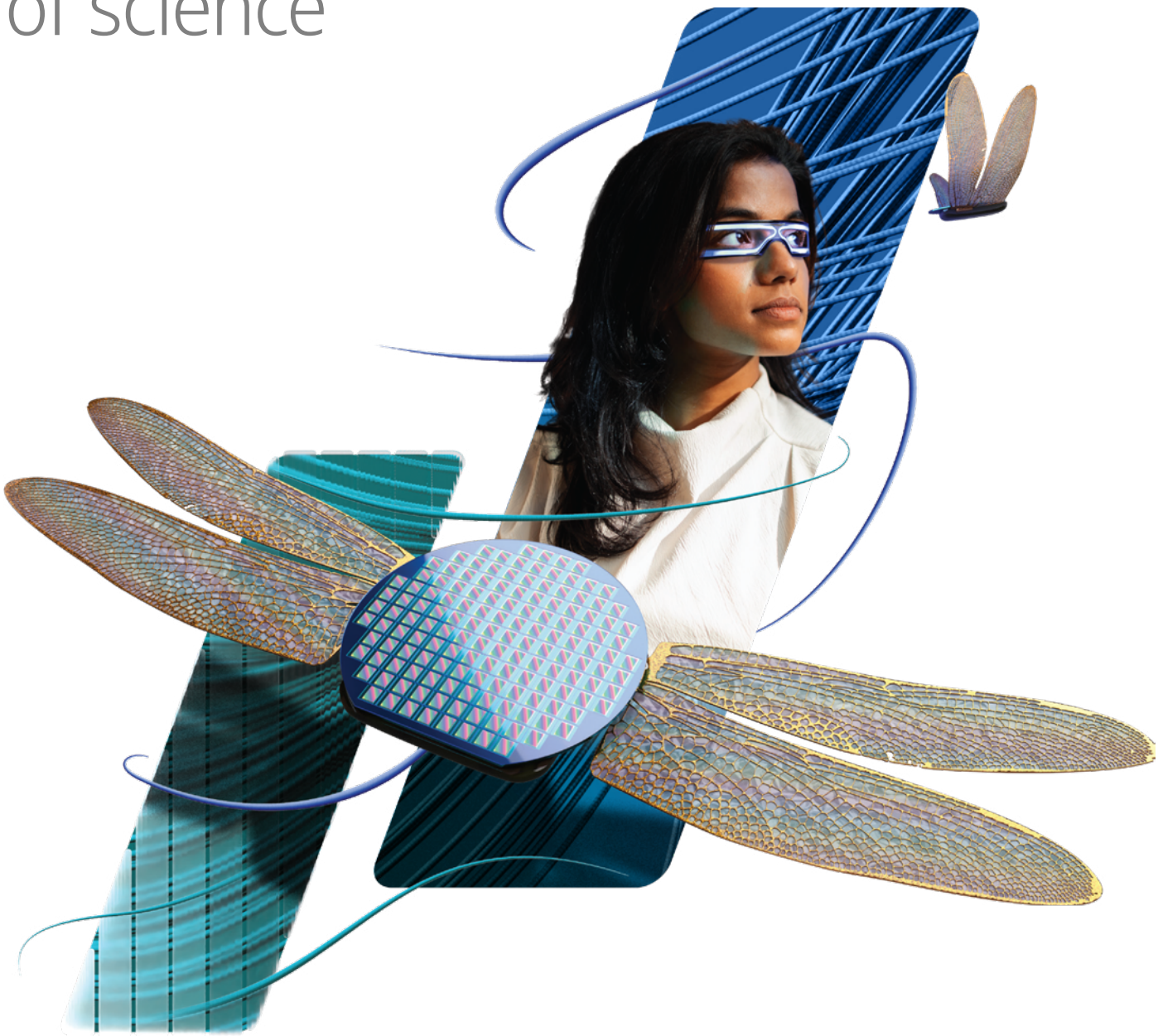
Global Innovation Index 2026

Powering entrepreneurs at the frontier of science



WIPO

Global Innovation Index 2026

Powering entrepreneurs at the frontier of science

WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION

ISBN: 978-92-805-3975-2 (print)
ISBN: 978-92-805-3976-9 (online)
ISSN: 2263-3693 (print)
ISSN: 2788-6972 (online)

This work is licensed under Creative Commons Attribution 4.0 International. To view a copy of this license, please visit https://creativecommons.org/licenses/by/4.0

The user is allowed to reproduce, distribute, adapt, translate and publicly perform this publication, including for commercial purposes, without explicit permission, provided that the content is accompanied by an acknowledgement that WIPO is the source and that it is clearly indicated if changes were made to the original content.

Suggested citation: World Intellectual Property Organization (WIPO) (2026). *Global Innovation Index 2026: Powering entrepreneurs at the frontier of science*, 19th edition. Geneva: WIPO. DOI: 10.34667/tind.59194

Adaptation/translation/derivatives should not carry any official emblem or logo, unless they have been approved and validated by WIPO. Please contact us via the WIPO website to obtain permission.

For any derivative work, please include the following disclaimer: "The Secretariat of WIPO assumes no liability or responsibility with regard to the transformation or translation of the original content."

When content published by WIPO, such as images, graphics, trademarks or logos, is attributed to a third party, the user of such content is solely responsible for clearing the rights with the right holder(s).

Any dispute arising under this license that cannot be settled amicably shall be referred to arbitration in accordance with Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL) then in force. The parties shall be bound by any arbitration award rendered as a result of such arbitration as the final adjudication of such a dispute.

The designations employed and the presentation of material throughout this publication do not imply the expression of any opinion whatsoever on the part of WIPO concerning the legal status of any country, territory or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

This publication is not intended to reflect the views of the Member States or the WIPO Secretariat.

The mention of specific companies or products of manufacturers does not imply that they are endorsed or recommended by WIPO in preference to others of a similar nature that are not mentioned.

Cover: Getty Images, Unsplash.
WIPO Publication No. 2000EN/26

General enquiries relating to the GII, including from students, academics, journalists and others, may be sent to gii@wipo.int. GII-related communications from Member States relating to innovation performance, the state of their economy's innovation metrics or related GII assistance requests should be directed to the Assistant Director General, IP and Innovation Ecosystems Sector, World Intellectual Property Organization, 34, chemin des Colombettes, CH-1211 Geneva 20, Switzerland (ies@wipo.int) and the GII Team at WIPO (gii@wipo.int).

© WIPO, 2026
First published 2026

World Intellectual
Property Organization
34, chemin des Colombettes, P.O.
Box 18
CH-1211 Geneva 20
Switzerland

Contents

Foreword 7

Acknowledgments 8

GII Advisory Committee 11

GII Industry Association Network 13

GII 2026 at a glance 14
Global leaders in innovation, 2026 15
Key takeaways 17
This year's special GII theme looks to the future of science-powered entrepreneurship 24

Global Innovation Tracker 28
Global Innovation Tracker Dashboard 29
Key messages 30
Science and innovation investment 31
Technological progress 42
Technology adoption 45
Socioeconomic impact 48
Conclusion and outlook 51
Data notes 51

GII 2026 results 55
Who leads global innovation in 2026? 56
Who is gaining momentum? And who are the innovation climbers in 2026? 61
Which economies do more with less? 66
Where are innovation systems unbalanced? 70
What do regional patterns tell us about the geography of innovation? 76
Conclusion 82

GII 2026 Ranking of World's Top 100 Innovation Clusters 83
Top 10 clusters and other top-tier rankings 84
Biggest rank movements among the top 100 86
Innovation clusters by economy 87
Regional distribution of innovation clusters 91
Top innovation-intensive clusters per capita 94
Scale versus intensity 98

Special theme 2026: Powering entrepreneurs at the frontier of science, turning pilots into pipelines 100
What is deep science entrepreneurship, why does it matter, and what is new? 101
How large and important is deep science entrepreneurship? 103
Obstacles to scaling deep science ventures 116
Deep science entrepreneurship in developing economies: building translation capacity where it matters most 117
What role does intellectual property play in deep science entrepreneurship? 120
What policies and practices can strengthen deep science entrepreneurship ecosystems? 126
Conclusion 129

GII 2026 Economy briefs and profiles 134
How to navigate the GII Innovation Ecosystems and Data Explorer 135
How to read the Economy profiles 136
Framework of the Global Innovation Index 2026 138

Appendix I – Conceptual and measurement framework of the Global Innovation Index 278
Rationale and origins 278
Defining innovation in the GII 278
The GII conceptual framework 279
Adjustments to the GII model in 2026 282
Data limitations and treatment 282
Missing values 283
Treatment of series with outliers 283
Normalization 284
Weights 284
Strengths and weaknesses 284
Caveats regarding the year-to-year comparison of rankings 285

Appendix II – Joint Research Centre (JRC) statistical audit of the 2026 Global Innovation Index 287
Introduction 287
Conceptual and statistical coherence within the GII framework 288
The impact of modeling assumptions on the GII results 296
Uncertainty analysis results 298
Sensitivity analysis results 304
Best-practice frontier in the GII by data envelopment analysis 307
Conclusion 310

Appendix III – Sources and definitions 313
1. Institutions 313
2. Human capital and research 315
3 Infrastructure 318
4. Market sophistication 321
5. Business sophistication 323
6. Knowledge and technology outputs 328
7. Creative outputs 332

Appendix IV – Global Innovation Index innovation cluster methodology 336
References 343

Appendix V – Methodology of the Special theme 344
1 The Dealroom–WIPO Deep Science Startup Tracker 344
2 Matching deep science startups to global patent data 346
References 348

Foreword

Welcome to the 19th edition of WIPO's flagship *Global Innovation Index* (GII).

At a time of economic, social and cultural disruption, heightened by astounding advances in AI, harnessing the power of innovation and creativity is increasingly seen to be critical for growth, development and competitiveness. However, even as changes accelerate, the question that confronts us remains the same: how do we turn great ideas into real products, businesses and jobs that represent real value for economies and societies?

Against such a backdrop, this edition's Special theme puts deep science entrepreneurship in the spotlight. More than 30,000 deep science startups and spinouts have been created since 2000, with a combined enterprise value of around USD 8 trillion. Deep science entrepreneurship is spreading beyond traditional innovation hubs, with growing activity across middle-income economies in fields such as health technologies, advanced manufacturing and agritech. Significantly, almost half of deep science startups hold patents, compared with only about 15 percent for any other type of early-stage company.

These findings are relevant to economies at every stage of development. Although innovation ecosystems differ, the fundamental building blocks are remarkably consistent, involving strong links between research and industry, and effective IP and technology transfer systems, together with long-term finance, skilled talent and a policy environment that encourages responsible risk-taking and investment. Countries that have such a foundation are best placed to build strong and effective innovation ecosystems.

The GII continues to evolve alongside this landscape. This 2026 edition introduces the Dealroom–WIPO Deep Science Startup Tracker, the first global mapping of deep science startups and spinouts, providing new evidence on where science-based entrepreneurship is emerging and how it is evolving around the world. Also the GII Innovation Ecosystems & Data Explorer has been expanded for this edition, offering deeper insights into areas such as high-technology trade and deep science startups.

Close to 100 WIPO Member States already use the GII to benchmark innovation performance and inform national strategies. We hope this 19th edition will continue to serve as a trusted resource for ministers, policymakers, researchers and businesses seeking to strengthen innovation ecosystems and thereby ensure that today's breakthroughs become tomorrow's solutions.



Daren Tang
Director General
World Intellectual Property Organization (WIPO)

Acknowledgments

The *Global Innovation Index 2026* was prepared under the general direction of Daren Tang, Director General, in WIPO's IP and Innovation Ecosystems Sector led by Marco Alemán, Assistant Director General, and in the Department of Economics and Data Analytics led by Carsten Fink, Chief Economist.

The GII is managed by Sacha Wunsch-Vincent, Head of Section, and produced by the GII team, comprising Lorena Rivera León, Senior Economist; Jeff Slee, Data Scientist; Shengyu Qin, Project Manager; as well as Davide Bonaglia, Oriol Gisbert-Martí, Anmol Grewal, Florencia Jaccoud and Zihang Wang (GII Fellows), Roger Alfredo Zamora Matute, as well as former GII project managers Mariia Shcherbakova and Mario Canales.

For the GII 2026 Special theme and the production of the Dealroom–WIPO Deep Science Start-up Tracker – the first global mapping of deep science startups – we thank Dealroom, and in particular Lorenzo Chiavarini, Boris Bavinck and Felix Ullmer Key, and for the spinout review, Cristiana Sengo and Daria Drabik. For the IP data work and the SPARK: Patenting in Deep Science Startups and Spinouts (Global Innovation Index 2026 Special), November 2026, we thank Christopher Harrison and Hong Kan, from the IP Analytics Section (WIPO). For the two background studies we thank Gaétan de Rassenfosse (EPFL) and Kritika Saxena (University of Groningen).

We are grateful to the following individuals and institutions for providing external chapter contributions on the 2026 theme "Powering entrepreneurs at the frontier of science" and our external data collaborators, without whom the Index would not be what it is.

We thank the authors of the thematic contributions to the GII:

CERN: (European Organization for Nuclear Research) Linn Kretzschmar, Han Hubert Dols and Giovanni Anelli

CNI (Brazil): Lygia V. Pereira and João Antônio Lopes Filho

Contemporary Amperex Technology Co., Limited (CATL, China): Xiaonan Luo, Yi Xu and Shaoteng Ren

Emerge (Brazil): Lucas Delgado and Daniel Pimentel

Georgia Institute of Technology (US): Ángel Cabrera and Raghupathy Sivakumar

King Saud University (Saudi Arabia): Khalid Alhussaini

Ministry of Investment (Saudi Arabia): Afnan A. Ababtain

Myelin Foundry (India): Gopichand Katragadda

National Research Foundation, Prime Minister's Office (Singapore): Tan Chorh Chuan

Research, Development and Innovation Authority (Saudi Arbia): Mohammed R. AlShareef

Spirit AI (China): Fengtao Han, Leo Guo and Doris Guo

The following WIPO colleagues provided substantive inputs to GII elaboration, administrative coordination, or dissemination: Kyle Bergquist, Bruno Le Feuvre, Mosahid Khan, Ryan Lamb, from the Statistics and Data Analytics Division, DEDA; Samiah Do Carmo Figueiredo, Eloise Osinga, Mary Osuchukwu and Cynthia Poullain (Administrative Assistants); as well as colleagues from the External Relations Division, the Digital Engagement Service, the IP and Innovation Ecosystems Sector, the Language Division, the News and Media Division, the Printing Plant, the Regional and National Development Sector, the WIPO Office in New York, and WIPO's External Offices.

We also thank the Portulans Institute, the GII Advisory Committee, the GII Industry Association Network, and the GII Data Collaborators for their contributions, as well as the Competence Centre on Composite Indicators and Scoreboards (COIN) team from the European Commission's Joint Research Centre, led by Michaela Saisana, which conducted the statistical audit. The report was edited by Richard Cook, Andy Platts and James Cooke at Book Now Ltd., and the report was managed, designed and typeset by the WIPO publishing team. The GII interactive data website was developed by Pere Rovira, Samantha Pinos and Noël Garcia at One Tandem.

We thank our external data collaborators:

Africa: The Big Deal: Max Cuvellier Giacomelli

BloombergNEF: Evelina Stoikou

Brand Finance: Areeb Arshad, Annie Brown, Artur Bryzghalov, Annabella Garnham, David Haigh and Thulith Perera

CB Insights: Tom Landers and Jason Saltzman

Centre for Science and Technology Studies (CWTS), Leiden University: Alfredo Yegros

Clarivate Analytics: Joseph Brightbill and Uwe Wendland

data.ai (a Sensor Tower Company): Donny Kristianto and Nan Lu

Division for Public Institutions and Digital Government (DPIDG) of the United Nations Department of Economic and Social Affairs (UNDESA)

European Commission Joint Research Centre: Jaime Lagüera González, Alberto Guidi, Petra Krylova, Panagiotis Ravanos, Michaela Saisana, Elisabeth Nindl, Hugo Confraria and Oscar Smallenbroek

GitHub: Mike Linksvayer and Kevin Xu

Global Entrepreneurship Monitor (GEM): Niels Bosma, Alicia Coduras, Mahsa Samsami and Aileen Ionescu-Somers

Growth Lab at Harvard University: Sebastian Bustos, Timothy Paul Cheston and Annie White

International Accreditation Forum (IAF): Nigel Johnston

International Atomic Energy Agency (IAEA): Mauro Carrara and Egor Titovich

International Energy Agency (IEA): Zuzana Dobrotkova, Luca Lorenzoni, Oya Zaimoglu

International Federation of Robotics (IFR): Susanne Bieller, Nina Kutzbach and Christopher Müller

International Labour Organization (ILO): Horacio Barría, David Bescond and Yves Perardel

International Monetary Fund (IMF)

International Organization for Standardization (ISO): Laurent Charlet and Cristina Draghici

International Telecommunication Union (ITU): Nehal Desai, Thierry Geiger, Esperanza Magpantay, Nathan Menthon, Martin Schaaper and Daniel Vertesy

International Union of Railways (UIC): Michele Gesualdi and Bertrand Minary

IQVIA Institute for Human Data Science: Murray Aitken, Roland Alexander and Michael Kleinrock

Moody's Analytics: Renato Ferrigno, Kirill Katschura, Santhosh Metri, Petra Steiner and Sasha Uvarova

NASA Goddard Institute for Space Studies (NASA GISS): Reto A. Ruedy

National Institutes of Health: Kris Wetterstrand

Omdia: David Hancock

Organisation for Economic Co-operation and Development (OECD): Fernando Galindo-Rueda, Corinne Heckmann, Miyako Ikeda, Guillaume Kpodar, Daniel Sanchez-Serra and Fabien Verger

PitchBook Data, Inc.: Charlie Farber, Sydney Glander, Nalin Patel and Alexandra Watson

PricewaterhouseCoopers (PwC): Kamlesh Balasubramanian and Shreeta Sen

QS Quacquarelli Symonds Ltd: Samuel Wong

Red de Indicadores de Ciencia y Tecnología (RICYT): Rodolfo Barrere and Laura Trama

S&P Global Market Intelligence: Mohsen Bonakdarpour, Steve Brown and Karen Campbell

SCImago: Félix de Moya Anegón

The Conference Board: Erik Lundh and Dana Peterson

Times Higher Education: Phil Baty, Emma Deraze, Elizabeth Shepherd and Emma Wilkin

Trade Data Monitor LLC: C. Donald Brasher Jr., John Miller, Maria Vretenicic and Altan Yurdakul

TU Wien: Karl Rupp

UNESCO Institute for Statistics (UIS): Ghania Djafri, Adolfo Gustavo Imhof, Olivier Labé, Weixin Lu, Oscar Milafu Onam, Rohan Pathirage, José Pessoa and Yanhong Zhang

United Nations Department of Economic and Social Affairs, Population Division: Patrick Gerland

United Nations Industrial Development Organization (UNIDO): Fernando Cantú Bazaldua

United Nations Public Administration Network (UNPAN)

World Bank: Parul Agarwal, Jean-François Arvis, Sëbastien C. Dessus, Tony Fujs, Aart Kraay, Hiroko Maeda, Denis Medvedev, Eric Roland Metreau, Florina Pirlea, Rubena Sukaj, Daria Ulybina and Christina Wiederer

World Economic Forum: Ricky Li

World Federation of Exchanges: Mihaela Croitoru

World Health Organization (WHO): Richard Johnston

World Trade Organization (WTO): Barbara Carmelina D'Andrea Adrian, Shradha Bhatia, Florian Eberth, Monia Snoussi-Mimouni and Janvier Usanase

ZookNIC Inc: Matthew Zook

GII Advisory Committee

Since 2011, the Advisory Committee has been providing strategic direction to the Global Innovation Index (GII). The Committee's mandate is to emphasize innovation's pivotal role in driving economic and social advancement and to extend the reach of GII insights across all economies and regions globally. The Advisory Committee comprises accomplished international policymakers, thought leaders and corporate strategists selected from diverse geographical and institutional backgrounds who have been brought together to share their invaluable expertise in an individual capacity. We would like to express our profound appreciation to all Advisory Committee members for their collaborative spirit and continued commitment to the advancement of global innovation.

Advisory Committee members

Doreen Bogdan-Martin, Secretary-General, International Telecommunication Union (ITU)

Tan Chorh Chuan, Former Permanent Secretary of National Research and Development, and Chairman of the Agency for Science, Technology and Research (A*STAR), Singapore

John Denton, Secretary General, International Chamber of Commerce (ICC)

Khaled El-Enany, Director General, United Nations Educational, Scientific and Cultural Organization (UNESCO)

John Kao, Executive Chairman, ThayerMahan, Inc., and former Harvard Business School Professor, United States

Erika Kraemer-Mbula, Professor of Economics, College of Business and Economics, University of Johannesburg, South Africa

Bruno Lanvin, President, Descartes Institute for the Future, Switzerland

Le Mai Lan, Vice Chairwoman, Vingroup JSC, President of the University Council VinUniversity, Viet Nam

Weibing Lu, Partner and President, Xiaomi Group, China

Raghunath Anant Mashelkar, Former Director-General, Council of Scientific and Industrial Research (CSIR), former President, Global Research Alliance, and former Chair, National Innovation Foundation, India

Philippe Kuhutama Mawoko, Professor, Université du Kwango, and former Executive Secretary, African Observatory for Science, Technology and Innovation (AOSTI), African Union Commission, Democratic Republic of the Congo

Ken Moore, Chief Innovation Officer, Mastercard Inc., United States of America

Sergio Mujica, Secretary-General, International Organization for Standardization (ISO)

Gerd Müller, Director-General, United Nations Industrial Development Organization (UNIDO)

Nagla Rizk, Professor and Director, Access to Knowledge for Development Center, School of Business, The American University in Cairo (AUC), Egypt

Monika Schnitzer, Chair, German Council of Economic Experts, and Professor, Ludwig-Maximilians-University (LMU) Munich, Germany

Veneta Stefanova Andonova Zuleta, Associate Professor, School of Management, Universidad de los Andes, Colombia

Heizo Takenaka, Director, Center for Global Innovation Studies, Keio University, Japan; former Minister of State for Economic and Fiscal Policy, and Member of the World Economic Forum Board of Trustees, Japan

Mark Thomson, Director-General, European Organization for Nuclear Research (CERN)

Blanca Treviño, President, Softtek, Mexico

Pedro Wongtschowski, Member, Board of Governors of FAPESP, São Paulo's Science and Technology Agency, Brazil

Kai Wu Chief Scientist, Contemporary Amperex Technology Co., Limited (CATL), China

GII Industry Association Network

The Global Innovation Index Industry Association Network (GIIIAN) unites distinguished organizations representing a vibrant ecosystem of firms and private sector entities, all focused on propelling innovation. The GIIAN members stand at the forefront of innovation and competitiveness throughout diverse sectors, economies and geographical regions, delivering essential perspectives on innovation measurement methodologies and growth catalysts. They engage with WIPO in orchestrating high-impact GII events and amplifying the GII's core mission to strengthen innovation metrics and accelerate development worldwide.

Brazilian National Confederation of Industry (CNI)

Antonio Ricardo Alvarez Alban, President

Confederation of Indian Industry (CII)

Chandrajit Banerjee, Director General

International Chamber of Commerce (ICC)

John Denton, Secretary General

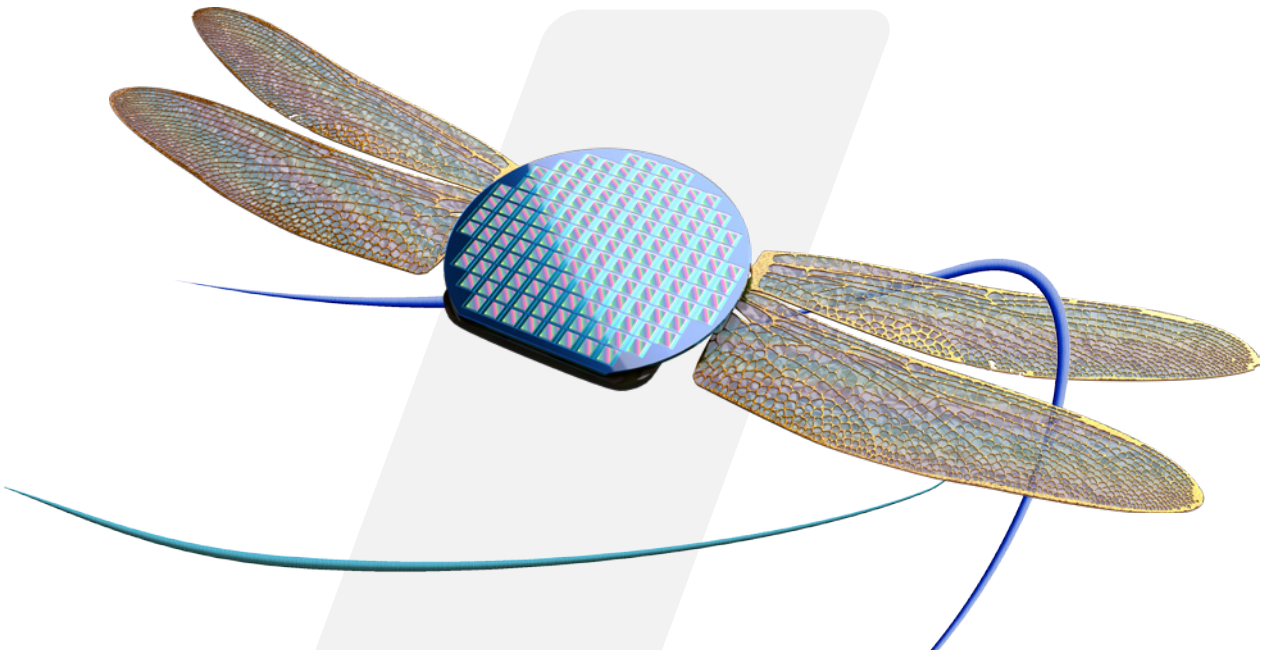
Türkiye Exporters Assembly (TİM)

Mustafa Gültepe, President

GII 2026 at a glance

The Global Innovation Index 2026 ranks the innovation performance of 139 economies, maps the world's top 100 innovation clusters, and tracks the main global innovation trends.

This year's special GII theme asks how deep science startups turn frontier research into new industries, and what it takes for them to scale.



Global leaders in innovation, 2026

Top innovation economies by region

Northern America	Latin America and the Caribbean	Europe	Sub-Saharan Africa*	Northern Africa and Western Asia*	Central and Southern Asia	South East Asia, East Asia and Oceania
1 United States	1 Chile	1 Switzerland	1 Mauritius	1 Israel	1 India	1 Republic of Korea
2 Canada	2 Brazil	2 Sweden	2 South Africa	2 United Arab Emirates ↑	2 Kazakhstan ★	2 Singapore
	3 Mexico	3 United Kingdom	3 Botswana	3 Cyprus ↓	3 Bhutan ★	3 China
			4 Senegal ↑	4 Saudi Arabia ★		



Top innovation economies by income group

High-income	Upper middle-income	Lower middle-income	Low-income ^
1 Switzerland	1 China	1 India	1 Rwanda
2 Sweden	2 Malaysia	2 Viet Nam	2 Madagascar ↑
3 United States	3 Thailand ★	3 Philippines	3 Togo ↓

 Indicates a new entrant into the group's top economies in 2026.
 Indicates movement in rank (up or down) within the top economies, relative to 2025.
* Top regional economies including island economies Cyprus and Mauritius.
^ Top economies in the low-income group, including island economy Madagascar.
Note: World Bank Income Group Classification (July 2025). Year-on-year changes in GII rank are influenced by performance and methodological considerations (see Appendix I).

Source: Global Innovation Index Database, WIPO, 2026.

Global Innovation Index 2026 rankings

GII rank	Economy	Score	Income group rank	Region rank
1	Switzerland	66.7	1	1
2	Sweden	63.2	2	2
3	United States	62.3	3	1
4	Republic of Korea	61.4	4	1
5	Singapore	61.0	5	2
6	United Kingdom	59.6	6	3
7	Netherlands (Kingdom of the)	58.4	7	4
8	Finland	57.9	8	5
9	Denmark	57.7	9	6
10	China	57.0	1	3
11	Germany	56.8	10	7
12	Japan	54.1	11	4
13	France	54.0	12	8
14	Hong Kong, China	53.2	13	5
15	Israel	52.2	14	1
16	Canada	51.1	15	2
17	Estonia	50.4	16	9
18	Austria	50.2	17	10
19	Ireland	50.1	18	11
20	Australia	49.6	19	6
21	Norway	48.5	20	12
22	Belgium	48.5	21	13
23	Luxembourg	46.6	22	14
24	New Zealand	46.4	23	7
25	United Arab Emirates	46.4	24	2
26	Iceland	46.3	25	15
27	Italy	46.2	26	16
28	Spain	45.4	27	17
29	Cyprus	45.3	28	3
30	Portugal	44.5	29	18
31	Malta	43.8	30	19
32	Lithuania	43.2	31	20
33	Czech Republic	42.8	32	21
34	Malaysia	41.8	2	8
35	Slovenia	41.1	33	22
36	Hungary	40.7	34	23
37	Bulgaria	40.3	35	24
38	India	40.1	1	1
39	Poland	39.5	36	25
40	Latvia	38.3	37	26
41	Greece	38.2	38	27
42	Saudi Arabia	37.9	39	4
43	Viet Nam	37.7	2	9
44	Thailand	37.6	3	10
45	Türkiye	37.5	4	5
46	Croatia	36.9	40	28
47	Qatar	36.6	41	6
48	Slovakia	36.5	42	29
49	Romania	35.3	43	30
50	Mauritius	34.1	5	1
51	Chile	33.8	44	1
52	Philippines	33.8	3	11
53	Brazil	33.5	6	2
54	Morocco	32.8	4	7
55	Indonesia	32.7	7	12
56	Serbia	32.5	8	31
57	Georgia	32.2	9	8
58	Russian Federation	31.8	45	32
59	Armenia	31.6	10	9
60	Jordan	31.5	5	10
61	North Macedonia	31.2	11	33
62	Kuwait	30.9	46	11
63	South Africa	30.9	12	2
64	Bahrain	30.8	47	12
65	Mexico	30.6	13	3
66	Uruguay	30.5	48	4
67	Ukraine	30.4	14	34
68	Republic of Moldova	30.3	15	35
69	Oman	30.0	49	13
70	Costa Rica	29.8	50	5
71	Tunisia	29.3	6	14
72	Mongolia	29.1	16	13
73	Kazakhstan	29.1	17	2
74	Bhutan	28.9	7	3
75	Argentina	28.8	18	6
76	Montenegro	28.8	19	36
77	Uzbekistan	28.7	8	4
78	Colombia	28.6	20	7
79	Albania	28.3	21	37
80	Peru	27.9	22	8
81	Iran (Islamic Republic of)	27.6	23	5
82	Botswana	27.1	24	3
83	Egypt	26.1	9	15
84	Bosnia and Herzegovina	26.1	25	38
85	Azerbaijan	25.8	26	16
86	Lebanon	25.6	10	17
87	Jamaica	24.9	27	9
88	Belarus	24.5	28	39
89	Panama	24.4	51	10
90	Senegal	24.4	11	4
91	Barbados	24.2	52	11
92	Kyrgyzstan	24.1	12	6
93	Cambodia	23.8	13	14
94	Sri Lanka	23.7	14	7
95	Pakistan	23.7	15	8
96	Rwanda	23.3	1	5
97	Kenya	23.0	16	6
98	Brunei Darussalam	23.0	53	15
99	Dominican Republic	22.9	29	12
100	El Salvador	22.8	30	13
101	Ghana	22.6	17	7
102	Namibia	22.5	18	8
103	Cabo Verde	22.4	31	9
104	Nepal	22.3	19	9
105	Bangladesh	21.5	20	10
106	Ecuador	21.3	32	14
107	Trinidad and Tobago	21.2	54	15
108	Lao People's Democratic Republic	21.2	21	16
109	Paraguay	21.1	33	16
110	Côte d'Ivoire	20.8	22	10
111	Algeria	20.5	34	18
112	Tajikistan	20.3	23	11
113	Madagascar	20.2	2	11
114	Bolivia (Plurinational State of)	19.7	24	17
115	Zambia	19.5	25	12
116	Honduras	19.2	26	18
117	Benin	19.1	27	13
118	Nigeria	19.1	28	14
119	United Republic of Tanzania	19.0	29	15
120	Guatemala	19.0	35	19
121	Cameroon	18.9	30	16
122	Togo	18.7	3	17
123	Uganda	18.4	4	18
124	Nicaragua	18.0	31	20
125	Myanmar	17.4	32	17
126	Malawi	17.2	5	19
127	Venezuela (Bolivarian Republic of)	16.7		21
128	Lesotho	16.5	33	20
129	Mozambique	16.1	6	21
130	Burkina Faso	16.1	7	22
131	Mauritania	16.1	34	23
132	Zimbabwe	16.1	35	24
133	Ethiopia	15.7		25
134	Mali	15.2	8	26
135	Burundi	15.1	9	27
136	Angola	13.0	36	28
137	Democratic Republic of the Congo	12.6	10	29
138	Niger	12.1	11	30
139	Chad	9.5	12	31

Low-income
Lower middle-income
Upper middle-income
High-Income

Sub-Saharan Africa
Central and Southern Asia
South East Asia, East Asia, and Oceania
Nothern Africa and Western Asia

Latin America and the Caribbean
Northern America
Europe

Note: The Bolivarian Republic of Venezuela and Ethiopia are not included in any income group because they are unclassified in the World Bank FY2026 income classification. The Bolivarian Republic of Venezuela is unclassified due to the unavailability of gross national income (GNI) per capita data, while Ethiopia has a temporary unclassified status.

Source: Global Innovation Index Database, WIPO, 2026.

Key takeaways

1. In 2025, innovation investments largely positive again after the 2023 downturn, but growth mostly below trend

↑ **Overall picture positive in 2025:** Across all four parts of the GII Global Innovation Tracker results are more uniformly positive than in recent editions; only three indicators moved in a less favorable direction: venture capital (VC) deal counts, renewable energy costs and global temperatures, while all other indicators moved in a favorable direction; four grew faster than the 10-year trend: scientific publications, VC deal values, cancer radiotherapy availability and labor productivity. Growth remained below the decade average elsewhere.

Global Innovation Tracker Dashboard

Science and innovation investment

	R&D investments		Venture capital		
Scientific publications	Global total	Top corporate R&D spenders	Deal numbers	Deal values	**International patent filings**
6.9%	3.3%	7.9%	-1.4%	27.9%	0.7%
2024-2025	2024-2025	2024-2025	2024-2025	2024-2025	2024-2025

Technological progress

Computing power		**Cost of renewable energy**				
Moore's Law	Green super-computers	Solar photovoltaic	Wind	**Electric battery price**	**Cost of genome sequencing**	**Drug approvals**
5.3%	9.9%	0.6%	2.7%	-8.5%	-12.1%	3.9%
2023-2025*	2024-2025	2023-2024	2023-2024	2024-2025	2023-2025*	2024-2025

Technology adoption

	Connectivity					
Safe sanitation	Fixed broadband	5G	**Robots**	**Electric cars**	**High-speed railway network**	**Cancer radiotherapy**
1.2%	5.0%	4.7%	8.9%	33.9%	3.9%	2.0%
2023-2024	2024-2025	2024-2025	2023-2024	2024-2025	2023-2024	2024-2025

Socioeconomic impact

Labor productivity	**Poverty**	**Life expectancy**	**Global warming**
2.7%	-0.2%	0.2%	+ 1.19˚C
2024-2025	2024-2025	2023–2024	2025

Notes: For the gauges, the red (left) half denotes an unfavorable direction of change, while the green (right) half denotes a favorable direction. A pointer in the red zone indicates an unfavorable movement in the latest year. A pointer in the green zone at approximately 45° indicates a favorable movement that remains below the indicator's 10-year trend, while a pointer in the green zone at approximately 75° indicates a favorable movement that exceeds the 10-year trend.
* = Compound annual growth rate.
See the Data notes at the end of Global Innovation Tracker section for a definition of the indicators and their data sources. Historic data may have been updated and might differ from last year's Global Innovation Tracker. Values for R&D, VC deals, and the cost of genome sequencing, as well as poverty, are estimates or nowcasts. Poverty, which is expressed as a percentage, has its growth reported as a simple arithmetic change in percentage points over the indicated period.

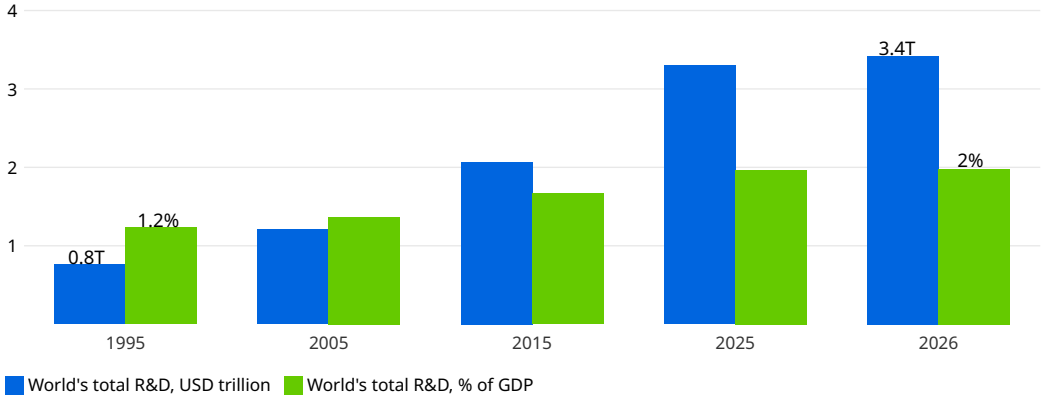
Source: Global Innovation Index Database, WIPO, 2026.

↑ **Scientific publications hit a new global record:** Global research output surpassed 2.4 million articles last year, growing 6.9 percent above its long-run trend.

↗ **Global R&D growth solid, China edges ahead of the United States:** Global R&D expenditure grew by 4.7 percent in real terms in 2024, when China's total R&D spending moved slightly ahead of the United States. The rest of the world is projected to grow by around 2 percent, with R&D capacity spreading to middle-income economies such as Egypt, Indonesia, Malaysia and Viet Nam.

Global R&D intensity is holding close to 2 percent of GDP, up from 1.2 percent three decades ago, though its rise has plateaued. Global R&D is projected to have moderated to 3.3 percent in 2025 and be 3.6 percent in 2026, above GDP growth.

Global R&D in USD trillion and as % of GDP

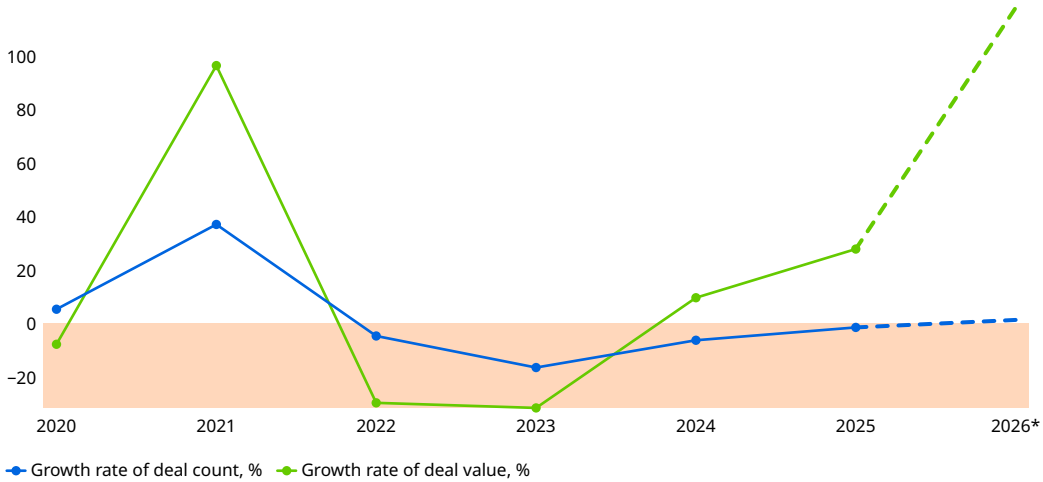


Note: Global R&D expenditure is expressed in PPP-adjusted constant 2020 prices.
Source: WIPO, based on data from Eurostat, OECD, RICYT, and UNESCO UIS.

↗ **Corporate R&D hits a record:** Corporate R&D expenditure among the world's top spenders stood at a record USD 1.5 trillion last year, growing 5.8 percent in real terms from 2024. This expansion is increasingly driven by software and artificial intelligence (AI)-intensive firms, though aerospace and defense R&D rose sharply as well.

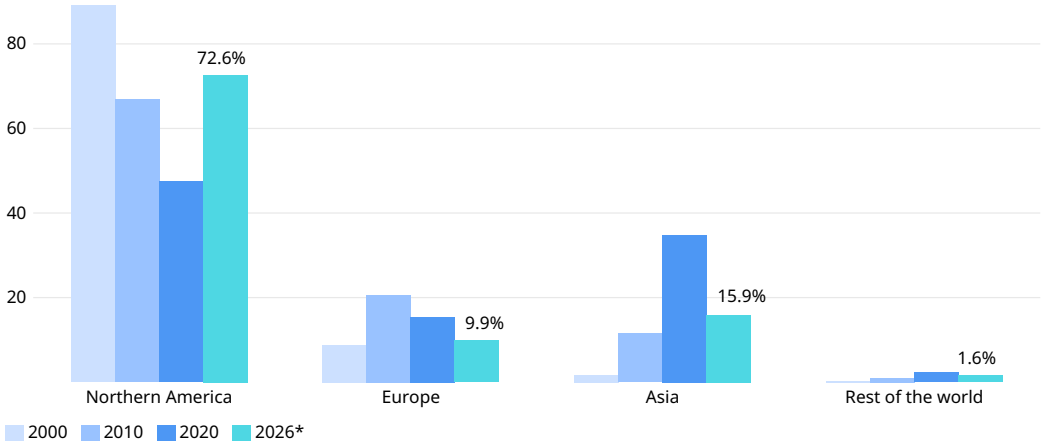
↘ **Venture capital (VC) values recover, but activity narrows:** VC deal values increased by around 28 percent to USD 510 billion last year, the strongest annual gain since 2021. AI accounted for 53 percent of global VC deal value in 2025, surging to 77 percent in the first half of 2026. However, deal counts fell by 1.4 percent, a fourth consecutive annual decline. Still, VC is developing beyond the known hubs: African startups raised about USD 3.2 billion last year, up some 40 percent on 2024.

Growth of global VC deal count and value, %



Note: Data as of 30 June, 2026.Values for 2026 (full year) are estimated based on available data for the first two quarters of 2026.
Source: WIPO, based on data from PitchBook.

Regional shares of global VC deal value, %



Note: Data as of 20 July, 2026. Values for 2026 (full year) are estimated based on available data for the first two quarters of 2026.

Source: WIPO, based on data from PitchBook.

↗ **International patent filings continue to expand, but below trend:** Patent applications under the Patent Cooperation Treaty (PCT) increased by 0.7 percent, a second consecutive year of moderate growth.

2. Technological progress: continued advances at a slower pace

Technology advanced on almost every front in 2025, though at a slower pace than over the past decade.

- Supercomputing efficiency and transistor counts on frontier chips both rose, though below their long-run rates.
- The average global battery price fell to a record low of USD 108 per kWh, with China lowest at USD 84, while solar and wind power costs rose for the first time since 2014.
- Genome sequencing costs fell by around 12 percent, in line with the decade trend, and drug approvals increased again, led by oncology and immunology, though below the long-run average.

3. Technology adoption: wider diffusion with uneven access

Technology adoption widened across every indicator in 2025, but each grew below its long-run trend; a sign that diffusion is slowing.

- The global EV stock reached 75 million, electric cars made up about a quarter of new car sales, and the high-speed rail network reached 67,723 km, led by China, with momentum building in the Asia-Pacific and Middle East regions.
- 5G networks now reach 55 percent of the global population, though access is uneven, and robot deployment rose around 9 percent to 4.7 million in 2024, helped by middle-income economies such as India, Mexico and Viet Nam.
- Cancer radiotherapy availability continued to improve, but coverage remains limited in low-income economies.

4. Socioeconomic impact: social gains continue, climate pressures persist

Innovation delivered welfare gains in 2025, even as climate pressures persist.

- Labor productivity rose 2.7 percent, now above its 10-year trend; a key question is whether AI-related investment will trigger wider productivity gains or stay confined to a few firms.
- The share of the global population living below USD 3 per day fell to about 10 percent, and life expectancy reached 73.5 years as the post-pandemic recovery takes hold.
- Global temperatures reached the second highest level on record, with the first half of 2026 running even warmer.

5. In a turbulent year, the innovation frontier holds: Switzerland, Sweden and the United States lead again

- Switzerland (1st, for a 16th consecutive year), Sweden (2nd) and the United States (3rd) remain the world's top three innovation economies, with the Republic of Korea (4th) and Singapore (5th) close behind. No new economy enters the top 15.
- Europe again accounts for the largest share of the top innovation economies, claiming 14 of the top 25. The Kingdom of the Netherlands moves up to 7th and Austria to 18th.
- Asia takes five places: China (10th) remains the only middle-income economy among the leaders, Japan stays 12th and Hong Kong, China rises to 14th.
- Beneath the continuity there is movement: the United Arab Emirates enters the top 25, while Canada (16th), Australia (20th) and New Zealand (24th) regain ground. Their recoveries share a pattern: mature innovation systems strengthening their academic base, university–industry links and research investment.

6. A few other economies reach key milestones including Portugal, Latvia, Kuwait and Costa Rica; Bhutan joins the GII

- Portugal (30th) reaches the top 30.
- Lithuania moves up to 32nd and Latvia enters the top 40 (40th).
- Kuwait (62nd) and Costa Rica (70th) advance into the top 70, and Bhutan enters the GII, at 74th. Its entry follows a multi-year collaboration with WIPO on improving the availability of innovation indicators.

7. Middle-income economies keep climbing, but an innovation glass ceiling is becoming more apparent

- China (10th), India (38th), Viet Nam (43rd), Türkiye (45th), the Philippines (52nd), Morocco (54th) and Indonesia (55th) have advanced most among middle-income economies since 2013. Morocco reaches its best rank ever; Viet Nam returns to its pre-pandemic level.
- The innovation outputs of these emerging economies now often exceed inputs: China ranks 5th in outputs against 22nd in inputs, India 25th against 49th and Viet Nam 35th against 54th.
- A benchmarking against high-income and middle-income medians points to selective rather than uniform convergence. Convergence has been easiest in production and exports, startup finance and intellectual property, and hardest in the knowledge base and R&D, where research capacity builds slowly. The long-term climbers have not yet reached high-income performance across the entire innovation system. China, the exception, reaches high-income levels in 21 of 25 benchmarked indicators.
- The routes differ: India climbs through digital services and venture capital, leading the world in ICT services exports; Viet Nam and the Philippines through high-tech manufacturing and trade, while still trailing in domestic invention; Türkiye through industrial design and branding; and Indonesia through its large domestic market and startup finance, on a still thin R&D base of around 0.3 percent of GDP.
- The next stage of catch-up will depend on whether these strengths can be complemented by deeper research systems, broader knowledge creation and stronger connections across the innovation ecosystem.

8. Since 2019, a newer wave of climbers has gathered pace, powered by investment, digital transformation and services

- Saudi Arabia (42nd), Qatar (47th), Mauritius (50th), Brazil (53rd), Jordan (60th) and Bahrain (64th) recorded some of the strongest advances since 2019 among the top 70.
- The Gulf economies climb through investment in digital infrastructure, finance and talent as part of state-led diversification: Saudi Arabia leads the world in ICT use, and Riyadh enters the top 100 innovation clusters; Qatar ranks 1st in tertiary inbound mobility; Bahrain 1st in ICT access, with one of the world's best business environments; and Jordan takes a knowledge-intensive route, ranking 1st in scientific articles.
- Mauritius shows how a small economy can diversify through services, ranking 6th both in cultural and creative services exports and in VC investors.
- Brazil pairs Latin America's deepest science and R&D base with strong trademark activity and late-stage VC, anchored by São Paulo among the top-100 innovation clusters.

– The test for this second group is similar: to avoid a plateau by turning recent gains into broader, sustained innovation performance.

Innovation performance at different income levels, 2026

High-income group	Upper middle-income group	Lower middle-income group	Low-income group
Performance above expectation for level of development			
Switzerland	China	India	Rwanda
Sweden	Thailand	Viet Nam	Madagascar
United States	Brazil	Philippines	Malawi
Republic of Korea	Indonesia	Morocco	Mozambique
United Kingdom	South Africa	Jordan	Burundi
Netherlands (Kingdom of the)	Ukraine	Tunisia	
Finland	Republic of Moldova	Bhutan	
Denmark		Uzbekistan	
Germany		Senegal	
Japan		Pakistan	
France			
Hong Kong, China			
Israel			
Canada			
Estonia			
Performance in line with level of development			
Singapore	Malaysia	Egypt	Togo
Austria	Türkiye	Lebanon	Uganda
Ireland	Mauritius	Kyrgyzstan	Burkina Faso
Australia	Serbia	Cambodia	
Norway	Georgia	Sri Lanka	
Belgium	Armenia	Kenya	
New Zealand	North Macedonia	Ghana	
United Arab Emirates	Mexico	Namibia	
Iceland	Mongolia	Nepal	
Italy	Colombia	Bangladesh	
Spain	Albania	Lao People's Democratic Republic	
Cyprus	Peru	Côte d'Ivoire	
Portugal	Iran (Islamic Republic of)	Tajikistan	
Malta	Botswana	Zambia	
Lithuania	Bosnia and Herzegovina	Benin	
Czech Republic	Jamaica	United Republic of Tanzania	
Slovenia	El Salvador	Cameroon	
Hungary	Cabo Verde	Lesotho	
Bulgaria			
Poland			
Latvia			
Greece			
Chile			
All other economies			
Luxembourg	Kazakhstan	Bolivia (Plurinational State of)	Mali
Saudi Arabia	Argentina	Honduras	Democratic Republic of the Congo
Croatia	Montenegro	Nigeria	Niger
Qatar	Azerbaijan	Nicaragua	Chad
Slovakia	Belarus	Myanmar	
Romania	Dominican Republic	Mauritania	
Russian Federation	Ecuador	Zimbabwe	
Kuwait	Paraguay	Angola	
Bahrain	Algeria		
Uruguay	Guatemala		
Oman			
Costa Rica			
Panama			
Barbados			
Brunei Darussalam			
Trinidad and Tobago			

Note: The Bolivarian Republic of Venezuela and Ethiopia are not included in any income group because they are unclassified in the World Bank FY2026 income classification. The Bolivarian Republic of Venezuela is unclassified due to the unavailability of gross national income (GNI) per capita data, while Ethiopia has a temporary unclassified status.

Source: Global Innovation Index Database, WIPO, 2026.

9. Who converts inputs into outputs?

- China is the most prominent outlier with a high ratio of outputs to inputs, even compared with high-income economies.
- Several middle-income economies do more with less: Morocco ranks 76th in inputs, but 46th in outputs, with the Islamic Republic of Iran, Mexico, Tunisia, Türkiye and Viet Nam showing similar patterns, and Madagascar, Nigeria, Pakistan and Zimbabwe also producing more than their inputs would suggest.
- Qatar, Saudi Arabia and the United Arab Emirates show the reverse: strong institutional, infrastructure and investment foundations, with conversion into results the necessary next step.

10. Switzerland, China, India and Rwanda lead their income groups; momentum in Africa

- Malaysia (34th), Viet Nam (43rd), Thailand (44th) and Türkiye (45th) reinforce the growing presence of middle-income economies in the upper half of the ranking.
- In Europe, 12 economies improve, including Italy (27th) and Spain (28th); the region's central challenge, echoed in competitiveness debates, is to convert its research and industrial strengths into fast-growing firms, scaleup finance and productivity growth.
- Chile (51st) leads Latin America and the Caribbean, ahead of Brazil (53rd), Mexico (65th), Uruguay (66th) and Costa Rica (70th). Assets remain concentrated in a few economies, and research, entrepreneurship and market access are not yet connected strongly enough to form a regional engine.
- India leads Central and Southern Asia, ahead of Kazakhstan (73rd) and Bhutan (74th). The region consolidates its lead over Latin America and the Caribbean on the strength of its innovation outputs.
- Morocco leads a North African rise, pairing industrial upgrading with the business use of intangible assets, from industrial designs to trademarks and high-tech manufacturing. Tunisia builds on human capital and science, ranking 1st in science and engineering graduates; Egypt combines a large domestic market, a substantial scientific base and R&D spending above 1 percent of GDP; Algeria invests in education at among the highest rates worldwide.
- Sub-Saharan Africa shows some of the year's most encouraging momentum: Mauritius reaches the top 50; South Africa marks nine consecutive years of overperformance; Rwanda posts the strongest low-income advance, backed by strong institutions (26th); and Botswana and Kenya move up on growing use of trademarks, utility models and industrial designs, alongside a growing VC layer around selected hubs.

11. New green-field R&D and high-tech FDI indicator: investment is highly concentrated, but middle-income magnets emerge

- The GII 2026 introduces a green-field R&D and high-tech FDI indicator, based on announced investment projects. Firms announced close to 6,000 such projects in 2025, roughly one in three of all green-field projects worldwide.
- Investment is concentrated: the top 10 destinations attracted 58 percent of projects, led by the United States, India and the United Arab Emirates.
- Sixteen economies are global investment hubs, above the world average on both inflows and outflows; China and India are the middle-income economies among them. Fourteen investment magnets, 10 of them middle-income, attract far more than they invest abroad, with Mexico the strongest.

12. Twenty-one economies innovate above their level of development, led by India and Viet Nam for a 16th year

- The GII 2026 identifies 21 innovation overperformers, four more than in 2025. India and Viet Nam remain the longest-standing, at 16 consecutive years; the Republic of Moldova returns with 15 appearances; Rwanda and Ukraine count 14 each.
- Bhutan, Mozambique and Pakistan also overperform.
- Ten of the 21 are lower middle-income economies; Sub-Saharan Africa hosts the largest number (seven), and Brazil remains the only overperformer in Latin America and the Caribbean, for a sixth consecutive year.

- Thirty-nine economies perform below expectations, most in Latin America and the Caribbean.
- Pillar imbalances often mark assets rather than weaknesses: Rwanda ranks 26th in Institutions, Algeria 39th in Human capital and research and Cambodia 31st in Market sophistication, all well above their overall ranks; the task is to build channels that turn these strengths into broader performance.
- The wider lesson: innovation success depends not only on resources, but on how effectively economies connect research, firms, finance, skills, institutions and markets into a functioning ecosystem.
- The results point to four conclusions: the innovation frontier is persistent but not frozen; middle-income catch-up is real, but faces a glass ceiling that so far only China has broken; innovation momentum is spreading through distinct regional pathways; and income alone does not determine innovation performance.
- The policy implication is system coherence: the priority is not to raise inputs or target a higher rank, but to strengthen the paths through which institutions, skills, infrastructure, finance, firms and creative capabilities reinforce one another.

13. The world's top innovation clusters span six out of the seven continents, with Shenzhen–Hong Kong–Guangzhou leading globally for a second year

- Shenzhen–Hong Kong–Guangzhou (China and Hong Kong, China) again tops the GII top 100 innovation cluster ranking, followed by Tokyo–Yokohama (Japan), San Jose–San Francisco (United States), Beijing (China), and Seoul (Republic of Korea). All five top clusters held their positions from last year, underscoring the stability at the top of the ranking.

Top innovation cluster by economy or cross-border region among the top 100, 2026



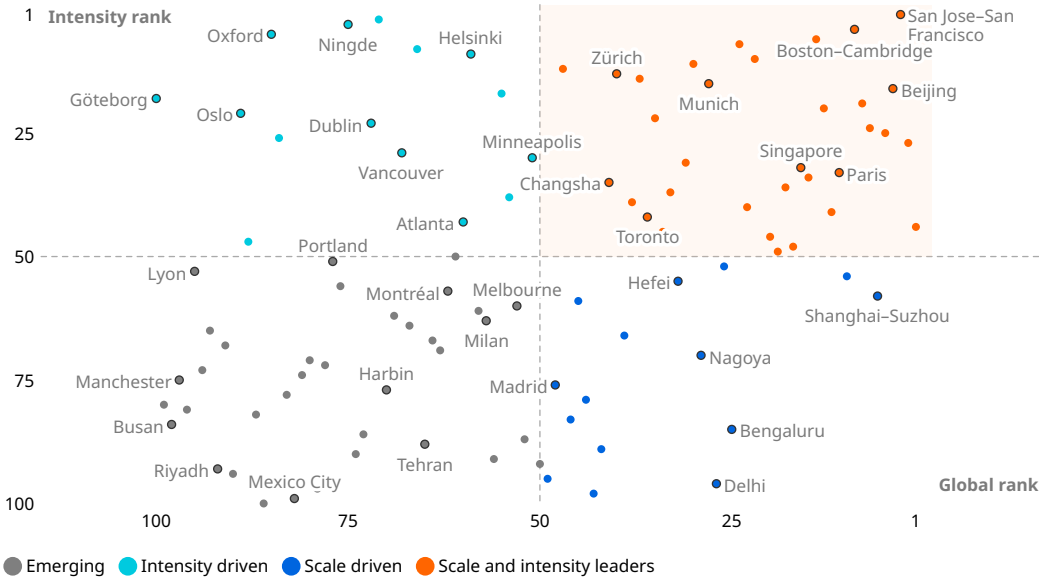
Note: Squares with numbers show cluster ranks.
Map: © OpenMapTiles, © OpenStreetMap contributors https://www.openstreetmap.org/copyright.
Source: Global Innovation Index Database, WIPO, 2026.

- China and the United States lead the innovation cluster count for a fourth consecutive year, with China now hosting 25 and the United States 20.
- Germany follows with seven clusters (led by Munich, 28th), then India (led by Bengaluru, 25th) and the United Kingdom (led by London, 8th) with four each.
- Beyond the clusters of China and India, São Paulo (49th, Brazil); Cairo (86th, Egypt); Tehran (65th, Islamic Republic of Iran); Kuala Lumpur (90th, Malaysia); Mexico City (82nd, Mexico); and Istanbul (56th, Türkiye) are the middle-income clusters in the top 100.
- Riyadh (92nd, Saudi Arabia) enters the top 100, while Ningde (China) records the largest rank gain, climbing 24 places (99th to 75th).

14. San Jose–San Francisco and Cambridge are the most innovation-intensive clusters, with several smaller hubs close behind

- San Jose–San Francisco (United States) and Cambridge (United Kingdom) retain the top two positions by innovation intensity relative to population. Ningde (China) rises to 3rd place, driven by Contemporary Amperex Technology Co. (CATL).
- Boston–Cambridge (United States) and Oxford (United Kingdom) round out the top five.
- Daejeon (Republic of Korea) enters the top 10 intensity ranking.
- Eindhoven (8th, Kingdom of the Netherlands) and Helsinki (9th, Finland) lead the European Union (EU) by intensity with five EU clusters ranking among the intensity top 15.
- A new comparison of scale and intensity shows that only San Jose–San Francisco and Boston–Cambridge rank in the global top 10 on both counts. Göteborg (Sweden) has the widest gap, 100th globally, but 18th by intensity; Delhi (India) the largest the other way, 27th globally, but 96th by intensity.

Scale versus intensity in the world's top 100 innovation clusters, 2026



Source: Global Innovation Index Database, WIPO, 2026.

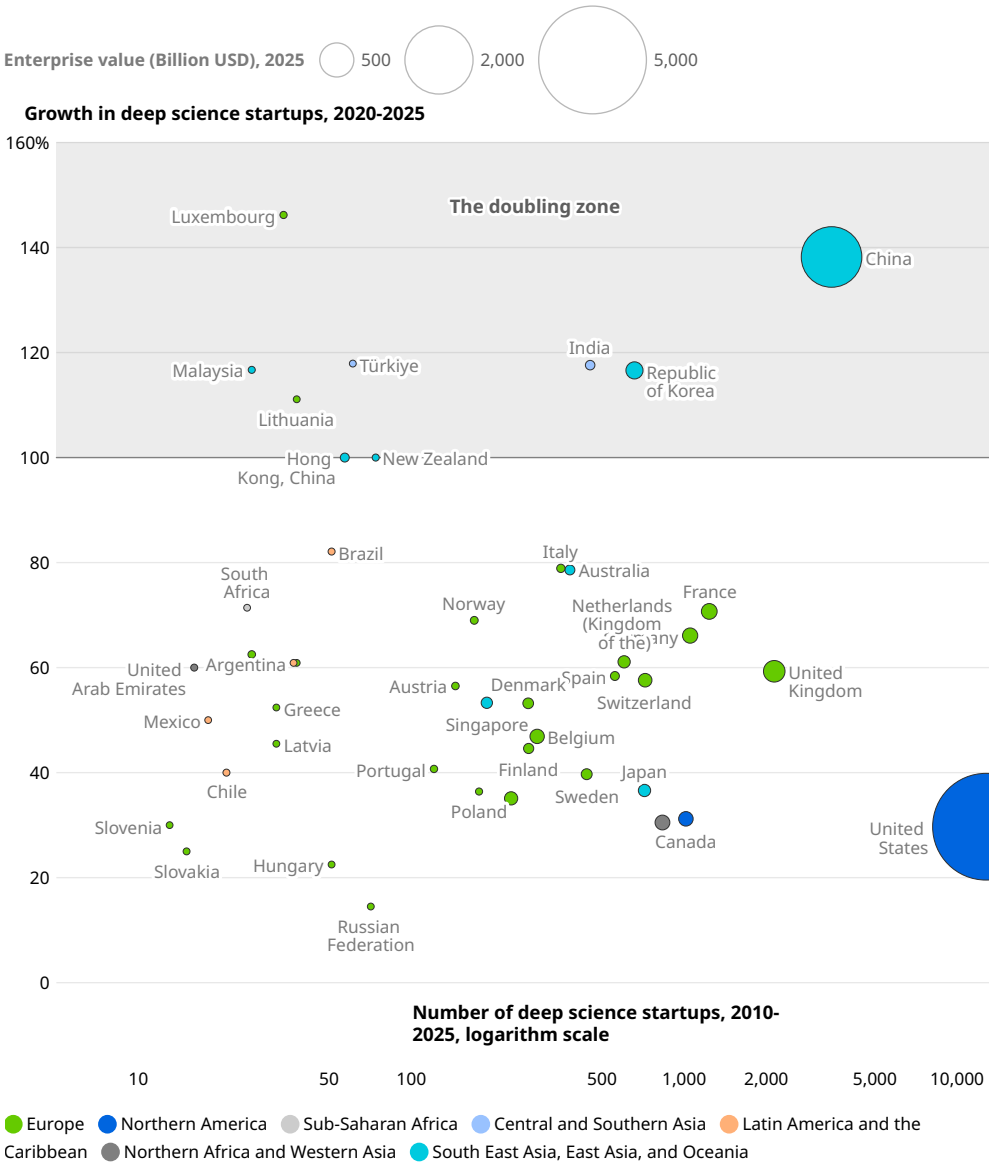
This year's special GII theme looks to the future of science-powered entrepreneurship

15. A deep science wave: more than 30,000 startups since 2000, now worth USD 7.6 trillion

- Deep science ventures span life sciences, semiconductors, robotics, space, energy and advanced materials, turning frontier research into new firms and industries.
- Drawing on the new Dealroom–WIPO Deep Science Startup Tracker – the first global mapping of deep science startups and spinouts – more than 30,000 deep science startups have been created since 2000, 9.5 times the 2010 figure representing about 16 percent compound growth a year. Their share of all venture-backed startups reached a 15-year high of 16 percent in 2025.
- The field is concentrated at the top, but broadening at the base. The United States leads, with 12,752 firms, followed by China (3,466) and the United Kingdom (2,133); yet China grew 138 percent between 2020 and 2025 against 30 percent for the United States, Estonia grew fastest of all, and Türkiye, India and Malaysia lead the middle-income group (in order of growth).
- Together these firms are worth USD 7.6 trillion, up 23 percent on 2024. Deep science attracted USD 122 billion in VC in 2025; excluding the USD 250+ million megadeals, that is 36.5 percent of global VC funding, nearly double the 2015 share, with the mix tilting from life sciences to semiconductors and robotics.

– Universities are the key source of deep science entrepreneurship: over 40 percent of energy and life sciences ventures created since 2010 spin out of academic research, and US institutions such as Harvard, MIT and Stanford are behind 15 of the top 20 spinouts.

Established leaders and rising challengers in deep science



Note: Estonia is not shown for legibility. Its growth of 313 percent between 2020 and 2025 was the fastest of any economy covered. The doubling zone represents economies that have at least doubled their number of deep science startups between 2020 and 2025.

Source: GII 2026, Dealroom–WIPO Deep Science Startup Tracker.

16. Patents anchor deep science ventures, and their use widens with maturity

– With years between invention and first sales, patents are often the only verifiable asset a venture holds when securing financing, partnerships and licensing: 50 percent of deep science startups hold patents, against 15.4 percent of other startups; the gap has widened over the last decade. Medical devices and digital health is the most patent-intensive sector.
– Patent use rises with maturity, from around 43 percent of ventures at seed stage to 69 percent at late stage; the Republic of Korea, Finland and Japan record the highest national rates. Patent leadership spans regions: East Asia's 20 holders include 19 Chinese entities, led by ChangXin Memory, with 8,311 patent families.
– Patent leadership is also emerging among middle-income economies: Malaysia's Lemonex (49 patent families) and India's Qure AI (37) lead, ahead of El Salvador's Axonne (13), Brazil's HiLab and South Africa's LIQID Medical (10 each), with Egypt's Mogassam and Kenya's Octavia Carbon topping national rankings.

The top deep science patent holders in middle-income economies, by economy, 2010–2025

Company	Launch year	Sector	Economy	Region	Number of patent families
ChangXin Memory Technologies	2016	Semiconductors	China	South East Asia, East Asia, and Oceania	8,311
Lemonex	2013	Life Sciences	Malaysia	South East Asia, East Asia, and Oceania	49
Qure AI	2016	Medical Devices and Digital Health	India	Central and Southern Asia	37
Axonne	2018	Semiconductors	El Salvador	Latin America and the Caribbean	13
HiLab	2015	Medical Devices and Digital Health	Brazil	Latin America and the Caribbean	10
LIQID Medical	2017	Medical Devices and Digital Health	South Africa	Sub-Saharan Africa	10
Bioeutectics	2021	Life Sciences	Argentina	Latin America and the Caribbean	7
Reglagene	2018	Life Sciences	Mexico	Latin America and the Caribbean	6
Qubitrium	2020	Semiconductors	Türkiye	Northern Africa and Western Asia	5
Bio Natural Solutions	2017	Food and Agritech	Peru	Latin America and the Caribbean	4
MBrainTrain	2012	Medical Devices and Digital Health	Serbia	Europe	4
Mogassam	2013	Transportation	Egypt	Northern Africa and Western Asia	2
IRNERO	2018	Robotics and Autonomous Systems	Georgia	Northern Africa and Western Asia	2
Neurabot	2018	Life Sciences	Indonesia	South East Asia, East Asia, and Oceania	2
Octavia Carbon	2022	Energy	Kenya	Sub-Saharan Africa	2
Baiya phytopharm	2018	Life Sciences	Thailand	South East Asia, East Asia, and Oceania	2
OsseoLabs	2022	Medical Devices and Digital Health	Thailand	South East Asia, East Asia, and Oceania	2
Cropfleet	2020	Food and Agritech	Belarus	Europe	1
Jendo Innovations	2016	Medical Devices and Digital Health	Sri Lanka	Central and Southern Asia	1
Carbominer	2020	Advanced materials and manufacturing	Ukraine	Europe	1

Note: Thailand recorded two deep science startups tied at 2 patent families each (Baiya phytopharm and OsseoLabs).
Source: GII 2026, Dealroom-WIPO Deep Science Startup Tracker.

17. Deep science takes root beyond leading hubs, but ventures stall at predictable transitions

- Deep science is taking root beyond the leading hubs, from vaccines at the Serum Institute of India and Biovac in South Africa to BioNTech's mRNA facility in Rwanda.
- Yet R&D intensity sits below 0.5 percent of GDP in many low- and middle-income economies, and finance is thin: in Latin America, 72 percent of science-intensive startups stall at seed and only 19 percent reach Series A.
- Even with record financing, ventures stall at predictable transitions: from research to investable proof-of-concept, from pilot to commercial deployment, and from working technology to profitable firm. Series B and C financing cliffs, regulatory friction, scarce talent and uncertain demand compound one another; industrialization rather than invention is now the binding constraint.

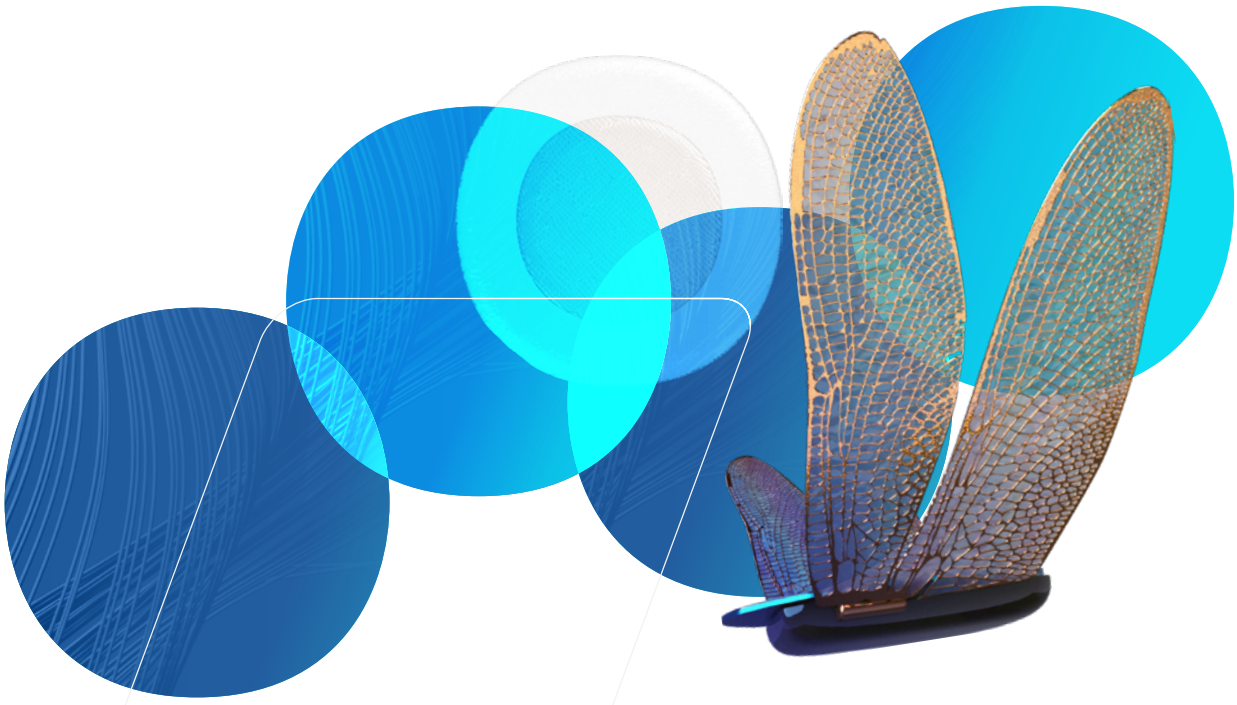
18. Policy priorities: finance the full translation stack and activate demand

- Policy can raise the odds by financing the full translation stack and activating demand. Between research grants and private capital, ecosystems need proof-of-concept funding, pilot and demonstration facilities and later-stage patient capital, deployed through blended instruments such as matching funds, guarantees and first-loss tranches.
- On the demand side, government procurement built on functional requirements, offtake commitments and anchor-customer programs turn breakthroughs into financeable projects. Equally important are the institutions around the science: professionalized technology transfer; shared labs, testbeds and certification pathways; regulatory sandboxes extended beyond fintech; and an intellectual property (IP) architecture of affordable filing, patent pools and IP-backed finance.
- Translation talent completes the stack, including startup-leave provisions such as Tunisia's Startup Act, under which employees can take up to two years leave to build a venture with a guaranteed right to return.
- Policy should start from a diagnosis of where ventures stall and measure downstream outcomes such as follow-on investment, not program counts.

To conclude, the GII 2026 Special theme shows that the deep science wave is real and global, but its payoff is not assured: turning pilots into pipelines requires finance across stages, shared infrastructure, workable IP frameworks and translation talent.

Global Innovation Tracker

The Global Innovation Index 2026 Tracker takes the pulse of innovation at a time of economic and geopolitical recalibration, continuing technological breakthroughs and shifting investment patterns that shape how ideas emerge, spread, and scale globally.



Global Innovation Tracker Dashboard

Science and innovation investment

	R&D investments		Venture capital		
Scientific publications	Global total	Top corporate R&D spenders	Deal numbers	Deal values	**International patent filings**
					
6.9% 2024-2025	3.3% 2024-2025	7.9% 2024-2025	-1.4% 2024-2025	27.9% 2024-2025	0.7% 2024-2025
5.1% 2015-2025*	4.8% 2015-2025*	10.4% 2015-2025*	3.4% 2015-2025*	10.6% 2015-2025*	2.4% 2015-2025*

Technological progress

Computing power		**Cost of renewable energy**				
Moore's Law	Green super-computers	Solar photovoltaic	Wind	**Electric battery price**	**Cost of genome sequencing**	**Drug approvals**
						
5.3% 2023-2025*	9.9% 2024-2025	0.6% 2023-2024	2.7% 2023-2024	-8.5% 2024-2025	-12.1% 2023-2025*	3.9% 2024-2025
33.1% 2015-2025*	34.2% 2015-2025*	-13.6% 2014-2024*	-8.5% 2014-2024*	-13.8% 2015-2025*	-13.0% 2015-2025*	-13.0% 2015-2025*

Technology adoption

	Connectivity					
Safe sanitation	Fixed broadband	5G	**Robots**	**Electric cars**	**High-speed railway network**	**Cancer radiotherapy**
						
1.2% 2023-2024	5.0% 2024-2025	4.7% 2024-2025	8.9% 2023-2024	33.9% 2024-2025	3.9% 2023-2024	2.0% 2024-2025
2.2% 2014-2024*	7.0% 2015-2025*	44.4% 2015-2025*	12.2% 2014-2024*	50.0% 2015-2025*	7.2% 2014-2024*	1.4% 2015-2025*

Socioeconomic impact

Labor productivity	**Poverty**	**Life expectancy**	**Global warming**
			
2.7% 2024-2025	-0.2% 2024-2025	0.2% 2023–2024	+ 1.19˚C 2025
2.2% 2015-2025*	-0.3% 2015-2025	0.2% 2014-2024*	+ 0.9˚C 2015

***** = Compound Annual Growth Rate

Note: See the Data notes at the end of this section for a definition of the indicators and their data sources. Long-term annual growth refers to the compound annual growth rate (CAGR) over the indicated period, whereas for percentage variables it is expressed in a simple arithmetic change. Historic data may have been updated and differed from last year's Global Innovation Tracker. Figures are rounded. Values marked with an asterisk (*) represent estimates or nowcasts.

The Global Innovation Index (GII) 2026 Tracker charts innovation through a year in which artificial intelligence (AI) has carried an unusually large share of global economic momentum. The world economy grew about 3.4 percent in 2025. High-tech exports grew roughly 14 percent to a new high, nearly three times faster than global trade, led by the build-out of AI (Brasher *et al.*, 2026). Global growth is expected to slow in 2026 before recovering modestly again in 2027, yet it still remains below its long-run average (BIS, 2026; IMF, 2026; OECD, 2026).

It is against this backdrop that the Tracker examines four stages of the innovation cycle: science and innovation investment, technological progress, technology adoption, and the socioeconomic impact of innovation.

Key messages

- Innovation has held up. Almost all indicators across the four stages are in positive territory, marking a broad-based improvement from the more mixed picture presented in the GII 2022 and GII 2023 editions.
- Innovation investment has strengthened. Corporate R&D among the world's largest spenders reached a record USD 1.5 trillion in 2025, up close to 8 percent, and rose to 6 percent of revenue, the highest share on record.
- The research effort is at a historic high. Global R&D intensity rose from 1.4 percent of GDP in 2000 to close to 2 percent in 2025, and is projected to hold there through 2026.
- Other strong gains: record scientific output, venture capital (VC) deal values at the highest since 2021, and a comeback in global labor productivity growth.
- Three indicators worsened: VC deal counts kept falling, renewable energy costs rose for the first time since 2014, and global temperatures were the second highest on record.
- The recovery is nonetheless incomplete: about three-quarters of indicators remain below their decade averages, and only four grew faster than their 10-year trends, namely, scientific publications, VC deal values, cancer radiotherapy availability, and labor productivity.

Two forces shaped the year, and they pull in opposite directions.

The first is concentration at the frontier. A growing share of investment is directed toward AI and a narrower set of firms and locations. VC deal values rose 27.9 percent to USD 510 billion in 2025 while deal counts fell 1.4 percent, and AI now accounts for about half of global VC value. Within corporate R&D, software and AI-intensive firms grew fastest, and unicorn valuations and IPO attention show the same tilt. This mirrors the macroeconomic pattern: optimism around AI fueled large AI-related capital spending, which supported global growth and kept financial conditions accommodative in 2025 (BIS, 2026).

The second is diversification across the base. Innovation and technology diffusion kept on spreading to middle-income economies beyond China. Egypt, Chile and Ethiopia raised scientific output; Malaysia, Indonesia and Viet Nam sustained long-run growth in R&D; VC and patenting activity grew, from Argentina to Morocco, India to Türkiye; robots and electric vehicles spread across Asia and Latin America; and labor productivity rose fastest across China and a diverse group of economies in Asia and Africa.

The two forces are not in contradiction: the frontier is concentrating, while the base is diversifying.

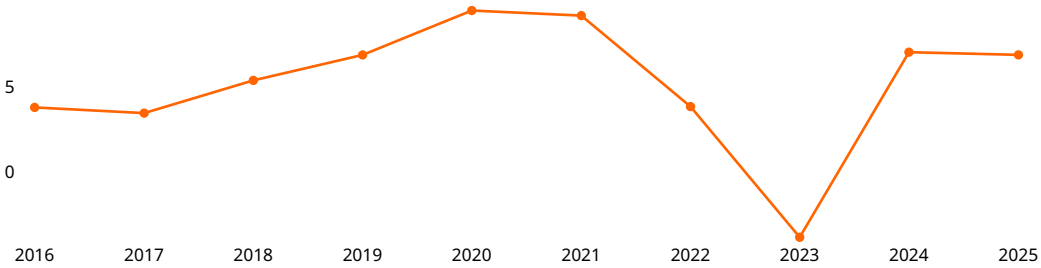
Science and innovation investment

Scientific output reached a new high, led by China's expansion. Global R&D kept growing, and corporate R&D among the top spenders reached a record USD 1.5 trillion, tilting further toward software and AI. VC values rose to their highest since 2021 even as deal counts fell for a fourth year, and international patent filings continued a gradual recovery.

Scientific publications

Most investment indicators remained in positive territory in 2025, although momentum varied across areas. Global scientific publications reached a record 2.4 million articles in 2025, up 6.9 percent from 2024, a second consecutive year of strong growth (see Figure 1). Over the decade, output grew at an annualized 5.1 percent, one of only two investment indicators above its own long-run trend.

Figure 1 Science and technology publication growth (%), 2016–2025



Source: WIPO, based on data from Clarivate, Web of Science.

China recorded a 15 percent increase in scientific publications and accounted for 37 percent of the global total. India expanded scientific publications by 4.4 percent to a 6.6 percent share, whereas the United States output edged down 0.3 percent, though still accounting for 16 percent of the total.

The more telling shift is further down the distribution. A number of other economies, such as Egypt (around 32,500 articles in 2025), Indonesia (16,200), Chile (13,300), Viet Nam (12,600) and Ethiopia (9,700), continued to expand scientific output, suggesting that research capacity is also strengthening beyond the largest scientific producers. How the widening research base translates into firms and products is the focus of this edition's Special theme on deep science entrepreneurship (see the Special theme chapter).

Research and development (R&D)

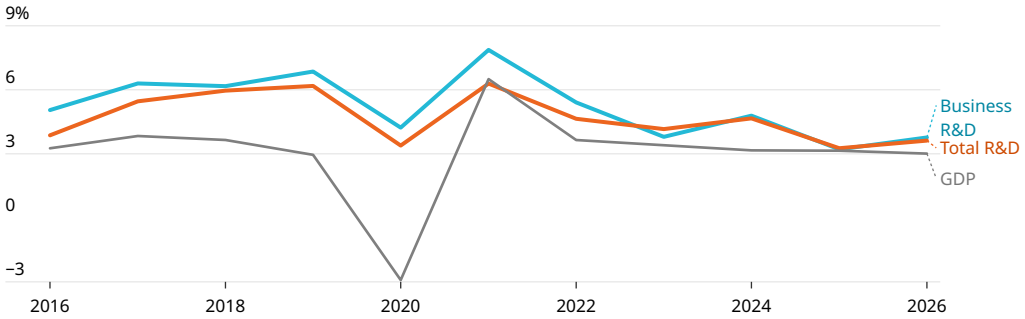
Economy-wide R&D expenditure

Global R&D expenditure grew by 4.7 percent in real terms in 2024, up from 4.2 percent in 2023 (see Figure 2).[1] Business R&D, which accounts for more than 70 percent of the global total, followed a similar path, rising 4.8 percent against 3.8 percent in 2023. The year also marked a milestone: in PPP-adjusted constant prices, China's total R&D expenditure, at USD 860 billion, edged ahead that of the United States (USD 850 billion).[2] Global R&D expenditure is projected to rise 3.3 percent in 2025 and 3.6 percent in 2026, with business R&D evolving along similar lines.

1 R&D expenditure growth in 2023 was slightly revised down to 4.2 percent, compared to 4.4 percent reported in the GII 2025, as several economies subsequently reported more complete and up-to-data estimates. Subsequently, also the GII 2025 estimates for 2024 growth were modest at 2.9 percent (and 3 percent in the December 2025 update) compared to an observed 4.7 percent for the same year. See also Bonaglia *et al.* (2025).

2 Every top five economy in terms of R&D spending recorded growth in 2024, except for Germany. Total R&D growth in China was 9.7 percent (up from 8.9 percent), in the United States equaled 3.4 percent (up from 1.2 percent), in Japan 5.4 percent (up from 2.7 percent), in Germany -0.4 percent (down from 1.9 percent) and in the Republic of Korea 5.8 percent (up from 3.6 percent).

Figure 2 GDP growth and total and business R&D growth rates, 2016–2026

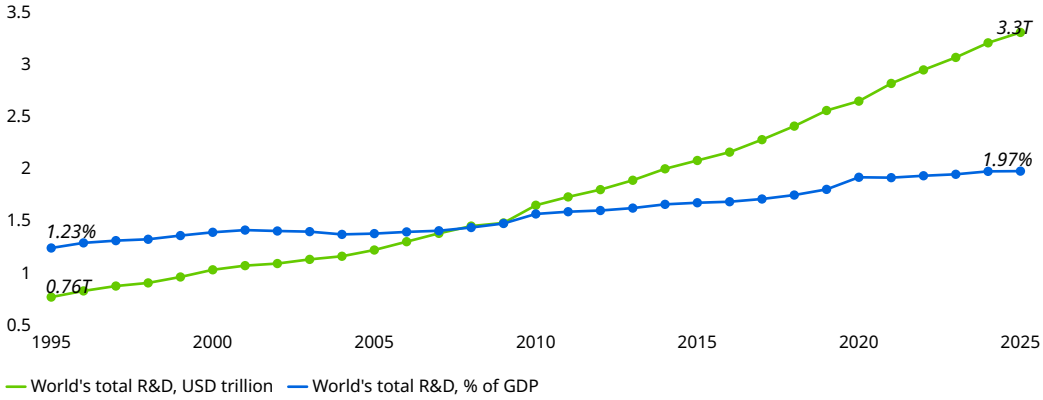


Note: R&D figures for 2025 and 2026, as well as the GDP figure for 2026, are estimates.

Source: WIPO, based on the UNESCO Institute for Statistics database (UIS), Organisation for Economic Co-operation and Development (OECD) Main Science and Technology Indicators (March 2026); Eurostat; Ibero-American and Inter-American Network of Science and Technology Indicators (RICYT); and the International Monetary Fund World Economic Outlook Update, April 2026.

Global R&D intensity has kept rising over the long term, from 1.4 percent of GDP in 2000 to 1.97 percent in 2024; and is projected at 1.97 percent in 2025 and 1.98 percent in 2026 (see Figure 3). The world economy is thus more research-intensive than ever, and has sustained that effort through an uneven recovery (see also Bonaglia *et al.*, 2025).

Figure 3 Global R&D in USD trillion and as % of GDP, 1995–2025



Note: Global R&D expenditure is expressed in PPP-adjusted constant 2020 prices.

Source: WIPO, based on data from UNESCO UIS, OECD, Eurostat and RICYT.

The regional distribution of R&D has shifted markedly over the past decade and a half, with China's expanding share as the main driver and with Europe's share continuing to decline. Northern Africa and Western Asia recorded a rising share on stronger investment in Egypt, Israel and Türkiye; Malaysia, Indonesia and Viet Nam have posted sustained long-run growth; and Sub-Saharan Africa's share, though still small, has also risen over time.

Top corporate R&D spenders

On the corporate side, 2025 R&D data are available for about 1,550 of the top 2,000 corporate R&D spenders worldwide.[3]

Corporate R&D among the world's largest investors reached USD 1.5 trillion in 2025, the highest on record (see Table 1). Spending rose close to 8 percent in nominal and 5.8 percent in real terms over 2024, back toward its longer-run trend. R&D intensity climbed to 6 percent, up from 4.3 percent in 2015: the world's largest firms have never devoted a larger share of revenue to research.

3 R&D figures reported here reflect company disclosure and national accounting practices and do not necessarily conform to the OECD Frascati Manual definition of R&D. See Nindl *et al.*, 2025 for a comparison of the top R&D spenders selected here.

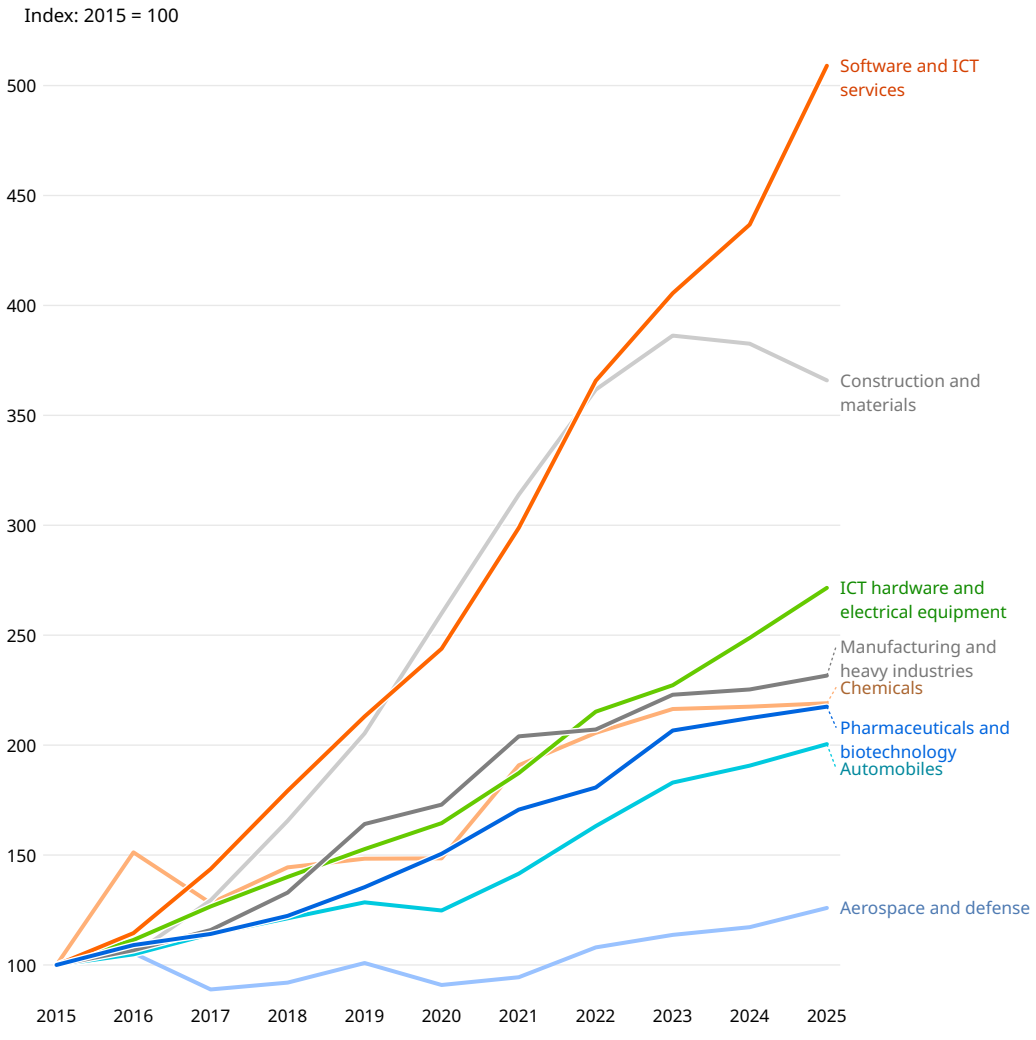
Table 1 R&D and revenue growth rates of the top global corporate R&D spenders, 2019–2025

	R&D nominal	R&D nominal growth (%)	R&D real growth (%)	Revenue nominal	Revenue nominal growth (%)	Revenue real growth (%)	R&D intensity (%)
2019	837			17,192			4.9
2020	906	8.2	6.6	16,453	–4.3	–5.6	5.5
2021	1,053	16.3	12.2	20,029	21.7	17.3	5.3
2022	1,200	14.0	8.2	22,905	14.4	9.0	5.3
2023	1,319	9.9	6.3	23,131	1.0	–1.5	5.7
2024	1,392	5.6	3.5	23,735	2.6	0.9	5.8
2025	1,501	7.9	5.8	24,632	3.8	2.3	6.0

Notes: R&D and revenue are measured in USD billions. R&D intensity (%) is calculated as R&D as a percentage of Revenue.
Source: WIPO, based on Moody's Orbis database and the 2025 EU Industrial R&D Investment Scoreboard.

Growth varied widely by sector (see Figure 4). Software and ICT services grew fastest, with 2025 R&D more than five times its 2015 level; ICT hardware and electrical equipment followed at just under three times, while pharmaceuticals and biotechnology, automobiles, chemicals, and manufacturing and heavy industries each roughly doubled. Aerospace and defense rose sharply on renewed defense investment (see Box 1), whereas construction and materials contracted following strong earlier growth.

Figure 4 R&D investment trends, by industry, 2015–2025



Source: WIPO, based on Moody's Orbis database and the 2025 EU Industrial R&D Investment Scoreboard.

Box 1 Aerospace and defense

R&D spending in aerospace and defense has grown rapidly, from about USD 19.5 billion across the tracked top spenders in 2021 to USD 26 billion in 2025, with the largest increases in 2024 and 2025, consistent with the usual lag between higher defense budgets and funded development programs. European firms contributed to much of the rise: Rheinmetall nearly doubled its R&D to USD 471 million, Leonardo raised its spending 23 percent to USD 3.5 billion, and SAAB to 33 percent after Sweden's NATO accession. The picture for United States firms was more mixed, with Lockheed Martin at a series high, whereas Boeing and RTX stayed modestly below 2024 levels. Accounting differences affect the aggregate: BAE Systems reports negative R&D, because costs are recovered through government contracts, and Rolls-Royce recorded an unusually low 2024 figure.

Does this tilt mean corporate R&D is concentrating in a few large digital firms? At the top end, yes: the 10 largest spenders' share of total R&D rose from about 20 percent in 2015 to roughly 27 percent in 2025. Within sectors, the opposite is the case: the Herfindahl-Hirschman Index (HHI), which rises when just a few firms dominate a given sector's R&D, fell across almost every sector over the decade.[4] Software and ICT services was the exception, becoming the most concentrated major R&D sector by 2025, with an HHI of nearly 1,150. The growing weight of a few very large spenders thus reflects the faster expansion of one sector rather than a broad rise in concentration.

Figure 5 reports 2025 R&D growth for the top 15 firms in each industry: positive on average in ICT software and hardware, negative in energy, chemicals, and construction and materials.

- In software and ICT services, Meta grew fastest among the large spenders, at around 32 percent, while Amazon, Tencent and Alphabet each expanded R&D by more than 20 percent; in ICT hardware, demand for AI chips drove R&D growth, with NVIDIA up about 43 percent and Advanced Micro Devices (AMD), Taiwan Semiconductor, and Broadcom each up between 18 and 25 percent.
- Automobiles split between firms investing through the electric and autonomous transition and incumbents cutting back: Stellantis (about 94 percent), Tesla (about 41 percent) and Honda (about 40 percent) grew fastest, while Volkswagen, General Motors, Nissan and BMW cut R&D amid restructuring. Chinese producers such as BYD, now among the top automobile spenders, add to the pressure.
- Pharmaceuticals and biotechnology split along similar lines: Amgen and Eli Lilly raised R&D by roughly 21 percent on obesity and metabolic pipelines, whereas Pfizer, Roche, and Merck cut spending ahead of patent expiries. Competition from Chinese biotech is rising: BeiGene increased R&D from USD 49 million in 2015 to over USD 2.1 billion in 2025, and CSPC Pharmaceutical and Sino Biopharmaceutical each reached around USD 830 million, none of which are yet in the top 15 but clearly building capacity beyond the traditional leaders.

4 The within-sector Herfindahl-Hirschman Index (HHI) is the sum of squared firm-level percentage shares of total R&D expenditure within each sector. It ranges from 0 to 10,000, with higher values indicating a greater concentration. As a reference, an HHI of 1,000 corresponds roughly to 10 equal-sized firms, while 2,500 corresponds to about four. Changes over time reflect shifts in the distribution of R&D spending among firms within each sector, independent of aggregate sectoral growth.

Figure 5 Top R&D spenders, by industry, growth rate 2024–2025, million USD

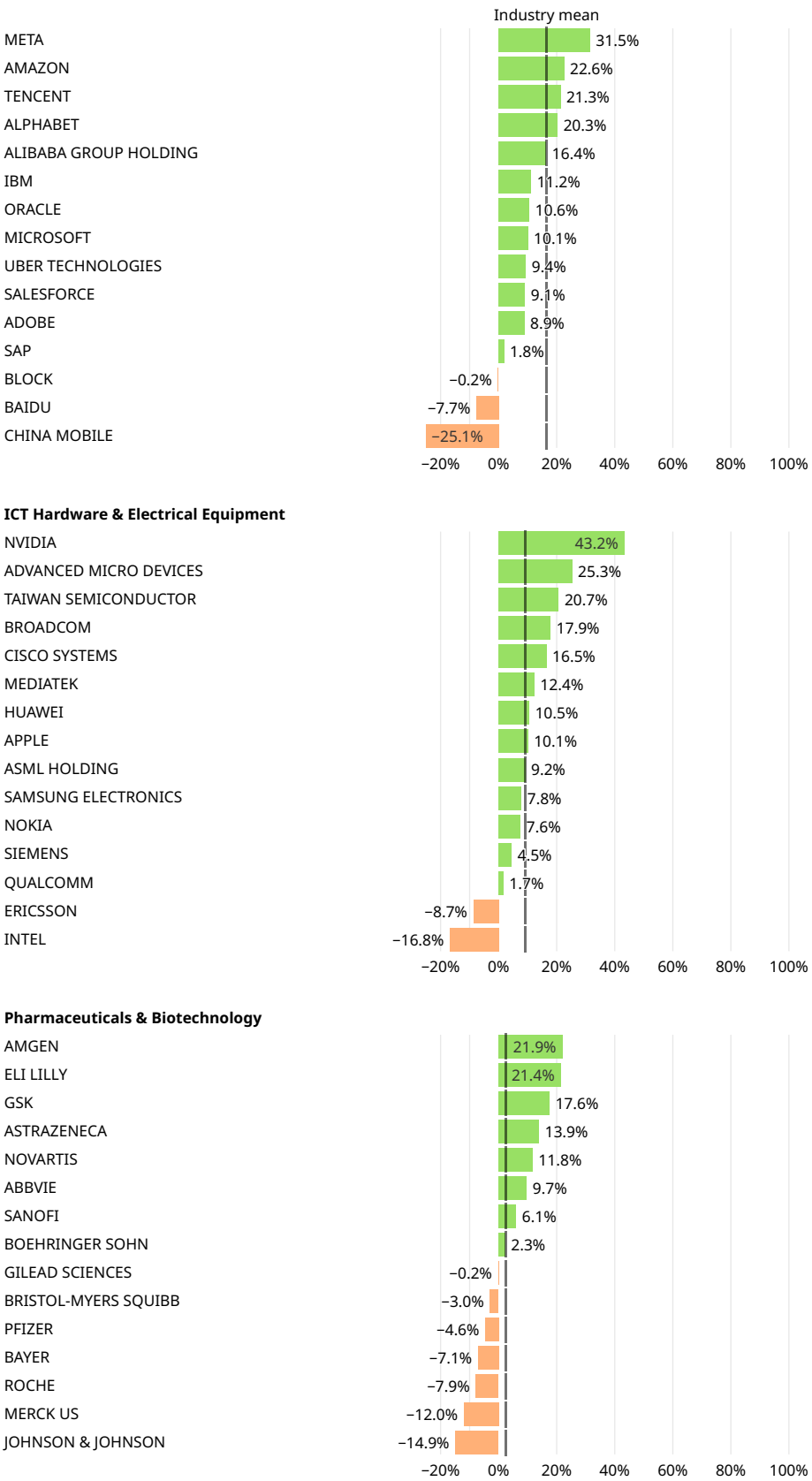


Figure 5 Top R&D spenders, by industry, growth rate 2024–2025 (cont.)

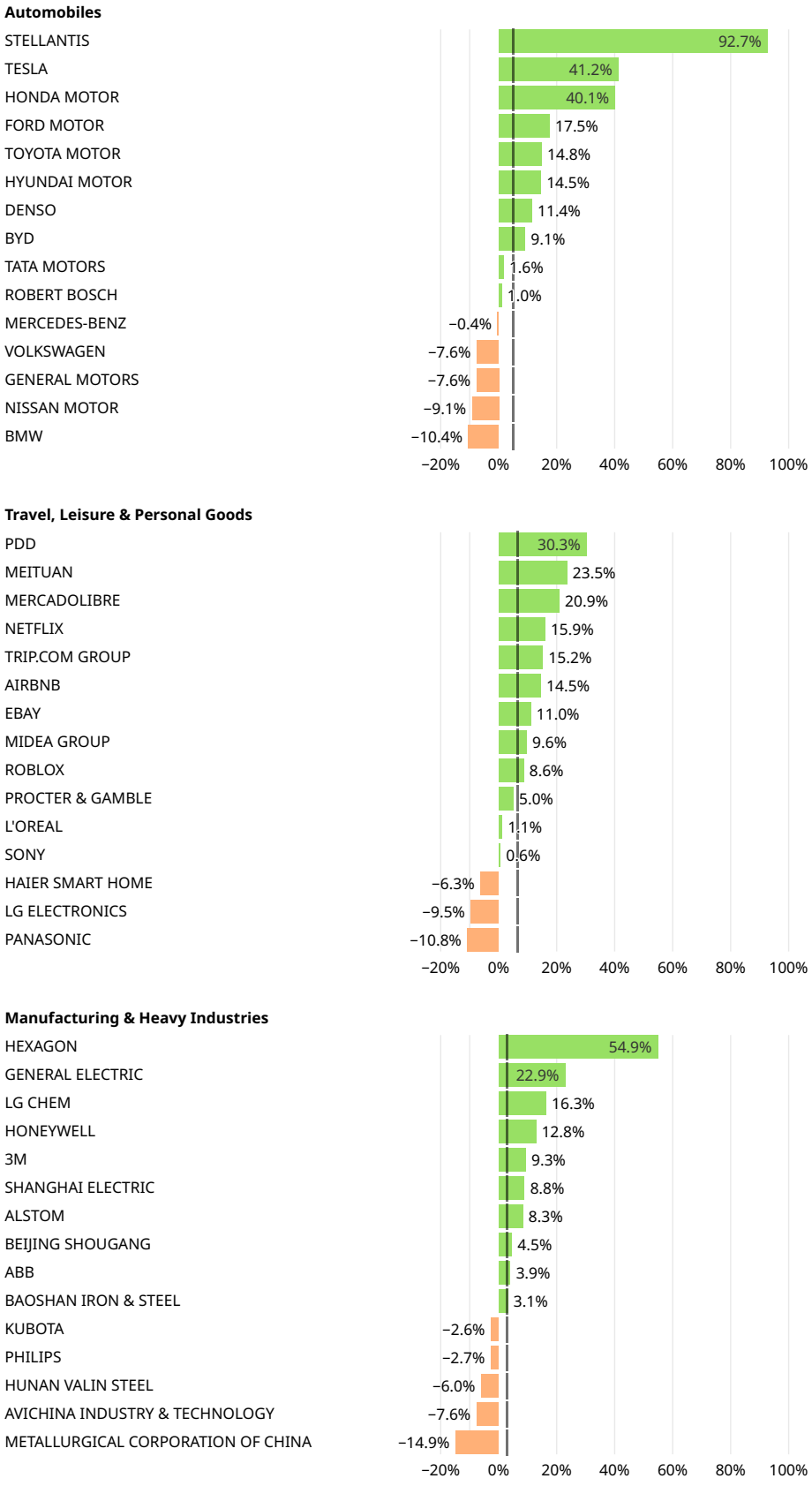


Figure 5 Top R&D spenders, by industry, growth rate 2024–2025 (cont.)

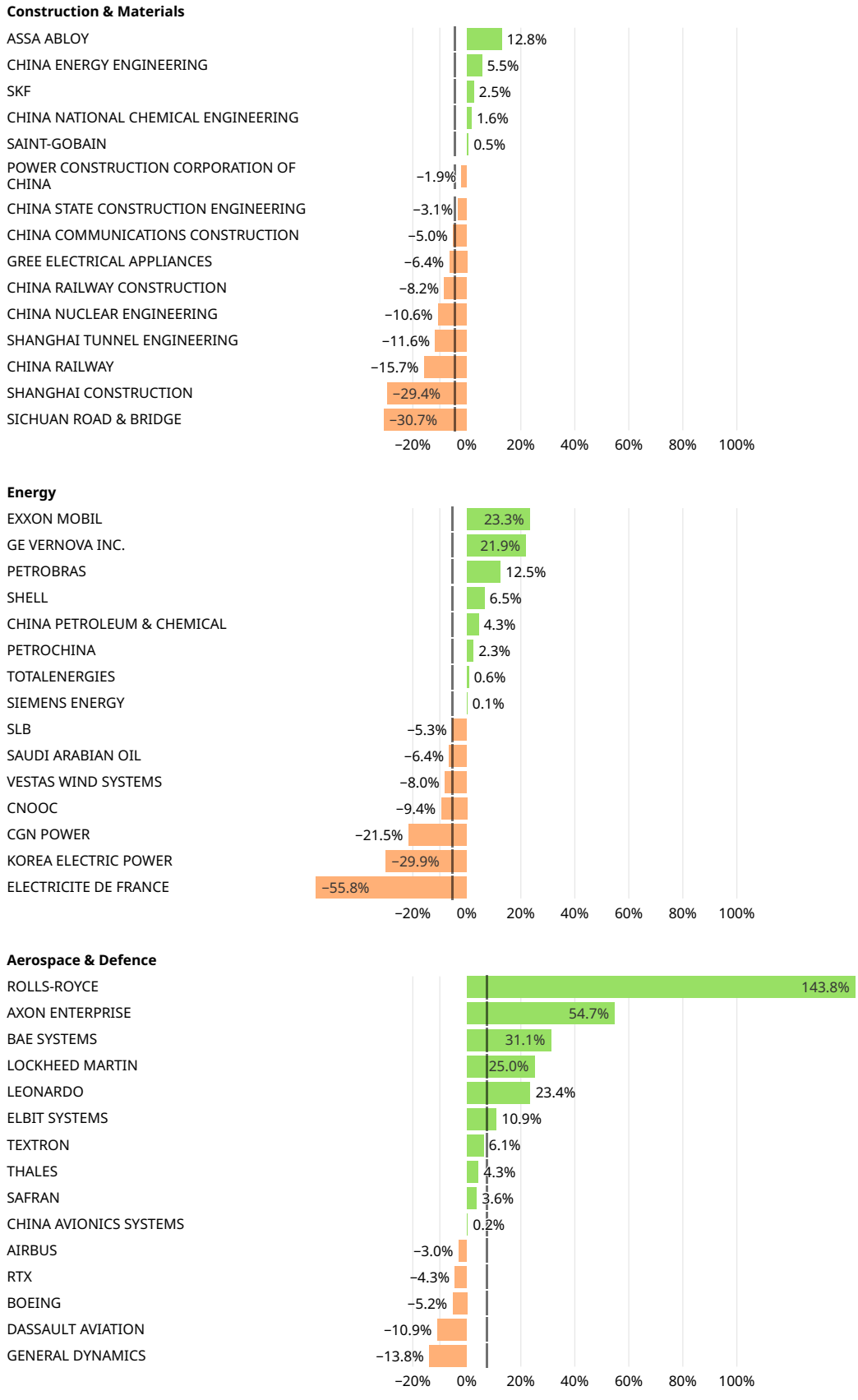
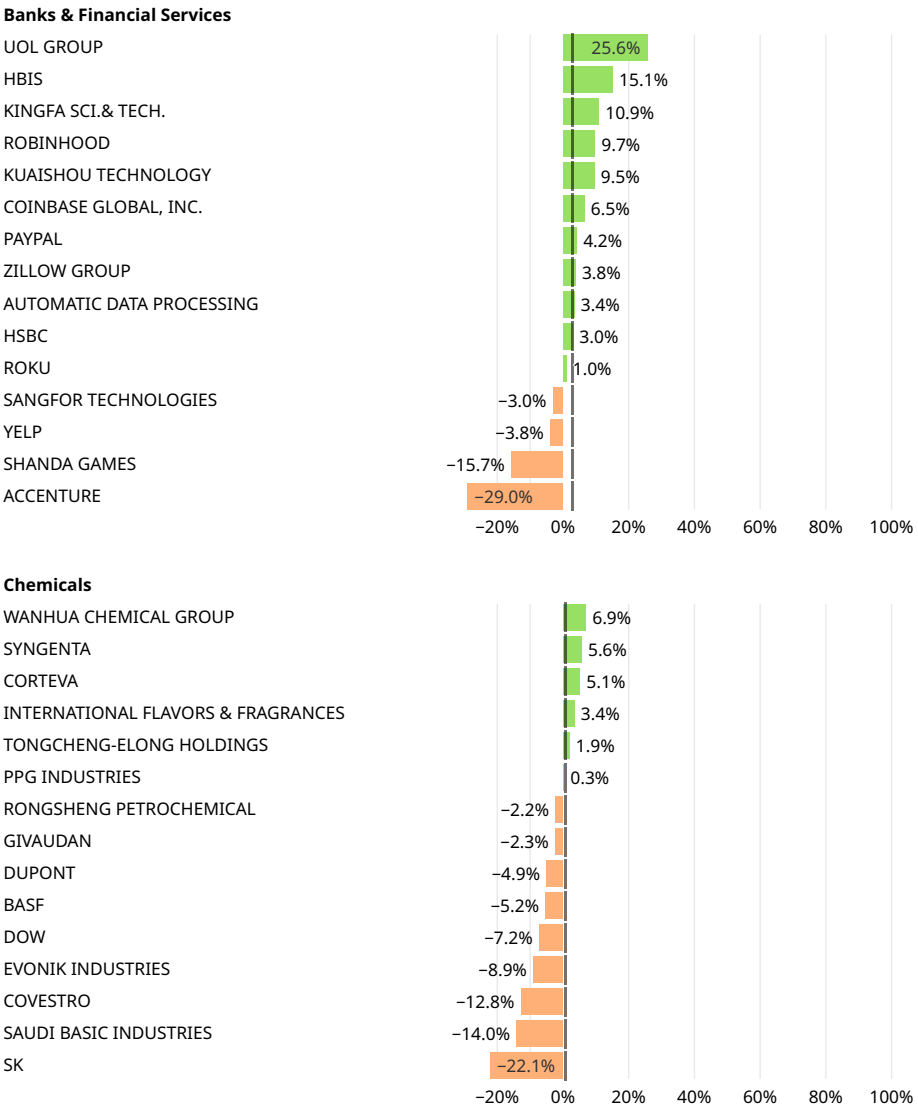


Figure 5 Top R&D spenders, by industry, growth rate 2024–2025 (cont.)



Note: Dashed vertical lines represent the sample average R&D growth for a specific industry.
Source: WIPO, based on Moody's Orbis database and the 2025 EU Industrial R&D Investment Scoreboard.

Venture capital

Venture capital (VC) in 2025 shows the year's defining tension in its clearest form: a strong recovery in terms of the money invested alongside a continued decline in the number of firms receiving it. Deal values rose 27.9 percent on 2024 to USD 510 billion, the strongest gain since the 2021 peak, whereas deal counts fell 1.4 percent to about 43,500, a fourth consecutive decline from nearly 59,000 in 2021 (see Figure 6). The recovery is carried by a small number of very large rounds rather than a broad revival in funding (Gisbert and Behrens, 2024; Gisbert *et al.*, 2025); the 125 new unicorns that emerged reflect the same pooling of capital in fewer, higher-value firms (see Box 2). This divergence widened further in the first half of 2026, when deal values had already reached about USD 560 billion, exceeding the total for all of 2025, while deal counts remained at around 22,000, broadly consistent with the pace of 2025.

Over the decade to 2025, deal values grew at an annualized 10.6 percent and deal counts at 3.4 percent, so the recent decline in activity has not erased the longer-term expansion of the market.

AI is the engine of the value rebound and the source of its concentration. Around the time of the launch of ChatGPT in late 2022, AI accounted for about 27 percent of global VC value; by 2025 its share had risen to 53 percent, whereas its share of deal counts rose far less, from 24 to 34 percent. The pattern intensified in the first half of 2026: AI accounted for 77

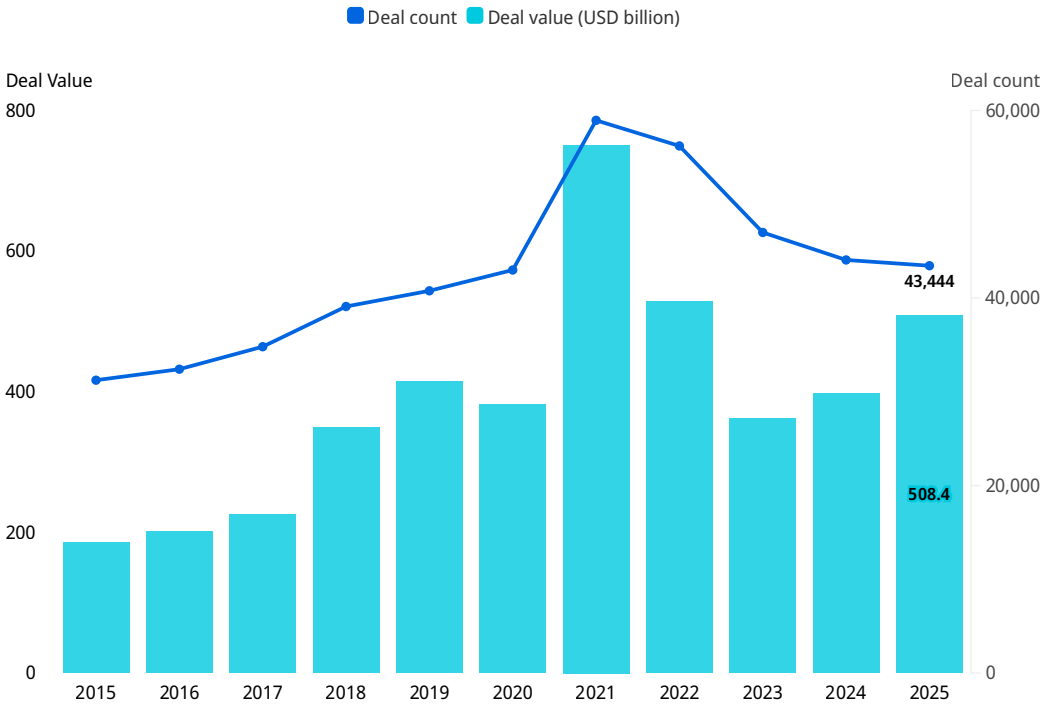
percent of global VC value but only 36 percent of deal counts, with OpenAI (USD 122 billion), Anthropic (USD 95 billion) and xAI (USD 20 billion) recording the largest deals globally, together representing close to 43 percent of total VC value.[5]

This concentration is also geographic. Northern America accounted for about USD 213 billion of the USD 270 billion in AI-related VC in 2025, with Europe (USD 30 billion) and Asia (USD 21 billion) far behind. Northern America's share of all VC value is approaching 70 percent, whereas Asia's has fallen from about 30 percent in 2023 to 13 percent, roughly level with Europe (Gisbert *et al.*, 2025). Geographic concentration strengthened further in the first half of 2026, when Northern America attracted USD 358 billion, or a dominant 86 percent of global AI-related VC value. The AI boom has so far been a physical build-out concentrated in a few firms and economies; its lasting economic effect is likely to come from a slower second wave of investment in data, skills and reorganized processes (WIPO and Luiss Business School, 2026). The AI wave has, so far, deepened rather than diffused the concentration of venture capital.

Beneath these totals, several economies outside the largest markets recorded genuine gains. The United States and China remained the two largest markets, with 15,738 and 7,604 deals, respectively, both up modestly whereas most other large markets declined. Morocco, a lower middle-income economy, has expanded deal counts at a 39.1 percent annualized rate over five years, and Argentina at 14.5 percent; Saudi Arabia rose 47.9 percent to 213 deals and the United Arab Emirates kept positive long-run growth despite a 2025 decline. African startups raised USD 3.2 billion in 2025, up about 40 percent on 2024.[6] These remain small markets, but they show VC taking root beyond the established hubs.

Beyond AI, sizeable rounds in 2025 and early 2026 were spread across energy storage and next-generation power (Base Power, Pacific Fusion), semiconductors (Yangtze Memory, CXMT) and health (Retro Biosciences, Ōura Health) (see Figure 7). Many are capital-intensive, science-based ventures of the kind examined in this edition's Special theme on deep science entrepreneurship (see the Special theme chapter). The open question for 2026 is whether rising deal values, still below the 2021 peak of USD 754 billion, broaden into a wider recovery or remain driven by a few large AI deals in a few locations.

Figure 6 Global venture capital deal count and value, 2015–2026

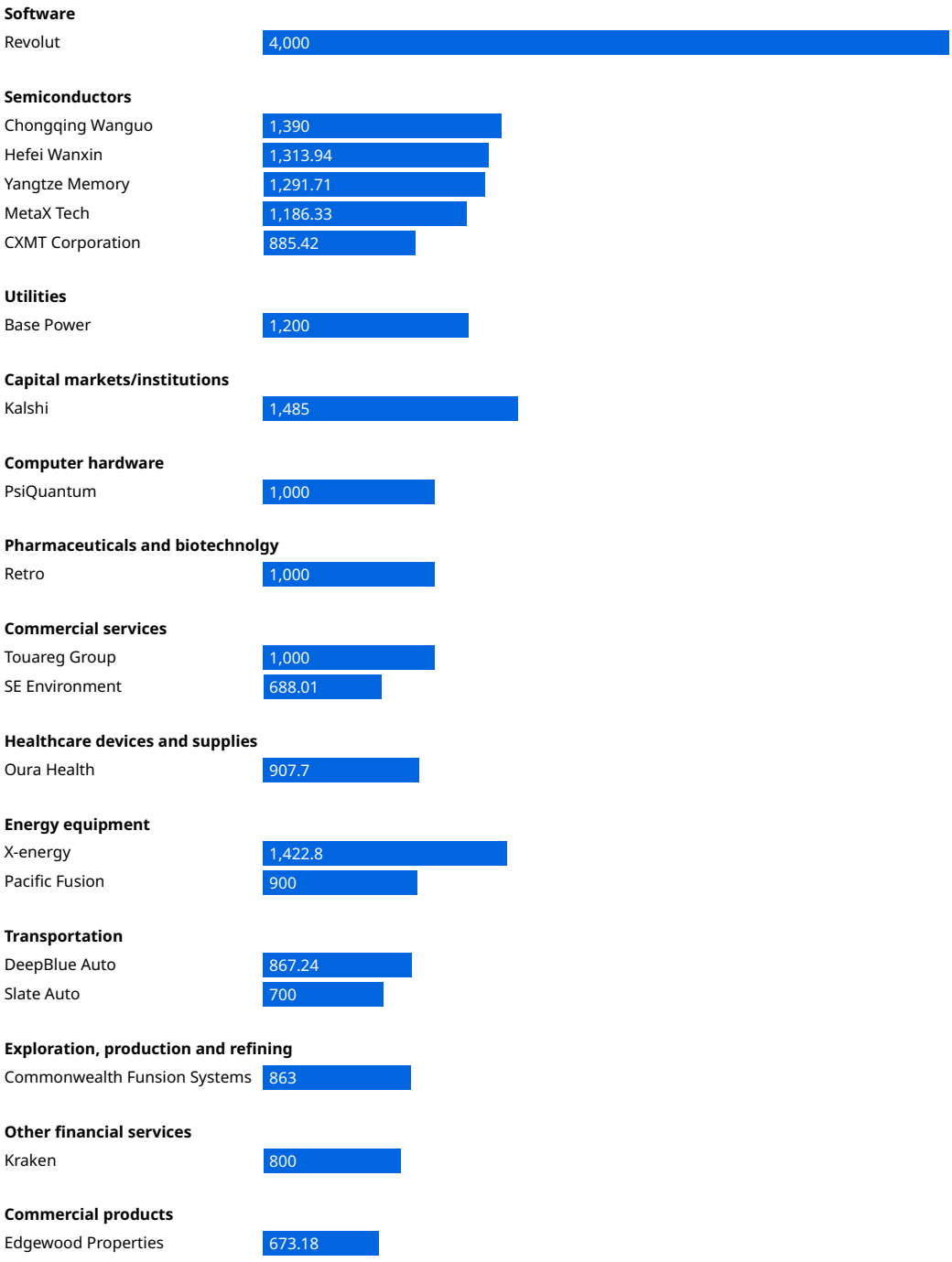


Note: Data as of June 30, 2026.

Source: WIPO, based on data from PitchBook.

5 Anthropic recorded two separate VC deals in the first half of 2026.
6 Data from Africa: The Big Deal, 2025 year-in-review, January 2026.

Figure 7 Global top 20 non-AI venture capital deals, million USD, 2025



Note: Data as of June 30, 2026. Deal values are aggregated at the company level.
Source: WIPO, based on data from Pitchbook.

Box 2 Unicorns

In 2025, 125 new unicorns emerged globally, up from 87 in 2024 and the highest since 2022, though far below the 463 of 2021 and broadly in line with pre-pandemic levels. As with VC, capital pooled in fewer, higher-value firms.

Concentration at the top end is pronounced. WIPO's analysis puts the total valuation of the global unicorn landscape at about USD 6.1 trillion in April 2026, up from USD 3.8 trillion in 2022, with the United States, China and India holding more than 80 percent of that value (Zamora *et al.*, 2026). The United States alone accounts for more than half of the world's unicorns – roughly 60 percent of their valuation – and six of the 10 most valuable, including OpenAI, Anthropic and Databricks. China follows, led by ByteDance. AI runs through the concentration:

it accounted for about 56 percent of new unicorns in the 2021–2025 cohort and around 65 percent of their valuation (Zamora *et al.*, 2026).

Measured against the size of the economy, the leaders look different, and smaller and emerging economies stand out. On the GII indicator of unicorn valuation as a percentage of GDP, Estonia (about 19 percent, led by Bolt) and Singapore (18 percent) top the ranking, ahead of the United States (13 percent). India's broad-based unicorn set is worth about 4 percent of its GDP, and in Senegal the single unicorn, Wave, equals around 4.5 percent (Zamora *et al.*, 2026). Africa's few unicorns are concentrated in financial infrastructure: Flutterwave and OPay in Nigeria, Wave in Senegal and Chipper Cash across Ghana and Uganda together account for close to USD 10 billion in valuation.

The 2025 cohort reflected both dynamic trends (see Box Table 2.1 for selected examples). New US entrants included AI-focused firms such as Thinking Machines Lab and Labs, while China added industrial and clean-tech unicorns such as Zhiyuan Robot and Fox ESS. New unicorns also emerged in a wider range of economies, including Australia, Germany, India, Mexico, the Republic of Korea, Saudi Arabia, Singapore, the United Arab Emirates and the United Kingdom, pointing to a broadening geographic footprint. Emerging markets across Asia, Latin America, Africa and the Middle East became increasingly prominent, particularly in fintech, e-commerce, digital services and frontier technologies.

Early 2026 continued these themes (see Box Table 2.1 for selected examples). AI and deep-tech firms remained prominent, including ArtIn Energy, MatX and Etched in the United States, NEURA Robotics in Germany and Paxini in China. At the same time, fintech unicorns such as Ualá in Argentina and Juspay in India, pointed to continued geographic diversification beyond the largest innovation hubs.

Box Table 2.1 Representative new unicorns, by region, 2025 and 2026

Region	Country	Company	Valuation (USD billion)	Industry
Central and Southern Asia	India	Neysa	1	Enterprise tech
Central and Southern Asia	India	Aragen	1	Healthcare and life sciences
Central and Southern Asia	India	Juspay	1	Financial services
China	China	Paxini	1	Industrials
China	China	Zhiyuan Robot	1	Industrials
China	China	Fox Ess	1	Industrials
Europe	Sweden	Legora	6	Enterprise tech
Europe	United Kingdom	Fuse Energy	5	Industrials
Europe	Germany	NEURA Robotics	5	Industrials
Latin America and the Caribbean	Argentina	Uala	3	Financial services
Latin America and the Caribbean	Mexico	Plata	3	Financial services
Northern Africa and Western Asia	Israel	Wonderful	2	Enterprise tech
Northern Africa and Western Asia	Saudi Arabia	Ninja	2	Consumer and retail
Northern Africa and Western Asia	United Arab Emirates	Xpanceo	1	Enterprise tech
Northern America	United States	ArtIn Energy	15	Industrials
Northern America	United States	Labs	13	Enterprise tech
Northern America	United States	Thinking Machines Lab	10	Enterprise tech
Northern America	United States	MatX	7	Industrials
Northern America	United States	Etched	5	Industrials
South East Asia, East Asia, and Oceania	Australia	Firmus	4	Enterprise tech
South East Asia, East Asia, and Oceania	Republic of Korea	Rebellions	1	Industrials
South East Asia, East Asia, and Oceania	Singapore	Airalo	1	Consumer and retail

Note: Data as of 30 June, 2026.
Source: WIPO, based on data from CBInsights.

International patent filings

International patent filings continued a gradual recovery in 2025. Patent Cooperation Treaty (PCT) applications reached 275,900, up 0.7 percent. This represents a second consecutive year of growth after the 2023 contraction, but is still well below the long-run annualized rate of 2.4 percent, which has itself trended down, pointing to a structural softening amid uncertainty and shifting R&D priorities (WIPO, 2026).

China remained the biggest filer, with 73,718 applications, up 5.4 percent and consistent with its 9.5 percent long-run rate. The United States followed with 52,617, a third consecutive year of decline, whereas the Republic of Korea expanded to 25,016 and Singapore maintained strong growth. European activity was mixed, with a 44 percent rise in Finland. India's filings fell 32 percent after a run of exceptional years, a normalization given its 8.1 percent long-run rate; the United Arab Emirates rose 31.7 percent, the largest percentage increase among mid-sized filers; and the Islamic Republic of Iran posted the highest long-run rate at 19.7 percent.

The composition of filings tells the same AI story: digital communication and semiconductor technologies were among the fastest-growing fields, reflecting continued activity in connectivity, computing and AI-enabling hardware (WIPO, 2026).

Technological progress

Technological progress in 2025 came mainly through refinement and diffusion rather than breakthrough jumps. Supercomputing efficiency improved even as total energy demand rose; transistor growth slowed, with chipmakers leaning on architecture and packaging; battery prices fell to a record low, while renewable energy costs rose slightly for the first time in a decade; and drug approvals rebounded again, led by oncology. The technologies behind the past decade's steep cost declines are maturing, and further gains are getting harder to achieve.

Computing power

Green supercomputers

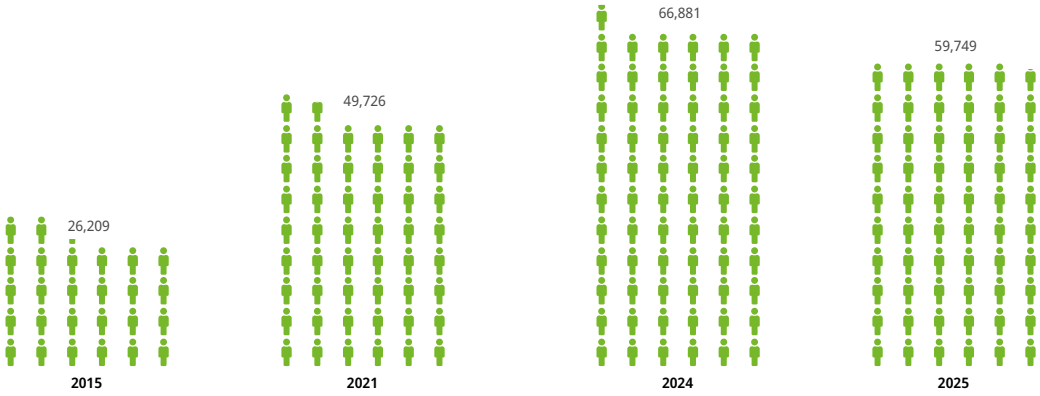
Supercomputing capacity expanded further in 2025 as the exascale era consolidated.[7] By year end, four operational systems had reached one exaflop on the TOP500 benchmark, El Capitan, Frontier, Aurora and JUPITER, the latter Europe's first at the exascale frontier. By mid-2026, China returned to the frontier with LineShine, bringing operational exascale systems to five.

Average energy efficiency of the top 50 systems in the Green500 list reached about 59 Gflops per watt in 2025, up around 10 percent on 2024.[8] Efficiency has risen from about 3 Gflops per watt in 2015, representing an annualized 34 percent grow, though recent annual gains have moderated to around 5 percent; by June 2026 the average had edged up to 60.8 Gflops per watt.

Total energy demand has kept rising. The combined power requirement of the top 100 supercomputers more than doubled between 2015 and 2025, with their estimated annual electricity use nearly tripling to the equivalent of roughly 60,000 people at world-average consumption, up from 26,000 in 2015 though below the 67,000 of 2024. This means efficiency gains have begun to offset part of the demand growth (see Figure 8). The long-run pattern is consistent with the Jevons Paradox: performance per watt has improved, but total consumption has risen regardless (Chiroma, 2025).

7 See the TOP500 list of supercomputers, available at: https://top500.org/lists/top500.
8 See the Green500 list of supercomputers, November 2025, available at: https://top500.org/lists/green500/2025/11.

Figure 8 Equivalent population of annual energy usage by the top 100 supercomputers, 2015, 2021, 2024 and 2025



Note: Supercomputers are assumed to operate year-round (8,760 hours) at 75 percent of the value recorded during the LINPACK benchmark. Human energy usage is based on global (average) per capita primary energy consumption during the corresponding years, and the figure for 2025 is based on a linear extrapolation.

Source: WIPO, based on data from TOP500 and Our World in Data (https://ourworldindata.org/grapher/per-capita-energy-use).

Moore's Law

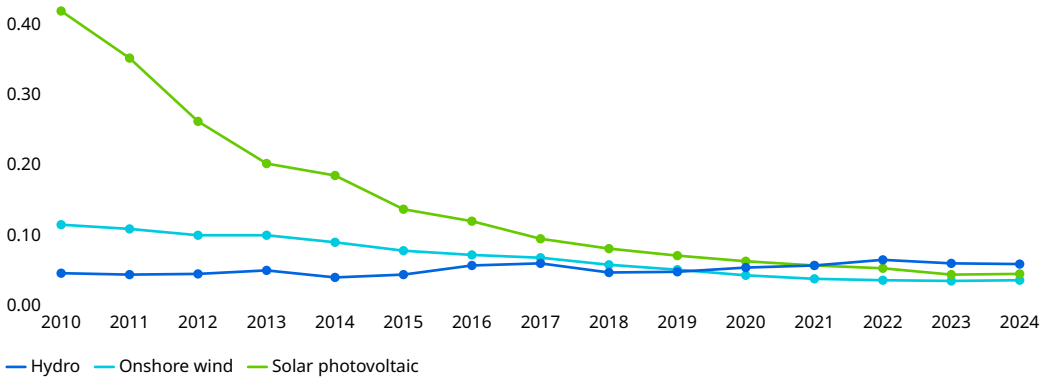
The most advanced commercial microprocessors in 2025, including NVIDIA's RTX Pro 6000 and AMD's Threadripper Pro 9995WX, carried roughly 92 to 100 billion transistors, a modest 5.3 percent increase over the 2023 frontier and a sharp slowdown from the 2020–2023 period, when annual increases exceeded 60 percent. With transistor scaling harder to achieve, chipmakers are turning to three-dimensional stacking, chiplet architectures and advanced packaging to keep raising performance.[9]

Costs of renewable energy

The decade-long decline in renewable energy costs paused in 2024. Average generation costs rose 0.6 percent for solar photovoltaic and 2.7 percent for wind over 2023, the first increase since 2014.[10] Small as it is, this shift matters: costs had fallen nearly 90 percent for solar and more than 65 percent for wind since 2010. Part of the rise reflects higher financing, supply chain and grid connection costs, but it may also signal that reductions become more gradual as technologies mature (IEA, 2026b; IRENA, 2025).

Figure 9 charts the following pattern: hydropower, the most established, has remained broadly stable costs; onshore wind has continued gradual reductions; and solar photovoltaic has recorded the decade's largest decline, from a lower base.

Figure 9 Levelized cost of electricity for selected technologies (2024 USD/kWh), 2010–2024



Source: WIPO, based on data from IRENA.

9 See Reuters (2026), Energy use forcing rethink of AI chip design, TSMC says, May 28.
10 This is the growth rate of the onshore and offshore levelized cost of electricity (LCOE), weighted by installed wind capacity.

Electric battery price

Lithium-ion battery pack prices fell to a record low of USD 108 per kWh in 2025 (real 2025 USD), down 8.5 percent from 2024 despite higher battery-metal prices, supported by manufacturing scale and lower-cost chemistries. Prices have dropped 87 percent from USD 827 per kWh in 2013, an average annual decline of 15.6 percent, with only a brief supply chain-driven uptick in 2022. Regional differences remain large: China recorded the lowest average pack prices at USD 84 per kWh, with Northern America and Europe 44 and 56 percent higher, respectively.

Cost of genome sequencing

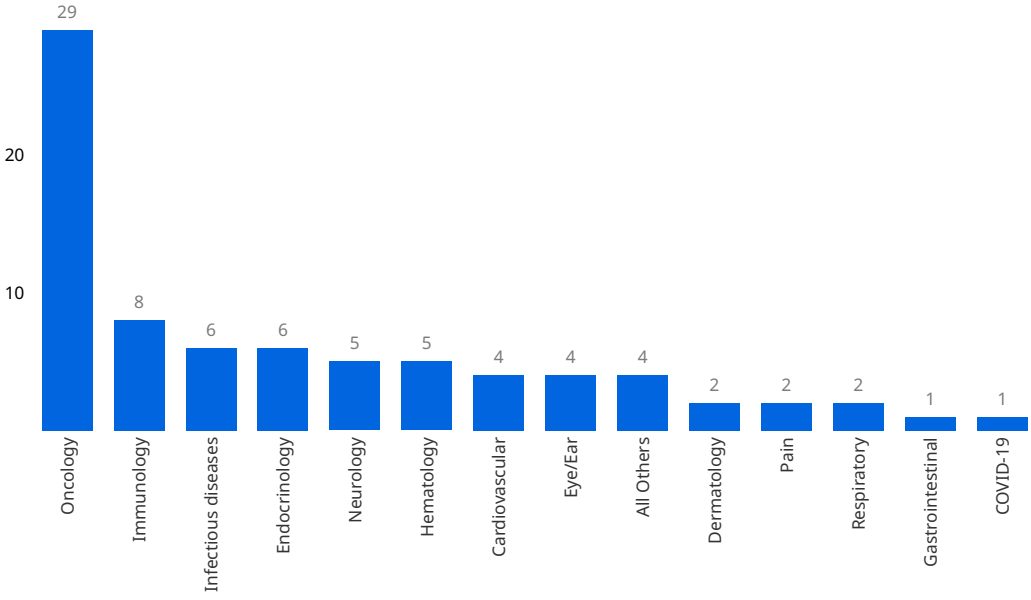
Between 2023 and 2025, the cost of sequencing a human genome fell at an annualized 12.1 percent, from USD 577 to about USD 446, broadly in line with the 13.0 percent decade rate and down from about USD 100 million in 2001, far outpacing Moore's Law. Some providers report USD 200 to USD 80 per genome, and China has become an important source of price pressure, with platforms led by MGI Tech reporting costs as low as USD 100 at industrial scale.

The pace of reduction has nonetheless slowed as the technology has matured. Innovation is shifting toward efficiency elsewhere in the process, including software, data processing and lab automation, and tighter research budgets in many countries may have eased price competition.

Drug approvals

New drug launches stabilized in 2025: 79 novel active substances (NASs) were launched globally, up 4 percent on 2024 and steadying after a fall from the 2021 record of 93. Launches have increased at an annualized 6.5 percent since 2015, with first-in-class molecules accounting for 38 percent of the total, in line with recent years. Oncology again led, with 29 launches and the most first-in-class medicines (see Figure 10), followed by immunology, endocrinology and infectious diseases, with launches concentrated in just a few areas, but meeting a wide range of clinical needs.

Figure 10 Global novel active substances launches, therapeutic areas, 2025



Source: WIPO, based on data from IQVIA Institute for Human Data Science.

Technology adoption

Technology adoption kept broadening in 2025, though generally below long-run averages, and the fastest growth was in emerging markets. Electric vehicles, digital connectivity and high-speed rail expanded, robot deployment reached a new high, and radiotherapy availability improved slightly faster than trend. Access to safe sanitation, by contrast, stayed uneven, stagnating or declining in several economies.

Safe sanitation

With no new data for this edition, the focus shifts from aggregate progress – highlighted last year in respect of China and India – to the durability and distribution of gains. Coverage remains highly uneven: the global average is 58 percent, yet a number of economies still record rates below 20 percent. This gap matters because poor sanitation is closely linked to preventable disease, lower educational attainment and weaker labor productivity.

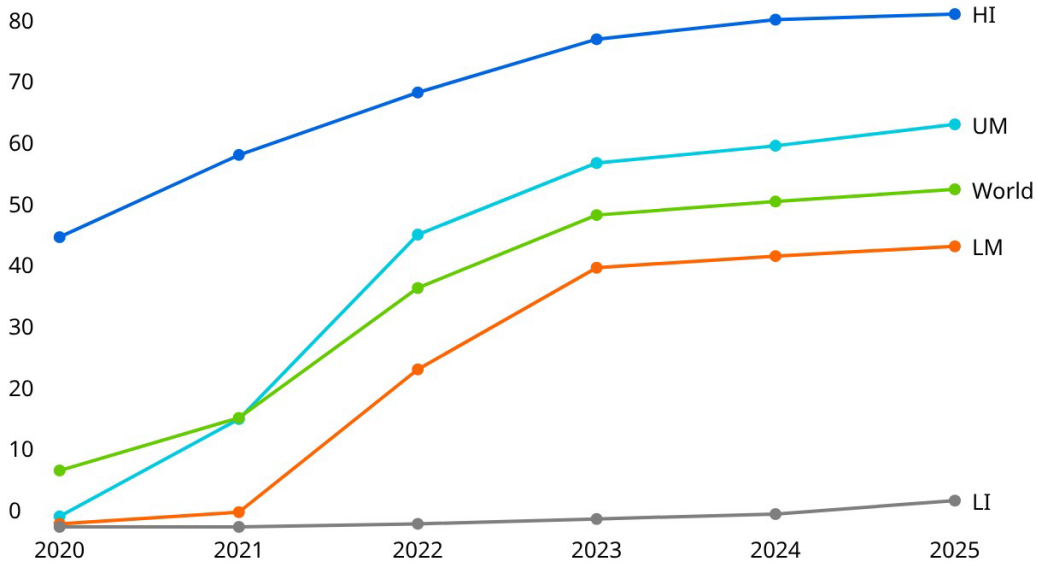
Progress is not always self-sustaining. Several economies have recorded a decline in coverage over the past decade, suggesting that gains depend on continued maintenance and institutional capacity as much as they do on initial investment.

Connectivity

Global fixed broadband reached about 20 subscriptions per 100 inhabitants in 2025, representing about 1.65 billion subscriptions and up 5 percent on the year. Access remains far more uneven than it does for mobile connectivity, ranging from under 1 subscription per 100 inhabitants in low-income economies to 39 in high-income ones.

Mobile broadband is expanding much faster (see Figure 11): 5G networks covered 55.1 percent of the world's population in 2025, representing about 4.5 billion people and up from 53.1 percent in 2024, though growth has slowed since the 2021–2022 rollout. Disparities remain wide, ranging from 84 percent coverage in high-income economies, 66 percent in upper middle-income, 46 percent in lower middle-income down to 4 percent in low-income economies, where around 15 percent of people still either lack mobile coverage or depend on 2G.

Figure 11 Population coverage of 5G network by income group, 2020–2025



Note: 2025 figures are those estimated by the International Telecommunication Union (ITU) in November 2025. HI refers to high-income, UM to upper middle-income, LM to lower middle-income, LI to low-income economies.

Source: WIPO, based on data from ITU.

Robots

The global stock of industrial robots reached nearly 4.7 million units in 2024, up about 9 percent from 2023. The top five economies – China, Japan, the Republic of Korea, the United States and Germany – accounted for roughly 75 percent of the installed base; China alone holds about 2.03 million units, representing 43 percent of global stock.

From roughly 558,000 units in 1993, the global stock had passed one million in 2008, two million in 2017 and four million by 2023. Long-run annual growth stands at about 12 percent, nearly triple the rate of two decades ago, and is associated with efforts to raise productivity and address labor shortages in economies facing demographic pressures (IFR, 2026). China's rapid adoption also reflects wider changes within manufacturing, as firms automate to raise efficiency and quality.[11]

Adoption is widening beyond the leaders: India's stock of around 53,000 units grew 17 percent in 2024, Viet Nam's by 10 percent and Mexico's by 6.2 percent, while several Central and Eastern European economies, including Bulgaria, Lithuania and Serbia, have recorded long-run growth well above the global average.

Measured relative to economy size, leadership shifts. The Republic of Korea leads at roughly 209 robots per billion USD of GDP, followed by Japan and China, with Slovenia, Slovakia and Czech Ralso recording high adoption intensity.

Electric cars

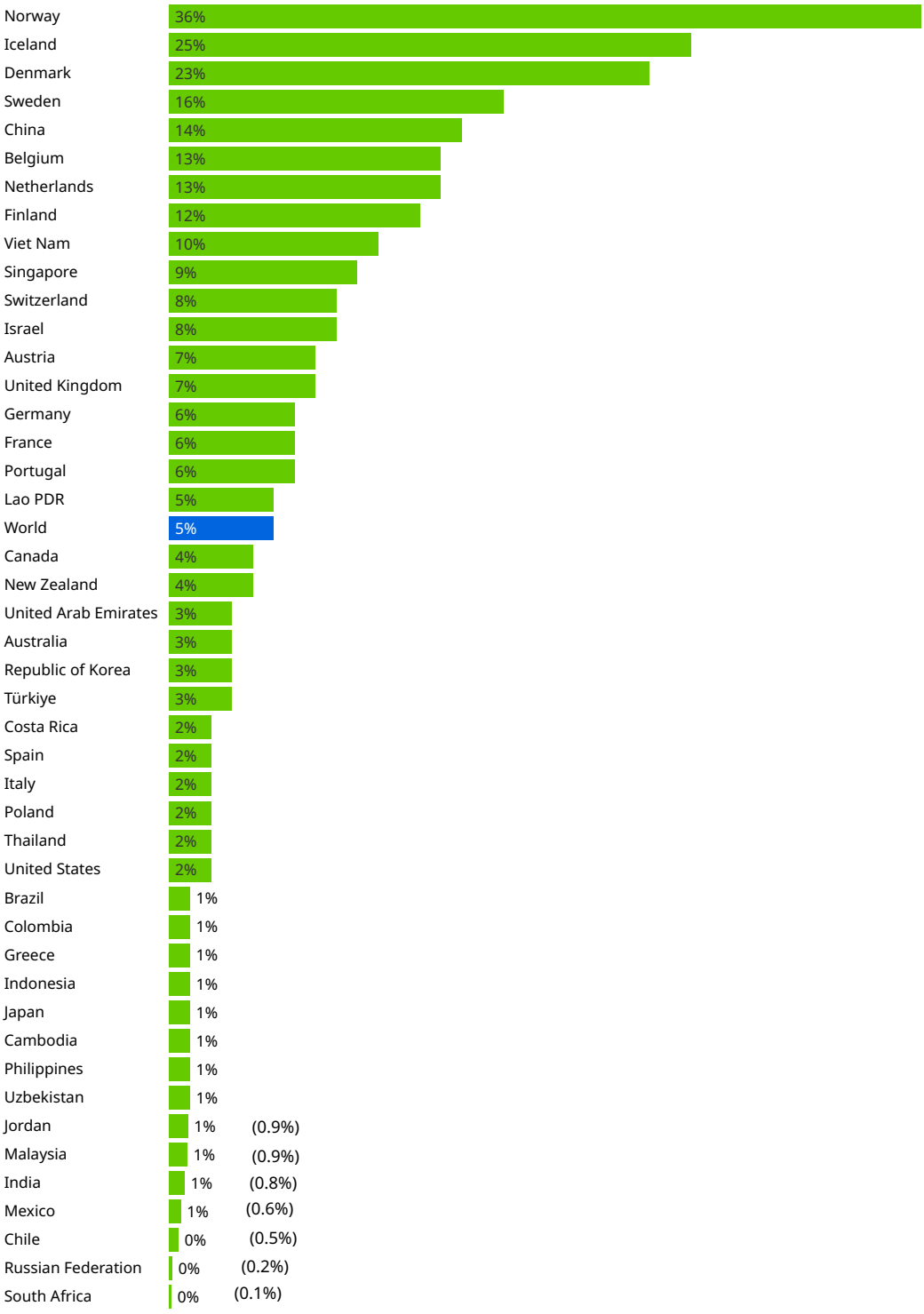
The global electric vehicle stock reached 75 million in 2025, up 34 percent on 2024, with around 21 million electric cars sold, which is about a quarter of all new car sales. Sales are expected to reach around 23 million in 2026, close to three-tenths of the total. As of 2025, five out of every 100 cars worldwide are electric, up from 4.2 a year earlier, led by Norway at 36 per 100, Iceland (25), Denmark (23) and Sweden (16).

China remained the largest market, with a stock of about 44 million vehicles, though growth moderated to 33 percent as penetration rises and the market matures.

A number of emerging markets grew rapidly between 2024 and 2025 from low bases: electric vehicle stocks rose 629 percent in the Philippines, 155 percent in Viet Nam, 121 percent in Türkiye, 86 percent in Malaysia and 82 percent in Brazil, while Thailand and Indonesia continued to attract investment into vehicle and battery production as automakers expanded abroad (IEA, 2026a).

11 See *Financial Times* (2026), Robot nation: China's bid to beat its demographic decline, June 25.

Figure 12 Share of electric cars in total passenger car fleet (%), 2025



Note: The definition of electric vehicles does not include fuel cell electric vehicles (FCEVs). Lao PDR = Lao People's Democratic Republic; Netherlands = Kingdom of the Netherlands.

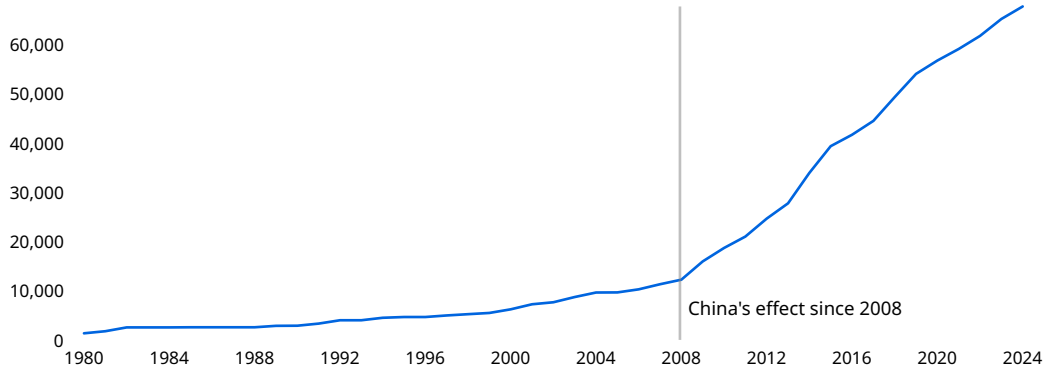
Source: WIPO, based on data from the International Energy Agency (IEA).

High-speed rail network

By the end of 2024, the global high-speed rail network comprised 67,723 km of rail lines, up about 4 percent from 2023, representing a further moderation and below the decade average (see Figure 13). Over a five-year horizon more aligned with construction cycles, the network expanded by about 25 percent. China remained the largest system, adding around 2,500 km of line to reach 47,803 km.

Committed capacity is far greater than the operating network: including lines under construction, both planned and in long-term planning, it approaches 130,000 km globally. Asia-Pacific accounted for 52,090 km in operation and 7,539 km under construction; and the Middle East, with 1,681 km in operation and 3,567 km being built, is planning a large-scale expansion relative to its network. Africa already operates high-speed services in Morocco, and development has continued in Northern America and Oceania, including California's line and the Toronto–Québec City corridor.

Figure 13 Global high-speed rail network length (km), 1980–2024



Source: WIPO, based on data from International Union of Railways (UIC).

Cancer radiotherapy

The Tracker monitors the availability of linear accelerators (LINACs), which deliver high-energy x-rays or electrons for therapeutic or palliative cancer care.

In 2025, LINAC availability per capita rose about 2.0 percent from 2024, which is above the 1.4 percent decade average, and the global stock passed 15,700 units, up 42 percent since 2012. Cancer incidence rose faster, meaning LINACs per million cancer cases fell from about 787 in 2012 to around 729 in 2024, a recovery from roughly 693 in 2022. Recent deployment has eased capacity pressures without fully offsetting rising demand.

Access remains starkly uneven. In 2025, 28 of 100 countries met the minimum radiotherapy requirements set by the International Atomic Energy Agency (IAEA): 27 percent of upper middle-income economies, 7 percent of lower middle-income and none of the low-income economies. The global average rose from 1.55 LINACs per million inhabitants in 2012 to about 1.91 in 2025, but expanding access depends on workforce, infrastructure and health-system capacity as much as it does on equipment.

Socioeconomic impact

Socioeconomic indicators extended their progress in 2025, but unevenly. Labor productivity grew above its long-run average, with the strongest gains to be seen across a diverse group of economies within Asia and Africa, and extreme poverty continued its long decline. Life expectancy stabilized after the post-pandemic rebound. Climate indicators were the exception: temperatures were the second highest on record and emissions edged up further, though more slowly than GDP.

Labor productivity

Global labor productivity kept recovering in 2025, with output per hour up 2.7 percent from 2024, which is above the decade average of 2.2 percent. Workers worldwide now generate close to USD 57,000 in output (PPP, constant 2025 prices), around USD 8,000 more than a decade ago. The pickup is broad: median labor productivity growth across Organisation for Economic Co-operation and Development (OECD) economies, measured according to per person employed, rose from 0.3 percent in early 2024 to 1.2 percent by late 2025, close to its 2010–2019 pace (OECD, 2026).

Whether this marks a lasting turn is not yet clear. Productivity growth in most advanced economies has slowed since the global financial crisis, and the recent improvement looks largely cyclical, partly reflecting automation adopted during the pandemic (OECD, 2026). This is the question set out in the GII 2022 Special theme titled What is the future of innovation-driven growth?, which asked whether low productivity growth was here to stay or whether new innovation waves – a Digital Age wave built on computing and AI and a Deep Science wave – would revive it (WIPO, 2022). Four years on, AI is the leading candidate, but its productivity effect is still uncertain and largely lies ahead: the OECD expects it to become more visible over the next two years only if firms combine AI with investment in skills and organization. Early firm-level evidence suggests that the gains so far are concentrated in the most AI-intensive firms.

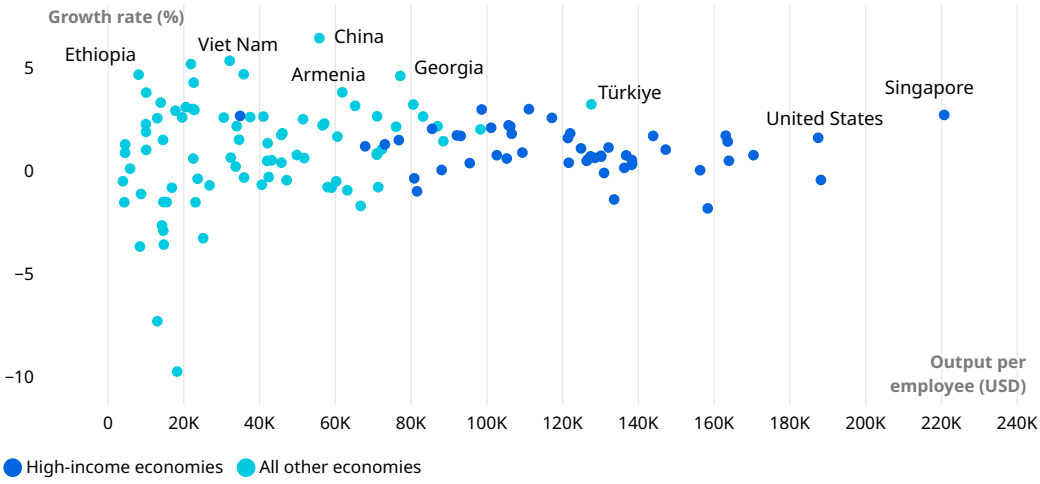
Table 2 Top 10 economies by long-run growth in output per hour, 2015–2025

Economy	2024-2025 growth (%)	2015-2025 growth (%)
China	5.1	6.4
Viet Nam	6.8	5.3
Tajikistan	5.9	5.2
Uzbekistan	6.6	4.7
Ethiopia	4.9	4.6
Georgia	7.7	4.6
Bangladesh	2.1	4.3
Armenia	8.9	3.8
Rwanda	3.9	3.8
Cambodia	3.4	3.3

Note: 2015–2025 growth rate refers to the 10-year compound annual growth rate (CAGR) of output per hour.
Source: WIPO, based on data from The Conference Board Total Economy Database™.

The global figure masks wide variation (see Table 2 and Figure 14). China recorded the fastest long-run growth, at an annualized 6.4 percent over the decade, followed by Viet Nam (5.3 percent) and Tajikistan (5.2 percent), with Uzbekistan, Ethiopia and Georgia near 4.6 percent, Bangladesh at 4.3 percent, and Armenia and Rwanda around 3.8 percent. That the strongest sustained gains sit with such a diverse group, particularly in Asia and Africa, reflects catch-up rather than a frontier revival, and is among the clearest signs in the Tracker that innovation-driven development is becoming more broad-based.

Figure 14 Output per employee and growth in output per hour, 2015–2025



Note: Output per employee refers to the 2025 level, expressed in constant 2025 PPP adjusted USD. Growth rate refers to the 10-year compound annual growth rate (CAGR) of output per hour.
Source: WIPO, based on data from The Conference Board Total Economy Database™.

Poverty

The share of the global population living below USD 3 per day fell to 10.2 percent in 2025, representing about 837 million people, down from 847 million in 2024. In 1981, 47 percent of the world's population, around 2.1 billion people, lived below that threshold; the subsequent decline in the number of people living below the international poverty line has come about despite a near doubling of the global population.

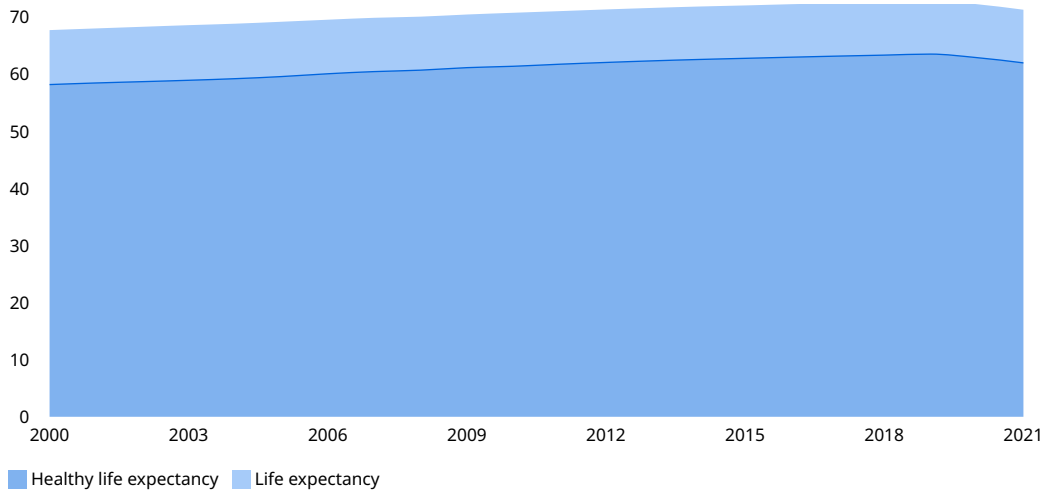
The reduction was fastest in the 2000s and early 2010s, driven mainly by rapid income growth in China and other large emerging economies, before slowing through the late 2010s. The pandemic pushed the share up temporarily in 2020, but it had fallen back below pre-pandemic levels by 2023. The annual pace of reduction has since moderated to below 0.3 percentage points, yet the number of people in extreme poverty keeps falling.

Life expectancy

Global average life expectancy at birth continued to recover in 2024, reaching about 73.5 years, though this slowed to 0.2 percent as the post-pandemic rebound faded and gains returned to the pre-pandemic trend. The longer-term arc remains striking: a person born in 2024 can expect to live more than 20 years longer than one born in 1960 (76 years for females and 71 for males, against 51 overall in 1960).

Healthy life expectancy – an indicator updated only every five years – adds a caveat (see Figure 15). This indicator has continued to rise, but the gap with overall life expectancy has largely stagnated, indicating limited progress in the share of life spent in good health. The differences are wide: in 2021, 60-year-olds in Japan and Singapore could expect around 20 additional healthy years, against 15.7 years in the United States and fewer than nine in some low-income economies.

Figure 15 Life expectancy and health gap, 2000–2021



Note: Health gap is measured as the difference, in years, between life expectancy and healthy life expectancy.
Source: WIPO, based on data from World Bank and World Health Organization.

Global warming

Global mean surface temperature in 2025 stood at 1.19°C above the 1951–1980 baseline, the second warmest year on record after 2024 (1.29°C). Every month of 2025 ranked among the five warmest for that month, and the past decade averaged about 1.0°C above baseline, consistent with sustained warming rather than isolated anomalies. Notably, the July–September period has reached unprecedented levels in recent years: July and August set record monthly anomalies in 2024 (1.20°C and 1.30°C above the baseline, respectively), while September reached a record 1.48°C in 2023. Early 2026 remained exceptionally warm, with the anomaly reaching 1.32°C above the baseline in March before easing modestly in April and May. Increases remained concentrated in higher-latitude and inland zones: Central Asia led at 3.1°C, with Eastern Europe, Northern America and Northern Europe all above 2°C, while Melanesia, Polynesia and Southern Africa

stayed below 1°C. In 2025, 111 of 240 countries and territories exceeded 1.5°C, down from 172 in 2024, partly because several populous tropical nations, including India, Indonesia and Brazil, fell well below the threshold.

Global CO_2 emissions reached 38.1 billion tonnes in 2025, up 0.4 percent, but below the 1.1 percent rise of 2024 and well below global GDP growth of about 3.1 percent, consistent with a continued decoupling of emissions from economic activity (IEA, 2026c). Major emitters diverged: China's emissions fell 0.5 percent as renewables kept coal use broadly stable, India's were essentially unchanged, the United States' rose 2.2 percent as colder weather and higher gas prices shifted power generation back toward coal, and the European Union's fell 0.8 percent.

Conclusion and outlook

The GII 2026 Innovation Tracker points to continued but slower progress across the innovation cycle. Most indicators advanced, with notable gains in scientific output, corporate R&D, battery costs and technology adoption, yet about three-quarters remain below the decade average. Research effort has nonetheless remained at a historic high, with global R&D intensity close to 2 percent of GDP.

As set out at the start of this chapter, two forces ran through the year: a frontier concentrating around AI and a few firms and locations, above all in the United States; and a base diversifying toward a wider group of middle-income economies in research, patenting and technology adoption. Significant gaps remain in access to infrastructure, health technologies and basic services. As in previous editions, the Tracker offers a selective view, aiming at a broad and timely picture of how investment, progress, adoption and impact are evolving across economies.

The near-term environment is more demanding than it was a year ago. Global growth of about 3.4 percent in 2025 is expected to ease to around 3 percent in 2026, held back by higher energy prices and elevated uncertainty, before recovering modestly in 2027. AI-related investment remains the main engine on the upside: the largest hyper-scalers are set to spend well over USD 1 trillion on AI infrastructure across 2025 and 2026, increasingly financed through debt and private credit, meaning a downward revision of expected AI returns could tighten financing conditions well beyond the sector.

For innovation, the open question remains the one posed in the GII 2022 Special theme: that is, whether new innovation waves can revive sluggish productivity growth. AI is now the leading candidate in this respect, but its contribution to aggregate productivity is not yet visible, and its lasting effect is likely to come from a second wave of investment in data, skills and reorganized processes rather than from the physical build-out itself. The channels of diffusion are forming: technology trade is lifting output across Asia, low-cost open-weight AI models are spreading in low- and middle-income economies, and this edition documents growing research systems, venture activity and technology adoption from Morocco to Viet Nam. Whether it is the concentrating frontier or the diversifying base that comes to dominate the innovation landscape will shape both growth and the geography of innovation.

Data notes

Scientific publications captures the number of peer reviewed articles published across 182 fields of science and technology, derived from journals indexed in the Social Sciences Citation Index (SSCI) and Science Citation Index Expanded (SCIE). Source: Web of Science (Clarivate), https://apps.webofknowledge.com.

R&D investment captures R&D expenditure worldwide in PPP-adjusted constant 2020 prices. Values for 2024 use available real data on gross expenditure on R&D (GERD) and business enterprise expenditure on R&D (BERD) from the UNESCO Institute for Statistics (UIS), the OECD Main Science and Technology Indicators (March 2026 update), Eurostat and RICYT. Missing 2024 values were estimated by carrying forward the last observed R&D intensity and applying it to GDP PPP. Values for 2025 and 2026 were estimated for all economies using projected R&D intensity and IMF World Economic Outlook GDP growth (April 2026).

Top corporate R&D spenders uses 2015-2024 data from the European Commission 2025 EU Industrial R&D Investment Scoreboard, and 2025 data from Moody's Analytics Orbis and company annual reports. Figures are in current US dollars; real growth rates convert local currency R&D into US dollars at end-2025 market exchange rates and deflate using country-level GDP deflators.

Venture capital (VC) refers to the number of VC deals worldwide and the total amount invested via VC, in current US dollars. Source: PitchBook Data, Inc, https://www.pitchbook.com.

International patent filings refers to the total number of applications filed through the WIPO-administered Patent Cooperation Treaty. Source: WIPO IP Statistics Data Center, https://www.wipo.int/ipstats.

Green supercomputers captures the average efficiency (Gflops per watt) of the top 50 systems in the Green500 list. Source: TOP500, https://www.top500.org/lists/.

Microchip transistor count (Moore's Law) refers to the number of transistors on the most advanced commercially available microchips in a given year. Source: Karl Rupp, https://github.com/karlrupp/microprocessor-trend-data.

Cost of renewable energy captures the global weighted average levelized cost of electricity (LCOE) of solar photovoltaics and onshore and offshore wind, weighted by installed capacity. Source: International Renewable Energy Agency (IRENA), https://www.irena.org/Publications/2025/Jun/Renewable-Power-Generation-Costs-in-2024.

Electric battery price refers to the average price of lithium-ion batteries (cell, module and pack) in real 2025 USD per kWh, weighted by power capacity across sectors. Source: BloombergNEF, https://about.bnef.com/insights/clean-transport/lithium-ion-battery-pack-prices-fall-to-108-per-kilowatt-hour-despite-rising-metal-prices-bloombergnef.

Cost of genome sequencing refers to the cost of sequencing one human genome (USD). Source: National Human Genome Research Institute (NHGRI), US National Institutes of Health, https://www.genome.gov/sequencingcostsdata.

Drug approvals refers to the number of novel active substances (NASs) launched anywhere in the world by year of first global launch. Source: IQVIA Institute for Human Data Science, *Global Trends in R&D 2026*, https://www.iqvia.com/insights/the-iqvia-institute/reports-and-publications/reports/global-r-and-d-trends-2026.

Safe sanitation refers to the share of population using an improved sanitation facility not shared with other households, with excreta safely disposed *in situ* or treated off-site. Source: WHO/UNICEF Joint Monitoring Programme (JMP), https://washdata.org.

Fixed broadband refers to fixed subscriptions for high-speed internet access at downstream speeds of at least 256 kbit/s, per 100 inhabitants. Source: International Telecommunication Union (ITU), https://www.itu.int/en/ITU-D/Statistics/Pages/facts.

5G coverage refers to the share of the population covered by at least a 5G mobile network. Source: International Telecommunication Union (ITU), https://www.itu.int/en/ITU-D/Statistics/Pages/facts.

Robot adoption measures the operational stock of industrial robots, assuming an average service life of 12 years. Source: International Federation of Robotics (IFR), https://ifr.org/worldrobotics.

Electric cars stock is the number of passenger cars that are battery electric or plug-in hybrid; EV share is the percentage of the passenger car stock that is electric. Source: International Energy Agency (IEA), https://www.iea.org/data-and-statistics/data-tools/global-ev-data-explorer.

High-speed rail network refers to the total length of high-speed rail lines in commercial operation, classified primarily by a commercial operating speed of 250 km/h or greater.

Source: International Union of Railways (UIC), https://uic.org/passenger/highspeed/article/high-speed-data-and-atlas.

Cancer radiotherapy refers to the number of linear accelerators (LINACs) per inhabitant, with the penetration rate measuring how many economies meet minimal radiotherapy resource requirements. Source: IAEA DIRAC and IARC GLOBOCAN, special tabulations for the GII based on IAEA DIRAC (https://dirac.iaea.org) and IARC GLOBOCAN (https://gco.iarc.fr) databases.

Labor productivity (rates) refers to the increase in global output per hour worked in 2025 real USD (PPP), weighted by nominal GDP shares; (levels) is global output per employee in the same units. Source: The Conference Board Total Economy Database (May 2026), https://conference-board.org/data/economydatabase.

Poverty refers to the share of people living below the international poverty line of USD 3 per day (2021 PPP). Estimates after 2024 are nowcasts. Source: World Bank Poverty and Inequality Platform, https://pip.worldbank.org.

Life expectancy refers to the remaining years of life expected for a hypothetical cohort alive at age 0 today, subject to the mortality rates of a given year. Source: World Development Indicators (WDI), https://databank.worldbank.org/source/world-development-indicators.

Air temperature anomaly refers to the global mean temperature anomaly relative to the 1951–1980 base period, based on land and ocean data. Source: NASA GISS, https://data.giss.nasa.gov/gistemp.

References

BIS (Bank for International Settlements) (2026). *Annual Economic Report 2026*. Basel: BIS. Available at: https://www.bis.org/publ/arpdf/ar2026e.pdf.

Bonaglia, D., L. Rivera León, M. Canales, O. Gisbert, M. Shcherbakova, J. Slee and S. Wunsch-Vincent (2025). *End of Year Edition: Despite the Odds, Global R&D Spending Grew Again in 2024, Inching Closer to the USD 3 trillion Mark.* GII Innovation Insights Series, December. Geneva: WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/w/blogs/2025/end-of-year-edition.

Brasher, D., A.E. Yurdakul and J.W. Miller, with A. Kaur Grewal, J. Slee and S. Wunsch-Vincent (2026). *High-Tech Exports Grew Nearly Three Times Faster Than Global Trade in 2025 to Almost USD 5 trillion, Boosted by the Artificial Intelligence Buildout*. GII Innovation Insights Series, February. Geneva: WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/w/blogs/2026/high-tech-exports-2025.

Chiroma, H. (2025). Investigating supercomputer performance with sustainability in the era of artificial intelligence. *Applied Sciences*, 15(15), 8570.

Gisbert, O. and V. Behrens (2024). *2024 Venture Capital Outlook: From Freefall to the First Signs of Stabilization?*, GII Innovation Insights Series, October. Geneva: WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/w/blogs/2024/2024-venture-capital.

Gisbert, O., D. Bonaglia and S. Wunsch-Vincent (2025). A*rtificial Intelligence (AI) Megadeals Fuel Venture Capital Rebound, but Hide Deepening Geographic and Sectoral Divides*. GII Innovation Insights Series, November. Geneva: WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/w/blogs/2025/ai-venture-capital.

IEA (International Energy Agency) (2026a). *Global EV Outlook 2026*. Paris: IEA. Available at: https://www.iea.org/reports/global-ev-outlook-2026.

IEA (International Energy Agency) (2026b). *World Energy Investment 2026*. Paris: International Energy Agency. Available at: https://www.iea.org/reports/world-energy-investment-2026.

IEA International Energy Agency) (2026c). *Global Energy Review 2026*. Paris: International Energy Agency. Available at: https://www.iea.org/reports/global-energy-review-2026.

IFR (International Federation of Robotics) (2026). *Top 5 Global Robotics Trends 2026*. Frankfurt: IFR.

IMF (International Monetary Fund) (2026). *World Economic Outlook, April 2026*. Washington, DC: IMF. Available at: https://www.imf.org/en/publications/weo/issues/2026/04/14/world-economic-outlook-april-2026.

IRENA (International Renewable Energy Agency) (2025). *Renewable Power Generation Costs in 2024*. Abu Dhabi: IRENA. Available at: https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2025/Jul/IRENA_TEC_RPGC_in_2024_2025.pdf.

Nindl, E., L. Napolitano, H. Confraria, F. Rentocchini, P. Fako, et al. (2025). *The 2025 EU Industrial R&D Investment Scoreboard*. Luxembourg: Publications Office of the European Union, European Commission, Joint Research Centre. Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC144638.

OECD (Organisation for Economic Co-operation and Development) (2026). *OECD Economic Outlook, Volume 2026, Issue 1*. Paris: OECD Publishing. Available at: https://www.oecd.org/en/publications/2026/06/oecd-economic-outlook-volume-2026-issue-1_8be0dba6.html.

WIPO (2022). *Global Innovation Index 2022: What Is the Future of Innovation-Driven Growth?* Geneva: WIPO. Available at: https://www.wipo.int/edocs/pubdocs/en/wipo-pub-2000-2022-section5-en-special-theme-global-innovation-index-2022-15th-edition.pdf.

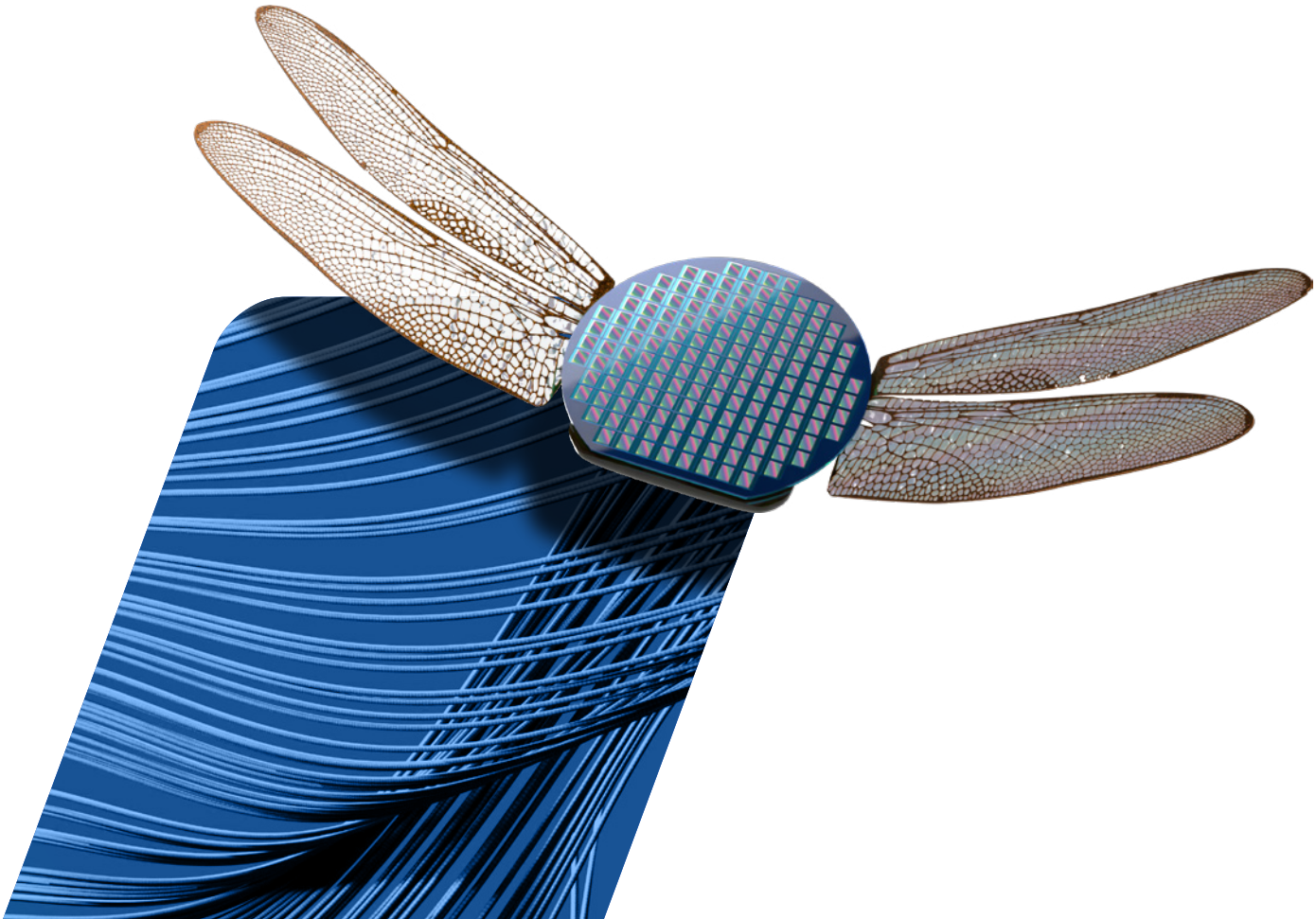
WIPO (2026). International patent applications rose in 2025, with digital communication and semiconductor technologies showing strong growth. Press release PR/2026/047, March 6. Geneva: WIPO. Available at: https://www.wipo.int/pressroom/en/articles/2026/article_0003.html.

WIPO and Luiss Business School (2026). *World Intangible Investment Highlights 2026*. Geneva: WIPO. Available at: https://www.wipo.int/web-publications/world-intangible-investment-highlights-2026/assets/94790/1097%20World%20Intangible%20Investment%20Highlights%202026.pdf.

Zamora, R., D. Bonaglia, L. Rivera León and S. Wunsch-Vincent, with M. Cuvellier Giacomelli and M. Bayen (2026). *Global Unicorn Valuation Reaches USD 5.2 trillion in 2025*. GII Innovation Insights Series, February. Geneva: WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/w/blogs/2026/global-unicorn-valuation-2025.

GII 2026 results

The GII unveils the world's innovation leaders and measures the performance of 139 economies.



This chapter presents the main findings from the Global Innovation Index (GII) 2026, highlighting top-performing economies across different income groups and world regions. It identifies innovation leaders and innovation overperformers achieving results beyond expectations for their development level.

The GII 2026 rankings primarily reflect data from 2024 to 2026 (representing over 80 percent of all data points). Appendix I provides comprehensive guidance on how to interpret the results properly, explaining the methodological considerations that affect direct comparisons being made between annual rankings.

Who leads global innovation in 2026?

Switzerland, Sweden and the United States remain the world's top three innovation economies. Despite global economic and geopolitical turbulence, the top 25 at the innovation frontier remains persistent, but not frozen

Switzerland – ranked 1st for a 16th consecutive year – Sweden and the United States remain the world's top three innovation economies. In a period of major geopolitical and economic turbulence, the most striking feature about the top of the ranking is its stability. The leading economies are broadly those of 2025. No new economy enters the top 15, and Europe again accounts for the largest share of the leading group – with 14 economies out of 25 innovation leaders, and the Kingdom of the Netherlands moving up to 7th and Austria to 18th. The main signal at the innovation frontier this year is continuity, rather than the emergence of any single new entrant.

Asia is also firmly embedded among the top ranks, with five economies in the top 25. The Republic of Korea and Singapore consolidate 4th and 5th place respectively, China remains 10th – as the only middle-income economy among the innovation leaders, Japan holds 12th and Hong Kong, China climbs to 14th (Figure 1). This Asian presence is now an established feature of the top ranks, rather than a development unique to this year.

The **Republic of Korea** model is built around exceptional corporate research and technological development: it ranks 1st in business-performed R&D, researchers employed by business and PCT patents by inventor origin, and 2nd in overall R&D expenditure. Seoul's rise to 4th among the world's top innovation clusters reinforces this picture. **Singapore** continues to provide the strongest overall environment for innovation inputs (1st). **China**'s sustained position within the top 10 remains the clearest long-term structural shift.

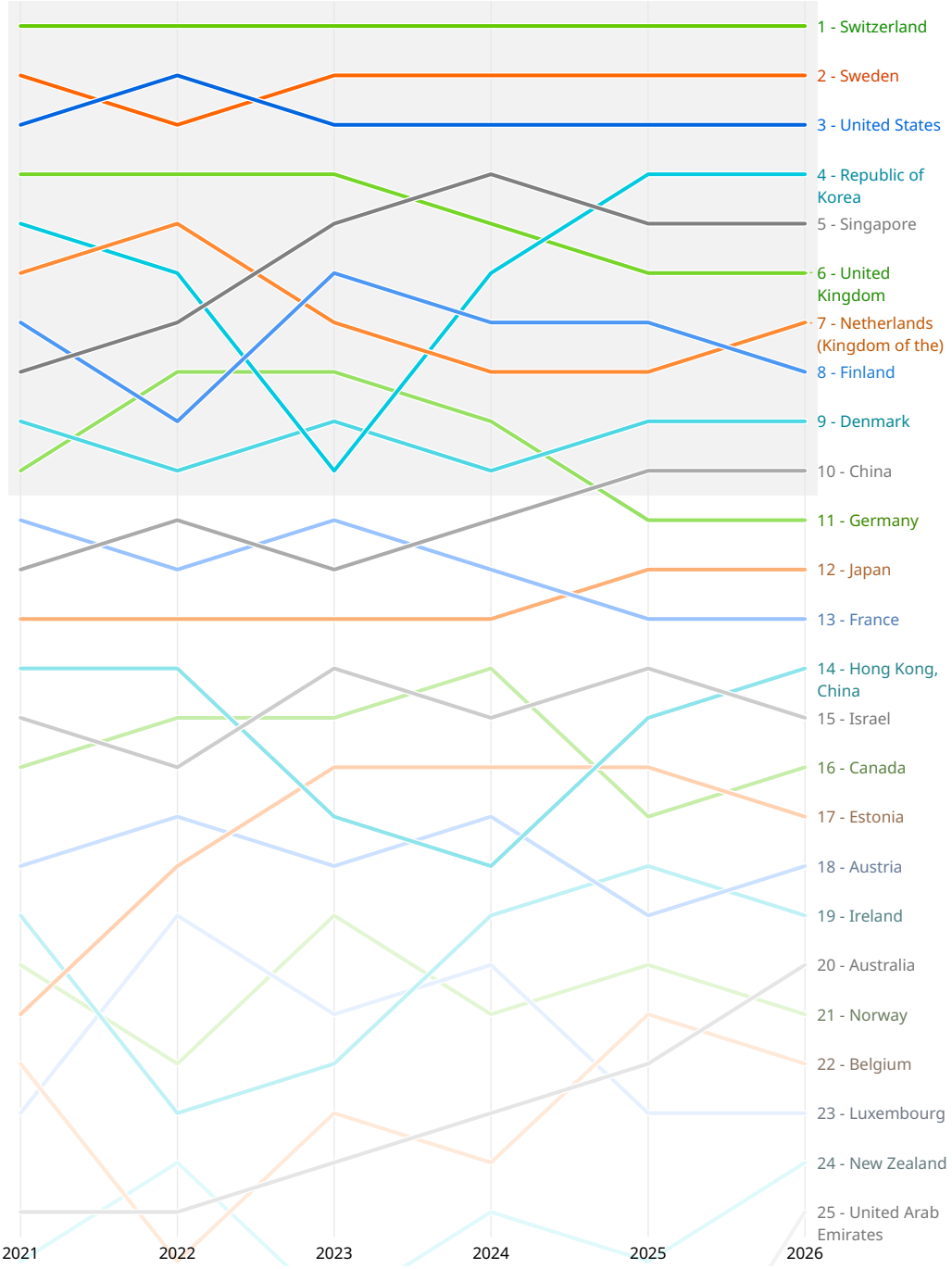
Japan's continued presence at 12th reflects the strength of its industrial and corporate innovation, which is among the strongest in the world. Japan ranks 1st in production and export complexity, 3rd in patent families and 3rd in business-performed R&D. Tokyo–Yokohama remains the world's second-ranked top innovation cluster, reflecting the global weight of Japan's patenting, research and venture capital activity.

Estonia (17th) remains one of the most consistent long-term upward performers in the Index. Its model continues to rest on digital adoption and scalable intangible activity: Estonia ranks 2nd in ICT use, 3rd in ICT services imports, 6th in ICT services exports and 1st in unicorn valuation.

Beneath the continuity, there is still movement: Australia, Canada and New Zealand regain ground

Beneath the continuity at the top of the GII, Canada (16th), Australia (20th) and New Zealand (24th) move back up the ranking, returning closer to their pre-pandemic positions. Their respective recoveries follow a similar pattern: each is a mature innovation system regaining ground through strengthening its academic system, improving the links between universities and firms, and rebuilding research investment. In **Canada**, the rebound is supported by R&D expenditure equaling around 1.8 percent of GDP in 2025, and growing corporate R&D spending (18th).

Figure 1 The GII innovation leaders, 2021–2026



Note: Changes to methodology and variations in data availability may affect year-to-year comparisons of GII rankings. The GII model undergoes periodic refinements, which need to be taken into consideration when interpreting longitudinal performance trends.

Source: Global Innovation Index Database, WIPO, 2026.

Australia returns to the top 20, with innovation inputs rising to 13th and outputs to 24th. Progress is supported by world class universities (4th), a stronger university–industry R&D collaboration (6th) and a big improvement in cluster development (5th), alongside further integration into international knowledge flows through corporate R&D investors (15th), and intellectual property payments (12th) and receipts (16th). Production and export complexity has also improved (72nd) – even if at a lower level.

New Zealand's rise to 24th is driven by a broad strengthening of innovation inputs (17th), with Institutions reaching 3rd and government effectiveness 5th. Gains in tertiary education (21st), science and engineering graduates (51st), ecological sustainability (30th) and global corporate R&D investors (30th) serve to reinforce this improvement.

Box 1 How to use the Global Innovation Index for better innovation metrics and policy

Over time, the GII has grown from a benchmarking exercise into a working tool for innovation policy. In WIPO's 2025–2026 survey, 78 percent of responding member states (93 of 120) reported using the GII, most often to improve innovation ecosystems and policy (63 percent), strengthen innovation data (53 percent) or as a reference when formulating economic plans and policies (41 percent).

Uptake is broad among WIPO member states. Reported use is highest among member states in Asia and the Pacific (85 percent), followed by transition and developed countries (80 percent), Latin America and the Caribbean and Africa (both 74 percent) and the Arab countries (69 percent). By income level, reported use is highest among lower middle-income economies (89 percent).

To support this engagement, the WIPO GII team organizes up to 80 national and regional events every year and helps governments to set up interministerial task forces.

The GII encourages evidence-based policymaking through a two-step approach:

- **Assessment**: bring together policymakers, statisticians and innovation actors to analyze national innovation performance.
- **Response**: identify strengths and weaknesses, then designs policy measures coordinated with public and private actors.

Key implementation practices

There are four key practices essential to innovation policy implementation:

- Policy integration: embed innovation and intellectual property (IP) in national economic development strategy frameworks and set up interministerial task forces that adopt a whole-of-government approach and report to senior leadership.
- Stakeholder engagement: consult widely with startups, universities, large companies, IP stakeholders and innovation clusters, and align national IP policy with the broader innovation strategy.
- Measurable outcomes: set clear, quantifiable targets so that progress can be tracked and policies adjusted.
- Realistic targets: aim for steady improvement in the system rather than quick movements in the ranking and allow time for policy effects to show.

The GII Innovation Ecosystems & Data Explorer 2026 allows users to generate economy briefs and profiles and make country comparisons; follow the time series behind each indicator; and explore micro-data on intangible assets, top universities and leading brands. Recent editions have added cluster and regional briefs, such as for the Association of Southeast Asian Nations (ASEAN), or least developed countries (LDCs); and the underlying datasets, including Innovation Tracker data, are available to download.

WIPO also works with those economies interested in joining the GII. On request, the GII team produces a monitoring dashboard that shows a prospective member where its data is either missing or outdated and how many indicators, and which ones, it would need to supply in order to qualify. After a careful prioritization of such gaps, WIPO connects the country in question with the relevant data providers. This approach works best when the country in question stays actively engaged throughout the process. Bhutan joins the GII in 2026, having followed a dedicated process of this kind.

Expanding use at the sub-national level

The GII also supports better innovation measurement and policy at the sub-national level, whether it be regional, provincial or city. The GII innovation cluster ranking serves to identify those geographical areas worldwide that have the highest density of inventors, scientific authors and venture capital deals. The WIPO Toolkit Enabling Innovation Measurement at

the Sub-National Level helps those member states that want to build their own sub-national metrics or indices. It sets out what GII indicators work at the sub-national level, reviews existing indices in Brazil, China, Colombia, the European Union, India and Viet Nam, and points to new sources of big data suited to measuring innovation locally.

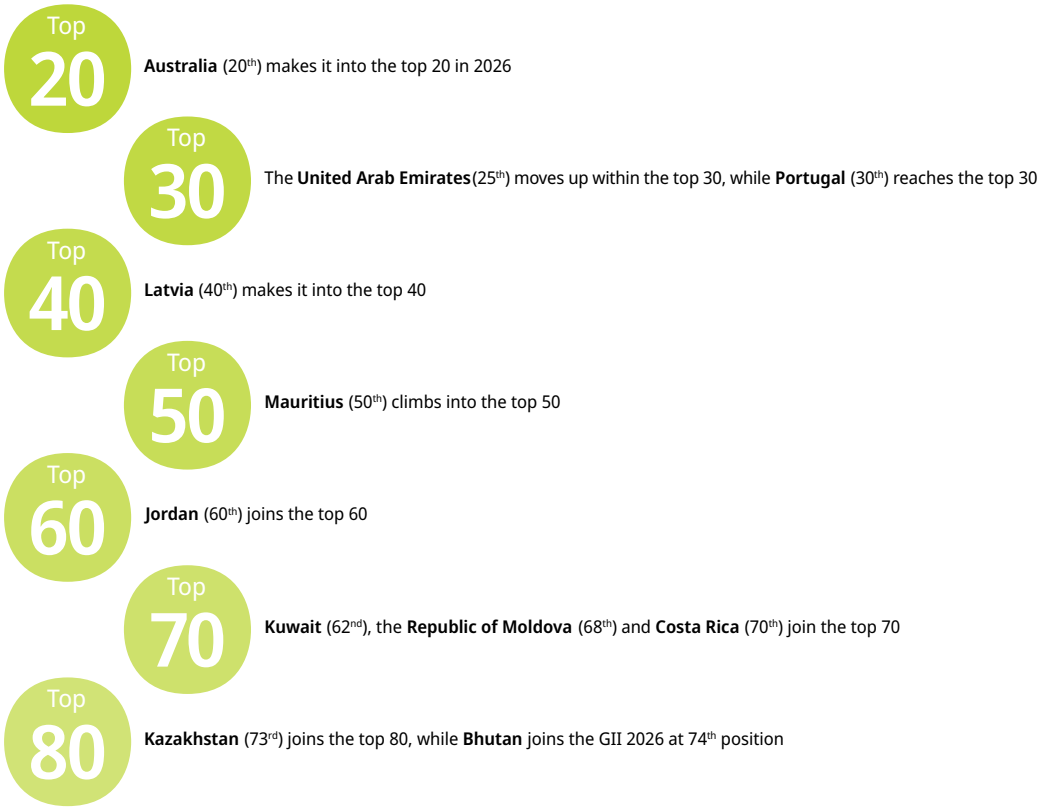
Innovating innovation metrics

To advance the measurement of innovation, WIPO runs the GII iLens Innovation Data Lab, launched in 2024. Its 2025 and 2026 workshops examined venture capital and private equity metrics, startups and high-growth firms, deep science such as genome sequencing, the limits of AI-related data, and the measurement of industrialization and investment. Drawing on new data sources and methods, including web scraping and geospatial analysis, the Lab's findings feed into future GII editions and widen the set of tools available for innovation measurement.

Several economies reach new ranking milestones in 2026

Several economies cross important ranking thresholds in 2026 (Figure 2). At the upper end, **Portugal** (30th) reaches the top 30, thanks to an ecosystem that combines domestic industry diversification (1st), scientific production – with scientific and technical articles ranked 11th, researchers (12th), business-financed R&D (16th) and finance for startups and scaleups (19th). Two Baltic economies have moved up. **Lithuania** moves further up within the top 40, to 32nd, while **Latvia** enters the top 40 at 40th place.

Figure 2 Economies soaring to new heights in innovation, 2026



Note: Year-on-year comparisons of GII rankings must take into account the changes to the GII model that have occurred overtime, as well as data availability.

Source: Global Innovation Index Database, WIPO, 2026.

Further down the ranking, **Kuwait** advances into the top 70 at 62nd. Its progress builds on its enabling conditions, particularly ICT access (4th) and ICT use (3rd), alongside strengthening financing and investment indicators. The **Republic of Moldova** rises to 68th, combining more limited innovation inputs (94th) with comparatively strong, digitally enabled outputs (51st).

Costa Rica (70th) also enters the top 70. Its position reflects an internationalized, service-oriented ecosystem, supported by green-field R&D and high-tech FDI (1st) – showing its attractiveness as a location for innovation-intensive investment, ICT services exports (14th) and its productivity growth (17th).

Within the top 80, **Kazakhstan** rises to 73rd, the biggest advance in Central and Southern Asia. Close behind, **Bhutan** enters the GII for the first time at 74th place.

Switzerland, China, India and Rwanda are income group leaders; Thailand ramps up among upper middle-income economies; while Kazakhstan, Bhutan and Saudi Arabia reach the top of their regions

Beyond charting movement among the innovation leaders, the GII 2026 records notable shifts across income groups and world regions. Switzerland, China, India and Rwanda are leaders of their respective income groups (Table 1).

China remains the highest-ranked middle-income economy at 10th and the only such economy in the top 30. Malaysia (34th) and India (38th) remain in the top 40, while Viet Nam (43rd), Thailand (44th), Türkiye (45th), the Philippines (52nd), Morocco (54th) and Indonesia (55th) reinforce the growing presence of middle-income economies in the upper half of the rankings.

Table 1 Top 10 economies by income group

Income group rank	High-income economies (54 in total)	Income group rank	Upper middle-income economies (35 in total)
1	Switzerland (1)	1	China (10)
2	Sweden (2)	2	Malaysia (34)
3	United States of America (3)	3	Thailand (44)
4	Republic of Korea (4)	4	Türkiye (45)
5	Singapore (5)	5	Mauritius (50)
6	United Kingdom (6)	6	Brazil (53)
7	Netherlands (Kingdom of the) (7)	7	Indonesia (55)
8	Finland (8)	8	Serbia (56)
9	Denmark (9)	9	Georgia (57)
10	Germany (11)	10	Armenia (59)
Income group rank	**Lower middle-income economies (36 in total)**	**Income group rank**	**Low-income economies (12 in total)**
1	India (38)	1	Rwanda (96)
2	Viet Nam (43)	2	Madagascar (113)
3	Philippines (52)	3	Togo (122)
4	Morocco (54)	4	Uganda (123)
5	Jordan (60)	5	Malawi (126)
6	Tunisia (71)	6	Mozambique (129)
7	Bhutan (74)	7	Burkina Faso (130)
8	Uzbekistan (77)	8	Mali (134)
9	Egypt (83)	9	Burundi (135)
10	Lebanon (86)	10	Democratic Republic of the Congo (137)

Note: The Bolivarian Republic of Venezuela and Ethiopia are not included in any income group, because they are unclassified in the World Bank FY2026 income classification. The Bolivarian Republic of Venezuela is unclassified due to the unavailability of gross national income (GNI) per capita data, while Ethiopia has a temporary unclassified status.

Source: Global Innovation Index Database, WIPO, 2026.

Among low-income economies, Rwanda records the strongest advance, rising to 96th, followed by Madagascar, which moves up to 113th place.

Northern Africa and Western Asia also sees important upward movement, with Saudi Arabia (42nd) reaching fourth place in the region. Among others, Tunisia moves up to 71st, Egypt to 83rd, Azerbaijan rises to 85th, Lebanon to 86th and Algeria to 111th. In South East Asia, East Asia and Oceania, Viet Nam rises to 43rd, Thailand to 44th, Mongolia moves up to 72nd and Cambodia to 93rd. Central and Southern Asia strengthens its position through gains across several economies. India remains the regional leader at 38th, Kazakhstan (73rd) moves up to take 2nd position, followed by Bhutan (74th). Kyrgyzstan and Pakistan each gain four places, moving up to 92nd and 95th respectively. Nepal climbs to 104th place and Bangladesh to 105th.

Latin America and the Caribbean is led by Chile (51st), Brazil (53rd), Mexico (65th), Uruguay (66th) and Costa Rica (70th). Ecuador (106th) and Trinidad and Tobago (107th) each advance seven places, while Honduras (116th), Guatemala (120th), Nicaragua (124th) and the Bolivarian Republic of Venezuela (127th) also rise. Sub-Saharan Africa records some of the largest individual advances. Mauritius leads the region at 50th, followed by South Africa (63rd), Botswana (82nd) and Senegal (90th). Kenya rises five places to 97th place.

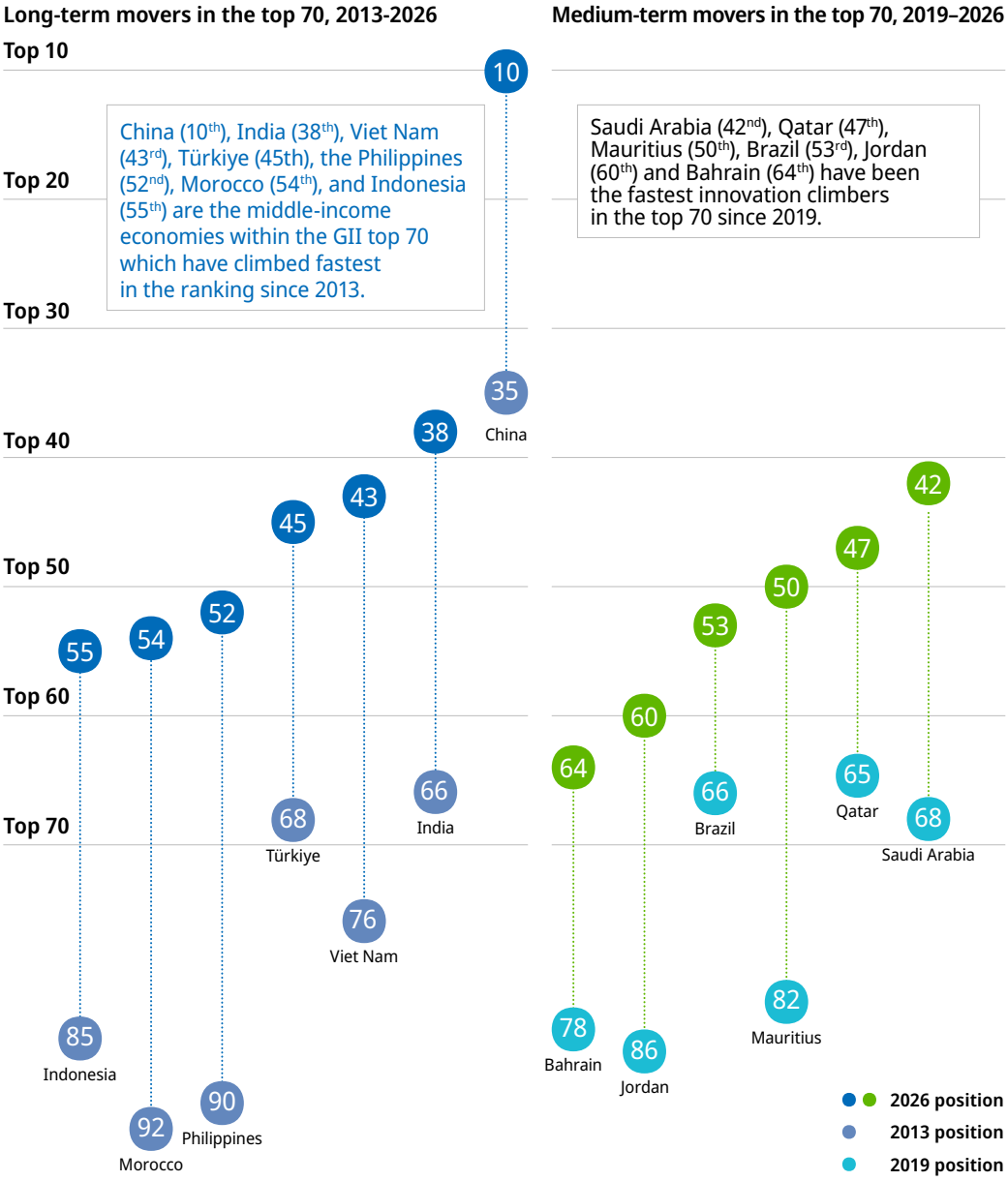
Who is gaining momentum? And who are the innovation climbers in 2026?

A group of middle-income economies has climbed the upper half of the GII as far as the top 40, but the road ahead gets steeper

China (10th), India (38th), Viet Nam (43rd), Türkiye (45th), the Philippines (52nd), Morocco (54th) and Indonesia (55th) are those middle-income economies within the GII top 70 that have made the strongest long-term advances since 2013 (Figure 3). Their progress has followed different routes, but they share one feature: they have built firms, sectors and production networks able to turn selected strengths into innovation results. In several cases, innovation outputs now exceed the level suggested by innovation inputs. China ranks 5th in outputs compared with 22nd in inputs, India 25th and 49th, Viet Nam 35th and 54th, the Philippines 49th and 69th and Morocco 46th and 76th. Their rise has therefore depended not only on an expansion of innovation resources, but also on connecting domestic capabilities to markets – through global value chains, high-tech trade, digital services, design, branding, intellectual property and startup activity. But while this helps explain their progress, it also points toward the next barrier: climbing beyond the top 40 or top 50 requires a broader research capacity, stronger business R&D, deeper science–industry linkages and more domestic knowledge creation.

A benchmarking exercise against high- and middle-income medians shows where the catch-up is strongest (Box 2). The seven middle-income climbers have moved closest to high-income economies in those indicators related to production and exports, and to a lesser extent to those related to startup support and access to finance. Convergence is weaker in the slower-building parts of the innovation system: R&D, the research and academic infrastructure, scientific production and impact and its connectivity with the private sector. This is the effective ceiling for most middle-income climbers. China is the exception. It reaches high-income levels across most areas, including R&D expenditure levels, business R&D, high-tech manufacturing and intellectual property use, which helps explain why it alone has entered the top 10.

Figure 3 Economies climbing the global innovation ladder, since 2013 and since 2019



Note: Changes in methodology and variations in data availability may affect year-to-year comparisons of GII rankings. The GII model undergoes periodic refinements, which should be considered when interpreting longitudinal performance trends.

Source: Global Innovation Index Database, WIPO, 2026.

For most other middle-income climbers, moving beyond the top 40 or top 50 requires more than strong performance in global production networks, exports and intellectual property use. Morocco and Viet Nam remain among the more dynamic recent stories, with Viet Nam bouncing back to pre-pandemic levels and Morocco climbing to its best rank ever at 54th. India and the Philippines have made important jumps and are now hovering at around the top 40 or top 50. Indonesia has stabilized at around 55th in the last three years, whereas Türkiye has declined in the past two years. What still holds most of these economies back is the depth and breadth of the innovation system: research capacity, university quality, scientific production, business R&D, patenting and science–industry linkages are not yet strong enough across the board.

Box 2 Narrowing the gap: middle-income innovation pathways

The seven long-term middle-income innovation climbers identified in Figure 3 – China (10th), India (38th), Viet Nam (43rd), Türkiye (45th), the Philippines (52nd), Morocco (54th) and Indonesia (55th) – have moved closer to high-income innovation performance, but have done so unevenly.

To examine where convergence is taking place, this box compares their performance across 25 indicators grouped into five areas: knowledge base, R&D, startup and finance ecosystem, production and exports, and intellectual property. Each indicator is classified as Higher, Medium or Lower, depending on whether the economy reaches the high-income median, lies between the middle- and high-income medians, or falls below the middle-income median (Box Table 2.1).

Box Table 2.1 Narrowing the gap? Innovation performance of the long-term middle-income climbers

Indicator	China	India	Türkiye	Viet Nam	Philippines	Indonesia	Morocco
Knowledge base (can the economies generate scientific knowledge?)							
IN 2.3.4 – QS university ranking	Higher	Higher	Medium	Medium	Medium	Higher	Medium
IN 5.2.3 – University industry and international engagement	Higher	Medium	Higher	Medium	Lower	Medium	Medium
OUT 6.1.4 – Scientific and technical articles	Higher	Lower	Medium	Lower	Lower	Lower	Medium
OUT 6.1.5 – Citable documents H-index	Higher	Higher	Medium	Medium	Medium	Medium	Medium
R&D (are these economies significant players in the R&D space?)							
IN 2.3.1 – Researchers	Medium	Lower	Medium	Medium	Lower	Lower	Medium
IN 2.3.2 – Gross expenditure on R&D	Higher	Medium	Medium	Medium	Medium	Medium	–
IN 2.3.3 – Global corporate R&D investors	Higher	Higher	Medium	Medium	Medium	Medium	Medium
IN 5.1.4 – GERD performed by business	Higher	Medium	Higher	Medium	Medium	Lower	–
IN 5.3.6 – Research talent	Higher	Medium	Higher	Medium	Medium	Lower	Lower
Startup and finance ecosystem (do these economies have innovation finance and start-up policies?)							
IN 1.3.2 – Entrepreneurship policies and culture	Higher	Higher	Lower	Higher	–	Higher	Lower
IN 4.1.1 – Finance for startups and scaleups	Higher	Higher	Medium	Medium	–	Higher	Lower
IN 4.2.2 – Venture capital (VC) received	Medium	Medium	Medium	Medium	Lower	Lower	Medium
IN 4.2.3 – Late-stage VC deal count	Higher	Higher	Higher	Medium	Medium	Higher	Lower
OUT 6.2.2 – Unicorn valuation	Higher	Higher	Medium	Higher	Higher	Higher	Medium

Box Table 2.1 Narrowing the gap? Innovation performance of the long-term middle-income climbers (cont)

Indicator	China	India	Türkiye	Viet Nam	Philippines	Indonesia	Morocco
Production and exports (can production reach global markets?)							
IN 5.3.5 – Greenfield R&D & high-tech FDI	Lower	Medium	Medium	Medium	Medium	Lower	Medium
OUT 6.2.4 – High-tech manufacturing	Higher	Higher	Medium	Higher	Higher	Medium	Higher
OUT 6.3.3 – High-tech exports	Higher	Medium	Medium	Higher	Higher	Medium	Medium
OUT 6.3.4 – ICT services exports	Medium	Higher	Medium	Lower	Higher	Medium	Higher
OUT 6.3.2 – Production and export complexity	Higher	Medium	Medium	Medium	Medium	Medium	Lower
Intellectual property (can ideas be turned into protected assets?)							
OUT 6.1.1 – Patents by origin	Higher	Higher	Higher	Medium	Medium	Medium	Medium
OUT 6.1.2 – PCT patents by inventor origin	Higher	Medium	Medium	Lower	Lower	Lower	Medium
OUT 7.1.1 – Intangible asset intensity, top 15	Higher	Higher	Medium	Medium	Medium	Higher	Higher
OUT 7.1.2 – Trademarks by origin	Higher	Medium	Higher	Higher	Medium	Lower	Higher
OUT 7.1.4 – Industrial designs by origin	Higher	Higher	Higher	Medium	Medium	Medium	Higher
OUT 7.1.3 – Global brand value, top 5,000	Higher	Higher	Medium	Higher	Higher	Medium	Medium

Note: Thresholds are computed separately for each indicator using GII 2026 data. An economy is classified as Higher if its value for that indicator is at or above the high-income economies' median; Medium if it falls below that but is at or above the median of middle-income economies; and Lower if it falls below the middle-income economies' median. "–" indicates no data are available.

The comparison points to **selective rather than uniform convergence**. Except for China, the long-term climbers have not yet reached high-income performance across the entire innovation system. Instead, each has developed a distinct combination of capabilities that has supported its rise in the ranking. The next stage of catch-up will depend on whether these strengths can be complemented by deeper research systems, broader knowledge creation and stronger connections across the innovation ecosystem.

Three points stand out. First, convergence has been easiest in respect to startup finance, production and exports, and intellectual property, and hardest in the knowledge base and R&D, where deep research capacity builds slowly and where most climbers remain within the medium range. This is the effective ceiling for middle-income catch-up. Second, China is the exception that defines the rule. It has broken through by building that research base, reaching high-income levels in 21 of 25 indicators, while the others have not. Third, the position of the remaining climbers is not uniform. India holds the second-broadest profile, but remains thin in respect to researchers and scientific articles; Viet Nam and the Philippines lead in production and trade, yet trail in domestic invention; and several have advanced faster on production and exports and IP measures than on the research foundations needed to sustain that progress. Whether these economies keep rising or plateau will depend on whether they can complement their market strengths with the slower-building research systems that China has built to reach the top of the rankings.

Unlike **China**, which is discussed at length in Box 2, **India**'s pathway is more strongly shaped by digital services, venture capital and entrepreneurship. It has one of the broadest profiles among the seven middle-income climbers (Box 2). It leads globally in ICT services exports (1st), ranks 4th in late-stage venture capital deals and performs strongly in intangible asset intensity (13th). These capabilities have helped India reach 15th in Knowledge and technology outputs, although further progress will depend on spreading research, technology adoption and firm-level innovation beyond its leading digital and startup sectors.

Viet Nam and the **Philippines** have advanced through integration into international manufacturing and service networks. Both reach high-income levels in high-tech manufacturing and high-tech exports, as well as in indicators linked to unicorn valuation and global brands. Viet Nam leads in both high-tech exports and creative goods exports and ranks 3rd in high-tech imports, while the Philippines ranks 4th in high-tech exports, 6th in high-tech imports and 23rd in high-tech manufacturing. Their next step is to move into higher-value functions within those networks by expanding domestic research, patenting and knowledge creation. Both remain below the middle-income median in terms of scientific articles and PCT patenting, suggesting that their international production strengths still exceed their domestic knowledge-generation and invention capabilities.

Türkiye follows a more industrial and intangible asset-intensive route. Türkiye is particularly strong in R&D and intellectual property. Domestic industry diversification (5th), industrial designs (6th), trademarks (7th) and Creative outputs (28th) indicate strong capabilities in manufacturing, design and branding. Research talent (8th) and tertiary enrolment (9th) provide an additional foundation for moving toward more technology-intensive production and productivity growth. But its strengths may benefit from sustained improvements across the wider enabling environment, including education (77th), tertiary education (58th), the regulatory environment (102nd) and the business environment (103rd).

Indonesia has advanced through its large domestic market (7th), expanding digital economy and increasingly active startup-finance environment – with finance for startups and scaleups ranked 12th and late-stage venture capital at 26th – both comparable to high-income economy levels. However, its R&D base remains comparatively thin. Indonesia's R&D expenditures as a percentage of GDP were equal to only 0.3 percent of GDP in 2020 – the latest available data point; R&D performed by business was only 0.02 percent of GDP; and researchers working in the private sector, only represented 4.4 percent of all researchers. The next phase of its development will depend on strengthening research capacity and the connections between universities, startups and established firms.

Since 2019, and beyond the longer-term innovation climbers, a newer group has gained momentum, often through investment, digital transformation and services

Since 2019, Saudi Arabia (42nd), Qatar (47th), Mauritius (50th), Brazil (53rd), Jordan (60th) and Bahrain (64th) have recorded some of the strongest sustained advances among economies now ranked within the GII top 70.

Much of the momentum in Western Asia Gulf economies has been innovation input-led. **Saudi Arabia**'s rise is supported by rapid digital adoption, reflected in its global leadership in ICT use (1st), and its government online services (4th). Its innovation geography is also becoming more visible: Riyadh enters the world's top 100 innovation clusters at 92nd place in 2026, showing a growing concentration of science, technology and venture capital activity. **Qatar**'s strength is more based on its talent and robust Infrastructure (16th), leading in tertiary inbound mobility (1st). **Jordan** reaches the top 60 through a more knowledge-intensive route, excelling in scientific production – ranking 1st in scientific and technical articles, and showing exceptional performance relative to the overall scale of its system. **Bahrain**'s progress similarly reflects an enabling environment built around digital connectivity – ranking 1st in ICT access, 10th in ICT use, and with additional strengths in government online service (23rd) and computer software spending (23rd). In addition, its general infrastructure (2nd), and its business environment (6th) are among the world's best.

Beyond Western Asia Gulf economies, **Mauritius**'s rise to 50th place reflects the relative success of a small economy that has used services, digital connectivity and investment to diversify its innovation paths. Mauritius has built a competitive services platform around ICTs, financial and professional services, creative exports and digitally enabled business activity. This helps explain why Mauritius performs strongly in cultural and creative services exports (6th), ICT use (25th), venture capital investors (6th), market capitalization (25th) and green-field R&D and high-tech FDI (23rd). The next step is to move further up the value chain, from outsourced and back-office services toward higher-value digital products, data services, fintech, software, and creative industries for African and global markets.

Brazil holds up this year thanks to a combination of having a large domestic market (8th), as well as strengths in science, entrepreneurship and intangible assets ahead of other Latin American economies. Its strong trademark activity (8th), intellectual property payments (13th), late-stage venture capital (16th), corporate R&D investors (23rd) and utility models (24th) support an ecosystem that has strengths in science and business activity. São Paulo's continuing presence among the leading global innovation clusters – ranked 49th – in 2026, reinforces Brazil's role as Latin America's main research, technology and startup hub. Brazil's challenge continues to be to turn these strengths into broader productivity gains (labor productivity growth remains low – at rank 94th), strengthen R&D performed by the private sector (36th) and improve its business environment (129th) and the availability of human capital in support of innovation (e.g., graduates in science and engineering, ranked 101st) – particularly beyond São Paulo and other major hubs.

Which economies do more with less?

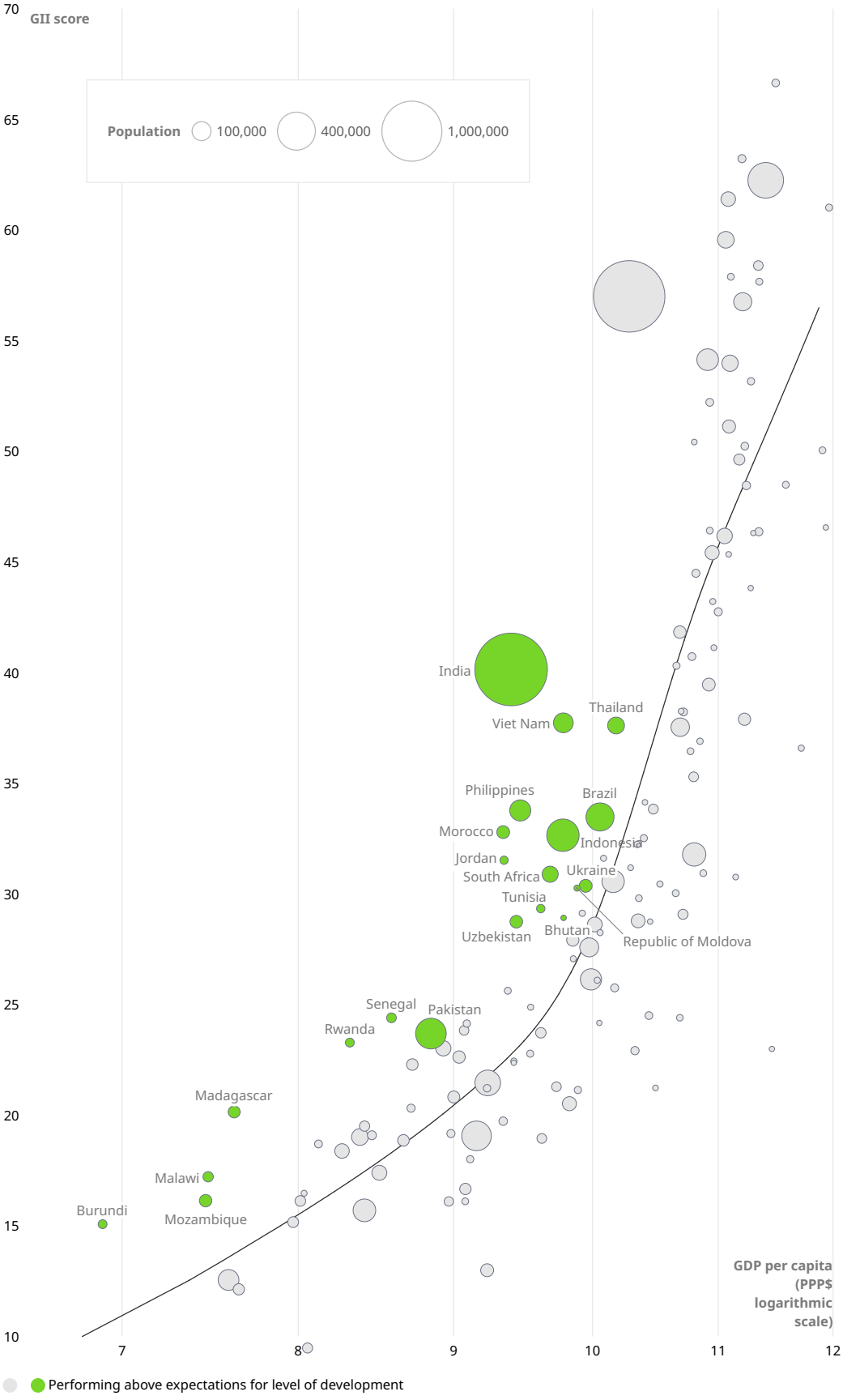
India and Viet Nam are the longest-standing overperformers. Mozambique, Pakistan and the Republic of Moldova return to the group in 2026, and Bhutan is an overperformer in its first year

Innovation overperformance shows that innovation does not follow a straight line from income to results. The GII 2026 identifies 21 economies that perform above expectations for their level of economic development, four more than in 2025 (Figure 4). India and Viet Nam remain the longest-standing innovation overperformers, having sustained this status for 16 consecutive years. The Republic of Moldova follows with 15 appearances, returning to the group in 2026, while Rwanda and Ukraine have each overperformed in 14 editions. Thailand has done so 12 times, followed by Malawi at 11 times and Jordan, Madagascar and Mozambique at 10 each. Mozambique and Pakistan also return to the group this year, while Bhutan joins for the first time. This year, 10 of the 21 overperformers ramp up their rankings – namely, Jordan, Madagascar, Morocco, Pakistan, the Republic of Moldova, Rwanda, Thailand, Tunisia, Uzbekistan and Viet Nam.

Overperformance is concentrated among middle-income economies: 10 of the 21 are lower middle-income economies, six are upper middle-income and five are low-income. Sub-Saharan Africa accounts for the largest number, with seven economies, followed by Central and Southern Asia and South East Asia, East Asia and Oceania, with four each. Northern Africa and Western Asia contributes three, Europe two, and Brazil remains the only overperformer in Latin America and the Caribbean (Table 2).

Several economies have overperformed for an extended periods. South Africa (63rd) records its ninth consecutive year as an overperformer, while Senegal (90th) does so for the ninth time overall. The Philippines (52nd) and Morocco (54th) have each reached eight appearances, and Brazil (53rd) extends its uninterrupted period of overperformance to six years. Indonesia (55th) and Uzbekistan (77th) have now performed above expectations for five consecutive years.

Figure 4 Innovation overperformers, relative to economic development



Note: Bubbles sized according to population. The cubic spline trendline shows the expected level of innovation performance at different levels of GDP per capita for all the economies covered by the GII 2026.

Source: Global Innovation Index Database, WIPO, 2026.

Bhutan enters the GII with an innovation profile that combines a relatively strong institutional (36th) and regulatory environment (52nd) with digital upgrading and ecological sustainability (3rd). Gross capital formation (1st), and low-carbon energy use (2nd) are high, and it has a relatively strong performance in software spending (21st) and high-tech imports (23rd). Digital transformation and economic diversification are a policy priority, although ICT use (92nd) remains a challenge. Bhutan's innovation challenge is therefore to use its strong institutions, clean-energy base and digital ambitions to build a small but differentiated ecosystem around sustainable investment, creative industries and digital services.

Table 2 Innovation overperformers in 2026, by income group, region and years as an innovation overperformer

Economy	Income group	Region	Years as an innovation overperformer (total)
India	Lower middle-income	Central and Southern Asia	2011–2026 (16)
Viet Nam	Lower middle-income	South East Asia, East Asia, and Oceania	2011–2026 (16)
Republic of Moldova	Upper middle-income	Europe	2011–2024, 2026 (15)
Ukraine	Upper middle-income	Europe	2012, 2014–2026 (14)
Rwanda	Low-income	Sub-Saharan Africa	2012, 2014–2026 (14)
Thailand	Upper middle-income	South East Asia, East Asia, and Oceania	2011, 2014–2015, 2018–2026 (12)
Malawi	Low-income	Sub-Saharan Africa	2012, 2014-2021, 2025-2026 (11)
Jordan	Lower middle-income	Northern Africa and Western Asia	2011–2015, 2022–2026 (10)
Madagascar	Low-income	Sub-Saharan Africa	2016–2018, 2020–2026 (10)
Mozambique	Low-income	Sub-Saharan Africa	2012, 2014–2020, 2022, 2026 (10)
Senegal	Lower middle-income	Sub-Saharan Africa	2012–2015, 2017, 2023–2026 (9)
South Africa	Upper middle-income	Sub-Saharan Africa	2018–2026 (9)
Morocco	Lower middle-income	Northern Africa and Western Asia	2015, 2020–2026 (8)
Philippines	Lower middle-income	South East Asia, East Asia, and Oceania	2019–2026 (8)
Tunisia	Lower middle-income	Northern Africa and Western Asia	2018, 2020–2023, 2025-2026 (7)
Burundi	Low-income	Sub-Saharan Africa	2017, 2019, 2022–2026 (7)
Brazil	Upper middle-income	Latin America and the Caribbean	2021–2026 (6)
Uzbekistan	Lower middle-income	Central and Southern Asia	2022–2026 (5)
Indonesia	Upper middle-income	South East Asia, East Asia, and Oceania	2022–2026 (5)
Pakistan	Lower middle-income	Central and Southern Asia	2022–2024, 2026 (4)
Bhutan	Lower middle-income	Central and Southern Asia	2026 (1)

Note: Income group classification follows the World Bank Income Group Classification (July 2025). Geographical regions correspond to the United Nations publication on standard country or areas codes for statistical use (M49).

Source: Global Innovation Index Database, WIPO, 2026.

Uzbekistan rises two places and maintains its overperformer status for a fifth consecutive year. Its ecosystem combines a supportive business environment (8th) with growing human capital and intellectual property strengths (e.g., utility models are ranked 14th). Uzbekistan ranks 3rd in entrepreneurship policies and culture, 4th in finance for startups and scaleups, 7th in labor productivity growth and 12th in gross capital formation.

Pakistan advances to 95th place and retakes its overperformer status for the fourth time. Its strengths are concentrated in the digital economy: mobile app creation (10th), ICT services exports (15th), high-tech imports (19th), and software spending (33rd). Its relatively strong scientific production (49th) and university quality (47th) support a developing digital economy.

Mozambique (129th) returns to the group of overperformers for a tenth time. Its profile combines strengths in investment, demographics, education and creative activity. It ranks 4th in FDI net inflows, 6th in its youth demographic profile, 19th in both education expenditure and low-carbon energy use, and 27th in microfinance. Its innovation outputs have also broadened in 2026, with industrial designs rising (42nd), together with creative goods exports (69th).

At the other end of the spectrum, 39 economies perform below expectations for their level of economic development in 2026, one more than in 2025.

Latin America and the Caribbean account for the largest share, with 14 economies, followed by Sub-Saharan Africa with nine, and Northern Africa and Western Asia with seven. This group also includes six European economies, two from South East Asia, East Asia and Oceania, and one from Central and Southern Asia. Several high-income economies in Northern Africa and Western Asia remain in this category, including Saudi Arabia (42nd), Qatar (47th), Kuwait (62nd), Bahrain (64th) and Oman (69th), reflecting a gap between strong enabling conditions and the innovation outputs currently generated. In other economies, performance below expectations often reflects an uneven development across the different pillars of the innovation system. It is important to note that as this classification is relative to income level, it should not be interpreted as indicating an absence of significant innovation strengths.

China generates innovation outputs comparable to high-income economies, while others like Morocco, Pakistan, Madagascar and Zimbabwe generate higher-than-expected outputs from more limited innovation inputs

Overperformance compares innovation performance with income level. This section asks a different question – how effectively are innovation inputs converted into outputs?

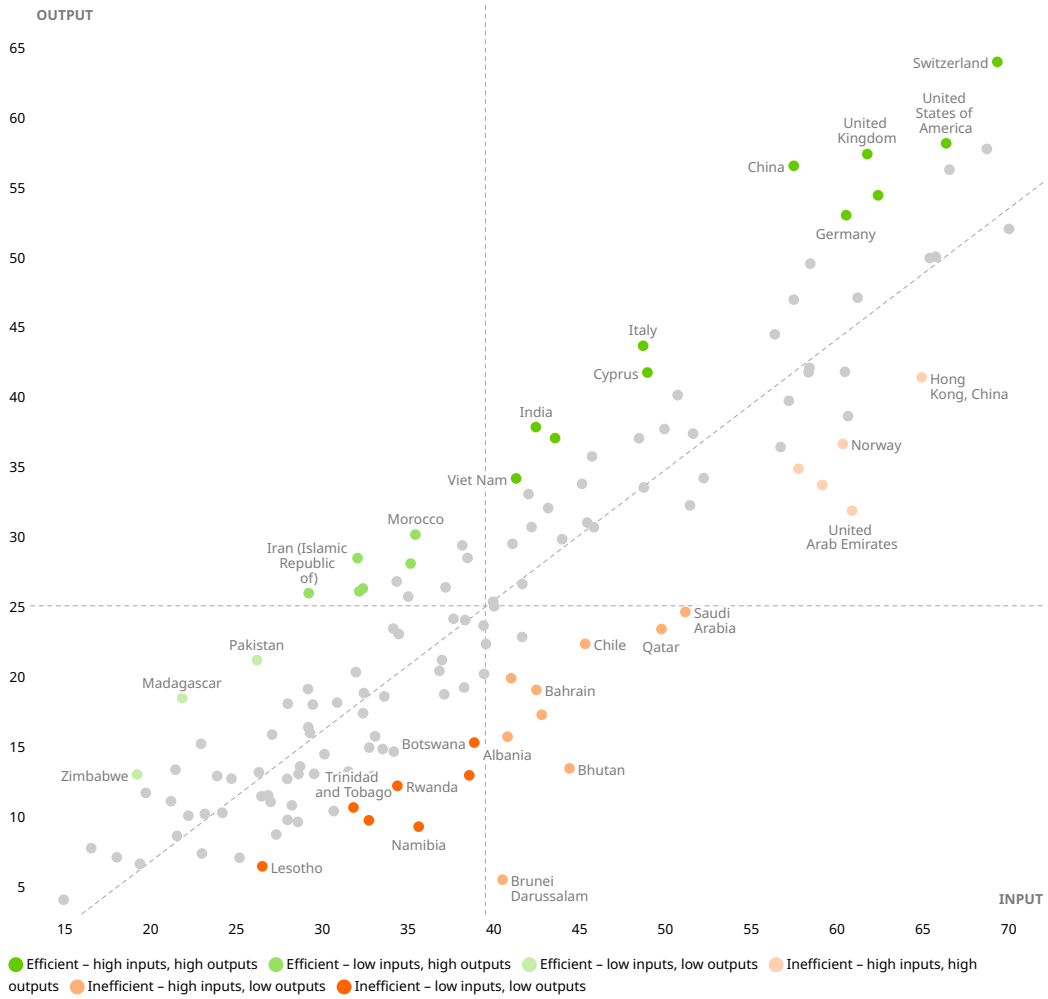
Figure 5 locates economies in four quadrants according to whether their input and output scores are above or below the global median, thereby showing their absolute position within the innovation landscape. A line then estimates the output level normally associated with a given input score. Economies above the line generate more outputs than expected from their inputs, while those below it have scope to convert enabling conditions more fully into innovation results.

Switzerland (1st) combines both dimensions of performance: it ranks 2nd in innovation inputs and 1st in innovation outputs, generating an output score around 11 points above the level predicted by its level of innovation inputs. Sweden (2nd), the United States (3rd), the Republic of Korea (4th) and the United Kingdom (6th) also occupy the high-input/high-output quadrant. The United Kingdom is especially efficient, ranking 10th in inputs but 4th in outputs. Germany (11th) and Italy (27th) likewise generate relatively strong outputs, ranking 8th and 16th respectively, despite ranking lower in inputs at 14th and 36th.

China is the most prominent outlier, recording the farthest positive distance from the line. Its output score exceeds that of several economies with higher input levels, including Singapore (5th), Germany (11th) and Australia (20th). Singapore (5th) remains an innovation leader, ranking 1st in inputs and 9th in outputs, showing that abundant inputs do not automatically produce proportionately higher output scores across every dimension.

Several middle-income economies combine below-median or moderate inputs with outputs substantially above expectations. India (38th) ranks 49th in inputs but 25th in outputs; Morocco (54th) ranks 76th and 46th respectively; and the Islamic Republic of Iran (81st) ranks 104th in inputs but 58th in outputs. Viet Nam (43rd), Türkiye (45th), Tunisia (71st) and Mexico (65th) display a similar pattern. Among economies with more constrained input bases, Pakistan (95th), Madagascar (113th), Nigeria (118th) and Zimbabwe (132nd) also lie above the regression line, indicating an output performance that is comparatively strong relative to available inputs.

Figure 5 Innovation input to output performance, by economy, 2026



Note: The dashed lines divide economies according to the global median input and output scores. The diagonal regression line represents the expected output score at each input level. Economies above that line generate more innovation outputs than expected relative to inputs, while those below it generate fewer. The four quadrants show economies' absolute input–output positions, while their distance from the regression line captures relative efficiency in translating innovation inputs into outputs.

Source: Global Innovation Index Database, WIPO, 2026.

The high-input/low-output quadrant provides a different policy signal. The United Arab Emirates (25th) ranks 12th in inputs but 42nd in outputs, while Saudi Arabia (42nd) ranks 30th and 62nd, and Qatar (47th) ranks 33rd and 67th. These economies have built substantial institutional, infrastructure and investment foundations; the next stage is to convert these assets into scalable results.

Where are innovation systems unbalanced?

Innovation leaders have balanced innovation ecosystems, while emerging economies such as Rwanda, Algeria, Cambodia and Pakistan can build on standout strengths to improve their overall innovation performance

Most economies in the GII top 25 display a relatively balanced innovation ecosystem, with strong rankings across several input and output pillars. Switzerland, Sweden, the United States, the Republic of Korea and Singapore are examples of such a balanced ecosystem. China (10th) stands apart among the leaders in having a comparatively lower Institutions ranking (48th).

Further down the GII ranking, larger gaps between pillars reveal how innovation systems evolve. Rwanda (96th) ranks 26th in Institutions, Azerbaijan (85th) 36th and Botswana (82nd) 41st. Similarly, Human capital and research is a relative strength in Algeria (39th versus 111th overall), Tunisia (45th versus 71st), Peru (53rd versus 80th), the Islamic Republic of Iran (56th versus 81st) and Kyrgyzstan (64th versus 92nd) (Table 3).

Table 3 Heatmap: GII 2026 rankings overall and by innovation pillar, 2026

Economy	Overall GII	Insti-tutions	Human capital and research	Infra-structure	Market sophisti-cation	Business sophisti-cation	Knowledge and technology outputs	Creative outputs
Switzerland	1	5	8	5	3	3	2	1
Sweden	2	11	5	1	6	1	4	4
United States	3	19	14	33	1	2	3	6
Republic of Korea	4	22	1	6	9	6	7	2
Singapore	5	1	2	15	5	4	8	11
United Kingdom	6	28	7	19	4	15	5	3
Netherlands (Kingdom of the)	7	13	16	30	12	5	10	5
Finland	8	4	4	4	18	11	9	17
Denmark	9	2	12	7	13	10	13	9
China	10	48	23	8	11	16	1	12
Germany	11	21	3	31	21	12	11	8
Japan	12	23	18	24	7	7	12	18
France	13	35	17	17	16	17	14	7
Hong Kong, China	14	7	6	11	2	29	29	15
Israel	15	33	19	47	15	9	6	31
Canada	16	15	11	36	10	20	19	22
Estonia	17	18	34	27	8	26	24	10
Austria	18	24	10	14	30	18	17	21
Ireland	19	10	25	12	34	14	18	23
Australia	20	12	9	29	17	23	26	26
Norway	21	8	22	3	20	21	33	27
Belgium	22	16	15	42	37	8	16	33
Luxembourg	23	6	30	61	25	13	59	13
New Zealand	24	3	21	21	22	24	41	32
United Arab Emirates	25	9	13	13	14	25	47	36
Iceland	26	14	33	2	29	19	45	25
Italy	27	53	29	28	46	33	20	16
Spain	28	55	27	9	33	30	23	24
Cyprus	29	50	46	41	32	27	21	19
Portugal	30	42	20	43	26	31	34	20
Malta	31	40	50	25	47	22	48	14
Lithuania	32	20	44	22	28	34	31	39
Czech Republic	33	30	37	34	70	32	22	40
Malaysia	34	27	51	51	19	28	32	46
Slovenia	35	51	24	20	61	37	27	47
Hungary	36	74	36	32	54	35	25	42
Bulgaria	37	81	73	10	39	46	28	29
India	38	60	54	62	35	63	15	43
Poland	39	61	35	48	62	36	39	34
Latvia	40	43	52	40	45	43	56	37
Greece	41	65	28	23	55	64	40	48
Saudi Arabia	42	25	31	38	24	47	67	62
Viet Nam	43	64	79	59	43	48	35	35
Thailand	44	80	55	58	27	41	38	44
Türkiye	45	103	41	46	44	38	49	28
Croatia	46	67	43	39	50	55	44	49
Qatar	47	17	42	16	41	58	78	58

< 35 35–70 70–105 ≥ 105

Table 3 Heatmap: GII 2026 rankings overall and by innovation pillar, 2026 (cont)

Economy	Overall GII	Insti-tutions	Human capital and research	Infra-structure	Market sophisti-cation	Business sophisti-cation	Knowledge and technology outputs	Creative outputs
Slovakia	48	73	57	35	59	56	30	54
Romania	49	82	59	37	64	61	42	53
Mauritius	50	34	76	79	38	90	99	30
Chile	51	47	40	50	40	52	75	66
Philippines	52	58	100	64	84	49	37	55
Brazil	53	106	47	56	76	42	51	51
Morocco	54	70	85	81	82	97	58	38
Indonesia	55	49	91	67	52	75	66	57
Serbia	56	76	48	45	74	85	36	82
Georgia	57	37	62	72	57	72	70	70
Russian Federation	58	127	32	69	73	44	57	56
Armenia	59	78	99	70	80	80	60	45
Jordan	60	56	80	76	66	57	64	68
North Macedonia	61	83	72	49	71	69	43	79
Kuwait	62	63	58	53	67	94	80	65
South Africa	63	97	90	66	42	45	74	59
Bahrain	64	31	77	26	79	107	63	99
Mexico	65	112	69	74	75	67	65	52
Uruguay	66	29	78	44	94	101	77	80
Ukraine	67	111	65	77	81	54	46	69
Republic of Moldova	68	88	75	95	85	135	52	50
Oman	69	39	71	54	58	60	105	73
Costa Rica	70	54	95	60	88	40	61	88
Tunisia	71	108	45	105	91	105	53	60
Mongolia	72	95	88	86	87	106	88	41
Kazakhstan	73	75	67	65	89	84	69	77
Bhutan	74	38	49	18	51	132	129	86
Argentina	75	101	60	73	103	74	76	63
Montenegro	76	85	74	68	102	102	55	75
Uzbekistan	77	57	70	71	69	81	62	96
Colombia	78	93	63	75	77	53	81	72
Albania	79	45	93	52	48	77	84	106
Peru	80	92	53	63	56	109	89	74
Iran (Islamic Republic of)	81	136	56	91	68	111	54	64
Botswana	82	41	86	98	65	59	97	91
Egypt	83	100	103	93	83	65	85	71
Bosnia and Herzegovina	84	120	84	85	23	123	68	97
Azerbaijan	85	36	89	87	63	91	100	110
Lebanon	86	132	66	92	53	66	50	111
Jamaica	87	69	87	97	113	93	121	67
Belarus	88	134	38	90	96	62	72	102
Panama	89	79	120	57	78	134	91	94
Senegal	90	62	81	104	90	113	82	113
Barbados	91	44	94	106	133	51	96	98
Kyrgyzstan	92	116	64	100	114	115	79	81
Cambodia	93	90	122	94	31	117	103	93
Sri Lanka	94	99	117	80	105	114	92	78

< 35 35–70 70–105 ≥ 105

Table 3 Heatmap: GII 2026 rankings overall and by innovation pillar, 2026 (cont)

Economy	Overall GII	Insti-tutions	Human capital and research	Infra-structure	Market sophisti-cation	Business sophisti-cation	Knowledge and technology outputs	Creative outputs
Pakistan	95	126	119	107	99	83	71	76
Rwanda	96	26	98	113	121	95	94	120
Kenya	97	104	125	88	110	99	73	95
Brunei Darussalam	98	32	61	55	104	89	137	136
Dominican Republic	99	59	116	82	112	76	114	104
El Salvador	100	94	123	99	93	100	104	83
Ghana	101	71	107	110	132	70	90	92
Namibia	102	52	83	89	101	88	126	124
Cabo Verde	103	46	115	102	119	103	110	103
Nepal	104	107	97	101	72	120	93	107
Bangladesh	105	113	127	84	98	125	95	87
Ecuador	106	114	96	83	109	104	98	109
Trinidad and Tobago	107	77	82	114	92	129	117	118
Lao People's Democratic Republic	108	68	121	117	60	73	122	121
Paraguay	109	91	136	78	106	110	124	89
Côte d'Ivoire	110	72	133	111	116	82	130	90
Algeria	111	89	39	116	125	122	120	117
Tajikistan	112	96	92	120	117	96	83	127
Madagascar	113	123	118	135	124	79	125	61
Bolivia (Plurinational State of)	114	135	68	132	49	133	131	85
Zambia	115	86	111	118	115	87	119	116
Honduras	116	125	104	108	86	118	101	122
Benin	117	66	110	121	126	98	106	132
Nigeria	118	121	113	123	123	126	108	84
United Republic of Tanzania	119	84	130	112	128	86	116	114
Guatemala	120	115	132	96	95	112	109	115
Cameroon	121	105	101	126	127	39	115	126
Togo	122	110	114	127	100	137	107	108
Uganda	123	87	131	122	135	121	86	123
Nicaragua	124	133	129	103	36	71	113	135
Myanmar	125	138	112	109	107	138	111	101
Malawi	126	102	138	136	97	50	102	130
Venezuela (Bolivarian Republic of)	127	139	26	131	130	78	123	119
Lesotho	128	109	105	115	108	124	138	128
Mozambique	129	129	128	130	120	108	134	105
Burkina Faso	130	118	109	134	111	139	112	125
Mauritania	131	98	102	125	129	116	132	137
Zimbabwe	132	130	139	119	138	68	118	100
Ethiopia	133	122	126	128	136	136	87	131
Mali	134	119	108	129	131	92	133	133
Burundi	135	117	124	133	122	127	136	112
Angola	136	124	134	124	137	131	135	129
Democratic Republic of the Congo	137	137	106	137	118	119	127	138
Niger	138	128	137	139	134	128	128	134
Chad	139	131	135	138	139	130	139	139

< 35 35–70 70–105 ≥ 105

Note: Dark green cells correspond to the 4th quartile (best performers, ranks 1st to 34th); light green to the 3rd quartile (ranks 35th to 69th); light blue to the 2nd quartile (ranks 70th to 104th); gray to the 1st quartile (ranks 105th to 139th).

Source: Global Innovation Index Database, WIPO, 2026.

A higher Market sophistication ranking points to favorable conditions for finance, investment or trade. Bosnia and Herzegovina ranks 23rd in this pillar despite placing 84th overall, Cambodia 31st versus 93rd, and Nicaragua 36th versus 124th. Business sophistication identifies firm capabilities that are comparatively well developed, the availability of knowledge workers and innovation linkages. In this pillar, Cameroon ranks 39th versus 121st overall, Malawi 50th versus 126th, Costa Rica 40th versus 70th, and Botswana 59th versus 82nd.

Conversely, the Islamic Republic of Iran (81st) reaches 54th in Knowledge and technology outputs and 64th in Creative outputs, relative to considerably lower Infrastructure (91st) and Institutions (136th) rankings.

Such imbalances are not necessarily weaknesses. Rather, they identify assets that economies can build upon: input-led systems need stronger channels from institutions and investment to commercialization, while output-led systems can develop further through reinforcing infrastructure, research and financing foundations to sustain existing strengths.

Box 3 Where are companies investing in R&D and high-tech? Insights from FDI announcements

Traditional measures of foreign direct investment (FDI) – stocks and flows – record how much capital has been deployed. The GII has long tracked them through its FDI net inflows indicator (5.3.4), based on International Monetary Fund (IMF) balance-of-payments data. This data is indispensable, but it is more of a retrospective – typically published after a lag of a year or more, highly aggregated, and blind to the innovation-intensity and general nature of the investment: the purchase of an existing manufacturing plant or the stake in registers in the same way as does the purchase of a new AI data center.

To complement this data with a more forward-looking and innovation-specific metric, in partnership with **FT Locations** the GII 2026 introduces a new indicator, **Green-field R&D & high-tech FDI (5.3.5)**, based on announced green-field investment projects as per the FT Locations fDi Markets database. Green-field FDI is defined as a cross-border investment in a new physical project, or the expansion of an existing one, that creates new jobs and capital investment. By our "R&D and high-tech" definition, announcements enter the indicator when fDi Markets classifies their business activity as R&D or as design, development and testing, or when they fall within high-tech sectors such as semiconductors, biotechnology, and pharmaceuticals, and software and information technology (IT) services.[1] The indicator follows a revealed competitive advantage (RCA) approach: it takes an economy's share of world R&D and high-tech green-field announcements, counting both inflows and outflows, averaged over 2023–2025, and divides it by that economy's share of world gross fixed capital formation (GFCF).

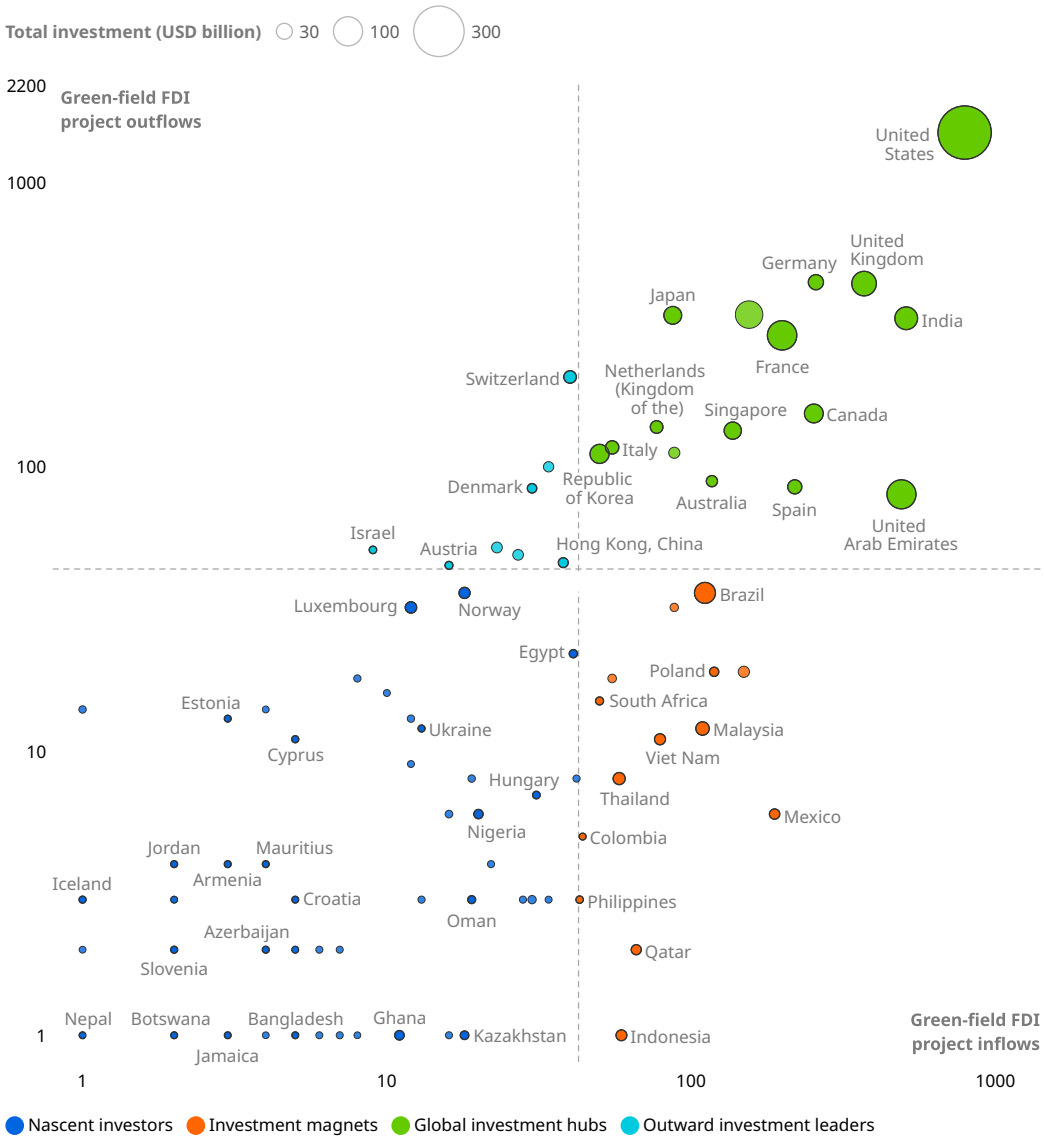
In 2025, firms announced close to 6,000 R&D and high-tech projects worldwide – 1,201 R&D projects and 4,769 high-tech ones. That is roughly one in three of the broadly 16,500 green-field projects of all kinds recorded globally in 2025.

Corporate decisions on where to locate R&D and high-tech investments focus on a narrow number of economies. The top 10 destination economies attracted 58 percent of such projects, with the United States, India and the United Arab Emirates in the lead. Concentration is even stronger on the outward side: the top 10 source economies generated 70 percent of all announcements, led by the United States – the origin of one in four projects worldwide – followed by Germany and the United Kingdom.

Box Figure 3.1 maps this two-way geography, plotting each economy's inbound project announcements in 2025 against its outbound ones, with bubble size reflecting the total announced capital investment. Sixteen economies lie above the world average on both axes, the global investment hubs of the top-right quadrant. Fourteen of these are high-income economies. China and India are the only exceptions. Seven hubs are European, five are in East and South East Asia and Oceania (Australia, China, Japan, the Republic of Korea and Singapore), the United States and Canada represent Northern America, and the United Arab Emirates completes the group.

1 The indicator excludes mergers and acquisitions, which only change the ownership of existing assets.

Box Figure 3.1 Green-field R&D and high-tech FDI projects: inflows versus outflows, 2025



Note: Bubble size is proportional to total announced capital investment (USD billion). Both axes are on a logarithmic scale. Dashed lines mark the average number of inbound and outbound project announcements across the 139 GII economies. Economies above both means are global investment hubs, above the mean on inflows only are labelled investment magnets, on outflows only as outward investment leaders, below both as nascent investors.

Source: WIPO, Global Innovation Index 2026, based on FT Locations, fDi Markets.

The bottom-right quadrant hosts the 14 investment magnets, which are those economies above the world average on inflows, but not on outflows. Ten of these are middle-income economies, and this group is the most geographically dispersed: five economies in South East Asia (Indonesia, Malaysia, the Philippines, Thailand and Viet Nam), three in Latin America (Brazil, Colombia and Mexico), three in Northern Africa and Western Asia (Qatar, Saudi Arabia and Türkiye), Poland and Portugal in Europe, and South Africa, the only Sub-Saharan African economy above the world average on either axis. For these magnets, investment is essentially a one-way flow: Indonesia received 59 projects in 2025 against a single outbound announcement, and the Philippines 43 against three. Mexico is the strongest magnet, attracting 188 projects in 2025 against only six outbound announcements. Saudi Arabia (149 against 19) and Poland (119 against 19) follow as the quadrant's next largest recipients. Brazil (111 against 36) and Türkiye (88 against 32) announce roughly one project abroad for every three they receive, leaving them closest of the magnets to achieving hub status.

The remaining quadrants complete the picture: eight economies are outward investment leaders, investing abroad far more than they receive – all are high-income, among them Switzerland, Sweden, Denmark, Israel and Hong Kong, China. All other economies – nascent investors – are not yet at the world average on both axes.

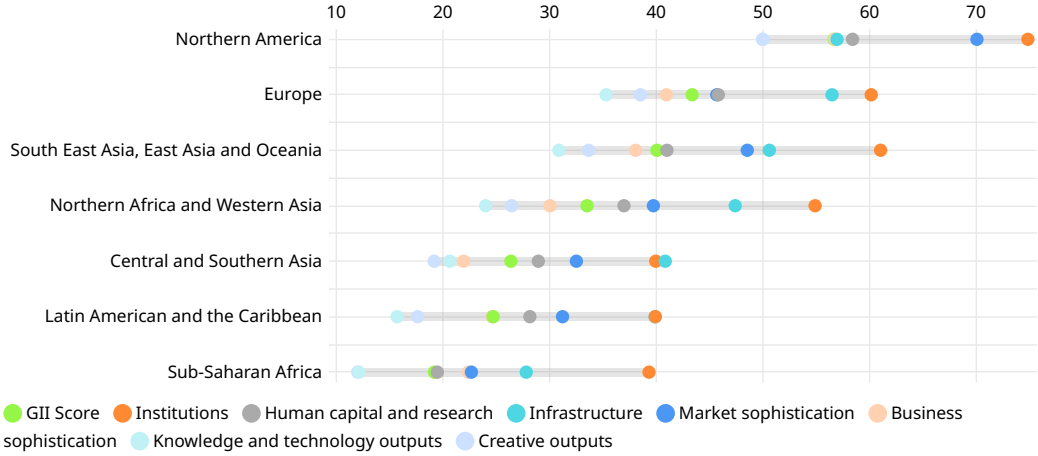
What do regional patterns tell us about the geography of innovation?

Central and Southern Asia consolidates its lead over Latin America and the Caribbean through having stronger innovation outputs, while regional gaps increasingly reflect how effectively innovation inputs are being converted into results

Northern America remains the world's leading innovation region in 2026, with the highest average GII score and a clear lead in both innovation inputs and outputs (Figure 6). **Europe** follows, thanks to having broad strengths across Institutions, Human capital and research, Infrastructure, and Creative outputs, while **South East Asia, East Asia and Oceania** is in 3rd place. The latter continues to stand out for its Institutions, Infrastructure, and Market sophistication.

Northern Africa and Western Asia occupies 4th position. Its performance is comparatively strong in Institutions and Infrastructure, although the gap between inputs and outputs remains wide.

Figure 6 Average regional performance across the seven GII pillars, 2026



Note: Unweighted regional averages across economies.
Source: Global Innovation Index Database, WIPO, 2026.

Central and Southern Asia strengthens its position ahead of **Latin America and the Caribbean**. The average input scores for both regions are now almost identical – with the former being slightly ahead, but Central and Southern Asia has a clearer advantage in outputs. Latin America and the Caribbean has a relative advantage in Business sophistication, suggesting that its central challenge is not the absence of private sector capabilities, but connecting them more effectively to research, commercialization and technology production.

Sub-Saharan Africa scores less well than other regions, but its innovation profile is more varied than the headline average suggests. The region performs relatively better on Institutions, with an average score close to those of Central and Southern Asia and Latin America and the Caribbean, and its Business sophistication exceeds that of Central and Southern Asia. The region's largest gaps remain in Human capital and research, Infrastructure, and both output pillars.

The sections that follow show the most significant developments happening across the seven world regions.

Northern America

Northern America remains the world's strongest innovation region, led by the United States, which retains 3rd place globally, while Canada rises one position to 16th.

The **United States** leads in Market sophistication (1st) and ranks 2nd in Business sophistication, underpinned by having the world's largest corporate R&D investors (1st), strong business-financed and business-performed R&D (both 4th), university–industry R&D collaboration (2nd), late-stage venture capital deals (1st), unicorn valuation (1st), software spending (1st) and intangible asset intensity (1st). **Canada** shares many of these strengths, with notable performance in research talent (9th), late-stage venture capital activity (8th) and software spending (6th). Both economies benefit from having strong Institutions (both in the top 20 worldwide), world-class universities – the United States ranks 1st globally and Canada 6th – as well as deep international and private sector–university connections, with both countries ranking among the top 10 in university–industry and international engagement (6th and 7th respectively). Canada's rise is part of a wider comeback story among mature innovation systems in 2026.

Against this backdrop of overall strength, there remain areas of opportunity. Labor productivity growth offers room for further gains in both the United States (67th) and Canada (114th), and infrastructure investment relative to overall innovation performance represents a further avenue for development (33rd and 36th respectively).

Innovation activity remains concentrated in leading metropolitan ecosystems. Northern America hosts 23 of the world's top 100 science and technology clusters, including 20 in the United States. San Jose–San Francisco ranks 3rd globally and 1st in innovation intensity. Canada retains three top 100 innovation clusters: Toronto (36th), Montréal (61st) and Vancouver (67th), with Montréal improving its ranking this year.

Europe

Europe remains the region with the largest concentration of leading innovation economies, headed by Switzerland (1st), Sweden (2nd), the United Kingdom (6th) and the Kingdom of the Netherlands (7th). Twelve European economies improve their positions in 2026. Italy advances to 27th, Spain to 28th and Lithuania to 32nd, among others. Bosnia and Herzegovina records one of the region's biggest advances, gaining eight places to reach 84th, followed by the Republic of Moldova, which moves up six places at 68th place.

Across the region, strong institutions, research systems and industrial capabilities frequently reinforce one another. Switzerland ranks 1st in Creative outputs, Sweden 1st in researchers, Germany 3rd in global corporate R&D investors and France 4th in intangible asset intensity. Europe's 30 top 100 innovation clusters concentrate these capabilities, with Cambridge, Oxford, Helsinki and Eindhoven performing especially strongly relative to population.

Rising to 7th, the **Kingdom of the Netherlands** combines knowledge creation with international business connectivity. Amsterdam–Rotterdam remains among the world's largest clusters at 26th, while Eindhoven ranks 9th globally by innovation intensity, reflecting a highly patent- and technology-oriented ecosystem.

At 18th place, **Austria** advances through a balanced research–industry model. Gross expenditure on R&D and business-performed R&D both rank 7th, while researchers (8th), public research–industry co-publications (9th), university–industry and international engagement (9th), and production and export complexity (10th), all place Austria among the stronger European innovation systems. **Italy** rises to 27th, with outputs (16th) substantially stronger than inputs (36th). Its ecosystem is characterized by its domestic industry diversification (2nd), quality certification (3rd), industrial designs (4th), corporate R&D investors (12th), intangible asset intensity (16th) and production and export complexity (17th). The innovation clusters of Milan (56th) and Rome (81st) reinforce this industrial and creative landscape.

This year's results show Europe's strengths, but also its central innovation challenge. While Europe has world-class research, strong institutions, advanced industry and dense innovation clusters, further improvement will depend on turning these strengths more consistently into fast-growing firms, scaleup finance, commercialized technologies and productivity growth. This is also the core message of recent European competitiveness debates: the Letta report argues for a stronger Single Market, including a "fifth freedom" for research, innovation,

knowledge and education;[2] the Draghi report identifies weak innovation diffusion, scaleup barriers and fragmented capital markets as being constraints on European competitiveness;[3] and the European Commission's Competitiveness Compass sets out a roadmap to close the innovation gap, decarbonize industry and reduce strategic dependencies.[4] The GII 2026 picture is consistent with this agenda: Europe's innovation base remains exceptionally strong, but the region's long-term competitiveness will depend on whether its research and industrial strengths can be converted into larger, faster-scaling innovation outcomes.

Northern Africa and Western Asia

Israel continues to lead Northern Africa and Western Asia (NAWA) at 15th, followed by the United Arab Emirates (25th), Cyprus (29th) and Saudi Arabia (42nd).

The region encompasses several distinct innovation systems. Israel anchors its performance in R&D expenditure (1st) – equaling 6.8 percent of its GDP in 2024, business-performed R&D (1st), venture capital received (1st) and university–industry collaboration (1st). Türkiye's industrial designs (6th) and trademarks (7th), Morocco's industrial designs (5th) and Jordan's scientific articles (1st) point to specialized strengths in intangible assets, creativity and scientific knowledge. Across the region, the next step is to translate these enabling conditions more consistently into research, firm-level innovation and internationally competitive outputs.

Western Asia's Gulf economies continue to climb, with the United Arab Emirates reaching the top 25 and Saudi Arabia, Qatar and Kuwait also advancing – as investment in innovation capacity begins to show in the rankings

Within Western Asia, the Gulf economies continue to climb as they pursue knowledge-based diversification beyond resource dependence. The **United Arab Emirates** gains five positions to reach the top 25, while Kuwait records one of the region's largest advances, rising 11 places to 62nd; Saudi Arabia and Qatar also move up. Their progress is built on strong enabling conditions, including digital government, ICT adoption, infrastructure, higher education, talent attraction and startup finance. The United Arab Emirates is furthest along in translating these foundations into broader innovation activity, with gains in high-tech manufacturing (48th), patent families (41st), FDI inflows (20th) and green-field R&D and high-tech FDI (1st) (Box 3). **Saudi Arabia**'s rise is linked to its rapid digital adoption and a more visible innovation geography, with Riyadh entering the global top 100 innovation clusters, while **Qatar** stands out for Infrastructure (16th) and international talent attraction – ranking 1st in tertiary inbound mobility, and **Kuwait** for ICT access (4th) and use (3rd).

The key issue now is the conversion from innovation inputs to outputs. As Figure 5 shows, the United Arab Emirates, Saudi Arabia and Qatar remain in the high-input, lower-output part of the innovation landscape: their enabling conditions are strong, but innovation outputs have not yet reached the same level. For the wider group, the next phase will depend on turning capacity-building and infrastructure into deeper knowledge creation, technology production, intellectual property and globally competitive firms.

Morocco leads North Africa's innovation rise, as Algeria, Egypt and Tunisia also move up

Morocco reaches its best GII rank at 54th, in 2026, leading a North Africa rise, with Tunisia (71st), Egypt (83rd) and Algeria (111th) also rising.

Morocco's rise reflects a growing combination of industrial upgrading and business use of intangible assets. It ranks 5th in industrial designs, 8th in intangible asset intensity and 16th in trademarks, alongside a solid position in high-tech manufacturing (28th). This suggests that firms are increasingly complementing production capacity with design, branding and product differentiation. To sustain its progress, Morocco could strengthen university–industry links, expand business R&D and improve access to startup and scaleup finance – as investment and venture capital indicators remain at relatively low levels.

2 See, https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf.
3 See, https://commission.europa.eu/topics/competitiveness/draghi-report_en.
4 See, https://commission.europa.eu/topics/competitiveness/competitiveness-compass_en.

Tunisia's rise adds to the broader North African advance, while its main strength lies in Human capital and research (45th), scientific production and export-oriented capabilities. It remains a relatively diversified economy that has strengths in science and engineering graduates (1st), scientific production (12th), high-tech exports (38th) and green-field R&D and high-tech FDI (18th). These assets give Tunisia a foundation for technology upgrading and participation in more knowledge-intensive production. The main constraint is that this base is not yet matched by a strong business environment (124th), private sector participation in R&D nor deep innovation linkages (112th). The next step is therefore to connect Tunisia's talent, research and export base more effectively to firms, investment and commercialization, so that scientific and industrial capabilities translate into stronger technology creation, business innovation and higher-value exports.

Egypt (83rd) rises three places, with innovation outputs (75th) continuing to exceed inputs (95th). Its domestic market is large (18th), it has a substantial scientific base relative to other middle-income group economies – with key R&D indicators ranked in the upper tier (research talent at 40th, citable-documents H-index at 44th, university quality at 48th and researchers at 54th), is one of Africa's most entrepreneurial communities, and its economy has increasingly diversified (27th) over the past years. R&D spending was slightly higher than 1 percent of its GDP in 2024 – only behind the United Arab Emirates in the region. Nevertheless, the ecosystem remains highly concentrated in Cairo – ranked 86th globally among innovation clusters. Moreover, private sector R&D remains limited, as does access to venture capital (88th) and credit to the private sector (101st). However, recent investment indicators are also encouraging, with FDI net inflows rising to 22nd and late-stage venture capital activity ranking 41st.

Algeria (111th) advances four positions, thanks to stronger innovation inputs (99th). Education (3rd) is a notable asset: expenditure on education (2nd), government funding per secondary pupil (2nd) and science and engineering graduates (17th). Gross capital formation (5th), researchers (44th) and entrepreneurship policies (43rd) provide additional strengths. Building further on these strengths through business R&D and Knowledge and technology outputs (120th) would support a more balanced innovation profile.

South East Asia, East Asia, and Oceania

South East Asia, East Asia, and Oceania remains one of the world's most dynamic regions for innovation, while also exhibiting considerable internal diversity in terms of innovation performance. The Republic of Korea leads the region at 4th globally, followed by Singapore (5th), China (10th), Japan (12th) and Hong Kong, China (14th).

The region features world-leading R&D investment, with six of its economies ranking among the top 25 for R&D expenditure as a share of GDP, led by the Republic of Korea (5.1 percent of GDP in 2024), Japan (3.6 percent) and China (2.7 percent). Corporate R&D investment and capacity are high across most of the region's economies, with companies in China (2nd), the Republic of Korea (4th), Japan (7th), Australia (15th) and Singapore (21st) among the biggest private R&D spenders worldwide. Private sector involvement in financing R&D is also substantial, exceeding 50 percent of total R&D spending in economies such as Thailand (67 percent of R&D expenditure financed by the private sector in 2023, ranked 5th worldwide), Viet Nam (58 percent, 13th) and Malaysia (55 percent, 19th).

The region's middle-ranked economies – Malaysia (34th), Viet Nam (43rd), Thailand (44th), the Philippines (52nd) and Indonesia (55th) – are strongly integrated into regional and global value chains, with shared strengths in high-tech trade, high-tech manufacturing (Malaysia ranks 17th worldwide), ICT services (the Philippines ranks 18th in ICT services exports) and growing startup activity. Indonesia ranks 26th in late-stage venture capital, while Viet Nam holds 34th place in unicorn valuation, equivalent to 1.2 percent of its GDP. Creative outputs represent an increasing strength, with Viet Nam ranking 5th worldwide in mobile app creation, and Malaysia (16th), Thailand (27th), Viet Nam (28th) and the Philippines (30th) all placing in the top 30 for brand value.

Mongolia and **Cambodia** record among the region's largest ranking gains this year.

Mongolia rises to 72nd, driven primarily by strengthening innovation outputs (57th). Progress is especially visible in Creative outputs (41st), supported by exceptional performance in trademarks and industrial designs – both ranked 3rd globally – and contributing to growth in intangible assets (8th).

Cambodia ranks 93rd. Its principal strength remains Market sophistication (31st), while Business sophistication registers a notable rise – although at a low level (117th), reflecting improvements in public research–industry co-publications (78th) and cluster development (69th).

Central and Southern Asia

India leads Central and Southern Asia at 38th place, followed by **Kazakhstan** (73rd), **Bhutan** (74th, a new entrant) and **Uzbekistan** (77th). Kazakhstan records the region's largest rise gaining eight places, while both Kyrgyzstan and Pakistan advance four places to 92nd and 95th respectively.

The region has a diverse set of innovation assets. India leads in ICT services exports (1st) and ranks highly in late-stage venture capital deals (4th) (see Box 2), while Pakistan combines strength in ICT services exports (15th) and mobile app creation (10th). Human-capital advantages are visible in science and engineering graduates in Uzbekistan (2nd) and the Islamic Republic of Iran (9th), as well as in Bhutan's tertiary inbound mobility (4th). Access to capital is another regional feature: the Islamic Republic of Iran ranks 2nd in gross capital formation, while Nepal (3rd), Bangladesh (12th) and Kyrgyzstan (15th) perform strongly in microfinance. Tajikistan's utility models (1st) and low-carbon energy use (12th), together with Sri Lanka's energy efficiency (10th on the GDP/unit of energy use indicator), are examples of further areas of specialization. Across the region, the challenge is to connect these strengths more closely through investment in research, infrastructure and innovation linkages.

Kyrgyzstan rises to 92nd, supported by having stronger Knowledge and technology outputs (79th). Its profile combines high labor productivity growth (2nd), cultural and creative services exports (17th), education expenditure (8th), microfinance (15th) and tertiary inbound mobility (16th).

Latin America and the Caribbean

Latin America and the Caribbean continues to be led by **Chile** (51st), followed by **Brazil** (53rd), **Mexico** (65th), **Uruguay** (66th) and **Costa Rica** (70th). Brazil remains the region's only economy performing above expectations for its level of development, sustaining this status for a sixth consecutive year. The largest advances are recorded by the Bolivarian Republic of Venezuela, rising to 127th, Ecuador to 106th, Trinidad and Tobago to 107th, and Nicaragua to 124th.

Latin America and the Caribbean has important innovation assets: Brazil has the region's deepest science and R&D base, Mexico benefits from manufacturing and export capabilities, and smaller economies such as Uruguay and Costa Rica build on services, institutions and digital connectivity. Yet these strengths remain concentrated in a limited number of economies and have not translated into a strong regional engine. Brazil remains the region's only innovation overperformer and the only economy with R&D expenditure above 1 percent of GDP.

The main challenge is not only conversion from inputs to outputs; it is also the limited availability of some of the innovation inputs themselves. Many economies perform better on innovation inputs than outputs: Chile ranks 41st in inputs, but 70th in outputs, Uruguay 56th and 77th, Costa Rica 62nd and 76th, and Trinidad and Tobago 96th and 121st. This gap reflects weak links between knowledge creation, firms, finance, intellectual property and international markets. The region has some strong universities, especially in Argentina, Brazil, Chile, Colombia and Mexico, but university–industry collaboration remains limited across many economies. Scientific production, business R&D, scaling finance and institutional coordination are also uneven. Venture capital and startup activity are similarly concentrated, with Argentina, Brazil, Chile, Colombia and Mexico leading late-stage venture capital, while Brazil and Colombia stand out more clearly in the unicorn valuation and startup-related indicators. The result is a region with real innovation potential, but where research, entrepreneurship and market access are not yet connected strongly enough to scale ideas into technology, exports, brands and productivity gains.

Uruguay (66th) rises two places, combining strong Institutions (29th), policy stability for doing business (7th), low-carbon energy use (10th) and ICT services exports (16th). National feature films (9th) and cultural and creative services exports (23rd) reinforce its service-oriented ecosystem.

Argentina (75th) gains two places, with outputs (66th) exceeding inputs (83rd). Tertiary enrolment (8th), school life expectancy (9th), trademarks (25th), domestic market scale (28th) and university quality (38th) provide a diversified base.

Ecuador (106th) advances seven places, drawing on government online services (25th), microfinance (29th), trademarks (38th), tertiary enrolment (48th) and software spending (50th).

Sub-Saharan Africa

Mauritius leads Sub-Saharan Africa at 50th position, followed by **South Africa** (63rd), **Botswana** (82nd) and **Senegal** (90th). Rwanda records the region's largest rise, advancing to 96th place, followed by Madagascar at 113th; Botswana and Kenya (97th).

Innovation in Sub-Saharan Africa is becoming more visible in 2026, with several economies showing important gains

Innovation in Sub-Saharan Africa remains uneven, but is becoming more visible in 2026, with clearer leaders, overperformers, specialized strengths and improved data coverage. Beneath still-low regional averages, several recurring assets support future innovation gains. Education investment is a notable strength in Namibia (1st), Botswana (3rd), Mauritania (4th), Lesotho (10th), Mozambique (19th) and Burkina Faso (30th), while capital formation supports ecosystems in the United Republic of Tanzania (7th), Angola (13th), Zambia (17th) and Chad (30th). Access to microfinance is another common feature, particularly in regards to Togo (5th), Lesotho (9th), Senegal (10th), Benin (22nd) and Côte d'Ivoire (32nd). And youthful populations provide long-term potential in Niger (1st), Mali (2nd), the Democratic Republic of the Congo (4th), Burundi (5th), Uganda (7th), Ethiopia (19th) and Ghana (26th).

More specialized capabilities are also emerging. Malawi performs strongly in ICT services imports (1st), Cabo Verde in labor productivity growth (11th), Nigeria in unicorn valuation (19th) and Cameroon in entrepreneurship policies and culture (19th). A thin but real startup and venture-capital layer is also visible around selected hubs, with economies such as Kenya, Mauritius, Nigeria and Rwanda attracting private capital, although early-stage funding remains limited. The first inclusion of the Democratic Republic of the Congo (137th) and Chad (139th) in the GII reflects improved innovation-data collection and broadens the evidence with which to assess the region. Overall, Sub-Saharan Africa's innovation performance is not uniform: it combines gaps in skills, infrastructure and outputs, with identifiable hubs of education investment, entrepreneurship, finance, digital activity and data-system improvement.

An output-led advance distinguishes **Botswana**. A rise in trademarks to 18th points to a growing use of intangible assets, while education expenditure (3rd), gross capital formation (9th), microfinance (16th) and market capitalization (24th) provide a supportive base. Improving FDI inflows (49th) and labor productivity growth (47th) serve to further strengthen its profile.

In **Rwanda**, a stronger score on Institutions (26th) and increasingly connected finance and research systems characterize its progress. Policy stability ranks 2nd, while venture capital received (31st), microfinance (24th) and university–industry R&D collaboration (44th) support gains in labor productivity (10th), utility models (26th) and scientific publications (47th).

Kenya's rise reflects a growing entrepreneurial and technology ecosystem. Utility models rank 8th, alongside venture capital received (30th), late-stage venture capital deals (34th), ICT services exports (30th) and low-carbon energy use (11th). Gains in high-tech imports (29th), industrial designs (59th) and mobile app creation (61st) suggest a widening of innovation activity.

Despite comparatively modest inputs (130th), **Madagascar** performs strongly in industrial designs (15th), trademarks (22nd) and ICT services exports (29th), with further gains in cultural and creative services exports (68th) and PCT patents by inventor origin (81st) – although at relatively lower levels.

Conclusion

The GII 2026 points to four broad conclusions about the current state of global innovation.

First, the global innovation remains highly persistent at the frontier, but is not frozen. Switzerland, Sweden and the United States continue to lead the ranking, while Europe remains the region with the largest concentration of innovation leaders. Asia is now firmly embedded in the upper ranks, with China holding 10th place as the only middle-income economy among the innovation leaders. Beneath this continuity, there is still movement: the Kingdom of the Netherlands moves higher, Canada, Australia and New Zealand regain ground, and the United Arab Emirates enters the top 25. The top of the GII therefore remains structurally stable, but is still highly competitive.

Second, middle-income innovation catch-up is real, but an innovation "glass ceiling" is becoming more evident. The fastest long-term climbers since 2013 – China, India, Indonesia, Morocco, the Philippines, Türkiye and Viet Nam – have advanced by building competitive firms, export sectors, digital services, startup finance and high-tech production, and through a stronger use of intellectual property. These strengths have helped them enter the upper half of the GII, but not all have continued moving upward at the same pace. For many, the next step is harder: breaking beyond the top 40 or top 50 requires deeper research capacity, stronger universities andmore business R&D, patenting, science–industry linkages and domestic knowledge creation. China is the exception that defines the challenge, combining its commercial and production strengths with the research capacity and investment needed to reach the top 10. The question for the next wave of climbers – including Saudi Arabia, Qatar, Mauritius, Brazil, Jordan and Bahrain – is whether they can avoid a similar plateau by turning recent gains in investment, digital infrastructure, services and scientific output into broader and more sustained innovation performance.

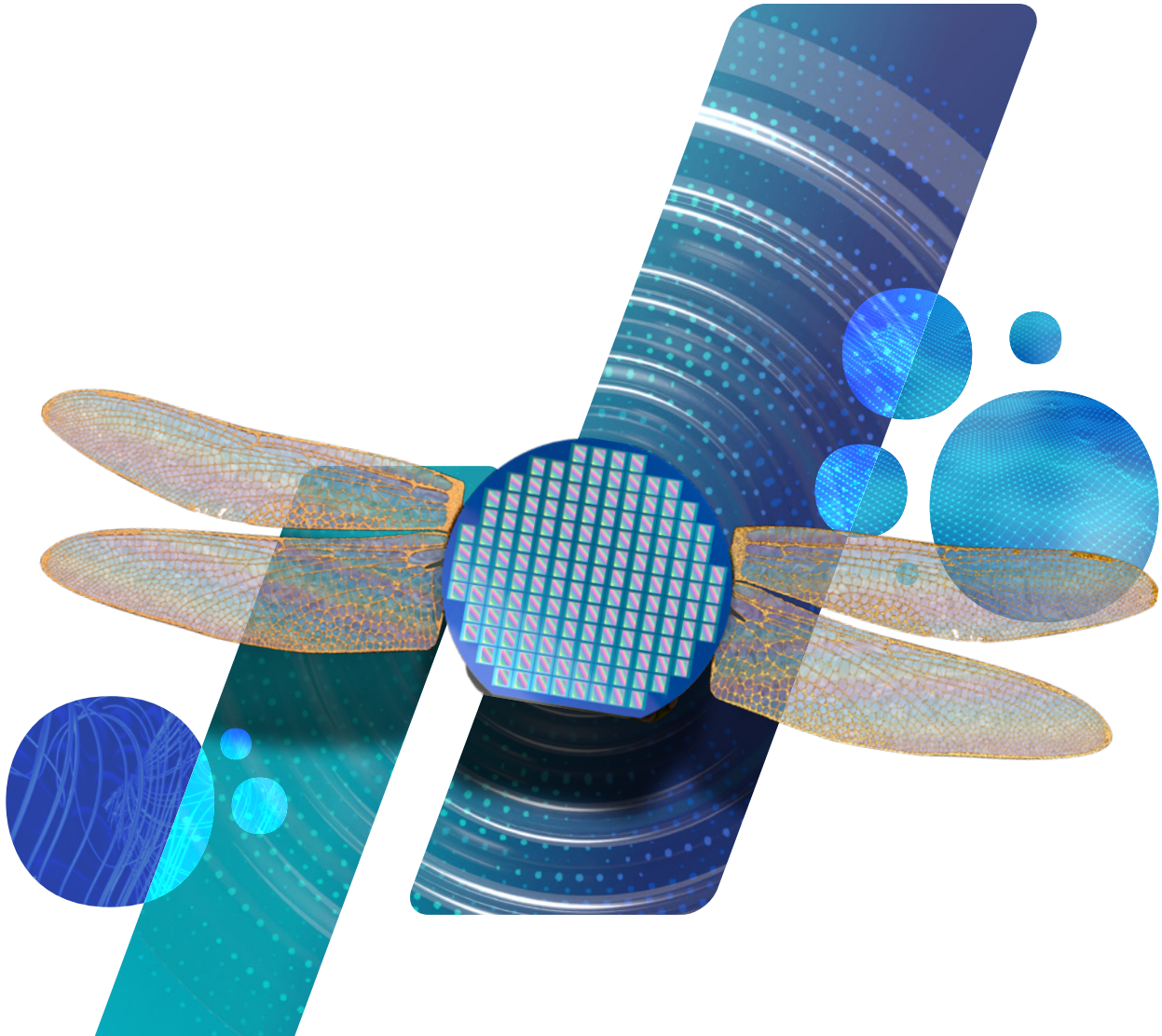
Third, innovation momentum is spreading through different regional and sectoral pathways. In Western Asia, the Gulf economies continue to climb through major investments in digital infrastructure, finance, talent and state-led diversification, with the United Arab Emirates furthest ahead in converting these inputs into outputs. In Africa, Morocco leads a North African rise, while Mauritius, Rwanda and Madagascar show momentum in Sub-Saharan Africa, alongside a growing but still thin venture and startup layer around selected hubs. Latin America and the Caribbean has important assets in Brazil, Chile, Mexico, Uruguay and Costa Rica, but its innovation engine remains too concentrated and underpowered to generate sustained regional gains.

Fourth, innovation performance is not determined by income alone. The 2026 overperformers show that economies can generate more innovation than expected for their level of development when they build on focused strengths. India and Viet Nam remain the longest-standing overperformers, while Jordan, Malawi, Rwanda, South Africa, Thailand and Ukraine confirm that overperformance can persist across regions and income levels. Mozambique, Pakistan and the Republic of Moldova return to the group, and Bhutan enters the GII as an overperformer in its first year. The wider lesson is that innovation success depends not only on resources, but on how effectively economies connect research, firms, finance, skills, institutions and markets into functioning innovation ecosystems.

The broader implication is that innovation policy should focus increasingly on system coherence. Strong pillars or strong performance on individual indicators are valuable, but sustained progress depends on how effectively institutions, skills, infrastructure, finance, firms and creative capabilities reinforce one another. For policymakers, the priority is therefore not simply to raise inputs or target a higher rank, but to strengthen the paths through which innovation generates knowledge, productivity, competitiveness and wider economic value.

GII 2026 Ranking of World's Top 100 Innovation Clusters

The GII reveals the world's top innovation clusters, by size and intensity.

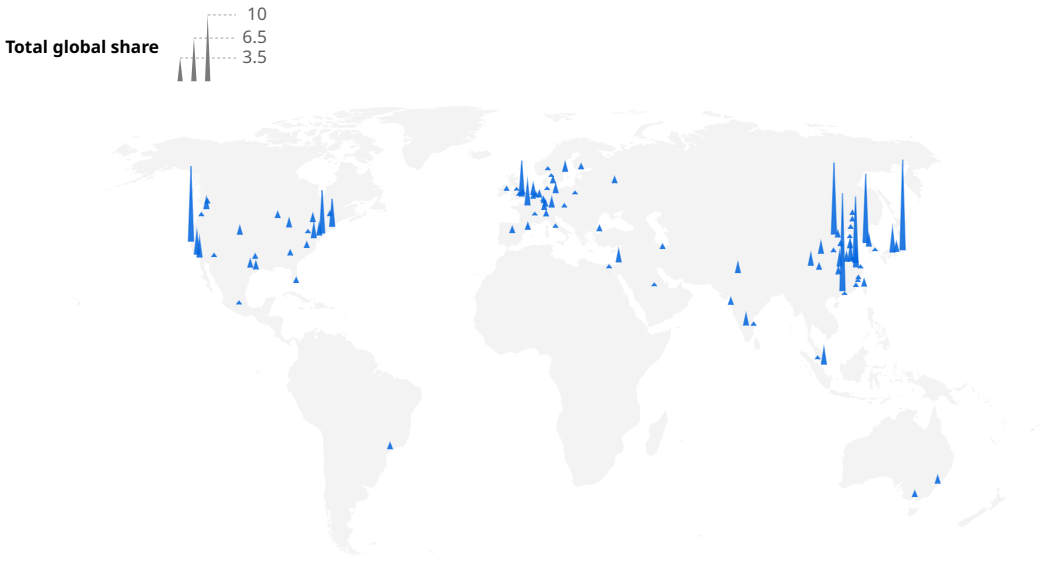


Innovation clusters – whether they be innovation-driven cities or regions – are the beating heart of national innovation systems. Such hubs unite top universities, researchers, inventors, venture capitalists and research and development (R&D) firms in driving forward breakthrough ideas.

From Paris to Mexico City, Shenzhen to Stockholm, Seoul or San Francisco, global cities blend research, startups and R&D firms to power innovation.

Each year, the Global Innovation Index (GII) ranks the top 100 innovation clusters worldwide (Map 1). Employing a bottom-up, data-driven methodology that disregards administrative and political borders, the GII pinpoints those geographic areas that have a high density of inventors, scientific authors and/or venture capital (VC) activity. The clusters identified according to these criteria often span several municipal districts or sub-federal states, and sometimes even two or more countries.

Map 1 Top 100 innovation clusters worldwide, 2026



Source: WIPO Statistics Database, June 2026.

Three metrics are used to define the top 100 clusters globally (see Appendix IV for details and a comparison to earlier methods). The first focuses on the location of inventors listed in published patent applications under the WIPO Patent Cooperation Treaty (PCT).[1] The second considers the location of authors of published scientific articles. And the third – introduced to the 2025 edition – captures VC deal locations, which allows the GII to chart entrepreneurial activity and innovation finance globally, emphasizing startups and spinouts. Together, these three metrics reveal those areas where there is a high concentration of inventors, scientific authors and/or VC activity.

(Dedicated cluster briefs are available providing further details about every top 100 cluster.)

Top 10 clusters and other top-tier rankings

Shenzhen–Hong Kong–Guangzhou, Tokyo–Yokohama, and San Jose–San Francisco lead; Riyadh joins the top 100

Shenzhen–Hong Kong–Guangzhou (China and Hong Kong, China) tops the global rankings for a second consecutive year, followed by Tokyo–Yokohama (Japan) and San Jose–San Francisco

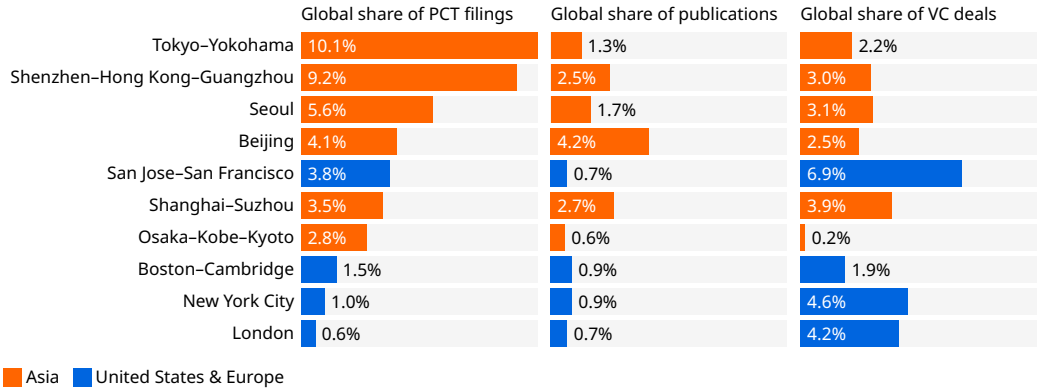
1 The WIPO Patent Cooperation Treaty (PCT) assists applicants in seeking patent protection for their inventions internationally, helps patent offices with making patent granting decisions, and facilitates public access to a wealth of technical information relating to these inventions. By filing one international patent application under the PCT System, applicants can simultaneously seek protection for an invention in a large number of countries (www.wipo.int/en/web/pct-system).

in the United States of America (US) (see Figure 1). All three clusters continue to make a massive contribution to patenting outputs, together accounting for over one in every five PCT applications filed globally. Leading PCT applicants among the top clusters include Huawei (Shenzhen–Hong Kong–Guangzhou), Mitsubishi Electric (Tokyo–Yokohama) and Google (San Jose–San Francisco), with Sun Yat Sen University, the University of Tokyo and Stanford University the respective top publishing organizations.

Beijing in China and Seoul in the Republic of Korea follow in fourth and fifth places, respectively, with Beijing still retaining a commanding lead in scientific publications.

Among the top 10, Asian clusters lead in patents and publications – the US and European clusters in venture capital

Figure 1 Global share of publications, PCT filings, and venture capital deals for the top 10 innovation clusters, 2026



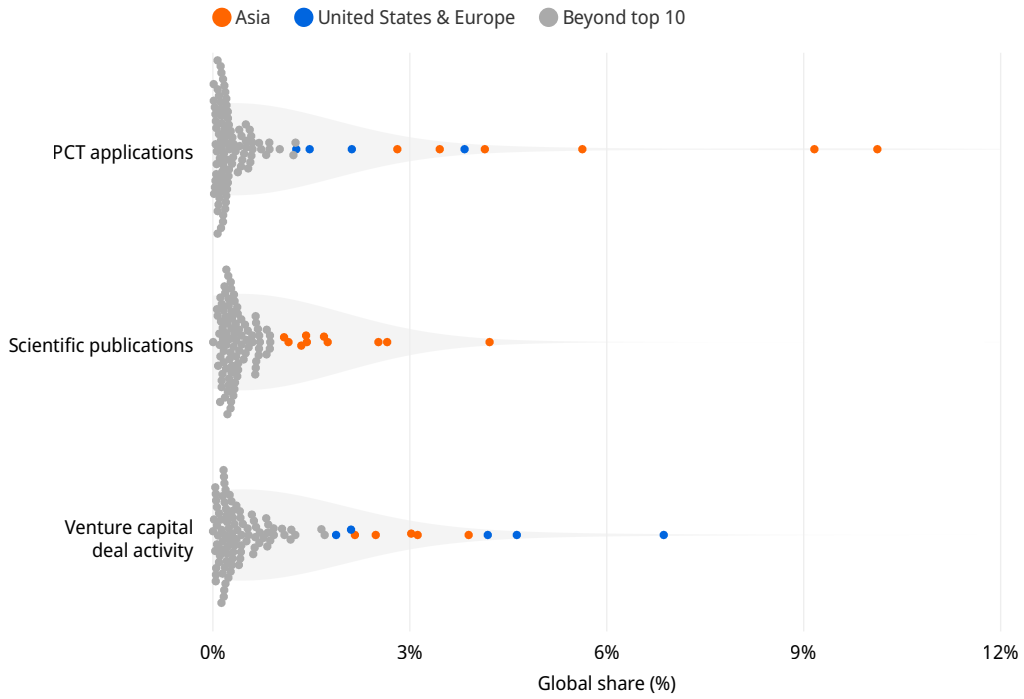
Source: WIPO Statistics Database, June 2026.

Osaka–Kobe–Kyoto (10th, Japan) is the most notable entrant to the top 10 since 2025, taking the spot vacated by Los Angeles (United States), which falls two spots to 12th as Paris (France) advances one spot to 11th. Shanghai–Suzhou (6th, China), New York City (7th, United States), London (8th, United Kingdom) and Boston–Cambridge (9th, United States) retain their positions in the ranking. Leading PCT applicants among these clusters include Suzhou University (Shanghai–Suzhou), IBM (New York City), Nicoventures Trading (London), and Massachusetts Institute of Technology (MIT) (Boston–Cambridge), while top publishing organizations include Shanghai Jiao Tong University, Columbia University, University College London, and MIT, respectively. Box 1 examines the top 10 global clusters in respect to each of the three metric indicators, with Asian clusters leading in PCT filings and sweeping in scientific publications, and US and UK clusters showing a high concentration in VC.

Box 1 Top 10 innovation clusters by patents, publications or VC deals

Analyzing the top 10 innovation clusters by patents, publications or VC deals reveals distinct patterns and effects (see Box Figure 1.1). A notable example is Tokyo–Yokohama's (Japan) strength in PCT patent filings, over twice the volume of Beijing (China), which in turn leads in scientific publications by roughly three times Tokyo–Yokohama's level. Looking at global shares across the three metrics, distinct patterns emerge. First, PCT applications tell a mixed story: Asian clusters dominate, led by Tokyo–Yokohama, Shenzhen–Hong Kong–Guangzhou, and Seoul, alongside three US clusters that include San Jose–San Francisco and San Diego. Paris is the sole European representative. Second, clusters with the most publications remain all Asian, with the majority located in China – with Beijing and Shanghai–Suzhou leading – but with Seoul and Tokyo–Yokohama (Japan) also featuring. Third, in respect to VC deals, the United States claims the most clusters among the top 10, with San Jose–San Francisco and New York City leading, while London (United Kingdom) ranks third, with Shanghai–Suzhou, Seoul, Shenzhen–Hong Kong–Guangzhou, and Tokyo–Yokohama also featuring. Boston–Cambridge, by contrast, records a lower VC share among the top 10 clusters, reflecting the different pathways through which leading innovation economies channel R&D activity.

Box Figure 1.1 Top 10 clusters per metric highlighted against full distribution, 2026



Source: WIPO Statistics Database, June 2026.

Beyond the top 10, Chengdu enters the top 20 in 2026 (20th, China), whereas Seattle drops out (24th, United States). Within the top 30, Stockholm (30th, Sweden) enters, whereas Berlin (31st, Germany) drops out. The composition of the top 40 and top 50 remains unchanged compared to 2025. Within the top 100, Riyadh (92nd, Kingdom of Saudi Arabia) enters for the first time and Fuzhou (96th, China) re-enters, having narrowly fallen outside the top 100 in 2025, whereas Salt Lake City and Ann Arbor, both in the United States, drop out.

Biggest rank movements among the top 100

Within the top 100, the upper tier remains largely stable: the top three innovation clusters (Shenzhen–Hong Kong–Guangzhou, Tokyo–Yokohama, and San Jose–San Francisco) held position, and most clusters shifted by no more than a few places, with a few standing out for sharper swings. Table 1 below highlights some of the most pronounced rank movements that have occurred between GII 2025 and GII 2026 among selected clusters for each of the three metrics.

Ningde (China) recorded the largest rank increase within the top 100, climbing 24 places from 99th to 75th on the strength of growth across all three underlying metrics: PCT filings (+38.7 percent), publications (+24.7 percent) and VC (+50.0 percent). Several other Chinese clusters posted similarly broad-based gains, including Hefei (up 7 places to 32nd) and Zhenjiang (up 6 places to 94th), both driven primarily by VC growth exceeding 40 percent. Outside China, Chennai (India) climbed 5 places on double-digit PCT growth (+19.3 percent), while Miami (US) rose 6 places on double-digit VC growth (+12.4 percent).

Table 1 Biggest rank movements among selected top 100 innovation clusters, 2026

Cluster name	Current rank	Rank change	Publication growth	PCT growth	VC growth
Ningde	75	24	24.7%	38.7%	50.0%
Hefei	32	7	13.1%	5.4%	40.1%
Zhengzhou	73	7	15.7%	−1.2%	20.8%
Zhenjiang	94	6	14.3%	−2.9%	41.2%
Ningbo	87	6	19.3%	−5.7%	21.8%
Tianjin	44	6	9.3%	−6.1%	20.1%
Miami	61	6	1.2%	4.4%	12.4%
Chongqing	52	5	13.4%	−9.3%	33.0%
Dalian	83	5	11.4%	−15.6%	29.4%
Chennai	79	5	7.7%	19.3%	9.1%
Lyon	95	−5	−1.1%	2.5%	−3.4%
Copenhagen	47	−5	−1.9%	0.4%	−4.5%
Pittsburgh	84	−8	−1.8%	−3.6%	−5.1%
Oxford	85	−8	−1.4%	2.8%	−9.4%

Source: WIPO Statistics Database, June 2026.

On the downside, Oxford and Pittsburgh recorded the largest declines, each falling eight places (Oxford, 77th to 85th; Pittsburgh, 76th to 84th), driven mainly by contractions in VC growth (−9.4 percent and −5.1 percent, respectively). Copenhagen (42nd to 47th) and Lyon (90th to 95th) each slipped five places, with both recording negative publication growth (−1.9 percent and −1.1 percent) and negative VC growth (−4.5 percent and −3.4 percent), even as PCT filings stayed positive in each case.

Innovation clusters by economy

The top innovation cluster for each economy or cross-border region is shown in Table 2. The leading clusters per economy remain unchanged from last year. The one new addition is Saudi Arabia, which joins the table for the first time through Riyadh (92nd), having ranked just outside the top 100 in 2025.

Samsung Electronics stands out as the most prevalent top applicant within the rankings, leading PCT filings in five clusters across four economies: Seoul (5th, Republic of Korea), Bengaluru and Delhi (25th and 27th, both in India), Moscow (50th, Russian Federation) and Warsaw (91st, Poland). Beyond the top applicant, the five most geographically dispersed applicants (BASF, Ericsson, Huawei, IBM, and Siemens) register patent activity across at least 56 of the top 100 clusters, spanning up to 29 economies, with BASF, Ericsson, and IBM present across all six world United Nations (UN) regions (Figure 2).

Table 2 Top innovation clusters by economy or cross-border region ranked among the top 100, 2026

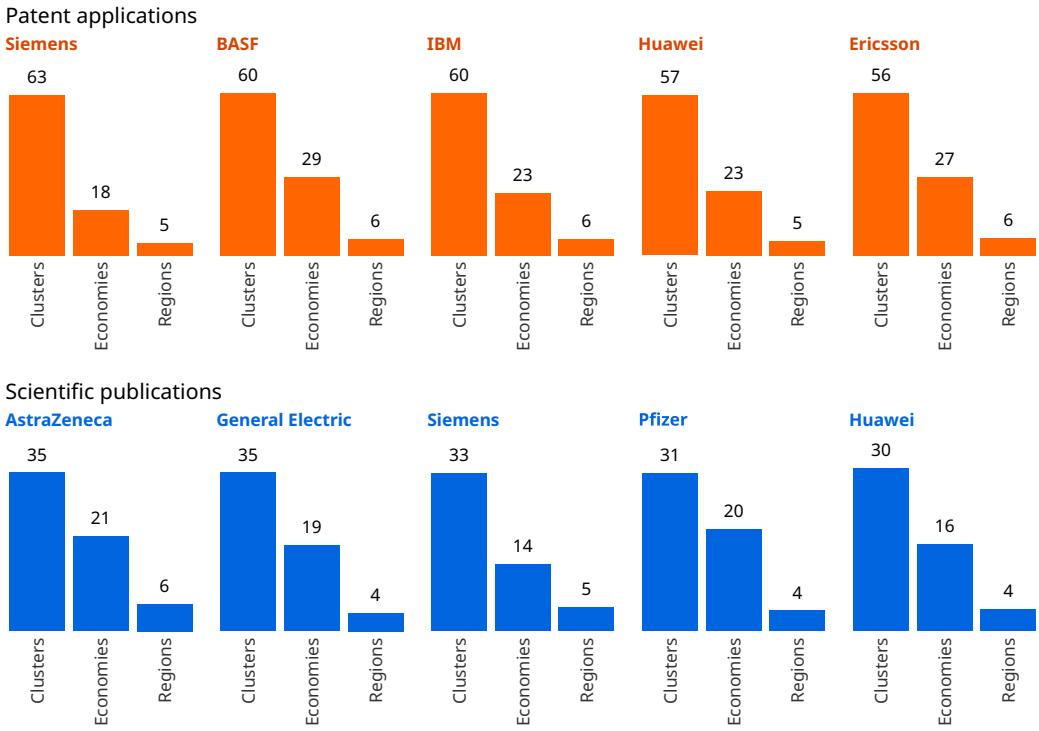
Rank	Cluster name	Economy	Top Applicant	Top Organization
1	Shenzhen–Hong Kong–Guangzhou	CN / HK	Huawei	Sun Yat Sen University
2	Tokyo–Yokohama	JP	Mitsubishi Electric	University of Tokyo
3	San Jose–San Francisco	US	Google	Stanford University
4	Beijing	CN	BOE Technology	Tsinghua University
5	Seoul	KR	Samsung Electronics	Seoul National University
8	London	GB	Nicoventures Trading	University College London
11	Paris	FR	Safran Aircraft Engines	Universite Paris Saclay
16	Singapore	SG / MY	National University of Singapore	National University of Singapore
19	Tel Aviv–Jerusalem	IL	Tel Aviv University	Tel Aviv University
25	Bengaluru	IN	Samsung Electronics	IISc - Bangalore
26	Amsterdam–Rotterdam	NL	Delft University of Technology	Delft University of Technology
28	Munich	DE	BMW	Technical University of Munich
30	Stockholm	SE	LM Ericsson	Karolinska Institutet
36	Toronto	CA	DH Technologies Development	University of Toronto
38	Sydney	AU	Cochlear	University of Sydney
40	Zürich	CH	ETH Zürich	ETH Zürich
42	Taipei–Hsinchu	TW*	MediaTek	National Taiwan University
45	Barcelona	ES	Hewlett-Packard	University of Barcelona
47	Copenhagen	DK	Danmarks Tekniske Universitet	University of Copenhagen
49	São Paulo	BR	Braskem	Universidade de Sao Paulo
50	Moscow	RU	Samsung Electronics	Lomonosov Moscow State University
56	Istanbul	TR	Medipol University	Istanbul Technical University
57	Milan	IT	Pirelli Tyre	Polytechnic University of Milan
58	Brussels–Antwerp	BE	KU Leuven	KU Leuven
59	Helsinki	FI	Nokia	University of Helsinki
65	Tehran	IR	Mohammad Abdolahad	University of Tehran
72	Dublin	IE	Eaton Intelligent Power	University College Dublin
76	Vienna	AT	JT International	Medical University of Vienna
82	Mexico City	MX	Colgate-Palmolive	UNAM
86	Cairo	EG	Si-Ware Systems	Cairo University
89	Oslo	NO	Oslo University Hospital	University of Oslo
90	Kuala Lumpur	MY	MIMOS Berhad	Universiti Malaya
91	Warsaw	PL	Samsung Electronics	Warsaw University of Technology
92	Riyadh	SA	SABIC Global Technologies	King Saud University

Notes: Economy codes are based on WIPO Standard ST.3 two-letter codes for the representation of states, other entities and organizations. TW* refers to Taiwan Province of China. Economy labels were assigned to a cluster, when at least 1 percent of a cluster's output occurred in a given economy. Abbreviations are IISc = Indian Institute of Science, Bangalore; BOE Technology = Beijing Oriental Electronics Group; ETH Zürich = Eidgenössische Technische Hochschule Zürich; KU Leuven = Katholieke Universiteit Leuven; UNAM = Universidad Nacional Autónoma de México.

Source: WIPO Statistics Database, June 2026.

Global reach of leading patent applicants and publishing organizations across innovation clusters

Figure 2 Number of top 100 innovation clusters, economies and world regions where each organization registers patent or publication activity, 2026



Source: WIPO Statistics Database, June 2026.

Sun Yat Sen University is the only organization to lead scientific publications in more than one cluster, featuring as the top publishing institution in Shenzhen–Hong Kong–Guangzhou (1st, China, Hong Kong, China). Moving beyond the top organization, the five most geographically dispersed publishing organizations are: AstraZeneca, General Electric, Siemens, Pfizer, and Huawei, appearing in at least 30 of the top 100 clusters, spanning up to 21 economies, with AstraZeneca present across all six world UN regions.

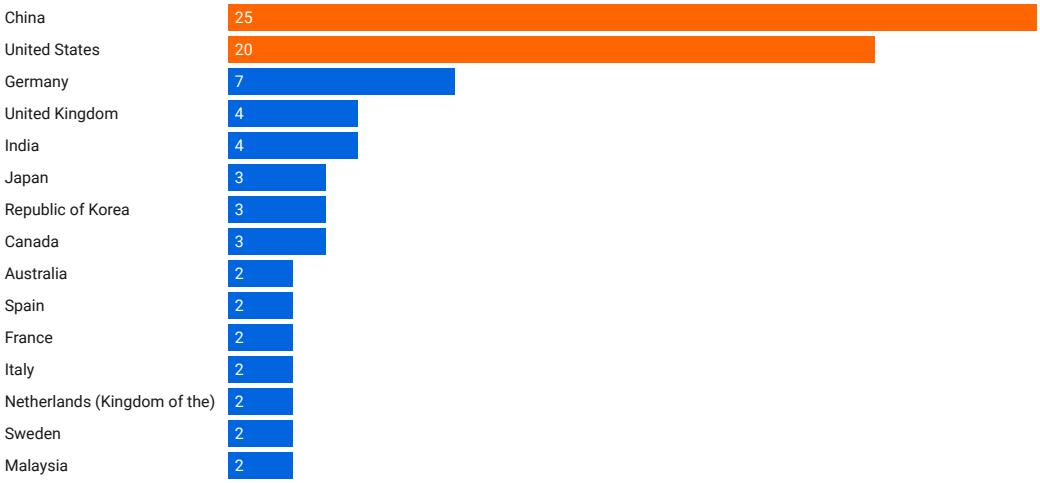
China and the United States lead in number of top innovation clusters

China and the United States lead the innovation cluster count for a fourth consecutive year (see Figure 3 and Map 2 a–e). China has 25 clusters (one more than last year), while the United States follows with 20 clusters (two fewer over the same period).

Germany holds seven clusters within the top 100 in 2026, the most of any European economy, though all but Stuttgart (54th, unchanged) slipped down the rankings. Munich, ranked 28th, dropped one place and is the highest-ranked of the seven, with BMW leading on patents and the Technical University of Munich on publications. Berlin (31st, –1) follows, with Cologne (46th, –3) and Frankfurt am Main (67th, –3) recording the sharpest drops. Stuttgart is anchored by Robert Bosch on patents and the University of Stuttgart on publications, while Frankfurt am Main is led by Merck Patent on patents and Johannes Gutenberg University of Mainz on publications. Heidelberg–Mannheim (88th, –1) and Hamburg (93rd, –2) round out Germany's top 100 presence.

China and the United States account for almost half of the world's top 100 innovation clusters

Figure 3 Economies with two or more top 100 innovation clusters, 2026



Source: WIPO Statistics Database, June 2026.

The United Kingdom (UK) retains four clusters among the top 100, with London (8th, unchanged) leading, though the other three all slipped: Cambridge (71st, −2), Oxford (85th, −8) and Manchester (97th, −3), with Oxford recording the sharpest drop among UK clusters this year, driven by a 9.4 percent decline in VC deal activity.

France has two clusters within the top 100, with Paris rising to 11th (+1), whereas Lyon slips to 95th (−5), falling on a decline in VC deals (−3.4 percent) and scientific publications (−1.1 percent).

India maintains four clusters within the top 100, with Mumbai (43rd, +3) and Chennai (79th, +5) both climbing, while Bengaluru (25th, −4) and Delhi (27th, −1) slip slightly. Mumbai in particular consolidates its rise from 46th last year, surging 38 percent higher in PCT applications, while Chennai's five-place gain, driven by large gains in all three metrics, is the strongest upward movement among Indian clusters this year.

Japan retains three clusters among the top 100, with Tokyo–Yokohama (2nd) holding steady, Osaka–Kobe–Kyoto moving into the top 10 (11th to 10th), while Nagoya slips one place to 29th (–1).

The Republic of Korea likewise maintains three clusters, with Seoul steady in 5th, Daejeon moving three spots to 22nd off strong growth in all three metrics, whereas Busan (98th, −3) slips three places.

Canada retains three clusters within the top 100. Toronto, ranked 36th, remains the country's leading cluster, despite dropping three places, with declines across all three underlying metrics, most notably a 7.5 percent fall in VC deals. Montréal remains at 62nd, with strong PCT applications growth of 6.8 percent despite a slight dip in scientific publications (−0.6%), while Vancouver (68th, −2) remained broadly stable. Australia maintains two clusters within the top 100, with Sydney (38th, −2) and Melbourne (53rd, −1) both easing back slightly from 2025.

Spain's Barcelona remains at 45th and Madrid (48th, −1) broadly holds ground, as does Italy's Milan (57th, −1), while Rome (81st, +1) moves up on strong VC growth of 31.6 percent.

The Kingdom of the Netherlands sees Amsterdam–Rotterdam slip four places to 26th, with Eindhoven (66th, −1) also edging down. Sweden presents a mixed picture, Stockholm climbing to 30th (+2), whereas Göteborg slips three places to 100th.

In addition to China and India, six other middle-income economies have clusters among the top 100. They are as follows:[2]

- Brazil (1 cluster), with São Paulo (49th, unchanged);
- Egypt (1), with Cairo (86th, –3), the sole top 100 innovation cluster within Africa;
- Islamic Republic of Iran (1), with Tehran (65th, –2);
- Malaysia (2), with Kuala Lumpur (90th, –4) and Singapore (16th, unchanged) – a cross-border cluster shared with Singapore;
- Mexico (1), with Mexico City (82nd, –3), the second cluster within Latin America; and
- Türkiye (1), with Istanbul at 56th (+2).

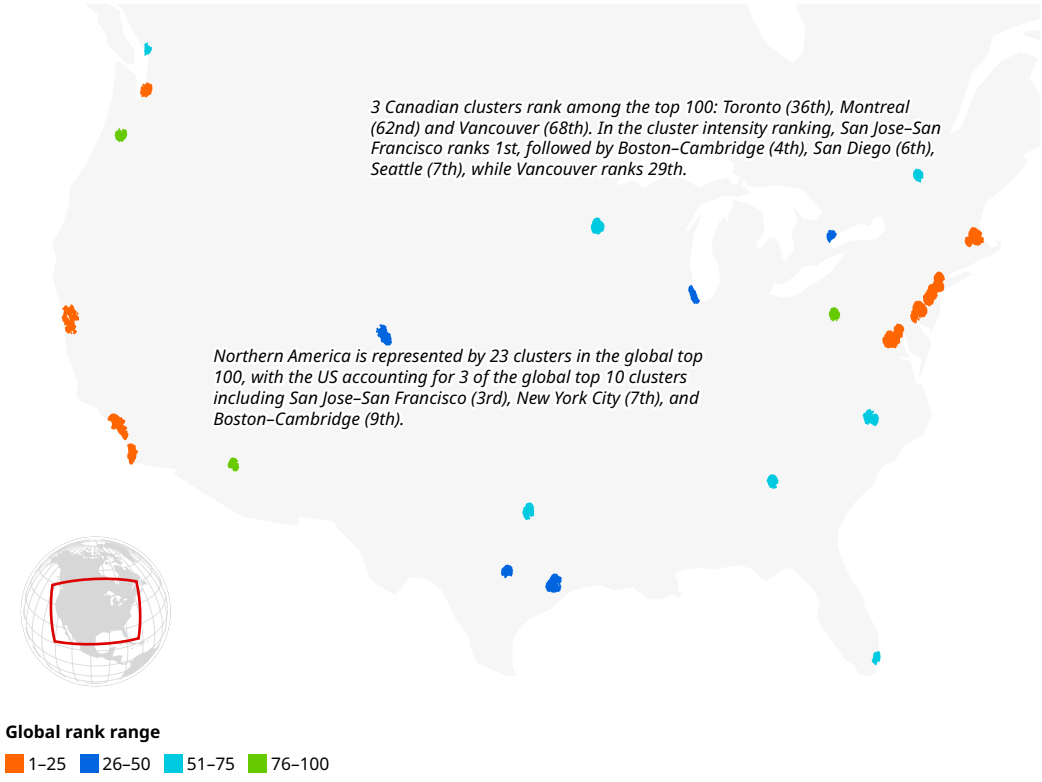
Even though Cairo is the sole African cluster within the top 100, there is innovation activity clustered elsewhere in Africa – see a separate analysis conducted in 2024.[3]

Regional distribution of innovation clusters

Regionally, the top 100 innovation clusters remain concentrated in three broad UN regions. South-eastern Asia, Eastern Asia and Oceania hosts the most clusters of any region (36), followed by Europe (30) and Northern America (23). Together these three broad regions account for 89 of the top 100 innovation clusters. The remaining 11 clusters are spread across Central and Southern Asia (5), Northern Africa and Western Asia (4) and Latin America and the Caribbean (2). Map 2 (a–e) traces the cluster footprint of selected region in greater detail.

Map 2 Top innovation clusters by region, 2026

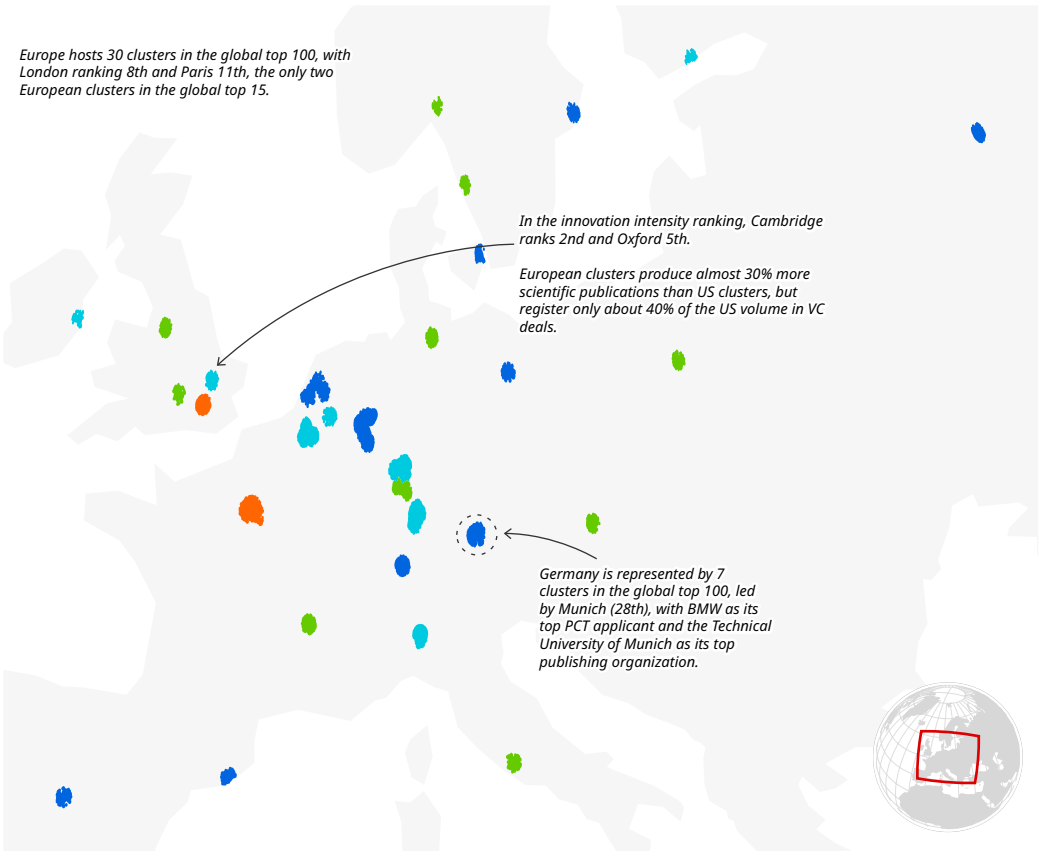
(a) Northern America



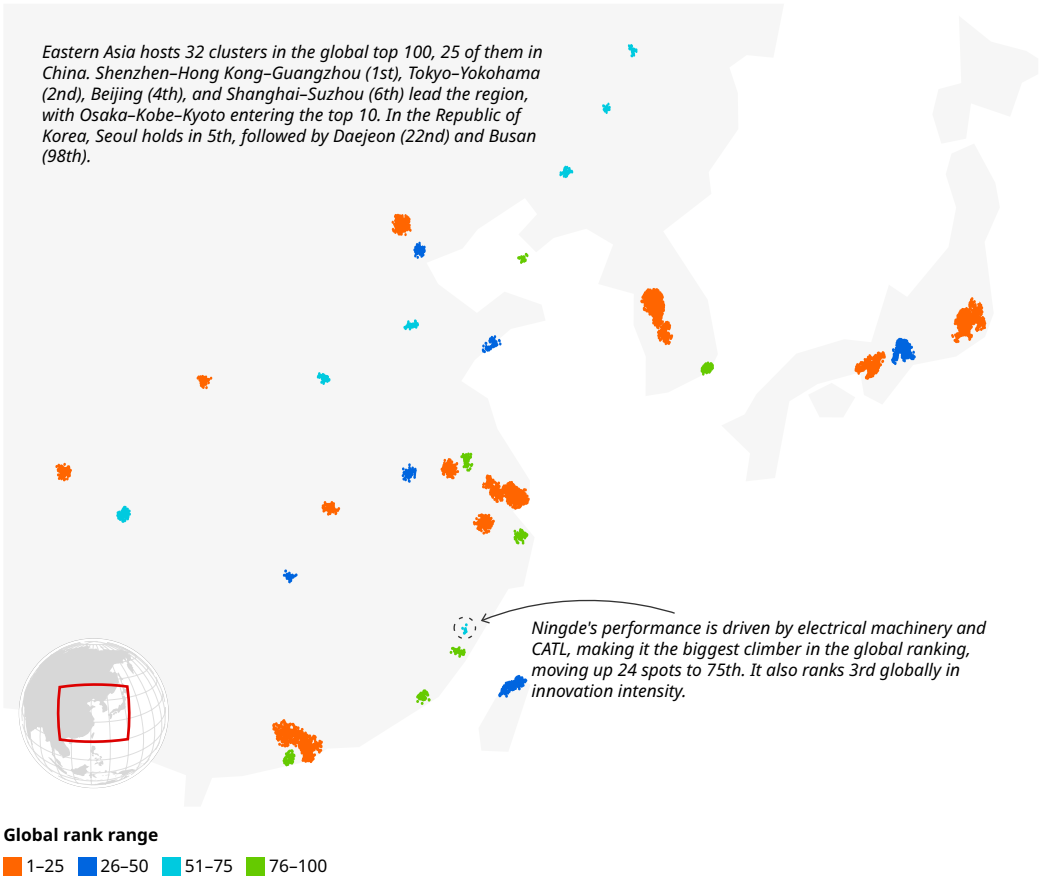
2 Note that the Russian Federation, with one cluster in 2026 (Moscow, ranking 50th), continues to be classified as a high-income economy and therefore does not feature in this list.

3 GII 2024: Sustaining the rise of top-notch African innovation clusters, *GII Innovation Insights*, November 20, 2024, www.wipo.int/en/web/global-innovation-index/w/blogs/2024/gii-2024-african-innovation-clusters.

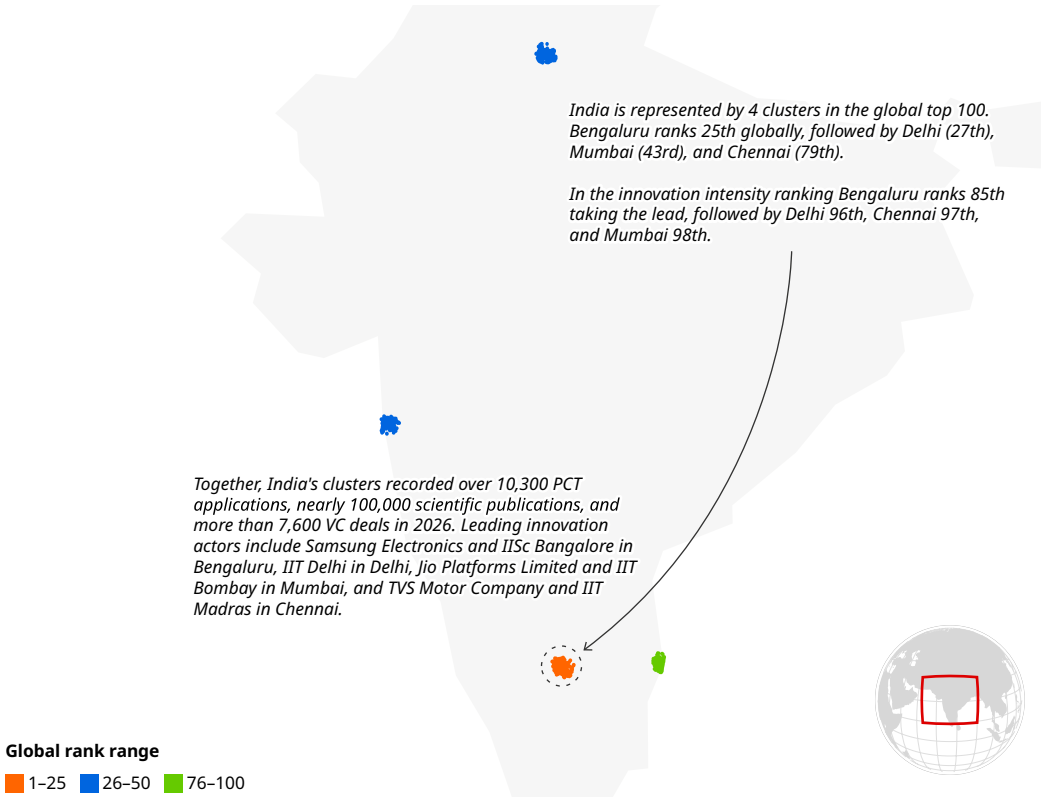
(b) Europe



(c) Eastern Asia



(d) India



(e) Northern Africa and Western Asia



Source: WIPO Statistics Database, June 2026.

Top innovation-intensive clusters per capita

San Jose–San Francisco and Cambridge lead; Daejeon (Republic of Korea) enters top 10 for the first time

The GII also ranks the top 100 clusters by innovation intensity – measured as the combined global share of patents, scientific publications, and VC deals, normalized by population (see Appendix IV for methodology).

In the latest 2026 ranking, San Jose–San Francisco (United States) and Cambridge (United Kingdom) retain the top two positions, while Ningde (China) rises to third, up from fourth in 2025, consolidating a remarkable ascent driven by the dominant patent activity of Contemporary Amperex Technology Co., Limited (CATL), a global leader in battery technology (Table 3). Boston–Cambridge (United States) and Oxford (United Kingdom) round out the top five, and Daejeon (Republic of Korea) enters the top 10 intensity ranking for the first time, advancing five places to 10th.

The United States leads with four of the top 10 intensity ranked clusters, followed by the United Kingdom with two, and one each in China (Ningde), the Kingdom of the Netherlands (Eindhoven), Finland (Helsinki) and the Republic of Korea (Daejeon). Daejeon's entry into the top 10, anchored by LG Energy Solution and the Korea Advanced Institute of Science & Technology (KAIST), is a notable development, adding a second battery and energy technology hub to the intensity ranking alongside Ningde.

Table 3 Top innovation clusters by intensity, 2026

Rank per-capita	Cluster name	Economy	Top applicant	Top scientific organization
1	San Jose–San Francisco	US	Google	Stanford University
2	Cambridge	GB	ARM	Cambridge University
3	Ningde	CN	CATL	Ningde Normal University
4	Boston–Cambridge	US	MIT	MIT
5	Oxford	GB	Oxford University	Oxford University
6	San Diego	US	Qualcomm	University of California San Diego
7	Seattle	US	Microsoft	University of Washington Seattle
8	Eindhoven	NL	Philips Electronics	Eindhoven University of Technology
9	Helsinki	FI	Nokia	University of Helsinki
10	Daejeon	KR	LG Energy Solution	KAIST
11	Stockholm	SE	LM Ericsson	Karolinska Institutet
12	Copenhagen	DK	Danmarks Tekniske Universitet	University of Copenhagen
13	Zürich	CH	ETH Zürich	ETH Zürich
14	Austin	US	University of Texas	University of Texas Austin
15	Munich	DE	BMW	Technical University of Munich
16	Beijing	CN	BOE Technology	Tsinghua University
17	Raleigh	US	Duke University	Duke University
18	Göteborg	SE	LM Ericsson	Chalmers University of Technology
19	London	GB	Nicoventures Trading	University College London
20	Hangzhou	CN	Zhejiang University	Zhejiang University

Notes: Economy codes are based on WIPO Standard ST.3 two-letter codes for the representation of states, other entities and organizations. (a) Per capita figures refer to 1,000,000 of population. (n.a.) indicates not applicable. CATL = Contemporary Amperex Technology Co., Limited, IBM = International Business Machines, KAIST = Korea Advanced Institute of Science & Technology, MIT = Massachusetts Institute of Technology.

Source: WIPO Statistics Database, June 2026.

This year's leading clusters draw on major research institutions, including Stanford, Cambridge, MIT, and Oxford. Patenting activity remains concentrated among firms such as Google, ARM, Microsoft and Qualcomm, while CATL and LG Energy Solution stand out among industrial innovators, reflecting the growing weight of energy and battery technologies in global patenting.

Top 20

Stockholm (Sweden) and Copenhagen (Denmark) hold steady at 11th and 12th, respectively, led by LM Ericsson and Danmarks Tekniske Universitet as the top patent applicants in each cluster. Zürich (Switzerland) and Austin (United States) swap places, with Zürich rising to 13th (+1) and Austin slipping to 14th (–1). Munich (Germany) enters the top 15 intensity ranking for the first time, advancing one place to 15th (+1).

Göteborg (Sweden) advances two places to 18th, driven by an 8.4 percent rise in VC activity per capita, even though patents and publications per capita declined (–5.9 percent, –5.8 percent, respectively); LM Ericsson and Chalmers University of Technology lead its patent and publication output. Beijing (China) climbs two spots to 16th (+2): patents and publications per capita both grew (+5.2 percent, +4.9 percent), but VC deals per capita declined (–13.7 percent); BOE Technology and Tsinghua University remain its leading patent applicant and scientific organization. Hangzhou (China) enters the top 20 intensity ranking for the first time (20th, +5), with growth across all three metrics, patents per capita up 5.7 percent, publications up 19.0 percent and VC deals up 13.1 percent, all anchored by Zhejiang University.

Top 30

Oslo (Norway) holds on to 21st position, despite a marked decline across all three metrics (patents –9.9 percent, publications –5.8 percent, VC –7.1 percent), led by Oslo University Hospital in patents and the University of Oslo in scientific publications. Philadelphia (United States) enters the top 30 for the first time, in 2026 (28th, +4), propelled by a significant 18.1 percent jump in VC activity per capita, even though publications slipped slightly (–1.4 percent); the University of Pennsylvania leads both its patenting and publication output. Vancouver (Canada) slips two places to 29th (–2), with declines across all three metrics (patents –2.9 percent, publications –6.4 percent, VC –5.1 percent), led throughout by the University of British Columbia.

Top 50

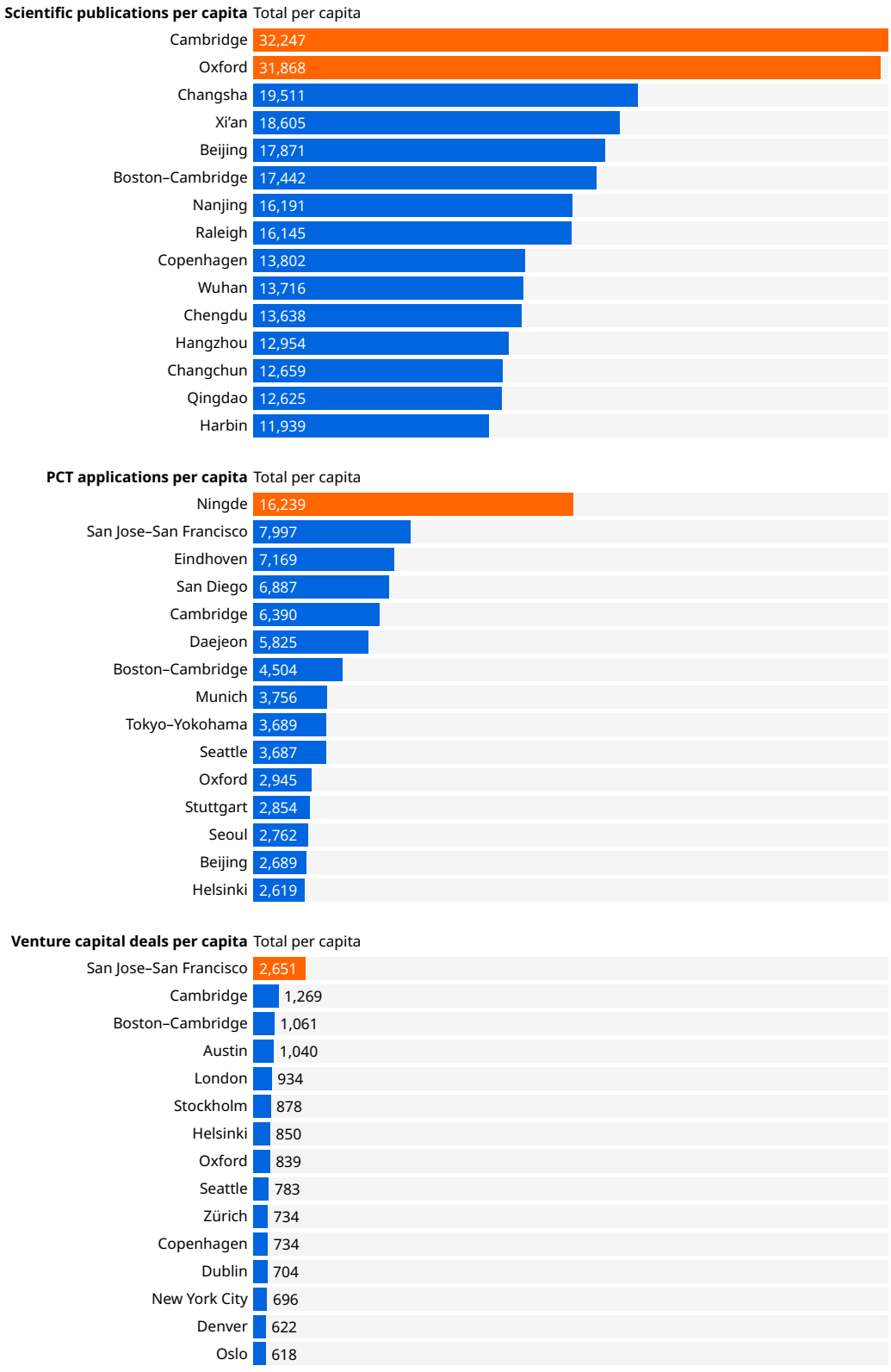
Three clusters enter the top 50, in 2026, each of which is growth-led: Chengdu (China, 46th, +13), broad-based growth across all three metrics (+23.7 percent, +24.8 percent, +24.2 percent, respectively), led by Sichuan Kelun-biotech Biopharmaceutical in patents and Sichuan University in publications; Heidelberg–Mannheim (Germany, 47th, +5), up in VC (+10.4 percent) and patents (+4.5 percent), despite a 2.6 percent dip in publications; and Miami (United States, 50th, +5), VC-led (+8.7 percent), with the University of Miami leading both patenting and publications.

Different paths to innovation intensity among top clusters

Across the full ranking of 100 clusters, the underlying drivers of innovation intensity vary considerably, the pattern looking different depending on the metric (Figure 4). In respect to PCT patent applications per capita, Ningde (China), San Jose–San Francisco (United States) and Eindhoven (Kingdom of the Netherlands) hold the top three positions, and patent leadership tracks closely overall ranking: nine of the 10 most patent-intensive clusters sit inside the top 25 overall, with only Tokyo–Yokohama (27th) breaking that pattern. VC deals per capita show the same degree of concentration, led by San Jose–San Francisco, Cambridge (United Kingdom) and Boston–Cambridge (United States); all 10 most VC-intensive clusters rank inside the top 20 overall.

Oxbridge leads in knowledge intensity, Ningde in patents, and Silicon Valley in venture capital

Figure 4 Top 15 innovation intensive clusters, by metric per capita, 2026



Note: Per capita figures refer to 1,000,000 of population.
Source: WIPO Statistics Database, June 2026.

Scientific publications per capita tells a different story. Cambridge and Oxford lead at 32,247 and 31,868 per million inhabitants, respectively, far ahead of any other cluster; but the rest of the publication leaderboard is far more dispersed than for either patents or VC. Four of the 10 most publication-intensive clusters globally rank outside the top 25 by intensity: Changsha (35th overall, 19,511 per million), Xi'an (40th, 18,605), Nanjing (34th, 16,191) and Wuhan (48th, 13,716). A top 25 view misses this entirely: publications is the only metric of the three where genuine global leadership sits well outside the leading composite rankings, pointing to a distinct cohort of science-driven clusters whose research output far outpaces its patenting and VC activity.

This divergence produces markedly different cluster profiles, which are visible across the full ranking rather than only at the top:

- Cambridge and Oxford (both United Kingdom), Boston–Cambridge (United States) and Göteborg (Sweden) stand out as the most balanced clusters within the top 25, in terms of rank spreads across the three metrics. Zürich (Switzerland), Copenhagen (Denmark), Helsinki (Finland), Hangzhou (China) and Raleigh (United States) also represent broadly balanced clusters, as do Montréal (Canada, 57th) and Brussels–Antwerp (Belgium, 61st) much further down the ranking.
- Ningde (China) continues to lead in PCT applications per capita (over 16,000), yet has minimal scientific output and VC activity. Similar patterns are evident in Eindhoven (Kingdom of the Netherlands), Munich and Stuttgart (both Germany), Daejeon (Republic of Korea) and an entire trio of Japanese clusters, Nagoya, Osaka–Kobe–Kyoto and Tokyo–Yokohama.
- Austin (United States), London (United Kingdom) and New York City (United States) all excel in VC deal activity, but are relatively low ranking when it comes to global publications, a pattern now joined by Miami (United States, 50th).
- Chinese clusters Changchun, Changsha, Chengdu, Harbin, Nanjing, Wuhan, and Xi'an have solid publication activity, but are relatively low ranking in terms of patent and VC deal activity.

This variation highlights that there are distinct innovation models at play. These range from science-driven ecosystems to patent-intensive industrial hubs and VC-heavy startup centers, each representing a unique path to innovation.

Eindhoven and Helsinki lead the European Union in innovation cluster intensity

Eindhoven (8th, Kingdom of the Netherlands) and Helsinki (9th, Finland) emerge as the highest-ranking clusters within the European Union (EU) (Table 3). They are followed by EU clusters Stockholm (11th, Sweden), Copenhagen (12th, Denmark) and Munich (15th, Germany). With five EU clusters now among the top 15 by intensity, the EU's presence among innovation-intensive hubs has strengthened compared to 2025. The United Kingdom is an outstanding performer within Europe more generally, with Cambridge (2nd), Oxford (5th) and London (19th) consistently ranking among the most intensive innovation hubs globally.

When focusing on innovation intensity, which accounts for patent filings, scientific publications and VC deals relative to population, Northern American clusters continue to outperform their Asian and EU counterparts, especially with respect to higher VC activity. This underscores a persistent difference between these two contrasting regional innovation models. European clusters, by contrast, derive their intensity from having a more balanced integration of research excellence, patenting activity and VC, with Cambridge, Copenhagen, Göteborg, Helsinki, Oxford and Zürich exemplifying this multi-dimensional strength in 2026. On the other hand, Northern America excels in commercialization and VC activity, accounting for eight of the top 25 innovation-intensive clusters. This includes three of the five clusters with the highest VC intensity: namely, San Jose–San Francisco, Boston–Cambridge, and Austin, which are all located in the United States.

Scale versus intensity

Not every top-ranked innovation cluster has achieved its position for the same reason. Some excel through sheer volume of innovation output, whereas others perform well above their weight relative to population size. This section takes a closer look at these two dimensions.

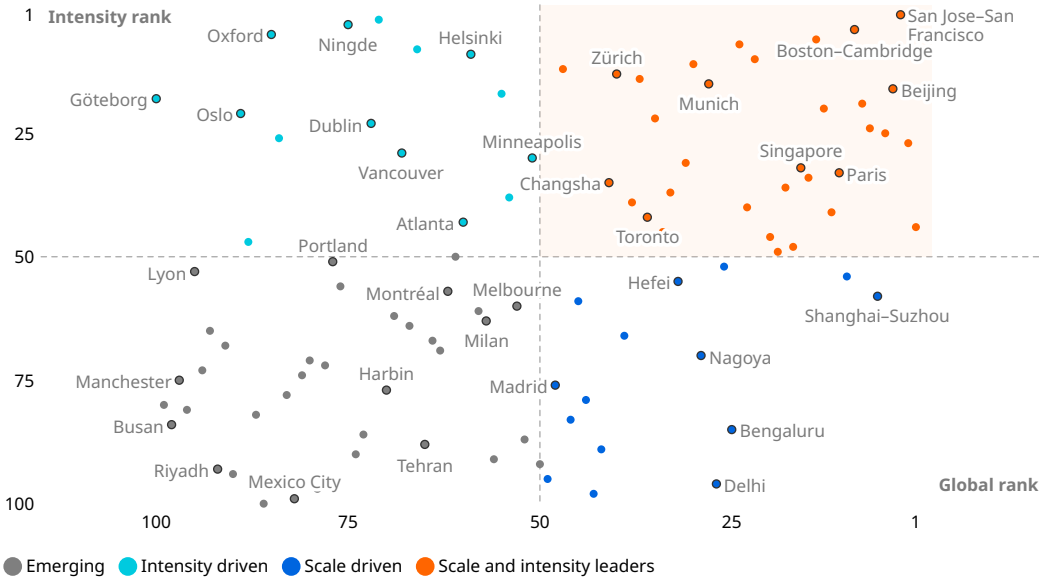
Only two clusters are among both the global top 10 and the top 10 by innovation intensity, San Jose–San Francisco and Boston–Cambridge, a status that remains unchanged from last year. Both are located in the United States. Expanding to include the top 25, a further eight clusters appear in both rankings: San Diego, Seattle, and New York City (all United States), Beijing and Hangzhou (both China), Daejeon and Seoul (both Republic of Korea) and London (United Kingdom). Their presence across both rankings underscores that the most prolific innovation clusters are in many cases also among the most intensive relative to population. Daejeon's appearance in both rankings, driven by LG Energy Solution and KAIST, echoes the rise of Ningde in the intensity ranking, pointing to the growing global weight of battery and energy technology clusters in innovation output.

Figure 5 extends this comparison across the full ranking, classifying all 100 clusters according to two distinct dimensions of competitiveness: scale, reflected in the global ranking; and intensity, reflected in the per-capita ranking. The resulting distribution is broadly symmetric. In the upper-right quadrant, 34 clusters lead in both scale and intensity, while in the bottom-left quadrant 36 are in the emerging group. The remaining 30 clusters are split evenly between the scale-driven and intensity-driven profiles.

Regional patterns reinforce the point. Northern America shows the highest concentration of leadership, with 12 of its 23 clusters, just over half, ranking among the scale and intensity leaders, whereas Europe supplies the majority of intensity-driven clusters (9 of 15), having specialized hubs, such as Oxford and Cambridge, that achieve outsized per-capita output, despite a modest absolute scale. The scale-driven quadrant, meanwhile, is largely populated by clusters located in highly populous economies, including Delhi, Bengaluru and Shanghai–Suzhou, the same high-volume, lower-intensity pattern already evident in China's national figures.

Eastern Asia and Northern America lead on scale and intensity; Europe leads on intensity-driven

Figure 5 Scale versus intensity in the world's top 100 innovation clusters, 2026



Source: WIPO Statistics Database, June 2026.

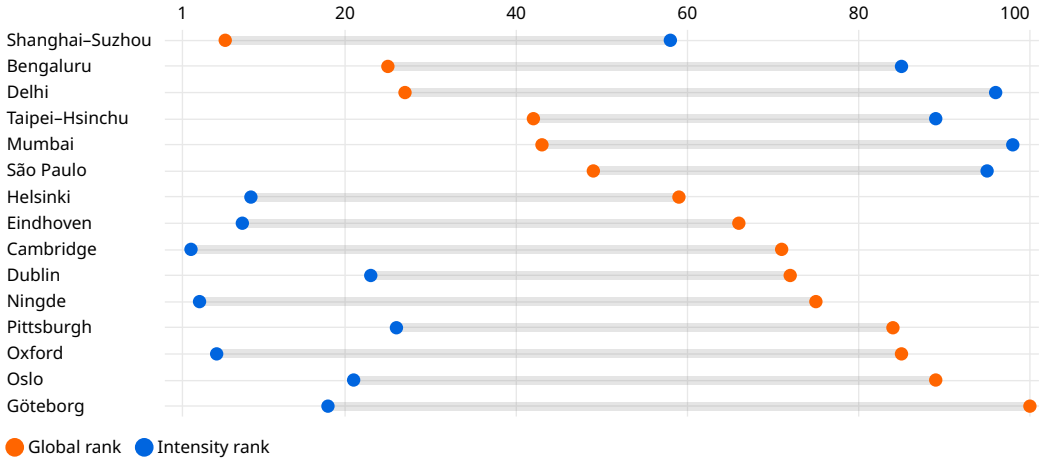
Göteborg (Sweden) shows the widest gap of all, ranking 100th globally, but 18th by intensity (Figure 6). Oxford and Cambridge (both United Kingdom), Ningde (China, 75th globally, but

3rd by intensity), Oslo (Norway), Eindhoven (Kingdom of the Netherlands), Pittsburgh (United States), Helsinki (Finland) and Dublin (Ireland) show the same pattern, with the intensity rank far outpacing the global rank. These are largely university towns and single-company clusters whose modest absolute scale conceals an outsized per-capita footprint.

Delhi (India) exhibits the largest gap running the opposite way, ranking 27th globally, but 96th by intensity, a 69-place gap. Bengaluru follows closely with a 60-place gap, with Mumbai close behind, both also in India. Shanghai–Suzhou (China), Taipei–Hsinchu (Taiwan Province of China), and São Paulo (Brazil) round out the list. The pattern repeats across Brazil, China, and India's biggest innovation hubs.

Shanghai–Suzhou, Bengaluru and Delhi lead globally despite lower intensity, while smaller hubs like Cambridge, Ningde and Oxford stand out in intensity despite modest global rank

Figure 6 Top 15 innovation clusters with greatest differences between global rank and intensity rank, 2026



Source: WIPO Statistics Database, June 2026.

Special theme 2026: Powering entrepreneurs at the frontier of science, turning pilots into pipelines

This year's special theme explores how deep science ventures are translating frontier research into scalable industries driving the next wave of productivity growth.



This chapter was written by **Lorenzo Chiavarini and Felix Ullmer (Dealroom.co)**, **Gaétan de Rassenfosse (EPFL)**, **Kritika Saxena (University of Groningen)** and **Davide Bonaglia, Christopher Harrison, Hong Kan, Shengyu Qin and Sacha Wunsch-Vincent (all WIPO)**.

This year's special GII theme looks to the future of science-powered entrepreneurship and asks:

- How do deep science startups and spinouts scale?
- What will it take to transform deep science startups into growth and productivity engines?

The question of how to unlock the full potential of scientific breakthroughs has become central to innovation policy worldwide.

Are we advancing fast enough to turn frontier science into scalable industries, or will promising discoveries stall in the long corridor between laboratory and marketplace?

Throughout history, major leaps forward in living standards have come about not from scientific discovery alone, but from its systematic translation into the novel products, services and production processes that reshape industries.

Recent decades have seen substantial investment into frontier science – from synthetic biology and quantum technologies to AI-accelerated materials discovery and clean energy. And public and private R&D spending has reached historic highs (Bonaglia *et al.*, 2025).

At the same time, translating scientific advances into products, firms and industries of the future has never been automatic. How this is best achieved remains a central question for innovation policy that has yet to be settled. One view locates the binding constraint within the process of translation, that is, the work of turning discoveries into investable, scalable ventures. Another notes that disruptive discovery has itself become more challenging (Bloom *et al.*, 2020 and Park *et al.*, 2023).

Rather than assume that once an invention has been perfected only its translation remains to be solved, this chapter treats the science-to-industry gap as intrinsic to deep science: that is to say, the very traits which make a discovery valuable, namely, its novelty, complexity and distance from existing markets, are precisely what makes it difficult and costly to commercialize. And this is where deep science entrepreneurship is so important.

This year's GII 2026 special chapter examines which and how deep science startups and spinouts are able to scale, what obstacles there are in the way, and what needs to be done about them (deVries and Wunsch-Vincent, 2022).

This chapter begins by defining what deep science entrepreneurship is and why it matters now. The phenomenon is quantified and its importance gauged using new data. Obstacles to scaling are then analyzed and deep science entrepreneurship in developing economies examined. The importance of intellectual property to the success of deep science ventures is underlined. And the chapter concludes by summarising the policies and practices needed to strengthen deep science entrpreneurship ecosytems based on the evidence pesented.

Essential to this work are the Dealroom–WIPO Deep Science Startup Tracker – the first global mapping of deep science startups;*SPARK: Patenting in Deep Science Startups and Spinouts (Global Innovation Index 2026 Special)* (WIPO, 2026); two background studies (de Rassenfosse, 2026; Saxena, 2026); and nine GII 2026 Expert contributions.

What is deep science entrepreneurship, why does it matter, and what is new?

Deep science entrepreneurship refers to startups and spinouts in fields such as advanced materials, energy science, genomics, health technologies, quantum physics, and synthetic biology – domains requiring extended research, specialized infrastructure and rigorous validation. The term is narrower in scope than what is referred to by investors as "deep tech" and excludes software, e-commerce, fintech, and other digital-native services.

What is more, these ventures differ from software firms in four key respects (Box 1). They rest on scientific and engineering breakthroughs and need multi-stage validation, prototyping and trials before there is any revenue (Raff *et al.*, 2024). They are capital-intensive, requiring labs, specialized equipment, pilot plants and manufacturing scale-up (Auerswald and Branscomb, 2003; Howell *et al.*, 2023). Teams combine science and engineering with regulatory, manufacturing, quality and business expertise. And they depend on clear intellectual property (IP) positioning, since collaboration, licensing and investment hinge on defensible ownership.

Box 1 The unique features of deep science entrepreneurship?

Longer development cycles. Validation, prototyping, regulatory approval, clinical testing, certification, and manufacturing scale-up span 5–15 years before revenue.

Higher capital intensity. Wet labs, clean rooms, testing facilities and pilot lines are needed before product-market fit can be tested.

Interdisciplinary, shifting teams. Success requires researchers, regulatory experts, process engineers and commercialization professionals. Moving from research team to scalable venture means the passing of those "critical junctures" that bring in external entrepreneurs and shift control structures (Vohora *et al.*, 2004).

Clear IP architecture. Deep science startups collaborate with universities, incumbents and other startups for the purposes of research access, manufacturing, distribution and complementary technologies (Rothaermel and Thursby, 2005; Hayter *et al.*, 2024). Licensing, partnerships and staged investment require well-defined ownership.

Multiple commercialization routes. New knowledge reaches markets via incumbent commercialization, licensing or new venture formation (de Rassenfosse, 2026; Wennberg *et al.*, 2011); the deep science ecosystems need both strong venture formation and an active market for ideas (Brown and Mason, 2017).

Policy implication. Seed funds, pitch contests and accelerators built for fast-scaling digital ventures fit deep science poorly. What is needed is proof-of-concept funding, translational infrastructure (shared labs, pilot facilities, testing), regulatory expertise and staged financing matched to deep science risk profiles.

Several developments make the question of how to power entrepreneurs at the frontier of science more pressing now than ever before.

- On the supply side, advanced artificial intelligence (AI) is shortening paths of discovery and expanding the candidate set faster than validation capacity can grow, with deployed systems already producing measurable productivity gains (Brynjolfsson *et al.*, 2025). Frontier fields are converging: AI-accelerated protein design is reshaping drug discovery, advanced materials are enabling new battery chemistries, and foundation-model robotics are crossing from the laboratory to the factory floor (see GII 2026 Expert contribution from Han, *et al.* on science-driven entrepreneurship in embodied AI).
- On the demand side, biomedical translation is strengthening after years of contraction.

Global equity funding for science-intensive ventures reached USD 122 billion in 2025, up 7.4 percent on 2024, amid a broader rebound in venture capital (VC) after the 2022–2023 correction and the continued concentration of megadeals in AI and science-intensive fields, driven less by deal count than by nine- and 10-figure rounds becoming standard in quantum computing, fusion, AI-native drug discovery, and long-duration storage (Gisbert and Behrens, 2024; Gisbert *et al.*, 2025; Dealroom-WIPO Deep Science Startup Tracker) . Sovereign and corporate vehicles, such as Temasek and the Qatar Investment Authority, increasingly co-invest alongside specialist funds, reconfiguring risk-sharing to fit longer horizons (see GII 2026 Expert contribution from Tan on Singapore's deep tech financing ecosystem). The late-stage funding

gap, once an anecdotal complaint, is now measurable (see GII indicator 4.2.3), shifting policy from generic calls for more VC toward finance stacks that connect early validation to scale-up.

Importantly, intermediaries and policies to foster translation of science have spread worldwide (Arundel *et al.*, 2021). Technology transfer offices (TTOs), incubators, translational organizations, and research parks are working to reduce search and contracting costs, and lend credibility to early-stage ventures.

Finally, emerging economies are moving beyond information and communication technology (ICT) back-office leapfrogging to backing high-growth, science-intensive sectors directly, financing them through public funds rather than waiting for largely absent VC to back domestic scientific domains directly (see "What role does intellectual property play in deep science entrepreneurship?").

How large and important is deep science entrepreneurship?

This next section discusses the extent and distribution of deep science entrepreneurship, as measured by the Dealroom–WIPO Deep Science Startup Tracker.[1]

To be included in the Dealroom–WIPO Deep Science Startup Tracker, startups and spinouts are selected according to three criteria: (i) they need to have received at least one VC round or more (so-called Pre-Seed, Series A, B or C+); (ii) be in one of nine deep science fields – Life Sciences; Medical Devices and Digital Health; Food and Agritech; Semiconductors; Robotics and Autonomous Systems; Space; Energy; Transportation; Advanced Materials and Manufacturing; as well as (iii) satisfy specific requirements for technology risk and capital intensiveness (see Appendix V). The startup and spinout data produced via the tool for this chapter covers only the period 2000 onward. This timeframe provides a time horizon that is long enough for deep science startups to have developed and grown – some companies taking more than a decade to validate a given technology – but also maintains adequate focus on recent innovation activity.

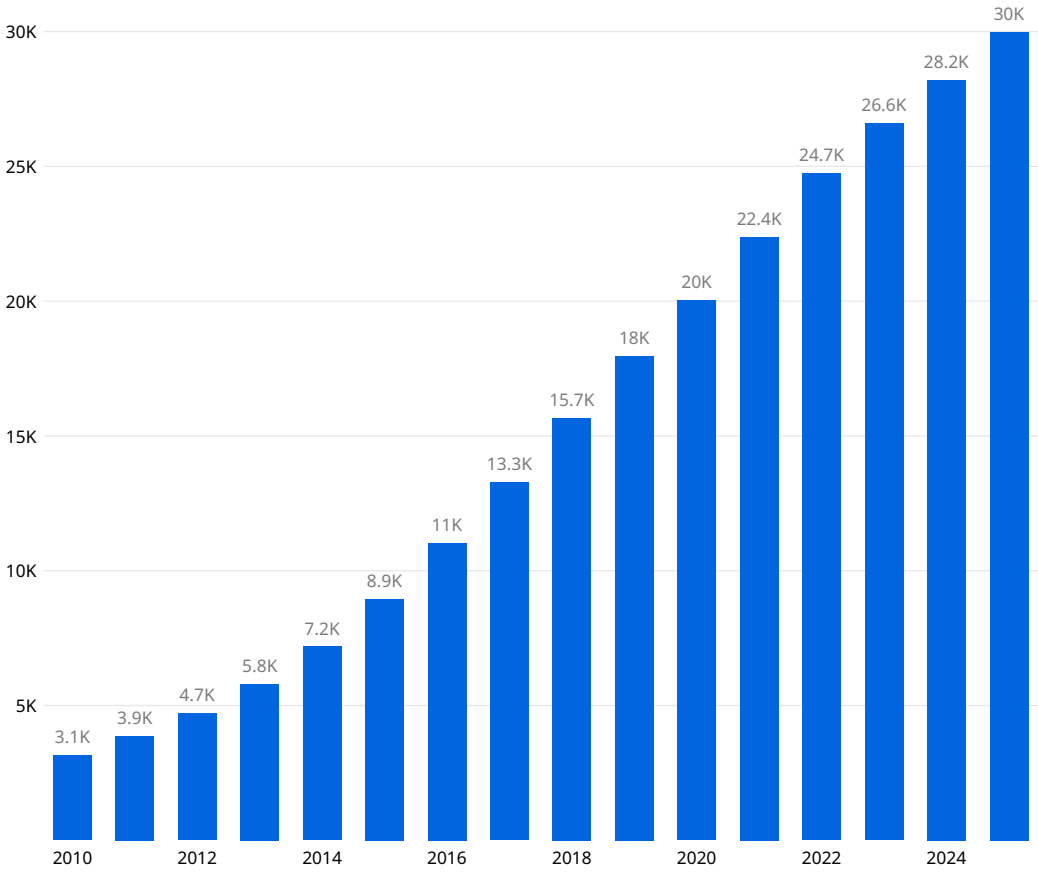
However, these filters have limitations. For instance, there are some deep science startups that might be operating without any VC funding; while rare, they will be missed by this analysis, given the filters applied. Moreover, removing all failed deep science ventures with certainty from the database, as well as detecting fully and accurately very recent entries, for example, those in 2025, is “mission impossible.” Finally, as with any similar data exercise, the country coverage of deep science firms, including in low- and certain middle-income economies, is solid, but nonetheless imperfect. To upgrade further, as of the GII launch in September 2026, there will be a notification system in place whereby WIPO member states and deep science firms can flag omissions, with a view to improving global coverage over the next few years.

Deep science firms vs. startups and spinouts since 2000

Based on the above definition, it is expected that by end-2025 more than 30,000 deep science firms will have been created since 2000 – 9.5 times more than there were 15 years earlier in 2010, representing a compound annual growth rate of 16.2 percent. From 2024 to 2025 alone, the number of deep science startups grew by around 6.3 percent, from 28,200 to almost 30,000 (Figure 1).

1 Dealroom’s proprietary database aggregates data from multiple sources: harvesting public information, partners submitted information (such as 120+ global tech ecosystems working with Dealroom), user-submitted data verified by Dealroom, and data engineering from sources such as regulatory filings. All data is verified and curated with an extensive manual process.

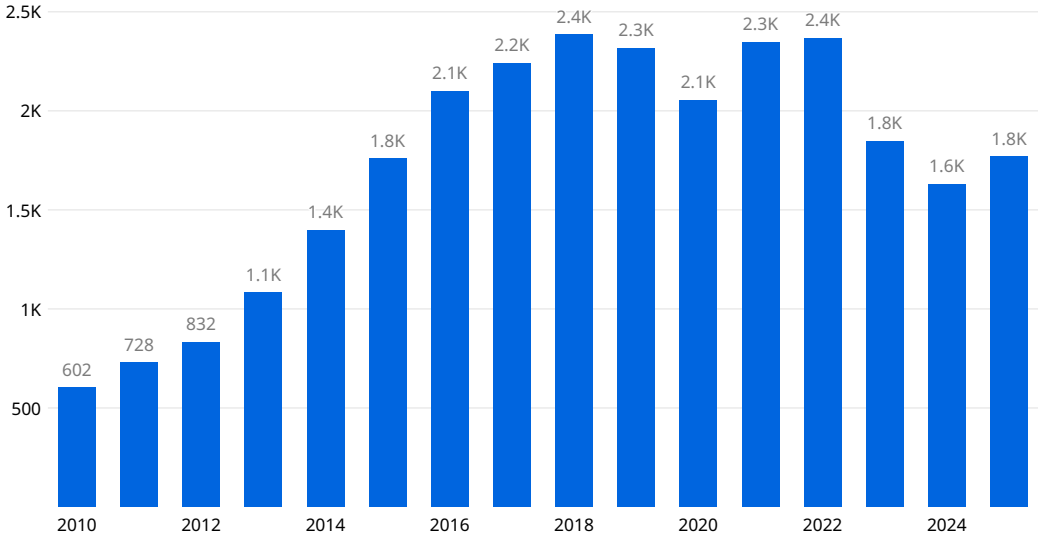
Figure 1 Cumulative number of deep science startups and spinouts by year of first VC backing, 2010–2025 (thousands)



Note: The chart shows the cumulative number of VC-backed startups and spinouts created, including inactive or acquired companies, for clearer representation of historical trends.
Source: GII 2026, Dealroom–WIPO Deep Science Startup Tracker.

In absolute terms, the number of new deep science startups and spinouts reached a high in 2018, then again in 2022, and sat at 1,800 in 2025 (note that 2024 and 2025 figures are likely underestimated, as information on funding tends to be disclosed after a time lag) (Figure 2).

Figure 2 Number of new deep science startups and spinouts by year of first VC backing, 2010–2025 (thousands)



Note: 2024 and 2025 figures are likely under-counts owing to disclosure lags.
Source: GII 2026, Dealroom–WIPO Deep Science Startup Tracker.

In contrast, by the end of 2025, slightly more than 250,000 VC-backed startups and spinouts (including deep science ones) had been created since 2000 – about 13 times more (13.1×) than there were in 2010, representing a compound annual growth rate of 18.7 percent. From 2024 to 2025, the number grew by 4.5 percent, from 243,000 to 254,000.

Among the panoply of VC-backed startups, about one in 10 new ventures is of the deep science type as defined here. This share remained relatively stable between 2010 and 2024.

Despite incomplete data, 2025 looks like an outlier, with the 16 percent share a 15-year high.

The highest number of deep science startups and spinouts was in the United States of America (US), with 12,752 firms (1,980 of which were late-stage) followed by China 3,466 (582 late-stage), the United Kingdom (UK) 2,133 (136 late-stage), France 1,234 (59 late-stage), Germany 1,051 (57 late-stage), Canada 1,014 (65 late-stage), Israel 828 (80 late-stage), Switzerland 719 (49 late-stage), Japan 715 (40 late-stage) and the Republic of Korea 665 (34 late-stage) (Table 1).

Table 1 Deep science startups and spinouts: total count and VC deal maturity stage, top 20 economies, 2010–2025

Name	Total number	Share of early-stage	Share of breakout-stage	Share of late-stage
United States	12,752	54.2%	30.3%	15.5%
China	3,466	50.3%	32.9%	16.8%
United Kingdom	2,133	70.0%	23.7%	6.4%
France	1,234	67.3%	27.9%	4.8%
Germany	1,051	73.5%	21.1%	5.4%
Canada	1,014	72.8%	20.8%	6.4%
Israel	828	60.5%	29.8%	9.7%
Switzerland	719	67.0%	26.2%	6.8%
Japan	715	70.1%	24.3%	5.6%
Republic of Korea	665	62.1%	32.8%	5.1%
Netherlands (Kingdom of the)	601	71.9%	22.6%	5.5%
Spain	557	82.8%	15.1%	2.2%
India	453	64.2%	31.8%	4.0%
Sweden	438	76.5%	19.2%	4.3%
Australia	387	74.2%	20.9%	4.9%
Italy	354	84.8%	14.1%	1.1%
Belgium	289	67.8%	25.6%	6.6%
Finland	267	76.0%	20.2%	3.8%
Denmark	266	66.9%	27.1%	6.0%
Ireland	231	72.3%	19.5%	8.2%

Note: Early-stage companies are those with under USD 15M VC funding, under 50 employees, and under USD 100M valuation. Breakout companies are companies which have either USD 15M or more funding, 50 or more employees, or USD 100M or more valuation but have less than USD 100M or more funding, 500 employees, and USD 500M valuation. Late-stage companies are companies which have either raised USD 100M or more VC funding, 500 or more employees, or USD 500M or more valuation.

Source: GII 2026, Dealroom–WIPO Deep Science Startup Tracker.

Other notable economies outside of Northern America and Europe are India 453 (18 late-stage), Australia 387 (19 late-stage) and Singapore 193 (12 late-stage), with Singapore illustrating how a small, open economy can build a deep science startup hub through coordinated finance, infrastructure and talent policies (see GII 2026 Expert contribution from Tan). The top economies within the Latin America and the Caribbean region are Brazil, with 53 firms (2 late-stage) – where the GII 2026 Expert contributions examine both Brazil's deep science entrepreneurship policy challenge and the profile of its science-based startups – followed by

Argentina with 39 firms (1 late-stage) (see GII 2026 Expert contributions from Pereira and Lopes Filho; and from Pimentel and Delgado).

The top economy in Sub-Saharan Africa is South Africa, with 25 firms, including AI Diagnostics, a startup providing an AI-powered digital stethoscope for tuberculosis screening.

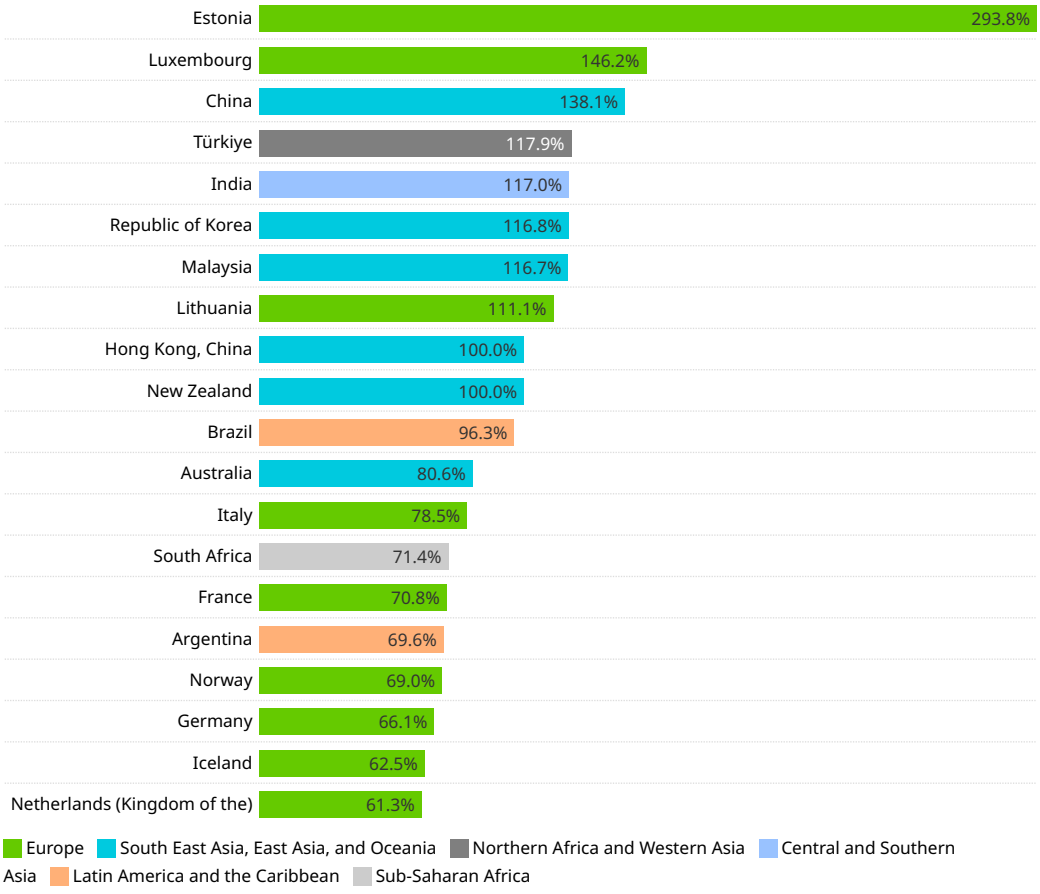
In Northern Africa and Western Asia (outside of Israel mentioned earlier), the United Arab Emirates, with 16 firms (2 late-stage), including SARsatX, a space startup developing small satellites; and Egypt, with 14 firms, including Pearl Semiconductor, a fabless semiconductor startup, which leads in high-performance integrated circuits (ICs).

China is showing the strongest acceleration among the top 20 economies in terms of deep science startup and spinout count, with a 138 percent increase between 2020 and 2025, compared to 59 percent for the United Kingdom and 30 percent growth for the United States.

When looking at smaller economies, Estonia shows the strongest growth (+294 percent) (see Figure 3). Estonian Aio.bio, a foodtech startup, leverages biotechnology to create sustainable alternatives to traditional vegetable oils and animal-based fats; and Estonian UpCatalyst, focuses on bringing carbon nanomaterials for various applications to market.

Türkiye (118 percent), India (117 percent), Malaysia (117 percent), Brazil (96 percent) and South Africa (71 percent) are the top global middle-income economies in terms of growth of deep science startups, with Brazil's trajectory discussed in the GII 2026 Expert contributions from Pereira and Lopes Filho and from Pimentel and Delgado.

Figure 3 Top 20 economies, deep science growth, 2020–2025



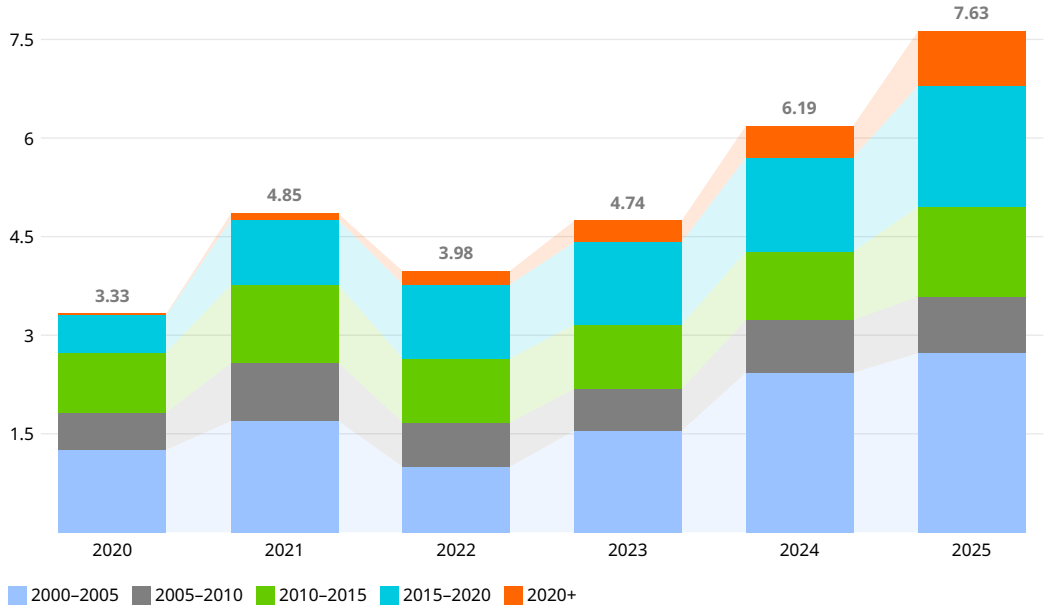
Source: GII 2026, Dealroom–WIPO Deep Science Startup Tracker.

By region, the largest concentration of deep science startups is in Northern America, with 13,773 (2,045 late-stage), followed by Europe, with 9,303 (457 late-stage) and South East Asia, East Asia, and Oceania, with 5,602 (699 late-stage).

In turn, Central and Southern Asia is the region showing the strongest growth in the number of VC-backed companies, with a 118 percent increase in deep science startups between 2020 and 2025 – strongly driven by India. Latin America and the Caribbean, and Sub-Saharan Africa have also seen stronger growth in numbers of firms, with 71 percent and 65 percent, respectively, between 2020 and 2025, than have either Northern America or Europe, albeit from lower levels.

In value terms, and based on the last known valuation only, the 30,000 deep science startups tracked here are worth USD 7.6 trillion, up 23 percent from 2024 (Figure 4).[2] The 25,700 which are still private, non-acquired firms are now worth USD 3 trillion, up 18 percent in value since 2024.

Figure 4 Combined enterprise value of deep science startups and spinouts by founding cohort, 2020–2025 (trillion USD)



Note: Founding cohorts cover ventures established from 2000 onwards.
Source: GII 2026, Dealroom–WIPO Deep Science Startup Tracker.

Unsurprisingly, deep science ventures are particularly prone to receiving greater late-stage funding. According to the reference framework for this chapter, 10 percent of deep science ventures since 2000 have been in receipt of late-stage funding versus 4 percent of all VC-backed startups taken together.

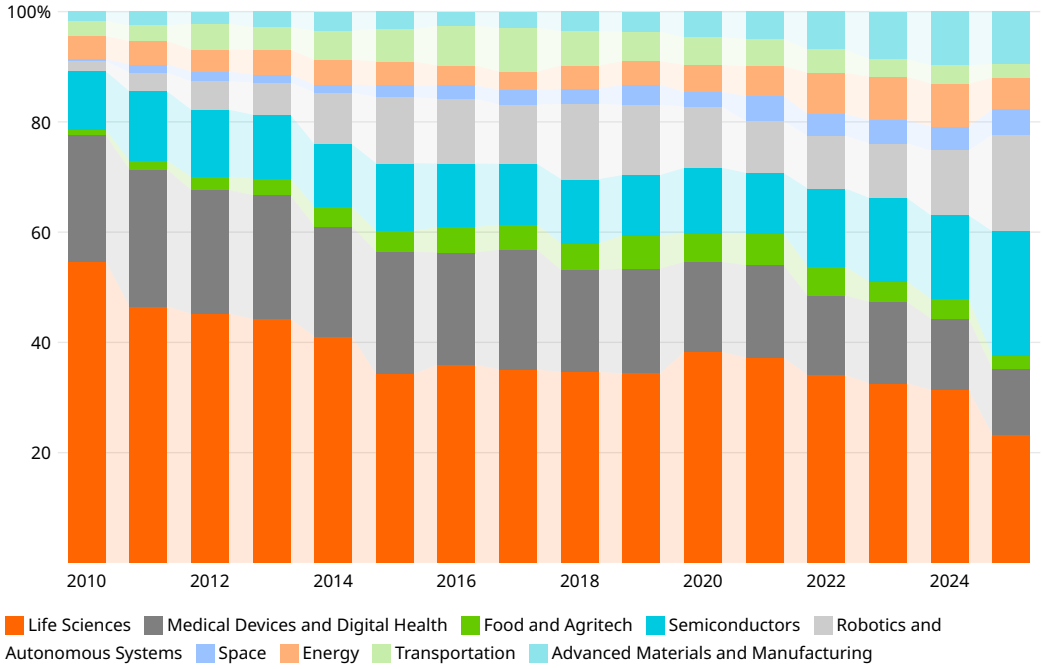
Venture capital funding into deep science startups amounted to USD 122 billion in 2025, the third highest year for funding, just behind the zero interest rate-fueled peak of 2021–2022 and up 7.4 percent on 2024. Deep science startups attracted 27.8 percent of total VC funding in tech startups in 2025, a slight decline from previous years due to an unprecedented amount of capital having been funneled into foundational AI model makers, which are excluded from the deep science scope. Excluding the USD 250M+ financings skewed by megadeals for foundational AI model makers, deep science startups attracted 36.5 percent of global VC funding in 2025, which is almost on par with the highest ever 36.6 percent reached in 2024, and nearly double the 19.7 percent share a decade ago in 2015.

As to sectors and applications, the composition of the new deep science startups is shifting away from the Life Sciences and toward Semiconductors and Robotics and Autonomous Systems (see Figure 5, while noting that the shares shown are global aggregates, and mask a significant heterogeneity across economies).

2 Valuation here refers to the last confirmed valuation for a company such as: enterprise value on December 31st for publicly listed companies, the acquisition value for acquired companies, the last known value for private companies (either from a funding round, secondary transaction or other clear knowledge), estimated valuation based on last funding round for the companies with no known valuation (typically only smaller companies). The authors refer to this sum of valuations as the combined enterprise value, abbreviated to EV hereafter.

- **Life Sciences** is the largest sector, accounting for over 11,000 of the 30,000 deep science startups initiated between 2015 and 2025, more than 1,660 of which were late-stage. However, its share of new startups has fallen sharply over the period, from 55 percent a decade ago in 2015 to 23 percent in 2025. Leading firms span income levels, ranging from the Republic of Korea's Celltrion, a biosimilars pioneer, to Viet Nam's Gene Solutions in molecular diagnostics and liquid biopsy.
- **Medical Devices and Digital Health** is the next largest sector and one that is relatively established, with 5,600 startups (nearly 400 late-stage), led by firms such as Finland's wearable pioneer ŌURA and Mexico's AI-radiology startup Eden.
- **Semiconductors** is the fastest-rising major sector. Its combined enterprise value (VE) has grown over 410 percent since 2020 to USD 1.1 trillion, making it the third-largest segment by value, while also becoming the second-largest source of new startups in 2025 (23 percent, up from a historical 10–15 percent). Value growth is driven largely by Chinese firms (Cambricon Technologies, Hygon, and SMIC), though leaders elsewhere include Canada's quantum-chip company Xanadu.
- **Advanced Materials and Manufacturing** and **Space**, though smaller, are fast growing sectors (+128 percent and +101 percent since 2020, respectively), with Luxembourg's graphene-nanotube maker OCSiAl and India's Skyroot Aerospace included among the top deep science startups.
- **Robotics and Autonomous Systems** is also accelerating, reaching third place both for new startups (17.6 percent) and VC funding in 2025 (see Table 2). Examples range from China's Unitree, a leading humanoid-robot maker, to Nigeria's drone startup Terra Industries.

Figure 5 Deep science startups by sector: share by year of first VC backing, 2010–2025



Source: GII 2026, Dealroom–WIPO Deep Science Startup Tracker.

Table 2 Deep science startups by sector: number, funding and share, 2020–2025

Sector	Number of deep science startups	Share of late-stage deep science startups	VC funding to deep science startups, 2020–2025, USD billion	Share of VC funding to early-stage, 2020–2025	Share of VC funding to breakout-stage, 2020–2025	Share of VC funding to late-stage, 2020–2025
Life Sciences	11,349	14.63%	284	9.24%	43.69%	47.07%
Medical Devices and Digital Health	5,620	7.10%	74.68	20.37%	51.59%	28.04%
Food and Agritech	1,216	6.79%	23.53	18.19%	44.78%	37.03%
Semiconductors	3,949	9.21%	92.93	11.42%	31.19%	57.39%
Robotics and Autonomous Systems	3,121	6.05%	55.32	14.82%	35.04%	50.14%
Space	906	14.19%	37.96	9.74%	32.47%	57.79%
Energy	1,533	11.11%	50.49	10.87%	31.07%	58.05%
Transportation	1,479	16.53%	108.58	4.69%	17.77%	77.54%
Advanced Materials and Manufacturing	1,409	7.80%	31.93	16.63%	37.92%	45.45%

Note: Early-stage companies are those with under USD 15M VC funding, under 50 employees, and under USD 100M valuation. Breakout companies are companies which have either USD 15M or more funding, 50 or more employees, or USD 100M or more valuation but have less than USD 100M or more funding, 500 employees, and USD 500M valuation. Late-stage companies are companies which have either raised USD 100M or more VC funding, 500 or more employees, or USD 500M or more valuation.

Source: GII 2026, Dealroom–WIPO Deep Science Startup Tracker.

One advantage of the Dealroom–WIPO Deep Science Startup Tracker is that the most promising deep science startups can be detected and tracked at the economy level, including for the purpose of analyzing characteristics and IP use (see "What role does intellectual property play in deep science entrepreneurship?").

One can also use the Deep Science StartupTracker to construct particular league tables. In respect to deep science startups since 2000, Tesla and SpaceX lead, followed by CATL (Table 3). The United States and China account for 18 of the top 20 startups, with one entry each from the Kingdom of the Netherlands (argenx) and the Republic of Korea (Celltrion).

Table 3 Top 100 most valuable deep science companies founded since 2000

Rank	Deep science company	Economy	Launch year	Valuation (USD)	VC funding (USD)	Sector
1	Tesla	United States	2003	1.6T	234M	Transportation
2	SpaceX | xAI	United States	2002	1.3T	8.5B	Space
3	CATL	China	2011	242B	71M	Transportation
4	Waymo	United States	2009	110B	27.1B	Transportation
5	Hygon Information Technology	China	2014	102.8B	300M	Semiconductors
6	Cambricon Technologies	China	2016	101.3B	200M	Semiconductors
7	SMIC	China	2000	88.8B	1.6B	Semiconductors
8	Bloom Energy	United States	2001	74.7B	976M	Energy
9	Anduril	United States	2017	61B	11.2B	Robotics and Autonomous Systems
10	Rocket Lab	United States	2006	59.8B	215M	Space

Table 3 Top 20 most valuable deep science companies founded since 2000 (cont.)

Rank	Deep science company	Economy	Launch year	Valuation (USD)	VC funding (USD)	Sector
11	Moore Threads	China	2020	44.8B	556M	Semiconductors
12	argenx	Netherlands (Kingdom of the)	2008	44.5B	54M	Life Sciences
13	MetaX	China	2020	42B	319M	Semiconductors
14	Cerebras Systems	United States	2015	40B	2.8B	Semiconductors
15	WuXi AppTec	China	2000	39.8B	22M	Life Sciences
16	Figure	United States	2022	39B	1.9B	Robotics and Autonomous Systems
17	Celltrion	Republic of Korea	2002	38.5B	59M	Life Sciences
18	Alnylam Pharmaceuticals	United States	2002	37.7B	40M	Life Sciences
19	Montage Technology	China	2004	34.3B	10M	Semiconductors
20	Credo	United States	2008	33.5B	100M	Semiconductors
21	Astera Labs	United States	2017	33.1B	206M	Semiconductors
22	BeOne Medicines	China	2010	31.3B	172M	Life Sciences
23	AMEC	China	2004	30.8B	137M	Semiconductors
24	GigaDevice	China	2005	30.6B	614M	Semiconductors
25	Revolution Medicines	United States	2015	28.4B	226M	Life Sciences
26	Horizon Therapeutics	Ireland (Republic of)	2005	27.8B	51M	Life Sciences
27	Natera	United States	2004	26.9B	152M	Life Sciences
28	AST SpaceMobile	United States	2017	22.3B	159M	Space
29	Pure Storage	United States	2009	21.6B	475M	Semiconductors
30	ChangXin Memory Technologies	China	2016	21.3B	8B	Semiconductors
31	SiTime	United States	2005	21.2B	91M	Semiconductors
32	Rivian Automotive	United States	2009	20.8B	11.5B	Transportation
33	Groq	United States	2016	20B	1.8B	Semiconductors
34	VeriSilicon Holdings	China	2002	19B	86M	Semiconductors
35	NEXTracker	United States	2013	18.4B	547M	Energy
36	NIO	China	2014	17.8B	3.1B	Transportation
37	Moderna Therapeutics	United States	2010	17.7B	1.7B	Life Sciences
38	Centec Networks	China	2005	17.2B	61M	Semiconductors
39	Jazz Pharmaceuticals	Ireland (Republic of)	2003	16.9B	257M	Life Sciences
40	Innovent Biologics	China	2011	16.7B	690M	Life Sciences
41	IonQ	United States	2015	16.4B	82M	Semiconductors
42	Biren Technology	China	2019	16.3B	811M	Semiconductors
43	Roivant Sciences	United States	2014	16B	1.6B	Life Sciences

Table 3 Top 20 most valuable deep science companies founded since 2000 (cont.)

Rank	Deep science company	Economy	Launch year	Valuation (USD)	VC funding (USD)	Sector
44	Hangzhou Changchuan Technology	China	2008	16B	0	Semiconductors
45	Ascendis Pharma	Denmark	2007	15.1B	79M	Life Sciences
46	Applied Intuition	United States	2017	15B	1.2B	Transportation
47	DJI Innovations	China	2006	15B	105M	Robotics and Autonomous Systems
48	BridgeBio	United States	2014	14.8B	724M	Life Sciences
49	Akeso Biopharma	China	2012	14.3B	228M	Life Sciences
50	Skild	United States	2023	14B	1.9B	Robotics and Autonomous Systems
51	Planet Labs	United States	2010	13.7B	342M	Space
52	Guardant Health	United States	2012	13.3B	550M	Life Sciences
53	Helsing	Germany	2021	13.2B	2.7B	Robotics and Autonomous Systems
54	MyoKardia	United States	2012	13.1B	60M	Life Sciences
55	Aurora	United States	2017	12.7B	1.1B	Transportation
56	Shield AI	United States	2015	12.7B	3B	Robotics and Autonomous Systems
57	Rainbow Robotics	Republic of Korea	2011	12.7B	8M	Robotics and Autonomous Systems
58	XPeng	China	2014	12.7B	2.4B	Transportation
59	Shockwave Medical	United States	2009	12.6B	148M	Medical Devices and Digital Health
60	Penumbra	United States	2004	12.3B	116M	Medical Devices and Digital Health
61	United Imaging Healthcare	China	2011	12.1B	454M	Medical Devices and Digital Health
62	Altos Labs	United States	2021	12B	3.3B	Life Sciences
63	Kelun-Biotech	China	2016	12B	270M	Life Sciences
64	Kite Pharma	United States	2009	11.9B	100M	Life Sciences
65	Zongmu	China	2013	11.4B	362M	Transportation
66	Oklo	United States	2013	11.4B	245K	Energy
67	Karuna Therapeutics	United States	2009	11.4B	110M	Life Sciences
68	Acceleron Pharma	United States	2004	10.9B	130M	Life Sciences
69	ŌURA	Finland	2013	10.9B	1.3B	Medical Devices and Digital Health
70	Insulet	United States	2000	10.7B	138M	Medical Devices and Digital Health
71	Alchip Technologies		2003	10.4B	3M	Semiconductors
72	Colossal	United States	2021	10.3B	625M	Life Sciences
73	Stemcentrx	United States	2008	10.2B	516M	Life Sciences
74	Whoop	United States	2012	10.1B	980M	Medical Devices and Digital Health

Table 3 Top 20 most valuable deep science companies founded since 2000 (cont.)

Rank	Deep science company	Economy	Launch year	Valuation (USD)	VC funding (USD)	Sector
75	Fervo Energy	United States	2017	10.1B	1B	Energy
76	Globus Medical	United States	2003	10.1B	129M	Medical Devices and Digital Health
77	Verona Pharma	United Kingdom	2005	10B	95M	Life Sciences
78	Arrowhead Pharmaceuticals	United States	2003	10B	108M	Life Sciences
79	INPHI	United States	2000	10B	70M	Semiconductors
80	Quantinuum	United Kingdom	2021	10B	1.4B	Semiconductors
81	Rockchip	China	2001	9.9B	0	Semiconductors
82	Neuralink	United States	2016	9.7B	1.3B	Medical Devices and Digital Health
83	Tempus	United States	2015	9.6B	920M	Life Sciences
84	Laurus Labs	India	2005	9.3B	90M	Life Sciences
85	Saronic Technologies	United States	2022	9.3B	2.6B	Robotics and Autonomous Systems
86	Cidara Therapeutics	United States	2012	9.2B	179M	Life Sciences
87	X-energy	United States	2009	9.1B	1.7B	Energy
88	MaxLinear	United States	2003	9B	20M	Semiconductors
89	Juno Therapeutics	United States	2013	9B	310M	Life Sciences
90	Xiangdixian Computing Technology	China	2020	9B	228M	Semiconductors
91	Joby Aviation	United States	2009	9B	792M	Transportation
92	Wayve	United Kingdom	2017	8.6B	2.6B	Transportation
93	Praxis Precision Medicines	United States	2015	8.4B	132M	Life Sciences
94	Isomorphic Labs	United Kingdom	2021	8.4B	2.7B	Life Sciences
95	Blueprint Medicines	United States	2011	8.3B	115M	Life Sciences
96	Krystal Biotech	United States	2016	8.2B	177M	Life Sciences
97	Sierra Space	United States	2021	8B	2.3B	Space
98	Loxo Oncology	United States	2013	8B	57M	Life Sciences
99	GRAIL	United States	2016	8B	1.8B	Life Sciences
100	Zipline	United States	2011	7.6B	1.9B	Transportation

Source: GII 2026, Dealroom–WIPO Deep Science Startup Tracker.

Beyond the United States, China and high-income economies more broadly, India claims the most valuable deep science company among middle- and low-income economies, with Laurus Labs being valued at USD 9.3 billion (Table 4). (India's broader science-based entrepreneurship ecosystem is discussed in the GII 2026 Expert contribution (Katragadda, 2026)

Among other middle-income economies, Brazil (New Wave, USD 480 million), whose deep science entrepreneurship promise and constraints are discussed in the GII 2026 Expert contribution from Pereira and Lopes Filho, Argentina (Bioceres Crop Solutions, USD 257 million), Türkiye (MicroAlgaex, USD 250 million), Serbia (Seven Bridges, USD 250 million) and Malaysia (ALPS Global Holding Berhad, USD 141 million) all feature companies that have achieved significant scale in sectors ranging from energy to Life Sciences and Food and Agritech.

In Sub-Saharan Africa, Nigeria (Terra Industries, USD 100 million) and South Africa (Aerobotics, USD 68 million) emerge as early, but notable deep science hubs, with strengths in robotics and agritech, respectively.

Table 4 The 16 most valuable deep science ventures by economy: middle- and low-income countries (excluding China)

Deep science company	Economy	Launch year	Valuation (USD)	VC funding (USD)	Sector
Laurus Labs	India	2005	9.3B	90M	Life Sciences
New Wave	Brazil	2019	480M	120M	Energy
Bioceres Crop Solutions	Argentina	2001	257M	-	Food & Agritech
MicroAlgaex	Türkiye	2022	250M	47M	Life Sciences
Seven Bridges	Serbia	2009	250M	116M	Life Sciences
ALPS Global Holding Berhad	Malaysia	2017	141M	10M	Life Sciences
PT Etana Biotechnologies Indonesia	Indonesia	2014	120M	50M	Life Sciences
EON Aligner	Jordan	2008	104M	26M	Medical Devices and Digital Health
Terra Industries	Nigeria	2023	100M	35M	Robotics and Autonomous Systems
Mu Space Corp	Thailand	2017	100M	31M	Space
Sanergy	Kenya	2010	94M	33M	Life Sciences
Eden	Mexico	2016	88M	32M	Medical Devices and Digital Health
Gene Solutions	Viet Nam	2018	84M	21M	Life Sciences
Aerobotics	South Africa	2014	68M	27M	Food and Agritech
Simplex	Egypt	2013	52M	13M	Robotics and Autonomous Systems
Tencore	Ukraine	2024	50M	4M	Robotics and Autonomous Systems

Source: GII 2026, Dealroom–WIPO Deep Science Startup Tracker.

University spinouts

A final way of looking at the data is to use it to distinguish between deep science spinouts – firms originating from research carried out at a university or research center – and other deep science ventures.[3] That is the most novel aspect of this new dataset, but also the most challenging (see Appendix V).

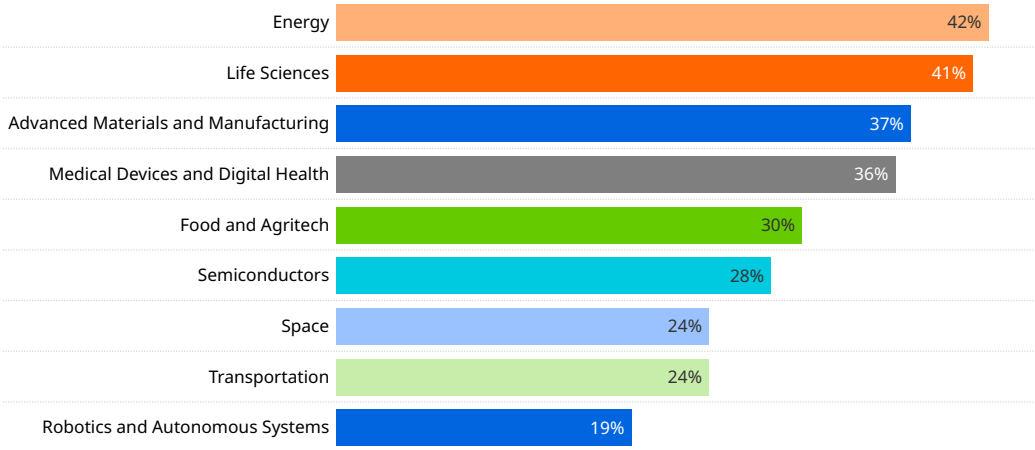
Evidently, spinouts of academic research are more relevant for some deep science sectors than others (see Figure 6). In Energy, 42 percent of deep science startups since 2010 have been spun out of academic research, followed by Life Sciences, with 41 percent.

3 Practically speaking, a spinout can be identified through one of the following links to a university or research center: equity link, where the university or research center holds a direct ownership stake in the company; licensing link, where the university or research center receives royalties from or has a licensing agreement with the company; research link, where the company has a clear, foundational connection to research conducted at the institute in question, even in the absence of a formal agreement.

In Advanced Materials and Manufacturing, and Medical Devices and Digital Health, slightly over one-third of companies are spinouts. Space, Transportation, and Robotics and Autonomous Systems are the three sectors with the lowest shares of companies that are academic spinouts, meaning that most of the deep science startups in these fields have founders with an industry background.

Some sub-segments stand out as being very academically driven. They include Quantum and Photonics in Semiconductors, with 57 percent and 49 percent of startups being spinouts, respectively, compared to an average of 28 percent for Semiconductors.

Figure 6 Share of deep science spinouts in total deep science ventures founded since 2010



Source: GII 2026, Dealroom–WIPO Deep Science Startup Tracker.

US institutes have been behind 15 of the top 20 deep science spinouts since 2000, with a wide range of institutes involved, the most recurring being Harvard (especially Harvard Medical School), MIT, and Stanford University (Table 5). China, meanwhile, claims the most valuable spinout, with semiconductor developer Cambricon Technologies having spun out of research conducted at the Chinese Academy of Sciences within the scope of the Cambricon project to develop a brain-inspired processor chip specialized for deep learning.

German research notably underpins two of the top 20 spinouts, both of which are in the Life Sciences: Alnylam, a US-based company spun out of MIT, which also licensed foundational IP from the Max Planck Institute for Biophysical Chemistry, and BioNTech from Johannes Gutenberg University Mainz, whose mRNA technology underpinned the first approved COVID-19 vaccine developed in partnership with Pfizer.

Worth highlighting too is PsiQuantum, a US-based quantum spinout created from UK research. The company was started in the United States in 2015 by four academics from the University of Bristol in the United Kingdom and has grown to be the most heavily funded private quantum startup globally.

Table 5 Top 20 most valuable deep science spinouts founded since 2000

Deep science company	Economy of spinout institute	Institute of spinout	Spinout head-quarters	Launch year	Valuation (USD)	VC funding (USD)	Sector
Cambricon Technologies	China	Chinese Academy of Sciences	China	2016	101.3B	200M	Semiconductors
Bloom Energy	United States	University of Arizona; NASA	United States	2001	74.7B	976M	Energy
Alnylam Pharma-ceuticals	United States; Germany	MIT (United States); Max Planck Society (Germany)	United States	2002	37.7B	40M	Life Sciences
Revolution Medicines	United States	University of Illinois Urbana-Champaign	United States	2015	28.4B	226M	Life Sciences
Moderna Therapeutics	United States	Harvard University; Harvard Medical School; Children's Hospital Boston	United States	2010	17.7B	1.7B	Life Sciences
IonQ	United States	University of Maryland; Duke University	United States	2015	16.4B	82M	Semiconductors
DJI Innovations	Hong Kong, China	Hong Kong University of Science and Technology	China	2006	15B	105M	Robotics and Autonomous Systems
Skild	United States	Carnegie Mellon University	United States	2023	14B	1.9B	Robotics and Autonomous Systems
Planet Labs	United States	NASA	United States	2010	13.7B	342M	Space
MyoKardia	United States	Stanford University; Harvard; University of Colorado Boulder	United States	2012	13.1B	60M	Life Sciences
Rainbow Robotics	Republic of Korea	Korea Advanced Institute of Science and Technology	Republic of Korea	2011	12.7B	8M	Robotics and Autonomous Systems
Kite Pharma	United States; Israel	National Cancer Institute (United States); UCLA (United States); Weizmann Institute of Science (Israel)	United States	2009	11.9B	100M	Life Sciences
Acceleron Pharma	United States; Israel	Salk Institute for Biological StudiesHarvard University	United States	2004	10.9B	130M	Life Sciences
Colossal	United States	Wyss Institute; Harvard University	United States	2021	10.3B	625M	Life Sciences
Fervo Energy	United States	Stanford University	United States	2017	10.1B	1.0B	Energy
Praxis Precision Medicines	United States	Columbia University;University of Melbourne;The Florey Institute of Neuroscience & Mental Health	United States	2015	8.4B	132M	Life Sciences
Nuvalent	United States	Harvard University	United States	2017	7.0B	185M	Life Sciences
PsiQuantum	United Kingdom	University of Bristol	United States	2016	7B	2.6B	Semiconductors
BioNTech	Germany	Johannes Gutenberg University Mainz	Germany	2008	7.0B	1.1B	Life Sciences
Momenta Pharmaceuticals	United States	MIT	United States	2001	6.5B	41M	Life Sciences

Source: GII 2026, Dealroom–WIPO Deep Science Startup Tracker.

Notable deep science spinouts have emerged from research across a very wide range of economies and sectors.

- India's SEDEMAC Mechatronics, spun out of IIT Bombay, is a notable example of deep engineering research translating into significant commercial impact within the transportation sector.
- Finland and Japan demonstrate the strength of their space research through Finland's ICEYE, spun out of Aalto University, and Japan's Astroscale, from the University of Tokyo, among the most significant spinouts globally in the category.
- Iyris (formerly known as RedSea) is a spinout from King Abdullah University of Science and Technology (KAUST) in Saudi Arabia, which provides proprietary nanomaterial additives to optimize how surfaces interact with sunlight, with applications for farmers and to reduce agricultural water usage.
- Spain's Splice Bio, co-founded by the University of Barcelona and Princeton University, exemplifies the value of cross-border academic collaboration in generating commercially significant IP, in this case in the field of RNA therapeutics.
- Brazil's Biotimize, spun out of São Paulo State University, reflects the growing maturity of Latin America's life sciences research base – a theme developed in the GII 2026 Expert contributions from Pereira and Lopes Filho, and from Pimentel and Delgado – with the company developing computational approaches to biological data.
- Similarly, Argentina's Puna Bio, emerging from CONICET – the country's national research council – illustrates a broader trend of Latin American public research institutions increasingly serving as the foundation for commercially-oriented agritech ventures, in this case focused on sustainable agricultural inputs.
- South Africa's HearX Group, from the University of Pretoria, stands out for applying digital health innovation to hearing care – a condition disproportionately affecting lower-income populations.

Readers may explore and discover more in the Dealroom–WIPO Deep Science Startup Tracker that complements this chapter.

Obstacles to scaling deep science ventures

This section discusses the challenges faced by deep science ventures. Even with record financing flows, deep science ventures stall at predictable transitions: research to investable proof-of-concept, pilot to commercial deployment, working technology to profit-making venture. Long development cycles, capital intensity, specialized infrastructure, regulatory complexity and uncertain demand interact across these stages, and binding constraints shift as ventures progress. Capital alone does not remove these obstacles; where complementary inputs are missing, larger rounds serve to inflate expectations more than they do output.

Financing cliffs recur at predictable transitions. Science-based ventures need capital across several years, often a decade or more – for R&D, prototyping, trials, reliability proofs and regulatory clearance – before revenue arrives. The two best-documented cliffs sit between research and investable proof-of-concept, and between pilot and commercial deployment, where Series B and C rounds in the USD 20–100 million range typically remain thin (de Rassenfosse, 2026). Information asymmetry compounds the problem: the science is often difficult for non-experts to evaluate, and only a minority of venture capitalists report having sufficient technical expertise so to do. Across surveys, founders cite access to capital as the primary challenge.

Industrialization, not invention, is now the binding constraint in most fields. Frontier technologies depend on specialized labs, testbeds, metrology, pilot plants, clean rooms, bioprocessing capacity, and regulatory sandboxes – lumpy investments that single startups are rarely able to finance alone. Public and consortium facilities lower fixed costs and accelerate iteration. Unlike digital products, deep science ventures must build manufacturing processes, quality systems and supply chains, often according to strict standards (Solberg and Brem, 2016; Frølund *et al.*, 2024). Scaling a novel battery chemistry or a bioprocessing platform depends on manufacturing yield, supply-chain reliability, certification and unit economics at volume; first-of-a-kind industrialization rarely sits within a small team's capabilities, but instead requires shared facilities, industrial partners and a trained workforce.

Institutional and regulatory friction blocks ventures before they reach market. At formation, contracting delays, unclear publication rights, restrictive equity and royalty clauses, and opaque licensing terms can stall spinouts before they incorporate, as illustrated by the GII 2026 Expert contributions from Kretzschmar and Dols on CERN Venture Connect, from Sivakumar and Cabrera on university commercialization reform, and from Pereira and Lopes Filho on Brazil's deep science entrepreneurship ecosystem. The intermediaries that broker these transitions are themselves capability-constrained: deal-structuring skills are scarce, TTO strategies vary widely, and the performance of research parks and incubators depends heavily on the quality of governance and integration into the surrounding system (Lockett *et al.*, 2005; Wright *et al.*, 2008; Mosey and Wright, 2007; Modina *et al.*, 2024; Kretzschmar and Dols, 2026; Sivakumar and Cabrera, 2026). Downstream, gene editing, autonomous systems and AI in health care often lack certification pathways, creating uncertainty that delays investment; in other cases, outdated regulation inhibits testing outright. AI sharpens the picture: as de Rassenfosse (2026) notes, AI may accelerate discovery, but it increases the load on those institutions that validate it (standards bodies, regulators and patent offices), shifting the constraint from one of discovery to one of proving performance, safety and reliability. A structural mismatch underlies this friction: support designed for the software era (short cycles, rapid iteration, lean teams) does not fit ventures that need longer incubation, physical research infrastructure and patient technical guidance.

Talent and network constraints cap execution. Deep science ventures need researchers, engineers and technicians who possess advanced expertise in AI, biotechnology, materials science and quantum computing skill sets are in short supply almost everywhere, and particularly thin in emerging fields not yet integrated into university curricula. Industry surveys consistently report substantial unfilled vacancies. Junior supply is one part of the picture; senior researcher mobility is the other. Evidence from biotechnology shows that "star" scientists and locally concentrated human capital are strongly associated with firm formation, putting researcher mobility and academic engagement policies alongside IP frameworks in determining translation outcomes (Zucker and Darby, 1996; Zucker *et al.*, 1998; de Rassenfosse, 2026). People alone are rarely sufficient. Unlike software ventures that small teams can launch in isolation, deep science ventures require coordination across academia, industry and government – corporate partners for manufacturing, pilot facilities and domain mentors, and early adopters willing to engage with unproven technology. Many startups fail not because the science is weak, but because founders lack tailored support and the right connections; a point echoed in the GII 2026 Expert contribution from Katragadda on India's science-based entrepreneurship ecosystem.

Demand uncertainty compounds technical risk. Even when a technology works, early customers can be hard to secure, regulated adoption pathways delay revenues and nascent markets require education and proof. Without credible demand pull, pilots remain one-off demonstrations rather than repeatable orders, as shown in the GII 2026 Expert contributions on CATL's IP and R&D practices (Luo, 2026) and on Brazil's deep science entrepreneurship ecosystem Pereira and Lopes Filho, 2026). Cases document ventures that have broad interest, but are unable to command margins, and others stuck in niches too narrow for scale-up. Also, where incentives favor short-termism across universities, investors and public funders, long-horizon projects are systematically disadvantaged.

Addressing these obstacles requires acting across the chain: patient financing, talent pipelines, network facilitation, infrastructure, regulatory agility, and institutional designs fitted to high-risk, long-horizon ventures. The following section turns to the issue of deep science entrepreneurship, particularly in developing economies.

Deep science entrepreneurship in developing economies: building translation capacity where it matters most

Deep science entrepreneurship is increasingly visible outside high-income hubs, anchored in universities or in problem-led needs across health, agriculture, climate adaptation and energy access. Whether productivity gains diffuse beyond existing innovation ecosystems will depend on translation and adoption capacity – facilities, standards, validation and early buyers.

Three shifts have pushed the topic onto policy agendas in lower- and middle-income economies: (i) mission pressure from pandemics, climate shocks and food insecurity; (ii) rising research and university entrepreneurship across parts of Africa, Asia and Latin America, albeit unevenly (Saxena, 2026; and GII 2026 Expert contributions from Katragadda on India, from Pereira and Lopes Filho on Brazil and from Pimentel and Delgado on science-based startups in Brazil); and (iii) expanding public–private consortia, cross-border research partnerships and development finance, even if commercialization-targeted instruments remain limited.

Examples are industrial-scale vaccine manufacturing at Serum Institute of India (India) and Biovac (South Africa); BioNTech's USD 150 million mRNA facility in Rwanda; pay-as-you-go off-grid solar reaching millions in East and West Africa; precision fermentation in Brazil (Pereira and Lopes Filho, 2026); and biomanufacturing such as South Africa's Urobo Biotech, which converts bioplastic waste into circular chemicals using engineered enzymes.

Four commercialization pathways

Deep science ventures cluster around four archetypes, each having distinct bottlenecks in developing economies.

1. **University-anchored spinouts** start from research groups and need proof-of-concept funding, credible technology-transfer terms and founder-team support. South Africa accounts for nearly half of identified university spinouts in Africa, backed by statutory IP frameworks; the WIPO Scale Up Your IP program convened four South African universities and twenty of their spinouts in March 2025 (WIPO, 2025a; Saxena, 2026). Capacity gaps persist – investors still favor software and fintech over biotech, and Uganda expects inventors to cover IP protection costs (Saxena, 2026).
2. **Problem-led ventures with demand pull** start from urgent local problems and depend on procurement, regulated market access and often public or donor-backed early buyers. Brazil's Public Contract for Innovative Solutions allows contracts of up to USD 1.5 million without prescribing the direction of innovation, as discussed in the GII 2026 Expert contribution from Pereira and Lopes Filho; Nigeria's Startup Act (2022) mandates a 10 billion naira annual floor for a startup seed fund (Saxena, 2026).
3. **Consortium platform ventures** emerge from shared facilities (health data networks, climate services, testing labs) where governance, data rights and IP sharing are central. The WHO mRNA Technology Transfer Programme's South Africa hub, covering 15 partner economies, shows how shared platforms can build manufacturing capability across economies. The African Union's Partnership for African Vaccine Manufacturing (PAVM) targets 60 percent local production of vaccine doses by 2040, up from roughly 1 percent today, with at least USD 3.5 billion having been committed (Clinton Health Access Initiative, 2024). Realizing such targets depends on procurement commitments, not manufacturing capacity alone.
4. **Export-to-scale models** develop locally, but scale via regional or global markets, depending on standards, certification, and manufacturing and distribution partnerships. Indian biosimilar manufacturers built global scale by combining domestic capacity with international regulatory expertise and through ties with multinational pharmaceutical companies.

Structural constraints

The commercialization pathways described face binding constraints that differ in degree, not in kind, from those confronting high-income economies. They are as follows:

Weak upstream R&D intensity. R&D intensity sits below 0.5 percent of gross domestic product (GDP) across many low- and middle-income economies, and roughly seven in 10 economies worldwide maintain R&D-to-GDP ratios under 1 percent (Bonaglia *et al.*, 2025). Where research inputs are thin, entrepreneurship programs risk promoting activity without having an opportunity base; support needs to be tied to research capacity, talent training and priority domains.

Capital fragmentation and horizon mismatch. In emerging economies, grants often fail to connect to venture rounds, and in turn venture rounds to scale finance, thus raising the cost of capital. Conventional fund horizons have a 10 or 15-year timeline, which is often too short (de Rassenfosse, 2026). The Latin American Dynamism Project finds that 72 percent of science-intensive startups get stuck at seed, with only 19 percent reaching Series A, and just 22 ventures

in the region's history have advanced to Series B or beyond (LADP, 2025); in Brazil, 70 percent of deep science startup funding is public only (Pereira and Lopes Filho, 2026; Pimentel and Delgado, 2026). The India Deep Tech Alliance and India's National Deep Tech Startup Policy aim to coordinate funding, incubation and IP, with deep science startup funding having risen roughly 78 percent to USD 1.6 billion in 2024 (NASSCOM, 2024; see also GII 2026 Expert contribution from Katragadda).

Translation infrastructure and capability gaps. Shared labs, testbeds, pilot manufacturing, and certification pathways are scarce, and such gaps interact: for example, without testbeds, investors price risk higher; without finance, facilities are underused; without demand, pilots do not become repeat orders. Some economies are building institutions explicitly to address the translation of scientific discovery into products, services and production processes (Uganda, for instance, has commercialization guidelines and coordination frameworks), though implementation capacity remains thin (Saxena, 2026).

Demand architecture and the double valley of death. Deep science ventures face two transition cliffs: research to concept, and pilot to diffusion. Both are steeper within a developing context: demand signals are weaker, industrial partners fewer and validation infrastructure thinner (de Rassenfosse, 2026; Tan, 2026). When purchasing commitments are secured, manufacturing advances; when they are absent, even well-funded plans are at risk of collapsing. Procurement pathways, pooled purchasing and offtake commitments can compensate for thin early-adopter markets.

AI cuts across these constraints. As noted in the section "How large and important is deep science entrepreneurship?", AI accelerates discovery, but increases pressure on those institutions that validate it – namely, standards bodies, regulators, patent offices. Dependency on compute, platforms and governance arrangements can redirect scarce resources away from deep science priorities, unless actively managed (de Rassenfosse, 2026). The distribution of AI-era gains depends on investment, skills and diffusion, as much it does on foundation-model access.

Policy: from copying to fit

A recent review describes a shift in lower- and middle-income economies away from broad-based small and medium-sized enterprise (SME) support toward Startup Acts, legal recognition frameworks and targeted incentives designed to address institutional voids (Saxena, 2026). Such legislation signals a state-level commitment to IP and incentives. But instruments must match capability; in low-capability settings, highly sophisticated instruments underperform, and copying high-income economy models without diagnosing what are the missing complements risks disappointment. Technology transfer performance varies between knowledge transfer offices (KTOs), and building entrepreneurial capacity in universities requires external links, incentive alignment, resource access and integration into innovation systems (OECD, 2019; Siegel and Wright, 2015; Wright *et al.*, 2008; Modina *et al.*, 2024).

The science-first instruments outlined in this chapter (India's Deep Tech Alliance and Brazil's Public Contract for Innovative Solutions) are a reflection of local strengths rather than imitation (Katragadda, 2026; Pereira and Lopes Filho, 2026; AlShareef *et al.*, 2026). Supply-side measures still need pairing with demand architecture: namely, pooled procurement, long-term purchasing, and financing infrastructure. Cross-country case evidence from Brazil, China, the Republic of Korea and South Africa shows that rising public research output frequently fails to convert into commercialization when domestic firms lack the absorptive capacity to take inventions further; the binding constraint is the capability gap between research and industry, not the rate of disclosures or patents, and closing the gap requires demand-side investment in firm capability alongside a supply-side reform of universities and technology transfer offices or KTOs (Arundel *et al.*, 2021).

Policy recommendations themselves need to be differentiated by context: building the absorptive capacity of firms and providing incentives for industrial engagement matter more for middle-income economies than does reforming university IP ownership, and wholesale convergence on standard IP frameworks without the complementary conditions being in place has produced disappointing commercialization results (Athreye and Rossi, 2021).

What role does intellectual property play in deep science entrepreneurship?

For deep science ventures, IP is not optional. The 5–15 year gap between invention and revenue means patents are often the only verifiable asset on the balance sheet for years at a time with which to secure the financing, partnerships and licensing arrangements that ventures depend on before a product generates revenue. This temporal function distinguishes deep science from other tech-based ventures such as software, where execution speed and network effects typically substitute for formal protection.

IP architecture also defines the boundaries of collaboration, a point illustrated in the GII 2026 Expert contribution from Luo on CATL's early-stage IP practices and R&D empowerment. Deep science ventures rarely scale through stand-alone growth; they license to incumbents, form joint ventures, are acquired for their platforms or operate within consortia. For example, in mRNA vaccine development, platform technology from one entity must interface not only with antigen design from universities, but also manufacturing from contractors and distribution agreements with governments – each boundary requires explicit IP terms or else the structure stalls. Patent pools in genome editing and agricultural biotechnology illustrate how shared access to foundational technologies can be combined with freedom to operate on specific applications.

A third dimension is finance. IP is increasingly serving as security for lending. The global value of intangible assets reached USD 80 trillion in 2024, a 13-fold increase over a period of 25 years, yet most of it remains unused by mainstream lenders (WIPO, 2025b). Initiatives in several economies are closing that gap, however. China has become the biggest market for IP finance, with patent and trademark pledge financing reaching CNY 854 billion (USD 118 billion) in 2023; the Republic of Korea's IP recovery fund and government-backed guarantees helped IP-backed lending surpass KRW 3 trillion (USD 2.2 billion) in 2022; Singapore's Intellectual Property Financing Scheme shares 80 percent of loan-loss risk with participating lenders, as discussed in the GII 2026 Expert contribution from Tan); Japan's 2025 Intellectual Property Strategic Program tightens the disclosure requirements on IP and intangible-asset investments by listed companies, building on its Intellectual Property and Intangible Assets Governance Guidelines (Cabinet Office of Japan, 2025); and collateral protection insurance now enables specialist lenders in markets such as the United Kingdom to underwrite loans against patent portfolios (WIPO, 2025b). Such mechanisms are early and uneven, but they signal a move toward non-dilutive capital structures.

Yet empirical evidence on how patenting actually varies across deep science ventures has been thin. To close that gap, WIPO has matched all startups in the Dealroom–WIPO Deep Science Startup Tracker to global patent data, allowing the first comprehensive global comparison to be made of patenting activity across startup types, geographies, sectors and growth stages. The full results appear in *SPARK: Patenting in Deep Science Startups and Spinouts (Global Innovation Index 2026 Special)* (WIPO, 2026), released in November 2026.[4]

Five patterns stand out: patent adoption is rising, and the gap between deep science and other ventures widening; geographic variation reflects institutional capacity; an income gradient is visible, but deep science startups outpace others at every income level; sectoral differences track regulatory and collaboration models; and adoption rates rise sharply with venture maturity.

Patent adoption is rising faster among deep science startups, but substantial gaps remain

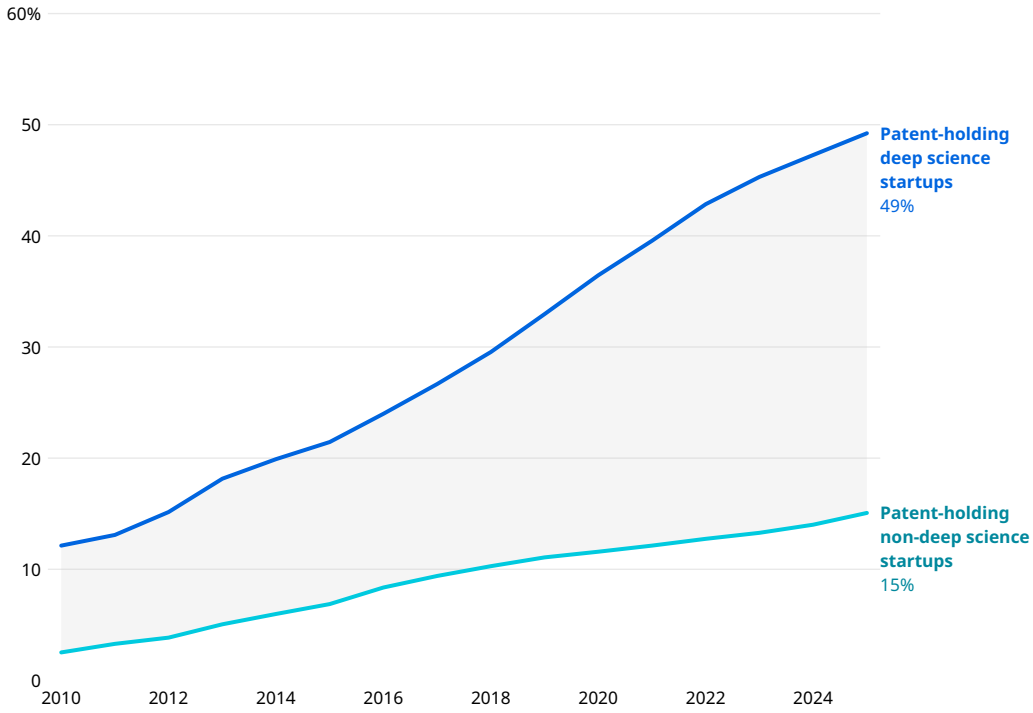
The difference in patent adoption patterns between deep and non-deep science startups and spinouts confirms that IP protection is structurally more critical for deep science ventures (see Figure 7). Overall, half of deep science startups hold patents (49.7 percent), compared to substantially lower rate (15.4 percent) among non-deep science startups.

4 See similar efforts: Royal Academy of Engineering and Beauhurst (2024). *Spotlight on Spinouts: UK Deep Tech Report*. London: Royal Academy of Engineering; EUIPO and EPO (2024). *Patents, Trade Marks and Startup Finance*. Alicante and Munich: European Union Intellectual Property Office and European Patent Office.

More significantly, the propensity gap between deep and non-deep science startups has widened. Over the past decade, patent adoption rates have increased for both categories, but the rate of increase has been faster among deep science startups. This divergence suggests that, as VC has gained experience in evaluating deep science opportunities, the expectation of formal IP protection as an entry condition has intensified. It may also reflect learning among deep science founders. As exits more commonly occur through acquisition or licensing rather than stand-alone IPOs, a well-structured patent portfolio is likely to be seen as an essential negotiating asset.

However, the 50 percent baseline adoption rate also implies that half of deep science ventures either lack patents entirely or have not yet filed during the startup phase captured in this analysis. Several factors may contribute to this pattern. First, early-stage startups may file patents after initial venture rounds, meaning that some of the non-patent-holding firms will file subsequently. Second, sector heterogeneity means that certain deep science domains may depend more on know-how, trade secrets or regulatory data exclusivity than on formal patents.

Figure 7 Trend over time in the share of patent-holding startups: deep vs. non-deep science startups, 2010–2025



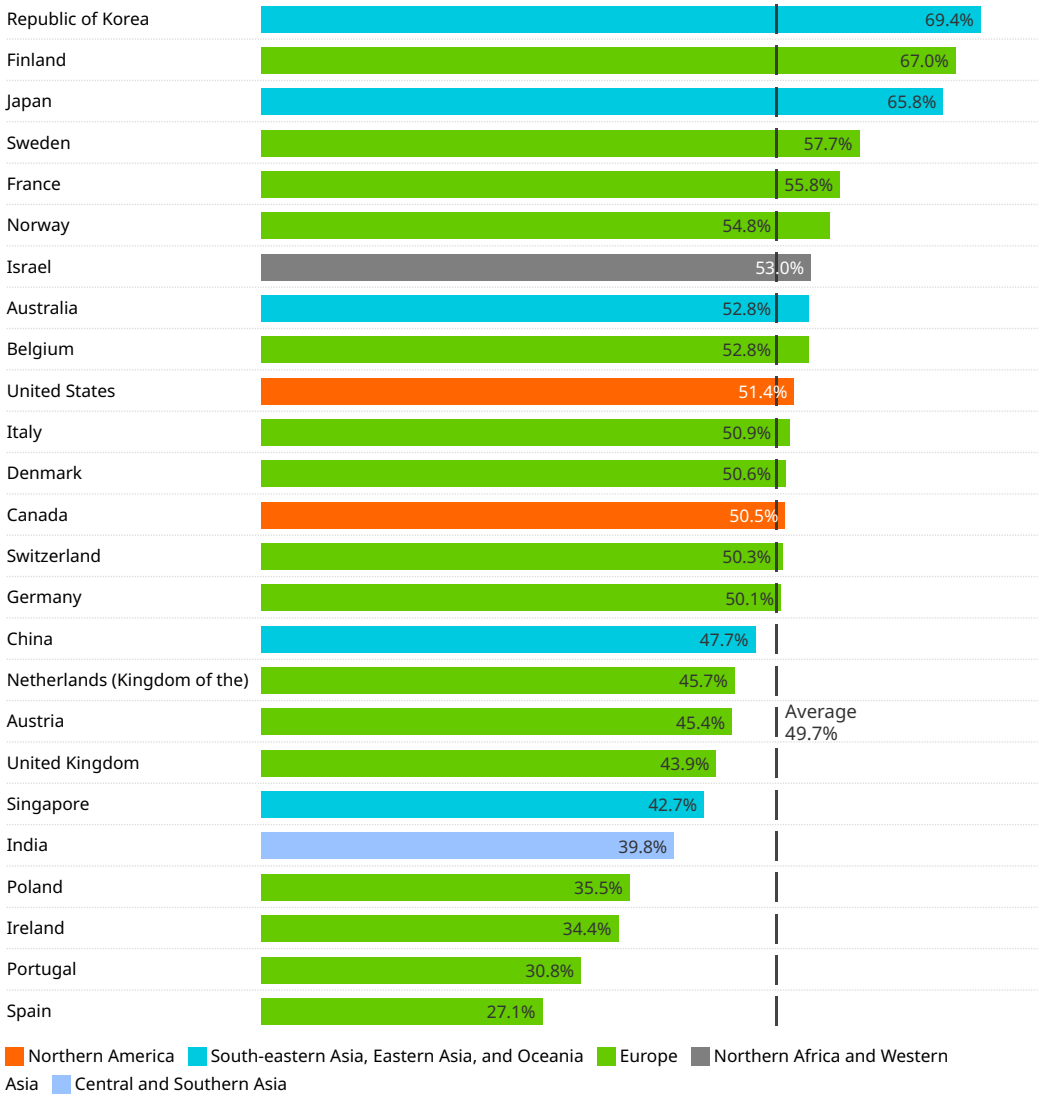
Note: For the patent search on non-deep science startups, a sampling approach is used. Under a 95% confidence level (with $p = 0.5$), the overall margin of error is approximately ±0.98%.

Source: GII 2026, based on Dealroom–WIPO Deep Science Startup Tracker and patent data from Patsnap (March 2026).

Geographic variation in patent adoption reflects institutional capacity and innovation system maturity

Global comparisons reveal significant differences in patent adoption (Figure 8). The Republic of Korea (69 percent), Finland (67 percent), and Japan (66 percent)) recorded the highest national rates of patent adoption among deep science startups between 2010 and 2025. These rates reflect well-known institutional pathways linking university research, corporate spinouts and venture formation that systematically prioritize patent filing early on in the commercialization cycle. Several other high-income economies with mature innovation systems – including the France, Germany, Israel and the United States – cluster within the 45–55 percent range.

Figure 8 Share of patent-holding deep science startups by economy, 2010–2025



Source: GII 2026, based on Dealroom–WIPO Deep Science Startup Tracker and patent data from Patsnap (March 2026).

Patent adoption rates rise systematically with economic income level, confirming that institutional capacity matters

When economies are grouped by income classification, a clear gradient emerges showing that IP adoption among deep science startups rises with economy income level. Patent adoption among deep science startups rises from 37.6 percent in lower-middle-income economies to 50.6 percent in high-income economies. Notably, deep science startups consistently outpace their non-deep science counterparts across all income groups, confirming that the structural need for IP protection in deep science holds globally.

These findings underscore that expanding deep science entrepreneurship in developing economies, as discussed extensively in the section "Deep science entrepreneurship in developing economies," requires not only proof-of-concept funding and infrastructure, but also institutional development around IP. Affordable patent filing pathways, competent technology transfer support, and credible enforcement mechanisms together make IP protection a workable strategy rather than a prohibitive cost.

Sectoral patterns reveal where IP architecture defines commercialization pathways

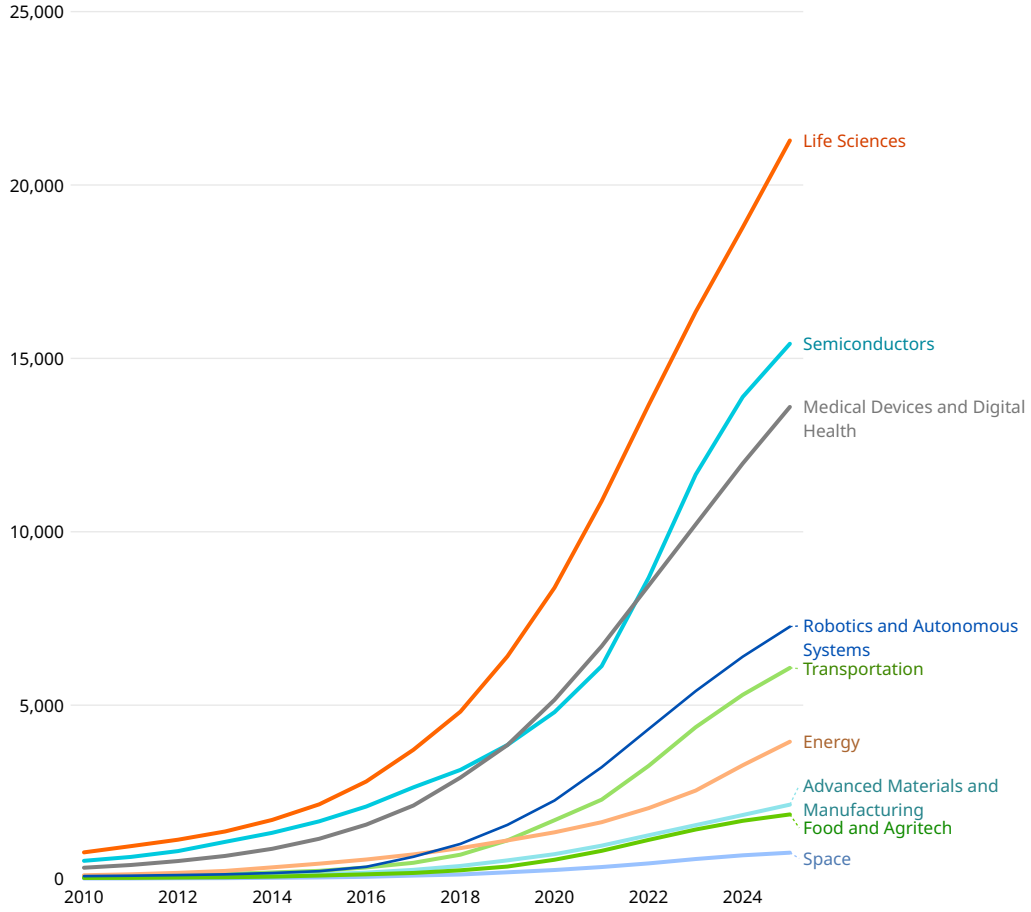
Patent intensity varies markedly across deep science sectors, reflecting differences in regulatory requirements, collaboration models, technical appropriability, and target market expectations. Figure 9 shows that Life Sciences, Semiconductors, and Medical Devices and Digital Health lead international patent family growth among deep science startups.

Medical Devices and Digital Health emerges as the most patent-intensive startup sector globally, with 57.8 percent of deep science startups holding patents (not shown in Figure 9).

Space and Robotics and Autonomous Systems startups claim the lowest shares of academic spinouts (see Figure 6) and it is not surprising that they also have a correspondingly lower patent intensity. These two sectors draw more heavily on founders with an industry background, and commercialization often depends on system integration, manufacturing execution, operational know-how and customer relationships, as much as it does on discrete patentable inventions. Trade secrets, first-mover advantages and the tacit knowledge embedded in engineering teams may provide appropriability without requiring extensive formal patent portfolios.

Food and Agritech ventures also display a lower patent intensity, despite substantial technical innovation within that sector.

Figure 9 Cumulative number of published international patent families filed by deep science startups founded 2010–2025, by sector

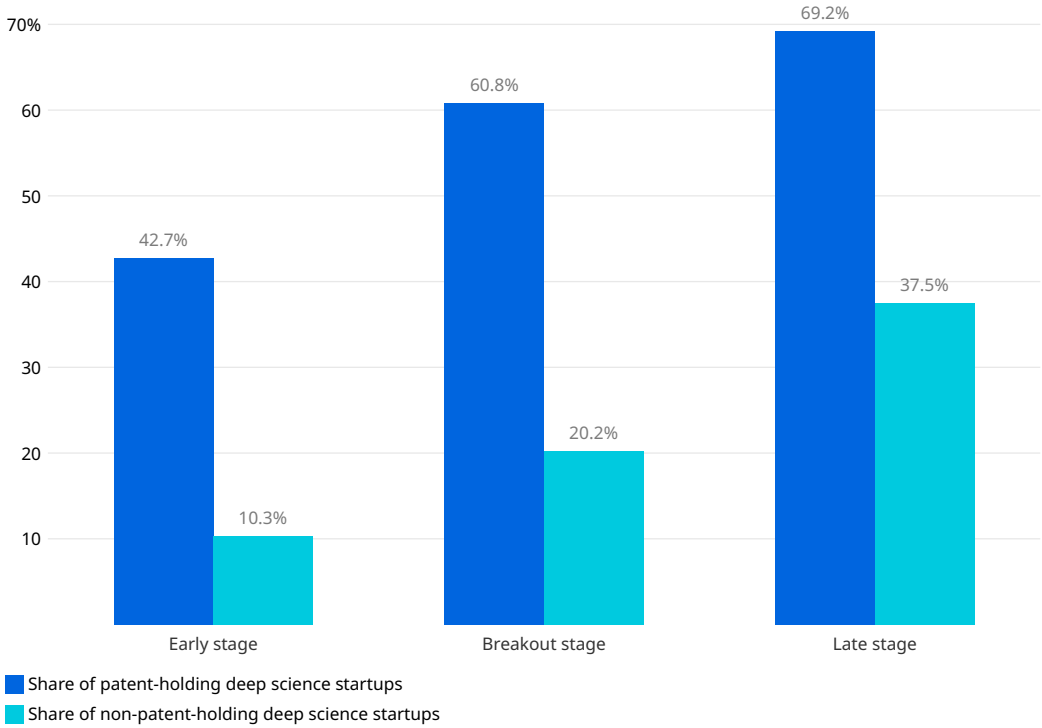


Note: International patent families represent inventions that are published in multiple jurisdictions.
Source: GII 2026, based on Dealroom–WIPO Deep Science Startup Tracker and patent data from Patsnap (March 2026).

Patent adoption increases sharply with venture maturity, but the transition cliff is steeper than is often realised

Stage-based analysis shows that patent portfolios evolve throughout deep science startup development (Figure 10). Among deep science startups, patent holding rises from 42.7 percent at seed stage to 69.2 percent at late stage. This progression is due to several factors. As ventures move from concept validation through prototyping and clinical or field trials, it becomes clearer which inventions are worth protecting, and additional inventions requiring protection are likely to emerge. Second, ventures that are able to successfully raise later-stage funding have typically demonstrated technical feasibility and market potential, and in this regard patent portfolios often contribute to investor confidence and valuation support. Finally, as ventures approach commercialization, the need to establish freedom-to-operate, prepare for partnership negotiations or acquisition discussions, as well as defend against competitor entry, is likely to increase the need for patent protection.

Figure 10 Share of patent-holding startups across growth stages: deep vs. non-deep science startups, 2010–2025



Note: Early-stage companies are those with under USD 15M VC funding, under 50 employees, and under USD 100M valuation. Breakout companies are companies which have either USD 15M or more funding, 50 or more employees, or USD 100M or more valuation but have less than USD 100M or more funding, 500 employees, and USD 500M valuation. Late-stage companies are companies which have either raised USD 100M or more VC funding, 500 or more employees, or USD 500M or more valuation. For the patent search on non-deep science startups, a sampling approach is used. Under a 95% confidence level (with $p = 0.5$), the margin of error is approximately ±1.14% for early-stage, ±1.85% for breakout-stage, and ±2.69% for late-stage startups.

Source: GII 2026, based on Dealroom–WIPO Deep Science Startup Tracker and patent data from Patsnap (March 2026).

East Asia and Northern America dominate deep science patent output, but regional innovation ecosystems are at very different stages of maturity

Asia demonstrates remarkable dynamism in deep science innovation, with China standing out as the most prolific patent filer. In the ranking for South-eastern Asia, Eastern Asia, and Oceania deep science startups founded since 2010, every top 20 company is Chinese, with the number one ranked company, ChangXin Memory Technologies, holding 8,311 patent families – almost five times that of Northern America's top-ranked CTRL-labs. China's deep science startups are predominantly concentrated in semiconductors, robotics, and transportation. Beyond China, Japan and the Republic of Korea are also significant innovation forces within East Asia.

Northern America remains a leading center of global deep science innovation. US companies dominate the Northern American top 20 (with Canada's Synaptive Medical making a strong showing).

Europe represents a multi-country, multi-sector innovation landscape. UK companies claim the most entries on the list (including FlexEnable, CMR Surgical, and Autolus), while Finland ranks well above its size, with two high-ranking companies – ŌURA (1st) and Varjo Technologies Oy (4th). France, Germany, Sweden and Switzerland each contribute notable representatives to the rankings.

Latin America and the Caribbean is emerging as an increasingly diverse and encouraging innovation landscape. Companies from Argentina, Brazil, Chile, Mexico, Peru and beyond have all secured places in the top 20 patent rankings, with Food and Agritech and Life Sciences standing out as the region's most distinctive areas of strength.

Israel holds an unrivalled position of leadership in deep science innovation across Northern Africa and Western Asia. All top 20 deep science startups by simple patent family count in the Northern Africa and Western Asia rankings are Israeli. Türkiye is an emerging player in the region, while Saudi Arabia and the United Arab Emirates are both beginning to demonstrate promising deep science startup potential.

India is becoming the driving force behind Central and Southern Asia's deep science rise. Every top 20 company within this region is Indian, with health care, robotics, and energy emerging as the country's primary areas of focus.

Sub-Saharan Africa is at an early stage of deep science innovation. While WIPO's research and analysis identified only five patent-holding deep science startups within the region (four from South Africa and one from Kenya), the very emergence of these pioneers is itself an encouraging sign pointing to the nascent potential of the region's deep science startup ecosystem.

Taken together, global deep science innovation is increasingly defined by a "multi-polar" dynamic.

These results should be considered in light of certain data coverage constraints, particularly in some emerging and less-documented innovation ecosystems. As the analysis draws on startup information available through the Dealroom database, some deep science startups and their related patenting activity may not yet be fully captured in every region. Additionally, please note that, while the analysis above reflects the top 20 deep science startups per region, the accompanying infographic displays only the top five as a teaser (Figure 11). For the complete tables and details, please consult *SPARK: Patenting in Deep Science Startups and Spinouts (Global Innovation Index 2026 Special)* (WIPO, 2026).

Finally, deeper analysis of the patent filing strategies of deep science ventures reveals that 84.4 percent choose to file via the Patent Cooperation Treaty (PCT) route, whereas only 56.9 percent of non-deep science startups chose to do so. Of all of the published patent families filed by deep science startups, 31.1 percent were filed through the PCT route, compared to only 22.1 percent by non-deep science startups. Deep science startups are more likely than non-deep science ventures to use the PCT route. This is because deep science technologies are typically developed for global markets and commercialized through international partnerships, licensing or acquisition.

Figure 11 Top five deep science startups by region, ranked by number of simple patent families, 2010–2025



Note: For each company, the information after the company name indicates, in order: (1) the number of simple patent families, (2) the economy where its headquarters is located, and (3) the sector to which it belongs.

Source: GII 2026, based on Dealroom–WIPO Deep Science Startup Tracker and patent data from Patsnap (March 2026).

What policies and practices can strengthen deep science entrepreneurship ecosystems?

Deep science commercialization differs structurally from that of other tech-based startups such as software. It has a longer maturation cycle, technical and regulatory uncertainty and infrastructure dependence, and relies on complementary assets. Policy frameworks therefore need to be systemic, adaptive to sector and stage, and accountable to outcomes beyond a firm count.

The most reliable strategies strengthen the full translation stack, from proof-of-concept to pilots and on through to scaling, and align supply-side support with demand-side pathways.

Fund the missing layers in the translation stack. Between research grants and scalable private capital, ecosystems typically need proof-of-concept funding, prototyping and field validation, access to pilot and demonstration facilities, and later-stage patient capital. Workable structures include public–private matching funds that share early risk; first-loss tranches that protect institutional investors during pilot deployments; guarantees that enable debt financing for capital-intensive scaling; and reimbursable finance where commercial returns are plausible. Proof-of-concept programs succeed when structured as enabling packages – mentorship, networks and business development alongside capital; the same nominal funding yields different results depending on whether it includes technical validation, regulatory guidance and connections to follow-on resources (Battaglia *et al.*, 2021; de Rassenfosse, 2026). Public early-stage finance is most effective where the private capacity already exists to absorb and follow on: long-run evidence from the US Small Business Innovation Research (SBIR) program shows awardees perform strongest in those regions that have substantial venture activity, consistent with a complementary rather than a substitutive role for public capital (Lerner, 1999).

Activate demand. Some deep science ventures stall less because the technology does not work than because no first scalable market emerges. Procurement pathways, standards development and offtake commitments lower investor risk and accelerate learning-by-doing. Where governments or large buyers commit to multi-year purchases, breakthroughs become financeable projects rather than stranded pilots. Mission-oriented programs around societal challenges can create explicit demand pull. Procurement frameworks that emphasize functional requirements rather than prescribed technical solutions allow competing approaches to emerge; performance-based contracts and pooled purchasing turn pilots into pipelines, building repeatable orders rather than one-off demonstrations, as discussed in the GII 2026 Expert contributions from Pereira and Lopes Filho on Brazil and from Katragadda on India.

Standardize and professionalize technology transfer. Variation and opacity in respect to terms – for example, equity stakes, royalties, board seats and milestone clauses – inflate negotiation costs and make startups in general less investable. Standardized templates, service-level time targets and transparent benchmarking reduce friction. Measuring tech transfer performance by downstream outcomes (follow-on investment, partnerships, product milestones) rather than disclosures and filings alone shifts the emphasis toward translation (Siegel *et al.*, 2003). When universities take overly aggressive equity positions or impose reach-through claims, sophisticated investors disengage; those jurisdictions that have revised terms toward startup-friendly defaults did so after evidence emerged that the maximization of short-term licensing revenue was suppressing startup formation (Tracey and Williamson, 2023; Sivakumar and Cabrera, 2026; Kretzschmar and Dols, 2026). A TTO-first approach is not universally optimal: the relative performance of formal TTO routes versus direct university–industry funding relationships depends on industrial structure and institutional design (Wang and Qian, 2023), arguing for instrument mixes adapted to context rather than having a single template.

Invest in shared infrastructure and verification capacity. Shared labs, testbeds, regulatory sandboxes, pilot manufacturing, and certification pathways shape whether a working technology can reach industrial scale, as illustrated by the GII 2026 Expert contributions from Tan on Singapore's deep tech hub and from Kretzschmar and Dols on CERN Venture Connect. Soft infrastructure matters equally, requiring clear and accessible certification pathways, standardized contracts that lower negotiation costs, and regulatory-science capacity that allows agencies to assess novel technologies.

Create enabling regulatory and institutional frameworks. Regulatory pathways that provide clarity while managing risk enable rather than block innovation. Sandboxes (experimental environments under maintained oversight) allow novel technologies to be tested before full frameworks exist; extending them beyond financial technology to biotech, clean energy, autonomous systems, and advanced manufacturing creates learning opportunities for both innovators and regulators. Legal recognition frameworks that distinguish deep science ventures from generic SMEs reduce uncertainty and enable targeted support, including statutory access to preferential tax treatment, procurement priority and expedited procedures (Saxena, 2026). Stable governance structures that have multi-year mandates and insulated funding allow for consistency beyond political cycles.

Build the IP architecture that allows translation. Patent protection is structurally more important for deep science ventures than it is for other VC-backed startups; adoption rises sharply with venture stage; an income gradient in adoption persists across ecosystems. The policy emphasis is on the surrounding architecture: clear and affordable filing pathways for early-stage ventures and universities; well-functioning patent pools and collaborative licensing for foundational technologies (as in genome editing and agricultural biotechnology); standardization of university IP assignment terms; and improved visibility of intangible assets in accounting and disclosure. IP-backed finance is moving toward the mainstream where valuation expertise, disclosure frameworks, and guarantee or loss-sharing arrangements are in place (WIPO, 2025b); these complementary mechanisms matter as much as do the substantive rights.

Build human capital for translation. Ecosystems need regulatory, manufacturing, quality and commercialization expertise to be in place early. Updating curricula for emerging technology domains, building interdisciplinary programs and offering specialized training in commercialization-relevant skills expands the talent base. Where academic career structures penalize entrepreneurial engagement, startup formation rates suffer. Startup-leave provisions (time-limited entrepreneurial leaves with a guaranteed right to return) allow researchers to test venture formation without abandoning academic careers. Tunisia's Startup Act (2018) provides a concrete model: within the provisions of the Act, public- and private-sector employees can take up to two years leave to build a venture, with a guaranteed right to return to their previous post if it fails (Saxena, 2026). One-stop commercialization support that bundles legal, IP, business and regulatory guidance lowers the expertise barrier for scientists, while recognition of commercialization in promotion and tenure signals institutional commitment; a point developed in the GII 2026 Expert contributions from Sivakumar and Cabrera and from Tan.

Enable collaboration through workable governance. Complex innovations increasingly require collaboration among universities, firms, hospitals, utilities, manufacturers and governments. Consortia reduce duplication and pool infrastructure, but only with the help of workable governance, requiring IP clarity, data rights, shared standards and benefit-sharing credible to partners, while protecting public value. Pre-competitive research consortia can accelerate progress, while preserving competitive dynamics downstream. Cross-border partnerships matter particularly for smaller markets, provided that ownership, data use and dispute resolution are clearly defined.

Maintain competitive dynamics in strategic technology markets. Competition policy shapes business models and investment decisions in deep science from the outset. The task is to enable the collaboration and consolidation often necessary in capital-intensive ventures, while preventing premature lock-in and the consequent blocking of follow-on innovation. Clear guidance on permissible partnership structures and a merger review that operates at market speed help founders structure deals with predictability.

Design for learning, not for replication. No single model fits every context. Policy should begin with a diagnosis of binding constraints that is in context, not from a replication of high-profile models developed elsewhere. A recurring pitfall is the proliferation of visible programs (accelerators, competitions, incubators) that raise activity without changing translation outcomes. Spinout counts and patent disclosures are only one side of success metrics. Effective measurement tracks downstream outcomes – follow-on investment, partnership formation, sustained operations, and eventual market adoption (de Rassenfosse, 2026).

A final caveat: not all deep science ventures are high-growth candidates. Research-based spinouts differ in terms of resources, commercial orientation and dependence on parent institutions, and these differences map into different growth trajectories. Support for firms directed at building capabilities for startups differs from the introduction of instruments targeted at scale-up candidates; policy design should account for such heterogeneity (de Rassenfosse, 2026; Mustar *et al.*, 2006).

Employment outcomes are also back-loaded and highly skewed: many ventures stay small for extended periods when in the process of proving technical feasibility, navigating regulation and building manufacturable products; and a small minority of scale-ups accounts for a disproportionate share of jobs and value, meaning averages can be misleading when it comes to program evaluation (de Rassenfosse, 2026).

Box 2 Policy priorities for deep science entrepreneurship ecosystems

- *Diagnose first.* Map where ventures stall (proof-of-concept, prototype, pilot, certification or scale) and track time-to-milestone before designing interventions.
- *Finance the translation stack.* Fund proof-of-concept, pilot validation and later-stage patient capital. Deploy blended instruments (matching funds, guarantees, first-loss tranches, reimbursable finance) matched to deep science risk profiles.
- *Activate demand.* Use procurement with functional requirements, offtake commitments, and anchor customer programs. Consider mission-oriented programs, with government as first customer where appropriate.
- *Professionalize tech transfer.* Standardize templates, set time targets, measure downstream outcomes. Avoid excessive equity claims and reach-through royalties.
- *Build infrastructure.* Provide accessible labs, testbeds, pilot manufacturing and certification pathways, alongside soft infrastructure (standardized contracts and clear procedures) that lowers transaction costs.
- *Enable regulatory pathways.* Extend sandboxes beyond fintech to include biotech, clean energy, autonomous systems and advanced manufacturing; establish legal recognition frameworks; and build regulator capacity to assess novel technologies.
- *Strengthen the IP architecture.* IP serves three roles for deep science ventures: it secures the long gap between invention and revenue; frames the boundaries of collaboration between universities, incumbents and consortia; and underpins non-dilutive finance. Support clear and affordable filing pathways; back patent pools and collaborative licensing for foundational technologies; standardize university IP assignment terms; improve intangible-asset visibility in accounting and disclosure; and develop the valuation, disclosure and guarantee mechanisms that allow IP-backed finance to scale.
- *Develop translation talent.* Invest in regulatory, manufacturing, quality and commercialization expertise. Update curricula for emerging technologies; reduce founder risk through startup-leave provisions and career safety nets.
- *Support collaboration.* Facilitate consortia through clear IP arrangements, data governance and benefit-sharing; provide guidance on permissible partnership structures.
- *Maintain competition.* Build merger review capacity that operates at market speed. Balance enabling collaboration against preventing premature lock-in.
- *Measure and learn.* Track follow-on investment, milestone achievement, infrastructure operation and capability persistence. Refine policy based on evidence; maintain transparency in order to enable cross-jurisdiction learning.

Conclusion

Whether the deep science wave will deliver a productivity payoff is not assured, and the evidence assembled here points to no single lever that guarantees this will happen. Discovery and translation are both demanding, and the binding constraints shift according to field, stage and economy. What the record suggests, however, is that policy has a role to play through providing finance across stages, shared infrastructure, regulatory pathways matched to technology timelines, workable IP frameworks, and the talent to transition work from laboratory to market. None of which assures commercial success, but their absence is a common reason for ventures to stall. Powering entrepreneurs at the frontier of science, and turning more pilots into pipelines, are hard and uneven tasks yet to have a ready solution.

References

AlShareef, M.R., K. Alhussaini and A.A. Ababtain (2026). Saudi Arabia: Building a national ecosystem for frontier innovation and deep tech commercialization. In *Global Innovation Index 2026*. Riyadh and Geneva: Research, Development and Innovation Authority, King Saud University, Ministry of Investment, and WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/2026#contributors

Arundel, A., S. Athreye and S. Wunsch-Vincent (2021). Policies and practices for supporting successful knowledge transfer from public research to firms. In *Harnessing Public Research for Innovation in the 21st Century: An International Assessment of Knowledge Transfer Policies*. Cambridge: Cambridge University Press, 359–463. DOI: 10.1017/9781108904230.

Athreye, S. and F. Rossi (2021). Policy recommendations: Aiming for effective knowledge transfer policies in high- and middle-income countries. In Arundel, A., S. Athreye and S. Wunsch-Vincent (eds), *Harnessing Public Research for Innovation in the 21st Century: An International Assessment of Knowledge Transfer Policies*. Cambridge: Cambridge University Press, 393–417. DOI: 10.1017/9781108904230.022.

Auerswald, P.E. and L.M. Branscomb (2003). Valleys of death and Darwinian seas: Financing the invention to innovation transition in the United States. *Journal of Technology Transfer*, 28(3–4), 227–239.

Battaglia, D., E. Paolucci and E. Ughetto (2021). The role of Proof-of-Concept programs in facilitating the commercialization of research-based inventions. *Research Policy*, 50(6), 104268

Bloom, N., C.I. Jones, J. Van Reenen and M. Webb (2020). Are ideas getting harder to find? *American Economic Review*, 110(4), 1104–1144.

Bonaglia, D., L. Rivera León, M. Canales, O. Gisbert, M. Shcherbakova, J. Slee and S. Wunsch-Vincent (2025). *End of Year Edition – Despite the Odds, Global R&D Spending Grew Again in 2024, Inching Closer to the USD 3 Trillion Mark*. GII Innovation Insights Series, December. Geneva: WIPO. Available at: www.wipo.int/en/web/global-innovation-index/w/blogs/2025/end-of-year-edition

Brown, R. and C. Mason (2017). Looking inside the spiky bits: A critical review and conceptualisation of entrepreneurial ecosystems. Small Business Economics, 49(1), 11–30.

Brynjolfsson, E., D. Li and L. Raymond (2025). Generative AI at work. *Quarterly Journal of Economics*, 140(2), 889–942.

Cabinet Office of Japan (2025). *Intellectual Property Strategic Program 2025*. Tokyo: Intellectual Property Strategy Headquarters, Cabinet Office of Japan, June 3.

Clinton Health Access Initiative (2024). *Analysis of Vaccine Manufacturing Commitments in Africa*. New York: CHAI.

de Rassenfosse, G. (2026). Literature review of deep science ventures. Background study prepared for the *Global Innovation Index 2026*. Lausanne and Geneva: École polytechnique fédérale de Lausanne and WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/2026#contributors

de Vries, K. and S. Wunsch-Vincent (2022). What is the future of innovation-driven growth: Productivity stagnation or revival? In *Global Innovation Index 2022: What is the Future of Innovation-driven Growth?* Geneva: WIPO. Available at: www.wipo.int/edocs/pubdocs/en/wipo-pub-2000-2022-section5-en-special-theme-global-innovation-index-2022-15th-edition.pdf.

EUIPO and EPO (2024). *Patents, Trade Marks and Startup Finance*. Alicante and Munich: European Union Intellectual Property Office and European Patent Office.

Frølund, L., M. Murmann and F. Murray (2024). What is Deep Tech and Why Should Corporate Innovators Care? *MIT Regional Entrepreneurship Acceleration Program (REAP) Working Paper.*

Gisbert, O. and V. Behrens (2024). *2024 Venture Capital Outlook: From Freefall to the First Signs of Stabilization?* GII Innovation Insights Series, October. Geneva: WIPO. Available at: www.wipo.int/en/web/global-innovation-index/w/blogs/2024/2024-venture-capital.

Gisbert, O., D. Bonaglia and S. Wunsch-Vincent (2025). *AI Megadeals Fuel Venture Capital Rebound, but Hide Deepening Geographic and Sectoral Divides*. GII Innovation Insights Series, November. Geneva: WIPO. Available at: www.wipo.int/en/web/global-innovation-index/w/blogs/2025/ai-venture-capital.

Han, F., L. Guo and D. Guo (2026). Spirit-AI: Science-driven entrepreneurship in embodied AI. In *Global Innovation Index 2026*. Hangzhou and Geneva: Spirit AI and WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/2026#contributors

Hayter, C.S., R. Fini and R. Lubynsky (2024). The creation of academic spinouts: University–business collaboration matters. *Journal of Technology Transfer*, 50(4), 1567–1601. DOI: 10.1007/s10961-024-10153-y.

Howell, S.T., J. Rathje, J. Van Reenen and J. Wong (2023). Innovating to net zero: Can venture capital and startups play a meaningful role? *Entrepreneurship and Innovation Policy and the Economy*, 2, 107–145.

Jefferies (2025). *China Biotechs Reshaping U.S. Biopharma: Outlicensing Deals Rise*. Jefferies Equity Research Report, July 14.

Katragadda, G. (2026). The industrial alchemy of science-based entrepreneurship: A comprehensive analysis of the Indian innovation ecosystem. In *Global Innovation Index 2026*. Bangalore and Geneva: Myelin Foundry and WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/2026#contributors

Kretzschmar, L. and H. Dols (2026). Venture-based technology transfer at large research organisations: The case of CERN Venture Connect. In *Global Innovation Index 2026*. Geneva: European Organization for Nuclear Research (CERN) and WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/2026#contributors

LADP (2025). *Financing Deep Tech in Latin America: Bridging the Valley of Death*. Latin American Dynamism Project Report. Mexico City: LADP.

Lerner, J. (1999). The Government as venture capitalist: The long-run impact of the SBIR Program. *The Journal of Business*, 72(3), 285–318.

Lockett, A., D. Siegel, M. Wright and M.D. Ensley (2005). The creation of spinout firms at public research institutions: Managerial and policy implications. *Research Policy*, 34(7), 981–993.

Luo, X. (2026). Early-stage intellectual property practices and R&D empowerment: The CATL case. In *Global Innovation Index 2026*. Ningde and Geneva: Contemporary Amperex Technology Co., Limited (CATL) and WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/2026#contributors

Modina, M., F. Capalbo, M. Sorrentino, G. Ianiro and M.F. Khan (2024). Innovation ecosystems: A comparison between university spinout firms and innovative startups – Evidence from Italy. *International Entrepreneurship and Management Journal*, 20(2), 575–605.

Mosey, S. and M. Wright (2007). From human capital to social capital: A longitudinal study of technology-based academic entrepreneurs. *Entrepreneurship Theory and Practice*, 31(6), 909–935.

Mustar, P., M. Renault, M.G. Colombo, E. Piva, M. Fontes, A. Lockett, M. Wright, B. Clarysse and N. Moray (2006). Conceptualising the heterogeneity of research-based spinouts: A multi-dimensional taxonomy. *Research Policy*, 35(2), 289–308.

NASSCOM (2024). *Indian Tech Startup Ecosystem Report 2024*. New Delhi: National Association of Software and Service Companies.

OECD (2019). *University–Industry Collaboration: New Evidence and Policy Options.* Paris: Organisation for Economic Co-operation and Development (OECD) Publishing.

Park, M., E. Leahey and R.J. Funk (2023). Papers and patents are becoming less disruptive over time. *Nature*, 613, 138–144.

Pereira, L.V. and J.A. Lopes Filho (2026). Brazil's deep tech promise: From scientific creation to scalable ventures. In *Global Innovation Index 2026*. São Paulo and Geneva: gen-t, Banco Fator and World Intellectual Property Organization.

Pimentel, D. and L. Delgado (2026). Profiling science-based startups in Brazil. In *Global Innovation Index 2026*. São Paulo and Geneva: Emerge and WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/2026#contributors

Raff, S., F. Murray and M. Murmann (2024). Why you should tap innovation at deep-tech startups. *MIT Sloan Management Review*, 65(2), 61–66.

Rothaermel, F.T. and M. Thursby (2005). Incubator firm failure or graduation? The role of university linkages. *Research Policy*, 34(7), 1076–1090.

Royal Academy of Engineering and Beauhurst (2024). *Spotlight on Spinouts: UK Deep Tech Report*. London: Royal Academy of Engineering.

Saxena, K. (2026). From research to scale: Evidence on deep-tech startup development in developing economies. Background study prepared for the *Global Innovation Index 2026*. Geneva: WIPO.

Siegel, D.S. and M. Wright (2015). Academic entrepreneurship: Time for a rethink? *British Journal of Management*, 26(4), 582–595.

Siegel, D.S., D. Waldman and A. Link (2003). Assessing the impact of organizational practices on the relative productivity of university technology transfer offices: An exploratory study. *Research Policy*, 32(1), 27–48.

Sivakumar, R. and Á. Cabrera (2026). Disrupting the disruptors: Rebooting academia's commercialization playbook. In *Global Innovation Index 2026*. Atlanta and Geneva: Georgia Institute of Technology and WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/2026#contributors

Solberg, A. and A. Brem (2016). Frugal innovation: The connection between innovation and sustainability. In *2016 Portland International Conference on Management of Engineering and Technology (PICMET)*.

Tan, C.C. (2026). Nurturing a global hub for deep tech startups: Singapore. In *Global Innovation Index 2026*. Singapore and Geneva: National University of Singapore and WIPO. Available at: https://www.wipo.int/en/web/global-innovation-index/2026#contributors

Tracey, I. and A. Williamson (2023). *Independent Review of University Spin-Out Companies*. London: Department for Science, Innovation and Technology and HM Treasury.

Vohora, A., M. Wright and A. Lockett (2004). Critical junctures in the development of university high-tech spinout companies. *Research Policy*, 33(1), 147–175.

Wang, J. and Y. Qian (2023). The Impact of University Patent Ownership on Commercialization. *NBER Working Paper No. 31021*. Cambridge, MA: National Bureau of Economic Research.

Wennberg, K., J. Wiklund and M. Wright (2011). The effectiveness of university knowledge spillovers: Performance Differences between university spinouts and corporate spinouts. *Research Policy*, 40(8), 1128–1143.

WIPO (2025a). *Empowering Deep-Tech Ventures with IP: Insights from the Scale Up Your IP Program in South Africa*. Geneva: WIPO.

WIPO (2025b). *Moving IP Finance from the Margins to the Mainstream*. Geneva: WIPO. DOI: 10.34667/tind.58498.

WIPO (2026). *Technology SPARK Report and GII Special: Patenting in Deep Science Startups and Spinouts*. Geneva: WIPO, November.

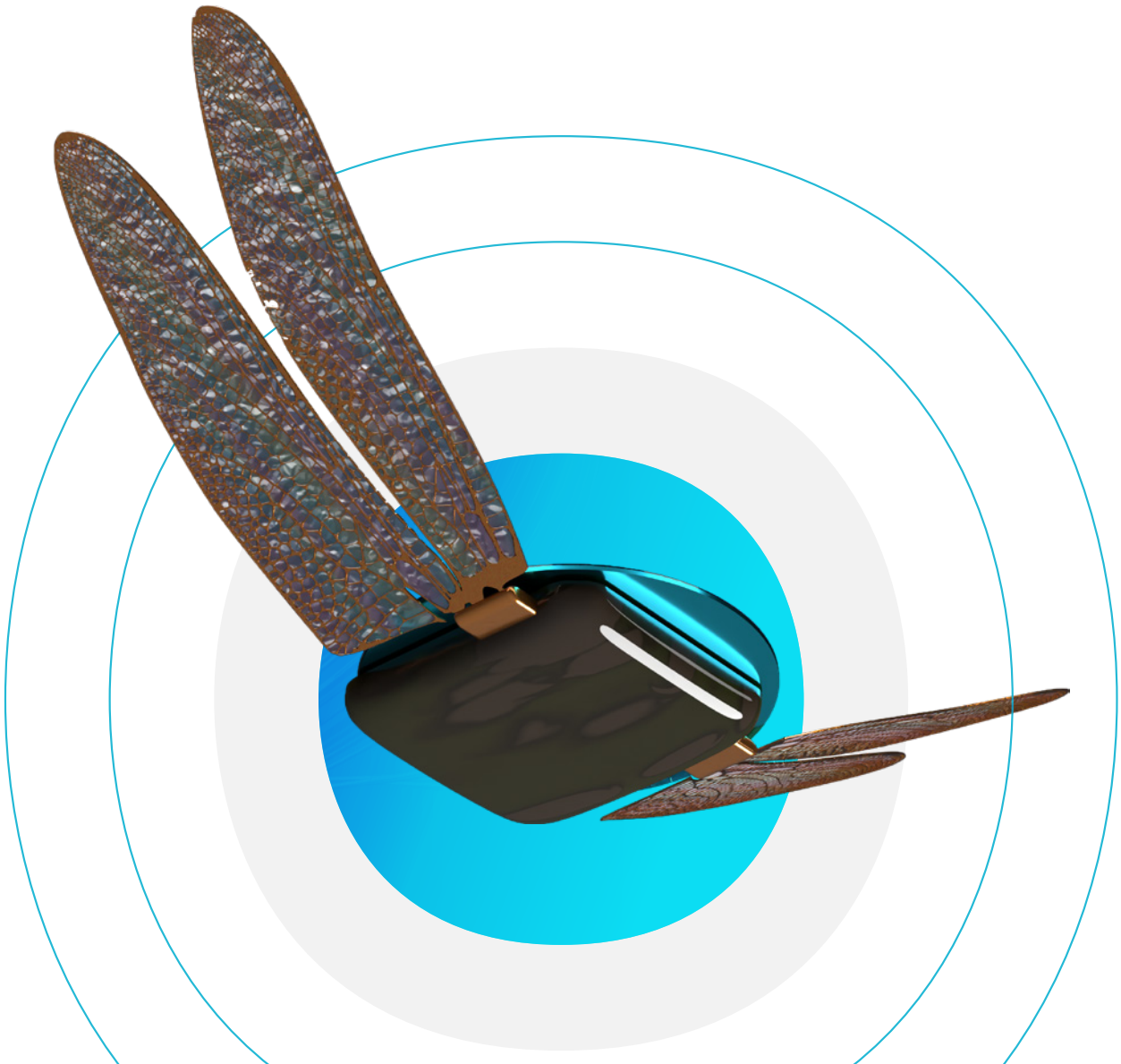
Wright, M., B. Clarysse, A. Lockett and M. Knockaert (2008). Mid-range universities' linkages with industry: Knowledge types and the role of intermediaries. *Research Policy*, 37(8), 1205–1223.

Zucker, L.G. and M.R. Darby (1996). Star scientists and institutional transformation: Patterns of invention and innovation in the formation of the biotechnology industry. *Proceedings of the National Academy of Sciences*, 93(23), 12709–12716.

Zucker, L.G., M.R. Darby and M.B. Brewer (1998). Intellectual human capital and the birth of U.S. biotechnology enterprises. *American Economic Review*, 88(1), 290–306.

GII 2026 Economy briefs and profiles

The following monitoring tools help users to track and interpret innovation performance metrics for 139 economies.



The GII Innovation Ecosystems and Data Explorer serves as a comprehensive monitoring and analytical tool for understanding the performance of an economy's innovation ecosystem, identifying its strengths, areas for improvement and key indicator trends. Users can generate economy briefs and profiles, compare economies, follow the time series underlying each indicator, and identify missing or outdated data. The Explorer also provides access to microdata on intangible assets, top universities and leading brands, as well as information on innovation clusters within specific regions. Recent editions have expanded the range of analytical products to include cluster and regional briefs, such as those covering ASEAN, the European Union and least developed countries (LDCs), among others. The underlying datasets, including country-level Innovation Tracker data, can also be downloaded for further analysis. The Explorer is available in English and Spanish.

How to navigate the GII 2026 Innovation Ecosystems and Data Explorer

Starting your search

The Data Explorer's landing page provides several ways to begin. Users can select an individual economy, choose a region or economy group, browse the overall GII rankings, open an Economy profile or compare two economies. The rankings can be viewed by income group and geographical region, while the list of economies provides direct access to each economy's interactive brief.

Exploring an economy

Selecting an economy opens its full Economy brief. Users can navigate between sections on observed innovation performance relative to economic development, the translation of innovation inputs into outputs, rankings across the seven GII pillars, benchmarking against the economy's region and income group, and its principal strengths and weaknesses. Further sections present long-term indicator trends, leading companies, universities and brands, innovation clusters, missing or outdated data and the economy's single-page economy profile. Data underlying the charts and indicators can be downloaded for further analysis.

Regional profiles and economy comparisons

The Regional Profile section allows users to examine innovation performance across a selected region or economy group. Regional briefs present the rankings of the economies concerned and provide analysis of innovation performance, input-to-output conversion, benchmarking, indicator trends, top performers and innovation clusters.

The Compare economies tool allows users to select two economies and compare their rankings and performance across the GII pillars, sub-pillars and individual indicators.

Indicators, resources and methodological information

- The indicators section allows users to search or browse all GII indicators by pillar and access indicator-specific information and economy results.
- The Resources section brings together the available materials for each economy, including its interactive Economy brief, earlier PDF reports and downloadable economy-level data.
- The About section explains the purpose, structure and methodology of the GII, including its two sub-indices, seven pillars and underlying indicators.

How to read the Economy profiles

The following tables provide detailed profiles (a single-page subset of the Economy briefs) for each of the 139 economies that feature in the *Global Innovation Index 2026*. Each Economy profile is composed of four sections.



2

China

GII 2026 rank **10** 1

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
5	22	Upper middle	SEAO	1,416.1	41,015.8	29,191

3

		Score/ Value	Rank
Institutions		59.3	48 ◆
1.1	**Institutional environment**	**65.8**	**45** ◆
1.1.1	Operational stability for businesses*	66.4	64
1.1.2	Government effectiveness*	65.2	34 ◆
1.2	**Regulatory environment**	**41.9**	**87** ○
1.2.1	Regulatory quality*	45.4	78
1.2.2	Rule of law*	38.5	98 ○
1.3	**Business environment**	**70.2**	**16** ◆
1.3.1	Policy stability for doing business† ◴	73.3	21 ◆
1.3.2	Entrepreneurship policies and culture† ◴	67.1	14 ◆
Human capital and research		49.7	23 ◆
2.1	**Education**	**65.5**	**22** ◆
2.1.1	Expenditure on education, % GDP	3.9	81 ○
2.1.2	Government funding/pupil, secondary, % GDP/cap	20.4	40
2.1.3	School life expectancy, years	n/a	n/a
2.1.4	PISA scales in reading, maths and science ◴	579.0	1 ● ◆
2.1.5	Pupil–teacher ratio, secondary	13.2	65
2.2	**Tertiary education**	**23.2**	**92** ○
2.2.1	Tertiary enrolment, % gross	76.9	33
2.2.2	Graduates in science and engineering, %	n/a	n/a
2.2.3	Tertiary inbound mobility, %	0.3	110 ○
2.3	**Research and development (R&D)**	**60.2**	**16** ◆
2.3.1	Researchers, FTE/mn pop.	2,257.9	41 ◆
2.3.2	Gross expenditure on R&D, % GDP	2.7	13 ◆
2.3.3	Global corporate R&D investors, top 3, mn US$	87.6	2 ● ◆
2.3.4	QS university ranking, top 3*	91.8	3 ● ◆
Infrastructure		63.9	8 ◆
3.1	**Information and communication technologies (ICTs)**	**92.8**	**17** ◆
3.1.1	ICT access*	97.3	35 ◆
3.1.2	ICT use*	90.2	27 ◆
3.1.3	Government online service*	91.1	11 ◆
3.2	**General infrastructure**	**67.1**	**11** ◆
3.2.1	Electricity output, GWh/mn pop.	7,178.0	26 ◆
3.2.2	Aviation import dwell time	1.3	19
3.2.3	Logistics performance*	72.7	18 ◆
3.2.4	Gross capital formation, % GDP	40.2	4 ◆
3.3	**Ecological sustainability**	**31.7**	**32** ◆
3.3.1	GDP/unit of energy use	7.6	110 ○ ◇
3.3.2	Low-carbon energy use, %	11.8	70
3.3.3	ISO 14001 environment/bn PPP$ GDP	10.0	5 ◆
Market sophistication		60.1	11 ◆
4.1	**Credit**	**52.3**	**24** ◆
4.1.1	Finance for startups and scaleups† ◴	68.3	20 ◆
4.1.2	Domestic credit to private sector, % GDP	194.2	4 ◆
4.1.3	Loans from microfinance institutions, % GDP	0.6	42 ○
4.2	**Investment**	**33.6**	**18** ◆
4.2.1	Market capitalization, % GDP	61.7	26
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.2	33 ◆
4.2.3	Late-stage VC deal count, % global VC	7.3	2 ● ◆
4.2.4	VC investors, deal count/bn PPP$ GDP	0.2	42
4.3	**Trade, diversification, and market scale**	**94.3**	**2** ● ◆
4.3.1	Applied tariff rate, weighted avg., %	2.1	67
4.3.2	Domestic industry diversification ◴	98.8	4 ◆
4.3.3	Domestic market scale, bn PPP$	41,015.8	1 ● ◆

		Score/ Value	Rank
Business sophistication		54.4	16 ◆
5.1	**Knowledge workers**	**56.2**	**[17]**
5.1.1	Knowledge-intensive employment, %	n/a	n/a
5.1.2	Females employed w/advanced degrees, %	n/a	n/a
5.1.3	Youth demographic dividend, %	26.4	110 ○ ◇
5.1.4	GERD performed by business, % GDP	2.1	11 ◆
5.1.5	GERD financed by business, %	79.5	1 ● ◆
5.2	**Innovation linkages**	**71.2**	**3** ● ◆
5.2.1	Public research–industry co-publications, %	8.2	3 ● ◆
5.2.2	University–industry R&D collaboration† ◴	66.8	13 ◆
5.2.3	University industry and international engagement, top 5*	77.4	19 ◆
5.2.4	State of cluster development† ◴	96.8	2 ● ◆
5.2.5	Patent families/bn PPP$ GDP	1.4	18 ◆
5.3	**Knowledge absorption**	**35.9**	**34** ◆
5.3.1	Intellectual property payments, % total trade	1.3	30
5.3.2	High-tech imports, % total trade	18.8	11 ◆
5.3.3	ICT services imports, % total trade	1.1	87 ○
5.3.4	FDI net inflows, % GDP	0.5	116 ○
5.3.5	Green-field R&D & high-tech FDI	0.1	115 ○
5.3.6	Research talent, % in businesses	60.4	14 ◆
Knowledge and technology outputs		63.2	1 ● ◆
6.1	**Knowledge creation**	**70.1**	**2** ● ◆
6.1.1	Patents by origin/bn PPP$ GDP	43.8	2 ● ◆
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	1.7	13 ◆
6.1.3	Utility models by origin/bn PPP$ GDP	83.2	1 ● ◆
6.1.4	Scientific and technical articles/bn PPP$ GDP	22.2	35 ◆
6.1.5	Citable documents H-index	72.3	6 ◆
6.2	**Knowledge impact**	**69.0**	**3** ● ◆
6.2.1	Labor productivity growth, %	5.9	4 ◆
6.2.2	Unicorn valuation, % GDP	6.8	1 ● ◆
6.2.3	Software spending, % GDP	0.3	34
6.2.4	High-tech manufacturing, % ◴	48.4	12 ◆
6.3	**Knowledge diffusion**	**50.6**	**14** ◆
6.3.1	Intellectual property receipts, % total trade	0.3	35 ◆
6.3.2	Production and export complexity	91.8	9 ◆
6.3.3	High-tech exports, % total trade	23.3	7 ◆
6.3.4	ICT services exports, % total trade	2.8	49
6.3.5	ISO 9001 quality/bn PPP$ GDP	17.1	10 ◆
Creative outputs		49.8	12 ◆
7.1	**Intangible assets**	**82.7**	**1** ● ◆
7.1.1	Intangible asset intensity, top 15, %	73.8	12 ◆
7.1.2	Trademarks by origin/bn PPP$ GDP	177.6	1 ● ◆
7.1.3	Global brand value, top 5,000, % GDP	9.4	19 ◆
7.1.4	Industrial designs by origin/bn PPP$ GDP	21.0	1 ● ◆
7.2	**Creative goods and services**	**29.9**	**34** ◆
7.2.1	Cultural and creative services exports, % total trade	0.6	53
7.2.2	National feature films/mn pop. 15–69	0.6	85 ○
7.2.3	Entertainment and media market/th pop. 15–69	9.4	38 ◆
7.2.4	Creative goods exports, % total trade	9.3	4 ◆
7.3	**Online creativity**	**4.0**	**[138]**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	4.0	63
7.3.2	GitHub commits/mn pop. 15–69	n/a	n/a
7.3.3	Mobile app creation/bn PPP$ GDP	n/a	n/a

4

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

1: Global ranking

This is the overall Global Innovation Index (GII) rank for each economy.

2: Economy header

Below each economy is a selection of key metrics:

- Innovation Input and Innovation Output Sub-Index rankings;
- The income group to which that economy belongs;
- Geographical region;
- Population in millions;
- GDP in billions of USD purchasing power parity (PPP), and lastly, GDP per capita in USD PPP;

Due to economies entering/exiting the GII, annual framework adjustments, and technical factors (missing data, updates), GII rankings aren't directly comparable year-to-year. See Appendix I for details.

The Innovation Input Sub-Index rank uses average scores from the first five pillars; Innovation Output Sub-Index rank uses average scores from the last two pillars. Scores are normalized values (0–100 range).

3: Index structure

Pillars use icons, sub-pillars use two-digit numbers, indicators use three-digit numbers. For example, under the pillar Institutions is sub-pillar 1.3 Business environment, containing indicator 1.3.2 Entrepreneurship policies and culture.

GII 2026 has 78 indicators with three data types: composite indicators (*), survey questions (†), and hard data series.

Where possible, we provide indicator values (scaled/unscaled) rather than scores. Survey-based indicators (5) and index indicators (10) are always reported as scores, plus 8 of the 63 hard data indicators also use scores. Overall, 55 of 78 indicators are reported as values in economy profiles.

When data are either unavailable or out of date, “n/a” is used, with a cutoff year of 2016. To the right of an indicator name, a clock symbol shows economy data older than the base year. See Appendix I for data exceptions/limitations and GII framework details; Appendix III for indicator sources/definitions.

4: Strengths and weaknesses

Right column symbols: solid circle ● = strengths, hollow circle ○ = weaknesses. Solid diamond ◆ = income group strengths, hollow diamond ◇ = income group weaknesses. Exception: top 25 high-income economies use top 25 group comparison instead.

Rankings 1-3 are highlighted as strengths, except when at the sub-pillar level the desired data minimum coverage (DMC) is unmet. Other strengths/weaknesses use percentile ranks where data is no older than indicator mode minus 5 years (e.g., 2019+ for 2024 mode indicators).

For any economy, strengths ● are scores with percentile ranks above the 10th largest among its 79 indicators; weaknesses ○ are scores below the 10th smallest percentile rank.

Similarly, income group strengths ◆ are scores above group average plus standard deviation; weaknesses ◇ are scores below group average minus standard deviation.

Sub-pillars not meeting DMC show scores in square brackets []. Multiple such sub-pillars also bracket pillar ranks []. No strengths/weaknesses are signaled for these.

A complete explanation of the methodology for the calculation of strengths and weaknesses is available in Appendix I.

Framework of the Global Innovation Index 2026



Source: Global Innovation Index Database, WIPO, 2026.

Albania

79

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
94	57	Upper middle	EUR	2.8	62.9	23,327

		Score/ Value	Rank	
Institutions		**59.7**	**45**	◆
1.1	**Institutional environment**	**59.5**	**58**	
1.1.1	Operational stability for businesses*	68.4	57	
1.1.2	Government effectiveness*	50.5	59	
1.2	**Regulatory environment**	**49.9**	**64**	
1.2.1	Regulatory quality*	50.5	61	
1.2.2	Rule of law*	49.4	67	
1.3	**Business environment**	**69.8**	**[17]**	
1.3.1	Policy stability for doing business† ⏲	69.8	29	◆
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**26.8**	**93**	
2.1	**Education**	**43.5**	**103**	
2.1.1	Expenditure on education, % GDP	3.1	107	
2.1.2	Government funding/pupil, secondary, % GDP/cap	8.0	87 ○	◇
2.1.3	School life expectancy, years	17.3	23	◆
2.1.4	PISA scales in reading, maths and science	367.5	74 ○	
2.1.5	Pupil–teacher ratio, secondary	9.0	18 ●	
2.2	**Tertiary education**	**35.3**	**57**	
2.2.1	Tertiary enrolment, % gross	84.1	17 ●	◆
2.2.2	Graduates in science and engineering, %	24.1	50	
2.2.3	Tertiary inbound mobility, %	1.9	85	
2.3	**Research and development (R&D)**	**1.7**	**96**	
2.3.1	Researchers, FTE/mn pop. ⏲	428.7	78	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.2	88	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**50.3**	**52**	
3.1	**Information and communication technologies (ICTs)**	**80.8**	**60**	
3.1.1	ICT access*	89.8	59	
3.1.2	ICT use*	74.9	88	
3.1.3	Government online service*	77.7	46	
3.2	**General infrastructure**	**22.7**	**128** ○	◇
3.2.1	Electricity output, GWh/mn pop.	3,026.9	67	
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	18.2	89 ○	
3.2.4	Gross capital formation, % GDP	25.3	46	
3.3	**Ecological sustainability**	**47.3**	**5** ●	◆
3.3.1	GDP/unit of energy use	22.7	14 ●	◆
3.3.2	Low-carbon energy use, %	37.6	14 ●	◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	7.2	14 ●	◆
Market sophistication		**41.7**	**48**	
4.1	**Credit**	**9.1**	**122** ○	◇
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	34.1	87	
4.1.3	Loans from microfinance institutions, % GDP	0.7	40	
4.2	**Investment**	**n/a**	**[n/a]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**74.4**	**55**	
4.3.1	Applied tariff rate, weighted avg., %	1.1	17 ●	
4.3.2	Domestic industry diversification	93.4	30	
4.3.3	Domestic market scale, bn PPP$	62.9	115	

		Score/ Value	Rank	
Business sophistication		**25.4**	**77**	
5.1	**Knowledge workers**	**22.8**	**125** ○	◇
5.1.1	Knowledge-intensive employment, % ⏲	20.5	76	
5.1.2	Females employed w/advanced degrees, % ⏲	12.2	68	
5.1.3	Youth demographic dividend, %	28.3	98	◇
5.1.4	GERD performed by business, % GDP ⏲	0.1	68	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**37.6**	**38**	◆
5.2.1	Public research–industry co-publications, %	0.6	113	
5.2.2	University–industry R&D collaboration† ⏲	53.0	37	◆
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development† ⏲	88.8	9 ●	◆
5.2.5	Patent families/bn PPP$ GDP	0.1	51	
5.3	**Knowledge absorption**	**15.8**	**110**	◇
5.3.1	Intellectual property payments, % total trade	0.3	88	
5.3.2	High-tech imports, % total trade	3.1	132 ○	◇
5.3.3	ICT services imports, % total trade	1.0	90	
5.3.4	FDI net inflows, % GDP	6.9	15 ●	◆
5.3.5	Green-field R&D & high-tech FDI	0.7	75	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**17.6**	**84**	
6.1	**Knowledge creation**	**5.6**	**111**	
6.1.1	Patents by origin/bn PPP$ GDP ⏲	0.3	84	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	65	
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	70	
6.1.4	Scientific and technical articles/bn PPP$ GDP	10.1	88	
6.1.5	Citable documents H-index	3.4	121 ○	
6.2	**Knowledge impact**	**20.9**	**91**	
6.2.1	Labor productivity growth, %	3.9	15 ●	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.1	97	
6.2.4	High-tech manufacturing, %	6.9	94	◇
6.3	**Knowledge diffusion**	**26.3**	**57**	
6.3.1	Intellectual property receipts, % total trade	0.1	66	
6.3.2	Production and export complexity	68.5	79	
6.3.3	High-tech exports, % total trade	0.1	132 ○	
6.3.4	ICT services exports, % total trade	2.2	61	
6.3.5	ISO 9001 quality/bn PPP$ GDP	13.8	15 ●	◆
Creative outputs		**13.9**	**106**	
7.1	**Intangible assets**	**10.8**	**94**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	36.4	57	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.5	84	
7.2	**Creative goods and services**	**9.7**	**80**	
7.2.1	Cultural and creative services exports, % total trade	1.0	40	
7.2.2	National feature films/mn pop. 15–69	2.0	67	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.1	107	
7.3	**Online creativity**	**24.1**	**85**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	5.3	57	
7.3.2	GitHub commits/mn pop. 15–69	8.5	63	
7.3.3	Mobile app creation/bn PPP$ GDP	58.5	111	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Algeria

GII 2026 rank **111**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
122	99	Upper middle	NAWA	47.4	874.6	18,509

		Score/ Value	Rank	
Institutions		**42.8**	**89**	
1.1	**Institutional environment**	**45.8**	**93**	
1.1.1	Operational stability for businesses*	55.3	96	
1.1.2	Government effectiveness*	36.3	94	
1.2	**Regulatory environment**	**32.1**	**112**	
1.2.1	Regulatory quality*	28.5	118	◇
1.2.2	Rule of law*	35.7	102	
1.3	**Business environment**	**50.5**	**57**	
1.3.1	Policy stability for doing business†	61.3	40 ●	
1.3.2	Entrepreneurship policies and culture†	39.7	43	
Human capital and research		**41.0**	**39** ● ◆	
2.1	**Education**	**81.2**	**3** ● ◆	
2.1.1	Expenditure on education, % GDP	9.0	2 ● ◆	
2.1.2	Government funding/pupil, secondary, % GDP/cap	38.8	2 ● ◆	
2.1.3	School life expectancy, years	15.6	43 ●	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	15.5	79	
2.2	**Tertiary education**	**36.0**	**54**	
2.2.1	Tertiary enrolment, % gross	54.4	66	
2.2.2	Graduates in science and engineering, %	30.9	17 ● ◆	
2.2.3	Tertiary inbound mobility, %	0.3	108	
2.3	**Research and development (R&D)**	**5.9**	**79**	
2.3.1	Researchers, FTE/mn pop.	1,764.0	44	
2.3.2	Gross expenditure on R&D, % GDP	0.4	63	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇	
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇	
Infrastructure		**31.1**	**116**	◇
3.1	**Information and communication technologies (ICTs)**	**62.9**	**97**	
3.1.1	ICT access*	87.8	63	
3.1.2	ICT use*	81.3	67	
3.1.3	Government online service*	19.6	130	◇
3.2	**General infrastructure**	**24.8**	**123**	◇
3.2.1	Electricity output, GWh/mn pop. ⏲	2,071.5	85	
3.2.2	Aviation import dwell time	12.1	115 ○	◇
3.2.3	Logistics performance*	18.2	89	
3.2.4	Gross capital formation, % GDP	39.5	5 ●	◆
3.3	**Ecological sustainability**	**5.6**	**131**	◇
3.3.1	GDP/unit of energy use	9.0	102	
3.3.2	Low-carbon energy use, %	0.1	134	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.2	113	
Market sophistication		**19.6**	**125**	◇
4.1	**Credit**	**25.4**	**76**	
4.1.1	Finance for startups and scaleups†	45.2	53	
4.1.2	Domestic credit to private sector, % GDP	19.0	111	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**0.1**	**125** ○	
4.2.1	Market capitalization, % GDP ⏲	0.2	83	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	116 ○	◇
4.2.3	Late-stage VC deal count, % global VC ⏲	0.0	102 ○	◇
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	115 ○	
4.3	**Trade, diversification, and market scale**	**33.3**	**132**	◇
4.3.1	Applied tariff rate, weighted avg., % ⏲	12.7	135	
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	874.6	39 ●	

		Score/ Value	Rank	
Business sophistication		**18.8**	**122**	◇
5.1	**Knowledge workers**	**19.3**	**[135]**	
5.1.1	Knowledge-intensive employment, %	n/a	n/a	
5.1.2	Females employed w/advanced degrees, %	n/a	n/a	
5.1.3	Youth demographic dividend, %	44.3	46 ●	◆
5.1.4	GERD performed by business, % GDP	0.0	86	
5.1.5	GERD financed by business, %	2.4	90	◇
5.2	**Innovation linkages**	**23.9**	**70**	
5.2.1	Public research–industry co-publications, %	0.5	115	
5.2.2	University–industry R&D collaboration†	39.9	60	
5.2.3	University industry and international engagement, top 5*	6.4	99	
5.2.4	State of cluster development†	66.9	36 ●	◆
5.2.5	Patent families/bn PPP$ GDP	0.0	92	
5.3	**Knowledge absorption**	**13.2**	**129**	◇
5.3.1	Intellectual property payments, % total trade	0.3	82	
5.3.2	High-tech imports, % total trade	9.2	51	
5.3.3	ICT services imports, % total trade	0.3	130	◇
5.3.4	FDI net inflows, % GDP	0.4	118	◇
5.3.5	Green-field R&D & high-tech FDI	0.1	121	◇
5.3.6	Research talent, % in businesses	0.5	90 ○	◇
Knowledge and technology outputs		**10.8**	**120**	◇
6.1	**Knowledge creation**	**11.6**	**76**	
6.1.1	Patents by origin/bn PPP$ GDP	1.3	37 ●	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	91	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	10.0	89	
6.1.5	Citable documents H-index	10.7	75	
6.2	**Knowledge impact**	**10.5**	**132**	◇
6.2.1	Labor productivity growth, %	0.1	116	◇
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.0	138 ○	◇
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**10.2**	**127**	◇
6.3.1	Intellectual property receipts, % total trade	0.0	118	
6.3.2	Production and export complexity	47.4	114	◇
6.3.3	High-tech exports, % total trade	0.1	122	
6.3.4	ICT services exports, % total trade	0.1	128	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.8	114	
Creative outputs		**10.0**	**117**	◇
7.1	**Intangible assets**	**8.8**	**101**	◇
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	17.7	92	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.7	67	
7.2	**Creative goods and services**	**0.9**	**133**	◇
7.2.1	Cultural and creative services exports, % total trade	0.0	119	
7.2.2	National feature films/mn pop. 15–69	0.3	93	
7.2.3	Entertainment and media market/th pop. 15–69	2.3	52	◇
7.2.4	Creative goods exports, % total trade	0.0	134	
7.3	**Online creativity**	**21.6**	**104**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.3	119	
7.3.2	GitHub commits/mn pop. 15–69	1.8	112	◇
7.3.3	Mobile app creation/bn PPP$ GDP	62.6	99	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Angola

GII 2026 rank **136**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
136	135	Lower middle	SSA	39.0	401.5	10,217

		Score/ Value	Rank	
Institutions		**27.2**	**124**	
1.1	**Institutional environment**	**39.1**	**109**	
1.1.1	Operational stability for businesses*	55.3	96 ●	
1.1.2	Government effectiveness*	22.9	122	
1.2	**Regulatory environment**	**26.2**	**125**	
1.2.1	Regulatory quality*	28.0	123	
1.2.2	Rule of law*	24.5	125	
1.3	**Business environment**	**16.2**	**130**	◇
1.3.1	Policy stability for doing business†	24.1	119	
1.3.2	Entrepreneurship policies and culture†	8.3	85	◇
Human capital and research		**11.8**	**[134]**	
2.1	**Education**	**30.7**	**[129]**	
2.1.1	Expenditure on education, % GDP	2.5	120	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years ⏲	9.3	109	◇
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary ⏲	28.4	119	
2.2	**Tertiary education**	**4.5**	**[128]**	
2.2.1	Tertiary enrolment, % gross	10.0	118	◇
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**0.1**	**117**	
2.3.1	Researchers, FTE/mn pop. ⏲	18.9	108	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.0	111	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**27.2**	**124**	◇
3.1	**Information and communication technologies (ICTs)**	**40.8**	**122**	◇
3.1.1	ICT access*	47.6	123	◇
3.1.2	ICT use*	47.4	117	◇
3.1.3	Government online service*	27.4	123	
3.2	**General infrastructure**	**23.8**	**126**	
3.2.1	Electricity output, GWh/mn pop. ⏲	427.2	115	
3.2.2	Aviation import dwell time	8.0	114	◇
3.2.3	Logistics performance*	0.0	113 ○	◇
3.2.4	Gross capital formation, % GDP	34.0	13 ●	
3.3	**Ecological sustainability**	**16.8**	**74** ●	
3.3.1	GDP/unit of energy use	17.1	36 ●	
3.3.2	Low-carbon energy use, %	13.2	65 ●	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	127	
Market sophistication		**13.3**	**137**	◇
4.1	**Credit**	**5.5**	**127**	
4.1.1	Finance for startups and scaleups†	16.1	86	◇
4.1.2	Domestic credit to private sector, % GDP	7.3	127 ○	◇
4.1.3	Loans from microfinance institutions, % GDP ⏲	0.0	64	
4.2	**Investment**	**0.0**	**[126]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP ⏲	0.0	117 ○	◇
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	116 ○	◇
4.3	**Trade, diversification, and market scale**	**34.5**	**131**	◇
4.3.1	Applied tariff rate, weighted avg., %	8.7	122	
4.3.2	Domestic industry diversification	13.8	109	◇
4.3.3	Domestic market scale, bn PPP$	401.5	58 ●	

		Score/ Value	Rank	
Business sophistication		**17.4**	**131**	◇
5.1	**Knowledge workers**	**34.3**	**[69]**	
5.1.1	Knowledge-intensive employment, %	8.0	108	
5.1.2	Females employed w/advanced degrees, %	0.0	129 ○	◇
5.1.3	Youth demographic dividend, %	63.4	8 ●	◆
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**4.3**	**136**	◇
5.2.1	Public research–industry co-publications, %	0.5	121	
5.2.2	University–industry R&D collaboration†	8.6	133	◇
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	3.2	133	◇
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**13.6**	**128**	
5.3.1	Intellectual property payments, % total trade	0.5	68 ●	
5.3.2	High-tech imports, % total trade	4.1	123	
5.3.3	ICT services imports, % total trade	0.3	126	
5.3.4	FDI net inflows, % GDP	–2.7	133	◇
5.3.5	Green-field R&D & high-tech FDI	0.2	111	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**6.5**	**135**	◇
6.1	**Knowledge creation**	**0.4**	**139** ○	◇
6.1.1	Patents by origin/bn PPP$ GDP ⏲	0.0	133	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	106	
6.1.3	Utility models by origin/bn PPP$ GDP ⏲	0.0	65 ●	
6.1.4	Scientific and technical articles/bn PPP$ GDP	0.7	139 ○	◇
6.1.5	Citable documents H-index	0.8	135	◇
6.2	**Knowledge impact**	**7.6**	**139** ○	◇
6.2.1	Labor productivity growth, %	–1.3	134	◇
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.1	84 ●	
6.2.4	High-tech manufacturing, %	4.1	104	◇
6.3	**Knowledge diffusion**	**11.4**	**118**	
6.3.1	Intellectual property receipts, % total trade	0.0	126	
6.3.2	Production and export complexity	53.4	103	
6.3.3	High-tech exports, % total trade	0.6	91 ●	
6.3.4	ICT services exports, % total trade	0.1	134	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.5	125	
Creative outputs		**6.8**	**[129]**	
7.1	**Intangible assets**	**4.5**	**[123]**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	9.4	114	
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4	Industrial designs by origin/bn PPP$ GDP ⏲	0.1	110	
7.2	**Creative goods and services**	**1.1**	**[131]**	
7.2.1	Cultural and creative services exports, % total trade	0.0	128 ○	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.1	106	
7.3	**Online creativity**	**17.0**	**127**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.1	132	
7.3.2	GitHub commits/mn pop. 15–69	0.4	129	
7.3.3	Mobile app creation/bn PPP$ GDP	50.7	124	◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Argentina

GII 2026 rank **75**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
66	83	Upper middle	LCN	45.9	1,490.2	31,311

		Score/ Value	Rank	
Institutions		**38.0**	**101**	
1.1	**Institutional environment**	**49.3**	**85**	
1.1.1	Operational stability for businesses*	51.3	104	
1.1.2	Government effectiveness*	47.2	67	
1.2	**Regulatory environment**	**43.8**	**82**	
1.2.1	Regulatory quality*	41.3	89	
1.2.2	Rule of law*	46.2	77	
1.3	**Business environment**	**21.0**	**121**	○
1.3.1	Policy stability for doing business†	29.5	104	
1.3.2	Entrepreneurship policies and culture†	12.6	84	○
Human capital and research		**35.5**	**60**	
2.1	**Education**	**47.9**	**85**	
2.1.1	Expenditure on education, % GDP	5.0	44	
2.1.2	Government funding/pupil, secondary, % GDP/cap	17.7	57	
2.1.3	School life expectancy, years	18.6	9	● ◆
2.1.4	PISA scales in reading, maths and science	394.8	65	
2.1.5	Pupil–teacher ratio, secondary	n/a	n/a	
2.2	**Tertiary education**	**30.3**	**76**	
2.2.1	Tertiary enrolment, % gross	107.8	8	● ◆
2.2.2	Graduates in science and engineering, %	14.7	106	○ ◇
2.2.3	Tertiary inbound mobility, %	3.4	65	
2.3	**Research and development (R&D)**	**28.3**	**39**	◆
2.3.1	Researchers, FTE/mn pop.	1,279.1	50	
2.3.2	Gross expenditure on R&D, % GDP	0.6	59	
2.3.3	Global corporate R&D investors, top 3, mn US$	45.8	38	◆
2.3.4	QS university ranking, top 3*	46.4	38	●
Infrastructure		**43.7**	**73**	
3.1	**Information and communication technologies (ICTs)**	**77.7**	**68**	
3.1.1	ICT access*	95.9	45	◆
3.1.2	ICT use*	61.8	106	◇
3.1.3	Government online service*	75.5	52	
3.2	**General infrastructure**	**36.2**	**84**	
3.2.1	Electricity output, GWh/mn pop.	3,341.9	63	
3.2.2	Aviation import dwell time	2.3	56	
3.2.3	Logistics performance*	31.8	71	
3.2.4	Gross capital formation, % GDP	16.6	118	○ ◇
3.3	**Ecological sustainability**	**17.2**	**70**	
3.3.1	GDP/unit of energy use	14.3	54	
3.3.2	Low-carbon energy use, %	11.4	72	
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.5	58	
Market sophistication		**27.7**	**103**	
4.1	**Credit**	**14.4**	**111**	
4.1.1	Finance for startups and scaleups†	25.0	81	○
4.1.2	Domestic credit to private sector, % GDP	15.1	117	○ ◇
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**3.2**	**88**	
4.2.1	Market capitalization, % GDP	8.4	77	○
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	81	
4.2.3	Late-stage VC deal count, % global VC	0.0	45	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	65	
4.3	**Trade, diversification, and market scale**	**65.5**	**81**	
4.3.1	Applied tariff rate, weighted avg., %	7.2	113	○ ◇
4.3.2	Domestic industry diversification	82.5	65	
4.3.3	Domestic market scale, bn PPP$	1,490.2	28	●

		Score/ Value	Rank	
Business sophistication		**25.7**	**74**	
5.1	**Knowledge workers**	**31.4**	**90**	
5.1.1	Knowledge-intensive employment, %	24.0	63	
5.1.2	Females employed w/advanced degrees, %	16.0	49	
5.1.3	Youth demographic dividend, %	35.9	70	
5.1.4	GERD performed by business, % GDP	0.3	53	
5.1.5	GERD financed by business, %	22.9	65	
5.2	**Innovation linkages**	**17.9**	**100**	
5.2.1	Public research–industry co-publications, %	1.5	64	
5.2.2	University–industry R&D collaboration†	29.8	94	
5.2.3	University industry and international engagement, top 5*	13.0	84	○
5.2.4	State of cluster development†	29.4	100	
5.2.5	Patent families/bn PPP$ GDP	0.0	65	
5.3	**Knowledge absorption**	**27.8**	**54**	
5.3.1	Intellectual property payments, % total trade	2.0	15	● ◆
5.3.2	High-tech imports, % total trade	9.4	48	
5.3.3	ICT services imports, % total trade	2.5	31	● ◆
5.3.4	FDI net inflows, % GDP	2.7	67	
5.3.5	Green-field R&D & high-tech FDI	0.6	80	
5.3.6	Research talent, % in businesses	11.2	63	
Knowledge and technology outputs		**20.2**	**76**	
6.1	**Knowledge creation**	**12.2**	**74**	
6.1.1	Patents by origin/bn PPP$ GDP	0.3	83	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a	
6.1.3	Utility models by origin/bn PPP$ GDP	0.1	49	
6.1.4	Scientific and technical articles/bn PPP$ GDP	7.1	104	
6.1.5	Citable documents H-index	27.7	37	●
6.2	**Knowledge impact**	**23.7**	**72**	
6.2.1	Labor productivity growth, %	−0.5	128	○ ◇
6.2.2	Unicorn valuation, % GDP	0.9	41	
6.2.3	Software spending, % GDP	0.2	55	
6.2.4	High-tech manufacturing, %	31.2	41	
6.3	**Knowledge diffusion**	**24.9**	**59**	
6.3.1	Intellectual property receipts, % total trade	0.3	42	◆
6.3.2	Production and export complexity	67.4	82	
6.3.3	High-tech exports, % total trade	0.5	94	
6.3.4	ICT services exports, % total trade	3.2	46	
6.3.5	ISO 9001 quality/bn PPP$ GDP	6.6	38	●
Creative outputs		**26.6**	**63**	
7.1	**Intangible assets**	**31.6**	**58**	
7.1.1	Intangible asset intensity, top 15, %	37.1	62	
7.1.2	Trademarks by origin/bn PPP$ GDP	60.3	25	●
7.1.3	Global brand value, top 5,000, % GDP	1.6	51	
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.1	58	
7.2	**Creative goods and services**	**14.2**	**70**	
7.2.1	Cultural and creative services exports, % total trade	1.2	31	●
7.2.2	National feature films/mn pop. 15–69	7.4	23	●
7.2.3	Entertainment and media market/th pop. 15–69	4.8	47	
7.2.4	Creative goods exports, % total trade	0.0	124	○
7.3	**Online creativity**	**29.1**	**56**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	4.2	62	
7.3.2	GitHub commits/mn pop. 15–69	14.3	53	
7.3.3	Mobile app creation/bn PPP$ GDP	68.8	59	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Armenia

59

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
52	77	Upper middle	NAWA	3.0	74.4	23,954

		Score/ Value	Rank	
Institutions		**47.2**	**78**	
1.1	**Institutional environment**	**47.0**	**92**	
1.1.1	Operational stability for businesses*	60.5	84	
1.1.2	Government effectiveness*	33.5	103	
1.2	**Regulatory environment**	**49.7**	**66**	
1.2.1	Regulatory quality*	50.6	60	
1.2.2	Rule of law*	48.8	68	
1.3	**Business environment**	**45.0**	**68**	
1.3.1	Policy stability for doing business†	36.8	91	
1.3.2	Entrepreneurship policies and culture† ⏲	53.2	21 ●	
Human capital and research		**25.9**	**99**	
2.1	**Education**	**43.9**	**101**	
2.1.1	Expenditure on education, % GDP	2.4	122	◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	12.0	78	
2.1.3	School life expectancy, years	14.0	71	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	12.9	63	
2.2	**Tertiary education**	**30.5**	**75**	
2.2.1	Tertiary enrolment, % gross	52.8	71	
2.2.2	Graduates in science and engineering, %	21.0	77	
2.2.3	Tertiary inbound mobility, %	8.4	39	◆
2.3	**Research and development (R&D)**	**3.3**	**89**	
2.3.1	Researchers, FTE/mn pop.	942.2	58	
2.3.2	Gross expenditure on R&D, % GDP	0.3	73	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**44.2**	**70**	
3.1	**Information and communication technologies (ICTs)**	**81.0**	**59**	
3.1.1	ICT access*	83.8	73	
3.1.2	ICT use*	84.3	51	
3.1.3	Government online service*	75.0	53	
3.2	**General infrastructure**	**32.0**	**96**	
3.2.1	Electricity output, GWh/mn pop.	3,092.0	65	
3.2.2	Aviation import dwell time ⏲	4.6	97	
3.2.3	Logistics performance*	18.2	89	
3.2.4	Gross capital formation, % GDP	23.6	61	
3.3	**Ecological sustainability**	**19.7**	**63**	
3.3.1	GDP/unit of energy use	14.8	51	
3.3.2	Low-carbon energy use, %	25.3	36	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	129 ○	
Market sophistication		**33.7**	**80**	
4.1	**Credit**	**33.9**	**55**	
4.1.1	Finance for startups and scaleups† ⏲	47.3	48	
4.1.2	Domestic credit to private sector, % GDP	64.4	44	
4.1.3	Loans from microfinance institutions, % GDP	3.2	13 ●	
4.2	**Investment**	**2.9**	**95**	
4.2.1	Market capitalization, % GDP	7.0	78 ○	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	85	
4.2.3	Late-stage VC deal count, % global VC ⏲	0.0	96	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	57	
4.3	**Trade, diversification, and market scale**	**64.2**	**85**	
4.3.1	Applied tariff rate, weighted avg., % ⏲	3.7	85	
4.3.2	Domestic industry diversification	81.0	67	
4.3.3	Domestic market scale, bn PPP$	74.4	104	

		Score/ Value	Rank	
Business sophistication		**24.7**	**80**	
5.1	**Knowledge workers**	**40.3**	**51**	
5.1.1	Knowledge-intensive employment, % ⏲	29.4	50	
5.1.2	Females employed w/advanced degrees, % ⏲	27.1	17 ●	◆
5.1.3	Youth demographic dividend, %	31.2	82	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	4.2	85	
5.2	**Innovation linkages**	**14.7**	**118**	
5.2.1	Public research–industry co-publications, %	1.9	43	
5.2.2	University–industry R&D collaboration†	19.9	120	◇
5.2.3	University industry and international engagement, top 5*	4.9	103 ○	
5.2.4	State of cluster development†	25.4	110	
5.2.5	Patent families/bn PPP$ GDP	0.1	56	
5.3	**Knowledge absorption**	**19.0**	**85**	
5.3.1	Intellectual property payments, % total trade	0.0	132 ○	◇
5.3.2	High-tech imports, % total trade	8.4	62	
5.3.3	ICT services imports, % total trade	0.6	115	
5.3.4	FDI net inflows, % GDP	2.6	68	
5.3.5	Green-field R&D & high-tech FDI	2.0	34 ●	◆
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**23.7**	**60**	
6.1	**Knowledge creation**	**17.8**	**58**	
6.1.1	Patents by origin/bn PPP$ GDP	0.3	87	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	54	
6.1.3	Utility models by origin/bn PPP$ GDP	1.1	15 ●	
6.1.4	Scientific and technical articles/bn PPP$ GDP	18.2	46	
6.1.5	Citable documents H-index	9.4	85	
6.2	**Knowledge impact**	**25.3**	**64**	
6.2.1	Labor productivity growth, %	6.0	3 ●	◆
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.1	95	
6.2.4	High-tech manufacturing, %	4.2	103 ○	◇
6.3	**Knowledge diffusion**	**28.1**	**53**	
6.3.1	Intellectual property receipts, % total trade	0.0	130 ○	◇
6.3.2	Production and export complexity	78.7	45	
6.3.3	High-tech exports, % total trade	4.8	41	
6.3.4	ICT services exports, % total trade	6.3	17 ●	◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.8	115	
Creative outputs		**32.5**	**45**	
7.1	**Intangible assets**	**25.3**	**70**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	105.8	5 ●	◆
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.7	70	
7.2	**Creative goods and services**	**44.8**	**[9]**	
7.2.1	Cultural and creative services exports, % total trade	0.3	76	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	6.8	7 ●	◆
7.3	**Online creativity**	**34.4**	**43**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	4.9	58	
7.3.2	GitHub commits/mn pop. 15–69	22.7	39	◆
7.3.3	Mobile app creation/bn PPP$ GDP	75.8	17 ●	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Australia

GII 2026 rank **20**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
24	13	High	SEAO	27.0	1,981.7	71,431

		Score/ Value	Rank
Institutions		**78.3**	**12**
1.1	**Institutional environment**	**87.2**	**12**
1.1.1	Operational stability for businesses*	86.2	15
1.1.2	Government effectiveness*	88.2	9 ●
1.2	**Regulatory environment**	**88.4**	**11**
1.2.1	Regulatory quality*	89.8	9 ●
1.2.2	Rule of law*	87.0	15
1.3	**Business environment**	**59.3**	**34**
1.3.1	Policy stability for doing business†	76.0	16
1.3.2	Entrepreneurship policies and culture† ⏲	42.6	38
Human capital and research		**60.8**	**9 ●**
2.1	**Education**	**62.9**	**36**
2.1.1	Expenditure on education, % GDP ⏲	5.1	42
2.1.2	Government funding/pupil, secondary, % GDP/cap	18.8	48
2.1.3	School life expectancy, years	20.6	2 ● ◆
2.1.4	PISA scales in reading, maths and science	497.4	10
2.1.5	Pupil–teacher ratio, secondary	n/a	n/a
2.2	**Tertiary education**	**57.9**	**5 ●**
2.2.1	Tertiary enrolment, % gross	108.4	7 ● ◆
2.2.2	Graduates in science and engineering, % ⏲	18.9	90 ○ ◇
2.2.3	Tertiary inbound mobility, %	31.6	5 ● ◆
2.3	**Research and development (R&D)**	**61.4**	**15**
2.3.1	Researchers, FTE/mn pop.	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP ⏲	1.7	24
2.3.3	Global corporate R&D investors, top 3, mn US$	68.2	15
2.3.4	QS university ranking, top 3*	91.3	4 ●
Infrastructure		**58.2**	**29**
3.1	**Information and communication technologies (ICTs)**	**92.4**	**18**
3.1.1	ICT access*	96.3	42
3.1.2	ICT use*	90.2	28
3.1.3	Government online service*	90.6	14
3.2	**General infrastructure**	**61.6**	**17**
3.2.1	Electricity output, GWh/mn pop.	10,252.8	14
3.2.2	Aviation import dwell time	0.8	7
3.2.3	Logistics performance*	72.7	18
3.2.4	Gross capital formation, % GDP	24.3	55
3.3	**Ecological sustainability**	**20.7**	**53**
3.3.1	GDP/unit of energy use	12.1	75 ○
3.3.2	Low-carbon energy use, %	7.0	91 ○
3.3.3	ISO 14001 environment/bn PPP$ GDP	4.5	24
Market sophistication		**57.5**	**17**
4.1	**Credit**	**60.9**	**13**
4.1.1	Finance for startups and scaleups† ⏲	67.1	21
4.1.2	Domestic credit to private sector, % GDP	129.3	10
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**25.2**	**25**
4.2.1	Market capitalization, % GDP	100.3	15
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.3	24
4.2.3	Late-stage VC deal count, % global VC	0.5	12
4.2.4	VC investors, deal count/bn PPP$ GDP	0.4	27
4.3	**Trade, diversification, and market scale**	**86.4**	**10**
4.3.1	Applied tariff rate, weighted avg., %	0.6	6 ●
4.3.2	Domestic industry diversification	91.9	38
4.3.3	Domestic market scale, bn PPP$	1,981.7	21

		Score/ Value	Rank
Business sophistication		**48.4**	**23**
5.1	**Knowledge workers**	**53.1**	**22**
5.1.1	Knowledge-intensive employment, % ⏲	49.5	15
5.1.2	Females employed w/advanced degrees, % ⏲	29.0	9
5.1.3	Youth demographic dividend, %	29.8	89 ○
5.1.4	GERD performed by business, % GDP ⏲	0.9	28
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	**59.9**	**19**
5.2.1	Public research–industry co-publications, %	2.1	38 ◇
5.2.2	University–industry R&D collaboration†	72.1	6 ●
5.2.3	University industry and international engagement, top 5*	98.7	4 ● ◆
5.2.4	State of cluster development†	92.0	5 ● ◆
5.2.5	Patent families/bn PPP$ GDP	0.7	29 ◇
5.3	**Knowledge absorption**	**32.1**	**40 ◇**
5.3.1	Intellectual property payments, % total trade	2.2	12
5.3.2	High-tech imports, % total trade	10.7	33
5.3.3	ICT services imports, % total trade	1.2	80 ○ ◇
5.3.4	FDI net inflows, % GDP	3.0	54
5.3.5	Green-field R&D & high-tech FDI	1.9	37
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		**35.2**	**26**
6.1	**Knowledge creation**	**43.1**	**18**
6.1.1	Patents by origin/bn PPP$ GDP	1.3	35
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.8	24
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	35.6	14
6.1.5	Citable documents H-index	71.8	7 ●
6.2	**Knowledge impact**	**32.9**	**43**
6.2.1	Labor productivity growth, %	1.0	85 ○
6.2.2	Unicorn valuation, % GDP	3.0	17
6.2.3	Software spending, % GDP	0.2	54
6.2.4	High-tech manufacturing, %	23.8	54 ◇
6.3	**Knowledge diffusion**	**29.7**	**50 ◇**
6.3.1	Intellectual property receipts, % total trade	1.3	16
6.3.2	Production and export complexity	69.9	72 ○ ◇
6.3.3	High-tech exports, % total trade	2.0	62 ◇
6.3.4	ICT services exports, % total trade	0.6	99 ○ ◇
6.3.5	ISO 9001 quality/bn PPP$ GDP	8.2	26
Creative outputs		**42.0**	**26**
7.1	**Intangible assets**	**43.6**	**25**
7.1.1	Intangible asset intensity, top 15, %	74.5	11
7.1.2	Trademarks by origin/bn PPP$ GDP	44.7	42
7.1.3	Global brand value, top 5,000, % GDP	7.0	29
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.5	46
7.2	**Creative goods and services**	**22.4**	**52 ◇**
7.2.1	Cultural and creative services exports, % total trade	0.4	72 ○
7.2.2	National feature films/mn pop. 15–69	1.8	68 ○
7.2.3	Entertainment and media market/th pop. 15–69	58.3	6
7.2.4	Creative goods exports, % total trade	0.6	56
7.3	**Online creativity**	**58.6**	**18**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	57.0	9 ●
7.3.2	GitHub commits/mn pop. 15–69	46.7	23
7.3.3	Mobile app creation/bn PPP$ GDP	72.2	33

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Austria

18

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
17	19	High	EUR	9.1	687.3	74,852

		Score/ Value	Rank
Institutions		**71.8**	**24**
1.1	**Institutional environment**	**79.5**	**19**
1.1.1	Operational stability for businesses*	78.3	32
1.1.2	Government effectiveness*	80.7	17
1.2	**Regulatory environment**	**86.3**	**13**
1.2.1	Regulatory quality*	80.6	18
1.2.2	Rule of law*	91.9	8 ●
1.3	**Business environment**	**49.6**	**60** ○ ◇
1.3.1	Policy stability for doing business†	55.3	52 ◇
1.3.2	Entrepreneurship policies and culture†	43.9	35
Human capital and research		**60.1**	**10** ●
2.1	**Education**	**65.2**	**24**
2.1.1	Expenditure on education, % GDP ⏲	5.3	34
2.1.2	Government funding/pupil, secondary, % GDP/cap	24.6	17
2.1.3	School life expectancy, years	16.2	32
2.1.4	PISA scales in reading, maths and science	486.3	19
2.1.5	Pupil–teacher ratio, secondary	9.4	23
2.2	**Tertiary education**	**59.8**	**4** ●
2.2.1	Tertiary enrolment, % gross	92.6	13
2.2.2	Graduates in science and engineering, %	30.6	19
2.2.3	Tertiary inbound mobility, %	20.8	12
2.3	**Research and development (R&D)**	**55.3**	**18**
2.3.1	Researchers, FTE/mn pop.	6,751.1	8 ●
2.3.2	Gross expenditure on R&D, % GDP	3.3	7 ●
2.3.3	Global corporate R&D investors, top 3, mn US$	54.2	28
2.3.4	QS university ranking, top 3*	53.7	29
Infrastructure		**62.0**	**14**
3.1	**Information and communication technologies (ICTs)**	**90.9**	**24**
3.1.1	ICT access*	99.0	18
3.1.2	ICT use*	93.1	19
3.1.3	Government online service*	80.5	39
3.2	**General infrastructure**	**63.9**	**13**
3.2.1	Electricity output, GWh/mn pop.	8,526.5	19
3.2.2	Aviation import dwell time	0.4	2 ● ◆
3.2.3	Logistics performance*	86.4	7
3.2.4	Gross capital formation, % GDP	24.1	57 ○
3.3	**Ecological sustainability**	**31.2**	**33**
3.3.1	GDP/unit of energy use	18.9	26
3.3.2	Low-carbon energy use, %	26.6	33
3.3.3	ISO 14001 environment/bn PPP$ GDP	3.4	30
Market sophistication		**47.5**	**30** ◇
4.1	**Credit**	**45.6**	**32**
4.1.1	Finance for startups and scaleups†	57.6	34 ◇
4.1.2	Domestic credit to private sector, % GDP	81.8	30
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**13.7**	**39** ◇
4.2.1	Market capitalization, % GDP	25.1	52 ○ ◇
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.2	34 ◇
4.2.3	Late-stage VC deal count, % global VC	0.1	27
4.2.4	VC investors, deal count/bn PPP$ GDP	0.4	26
4.3	**Trade, diversification, and market scale**	**83.4**	**16**
4.3.1	Applied tariff rate, weighted avg., %	1.3	20
4.3.2	Domestic industry diversification	98.3	6 ●
4.3.3	Domestic market scale, bn PPP$	687.3	43

		Score/ Value	Rank
Business sophistication		**50.5**	**18**
5.1	**Knowledge workers**	**49.4**	**26**
5.1.1	Knowledge-intensive employment, %	46.6	20
5.1.2	Females employed w/advanced degrees, %	15.3	53 ◇
5.1.3	Youth demographic dividend, %	24.1	128 ○
5.1.4	GERD performed by business, % GDP	2.3	7 ●
5.1.5	GERD financed by business, %	49.1	31
5.2	**Innovation linkages**	**62.7**	**13**
5.2.1	Public research–industry co-publications, %	5.6	9 ●
5.2.2	University–industry R&D collaboration†	57.3	32
5.2.3	University industry and international engagement, top 5*	91.9	9
5.2.4	State of cluster development†	68.0	35
5.2.5	Patent families/bn PPP$ GDP	2.7	12
5.3	**Knowledge absorption**	**39.3**	**27**
5.3.1	Intellectual property payments, % total trade	0.7	58 ○
5.3.2	High-tech imports, % total trade	8.7	56
5.3.3	ICT services imports, % total trade	4.2	9 ●
5.3.4	FDI net inflows, % GDP	2.0	82 ○
5.3.5	Green-field R&D & high-tech FDI	1.9	38
5.3.6	Research talent, % in businesses	64.5	11
Knowledge and technology outputs		**40.7**	**17**
6.1	**Knowledge creation**	**43.9**	**16**
6.1.1	Patents by origin/bn PPP$ GDP	5.7	11 ●
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	2.3	10 ●
6.1.3	Utility models by origin/bn PPP$ GDP	0.3	35
6.1.4	Scientific and technical articles/bn PPP$ GDP	29.8	19
6.1.5	Citable documents H-index	44.3	19
6.2	**Knowledge impact**	**37.8**	**23**
6.2.1	Labor productivity growth, %	0.7	97 ○
6.2.2	Unicorn valuation, % GDP	1.3	33 ◇
6.2.3	Software spending, % GDP	0.6	17
6.2.4	High-tech manufacturing, %	42.2	20
6.3	**Knowledge diffusion**	**40.5**	**28**
6.3.1	Intellectual property receipts, % total trade	0.6	29
6.3.2	Production and export complexity	91.6	10 ●
6.3.3	High-tech exports, % total trade	10.7	19
6.3.4	ICT services exports, % total trade	4.1	33
6.3.5	ISO 9001 quality/bn PPP$ GDP	7.7	30
Creative outputs		**43.5**	**21**
7.1	**Intangible assets**	**44.9**	**23**
7.1.1	Intangible asset intensity, top 15, %	50.2	53 ○ ◇
7.1.2	Trademarks by origin/bn PPP$ GDP	34.3	60 ○
7.1.3	Global brand value, top 5,000, % GDP	9.7	17
7.1.4	Industrial designs by origin/bn PPP$ GDP	3.1	24
7.2	**Creative goods and services**	**27.9**	**43**
7.2.1	Cultural and creative services exports, % total trade	1.2	33
7.2.2	National feature films/mn pop. 15–69	3.2	46 ○
7.2.3	Entertainment and media market/th pop. 15–69	49.2	12
7.2.4	Creative goods exports, % total trade	0.9	44
7.3	**Online creativity**	**56.2**	**20**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	48.5	15
7.3.2	GitHub commits/mn pop. 15–69	51.5	19
7.3.3	Mobile app creation/bn PPP$ GDP	68.6	62 ○ ◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Azerbaijan

GII 2026 rank **85**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
109	65	Upper middle	NAWA	10.4	270.5	26,081

		Score/ Value	Rank
Institutions		**64.9**	**36** ● ◆
1.1	**Institutional environment**	**59.3**	**60**
1.1.1	Operational stability for businesses*	71.7	47 ●
1.1.2	Government effectiveness*	46.8	71
1.2	**Regulatory environment**	**45.6**	**77**
1.2.1	Regulatory quality*	50.5	63
1.2.2	Rule of law*	40.7	91
1.3	**Business environment**	**89.8**	**4** ● ◆
1.3.1	Policy stability for doing business†	84.0	5 ● ◆
1.3.2	Entrepreneurship policies and culture† ⏲	95.7	2 ● ◆
Human capital and research		**27.8**	**89**
2.1	**Education**	**44.7**	**97**
2.1.1	Expenditure on education, % GDP	3.7	89
2.1.2	Government funding/pupil, secondary, % GDP/cap	17.3	58
2.1.3	School life expectancy, years	13.1	85
2.1.4	PISA scales in reading, maths and science	380.7	69
2.1.5	Pupil–teacher ratio, secondary	9.1	20 ●
2.2	**Tertiary education**	**28.4**	**84**
2.2.1	Tertiary enrolment, % gross	41.3	83
2.2.2	Graduates in science and engineering, %	25.1	43 ●
2.2.3	Tertiary inbound mobility, %	2.7	75
2.3	**Research and development (R&D)**	**10.4**	**67**
2.3.1	Researchers, FTE/mn pop.	1,662.5	47
2.3.2	Gross expenditure on R&D, % GDP	0.2	87
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	22.7	63
Infrastructure		**39.0**	**87**
3.1	**Information and communication technologies (ICTs)**	**76.3**	**72**
3.1.1	ICT access*	82.6	76
3.1.2	ICT use*	77.9	76
3.1.3	Government online service*	68.6	66
3.2	**General infrastructure**	**31.8**	**97**
3.2.1	Electricity output, GWh/mn pop.	2,784.8	71
3.2.2	Aviation import dwell time	4.2	91
3.2.3	Logistics performance*	n/a	n/a
3.2.4	Gross capital formation, % GDP	16.9	115
3.3	**Ecological sustainability**	**8.8**	**113**
3.3.1	GDP/unit of energy use	10.0	94
3.3.2	Low-carbon energy use, %	1.9	119
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.0	72
Market sophistication		**37.8**	**63**
4.1	**Credit**	**44.9**	**33** ● ◆
4.1.1	Finance for startups and scaleups† ⏲	80.9	11 ● ◆
4.1.2	Domestic credit to private sector, % GDP	26.4	104
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**1.1**	**114** ○
4.2.1	Market capitalization, % GDP	2.1	82 ○
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	111 ○
4.2.3	Late-stage VC deal count, % global VC	0.0	90
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	81
4.3	**Trade, diversification, and market scale**	**67.4**	**76**
4.3.1	Applied tariff rate, weighted avg., %	4.7	93
4.3.2	Domestic industry diversification	85.7	56
4.3.3	Domestic market scale, bn PPP$	270.5	70

		Score/ Value	Rank
Business sophistication		**23.3**	**91**
5.1	**Knowledge workers**	**19.2**	**[136]**
5.1.1	Knowledge-intensive employment, %	n/a	n/a
5.1.2	Females employed w/advanced degrees, %	n/a	n/a
5.1.3	Youth demographic dividend, %	35.1	71
5.1.4	GERD performed by business, % GDP	0.0	92 ○
5.1.5	GERD financed by business, %	17.1	68
5.2	**Innovation linkages**	**36.6**	**41** ● ◆
5.2.1	Public research–industry co-publications, %	1.0	84
5.2.2	University–industry R&D collaboration†	72.2	5 ● ◆
5.2.3	University industry and international engagement, top 5*	4.3	104 ○ ◇
5.2.4	State of cluster development†	94.9	4 ● ◆
5.2.5	Patent families/bn PPP$ GDP	0.0	90
5.3	**Knowledge absorption**	**14.1**	**122** ◇
5.3.1	Intellectual property payments, % total trade	0.6	61
5.3.2	High-tech imports, % total trade	5.7	103
5.3.3	ICT services imports, % total trade	0.7	108
5.3.4	FDI net inflows, % GDP	–1.7	132 ○ ◇
5.3.5	Green-field R&D & high-tech FDI	0.4	92
5.3.6	Research talent, % in businesses	1.4	88 ○
Knowledge and technology outputs		**14.4**	**100**
6.1	**Knowledge creation**	**11.3**	**77**
6.1.1	Patents by origin/bn PPP$ GDP	0.9	56 ●
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	71
6.1.3	Utility models by origin/bn PPP$ GDP	0.2	40
6.1.4	Scientific and technical articles/bn PPP$ GDP	16.4	54 ●
6.1.5	Citable documents H-index	5.9	96
6.2	**Knowledge impact**	**17.6**	**107**
6.2.1	Labor productivity growth, %	1.8	61
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.1	104
6.2.4	High-tech manufacturing, %	14.6	76
6.3	**Knowledge diffusion**	**14.1**	**106**
6.3.1	Intellectual property receipts, % total trade	0.0	92
6.3.2	Production and export complexity	60.1	93
6.3.3	High-tech exports, % total trade	0.1	121
6.3.4	ICT services exports, % total trade	0.4	113
6.3.5	ISO 9001 quality/bn PPP$ GDP	2.1	87
Creative outputs		**11.5**	**110** ◇
7.1	**Intangible assets**	**10.4**	**[96]**
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	25.8	80
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.2	100
7.2	**Creative goods and services**	**1.5**	**127** ○
7.2.1	Cultural and creative services exports, % total trade	0.1	102
7.2.2	National feature films/mn pop. 15–69 ⏲	0.0	97 ○ ◇
7.2.3	Entertainment and media market/th pop. 15–69	3.1	49
7.2.4	Creative goods exports, % total trade	0.0	123 ○
7.3	**Online creativity**	**23.9**	**89**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.2	94
7.3.2	GitHub commits/mn pop. 15–69	4.4	89
7.3.3	Mobile app creation/bn PPP$ GDP	66.1	77

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Bahrain

64

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
80	48	High	NAWA	1.6	112.2	69,271

		Score/ Value	Rank	
Institutions		**67.0**	**31**	
1.1	**Institutional environment**	**59.5**	**57**	◇
1.1.1	Operational stability for businesses*	61.2	79	◇
1.1.2	Government effectiveness*	57.7	47	
1.2	**Regulatory environment**	**63.4**	**44**	
1.2.1	Regulatory quality*	70.7	30 ●	
1.2.2	Rule of law*	56.1	58	◇
1.3	**Business environment**	**78.2**	**6** ● ◆	
1.3.1	Policy stability for doing business†	82.2	8 ● ◆	
1.3.2	Entrepreneurship policies and culture†	74.2	7 ● ◆	
Human capital and research		**31.5**	**77**	◇
2.1	**Education**	**55.4**	**[65]**	
2.1.1	Expenditure on education, % GDP	1.9	129 ○	◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	15.6	45	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	12.2	54	
2.2	**Tertiary education**	**30.5**	**74**	◇
2.2.1	Tertiary enrolment, % gross	58.4	58	
2.2.2	Graduates in science and engineering, %	18.5	96	
2.2.3	Tertiary inbound mobility, %	10.8	28	
2.3	**Research and development (R&D)**	**8.5**	**72**	◇
2.3.1	Researchers, FTE/mn pop.	848.9	61	◇
2.3.2	Gross expenditure on R&D, % GDP	0.2	90	◇
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	23.0	62	
Infrastructure		**58.6**	**26** ●	
3.1	**Information and communication technologies (ICTs)**	**94.5**	**10** ●	
3.1.1	ICT access*	100.0	1 ●	
3.1.2	ICT use*	95.3	10 ●	
3.1.3	Government online service*	88.3	23 ●	
3.2	**General infrastructure**	**73.9**	**2** ● ◆	
3.2.1	Electricity output, GWh/mn pop.	⏲ 23,774.3	1 ● ◆	
3.2.2	Aviation import dwell time	2.0	42	
3.2.3	Logistics performance*	63.6	33	
3.2.4	Gross capital formation, % GDP	28.9	29	◆
3.3	**Ecological sustainability**	**7.3**	**121**	◇
3.3.1	GDP/unit of energy use	5.5	124 ○	◇
3.3.2	Low-carbon energy use, %	0.1	135 ○	◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.2	42	
Market sophistication		**33.7**	**79**	◇
4.1	**Credit**	**32.1**	**61**	
4.1.1	Finance for startups and scaleups†	64.1	28	
4.1.2	Domestic credit to private sector, % GDP	n/a	n/a	
4.1.3	Loans from microfinance institutions, % GDP	0.0	61 ○	
4.2	**Investment**	**10.7**	**44**	
4.2.1	Market capitalization, % GDP	51.0	33	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	38	
4.2.3	Late-stage VC deal count, % global VC	0.0	69	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.2	40	
4.3	**Trade, diversification, and market scale**	**58.3**	**100**	◇
4.3.1	Applied tariff rate, weighted avg., %	3.5	84	
4.3.2	Domestic industry diversification	⏲ 57.7	103	
4.3.3	Domestic market scale, bn PPP$	112.2	95	

		Score/ Value	Rank	
Business sophistication		**21.6**	**107**	◇
5.1	**Knowledge workers**	**16.9**	**[139]**	
5.1.1	Knowledge-intensive employment, %	n/a	n/a	
5.1.2	Females employed w/advanced degrees, %	n/a	n/a	
5.1.3	Youth demographic dividend, %	30.6	84	
5.1.4	GERD performed by business, % GDP	0.0	79	◇
5.1.5	GERD financed by business, %	18.3	67	◇
5.2	**Innovation linkages**	**30.9**	**52**	
5.2.1	Public research–industry co-publications, %	0.2	136 ○	◇
5.2.2	University–industry R&D collaboration†	38.8	62	
5.2.3	University industry and international engagement, top 5*	41.2	44	
5.2.4	State of cluster development†	70.7	31	
5.2.5	Patent families/bn PPP$ GDP	0.1	59	
5.3	**Knowledge absorption**	**16.9**	**99**	◇
5.3.1	Intellectual property payments, % total trade	0.3	87	
5.3.2	High-tech imports, % total trade	3.6	129 ○	◇
5.3.3	ICT services imports, % total trade	1.5	71	
5.3.4	FDI net inflows, % GDP	8.5	12 ●	
5.3.5	Green-field R&D & high-tech FDI	1.5	45	
5.3.6	Research talent, % in businesses	5.1	75	◇
Knowledge and technology outputs		**23.3**	**63**	
6.1	**Knowledge creation**	**5.1**	**114**	◇
6.1.1	Patents by origin/bn PPP$ GDP	0.1	121	◇
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	80	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	8.8	96	◇
6.1.5	Citable documents H-index	5.1	100	◇
6.2	**Knowledge impact**	**38.3**	**22** ●	
6.2.1	Labor productivity growth, %	1.9	59	
6.2.2	Unicorn valuation, % GDP	4.0	12 ●	
6.2.3	Software spending, % GDP	0.4	23 ●	
6.2.4	High-tech manufacturing, %	⏲ 9.8	86	
6.3	**Knowledge diffusion**	**26.4**	**56**	
6.3.1	Intellectual property receipts, % total trade	0.2	47	
6.3.2	Production and export complexity	72.7	63	◇
6.3.3	High-tech exports, % total trade	2.1	61	
6.3.4	ICT services exports, % total trade	3.8	36	
6.3.5	ISO 9001 quality/bn PPP$ GDP	5.7	48	
Creative outputs		**14.8**	**99**	◇
7.1	**Intangible assets**	**9.1**	**99**	◇
7.1.1	Intangible asset intensity, top 15, %	–9.1	74 ○	◇
7.1.2	Trademarks by origin/bn PPP$ GDP	4.3	128 ○	◇
7.1.3	Global brand value, top 5,000, % GDP	0.4	74	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.1	116	◇
7.2	**Creative goods and services**	**14.7**	**69**	◇
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a	
7.2.2	National feature films/mn pop. 15–69	3.1	47	
7.2.3	Entertainment and media market/th pop. 15–69	11.3	35	◇
7.2.4	Creative goods exports, % total trade	0.7	51	
7.3	**Online creativity**	**26.4**	**68**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	2.8	73	◇
7.3.2	GitHub commits/mn pop. 15–69	9.8	59	◇
7.3.3	Mobile app creation/bn PPP$ GDP	66.5	71	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Bangladesh

GII 2026 rank **105**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
92	115	Lower middle	CSA	175.7	1,782.1	10,258

		Score/ Value	Rank
Institutions		**33.0**	**113**
1.1	**Institutional environment**	**33.3**	**117**
1.1.1	Operational stability for businesses*	39.5	118
1.1.2	Government effectiveness*	27.0	111
1.2	**Regulatory environment**	**26.5**	**123**
1.2.1	Regulatory quality*	23.6	128 ◇
1.2.2	Rule of law*	29.4	114
1.3	**Business environment**	**39.4**	**[82]**
1.3.1	Policy stability for doing business†	39.4	85
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**15.0**	**127** ◇
2.1	**Education**	**26.9**	**133** ○ ◇
2.1.1	Expenditure on education, % GDP	2.0	126
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	6.5	89 ○ ◇
2.1.3	School life expectancy, years ⏲	11.3	98
2.1.4	PISA scales in reading, maths and science	n/a	n/a
2.1.5	Pupil–teacher ratio, secondary	26.4	116
2.2	**Tertiary education**	**6.2**	**123** ○ ◇
2.2.1	Tertiary enrolment, % gross	23.7	98
2.2.2	Graduates in science and engineering, % ⏲	11.1	114 ○ ◇
2.2.3	Tertiary inbound mobility, % ⏲	0.1	117 ○
2.3	**Research and development (R&D)**	**11.9**	**[62]**
2.3.1	Researchers, FTE/mn pop.	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	23.7	58 ●
Infrastructure		**40.2**	**84**
3.1	**Information and communication technologies (ICTs)**	**65.5**	**93**
3.1.1	ICT access*	55.4	117
3.1.2	ICT use*	72.6	91
3.1.3	Government online service*	68.4	67 ◆
3.2	**General infrastructure**	**34.9**	**90**
3.2.1	Electricity output, GWh/mn pop.	588.6	111
3.2.2	Aviation import dwell time	4.3	92
3.2.3	Logistics performance*	22.7	82
3.2.4	Gross capital formation, % GDP	29.8	26 ●
3.3	**Ecological sustainability**	**20.2**	**56** ●
3.3.1	GDP/unit of energy use	27.1	7 ● ◆
3.3.2	Low-carbon energy use, %	0.5	127
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.3	108
Market sophistication		**28.7**	**98**
4.1	**Credit**	**20.9**	**91**
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	35.8	84
4.1.3	Loans from microfinance institutions, % GDP	3.2	12 ●
4.2	**Investment**	**2.6**	**98**
4.2.1	Market capitalization, % GDP	23.4	54
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	112 ○
4.2.3	Late-stage VC deal count, % global VC	0.0	56
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	109 ○
4.3	**Trade, diversification, and market scale**	**62.5**	**89**
4.3.1	Applied tariff rate, weighted avg., % ⏲	7.0	112
4.3.2	Domestic industry diversification ⏲	70.7	84
4.3.3	Domestic market scale, bn PPP$	1,782.1	25 ● ◆

		Score/ Value	Rank
Business sophistication		**18.4**	**125** ◇
5.1	**Knowledge workers**	**24.6**	**[119]**
5.1.1	Knowledge-intensive employment, % ⏲	8.4	106
5.1.2	Females employed w/advanced degrees, % ⏲	1.8	118
5.1.3	Youth demographic dividend, %	46.0	41 ●
5.1.4	GERD performed by business, % GDP	n/a	n/a
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	**15.2**	**111**
5.2.1	Public research–industry co-publications, %	1.0	85
5.2.2	University–industry R&D collaboration†	15.4	128 ○ ◇
5.2.3	University industry and international engagement, top 5*	15.5	78
5.2.4	State of cluster development†	34.2	89
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○ ◇
5.3	**Knowledge absorption**	**15.4**	**113**
5.3.1	Intellectual property payments, % total trade	0.1	114
5.3.2	High-tech imports, % total trade ⏲	10.4	36
5.3.3	ICT services imports, % total trade	0.2	132 ○ ◇
5.3.4	FDI net inflows, % GDP	0.3	120
5.3.5	Green-field R&D & high-tech FDI	0.1	118
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		**15.0**	**95**
6.1	**Knowledge creation**	**8.0**	**[94]**
6.1.1	Patents by origin/bn PPP$ GDP	0.1	125
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	5.3	112
6.1.5	Citable documents H-index	15.5	57 ●
6.2	**Knowledge impact**	**22.7**	**76**
6.2.1	Labor productivity growth, %	3.5	21 ●
6.2.2	Unicorn valuation, % GDP	0.4	47 ●
6.2.3	Software spending, % GDP	0.2	78
6.2.4	High-tech manufacturing, % ⏲	6.5	97
6.3	**Knowledge diffusion**	**14.1**	**108**
6.3.1	Intellectual property receipts, % total trade	0.0	115
6.3.2	Production and export complexity	59.1	94
6.3.3	High-tech exports, % total trade ⏲	0.4	104
6.3.4	ICT services exports, % total trade	1.1	86
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.8	113
Creative outputs		**16.8**	**87**
7.1	**Intangible assets**	**20.2**	**81**
7.1.1	Intangible asset intensity, top 15, %	40.4	61
7.1.2	Trademarks by origin/bn PPP$ GDP	4.8	124
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.6	77
7.2	**Creative goods and services**	**2.8**	**[116]**
7.2.1	Cultural and creative services exports, % total trade	0.1	92
7.2.2	National feature films/mn pop. 15–69	n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade ⏲	0.1	103
7.3	**Online creativity**	**23.8**	**90**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.2	123
7.3.2	GitHub commits/mn pop. 15–69	3.6	98
7.3.3	Mobile app creation/bn PPP$ GDP	67.6	67

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Barbados

91

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
98	85	High	LCN	0.3	6.8	23,184

		Score/ Value	Rank	
Institutions		**60.0**	**44** ●	
1.1	**Institutional environment**	**69.4**	**41** ●	
1.1.1	Operational stability for businesses*	80.9	26 ●	
1.1.2	Government effectiveness*	57.8	46	
1.2	**Regulatory environment**	**63.7**	**42** ●	
1.2.1	Regulatory quality*	58.1	48	
1.2.2	Rule of law*	69.4	32 ●	
1.3	**Business environment**	**46.7**	**[65]**	
1.3.1	Policy stability for doing business† ⏲	46.7	69	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**26.5**	**[94]**	
2.1	**Education**	**50.0**	**[80]**	
2.1.1	Expenditure on education, % GDP	3.6	91	
2.1.2	Government funding/pupil, secondary, % GDP/cap	18.7	50	
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	14.8	75	◇
2.2	**Tertiary education**	**29.6**	**[80]**	
2.2.1	Tertiary enrolment, % gross	50.8	73	◇
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**0.0**	**[122]**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**33.5**	**106**	◇
3.1	**Information and communication technologies (ICTs)**	**59.4**	**102**	◇
3.1.1	ICT access*	76.2	87	◇
3.1.2	ICT use*	62.4	105	◇
3.1.3	Government online service*	39.6	107	◇
3.2	**General infrastructure**	**38.8**	**[73]**	
3.2.1	Electricity output, GWh/mn pop.	n/a	n/a	
3.2.2	Aviation import dwell time	4.8	100	◇
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	16.5	119 ○	◇
3.3	**Ecological sustainability**	**2.2**	**138** ○	◇
3.3.1	GDP/unit of energy use	n/a	n/a	
3.3.2	Low-carbon energy use, %	2.0	116	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.3	107	◇
Market sophistication		**16.0**	**133** ○	◇
4.1	**Credit**	**23.7**	**[81]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP ⏲	59.7	51	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**20.3**	**34** ●	
4.2.1	Market capitalization, % GDP ⏲	55.2	30	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.4	14 ●	
4.2.3	Late-stage VC deal count, % global VC	0.0	100 ○	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.4	29 ●	
4.3	**Trade, diversification, and market scale**	**4.1**	**139** ○	◇
4.3.1	Applied tariff rate, weighted avg., %	12.5	134 ○	◇
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	6.8	138 ○	◇

		Score/ Value	Rank	
Business sophistication		**31.6**	**51**	
5.1	**Knowledge workers**	**35.6**	**[61]**	
5.1.1	Knowledge-intensive employment, % ⏲	30.8	47	◇
5.1.2	Females employed w/advanced degrees, % ⏲	11.7	69	◇
5.1.3	Youth demographic dividend, %	29.7	90	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**38.1**	**37** ●	
5.2.1	Public research–industry co-publications, %	0.4	127 ○	◇
5.2.2	University–industry R&D collaboration† ⏲	20.4	118	◇
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development† ⏲	27.8	103	◇
5.2.5	Patent families/bn PPP$ GDP	42.4	1 ●	◆
5.3	**Knowledge absorption**	**21.1**	**76**	◇
5.3.1	Intellectual property payments, % total trade ⏲	0.4	81	
5.3.2	High-tech imports, % total trade	4.0	124 ○	◇
5.3.3	ICT services imports, % total trade ⏲	1.5	69	
5.3.4	FDI net inflows, % GDP	3.4	45 ●	
5.3.5	Green-field R&D & high-tech FDI	2.3	28 ●	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**14.7**	**96**	◇
6.1	**Knowledge creation**	**11.1**	**79**	◇
6.1.1	Patents by origin/bn PPP$ GDP ⏲	0.8	60	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	60	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	15.5	56	
6.1.5	Citable documents H-index	3.2	122 ○	◇
6.2	**Knowledge impact**	**24.5**	**70**	
6.2.1	Labor productivity growth, %	3.1	28 ●	◆
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.1	81	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**8.6**	**131** ○	◇
6.3.1	Intellectual property receipts, % total trade ⏲	0.6	28 ●	
6.3.2	Production and export complexity	n/a	n/a	
6.3.3	High-tech exports, % total trade	0.9	78	
6.3.4	ICT services exports, % total trade ⏲	0.4	110	◇
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.1	106	◇
Creative outputs		**14.9**	**98**	◇
7.1	**Intangible assets**	**6.6**	**[113]**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	16.0	97	
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.2	108	◇
7.2	**Creative goods and services**	**20.3**	**58**	
7.2.1	Cultural and creative services exports, % total trade	0.4	62	
7.2.2	National feature films/mn pop. 15–69 ⏲	9.8	12 ●	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.6	57	
7.3	**Online creativity**	**26.2**	**69**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	7.0	52	
7.3.2	GitHub commits/mn pop. 15–69	5.5	79	◇
7.3.3	Mobile app creation/bn PPP$ GDP	65.9	78	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Belarus

GII 2026 rank

88

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
85	98	Upper middle	EUR	9.0	309.6	34,069

		Score/ Value	Rank	
Institutions		**17.0**	**134**	○ ◇
1.1	**Institutional environment**	**29.6**	**123**	◇
1.1.1	Operational stability for businesses*	34.2	123	◇
1.1.2	Government effectiveness*	25.0	116	◇
1.2	**Regulatory environment**	**19.8**	**132**	○ ◇
1.2.1	Regulatory quality*	16.6	134	○ ◇
1.2.2	Rule of law*	23.0	130	○ ◇
1.3	**Business environment**	**1.7**	**[136]**	
1.3.1	Policy stability for doing business†	n/a	n/a	
1.3.2	Entrepreneurship policies and culture†	1.7	89	○ ◇
Human capital and research		**41.8**	**38**	◆
2.1	**Education**	**65.3**	**23**	● ◆
2.1.1	Expenditure on education, % GDP	5.0	43	
2.1.2	Government funding/pupil, secondary, % GDP/cap	34.5	4	● ◆
2.1.3	School life expectancy, years	14.2	68	
2.1.4	PISA scales in reading, maths and science	472.3	35	◆
2.1.5	Pupil–teacher ratio, secondary	10.2	37	
2.2	**Tertiary education**	**49.5**	**16**	● ◆
2.2.1	Tertiary enrolment, % gross	70.1	44	
2.2.2	Graduates in science and engineering, %	35.4	7	● ◆
2.2.3	Tertiary inbound mobility, %	6.6	47	
2.3	**Research and development (R&D)**	**10.6**	**66**	
2.3.1	Researchers, FTE/mn pop.	1,567.8	49	
2.3.2	Gross expenditure on R&D, % GDP	0.6	60	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	18.5	67	
Infrastructure		**38.2**	**90**	
3.1	**Information and communication technologies (ICTs)**	**74.4**	**79**	
3.1.1	ICT access*	89.9	58	
3.1.2	ICT use*	84.2	52	
3.1.3	Government online service*	49.0	95	
3.2	**General infrastructure**	**28.1**	**115**	
3.2.1	Electricity output, GWh/mn pop.	4,544.5	49	
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	27.3	76	
3.2.4	Gross capital formation, % GDP	25.5	44	
3.3	**Ecological sustainability**	**12.1**	**104**	
3.3.1	GDP/unit of energy use	9.0	101	
3.3.2	Low-carbon energy use, %	15.5	53	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.4	94	
Market sophistication		**28.7**	**96**	
4.1	**Credit**	**7.6**	**123**	◇
4.1.1	Finance for startups and scaleups†	12.4	88	○ ◇
4.1.2	Domestic credit to private sector, % GDP	29.2	99	
4.1.3	Loans from microfinance institutions, % GDP	0.0	60	○
4.2	**Investment**	**1.8**	**[104]**	
4.2.1	Market capitalization, % GDP	5.3	79	○
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**76.8**	**45**	
4.3.1	Applied tariff rate, weighted avg., %	2.1	66	
4.3.2	Domestic industry diversification	92.5	34	
4.3.3	Domestic market scale, bn PPP$	309.6	63	

		Score/ Value	Rank	
Business sophistication		**28.6**	**62**	
5.1	**Knowledge workers**	**44.6**	**38**	◆
5.1.1	Knowledge-intensive employment, %	42.8	27	● ◆
5.1.2	Females employed w/advanced degrees, %	21.5	32	● ◆
5.1.3	Youth demographic dividend, %	26.1	112	◇
5.1.4	GERD performed by business, % GDP	0.4	45	
5.1.5	GERD financed by business, %	50.8	26	● ◆
5.2	**Innovation linkages**	**16.2**	**[108]**	
5.2.1	Public research–industry co-publications, %	0.6	107	
5.2.2	University–industry R&D collaboration†	n/a	n/a	
5.2.3	University industry and international engagement, top 5*	41.0	45	
5.2.4	State of cluster development†	n/a	n/a	
5.2.5	Patent families/bn PPP$ GDP	0.0	74	
5.3	**Knowledge absorption**	**24.8**	**62**	
5.3.1	Intellectual property payments, % total trade	0.4	80	
5.3.2	High-tech imports, % total trade	5.4	112	
5.3.3	ICT services imports, % total trade	0.8	104	
5.3.4	FDI net inflows, % GDP	2.4	72	
5.3.5	Green-field R&D & high-tech FDI	0.2	104	
5.3.6	Research talent, % in businesses	59.4	17	● ◆
Knowledge and technology outputs		**21.7**	**72**	
6.1	**Knowledge creation**	**13.8**	**68**	
6.1.1	Patents by origin/bn PPP$ GDP	1.2	44	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	76	
6.1.3	Utility models by origin/bn PPP$ GDP	0.9	20	●
6.1.4	Scientific and technical articles/bn PPP$ GDP	4.4	116	
6.1.5	Citable documents H-index	9.2	86	
6.2	**Knowledge impact**	**22.5**	**80**	
6.2.1	Labor productivity growth, %	2.3	46	
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.0	117	
6.2.4	High-tech manufacturing, %	27.6	47	
6.3	**Knowledge diffusion**	**28.8**	**52**	
6.3.1	Intellectual property receipts, % total trade	0.1	53	
6.3.2	Production and export complexity	82.7	35	● ◆
6.3.3	High-tech exports, % total trade	2.0	63	
6.3.4	ICT services exports, % total trade	5.3	21	● ◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	3.6	69	
Creative outputs		**14.6**	**102**	
7.1	**Intangible assets**	**8.8**	**102**	◇
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	17.6	93	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.7	68	
7.2	**Creative goods and services**	**10.3**	**77**	
7.2.1	Cultural and creative services exports, % total trade	0.2	83	
7.2.2	National feature films/mn pop. 15–69	0.3	92	○
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.9	47	
7.3	**Online creativity**	**30.6**	**50**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	3.7	64	
7.3.2	GitHub commits/mn pop. 15–69	15.3	50	
7.3.3	Mobile app creation/bn PPP$ GDP	72.8	32	●

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Belgium

22

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
23	24	High	EUR	11.8	900.5	75,882

		Score/ Value	Rank
Institutions		**73.7**	**16**
1.1	**Institutional environment**	**73.5**	**29** ◇
1.1.1	Operational stability for businesses*	74.3	44
1.1.2	Government effectiveness*	72.7	24 ◇
1.2	**Regulatory environment**	**80.3**	**21**
1.2.1	Regulatory quality*	78.0	22
1.2.2	Rule of law*	82.5	19
1.3	**Business environment**	**67.2**	**[20]**
1.3.1	Policy stability for doing business†	67.2	30
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**56.3**	**15**
2.1	**Education**	**70.9**	**7** ● ◆
2.1.1	Expenditure on education, % GDP ⏲	6.3	15 ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	23.3	24
2.1.3	School life expectancy, years ⏲	18.9	5 ● ◆
2.1.4	PISA scales in reading, maths and science	486.3	20
2.1.5	Pupil–teacher ratio, secondary ⏲	8.6	14 ◆
2.2	**Tertiary education**	**36.2**	**51**
2.2.1	Tertiary enrolment, % gross ⏲	82.1	21
2.2.2	Graduates in science and engineering, % ⏲	19.4	88 ○ ◇
2.2.3	Tertiary inbound mobility, % ⏲	10.4	33
2.3	**Research and development (R&D)**	**61.7**	**14**
2.3.1	Researchers, FTE/mn pop.	6,911.2	7 ●
2.3.2	Gross expenditure on R&D, % GDP	3.4	6 ●
2.3.3	Global corporate R&D investors, top 3, mn US$	63.7	20
2.3.4	QS university ranking, top 3*	66.5	18
Infrastructure		**55.2**	**42** ◇
3.1	**Information and communication technologies (ICTs)**	**82.8**	**54** ◇
3.1.1	ICT access*	99.8	9 ●
3.1.2	ICT use*	82.0	63 ○ ◇
3.1.3	Government online service*	66.6	70 ○ ◇
3.2	**General infrastructure**	**61.3**	**18**
3.2.1	Electricity output, GWh/mn pop.	6,296.3	31
3.2.2	Aviation import dwell time	0.6	3 ● ◆
3.2.3	Logistics performance*	86.4	7
3.2.4	Gross capital formation, % GDP	24.4	54
3.3	**Ecological sustainability**	**21.6**	**51**
3.3.1	GDP/unit of energy use	15.2	47
3.3.2	Low-carbon energy use, %	21.7	41
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.4	60
Market sophistication		**44.8**	**37** ◇
4.1	**Credit**	**27.4**	**[69]**
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	68.1	42 ◇
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**24.4**	**27**
4.2.1	Market capitalization, % GDP ⏲	75.4	22
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.3	22
4.2.3	Late-stage VC deal count, % global VC	0.3	20
4.2.4	VC investors, deal count/bn PPP$ GDP	0.6	17
4.3	**Trade, diversification, and market scale**	**82.6**	**21**
4.3.1	Applied tariff rate, weighted avg., %	1.3	20
4.3.2	Domestic industry diversification	93.3	31
4.3.3	Domestic market scale, bn PPP$	900.5	37

		Score/ Value	Rank
Business sophistication		**55.9**	**8** ●
5.1	**Knowledge workers**	**64.9**	**5** ●
5.1.1	Knowledge-intensive employment, %	52.3	9 ●
5.1.2	Females employed w/advanced degrees, %	29.3	7 ●
5.1.3	Youth demographic dividend, %	27.3	104 ○
5.1.4	GERD performed by business, % GDP	2.4	6 ●
5.1.5	GERD financed by business, %	60.1	10
5.2	**Innovation linkages**	**63.4**	**12**
5.2.1	Public research–industry co-publications, %	4.5	17
5.2.2	University–industry R&D collaboration†	70.8	7 ●
5.2.3	University industry and international engagement, top 5*	85.9	14
5.2.4	State of cluster development†	83.7	15
5.2.5	Patent families/bn PPP$ GDP	1.8	16
5.3	**Knowledge absorption**	**39.5**	**26**
5.3.1	Intellectual property payments, % total trade	0.8	52
5.3.2	High-tech imports, % total trade	9.4	50
5.3.3	ICT services imports, % total trade	4.0	10 ●
5.3.4	FDI net inflows, % GDP	–1.5	131 ○
5.3.5	Green-field R&D & high-tech FDI ⏲	2.5	24
5.3.6	Research talent, % in businesses	60.3	15
Knowledge and technology outputs		**41.5**	**16**
6.1	**Knowledge creation**	**44.4**	**15**
6.1.1	Patents by origin/bn PPP$ GDP	3.8	18
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	1.4	16
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	27.7	23
6.1.5	Citable documents H-index	54.1	14
6.2	**Knowledge impact**	**41.7**	**19**
6.2.1	Labor productivity growth, %	1.8	62 ○
6.2.2	Unicorn valuation, % GDP	1.8	29
6.2.3	Software spending, % GDP	0.5	20
6.2.4	High-tech manufacturing, %	41.4	22
6.3	**Knowledge diffusion**	**38.4**	**34**
6.3.1	Intellectual property receipts, % total trade	0.8	23
6.3.2	Production and export complexity	86.6	23
6.3.3	High-tech exports, % total trade	10.2	21
6.3.4	ICT services exports, % total trade	4.4	31
6.3.5	ISO 9001 quality/bn PPP$ GDP	3.6	68 ○
Creative outputs		**37.9**	**33** ◇
7.1	**Intangible assets**	**34.9**	**50** ◇
7.1.1	Intangible asset intensity, top 15, %	56.0	41 ○ ◇
7.1.2	Trademarks by origin/bn PPP$ GDP	21.6	86 ○
7.1.3	Global brand value, top 5,000, % GDP	5.2	34 ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.5	47
7.2	**Creative goods and services**	**28.5**	**38**
7.2.1	Cultural and creative services exports, % total trade	1.3	27
7.2.2	National feature films/mn pop. 15–69	5.0	33
7.2.3	Entertainment and media market/th pop. 15–69	43.4	17
7.2.4	Creative goods exports, % total trade	0.9	46
7.3	**Online creativity**	**53.4**	**25**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	38.7	19
7.3.2	GitHub commits/mn pop. 15–69	58.7	15
7.3.3	Mobile app creation/bn PPP$ GDP	63.0	96 ○ ◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Benin

GII 2026 rank **117**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
128	109	Lower middle	SSA	14.8	70.4	4,719

		Score/ Value	Rank	
Institutions		**51.5**	**66** ●	
1.1	**Institutional environment**	**47.6**	**91**	
1.1.1	Operational stability for businesses*	57.2	94	
1.1.2	Government effectiveness*	38.0	87	
1.2	**Regulatory environment**	**41.3**	**89**	
1.2.1	Regulatory quality*	40.3	92	
1.2.2	Rule of law*	42.4	88	
1.3	**Business environment**	**65.7**	**[23]**	
1.3.1	Policy stability for doing business† ⏲	65.7	32 ● ◆	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**20.9**	**[110]**	
2.1	**Education**	**44.4**	**[99]**	
2.1.1	Expenditure on education, % GDP	3.2	103	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years ⏲	10.0	108	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary ⏲	16.2	84	
2.2	**Tertiary education**	**18.4**	**106**	
2.2.1	Tertiary enrolment, % gross ⏲	10.2	116	
2.2.2	Graduates in science and engineering, % ⏲	21.8	76	
2.2.3	Tertiary inbound mobility, % ⏲	3.1	70 ●	
2.3	**Research and development (R&D)**	**0.0**	**[122]**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇	
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇	
Infrastructure		**28.5**	**121**	
3.1	**Information and communication technologies (ICTs)**	**42.2**	**120** ◇	
3.1.1	ICT access*	42.4	128 ◇	
3.1.2	ICT use*	41.9	119 ◇	
3.1.3	Government online service*	42.3	103	
3.2	**General infrastructure**	**37.7**	**80** ●	
3.2.1	Electricity output, GWh/mn pop. ⏲	55.5	131 ○	
3.2.2	Aviation import dwell time	5.7	105	
3.2.3	Logistics performance*	36.4	65	
3.2.4	Gross capital formation, % GDP	34.5	10 ●	
3.3	**Ecological sustainability**	**5.7**	**130** ◇	
3.3.1	GDP/unit of energy use	9.2	98	
3.3.2	Low-carbon energy use, %	0.2	132 ○	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.2	119	
Market sophistication		**19.2**	**[126]**	
4.1	**Credit**	**18.1**	**[101]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	n/a	n/a	
4.1.3	Loans from microfinance institutions, % GDP	2.0	22 ●	
4.2	**Investment**	**4.1**	**[79]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	77	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**35.6**	**129** ◇	
4.3.1	Applied tariff rate, weighted avg., %	8.9	124	
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	70.4	108	

		Score/ Value	Rank	
Business sophistication		**22.6**	**98**	
5.1	**Knowledge workers**	**31.8**	**[87]**	
5.1.1	Knowledge-intensive employment, % ⏲	4.6	118 ◇	
5.1.2	Females employed w/advanced degrees, % ⏲	1.1	121 ◇	
5.1.3	Youth demographic dividend, %	60.7	17 ● ◆	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**18.9**	**95**	
5.2.1	Public research–industry co-publications, %	0.2	138 ○ ◇	
5.2.2	University–industry R&D collaboration† ⏲	32.6	85	
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development† ⏲	40.7	67 ●	
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○ ◇	
5.3	**Knowledge absorption**	**17.2**	**97**	
5.3.1	Intellectual property payments, % total trade	0.0	131	
5.3.2	High-tech imports, % total trade	5.6	105	
5.3.3	ICT services imports, % total trade ⏲	2.0	48 ● ◆	
5.3.4	FDI net inflows, % GDP	2.3	76 ●	
5.3.5	Green-field R&D & high-tech FDI	0.4	94	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**13.1**	**106**	
6.1	**Knowledge creation**	**5.3**	**113**	
6.1.1	Patents by origin/bn PPP$ GDP	0.3	88	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107 ○ ◇	
6.1.3	Utility models by origin/bn PPP$ GDP ⏲	0.0	77 ○ ◇	
6.1.4	Scientific and technical articles/bn PPP$ GDP	11.1	78 ●	
6.1.5	Citable documents H-index	4.1	114	
6.2	**Knowledge impact**	**22.8**	**75** ●	
6.2.1	Labor productivity growth, %	3.4	23 ●	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇	
6.2.3	Software spending, % GDP	0.1	105	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**11.3**	**120**	
6.3.1	Intellectual property receipts, % total trade	0.0	102	
6.3.2	Production and export complexity	49.9	110	
6.3.3	High-tech exports, % total trade	0.4	98	
6.3.4	ICT services exports, % total trade ⏲	0.3	119	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.9	110	
Creative outputs		**6.1**	**132** ○ ◇	
7.1	**Intangible assets**	**1.5**	**133** ○	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	4.3	129 ◇	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○ ◇	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.1	117	
7.2	**Creative goods and services**	**1.7**	**[123]**	
7.2.1	Cultural and creative services exports, % total trade	0.1	100	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	120	
7.3	**Online creativity**	**19.8**	**118**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.2	122	
7.3.2	GitHub commits/mn pop. 15–69	1.3	116	
7.3.3	Mobile app creation/bn PPP$ GDP	57.7	112	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Bhutan

74

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
102	43	Lower middle	CSA	0.8	14.1	17,722

		Score/ Value	Rank	
Institutions		**64.4**	**38**	◆
1.1	**Institutional environment**	**70.7**	**36**	◆
1.1.1	Operational stability for businesses*	84.2	18	● ◆
1.1.2	Government effectiveness*	57.2	48	◆
1.2	**Regulatory environment**	**57.9**	**52**	◆
1.2.1	Regulatory quality*	44.9	81	◆
1.2.2	Rule of law*	70.9	31	● ◆
1.3	**Business environment**	**64.7**	**[25]**	
1.3.1	Policy stability for doing business†	64.7	34	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**38.6**	**49**	◆
2.1	**Education**	**70.6**	**[8]**	
2.1.1	Expenditure on education, % GDP	5.8	22	●
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	13.6	78	◆
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	6.0	1	● ◆
2.2	**Tertiary education**	**44.2**	**28**	● ◆
2.2.1	Tertiary enrolment, % gross	13.0	112	
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	34.2	4	● ◆
2.3	**Research and development (R&D)**	**0.9**	**104**	
2.3.1	Researchers, FTE/mn pop.	236.3	85	
2.3.2	Gross expenditure on R&D, % GDP	0.1	101	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**60.3**	**18**	● ◆
3.1	**Information and communication technologies (ICTs)**	**71.8**	**83**	◆
3.1.1	ICT access*	92.8	54	◆
3.1.2	ICT use*	72.2	92	
3.1.3	Government online service*	50.5	93	
3.2	**General infrastructure**	**59.1**	**[23]**	
3.2.1	Electricity output, GWh/mn pop.	n/a	n/a	
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	18.2	89	
3.2.4	Gross capital formation, % GDP	50.7	1	● ◆
3.3	**Ecological sustainability**	**50.0**	**3**	● ◆
3.3.1	GDP/unit of energy use	n/a	n/a	
3.3.2	Low-carbon energy use, %	80.4	2	● ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.9	76	
Market sophistication		**41.3**	**[51]**	
4.1	**Credit**	**27.6**	**[68]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	68.4	40	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**n/a**	**[n/a]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**55.1**	**106**	
4.3.1	Applied tariff rate, weighted avg., %	1.3	48	◆
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	14.1	136	○ ◇

		Score/ Value	Rank	
Business sophistication		**17.4**	**132**	○ ◇
5.1	**Knowledge workers**	**18.3**	**137**	○ ◇
5.1.1	Knowledge-intensive employment, %	25.5	58	◆
5.1.2	Females employed w/advanced degrees, %	3.5	101	
5.1.3	Youth demographic dividend, %	37.2	65	◇
5.1.4	GERD performed by business, % GDP	0.0	84	
5.1.5	GERD financed by business, %	2.5	89	◇
5.2	**Innovation linkages**	**19.3**	**93**	
5.2.1	Public research–industry co-publications, %	1.5	65	
5.2.2	University–industry R&D collaboration†	23.9	110	
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	34.8	87	
5.2.5	Patent families/bn PPP$ GDP	0.1	54	◆
5.3	**Knowledge absorption**	**14.5**	**120**	
5.3.1	Intellectual property payments, % total trade	0.0	127	○
5.3.2	High-tech imports, % total trade	12.2	23	●
5.3.3	ICT services imports, % total trade	0.2	133	○ ◇
5.3.4	FDI net inflows, % GDP	0.3	122	
5.3.5	Green-field R&D & high-tech FDI	0.2	109	
5.3.6	Research talent, % in businesses	5.1	73	
Knowledge and technology outputs		**9.8**	**[129]**	
6.1	**Knowledge creation**	**9.0**	**[89]**	
6.1.1	Patents by origin/bn PPP$ GDP	0.5	73	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	11.0	81	
6.1.5	Citable documents H-index	1.2	133	○
6.2	**Knowledge impact**	**19.1**	**[100]**	
6.2.1	Labor productivity growth, %	n/a	n/a	
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.5	21	● ◆
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**1.5**	**137**	○ ◇
6.3.1	Intellectual property receipts, % total trade	0.0	121	
6.3.2	Production and export complexity	n/a	n/a	
6.3.3	High-tech exports, % total trade	0.0	137	○ ◇
6.3.4	ICT services exports, % total trade	0.1	132	○
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.7	95	
Creative outputs		**17.0**	**86**	
7.1	**Intangible assets**	**7.0**	**[110]**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	13.7	104	
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.2	98	
7.2	**Creative goods and services**	**33.6**	**24**	● ◆
7.2.1	Cultural and creative services exports, % total trade	0.0	112	
7.2.2	National feature films/mn pop. 15–69	28.6	1	● ◆
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	131	○
7.3	**Online creativity**	**20.5**	**110**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.1	97	
7.3.2	GitHub commits/mn pop. 15–69	4.1	93	
7.3.3	Mobile app creation/bn PPP$ GDP	56.2	116	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Bolivia (Plurinational State of) 114

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
105	120	Lower middle	LCN	12.6	142.4	11,439

		Score/ Value	Rank
Institutions		**16.8**	**135** ○ ◇
1.1	**Institutional environment**	**31.4**	**119**
1.1.1	Operational stability for businesses*	35.5	121 ◇
1.1.2	Government effectiveness*	27.3	110
1.2	**Regulatory environment**	**19.1**	**133** ○ ◇
1.2.1	Regulatory quality*	16.1	135 ○ ◇
1.2.2	Rule of law*	22.2	133 ○ ◇
1.3	**Business environment**	**0.0**	**[137]**
1.3.1	Policy stability for doing business†	0.0	135 ○ ◇
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**33.5**	**[68]**
2.1	**Education**	**66.6**	**[19]**
2.1.1	Expenditure on education, % GDP	7.5	5 ● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	23.2	25 ●
2.1.3	School life expectancy, years	n/a	n/a
2.1.4	PISA scales in reading, maths and science	n/a	n/a
2.1.5	Pupil–teacher ratio, secondary	18.0	97
2.2	**Tertiary education**	**n/a**	**[n/a]**
2.2.1	Tertiary enrolment, % gross	n/a	n/a
2.2.2	Graduates in science and engineering, %	n/a	n/a
2.2.3	Tertiary inbound mobility, %	n/a	n/a
2.3	**Research and development (R&D)**	**0.4**	**115**
2.3.1	Researchers, FTE/mn pop. ⏲	63.1	96
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.1	107
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇
Infrastructure		**22.2**	**132** ○ ◇
3.1	**Information and communication technologies (ICTs)**	**47.7**	**116**
3.1.1	ICT access*	66.3	101
3.1.2	ICT use*	25.1	125 ○ ◇
3.1.3	Government online service*	51.7	90
3.2	**General infrastructure**	**9.8**	**138** ○ ◇
3.2.1	Electricity output, GWh/mn pop. ⏲	977.7	101
3.2.2	Aviation import dwell time	n/a	n/a
3.2.3	Logistics performance*	13.6	104
3.2.4	Gross capital formation, % GDP	14.9	125 ○ ◇
3.3	**Ecological sustainability**	**8.9**	**112**
3.3.1	GDP/unit of energy use	10.7	88
3.3.2	Low-carbon energy use, %	3.9	105
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.4	91
Market sophistication		**41.7**	**49** ● ◆
4.1	**Credit**	**61.7**	**10** ● ◆
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	59.2	53 ●
4.1.3	Loans from microfinance institutions, % GDP	17.5	1 ● ◆
4.2	**Investment**	**0.5**	**[123]**
4.2.1	Market capitalization, % GDP	n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	107
4.3	**Trade, diversification, and market scale**	**62.8**	**88**
4.3.1	Applied tariff rate, weighted avg., %	5.1	99
4.3.2	Domestic industry diversification ⏲	80.6	68
4.3.3	Domestic market scale, bn PPP$	142.4	88

		Score/ Value	Rank
Business sophistication		**17.3**	**133** ○ ◇
5.1	**Knowledge workers**	**28.7**	**105**
5.1.1	Knowledge-intensive employment, % ⏲	14.9	88
5.1.2	Females employed w/advanced degrees, % ⏲	14.2	62 ◆
5.1.3	Youth demographic dividend, %	47.4	37 ●
5.1.4	GERD performed by business, % GDP ⏲	0.0	88
5.1.5	GERD financed by business, % ⏲	14.0	71
5.2	**Innovation linkages**	**9.6**	**132** ○ ◇
5.2.1	Public research–industry co-publications, %	0.8	103
5.2.2	University–industry R&D collaboration†	14.6	130 ○ ◇
5.2.3	University industry and international engagement, top 5*	n/a	n/a
5.2.4	State of cluster development†	15.4	126 ◇
5.2.5	Patent families/bn PPP$ GDP	0.0	87
5.3	**Knowledge absorption**	**13.7**	**127**
5.3.1	Intellectual property payments, % total trade	0.2	102
5.3.2	High-tech imports, % total trade	8.3	65 ●
5.3.3	ICT services imports, % total trade	0.7	106
5.3.4	FDI net inflows, % GDP	0.4	117
5.3.5	Green-field R&D & high-tech FDI	0.1	122
5.3.6	Research talent, % in businesses ⏲	4.0	80
Knowledge and technology outputs		**9.2**	**131** ○
6.1	**Knowledge creation**	**3.4**	**123**
6.1.1	Patents by origin/bn PPP$ GDP ⏲	0.1	116
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a
6.1.3	Utility models by origin/bn PPP$ GDP ⏲	0.1	56
6.1.4	Scientific and technical articles/bn PPP$ GDP	2.9	128
6.1.5	Citable documents H-index	6.2	94
6.2	**Knowledge impact**	**12.1**	**128** ◇
6.2.1	Labor productivity growth, %	–1.7	137 ○ ◇
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.3	37 ● ◆
6.2.4	High-tech manufacturing, % ⏲	10.4	84
6.3	**Knowledge diffusion**	**12.2**	**116**
6.3.1	Intellectual property receipts, % total trade	0.0	105
6.3.2	Production and export complexity	46.6	118
6.3.3	High-tech exports, % total trade	1.3	70
6.3.4	ICT services exports, % total trade	0.5	107
6.3.5	ISO 9001 quality/bn PPP$ GDP	2.0	88
Creative outputs		**17.1**	**85**
7.1	**Intangible assets**	**14.0**	**[91]**
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP ⏲	38.0	52 ● ◆
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a
7.1.4	Industrial designs by origin/bn PPP$ GDP ⏲	0.2	96
7.2	**Creative goods and services**	**15.2**	**67**
7.2.1	Cultural and creative services exports, % total trade	0.0	113
7.2.2	National feature films/mn pop. 15–69	1.2	79
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	1.8	27 ● ◆
7.3	**Online creativity**	**25.1**	**79**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.9	104
7.3.2	GitHub commits/mn pop. 15–69	6.4	71
7.3.3	Mobile app creation/bn PPP$ GDP	68.0	65 ●

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Bosnia and Herzegovina

84

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
83	84	Upper middle	EUR	3.1	78.7	22,830

		Score/ Value	Rank
Institutions		**29.2**	**120** ◇
1.1	**Institutional environment**	**39.6**	**107**
1.1.1	Operational stability for businesses*	52.6	101
1.1.2	Government effectiveness*	26.6	113 ◇
1.2	**Regulatory environment**	**41.6**	**88**
1.2.1	Regulatory quality*	38.5	98
1.2.2	Rule of law*	44.6	82
1.3	**Business environment**	**6.5**	**133** ○ ◇
1.3.1	Policy stability for doing business†	13.0	129 ○ ◇
1.3.2	Entrepreneurship policies and culture† ⏲	0.0	91 ○ ◇
Human capital and research		**29.8**	**84**
2.1	**Education**	**55.7**	**62**
2.1.1	Expenditure on education, % GDP	3.2	99
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	32.8	6 ● ◆
2.1.3	School life expectancy, years ⏲	14.3	65
2.1.4	PISA scales in reading, maths and science ⏲	402.6	60
2.1.5	Pupil–teacher ratio, secondary ⏲	8.3	11 ● ◆
2.2	**Tertiary education**	**31.2**	**72**
2.2.1	Tertiary enrolment, % gross ⏲	45.5	79
2.2.2	Graduates in science and engineering, %	23.3	58
2.2.3	Tertiary inbound mobility, % ⏲	7.9	40
2.3	**Research and development (R&D)**	**2.5**	**93**
2.3.1	Researchers, FTE/mn pop.	705.2	65
2.3.2	Gross expenditure on R&D, % GDP	0.2	85
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇
Infrastructure		**40.1**	**85**
3.1	**Information and communication technologies (ICTs)**	**65.8**	**92**
3.1.1	ICT access*	81.4	78
3.1.2	ICT use*	76.0	82
3.1.3	Government online service*	39.9	105 ◇
3.2	**General infrastructure**	**35.1**	**89**
3.2.1	Electricity output, GWh/mn pop.	4,999.7	46
3.2.2	Aviation import dwell time	n/a	n/a
3.2.3	Logistics performance*	40.9	60
3.2.4	Gross capital formation, % GDP	27.8	32 ●
3.3	**Ecological sustainability**	**19.3**	**65**
3.3.1	GDP/unit of energy use	9.1	99
3.3.2	Low-carbon energy use, %	8.9	83
3.3.3	ISO 14001 environment/bn PPP$ GDP	4.6	23 ●
Market sophistication		**50.4**	**23** ● ◆
4.1	**Credit**	**25.8**	**75**
4.1.1	Finance for startups and scaleups† ⏲	33.6	69
4.1.2	Domestic credit to private sector, % GDP	48.3	67
4.1.3	Loans from microfinance institutions, % GDP	2.8	18 ●
4.2	**Investment**	**n/a**	**[n/a]**
4.2.1	Market capitalization, % GDP	n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a
4.3	**Trade, diversification, and market scale**	**75.0**	**52**
4.3.1	Applied tariff rate, weighted avg., %	1.5	51
4.3.2	Domestic industry diversification	96.2	13 ● ◆
4.3.3	Domestic market scale, bn PPP$	78.7	103

		Score/ Value	Rank
Business sophistication		**18.6**	**123** ◇
5.1	**Knowledge workers**	**27.1**	**107**
5.1.1	Knowledge-intensive employment, % ⏲	26.5	55
5.1.2	Females employed w/advanced degrees, % ⏲	10.4	76
5.1.3	Youth demographic dividend, %	23.1	133 ○ ◇
5.1.4	GERD performed by business, % GDP	0.1	70
5.1.5	GERD financed by business, %	40.9	46
5.2	**Innovation linkages**	**11.6**	**125**
5.2.1	Public research–industry co-publications, %	1.2	77
5.2.2	University–industry R&D collaboration†	14.6	129 ○ ◇
5.2.3	University industry and international engagement, top 5*	2.6	105 ○ ◇
5.2.4	State of cluster development†	27.4	105
5.2.5	Patent families/bn PPP$ GDP	0.0	80
5.3	**Knowledge absorption**	**17.0**	**98**
5.3.1	Intellectual property payments, % total trade	0.2	103 ◇
5.3.2	High-tech imports, % total trade	6.7	88
5.3.3	ICT services imports, % total trade	0.5	117 ◇
5.3.4	FDI net inflows, % GDP	3.8	39 ●
5.3.5	Green-field R&D & high-tech FDI	1.5	44 ◆
5.3.6	Research talent, % in businesses	11.6	62
Knowledge and technology outputs		**22.0**	**68**
6.1	**Knowledge creation**	**9.4**	**87**
6.1.1	Patents by origin/bn PPP$ GDP	0.5	74
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	72
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	14.0	63
6.1.5	Citable documents H-index	5.5	99
6.2	**Knowledge impact**	**22.3**	**82**
6.2.1	Labor productivity growth, %	2.9	33 ●
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.1	98
6.2.4	High-tech manufacturing, %	19.5	65
6.3	**Knowledge diffusion**	**34.5**	**39** ● ◆
6.3.1	Intellectual property receipts, % total trade	0.1	55
6.3.2	Production and export complexity	80.6	43
6.3.3	High-tech exports, % total trade	3.2	51
6.3.4	ICT services exports, % total trade	3.4	42
6.3.5	ISO 9001 quality/bn PPP$ GDP	16.6	11 ● ◆
Creative outputs		**15.1**	**97**
7.1	**Intangible assets**	**15.4**	**88**
7.1.1	Intangible asset intensity, top 15, % ⏲	–27.9	77 ○ ◇
7.1.2	Trademarks by origin/bn PPP$ GDP	16.5	95
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	2.0	38 ●
7.2	**Creative goods and services**	**6.6**	**96**
7.2.1	Cultural and creative services exports, % total trade	0.2	86
7.2.2	National feature films/mn pop. 15–69	1.3	75
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	0.3	72
7.3	**Online creativity**	**23.1**	**93**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	3.4	67
7.3.2	GitHub commits/mn pop. 15–69	9.1	61
7.3.3	Mobile app creation/bn PPP$ GDP	56.8	115

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Botswana

GII 2026 rank **82**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
95	64	Upper middle	SSA	2.6	52.6	19,053

		Score/ Value	Rank	
Institutions		**61.8**	**41**	◆
1.1	**Institutional environment**	**62.4**	**51**	
1.1.1	Operational stability for businesses*	71.7	47	
1.1.2	Government effectiveness*	53.1	53	
1.2	**Regulatory environment**	**58.3**	**51**	◆
1.2.1	Regulatory quality*	57.1	51	
1.2.2	Rule of law*	59.6	51	◆
1.3	**Business environment**	**64.8**	**[24]**	
1.3.1	Policy stability for doing business†	64.8	33 ●	◆
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**29.4**	**[86]**	
2.1	**Education**	**71.3**	**[6]**	
2.1.1	Expenditure on education, % GDP ⏲	8.1	3 ●	◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years ⏲	12.2	93	◇
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary ⏲	11.7	50	
2.2	**Tertiary education**	**17.0**	**109**	◇
2.2.1	Tertiary enrolment, % gross	21.4	103	◇
2.2.2	Graduates in science and engineering, % ⏲	18.1	97	
2.2.3	Tertiary inbound mobility, %	3.8	63	
2.3	**Research and development (R&D)**	**0.0**	**[122]**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**34.8**	**98**	◇
3.1	**Information and communication technologies (ICTs)**	**57.2**	**107**	◇
3.1.1	ICT access*	67.1	99	◇
3.1.2	ICT use*	76.8	80	
3.1.3	Government online service*	27.6	122	◇
3.2	**General infrastructure**	**37.3**	**81**	
3.2.1	Electricity output, GWh/mn pop.	1,360.6	95	◇
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	45.5	56	
3.2.4	Gross capital formation, % GDP	34.8	9 ●	◆
3.3	**Ecological sustainability**	**10.1**	**111**	
3.3.1	GDP/unit of energy use	14.2	56	
3.3.2	Low-carbon energy use, %	0.0	137 ○	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.4	97	
Market sophistication		**37.8**	**65**	
4.1	**Credit**	**20.1**	**93**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	32.9	90	
4.1.3	Loans from microfinance institutions, % GDP	3.1	16 ●	
4.2	**Investment**	**22.0**	**[32]**	
4.2.1	Market capitalization, % GDP	63.8	24 ●	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**71.3**	**62**	
4.3.1	Applied tariff rate, weighted avg., %	0.7	10 ●	
4.3.2	Domestic industry diversification	83.0	63	
4.3.3	Domestic market scale, bn PPP$	52.6	122	

		Score/ Value	Rank	
Business sophistication		**30.4**	**59**	
5.1	**Knowledge workers**	**50.1**	**[25]**	
5.1.1	Knowledge-intensive employment, % ⏲	20.7	75	
5.1.2	Females employed w/advanced degrees, % ⏲	17.2	46	
5.1.3	Youth demographic dividend, %	50.5	30 ●	◆
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**17.6**	**102**	
5.2.1	Public research–industry co-publications, %	0.7	104	
5.2.2	University–industry R&D collaboration†	27.0	103	
5.2.3	University industry and international engagement, top 5*	22.8	66	
5.2.4	State of cluster development†	30.1	97	
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**23.4**	**63**	
5.3.1	Intellectual property payments, % total trade ⏲	1.2	32 ●	
5.3.2	High-tech imports, % total trade	5.5	107	
5.3.3	ICT services imports, % total trade ⏲	2.1	38 ●	
5.3.4	FDI net inflows, % GDP	3.2	49	
5.3.5	Green-field R&D & high-tech FDI	0.5	88	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**14.5**	**97**	
6.1	**Knowledge creation**	**8.0**	**95**	
6.1.1	Patents by origin/bn PPP$ GDP ⏲	0.2	93	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107 ○	◇
6.1.3	Utility models by origin/bn PPP$ GDP	0.3	39	
6.1.4	Scientific and technical articles/bn PPP$ GDP	13.2	69	
6.1.5	Citable documents H-index	5.6	98	
6.2	**Knowledge impact**	**22.0**	**85**	
6.2.1	Labor productivity growth, %	2.3	47	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.1	88	
6.2.4	High-tech manufacturing, %	20.4	64	
6.3	**Knowledge diffusion**	**13.6**	**113**	
6.3.1	Intellectual property receipts, % total trade ⏲	0.0	111	
6.3.2	Production and export complexity	61.8	91	
6.3.3	High-tech exports, % total trade	0.5	96	
6.3.4	ICT services exports, % total trade ⏲	0.4	109	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.5	127 ○	
Creative outputs		**16.1**	**91**	
7.1	**Intangible assets**	**21.0**	**77**	
7.1.1	Intangible asset intensity, top 15, %	1.8	72 ○	
7.1.2	Trademarks by origin/bn PPP$ GDP	67.8	18 ●	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.3	92	
7.2	**Creative goods and services**	**6.3**	**[98]**	
7.2.1	Cultural and creative services exports, % total trade	0.3	77	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.2	81	
7.3	**Online creativity**	**15.9**	**131 ○**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.7	86	
7.3.2	GitHub commits/mn pop. 15–69	2.8	104	
7.3.3	Mobile app creation/bn PPP$ GDP	43.2	133 ○	◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Brazil

53

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
50	66	Upper middle	LCN	212.8	4,973.4	23,310

		Score/ Value	Rank	
Institutions		**35.6**	**106**	
1.1	**Institutional environment**	**49.1**	**86**	
1.1.1	Operational stability for businesses*	61.2	79	
1.1.2	Government effectiveness*	37.0	91	
1.2	**Regulatory environment**	**40.7**	**92**	
1.2.1	Regulatory quality*	39.9	93	
1.2.2	Rule of law*	41.6	89	
1.3	**Business environment**	**16.9**	**129**	○
1.3.1	Policy stability for doing business†	13.9	128	○ ◇
1.3.2	Entrepreneurship policies and culture†	19.9	74	○
Human capital and research		**38.9**	**47**	
2.1	**Education**	**51.1**	**75**	
2.1.1	Expenditure on education, % GDP	5.6	23	●
2.1.2	Government funding/pupil, secondary, % GDP/cap	20.6	39	
2.1.3	School life expectancy, years	16.1	35	
2.1.4	PISA scales in reading, maths and science	397.3	63	
2.1.5	Pupil–teacher ratio, secondary	21.0	104	○ ◇
2.2	**Tertiary education**	**21.8**	**96**	
2.2.1	Tertiary enrolment, % gross	69.7	45	
2.2.2	Graduates in science and engineering, %	16.2	101	○ ◇
2.2.3	Tertiary inbound mobility, %	0.3	112	○
2.3	**Research and development (R&D)**	**43.9**	**26**	◆
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	1.2	35	◆
2.3.3	Global corporate R&D investors, top 3, mn US$	58.9	23	● ◆
2.3.4	QS university ranking, top 3*	55.1	25	◆
Infrastructure		**49.0**	**56**	
3.1	**Information and communication technologies (ICTs)**	**83.4**	**53**	
3.1.1	ICT access*	83.9	72	
3.1.2	ICT use*	77.6	77	
3.1.3	Government online service*	88.7	21	● ◆
3.2	**General infrastructure**	**40.2**	**69**	
3.2.1	Electricity output, GWh/mn pop.	3,544.0	61	
3.2.2	Aviation import dwell time	2.6	63	
3.2.3	Logistics performance*	50.0	50	
3.2.4	Gross capital formation, % GDP	16.5	120	○ ◇
3.3	**Ecological sustainability**	**23.3**	**47**	
3.3.1	GDP/unit of energy use	12.1	76	
3.3.2	Low-carbon energy use, %	36.5	18	● ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.7	80	
Market sophistication		**34.7**	**76**	
4.1	**Credit**	**21.3**	**90**	
4.1.1	Finance for startups and scaleups†	33.1	71	○
4.1.2	Domestic credit to private sector, % GDP	75.6	36	
4.1.3	Loans from microfinance institutions, % GDP	0.0	62	○
4.2	**Investment**	**10.5**	**46**	
4.2.1	Market capitalization, % GDP	38.7	39	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	52	◆
4.2.3	Late-stage VC deal count, % global VC	0.4	16	●
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	56	
4.3	**Trade, diversification, and market scale**	**72.3**	**59**	
4.3.1	Applied tariff rate, weighted avg., %	7.4	114	○ ◇
4.3.2	Domestic industry diversification	93.2	32	
4.3.3	Domestic market scale, bn PPP$	4,973.4	8	● ◆

		Score/ Value	Rank	
Business sophistication		**34.2**	**42**	◆
5.1	**Knowledge workers**	**38.7**	**55**	
5.1.1	Knowledge-intensive employment, %	25.9	56	
5.1.2	Females employed w/advanced degrees, %	14.9	57	
5.1.3	Youth demographic dividend, %	33.0	77	
5.1.4	GERD performed by business, % GDP	0.6	36	
5.1.5	GERD financed by business, %	50.3	27	◆
5.2	**Innovation linkages**	**26.9**	**58**	
5.2.1	Public research–industry co-publications, %	1.8	56	
5.2.2	University–industry R&D collaboration†	31.0	90	
5.2.3	University industry and international engagement, top 5*	46.7	37	
5.2.4	State of cluster development†	34.9	85	
5.2.5	Patent families/bn PPP$ GDP	0.1	53	
5.3	**Knowledge absorption**	**36.9**	**32**	◆
5.3.1	Intellectual property payments, % total trade	2.1	13	● ◆
5.3.2	High-tech imports, % total trade	14.1	16	●
5.3.3	ICT services imports, % total trade	3.5	16	● ◆
5.3.4	FDI net inflows, % GDP	3.4	44	
5.3.5	Green-field R&D & high-tech FDI	0.7	73	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**26.1**	**51**	
6.1	**Knowledge creation**	**21.2**	**48**	
6.1.1	Patents by origin/bn PPP$ GDP	1.2	42	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	50	
6.1.3	Utility models by origin/bn PPP$ GDP	0.6	24	
6.1.4	Scientific and technical articles/bn PPP$ GDP	12.0	75	
6.1.5	Citable documents H-index	40.1	24	◆
6.2	**Knowledge impact**	**33.8**	**37**	
6.2.1	Labor productivity growth, %	0.8	94	
6.2.2	Unicorn valuation, % GDP	1.6	31	
6.2.3	Software spending, % GDP	0.4	27	◆
6.2.4	High-tech manufacturing, %	35.1	34	
6.3	**Knowledge diffusion**	**23.3**	**62**	
6.3.1	Intellectual property receipts, % total trade	0.2	44	◆
6.3.2	Production and export complexity	74.7	55	
6.3.3	High-tech exports, % total trade	2.3	57	
6.3.4	ICT services exports, % total trade	1.6	73	
6.3.5	ISO 9001 quality/bn PPP$ GDP	3.9	66	
Creative outputs		**30.9**	**51**	
7.1	**Intangible assets**	**42.8**	**28**	
7.1.1	Intangible asset intensity, top 15, %	59.1	35	
7.1.2	Trademarks by origin/bn PPP$ GDP	89.8	8	●
7.1.3	Global brand value, top 5,000, % GDP	3.9	37	
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.2	52	
7.2	**Creative goods and services**	**7.8**	**93**	
7.2.1	Cultural and creative services exports, % total trade	0.6	57	
7.2.2	National feature films/mn pop. 15–69	1.3	78	○
7.2.3	Entertainment and media market/th pop. 15–69	7.1	43	
7.2.4	Creative goods exports, % total trade	0.2	79	
7.3	**Online creativity**	**30.0**	**51**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	5.7	54	
7.3.2	GitHub commits/mn pop. 15–69	12.6	55	
7.3.3	Mobile app creation/bn PPP$ GDP	71.7	37	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Brunei Darussalam

98

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
138	58	High	SEAO	0.5	43.4	94,472

		Score/ Value	Rank	
Institutions		**67.0**	**32** ●	
1.1	**Institutional environment**	**81.8**	**16** ●	
1.1.1	Operational stability for businesses*	100.0	1 ● ◆	
1.1.2	Government effectiveness*	63.6	36 ●	
1.2	**Regulatory environment**	**67.6**	**35** ●	
1.2.1	Regulatory quality*	69.1	32 ●	
1.2.2	Rule of law*	66.1	41	
1.3	**Business environment**	**51.6**	**[54]**	
1.3.1	Policy stability for doing business†	51.6	61	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**35.3**	**61**	◇
2.1	**Education**	**56.4**	**58**	
2.1.1	Expenditure on education, % GDP	4.4	60	
2.1.2	Government funding/pupil, secondary, % GDP/cap	24.1	19	
2.1.3	School life expectancy, years	13.9	73	◇
2.1.4	PISA scales in reading, maths and science	439.1	44	
2.1.5	Pupil–teacher ratio, secondary	8.1	10 ●	◆
2.2	**Tertiary education**	**41.5**	**36**	
2.2.1	Tertiary enrolment, % gross	36.4	88	◇
2.2.2	Graduates in science and engineering, %	35.9	4 ●	◆
2.2.3	Tertiary inbound mobility, %	4.7	56	
2.3	**Research and development (R&D)**	**8.1**	**74**	◇
2.3.1	Researchers, FTE/mn pop.	506.2	73	◇
2.3.2	Gross expenditure on R&D, % GDP	0.3	76	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	23.4	59	
Infrastructure		**49.1**	**55**	◇
3.1	**Information and communication technologies (ICTs)**	**78.1**	**67**	◇
3.1.1	ICT access*	97.2	36 ●	
3.1.2	ICT use*	87.5	37	
3.1.3	Government online service*	49.5	94	◇
3.2	**General infrastructure**	**63.1**	**15** ●	
3.2.1	Electricity output, GWh/mn pop.	12,224.4	12 ●	
3.2.2	Aviation import dwell time	1.5	26 ●	
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	29.7	27 ●	◆
3.3	**Ecological sustainability**	**6.0**	**128**	◇
3.3.1	GDP/unit of energy use	7.7	108	
3.3.2	Low-carbon energy use, %	0.0	138 ○	◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.9	75	
Market sophistication		**27.4**	**[104]**	
4.1	**Credit**	**13.9**	**[112]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	37.7	79	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**1.2**	**[113]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	97	◇
4.3	**Trade, diversification, and market scale**	**67.0**	**78**	
4.3.1	Applied tariff rate, weighted avg., %	0.0	3 ●	
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	43.4	126	◇

		Score/ Value	Rank	
Business sophistication		**23.7**	**89**	◇
5.1	**Knowledge workers**	**34.6**	**66**	
5.1.1	Knowledge-intensive employment, %	39.2	36	
5.1.2	Females employed w/advanced degrees, %	14.3	60	◇
5.1.3	Youth demographic dividend, %	34.6	75	◆
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	0.0	99 ○	◇
5.2	**Innovation linkages**	**25.1**	**64**	◇
5.2.1	Public research–industry co-publications, %	1.9	49	
5.2.2	University–industry R&D collaboration†	37.2	67	
5.2.3	University industry and international engagement, top 5*	32.9	51	
5.2.4	State of cluster development†	35.0	84	◇
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**11.5**	**136** ○	◇
5.3.1	Intellectual property payments, % total trade	0.1	113	
5.3.2	High-tech imports, % total trade	2.1	136 ○	◇
5.3.3	ICT services imports, % total trade	0.7	110	◇
5.3.4	FDI net inflows, % GDP	–0.6	127	
5.3.5	Green-field R&D & high-tech FDI	0.2	105	◇
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**5.9**	**137** ○	◇
6.1	**Knowledge creation**	**5.7**	**109**	◇
6.1.1	Patents by origin/bn PPP$ GDP	0.0	131 ○	◇
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	93	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	11.1	79	◇
6.1.5	Citable documents H-index	5.0	101	◇
6.2	**Knowledge impact**	**9.9**	**135** ○	◇
6.2.1	Labor productivity growth, %	–1.1	132	◇
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.1	83	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**2.0**	**134**	◇
6.3.1	Intellectual property receipts, % total trade	0.0	130 ○	◇
6.3.2	Production and export complexity	n/a	n/a	
6.3.3	High-tech exports, % total trade	0.3	107	◇
6.3.4	ICT services exports, % total trade	0.1	129	◇
6.3.5	ISO 9001 quality/bn PPP$ GDP	2.1	86	
Creative outputs		**5.1**	**[136]**	
7.1	**Intangible assets**	**1.7**	**[132]**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	2.9	132 ○	◇
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.1	119	◇
7.2	**Creative goods and services**	**0.9**	**[135]**	
7.2.1	Cultural and creative services exports, % total trade	0.0	124	◇
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	113	◇
7.3	**Online creativity**	**16.0**	**129**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	3.2	68	◇
7.3.2	GitHub commits/mn pop. 15–69	3.9	95	◇
7.3.3	Mobile app creation/bn PPP$ GDP	41.0	136 ○	◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Bulgaria

37

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
28	45	High	EUR	6.7	266.0	42,477

		Score/ Value	Rank	
Institutions		**46.1**	**81**	◇
1.1	**Institutional environment**	**54.7**	**73**	◇
1.1.1	Operational stability for businesses*	65.8	65	
1.1.2	Government effectiveness*	43.7	79	◇
1.2	**Regulatory environment**	**52.8**	**61**	◇
1.2.1	Regulatory quality*	54.3	54	◇
1.2.2	Rule of law*	51.4	63	◇
1.3	**Business environment**	**30.6**	**94** ○	◇
1.3.1	Policy stability for doing business†	34.2	94 ○	◇
1.3.2	Entrepreneurship policies and culture† ⏲	27.1	62	
Human capital and research		**32.2**	**73**	◇
2.1	**Education**	**53.8**	**70**	
2.1.1	Expenditure on education, % GDP ⏲	4.5	58	
2.1.2	Government funding/pupil, secondary, % GDP/cap	23.5	22	
2.1.3	School life expectancy, years	14.6	59	◇
2.1.4	PISA scales in reading, maths and science	414.2	51	◇
2.1.5	Pupil–teacher ratio, secondary	11.1	44	
2.2	**Tertiary education**	**31.3**	**71**	
2.2.1	Tertiary enrolment, % gross	69.5	46	
2.2.2	Graduates in science and engineering, %	19.2	89 ○	
2.2.3	Tertiary inbound mobility, %	7.9	41	
2.3	**Research and development (R&D)**	**11.4**	**64**	◇
2.3.1	Researchers, FTE/mn pop.	2,732.5	34	
2.3.2	Gross expenditure on R&D, % GDP	0.8	48	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	8.1	78	◇
Infrastructure		**62.8**	**10** ●	
3.1	**Information and communication technologies (ICTs)**	**86.1**	**42**	
3.1.1	ICT access*	97.6	33	
3.1.2	ICT use*	88.0	32	
3.1.3	Government online service*	72.7	57	
3.2	**General infrastructure**	**48.3**	**47**	
3.2.1	Electricity output, GWh/mn pop.	5,883.9	36	
3.2.2	Aviation import dwell time ⏲	1.0	11 ●	
3.2.3	Logistics performance*	50.0	50	
3.2.4	Gross capital formation, % GDP	20.1	98 ○	
3.3	**Ecological sustainability**	**53.9**	**1** ● ◆	
3.3.1	GDP/unit of energy use	12.8	74	
3.3.2	Low-carbon energy use, %	35.1	21 ●	
3.3.3	ISO 14001 environment/bn PPP$ GDP	13.9	2 ● ◆	
Market sophistication		**44.3**	**39**	
4.1	**Credit**	**41.3**	**36**	
4.1.1	Finance for startups and scaleups† ⏲	64.6	26	
4.1.2	Domestic credit to private sector, % GDP	47.1	69	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**11.9**	**42**	
4.2.1	Market capitalization, % GDP	10.8	72 ○	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.2	28	
4.2.3	Late-stage VC deal count, % global VC	0.0	52	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.4	28	
4.3	**Trade, diversification, and market scale**	**79.7**	**32**	
4.3.1	Applied tariff rate, weighted avg., %	1.3	20	
4.3.2	Domestic industry diversification	96.3	12 ●	
4.3.3	Domestic market scale, bn PPP$	266.0	73	

		Score/ Value	Rank	
Business sophistication		**32.5**	**46**	
5.1	**Knowledge workers**	**39.8**	**52**	
5.1.1	Knowledge-intensive employment, %	40.4	35	
5.1.2	Females employed w/advanced degrees, %	23.5	25	
5.1.3	Youth demographic dividend, %	24.3	126 ○	
5.1.4	GERD performed by business, % GDP	0.5	40	
5.1.5	GERD financed by business, %	31.1	57	
5.2	**Innovation linkages**	**24.3**	**67**	◇
5.2.1	Public research–industry co-publications, %	1.9	46	
5.2.2	University–industry R&D collaboration†	40.8	57	
5.2.3	University industry and international engagement, top 5*	6.7	98 ○	◇
5.2.4	State of cluster development†	49.5	52	
5.2.5	Patent families/bn PPP$ GDP	0.2	42	
5.3	**Knowledge absorption**	**33.4**	**36**	
5.3.1	Intellectual property payments, % total trade	0.6	65	
5.3.2	High-tech imports, % total trade	8.6	58	
5.3.3	ICT services imports, % total trade	1.8	56	
5.3.4	FDI net inflows, % GDP	4.5	32	
5.3.5	Green-field R&D & high-tech FDI	3.0	21	
5.3.6	Research talent, % in businesses	52.9	25	
Knowledge and technology outputs		**34.8**	**28**	
6.1	**Knowledge creation**	**22.6**	**45**	
6.1.1	Patents by origin/bn PPP$ GDP	0.9	52	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.2	42	
6.1.3	Utility models by origin/bn PPP$ GDP	1.3	9 ● ◆	
6.1.4	Scientific and technical articles/bn PPP$ GDP	16.8	53	
6.1.5	Citable documents H-index	15.9	55	
6.2	**Knowledge impact**	**27.0**	**59**	
6.2.1	Labor productivity growth, %	2.9	34 ◆	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.2	75	
6.2.4	High-tech manufacturing, %	28.0	45	
6.3	**Knowledge diffusion**	**54.9**	**7** ● ◆	
6.3.1	Intellectual property receipts, % total trade	0.6	30	
6.3.2	Production and export complexity	82.9	32	
6.3.3	High-tech exports, % total trade	5.5	37	
6.3.4	ICT services exports, % total trade	7.1	13 ●	
6.3.5	ISO 9001 quality/bn PPP$ GDP	32.1	1 ● ◆	
Creative outputs		**39.3**	**29**	
7.1	**Intangible assets**	**42.9**	**27**	
7.1.1	Intangible asset intensity, top 15, %	66.1	23	
7.1.2	Trademarks by origin/bn PPP$ GDP	65.1	20 ● ◆	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	4.2	14 ●	
7.2	**Creative goods and services**	**33.2**	**29**	
7.2.1	Cultural and creative services exports, % total trade	2.7	10 ●	
7.2.2	National feature films/mn pop. 15–69	5.7	29	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.8	49	
7.3	**Online creativity**	**38.1**	**35**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	13.8	39	
7.3.2	GitHub commits/mn pop. 15–69	30.3	32	
7.3.3	Mobile app creation/bn PPP$ GDP	70.3	46	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Burkina Faso

GII 2026 rank **130**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
125	129	Low	SSA	24.1	72.7	3,019

		Score/ Value	Rank	
Institutions		**32.5**	**118**	
1.1	**Institutional environment**	**22.1**	**131**	
1.1.1	Operational stability for businesses*	23.7	130	
1.1.2	Government effectiveness*	20.6	126	
1.2	**Regulatory environment**	**32.7**	**110**	
1.2.1	Regulatory quality*	34.1	106	
1.2.2	Rule of law*	31.2	111	
1.3	**Business environment**	**42.7**	**71**	●
1.3.1	Policy stability for doing business†	44.7	72	
1.3.2	Entrepreneurship policies and culture†	40.7	41	● ◆
Human capital and research		**21.0**	**109**	
2.1	**Education**	**40.9**	**110**	
2.1.1	Expenditure on education, % GDP	5.3	30	● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	16.3	65	
2.1.3	School life expectancy, years	7.5	117	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	17.3	93	
2.2	**Tertiary education**	**21.6**	**98**	◆
2.2.1	Tertiary enrolment, % gross	10.0	117	
2.2.2	Graduates in science and engineering, %	25.3	41	● ◆
2.2.3	Tertiary inbound mobility, %	1.9	83	
2.3	**Research and development (R&D)**	**0.5**	**111**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	0.1	98	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**17.6**	**134**	
3.1	**Information and communication technologies (ICTs)**	**21.3**	**135**	
3.1.1	ICT access*	13.3	136	
3.1.2	ICT use*	30.4	121	
3.1.3	Government online service*	20.3	128	
3.2	**General infrastructure**	**27.0**	**116**	
3.2.1	Electricity output, GWh/mn pop.	78.0	129	
3.2.2	Aviation import dwell time	3.3	80	◆
3.2.3	Logistics performance*	9.1	107	◇
3.2.4	Gross capital formation, % GDP	19.9	100	
3.3	**Ecological sustainability**	**4.5**	**135**	◇
3.3.1	GDP/unit of energy use	7.7	109	
3.3.2	Low-carbon energy use, %	1.3	120	◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.0	138	○
Market sophistication		**25.0**	**111**	
4.1	**Credit**	**20.1**	**92**	◆
4.1.1	Finance for startups and scaleups†	26.4	78	
4.1.2	Domestic credit to private sector, % GDP	27.2	103	◆
4.1.3	Loans from microfinance institutions, % GDP	2.8	19	●
4.2	**Investment**	**9.7**	**[48]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	82	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.3	34	● ◆
4.3	**Trade, diversification, and market scale**	**45.1**	**118**	
4.3.1	Applied tariff rate, weighted avg., %	6.5	109	
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	72.7	107	

		Score/ Value	Rank	
Business sophistication		**14.8**	**139**	○ ◇
5.1	**Knowledge workers**	**27.5**	**106**	
5.1.1	Knowledge-intensive employment, %	12.2	96	◆
5.1.2	Females employed w/advanced degrees, %	0.8	124	
5.1.3	Youth demographic dividend, %	61.7	11	●
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	1.0	94	
5.2	**Innovation linkages**	**4.9**	**135**	
5.2.1	Public research–industry co-publications, %	0.4	130	
5.2.2	University–industry R&D collaboration†	15.6	127	
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	0.0	135	
5.2.5	Patent families/bn PPP$ GDP	0.0	98	○ ◇
5.3	**Knowledge absorption**	**12.0**	**134**	
5.3.1	Intellectual property payments, % total trade	0.0	129	
5.3.2	High-tech imports, % total trade	4.4	121	
5.3.3	ICT services imports, % total trade	0.6	113	
5.3.4	FDI net inflows, % GDP	1.5	98	
5.3.5	Green-field R&D & high-tech FDI	0.0	125	○ ◇
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**12.1**	**112**	
6.1	**Knowledge creation**	**5.1**	**115**	
6.1.1	Patents by origin/bn PPP$ GDP	0.1	118	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107	○ ◇
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	77	○ ◇
6.1.4	Scientific and technical articles/bn PPP$ GDP	12.3	74	●
6.1.5	Citable documents H-index	5.0	102	
6.2	**Knowledge impact**	**17.9**	**106**	
6.2.1	Labor productivity growth, %	2.1	51	●
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.0	123	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**13.3**	**114**	
6.3.1	Intellectual property receipts, % total trade	0.0	107	
6.3.2	Production and export complexity	54.2	102	
6.3.3	High-tech exports, % total trade	0.1	129	◇
6.3.4	ICT services exports, % total trade	1.5	79	●
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.4	131	
Creative outputs		**8.0**	**125**	
7.1	**Intangible assets**	**4.4**	**124**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	5.3	123	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.4	87	
7.2	**Creative goods and services**	**3.2**	**[114]**	
7.2.1	Cultural and creative services exports, % total trade	0.2	81	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	118	
7.3	**Online creativity**	**20.2**	**114**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.1	135	
7.3.2	GitHub commits/mn pop. 15–69	0.2	132	
7.3.3	Mobile app creation/bn PPP$ GDP	60.2	106	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Burundi

135

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
131	131	Low	SSA	14.4	14.3	989

			Score/ Value	Rank	
Institutions			**32.7**	**117**	
1.1	**Institutional environment**		**25.8**	**127**	
1.1.1	Operational stability for businesses*		34.2	123	
1.1.2	Government effectiveness*		17.3	131	
1.2	**Regulatory environment**		**24.2**	**129**	
1.2.1	Regulatory quality*		27.0	126	
1.2.2	Rule of law*		21.3	134	
1.3	**Business environment**		**48.1**	**[62]**	
1.3.1	Policy stability for doing business†	⏲	48.1	65 ●	
1.3.2	Entrepreneurship policies and culture†		n/a	n/a	
Human capital and research			**17.2**	**124**	
2.1	**Education**		**41.3**	**[108]**	
2.1.1	Expenditure on education, % GDP		4.5	57 ●	
2.1.2	Government funding/pupil, secondary, % GDP/cap		n/a	n/a	
2.1.3	School life expectancy, years		8.3	115	
2.1.4	PISA scales in reading, maths and science		n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary		21.3	105	
2.2	**Tertiary education**		**9.6**	**116**	
2.2.1	Tertiary enrolment, % gross		6.4	123	
2.2.2	Graduates in science and engineering, %		9.8	117 ○ ◇	
2.2.3	Tertiary inbound mobility, %		10.7	29 ● ◆	
2.3	**Research and development (R&D)**		**0.8**	**106**	
2.3.1	Researchers, FTE/mn pop.	⏲	22.5	105	
2.3.2	Gross expenditure on R&D, % GDP	⏲	0.2	86	
2.3.3	Global corporate R&D investors, top 3, mn US$		0.0	46 ○ ◇	
2.3.4	QS university ranking, top 3*		0.0	81 ○ ◇	
Infrastructure			**19.3**	**133**	
3.1	**Information and communication technologies (ICTs)**		**12.5**	**137** ○ ◇	
3.1.1	ICT access*		0.0	139 ○ ◇	
3.1.2	ICT use*		20.1	127	
3.1.3	Government online service*		17.5	133	
3.2	**General infrastructure**		**25.3**	**[119]**	
3.2.1	Electricity output, GWh/mn pop.		n/a	n/a	
3.2.2	Aviation import dwell time		n/a	n/a	
3.2.3	Logistics performance*		n/a	n/a	
3.2.4	Gross capital formation, % GDP		20.4	96	
3.3	**Ecological sustainability**		**20.1**	**58** ● ◆	
3.3.1	GDP/unit of energy use		n/a	n/a	
3.3.2	Low-carbon energy use, %		32.2	24 ● ◆	
3.3.3	ISO 14001 environment/bn PPP$ GDP		0.4	100	
Market sophistication			**20.9**	**122**	
4.1	**Credit**		**10.8**	**118**	
4.1.1	Finance for startups and scaleups†		n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	⏲	37.1	80 ◆	
4.1.3	Loans from microfinance institutions, % GDP	⏲	0.9	36	
4.2	**Investment**		**n/a**	**[n/a]**	
4.2.1	Market capitalization, % GDP		n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP		n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC		n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP		n/a	n/a	
4.3	**Trade, diversification, and market scale**		**30.9**	**133** ◇	
4.3.1	Applied tariff rate, weighted avg., %	⏲	7.7	116	
4.3.2	Domestic industry diversification		n/a	n/a	
4.3.3	Domestic market scale, bn PPP$		14.3	135 ○ ◇	

			Score/ Value	Rank	
Business sophistication			**17.6**	**127**	
5.1	**Knowledge workers**		**22.1**	**127** ◇	
5.1.1	Knowledge-intensive employment, %	⏲	2.7	124 ○	
5.1.2	Females employed w/advanced degrees, %	⏲	0.7	125	
5.1.3	Youth demographic dividend, %		64.3	5 ●	
5.1.4	GERD performed by business, % GDP	⏲	0.0	82	
5.1.5	GERD financed by business, %	⏲	8.8	78	
5.2	**Innovation linkages**		**14.9**	**114**	
5.2.1	Public research–industry co-publications, %		0.5	117	
5.2.2	University–industry R&D collaboration†	⏲	26.4	104	
5.2.3	University industry and international engagement, top 5*		n/a	n/a	
5.2.4	State of cluster development†	⏲	27.6	104	
5.2.5	Patent families/bn PPP$ GDP		0.0	98 ○ ◇	
5.3	**Knowledge absorption**		**15.8**	**107**	
5.3.1	Intellectual property payments, % total trade	⏲	0.2	104	
5.3.2	High-tech imports, % total trade		7.6	72 ●	
5.3.3	ICT services imports, % total trade	⏲	1.7	61 ●	
5.3.4	FDI net inflows, % GDP		0.9	110	
5.3.5	Green-field R&D & high-tech FDI		0.6	82	
5.3.6	Research talent, % in businesses	⏲	1.5	87	
Knowledge and technology outputs			**6.1**	**136** ○ ◇	
6.1	**Knowledge creation**		**6.5**	**103**	
6.1.1	Patents by origin/bn PPP$ GDP	⏲	0.1	114	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP		n/a	n/a	
6.1.3	Utility models by origin/bn PPP$ GDP	⏲	0.3	37 ●	
6.1.4	Scientific and technical articles/bn PPP$ GDP		7.9	100	
6.1.5	Citable documents H-index		0.9	134 ◇	
6.2	**Knowledge impact**		**10.0**	**134** ◇	
6.2.1	Labor productivity growth, %		–0.4	123 ◇	
6.2.2	Unicorn valuation, % GDP		0.0	58 ○ ◇	
6.2.3	Software spending, % GDP		0.1	106	
6.2.4	High-tech manufacturing, %		n/a	n/a	
6.3	**Knowledge diffusion**		**1.8**	**135** ○ ◇	
6.3.1	Intellectual property receipts, % total trade	⏲	0.0	120	
6.3.2	Production and export complexity		n/a	n/a	
6.3.3	High-tech exports, % total trade	⏲	0.0	134 ○ ◇	
6.3.4	ICT services exports, % total trade	⏲	0.5	104	
6.3.5	ISO 9001 quality/bn PPP$ GDP		1.1	105	
Creative outputs			**11.1**	**112**	
7.1	**Intangible assets**		**10.0**	**97**	
7.1.1	Intangible asset intensity, top 15, %		n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	⏲	9.7	113	
7.1.3	Global brand value, top 5,000, % GDP		0.0	81 ○ ◇	
7.1.4	Industrial designs by origin/bn PPP$ GDP	⏲	1.2	55 ●	
7.2	**Creative goods and services**		**8.9**	**[86]**	
7.2.1	Cultural and creative services exports, % total trade		0.8	47 ●	
7.2.2	National feature films/mn pop. 15–69		n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69		n/a	n/a	
7.2.4	Creative goods exports, % total trade	⏲	0.0	122	
7.3	**Online creativity**		**15.6**	**132**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69		0.1	133	
7.3.2	GitHub commits/mn pop. 15–69		0.1	133	
7.3.3	Mobile app creation/bn PPP$ GDP		46.7	127	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Cabo Verde

GII 2026 rank **103**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
104	97	Upper middle	SSA	0.5	6.3	12,335

		Score/ Value	Rank
Institutions		59.3	46 ● ◆
1.1	**Institutional environment**	64.7	49 ● ◆
1.1.1	Operational stability for businesses*	76.3	38 ● ◆
1.1.2	Government effectiveness*	53.1	54 ●
1.2	**Regulatory environment**	55.2	56 ●
1.2.1	Regulatory quality*	48.3	72
1.2.2	Rule of law*	62.2	46 ● ◆
1.3	**Business environment**	58.1	[40]
1.3.1	Policy stability for doing business†	58.1	45 ●
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		20.1	115 ◇
2.1	**Education**	46.9	87
2.1.1	Expenditure on education, % GDP	4.3	63
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	12.6	75
2.1.3	School life expectancy, years ⏲	13.3	82
2.1.4	PISA scales in reading, maths and science	n/a	n/a
2.1.5	Pupil–teacher ratio, secondary ⏲	15.8	82
2.2	**Tertiary education**	13.3	115 ◇
2.2.1	Tertiary enrolment, % gross ⏲	24.3	96
2.2.2	Graduates in science and engineering, % ⏲	16.1	102
2.2.3	Tertiary inbound mobility, % ⏲	1.4	90
2.3	**Research and development (R&D)**	0.0	[122]
2.3.1	Researchers, FTE/mn pop.	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇
Infrastructure		34.3	102 ◇
3.1	**Information and communication technologies (ICTs)**	69.4	86
3.1.1	ICT access*	69.9	92
3.1.2	ICT use*	75.8	84
3.1.3	Government online service*	62.6	78
3.2	**General infrastructure**	30.6	[102]
3.2.1	Electricity output, GWh/mn pop.	n/a	n/a
3.2.2	Aviation import dwell time	n/a	n/a
3.2.3	Logistics performance*	n/a	n/a
3.2.4	Gross capital formation, % GDP	22.5	72
3.3	**Ecological sustainability**	2.8	137 ○ ◇
3.3.1	GDP/unit of energy use	n/a	n/a
3.3.2	Low-carbon energy use, %	2.9	110
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.3	103
Market sophistication		21.7	[119]
4.1	**Credit**	21.3	[89]
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	54.4	60
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	n/a	[n/a]
4.2.1	Market capitalization, % GDP	n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a
4.3	**Trade, diversification, and market scale**	22.1	137 ○ ◇
4.3.1	Applied tariff rate, weighted avg., %	12.7	136 ○ ◇
4.3.2	Domestic industry diversification	63.6	97 ◇
4.3.3	Domestic market scale, bn PPP$	6.3	139 ○ ◇

		Score/ Value	Rank
Business sophistication		22.2	103
5.1	**Knowledge workers**	32.1	[83]
5.1.1	Knowledge-intensive employment, % ⏲	17.1	85
5.1.2	Females employed w/advanced degrees, % ⏲	7.6	89
5.1.3	Youth demographic dividend, %	41.4	54 ●
5.1.4	GERD performed by business, % GDP	n/a	n/a
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	18.9	96
5.2.1	Public research–industry co-publications, %	0.4	129
5.2.2	University–industry R&D collaboration†	33.5	80
5.2.3	University industry and international engagement, top 5*	n/a	n/a
5.2.4	State of cluster development†	38.0	74
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○ ◇
5.3	**Knowledge absorption**	15.7	111 ◇
5.3.1	Intellectual property payments, % total trade	0.1	108 ◇
5.3.2	High-tech imports, % total trade	3.5	131 ○ ◇
5.3.3	ICT services imports, % total trade	1.9	52 ●
5.3.4	FDI net inflows, % GDP	5.3	25 ●
5.3.5	Green-field R&D & high-tech FDI	0.0	125 ○ ◇
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		12.3	110
6.1	**Knowledge creation**	6.5	[104]
6.1.1	Patents by origin/bn PPP$ GDP	0.2	100
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	10.4	86
6.1.5	Citable documents H-index	0.0	139 ○ ◇
6.2	**Knowledge impact**	24.5	69
6.2.1	Labor productivity growth, %	4.4	11 ● ◆
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.2	67
6.2.4	High-tech manufacturing, %	6.5	96 ◇
6.3	**Knowledge diffusion**	5.8	133 ○ ◇
6.3.1	Intellectual property receipts, % total trade	0.0	114
6.3.2	Production and export complexity	n/a	n/a
6.3.3	High-tech exports, % total trade ⏲	0.3	108
6.3.4	ICT services exports, % total trade	0.9	92
6.3.5	ISO 9001 quality/bn PPP$ GDP	5.1	52 ●
Creative outputs		14.2	[103]
7.1	**Intangible assets**	17.0	[85]
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	18.2	90
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a
7.1.4	Industrial designs by origin/bn PPP$ GDP ⏲	1.1	56 ●
7.2	**Creative goods and services**	5.6	[102]
7.2.1	Cultural and creative services exports, % total trade	0.4	64
7.2.2	National feature films/mn pop. 15–69	n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade ⏲	0.1	109
7.3	**Online creativity**	17.1	125
7.3.1	Top-level domains (TLDs)/th pop. 15–69	2.5	76
7.3.2	GitHub commits/mn pop. 15–69	3.6	97
7.3.3	Mobile app creation/bn PPP$ GDP	45.3	129 ○ ◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Cambodia

93

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
97	88	Lower middle	SEAO	17.8	151.1	8,707

		Score/ Value	Rank
Institutions		**41.2**	**90**
1.1	**Institutional environment**	**52.5**	**80**
1.1.1	Operational stability for businesses*	69.7	55 ◆
1.1.2	Government effectiveness*	35.2	97
1.2	**Regulatory environment**	**29.3**	**117**
1.2.1	Regulatory quality*	31.5	112
1.2.2	Rule of law*	27.2	120
1.3	**Business environment**	**41.9**	**[72]**
1.3.1	Policy stability for doing business† ⏲	41.9	80
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**18.5**	**122**
2.1	**Education**	**35.5**	**122**
2.1.1	Expenditure on education, % GDP	2.2	125
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years ⏲	10.9	104
2.1.4	PISA scales in reading, maths and science	337.4	83 ○ ◇
2.1.5	Pupil–teacher ratio, secondary ⏲	9.9	32 ● ◆
2.2	**Tertiary education**	**20.1**	**101**
2.2.1	Tertiary enrolment, % gross	21.4	102
2.2.2	Graduates in science and engineering, % ⏲	23.2	60
2.2.3	Tertiary inbound mobility, % ⏲	0.3	113 ○
2.3	**Research and development (R&D)**	**0.0**	**[122]**
2.3.1	Researchers, FTE/mn pop.	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇
Infrastructure		**36.8**	**94**
3.1	**Information and communication technologies (ICTs)**	**59.3**	**103**
3.1.1	ICT access*	68.6	95
3.1.2	ICT use*	75.5	86
3.1.3	Government online service*	33.9	113
3.2	**General infrastructure**	**38.8**	**74**
3.2.1	Electricity output, GWh/mn pop.	923.5	102
3.2.2	Aviation import dwell time	2.5	60 ◆
3.2.3	Logistics performance*	13.6	104 ○
3.2.4	Gross capital formation, % GDP	33.0	14 ●
3.3	**Ecological sustainability**	**12.2**	**102**
3.3.1	GDP/unit of energy use	11.7	78
3.3.2	Low-carbon energy use, %	10.1	78
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.5	87
Market sophistication		**47.4**	**31 ● ◆**
4.1	**Credit**	**76.3**	**4 ● ◆**
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	124.7	15 ● ◆
4.1.3	Loans from microfinance institutions, % GDP	11.1	1 ● ◆
4.2	**Investment**	**1.1**	**116**
4.2.1	Market capitalization, % GDP	n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	106
4.2.3	Late-stage VC deal count, % global VC	0.0	98 ○
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	91
4.3	**Trade, diversification, and market scale**	**64.8**	**83**
4.3.1	Applied tariff rate, weighted avg., % ⏲	2.3	69 ◆
4.3.2	Domestic industry diversification	n/a	n/a
4.3.3	Domestic market scale, bn PPP$	151.1	87

		Score/ Value	Rank
Business sophistication		**19.7**	**117**
5.1	**Knowledge workers**	**25.6**	**[115]**
5.1.1	Knowledge-intensive employment, % ⏲	7.6	109
5.1.2	Females employed w/advanced degrees, % ⏲	2.8	109
5.1.3	Youth demographic dividend, %	46.5	39 ●
5.1.4	GERD performed by business, % GDP	n/a	n/a
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	**18.7**	**98**
5.2.1	Public research–industry co-publications, %	1.1	78
5.2.2	University–industry R&D collaboration† ⏲	22.5	113
5.2.3	University industry and international engagement, top 5*	n/a	n/a
5.2.4	State of cluster development† ⏲	39.6	69
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○ ◇
5.3	**Knowledge absorption**	**14.8**	**118**
5.3.1	Intellectual property payments, % total trade	0.2	101
5.3.2	High-tech imports, % total trade	3.9	126
5.3.3	ICT services imports, % total trade	0.5	119
5.3.4	FDI net inflows, % GDP	9.3	11 ● ◆
5.3.5	Green-field R&D & high-tech FDI	0.8	69
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		**13.9**	**103**
6.1	**Knowledge creation**	**2.0**	**129**
6.1.1	Patents by origin/bn PPP$ GDP	0.0	134 ○
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	96
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	69
6.1.4	Scientific and technical articles/bn PPP$ GDP	3.2	126
6.1.5	Citable documents H-index	4.9	104
6.2	**Knowledge impact**	**21.0**	**89**
6.2.1	Labor productivity growth, %	3.1	32 ●
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.0	126 ◇
6.2.4	High-tech manufacturing, %	n/a	n/a
6.3	**Knowledge diffusion**	**18.6**	**86**
6.3.1	Intellectual property receipts, % total trade	0.0	82
6.3.2	Production and export complexity	68.0	80
6.3.3	High-tech exports, % total trade	3.3	49 ●
6.3.4	ICT services exports, % total trade	1.0	91
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.8	93
Creative outputs		**16.0**	**93**
7.1	**Intangible assets**	**4.9**	**119**
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	16.3	96
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.2	105
7.2	**Creative goods and services**	**29.1**	**[36]**
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a
7.2.2	National feature films/mn pop. 15–69	n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	1.1	41 ●
7.3	**Online creativity**	**25.0**	**80**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.1	99
7.3.2	GitHub commits/mn pop. 15–69	3.8	96
7.3.3	Mobile app creation/bn PPP$ GDP	70.0	49 ●

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Cameroon

GII 2026 rank **121**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
126	112	Lower middle	SSA	29.9	173.0	5,791

		Score/ Value	Rank	
Institutions		**36.3**	**105**	
1.1	**Institutional environment**	**33.3**	**116**	
1.1.1	Operational stability for businesses*	44.1	116	
1.1.2	Government effectiveness*	22.5	123	
1.2	**Regulatory environment**	**25.8**	**127**	
1.2.1	Regulatory quality*	29.1	116	
1.2.2	Rule of law*	22.5	132	◇
1.3	**Business environment**	**49.8**	**59**	●
1.3.1	Policy stability for doing business†	41.4	82	
1.3.2	Entrepreneurship policies and culture† ⏲	58.2	19	
Human capital and research		**23.4**	**[101]**	
2.1	**Education**	**44.5**	**[98]**	
2.1.1	Expenditure on education, % GDP	2.8	115	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years ⏲	10.9	103	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary ⏲	17.0	91	
2.2	**Tertiary education**	**25.6**	**90**	
2.2.1	Tertiary enrolment, % gross	16.7	108	
2.2.2	Graduates in science and engineering, %	27.7	30	●
2.2.3	Tertiary inbound mobility, % ⏲	1.8	86	
2.3	**Research and development (R&D)**	**0.0**	**[122]**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**26.3**	**126**	◇
3.1	**Information and communication technologies (ICTs)**	**35.7**	**128**	◇
3.1.1	ICT access*	45.5	126	◇
3.1.2	ICT use*	34.1	120	◇
3.1.3	Government online service*	27.7	121	
3.2	**General infrastructure**	**24.9**	**122**	
3.2.1	Electricity output, GWh/mn pop. ⏲	287.2	120	
3.2.2	Aviation import dwell time	3.5	83	
3.2.3	Logistics performance*	0.0	113	○ ◇
3.2.4	Gross capital formation, % GDP	20.5	95	
3.3	**Ecological sustainability**	**18.3**	**68**	
3.3.1	GDP/unit of energy use	12.0	77	
3.3.2	Low-carbon energy use, %	27.2	31	●
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	128	
Market sophistication		**19.1**	**127**	◇
4.1	**Credit**	**25.9**	**74**	
4.1.1	Finance for startups and scaleups† ⏲	64.9	25	
4.1.2	Domestic credit to private sector, % GDP ⏲	14.1	119	
4.1.3	Loans from microfinance institutions, % GDP ⏲	1.0	33	
4.2	**Investment**	**1.6**	**106**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	72	
4.2.3	Late-stage VC deal count, % global VC	0.0	82	
4.2.4	VC investors, deal count/bn PPP$ GDP ⏲	0.0	110	
4.3	**Trade, diversification, and market scale**	**29.8**	**135**	○ ◇
4.3.1	Applied tariff rate, weighted avg., % ⏲	11.6	132	○ ◇
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	173.0	84	

		Score/ Value	Rank	
Business sophistication		**34.8**	**39**	● ◆
5.1	**Knowledge workers**	**63.9**	**[6]**	
5.1.1	Knowledge-intensive employment, % ⏲	27.2	54	● ◆
5.1.2	Females employed w/advanced degrees, %	n/a	n/a	
5.1.3	Youth demographic dividend, %	60.8	16	● ◆
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**20.1**	**90**	
5.2.1	Public research–industry co-publications, %	0.5	118	
5.2.2	University–industry R&D collaboration†	38.9	61	●
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	35.8	80	
5.2.5	Patent families/bn PPP$ GDP	0.0	98	○ ◇
5.3	**Knowledge absorption**	**20.4**	**78**	
5.3.1	Intellectual property payments, % total trade ⏲	0.2	99	
5.3.2	High-tech imports, % total trade ⏲	5.8	102	
5.3.3	ICT services imports, % total trade ⏲	2.9	27	● ◆
5.3.4	FDI net inflows, % GDP	1.8	89	
5.3.5	Green-field R&D & high-tech FDI	0.3	98	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**11.7**	**115**	
6.1	**Knowledge creation**	**7.6**	**97**	
6.1.1	Patents by origin/bn PPP$ GDP	0.5	72	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	82	
6.1.3	Utility models by origin/bn PPP$ GDP ⏲	0.0	77	○ ◇
6.1.4	Scientific and technical articles/bn PPP$ GDP	13.4	66	●
6.1.5	Citable documents H-index	7.6	89	
6.2	**Knowledge impact**	**16.4**	**114**	
6.2.1	Labor productivity growth, %	0.4	106	
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.2	73	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**10.9**	**122**	
6.3.1	Intellectual property receipts, % total trade ⏲	0.0	91	
6.3.2	Production and export complexity	37.1	125	○ ◇
6.3.3	High-tech exports, % total trade ⏲	0.1	125	
6.3.4	ICT services exports, % total trade ⏲	2.0	67	●
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.4	129	
Creative outputs		**7.8**	**126**	
7.1	**Intangible assets**	**3.3**	**127**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	4.3	127	◇
7.1.3	Global brand value, top 5,000, % GDP	0.0	81	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.3	94	
7.2	**Creative goods and services**	**4.4**	**[108]**	
7.2.1	Cultural and creative services exports, % total trade	0.4	69	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade ⏲	0.0	132	○
7.3	**Online creativity**	**20.3**	**113**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.3	115	
7.3.2	GitHub commits/mn pop. 15–69	1.7	113	
7.3.3	Mobile app creation/bn PPP$ GDP	59.0	109	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Canada

16

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
18	15	High	NAC	40.1	2,722.8	65,500

		Score/ Value	Rank
Institutions		**76.6**	**15**
1.1	**Institutional environment**	**86.5**	**13**
1.1.1	Operational stability for businesses*	86.2	15
1.1.2	Government effectiveness*	86.9	11 ●
1.2	**Regulatory environment**	**83.8**	**17**
1.2.1	Regulatory quality*	80.9	16
1.2.2	Rule of law*	86.7	16
1.3	**Business environment**	**59.6**	**32**
1.3.1	Policy stability for doing business†	71.5	25
1.3.2	Entrepreneurship policies and culture†	47.6	33
Human capital and research		**59.5**	**11 ●**
2.1	**Education**	**68.9**	**13**
2.1.1	Expenditure on education, % GDP ⏲	4.8	48
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years ⏲	15.5	47 ◇
2.1.4	PISA scales in reading, maths and science	506.4	7
2.1.5	Pupil–teacher ratio, secondary ⏲	9.4	25
2.2	**Tertiary education**	**50.3**	**13**
2.2.1	Tertiary enrolment, % gross ⏲	76.3	36
2.2.2	Graduates in science and engineering, % ⏲	25.1	42
2.2.3	Tertiary inbound mobility, % ⏲	21.2	11
2.3	**Research and development (R&D)**	**59.4**	**17**
2.3.1	Researchers, FTE/mn pop. ⏲	5,872.0	15
2.3.2	Gross expenditure on R&D, % GDP	1.8	21
2.3.3	Global corporate R&D investors, top 3, mn US$	65.6	18
2.3.4	QS university ranking, top 3*	88.6	6 ●
Infrastructure		**56.4**	**36**
3.1	**Information and communication technologies (ICTs)**	**87.4**	**39** ◇
3.1.1	ICT access*	99.3	14
3.1.2	ICT use*	80.4	71 ○ ◇
3.1.3	Government online service*	82.6	34
3.2	**General infrastructure**	**68.9**	**8 ●**
3.2.1	Electricity output, GWh/mn pop.	15,007.7	8 ● ◆
3.2.2	Aviation import dwell time	1.1	15
3.2.3	Logistics performance*	86.4	7
3.2.4	Gross capital formation, % GDP	23.4	63 ○
3.3	**Ecological sustainability**	**12.9**	**97** ○ ◇
3.3.1	GDP/unit of energy use	7.1	113 ○ ◇
3.3.2	Low-carbon energy use, %	21.9	40
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.4	102 ○ ◇
Market sophistication		**60.8**	**10 ●**
4.1	**Credit**	**61.3**	**[11]**
4.1.1	Finance for startups and scaleups†	61.3	31
4.1.2	Domestic credit to private sector, % GDP	n/a	n/a
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**34.7**	**16**
4.2.1	Market capitalization, % GDP	139.7	9
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.4	18
4.2.3	Late-stage VC deal count, % global VC	0.8	8 ●
4.2.4	VC investors, deal count/bn PPP$ GDP	0.5	21
4.3	**Trade, diversification, and market scale**	**86.4**	**9 ●**
4.3.1	Applied tariff rate, weighted avg., %	1.5	50
4.3.2	Domestic industry diversification	96.1	16
4.3.3	Domestic market scale, bn PPP$	2,722.8	16

		Score/ Value	Rank
Business sophistication		**48.9**	**20**
5.1	**Knowledge workers**	**43.5**	**42** ◇
5.1.1	Knowledge-intensive employment, %	n/a	n/a
5.1.2	Females employed w/advanced degrees, %	21.6	30
5.1.3	Youth demographic dividend, %	26.3	111 ○
5.1.4	GERD performed by business, % GDP	1.1	23
5.1.5	GERD financed by business, %	49.3	30
5.2	**Innovation linkages**	**60.5**	**15**
5.2.1	Public research–industry co-publications, %	4.1	21
5.2.2	University–industry R&D collaboration†	66.0	14
5.2.3	University industry and international engagement, top 5*	95.1	7 ●
5.2.4	State of cluster development†	74.5	24
5.2.5	Patent families/bn PPP$ GDP	1.3	20
5.3	**Knowledge absorption**	**42.5**	**17**
5.3.1	Intellectual property payments, % total trade	2.4	11 ●
5.3.2	High-tech imports, % total trade	10.0	39
5.3.3	ICT services imports, % total trade	1.7	59
5.3.4	FDI net inflows, % GDP	2.4	73 ○
5.3.5	Green-field R&D & high-tech FDI	2.5	26
5.3.6	Research talent, % in businesses ⏲	66.2	9
Knowledge and technology outputs		**40.3**	**19**
6.1	**Knowledge creation**	**46.1**	**13**
6.1.1	Patents by origin/bn PPP$ GDP	1.6	30
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	1.2	18
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	28.2	22
6.1.5	Citable documents H-index	80.3	4 ● ◆
6.2	**Knowledge impact**	**41.6**	**20**
6.2.1	Labor productivity growth, %	0.2	114 ○
6.2.2	Unicorn valuation, % GDP	3.0	16
6.2.3	Software spending, % GDP	0.6	6 ●
6.2.4	High-tech manufacturing, %	34.4	38
6.3	**Knowledge diffusion**	**33.3**	**41**
6.3.1	Intellectual property receipts, % total trade	1.2	17
6.3.2	Production and export complexity	82.7	34
6.3.3	High-tech exports, % total trade	6.2	36
6.3.4	ICT services exports, % total trade	2.6	55
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.8	91 ○ ◇
Creative outputs		**43.3**	**22**
7.1	**Intangible assets**	**39.3**	**37**
7.1.1	Intangible asset intensity, top 15, %	68.5	21
7.1.2	Trademarks by origin/bn PPP$ GDP	17.8	91 ○
7.1.3	Global brand value, top 5,000, % GDP	12.3	13
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.3	95 ○ ◇
7.2	**Creative goods and services**	**32.5**	**30**
7.2.1	Cultural and creative services exports, % total trade	1.4	25
7.2.2	National feature films/mn pop. 15–69	5.0	34
7.2.3	Entertainment and media market/th pop. 15–69	62.3	4 ●
7.2.4	Creative goods exports, % total trade	0.7	52
7.3	**Online creativity**	**61.8**	**13**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	51.8	11 ●
7.3.2	GitHub commits/mn pop. 15–69	62.6	11
7.3.3	Mobile app creation/bn PPP$ GDP	71.0	43

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Chad

GII 2026 rank

139

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
139	139	Low	SSA	21.0	59.8	3,155

		Score/ Value	Rank	
Institutions		**22.0**	**131**	
1.1	**Institutional environment**	**21.9**	**132**	
1.1.1	Operational stability for businesses*	28.9	127	
1.1.2	Government effectiveness*	14.9	134	
1.2	**Regulatory environment**	**19.1**	**134**	◇
1.2.1	Regulatory quality*	20.2	132	◇
1.2.2	Rule of law*	18.0	135	◇
1.3	**Business environment**	**24.9**	**[113]**	
1.3.1	Policy stability for doing business†	24.9	117	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**11.8**	**135**	
2.1	**Education**	**28.4**	**[132]**	
2.1.1	Expenditure on education, % GDP	3.2	104 ●	
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	10.4	81	◇
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	32.0	124	
2.2	**Tertiary education**	**5.9**	**124**	
2.2.1	Tertiary enrolment, % gross ⏲	4.4	127	
2.2.2	Graduates in science and engineering, % ⏲	14.3	107	
2.2.3	Tertiary inbound mobility, % ⏲	0.0	119 ○	◇
2.3	**Research and development (R&D)**	**1.0**	**102** ●	
2.3.1	Researchers, FTE/mn pop. ⏲	56.7	98	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.2	82	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**13.7**	**138**	◇
3.1	**Information and communication technologies (ICTs)**	**11.5**	**138**	◇
3.1.1	ICT access*	22.5	135	
3.1.2	ICT use*	0.0	132 ○	◇
3.1.3	Government online service*	11.9	136	
3.2	**General infrastructure**	**22.4**	**[129]**	
3.2.1	Electricity output, GWh/mn pop. ⏲	18.0	133 ○	◇
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	28.3	30 ● ◆	
3.3	**Ecological sustainability**	**7.0**	**122**	
3.3.1	GDP/unit of energy use	11.3	83 ● ◆	
3.3.2	Low-carbon energy use, %	0.1	133	◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	134	
Market sophistication		**9.8**	**[139]**	
4.1	**Credit**	**0.8**	**[137]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP ⏲	8.3	125	◇
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**n/a**	**[n/a]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**18.8**	**138**	◇
4.3.1	Applied tariff rate, weighted avg., % ⏲	13.1	137	
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	59.8	119	

		Score/ Value	Rank	
Business sophistication		**17.4**	**130**	
5.1	**Knowledge workers**	**34.0**	**[71]**	
5.1.1	Knowledge-intensive employment, % ⏲	2.8	123	
5.1.2	Females employed w/advanced degrees, % ⏲	0.8	123	
5.1.3	Youth demographic dividend, %	65.7	3 ● ◆	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**3.3**	**138**	◇
5.2.1	Public research–industry co-publications, %	0.9	90 ●	
5.2.2	University–industry R&D collaboration†	0.0	135 ○	◇
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	2.8	134	◇
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**14.9**	**117**	
5.3.1	Intellectual property payments, % total trade ⏲	0.0	124	
5.3.2	High-tech imports, % total trade	n/a	n/a	
5.3.3	ICT services imports, % total trade ⏲	1.2	84 ●	
5.3.4	FDI net inflows, % GDP	4.5	31 ●	
5.3.5	Green-field R&D & high-tech FDI	0.0	125 ○	◇
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**5.1**	**139** ○	◇
6.1	**Knowledge creation**	**1.0**	**138**	◇
6.1.1	Patents by origin/bn PPP$ GDP	0.1	120	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107 ○	◇
6.1.3	Utility models by origin/bn PPP$ GDP ⏲	0.0	77 ○	◇
6.1.4	Scientific and technical articles/bn PPP$ GDP	2.5	132	◇
6.1.5	Citable documents H-index	0.4	136	◇
6.2	**Knowledge impact**	**13.8**	**123**	
6.2.1	Labor productivity growth, %	–0.5	127	◇
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.2	65 ● ◆	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**0.5**	**139** ○	◇
6.3.1	Intellectual property receipts, % total trade ⏲	0.0	94 ●	
6.3.2	Production and export complexity	0.0	129 ○	◇
6.3.3	High-tech exports, % total trade	n/a	n/a	
6.3.4	ICT services exports, % total trade ⏲	0.1	136	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.1	139 ○	◇
Creative outputs		**3.0**	**[139]**	
7.1	**Intangible assets**	**0.5**	**[136]**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	0.6	136 ○	◇
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.0	127	
7.2	**Creative goods and services**	**1.7**	**[122]**	
7.2.1	Cultural and creative services exports, % total trade	0.1	103	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	n/a	n/a	
7.3	**Online creativity**	**9.3**	**137**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.0	137	
7.3.2	GitHub commits/mn pop. 15–69	0.0	137 ○	◇
7.3.3	Mobile app creation/bn PPP$ GDP	27.9	137	◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Chile

51

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
70	41	High	LCN	19.9	713.0	35,286

		Score/ Value	Rank	
Institutions		**59.3**	**47**	
1.1	**Institutional environment**	**71.3**	**32**	
1.1.1	Operational stability for businesses*	75.7	40	
1.1.2	Government effectiveness*	66.9	31	
1.2	**Regulatory environment**	**67.5**	**36**	
1.2.1	Regulatory quality*	66.5	34	
1.2.2	Rule of law*	68.5	34	
1.3	**Business environment**	**39.2**	**83**	
1.3.1	Policy stability for doing business†	30.0	101 ○	◇
1.3.2	Entrepreneurship policies and culture†	48.4	29	
Human capital and research		**40.9**	**40**	
2.1	**Education**	**55.3**	**66**	
2.1.1	Expenditure on education, % GDP	4.9	45	
2.1.2	Government funding/pupil, secondary, % GDP/cap	19.1	46	
2.1.3	School life expectancy, years	17.3	22 ●	
2.1.4	PISA scales in reading, maths and science	434.4	46	
2.1.5	Pupil–teacher ratio, secondary	17.0	92 ○	◇
2.2	**Tertiary education**	**38.7**	**46**	
2.2.1	Tertiary enrolment, % gross	110.2	6 ●	◆
2.2.2	Graduates in science and engineering, %	22.6	66	
2.2.3	Tertiary inbound mobility, %	1.6	88 ○	◇
2.3	**Research and development (R&D)**	**28.6**	**38**	
2.3.1	Researchers, FTE/mn pop.	695.4	66	◇
2.3.2	Gross expenditure on R&D, % GDP	0.4	66	◇
2.3.3	Global corporate R&D investors, top 3, mn US$	48.9	33	
2.3.4	QS university ranking, top 3*	53.2	30 ●	
Infrastructure		**51.7**	**50**	
3.1	**Information and communication technologies (ICTs)**	**89.9**	**29** ●	
3.1.1	ICT access*	96.9	37	
3.1.2	ICT use*	89.6	30	
3.1.3	Government online service*	83.3	33	
3.2	**General infrastructure**	**45.1**	**60**	
3.2.1	Electricity output, GWh/mn pop.	4,573.8	48	
3.2.2	Aviation import dwell time	1.8	33	
3.2.3	Logistics performance*	40.9	60	◇
3.2.4	Gross capital formation, % GDP	23.5	62	
3.3	**Ecological sustainability**	**20.0**	**59**	
3.3.1	GDP/unit of energy use	14.4	53	
3.3.2	Low-carbon energy use, %	19.5	45	
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.3	63	
Market sophistication		**43.6**	**40**	
4.1	**Credit**	**41.3**	**37**	
4.1.1	Finance for startups and scaleups†	39.1	61	◇
4.1.2	Domestic credit to private sector, % GDP	104.0	21 ●	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**13.0**	**40**	
4.2.1	Market capitalization, % GDP	86.6	19	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	44	
4.2.3	Late-stage VC deal count, % global VC	0.1	38	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	51	
4.3	**Trade, diversification, and market scale**	**76.4**	**48**	
4.3.1	Applied tariff rate, weighted avg., %	0.7	9 ●	
4.3.2	Domestic industry diversification	72.7	80 ○	
4.3.3	Domestic market scale, bn PPP$	713.0	42	

		Score/ Value	Rank	
Business sophistication		**31.1**	**52**	
5.1	**Knowledge workers**	**35.3**	**62**	
5.1.1	Knowledge-intensive employment, %	34.9	41	
5.1.2	Females employed w/advanced degrees, %	15.3	52	
5.1.3	Youth demographic dividend, %	28.7	94 ○	
5.1.4	GERD performed by business, % GDP	0.2	59	◇
5.1.5	GERD financed by business, %	39.9	50	
5.2	**Innovation linkages**	**25.4**	**62**	◇
5.2.1	Public research–industry co-publications, %	0.8	95 ○	◇
5.2.2	University–industry R&D collaboration†	40.2	58	
5.2.3	University industry and international engagement, top 5*	36.5	49	
5.2.4	State of cluster development†	37.8	76	◇
5.2.5	Patent families/bn PPP$ GDP	0.1	43	
5.3	**Knowledge absorption**	**32.6**	**38**	
5.3.1	Intellectual property payments, % total trade	1.6	21 ●	
5.3.2	High-tech imports, % total trade	7.9	67	
5.3.3	ICT services imports, % total trade	2.9	24 ●	
5.3.4	FDI net inflows, % GDP	5.2	26 ●	
5.3.5	Green-field R&D & high-tech FDI	0.9	63	
5.3.6	Research talent, % in businesses	37.7	38	
Knowledge and technology outputs		**20.5**	**75**	◇
6.1	**Knowledge creation**	**15.7**	**64**	
6.1.1	Patents by origin/bn PPP$ GDP	0.6	68	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.2	40	
6.1.3	Utility models by origin/bn PPP$ GDP	0.2	43	
6.1.4	Scientific and technical articles/bn PPP$ GDP	18.6	44	
6.1.5	Citable documents H-index	25.4	39	
6.2	**Knowledge impact**	**28.2**	**58**	
6.2.1	Labor productivity growth, %	0.2	112 ○	
6.2.2	Unicorn valuation, % GDP	0.7	45	
6.2.3	Software spending, % GDP	0.6	13 ●	
6.2.4	High-tech manufacturing, %	21.4	60	
6.3	**Knowledge diffusion**	**17.6**	**89**	◇
6.3.1	Intellectual property receipts, % total trade	0.1	78	
6.3.2	Production and export complexity	66.9	83	◇
6.3.3	High-tech exports, % total trade	1.0	76	
6.3.4	ICT services exports, % total trade	0.6	98 ○	
6.3.5	ISO 9001 quality/bn PPP$ GDP	3.4	71	
Creative outputs		**24.2**	**66**	◇
7.1	**Intangible assets**	**30.2**	**60**	
7.1.1	Intangible asset intensity, top 15, %	47.7	56 ○	
7.1.2	Trademarks by origin/bn PPP$ GDP	63.9	21 ●	◆
7.1.3	Global brand value, top 5,000, % GDP	3.0	39	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.1	122 ○	◇
7.2	**Creative goods and services**	**7.8**	**91**	◇
7.2.1	Cultural and creative services exports, % total trade	0.2	80	
7.2.2	National feature films/mn pop. 15–69	3.1	48	
7.2.3	Entertainment and media market/th pop. 15–69	10.3	36	◇
7.2.4	Creative goods exports, % total trade	0.1	89	◇
7.3	**Online creativity**	**28.6**	**58**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	7.9	46	
7.3.2	GitHub commits/mn pop. 15–69	11.6	56	◇
7.3.3	Mobile app creation/bn PPP$ GDP	66.1	76	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

China

GII 2026 rank **10**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
5	22	Upper middle	SEAO	1,416.1	41,015.8	29,191

		Score/ Value	Rank	
Institutions		**59.3**	**48**	◆
1.1	**Institutional environment**	**65.8**	**45**	◆
1.1.1	Operational stability for businesses*	66.4	64	
1.1.2	Government effectiveness*	65.2	34	◆
1.2	**Regulatory environment**	**41.9**	**87**	○
1.2.1	Regulatory quality*	45.4	78	
1.2.2	Rule of law*	38.5	98	○
1.3	**Business environment**	**70.2**	**16**	◆
1.3.1	Policy stability for doing business†	73.3	21	◆
1.3.2	Entrepreneurship policies and culture†	67.1	14	◆
Human capital and research		**49.7**	**23**	◆
2.1	**Education**	**65.5**	**22**	◆
2.1.1	Expenditure on education, % GDP	3.9	81	○
2.1.2	Government funding/pupil, secondary, % GDP/cap	20.4	40	
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	579.0	1	● ◆
2.1.5	Pupil–teacher ratio, secondary	13.2	65	
2.2	**Tertiary education**	**23.2**	**92**	○
2.2.1	Tertiary enrolment, % gross	76.9	33	
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	0.3	110	○
2.3	**Research and development (R&D)**	**60.2**	**16**	◆
2.3.1	Researchers, FTE/mn pop.	2,257.9	41	◆
2.3.2	Gross expenditure on R&D, % GDP	2.7	13	◆
2.3.3	Global corporate R&D investors, top 3, mn US$	87.6	2	● ◆
2.3.4	QS university ranking, top 3*	91.8	3	● ◆
Infrastructure		**63.9**	**8**	◆
3.1	**Information and communication technologies (ICTs)**	**92.8**	**17**	◆
3.1.1	ICT access*	97.3	35	◆
3.1.2	ICT use*	90.2	27	◆
3.1.3	Government online service*	91.1	11	◆
3.2	**General infrastructure**	**67.1**	**11**	◆
3.2.1	Electricity output, GWh/mn pop.	7,178.0	26	◆
3.2.2	Aviation import dwell time	1.3	19	
3.2.3	Logistics performance*	72.7	18	◆
3.2.4	Gross capital formation, % GDP	40.2	4	◆
3.3	**Ecological sustainability**	**31.7**	**32**	◆
3.3.1	GDP/unit of energy use	7.6	110	○ ◇
3.3.2	Low-carbon energy use, %	11.8	70	
3.3.3	ISO 14001 environment/bn PPP$ GDP	10.0	5	◆
Market sophistication		**60.1**	**11**	◆
4.1	**Credit**	**52.3**	**24**	◆
4.1.1	Finance for startups and scaleups†	68.3	20	◆
4.1.2	Domestic credit to private sector, % GDP	194.2	4	◆
4.1.3	Loans from microfinance institutions, % GDP	0.6	42	○
4.2	**Investment**	**33.6**	**18**	◆
4.2.1	Market capitalization, % GDP	61.7	26	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.2	33	◆
4.2.3	Late-stage VC deal count, % global VC	7.3	2	● ◆
4.2.4	VC investors, deal count/bn PPP$ GDP	0.2	42	
4.3	**Trade, diversification, and market scale**	**94.3**	**2**	● ◆
4.3.1	Applied tariff rate, weighted avg., %	2.1	67	
4.3.2	Domestic industry diversification	98.8	4	◆
4.3.3	Domestic market scale, bn PPP$	41,015.8	1	● ◆

		Score/ Value	Rank	
Business sophistication		**54.4**	**16**	◆
5.1	**Knowledge workers**	**56.2**	**[17]**	
5.1.1	Knowledge-intensive employment, %	n/a	n/a	
5.1.2	Females employed w/advanced degrees, %	n/a	n/a	
5.1.3	Youth demographic dividend, %	26.4	110	○ ◇
5.1.4	GERD performed by business, % GDP	2.1	11	◆
5.1.5	GERD financed by business, %	79.5	1	● ◆
5.2	**Innovation linkages**	**71.2**	**3**	● ◆
5.2.1	Public research–industry co-publications, %	8.2	3	● ◆
5.2.2	University–industry R&D collaboration†	66.8	13	◆
5.2.3	University industry and international engagement, top 5*	77.4	19	◆
5.2.4	State of cluster development†	96.8	2	● ◆
5.2.5	Patent families/bn PPP$ GDP	1.4	18	◆
5.3	**Knowledge absorption**	**35.9**	**34**	◆
5.3.1	Intellectual property payments, % total trade	1.3	30	
5.3.2	High-tech imports, % total trade	18.8	11	◆
5.3.3	ICT services imports, % total trade	1.1	87	○
5.3.4	FDI net inflows, % GDP	0.5	116	○
5.3.5	Green-field R&D & high-tech FDI	0.1	115	○
5.3.6	Research talent, % in businesses	60.4	14	◆
Knowledge and technology outputs		**63.2**	**1**	● ◆
6.1	**Knowledge creation**	**70.1**	**2**	● ◆
6.1.1	Patents by origin/bn PPP$ GDP	43.8	2	● ◆
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	1.7	13	◆
6.1.3	Utility models by origin/bn PPP$ GDP	83.2	1	● ◆
6.1.4	Scientific and technical articles/bn PPP$ GDP	22.2	35	◆
6.1.5	Citable documents H-index	72.3	6	◆
6.2	**Knowledge impact**	**69.0**	**3**	● ◆
6.2.1	Labor productivity growth, %	5.9	4	◆
6.2.2	Unicorn valuation, % GDP	6.8	1	● ◆
6.2.3	Software spending, % GDP	0.3	34	
6.2.4	High-tech manufacturing, %	48.4	12	◆
6.3	**Knowledge diffusion**	**50.6**	**14**	◆
6.3.1	Intellectual property receipts, % total trade	0.3	35	◆
6.3.2	Production and export complexity	91.8	9	◆
6.3.3	High-tech exports, % total trade	23.3	7	◆
6.3.4	ICT services exports, % total trade	2.8	49	
6.3.5	ISO 9001 quality/bn PPP$ GDP	17.1	10	◆
Creative outputs		**49.8**	**12**	◆
7.1	**Intangible assets**	**82.7**	**1**	● ◆
7.1.1	Intangible asset intensity, top 15, %	73.8	12	◆
7.1.2	Trademarks by origin/bn PPP$ GDP	177.6	1	● ◆
7.1.3	Global brand value, top 5,000, % GDP	9.4	19	◆
7.1.4	Industrial designs by origin/bn PPP$ GDP	21.0	1	● ◆
7.2	**Creative goods and services**	**29.9**	**34**	◆
7.2.1	Cultural and creative services exports, % total trade	0.6	53	
7.2.2	National feature films/mn pop. 15–69	0.6	85	○
7.2.3	Entertainment and media market/th pop. 15–69	9.4	38	◆
7.2.4	Creative goods exports, % total trade	9.3	4	◆
7.3	**Online creativity**	**4.0**	**[138]**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	4.0	63	
7.3.2	GitHub commits/mn pop. 15–69	n/a	n/a	
7.3.3	Mobile app creation/bn PPP$ GDP	n/a	n/a	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Colombia

78

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
74	74	Upper middle	LCN	53.4	1,189.5	22,396

		Score/ Value	Rank	
Institutions		**40.5**	**93**	
1.1	**Institutional environment**	**48.9**	**88**	
1.1.1	Operational stability for businesses*	57.9	91	
1.1.2	Government effectiveness*	39.8	84	
1.2	**Regulatory environment**	**43.2**	**83**	
1.2.1	Regulatory quality*	47.5	73	
1.2.2	Rule of law*	38.9	94	
1.3	**Business environment**	**29.4**	**98**	
1.3.1	Policy stability for doing business†	22.7	120 ○	
1.3.2	Entrepreneurship policies and culture† ⏲	36.1	48	
Human capital and research		**34.4**	**63**	
2.1	**Education**	**47.9**	**86**	
2.1.1	Expenditure on education, % GDP ⏲	5.3	35 ●	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years ⏲	14.3	64	
2.1.4	PISA scales in reading, maths and science	400.8	62 ○	
2.1.5	Pupil–teacher ratio, secondary ⏲	25.4	114 ○ ◇	
2.2	**Tertiary education**	**27.9**	**85**	
2.2.1	Tertiary enrolment, % gross ⏲	59.3	56	
2.2.2	Graduates in science and engineering, % ⏲	23.3	57	
2.2.3	Tertiary inbound mobility, % ⏲	0.2	114 ○	
2.3	**Research and development (R&D)**	**27.3**	**43** ◆	
2.3.1	Researchers, FTE/mn pop. ⏲	90.2	93	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.3	71	
2.3.3	Global corporate R&D investors, top 3, mn US$	55.3	27 ● ◆	
2.3.4	QS university ranking, top 3*	48.7	37 ◆	
Infrastructure		**43.6**	**75**	
3.1	**Information and communication technologies (ICTs)**	**71.1**	**84**	
3.1.1	ICT access*	67.8	96	
3.1.2	ICT use*	75.4	87	
3.1.3	Government online service*	70.2	65	
3.2	**General infrastructure**	**34.3**	**93**	
3.2.1	Electricity output, GWh/mn pop.	1,750.8	89	
3.2.2	Aviation import dwell time	3.0	74	
3.2.3	Logistics performance*	36.4	65	
3.2.4	Gross capital formation, % GDP	16.8	116 ○ ◇	
3.3	**Ecological sustainability**	**25.4**	**40**	
3.3.1	GDP/unit of energy use	21.5	19 ● ◆	
3.3.2	Low-carbon energy use, %	14.3	59	
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.1	46	
Market sophistication		**34.6**	**77**	
4.1	**Credit**	**22.7**	**85**	
4.1.1	Finance for startups and scaleups† ⏲	30.6	76 ○	
4.1.2	Domestic credit to private sector, % GDP	39.5	78	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**4.2**	**78**	
4.2.1	Market capitalization, % GDP	19.6	59	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	65	
4.2.3	Late-stage VC deal count, % global VC	0.1	42	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	78	
4.3	**Trade, diversification, and market scale**	**76.8**	**46**	
4.3.1	Applied tariff rate, weighted avg., %	2.7	74	
4.3.2	Domestic industry diversification	84.8	59	
4.3.3	Domestic market scale, bn PPP$	1,189.5	31 ●	

		Score/ Value	Rank	
Business sophistication		**31.1**	**53**	
5.1	**Knowledge workers**	**38.0**	**56**	
5.1.1	Knowledge-intensive employment, %	23.8	64	
5.1.2	Females employed w/advanced degrees, %	15.9	50	
5.1.3	Youth demographic dividend, %	34.7	73	
5.1.4	GERD performed by business, % GDP ⏲	0.1	60	
5.1.5	GERD financed by business, % ⏲	53.4	23 ● ◆	
5.2	**Innovation linkages**	**24.6**	**66**	
5.2.1	Public research–industry co-publications, %	1.9	48	
5.2.2	University–industry R&D collaboration†	41.1	56	
5.2.3	University industry and international engagement, top 5*	19.4	68	
5.2.4	State of cluster development†	40.6	68	
5.2.5	Patent families/bn PPP$ GDP	0.0	62	
5.3	**Knowledge absorption**	**30.6**	**45**	
5.3.1	Intellectual property payments, % total trade	2.5	10 ● ◆	
5.3.2	High-tech imports, % total trade	13.7	17 ●	
5.3.3	ICT services imports, % total trade	2.3	35 ● ◆	
5.3.4	FDI net inflows, % GDP	4.3	36 ●	
5.3.5	Green-field R&D & high-tech FDI	1.0	59	
5.3.6	Research talent, % in businesses ⏲	2.5	83	
Knowledge and technology outputs		**18.6**	**81**	
6.1	**Knowledge creation**	**8.4**	**91**	
6.1.1	Patents by origin/bn PPP$ GDP	0.2	92	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	69	
6.1.3	Utility models by origin/bn PPP$ GDP	0.1	51	
6.1.4	Scientific and technical articles/bn PPP$ GDP	8.1	98	
6.1.5	Citable documents H-index	19.5	45	
6.2	**Knowledge impact**	**22.3**	**81**	
6.2.1	Labor productivity growth, %	–0.0	118 ○ ◇	
6.2.2	Unicorn valuation, % GDP	1.6	32 ●	
6.2.3	Software spending, % GDP	0.2	77	
6.2.4	High-tech manufacturing, %	19.1	66	
6.3	**Knowledge diffusion**	**25.1**	**58**	
6.3.1	Intellectual property receipts, % total trade	0.3	43 ◆	
6.3.2	Production and export complexity	72.3	66	
6.3.3	High-tech exports, % total trade	1.3	69	
6.3.4	ICT services exports, % total trade	2.7	52	
6.3.5	ISO 9001 quality/bn PPP$ GDP	5.8	46	
Creative outputs		**22.2**	**72**	
7.1	**Intangible assets**	**25.6**	**69**	
7.1.1	Intangible asset intensity, top 15, %	44.4	59 ○	
7.1.2	Trademarks by origin/bn PPP$ GDP	29.6	71	
7.1.3	Global brand value, top 5,000, % GDP	1.8	48	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.4	86	
7.2	**Creative goods and services**	**8.2**	**90**	
7.2.1	Cultural and creative services exports, % total trade	0.6	56	
7.2.2	National feature films/mn pop. 15–69	2.0	65	
7.2.3	Entertainment and media market/th pop. 15–69	6.1	46	
7.2.4	Creative goods exports, % total trade	0.2	78	
7.3	**Online creativity**	**29.6**	**54**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	13.6	40	
7.3.2	GitHub commits/mn pop. 15–69	9.6	60	
7.3.3	Mobile app creation/bn PPP$ GDP	65.5	81	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Costa Rica

GII 2026 rank **70**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
76	62	High	LCN	5.2	169.2	31,485

		Score/ Value	Rank	
Institutions		**55.8**	**54**	
1.1	**Institutional environment**	**61.4**	**52**	◇
1.1.1	Operational stability for businesses*	73.0	45	
1.1.2	Government effectiveness*	49.8	60	◇
1.2	**Regulatory environment**	**64.2**	**41**	
1.2.1	Regulatory quality*	61.6	45	
1.2.2	Rule of law*	66.8	38	
1.3	**Business environment**	**41.8**	**73**	
1.3.1	Policy stability for doing business†	64.3	35	
1.3.2	Entrepreneurship policies and culture†	19.4	76	◇
Human capital and research		**26.4**	**95**	◇
2.1	**Education**	**54.0**	**69**	
2.1.1	Expenditure on education, % GDP	5.3	32 ●	
2.1.2	Government funding/pupil, secondary, % GDP/cap	20.1	44	
2.1.3	School life expectancy, years ⏲	15.8	41	
2.1.4	PISA scales in reading, maths and science	403.6	58	◇
2.1.5	Pupil–teacher ratio, secondary	12.5	58	
2.2	**Tertiary education**	**20.6**	**99**	◇
2.2.1	Tertiary enrolment, % gross ⏲	55.0	63	
2.2.2	Graduates in science and engineering, % ⏲	17.1	99 ○	◇
2.2.3	Tertiary inbound mobility, % ⏲	1.2	92	
2.3	**Research and development (R&D)**	**4.7**	**82**	◇
2.3.1	Researchers, FTE/mn pop.	397.5	79	◇
2.3.2	Gross expenditure on R&D, % GDP	0.3	72	◇
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	10.9	74	◇
Infrastructure		**48.2**	**60**	◇
3.1	**Information and communication technologies (ICTs)**	**75.0**	**76**	◇
3.1.1	ICT access*	76.9	85	◇
3.1.2	ICT use*	81.6	66	◇
3.1.3	Government online service*	66.5	71	
3.2	**General infrastructure**	**34.6**	**91**	◇
3.2.1	Electricity output, GWh/mn pop.	2,379.2	80	◇
3.2.2	Aviation import dwell time	2.7	67	
3.2.3	Logistics performance*	36.4	65	◇
3.2.4	Gross capital formation, % GDP	15.2	124 ○	◇
3.3	**Ecological sustainability**	**34.9**	**25** ●	
3.3.1	GDP/unit of energy use	26.2	9 ●	
3.3.2	Low-carbon energy use, %	39.2	13 ●	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.4	95	◇
Market sophistication		**32.2**	**88**	◇
4.1	**Credit**	**23.2**	**82**	◇
4.1.1	Finance for startups and scaleups†	26.1	79 ○	◇
4.1.2	Domestic credit to private sector, % GDP	52.0	62	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**3.2**	**86**	◇
4.2.1	Market capitalization, % GDP ⏲	3.1	81 ○	◇
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	71	◇
4.2.3	Late-stage VC deal count, % global VC	0.0	88 ○	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	53	
4.3	**Trade, diversification, and market scale**	**70.2**	**67**	
4.3.1	Applied tariff rate, weighted avg., %	1.3	47	
4.3.2	Domestic industry diversification	72.4	81	
4.3.3	Domestic market scale, bn PPP$	169.2	85	

		Score/ Value	Rank	
Business sophistication		**34.5**	**40**	
5.1	**Knowledge workers**	**29.5**	**98**	◇
5.1.1	Knowledge-intensive employment, %	25.9	57	◇
5.1.2	Females employed w/advanced degrees, %	13.7	63	◇
5.1.3	Youth demographic dividend, %	31.8	79	
5.1.4	GERD performed by business, % GDP	0.1	67	◇
5.1.5	GERD financed by business, %	28.5	62	
5.2	**Innovation linkages**	**24.1**	**68**	◇
5.2.1	Public research–industry co-publications, %	1.2	76	
5.2.2	University–industry R&D collaboration†	43.0	52	
5.2.3	University industry and international engagement, top 5*	7.4	96 ○	◇
5.2.4	State of cluster development†	56.7	45	
5.2.5	Patent families/bn PPP$ GDP	0.0	71	
5.3	**Knowledge absorption**	**49.8**	**9** ● ◆	
5.3.1	Intellectual property payments, % total trade	3.4	7 ● ◆	
5.3.2	High-tech imports, % total trade	8.4	61	
5.3.3	ICT services imports, % total trade	1.8	58	
5.3.4	FDI net inflows, % GDP	5.5	24 ●	
5.3.5	Green-field R&D & high-tech FDI	8.9	1 ● ◆	
5.3.6	Research talent, % in businesses	26.7	50	
Knowledge and technology outputs		**23.7**	**61**	
6.1	**Knowledge creation**	**5.6**	**110**	◇
6.1.1	Patents by origin/bn PPP$ GDP	0.1	112	◇
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	53	
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	66	
6.1.4	Scientific and technical articles/bn PPP$ GDP	7.6	101	◇
6.1.5	Citable documents H-index	10.0	79	◇
6.2	**Knowledge impact**	**33.6**	**40**	
6.2.1	Labor productivity growth, %	3.7	17 ● ◆	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.3	52	
6.2.4	High-tech manufacturing, %	37.8	29	
6.3	**Knowledge diffusion**	**31.9**	**48**	
6.3.1	Intellectual property receipts, % total trade	0.0	90	◇
6.3.2	Production and export complexity	74.1	60	
6.3.3	High-tech exports, % total trade	8.9	23 ●	
6.3.4	ICT services exports, % total trade	7.1	14 ●	
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.7	96	
Creative outputs		**16.7**	**88**	◇
7.1	**Intangible assets**	**13.6**	**93**	◇
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	67.9	17 ● ◆	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.1	115 ○	◇
7.2	**Creative goods and services**	**11.9**	**73**	◇
7.2.1	Cultural and creative services exports, % total trade	0.8	45	
7.2.2	National feature films/mn pop. 15–69 ⏲	2.4	56	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.3	73	
7.3	**Online creativity**	**27.6**	**64**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	5.4	56	
7.3.2	GitHub commits/mn pop. 15–69	14.5	52	
7.3.3	Mobile app creation/bn PPP$ GDP	62.8	98	◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Côte d'Ivoire

110

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
107	108	Lower middle	SSA	32.7	266.9	8,113

		Score/ Value	Rank
Institutions		**49.6**	**72**
1.1	**Institutional environment**	**49.6**	**84**
1.1.1	Operational stability for businesses*	64.5	70 ●
1.1.2	Government effectiveness*	34.7	99
1.2	**Regulatory environment**	**40.8**	**91**
1.2.1	Regulatory quality*	43.0	84
1.2.2	Rule of law*	38.5	97
1.3	**Business environment**	**58.3**	**[38]**
1.3.1	Policy stability for doing business†	58.3	44 ●
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**12.4**	**133** ○ ◇
2.1	**Education**	**31.4**	**128**
2.1.1	Expenditure on education, % GDP	3.6	90
2.1.2	Government funding/pupil, secondary, % GDP/cap	12.4	76
2.1.3	School life expectancy, years	11.0	102
2.1.4	PISA scales in reading, maths and science	n/a	n/a
2.1.5	Pupil–teacher ratio, secondary	31.7	123 ○ ◇
2.2	**Tertiary education**	**5.6**	**125** ○ ◇
2.2.1	Tertiary enrolment, % gross	12.3	113
2.2.2	Graduates in science and engineering, %	n/a	n/a
2.2.3	Tertiary inbound mobility, %	2.2	79
2.3	**Research and development (R&D)**	**0.3**	**116**
2.3.1	Researchers, FTE/mn pop.	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.1	106
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇
Infrastructure		**32.7**	**111**
3.1	**Information and communication technologies (ICTs)**	**58.9**	**104**
3.1.1	ICT access*	64.3	105
3.1.2	ICT use*	69.8	96
3.1.3	Government online service*	42.5	101
3.2	**General infrastructure**	**28.9**	**113**
3.2.1	Electricity output, GWh/mn pop. ⏲	436.2	114
3.2.2	Aviation import dwell time	7.0	110 ○ ◇
3.2.3	Logistics performance*	n/a	n/a
3.2.4	Gross capital formation, % GDP	27.0	34 ●
3.3	**Ecological sustainability**	**10.2**	**109**
3.3.1	GDP/unit of energy use	12.9	73
3.3.2	Low-carbon energy use, %	4.6	100
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.2	121
Market sophistication		**23.9**	**116**
4.1	**Credit**	**10.4**	**[120]**
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	n/a	n/a
4.1.3	Loans from microfinance institutions, % GDP	1.2	32 ●
4.2	**Investment**	**2.9**	**94**
4.2.1	Market capitalization, % GDP ⏲	13.2	67
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	78
4.2.3	Late-stage VC deal count, % global VC	0.0	75
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	74
4.3	**Trade, diversification, and market scale**	**58.4**	**99**
4.3.1	Applied tariff rate, weighted avg., %	6.1	103
4.3.2	Domestic industry diversification ⏲	69.0	89
4.3.3	Domestic market scale, bn PPP$	266.9	72

		Score/ Value	Rank
Business sophistication		**24.5**	**82**
5.1	**Knowledge workers**	**32.2**	**[82]**
5.1.1	Knowledge-intensive employment, % ⏲	4.7	117 ◇
5.1.2	Females employed w/advanced degrees, % ⏲	1.8	117
5.1.3	Youth demographic dividend, %	60.1	18 ● ◆
5.1.4	GERD performed by business, % GDP	n/a	n/a
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	**22.9**	**75**
5.2.1	Public research–industry co-publications, %	0.4	126
5.2.2	University–industry R&D collaboration†	41.2	55 ●
5.2.3	University industry and international engagement, top 5*	n/a	n/a
5.2.4	State of cluster development†	46.0	59 ●
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○ ◇
5.3	**Knowledge absorption**	**18.4**	**88**
5.3.1	Intellectual property payments, % total trade ⏲	0.1	117
5.3.2	High-tech imports, % total trade	5.0	116
5.3.3	ICT services imports, % total trade ⏲	2.4	34 ● ◆
5.3.4	FDI net inflows, % GDP	3.0	58 ●
5.3.5	Green-field R&D & high-tech FDI	0.5	90
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		**9.8**	**130**
6.1	**Knowledge creation**	**2.0**	**131** ○
6.1.1	Patents by origin/bn PPP$ GDP	0.1	113
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	102
6.1.3	Utility models by origin/bn PPP$ GDP ⏲	0.0	77 ○ ◇
6.1.4	Scientific and technical articles/bn PPP$ GDP	2.6	131 ○
6.1.5	Citable documents H-index	4.7	108
6.2	**Knowledge impact**	**15.9**	**115**
6.2.1	Labor productivity growth, %	2.6	39 ●
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.0	130 ○ ◇
6.2.4	High-tech manufacturing, % ⏲	5.6	98
6.3	**Knowledge diffusion**	**11.4**	**119**
6.3.1	Intellectual property receipts, % total trade ⏲	0.0	128
6.3.2	Production and export complexity	50.3	108
6.3.3	High-tech exports, % total trade	0.4	101
6.3.4	ICT services exports, % total trade ⏲	0.4	108
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.8	112
Creative outputs		**16.3**	**90**
7.1	**Intangible assets**	**20.0**	**82**
7.1.1	Intangible asset intensity, top 15, % ⏲	35.9	64
7.1.2	Trademarks by origin/bn PPP$ GDP	4.1	130 ○ ◇
7.1.3	Global brand value, top 5,000, % GDP	0.5	70
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.6	75
7.2	**Creative goods and services**	**4.8**	**[107]**
7.2.1	Cultural and creative services exports, % total trade	0.1	104
7.2.2	National feature films/mn pop. 15–69	n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	0.2	77
7.3	**Online creativity**	**20.5**	**109**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.3	113
7.3.2	GitHub commits/mn pop. 15–69	0.7	124
7.3.3	Mobile app creation/bn PPP$ GDP	60.5	104

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Croatia

GII 2026 rank **46**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
47	44	High	EUR	3.8	198.3	51,453

		Score/ Value	Rank	
Institutions		**51.5**	**67**	◇
1.1	**Institutional environment**	**69.7**	**40**	
1.1.1	Operational stability for businesses*	78.9	28	
1.1.2	Government effectiveness*	60.5	41	
1.2	**Regulatory environment**	**57.7**	**53**	◇
1.2.1	Regulatory quality*	54.2	55	◇
1.2.2	Rule of law*	61.1	47	
1.3	**Business environment**	**27.2**	**107**	○ ◇
1.3.1	Policy stability for doing business†	37.0	89	○ ◇
1.3.2	Entrepreneurship policies and culture†	17.4	78	○ ◇
Human capital and research		**40.1**	**43**	
2.1	**Education**	**66.7**	**18**	●
2.1.1	Expenditure on education, % GDP	4.1	73	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	16.3	31	
2.1.4	PISA scales in reading, maths and science	473.8	34	
2.1.5	Pupil–teacher ratio, secondary	6.1	2	● ◆
2.2	**Tertiary education**	**40.7**	**39**	
2.2.1	Tertiary enrolment, % gross	81.2	22	●
2.2.2	Graduates in science and engineering, %	27.9	29	
2.2.3	Tertiary inbound mobility, %	3.7	64	
2.3	**Research and development (R&D)**	**12.9**	**59**	◇
2.3.1	Researchers, FTE/mn pop.	2,424.2	39	
2.3.2	Gross expenditure on R&D, % GDP	1.4	33	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	8.4	77	◇
Infrastructure		**55.8**	**39**	
3.1	**Information and communication technologies (ICTs)**	**91.7**	**21**	●
3.1.1	ICT access*	96.4	41	
3.1.2	ICT use*	93.8	16	●
3.1.3	Government online service*	84.8	31	
3.2	**General infrastructure**	**45.5**	**58**	
3.2.1	Electricity output, GWh/mn pop.	3,867.8	58	
3.2.2	Aviation import dwell time	2.8	69	○
3.2.3	Logistics performance*	54.5	42	
3.2.4	Gross capital formation, % GDP	23.4	65	
3.3	**Ecological sustainability**	**30.1**	**35**	
3.3.1	GDP/unit of energy use	19.0	25	●
3.3.2	Low-carbon energy use, %	15.4	54	
3.3.3	ISO 14001 environment/bn PPP$ GDP	4.8	21	●
Market sophistication		**41.6**	**50**	
4.1	**Credit**	**36.9**	**46**	
4.1.1	Finance for startups and scaleups†	55.9	36	
4.1.2	Domestic credit to private sector, % GDP	46.9	71	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**8.7**	**53**	
4.2.1	Market capitalization, % GDP	28.9	49	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	47	
4.2.3	Late-stage VC deal count, % global VC	0.0	64	○
4.2.4	VC investors, deal count/bn PPP$ GDP	0.2	37	
4.3	**Trade, diversification, and market scale**	**79.1**	**34**	
4.3.1	Applied tariff rate, weighted avg., %	1.3	20	
4.3.2	Domestic industry diversification	97.3	10	●
4.3.3	Domestic market scale, bn PPP$	198.3	80	

		Score/ Value	Rank	
Business sophistication		**30.9**	**55**	
5.1	**Knowledge workers**	**43.6**	**41**	
5.1.1	Knowledge-intensive employment, %	42.8	28	
5.1.2	Females employed w/advanced degrees, %	21.1	33	
5.1.3	Youth demographic dividend, %	24.0	129	○
5.1.4	GERD performed by business, % GDP	0.7	34	
5.1.5	GERD financed by business, %	45.1	35	
5.2	**Innovation linkages**	**22.3**	**79**	◇
5.2.1	Public research–industry co-publications, %	2.7	29	
5.2.2	University–industry R&D collaboration†	27.9	101	○ ◇
5.2.3	University industry and international engagement, top 5*	13.0	84	○ ◇
5.2.4	State of cluster development†	37.6	78	◇
5.2.5	Patent families/bn PPP$ GDP	0.1	46	
5.3	**Knowledge absorption**	**26.8**	**56**	
5.3.1	Intellectual property payments, % total trade	1.0	39	
5.3.2	High-tech imports, % total trade	8.8	54	
5.3.3	ICT services imports, % total trade	1.6	64	
5.3.4	FDI net inflows, % GDP	4.8	27	
5.3.5	Green-field R&D & high-tech FDI	1.6	41	
5.3.6	Research talent, % in businesses	26.0	52	
Knowledge and technology outputs		**27.9**	**44**	
6.1	**Knowledge creation**	**17.2**	**61**	
6.1.1	Patents by origin/bn PPP$ GDP	0.5	69	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.3	38	
6.1.3	Utility models by origin/bn PPP$ GDP	0.1	45	
6.1.4	Scientific and technical articles/bn PPP$ GDP	27.2	24	●
6.1.5	Citable documents H-index	18.4	47	
6.2	**Knowledge impact**	**33.7**	**38**	
6.2.1	Labor productivity growth, %	3.6	19	● ◆
6.2.2	Unicorn valuation, % GDP	2.7	22	●
6.2.3	Software spending, % GDP	0.0	113	○ ◇
6.2.4	High-tech manufacturing, %	21.2	61	
6.3	**Knowledge diffusion**	**32.6**	**44**	
6.3.1	Intellectual property receipts, % total trade	0.3	41	
6.3.2	Production and export complexity	83.6	29	
6.3.3	High-tech exports, % total trade	4.3	45	
6.3.4	ICT services exports, % total trade	3.9	34	
6.3.5	ISO 9001 quality/bn PPP$ GDP	8.0	27	
Creative outputs		**31.8**	**49**	
7.1	**Intangible assets**	**32.2**	**57**	
7.1.1	Intangible asset intensity, top 15, %	58.0	37	
7.1.2	Trademarks by origin/bn PPP$ GDP	25.5	81	○
7.1.3	Global brand value, top 5,000, % GDP	0.5	68	
7.1.4	Industrial designs by origin/bn PPP$ GDP	2.1	35	
7.2	**Creative goods and services**	**26.5**	**45**	
7.2.1	Cultural and creative services exports, % total trade	1.6	21	●
7.2.2	National feature films/mn pop. 15–69	7.7	20	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.6	55	
7.3	**Online creativity**	**36.3**	**38**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	14.2	37	
7.3.2	GitHub commits/mn pop. 15–69	28.1	34	
7.3.3	Mobile app creation/bn PPP$ GDP	66.5	72	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Cyprus

29

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
20	34	High	NAWA	1.4	61.5	65,304

		Score/ Value	Rank	
Institutions		**59.2**	**50**	
1.1	**Institutional environment**	**71.1**	**33**	
1.1.1	Operational stability for businesses*	77.6	33	
1.1.2	Government effectiveness*	64.5	35	
1.2	**Regulatory environment**	**67.0**	**37**	
1.2.1	Regulatory quality*	65.5	36	
1.2.2	Rule of law*	68.5	35	
1.3	**Business environment**	**39.5**	**80**	
1.3.1	Policy stability for doing business† ⏲	55.7	51	
1.3.2	Entrepreneurship policies and culture†	23.3	68 ○	◇
Human capital and research		**39.2**	**46**	
2.1	**Education**	**63.2**	**35**	
2.1.1	Expenditure on education, % GDP ⏲	4.7	50	
2.1.2	Government funding/pupil, secondary, % GDP/cap	30.9	9	◆
2.1.3	School life expectancy, years	17.6	18	
2.1.4	PISA scales in reading, maths and science	403.4	59	◇
2.1.5	Pupil–teacher ratio, secondary ⏲	7.4	5 ●	◆
2.2	**Tertiary education**	**43.0**	**34**	
2.2.1	Tertiary enrolment, % gross	120.9	2 ●	◆
2.2.2	Graduates in science and engineering, %	10.8	115 ○	◇
2.2.3	Tertiary inbound mobility, %	21.6	10	
2.3	**Research and development (R&D)**	**11.5**	**63**	◇
2.3.1	Researchers, FTE/mn pop.	1,691.9	45	
2.3.2	Gross expenditure on R&D, % GDP	0.6	54	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	20.2	65	
Infrastructure		**55.4**	**41**	
3.1	**Information and communication technologies (ICTs)**	**87.8**	**37**	
3.1.1	ICT access*	99.5	12	
3.1.2	ICT use*	85.5	46	
3.1.3	Government online service*	78.5	42	
3.2	**General infrastructure**	**49.0**	**44**	
3.2.1	Electricity output, GWh/mn pop.	6,116.3	32	
3.2.2	Aviation import dwell time	0.7	6	
3.2.3	Logistics performance*	50.0	50	
3.2.4	Gross capital formation, % GDP	19.7	102 ○	
3.3	**Ecological sustainability**	**29.5**	**37**	
3.3.1	GDP/unit of energy use	21.1	21	
3.3.2	Low-carbon energy use, %	5.5	97	
3.3.3	ISO 14001 environment/bn PPP$ GDP	5.5	18	
Market sophistication		**47.1**	**32**	
4.1	**Credit**	**28.7**	**66**	
4.1.1	Finance for startups and scaleups†	35.1	66	◇
4.1.2	Domestic credit to private sector, % GDP	56.7	57	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**43.9**	**9**	◆
4.2.1	Market capitalization, % GDP	26.5	51	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.6	8	◆
4.2.3	Late-stage VC deal count, % global VC	0.0	57	
4.2.4	VC investors, deal count/bn PPP$ GDP	1.8	1 ●	◆
4.3	**Trade, diversification, and market scale**	**68.7**	**73**	
4.3.1	Applied tariff rate, weighted avg., %	1.3	20	
4.3.2	Domestic industry diversification	78.0	71	
4.3.3	Domestic market scale, bn PPP$	61.5	117 ○	◇

		Score/ Value	Rank	
Business sophistication		**43.7**	**27**	
5.1	**Knowledge workers**	**44.9**	**37**	
5.1.1	Knowledge-intensive employment, %	43.3	25	
5.1.2	Females employed w/advanced degrees, %	28.2	12	
5.1.3	Youth demographic dividend, %	26.5	108 ○	
5.1.4	GERD performed by business, % GDP	0.3	51	
5.1.5	GERD financed by business, %	36.4	54	
5.2	**Innovation linkages**	**39.0**	**32**	
5.2.1	Public research–industry co-publications, %	4.3	18	
5.2.2	University–industry R&D collaboration† ⏲	41.6	54	
5.2.3	University industry and international engagement, top 5*	49.6	35	
5.2.4	State of cluster development† ⏲	41.0	65	
5.2.5	Patent families/bn PPP$ GDP	0.8	28	
5.3	**Knowledge absorption**	**47.3**	**11**	
5.3.1	Intellectual property payments, % total trade	1.9	16	
5.3.2	High-tech imports, % total trade	3.0	133 ○	◇
5.3.3	ICT services imports, % total trade	18.7	1 ●	◆
5.3.4	FDI net inflows, % GDP	−65.6	138 ○	◇
5.3.5	Green-field R&D & high-tech FDI	6.9	5 ●	◆
5.3.6	Research talent, % in businesses	36.1	39	
Knowledge and technology outputs		**39.1**	**21**	
6.1	**Knowledge creation**	**27.7**	**32**	
6.1.1	Patents by origin/bn PPP$ GDP	1.1	45	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.3	35	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	42.9	6 ●	◆
6.1.5	Citable documents H-index	14.0	63	
6.2	**Knowledge impact**	**22.7**	**77**	
6.2.1	Labor productivity growth, %	3.4	24	◆
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.1	84	◇
6.2.4	High-tech manufacturing, %	13.9	78	◇
6.3	**Knowledge diffusion**	**66.8**	**1 ●**	◆
6.3.1	Intellectual property receipts, % total trade	4.8	3 ●	◆
6.3.2	Production and export complexity	76.7	50	
6.3.3	High-tech exports, % total trade	0.7	83	◇
6.3.4	ICT services exports, % total trade	26.8	1 ●	◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	18.9	6 ●	◆
Creative outputs		**44.4**	**19**	
7.1	**Intangible assets**	**39.4**	**36**	
7.1.1	Intangible asset intensity, top 15, %	32.7	68 ○	◇
7.1.2	Trademarks by origin/bn PPP$ GDP	87.0	10	◆
7.1.3	Global brand value, top 5,000, % GDP	0.8	62	
7.1.4	Industrial designs by origin/bn PPP$ GDP	3.2	19	
7.2	**Creative goods and services**	**38.0**	**15**	
7.2.1	Cultural and creative services exports, % total trade	6.0	1 ●	◆
7.2.2	National feature films/mn pop. 15–69	3.0	49	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.1	99	◇
7.3	**Online creativity**	**60.8**	**16**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	33.6	22	
7.3.2	GitHub commits/mn pop. 15–69	48.8	21	
7.3.3	Mobile app creation/bn PPP$ GDP	100.0	1 ●	◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Czech Republic

GII 2026 rank **33**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
29	37	High	EUR	10.6	652.6	59,853

		Score/ Value	Rank
Institutions		**67.2**	**30**
1.1	**Institutional environment**	**75.6**	**26**
1.1.1	Operational stability for businesses*	78.9	28
1.1.2	Government effectiveness*	72.3	26
1.2	**Regulatory environment**	**79.0**	**22**
1.2.1	Regulatory quality*	77.7	23
1.2.2	Rule of law*	80.3	21
1.3	**Business environment**	**47.1**	**[64]**
1.3.1	Policy stability for doing business†	47.1	68 ○
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**42.6**	**37**
2.1	**Education**	**56.1**	**59**
2.1.1	Expenditure on education, % GDP ⏲	4.3	66 ○
2.1.2	Government funding/pupil, secondary, % GDP/cap	24.8	16
2.1.3	School life expectancy, years ⏲	16.2	34
2.1.4	PISA scales in reading, maths and science	491.1	15
2.1.5	Pupil–teacher ratio, secondary	n/a	n/a
2.2	**Tertiary education**	**43.9**	**30**
2.2.1	Tertiary enrolment, % gross ⏲	66.7	49
2.2.2	Graduates in science and engineering, % ⏲	24.4	48
2.2.3	Tertiary inbound mobility, % ⏲	16.6	17
2.3	**Research and development (R&D)**	**27.9**	**41**
2.3.1	Researchers, FTE/mn pop.	4,533.4	27
2.3.2	Gross expenditure on R&D, % GDP	1.8	20
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	40.9	42
Infrastructure		**57.1**	**34**
3.1	**Information and communication technologies (ICTs)**	**82.2**	**56**
3.1.1	ICT access*	96.8	38
3.1.2	ICT use*	85.8	44
3.1.3	Government online service*	64.0	76 ○ ◇
3.2	**General infrastructure**	**53.1**	**31**
3.2.1	Electricity output, GWh/mn pop.	6,696.6	29
3.2.2	Aviation import dwell time	1.6	29
3.2.3	Logistics performance*	54.5	42
3.2.4	Gross capital formation, % GDP	26.7	36
3.3	**Ecological sustainability**	**35.9**	**21**
3.3.1	GDP/unit of energy use	13.9	62 ○
3.3.2	Low-carbon energy use, %	29.6	26
3.3.3	ISO 14001 environment/bn PPP$ GDP	6.6	15 ●
Market sophistication		**35.7**	**70 ○**
4.1	**Credit**	**18.5**	**[100]**
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	48.0	68 ○
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**8.2**	**56**
4.2.1	Market capitalization, % GDP	9.9	74 ○
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	40
4.2.3	Late-stage VC deal count, % global VC	0.1	43
4.2.4	VC investors, deal count/bn PPP$ GDP	0.3	33
4.3	**Trade, diversification, and market scale**	**80.3**	**30**
4.3.1	Applied tariff rate, weighted avg., %	1.3	20
4.3.2	Domestic industry diversification	89.6	46
4.3.3	Domestic market scale, bn PPP$	652.6	46

		Score/ Value	Rank
Business sophistication		**39.6**	**32**
5.1	**Knowledge workers**	**41.2**	**47**
5.1.1	Knowledge-intensive employment, %	43.2	26
5.1.2	Females employed w/advanced degrees, %	15.7	51
5.1.3	Youth demographic dividend, %	25.6	115 ○
5.1.4	GERD performed by business, % GDP	1.2	20
5.1.5	GERD financed by business, %	37.5	53 ○
5.2	**Innovation linkages**	**38.8**	**34**
5.2.1	Public research–industry co-publications, %	2.3	36
5.2.2	University–industry R&D collaboration†	56.1	34
5.2.3	University industry and international engagement, top 5*	50.4	34
5.2.4	State of cluster development†	54.9	48
5.2.5	Patent families/bn PPP$ GDP	0.3	36
5.3	**Knowledge absorption**	**38.9**	**29**
5.3.1	Intellectual property payments, % total trade	0.9	45
5.3.2	High-tech imports, % total trade	22.3	5 ● ◆
5.3.3	ICT services imports, % total trade	2.1	41
5.3.4	FDI net inflows, % GDP	3.4	43
5.3.5	Green-field R&D & high-tech FDI	1.1	57
5.3.6	Research talent, % in businesses	53.9	24
Knowledge and technology outputs		**38.9**	**22**
6.1	**Knowledge creation**	**29.6**	**30**
6.1.1	Patents by origin/bn PPP$ GDP	1.1	46
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.3	37
6.1.3	Utility models by origin/bn PPP$ GDP	1.3	10 ● ◆
6.1.4	Scientific and technical articles/bn PPP$ GDP	25.6	29
6.1.5	Citable documents H-index	31.0	32
6.2	**Knowledge impact**	**35.3**	**30**
6.2.1	Labor productivity growth, %	1.1	81 ○
6.2.2	Unicorn valuation, % GDP	0.3	53
6.2.3	Software spending, % GDP	0.3	47
6.2.4	High-tech manufacturing, %	59.6	3 ● ◆
6.3	**Knowledge diffusion**	**51.7**	**12 ●**
6.3.1	Intellectual property receipts, % total trade	0.4	34
6.3.2	Production and export complexity	93.2	6 ● ◆
6.3.3	High-tech exports, % total trade	23.6	6 ● ◆
6.3.4	ICT services exports, % total trade	3.3	44
6.3.5	ISO 9001 quality/bn PPP$ GDP	15.9	12 ● ◆
Creative outputs		**35.2**	**40**
7.1	**Intangible assets**	**20.6**	**79 ○ ◇**
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	43.3	44
7.1.3	Global brand value, top 5,000, % GDP	1.3	56
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.7	41
7.2	**Creative goods and services**	**44.0**	**10 ●**
7.2.1	Cultural and creative services exports, % total trade	0.9	43
7.2.2	National feature films/mn pop. 15–69	9.1	13 ●
7.2.3	Entertainment and media market/th pop. 15–69	29.5	22
7.2.4	Creative goods exports, % total trade	9.5	2 ● ◆
7.3	**Online creativity**	**55.6**	**22**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	37.1	20
7.3.2	GitHub commits/mn pop. 15–69	55.6	16 ●
7.3.3	Mobile app creation/bn PPP$ GDP	74.1	25

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Democratic Republic of the Congo

137

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
134	137	Low	SSA	112.8	210.4	1,975

			Score/ Value	Rank	
Institutions			**12.3**	**137**	◇
1.1	**Institutional environment**		**3.0**	**138**	○ ◇
1.1.1	Operational stability for businesses*		5.9	138	○ ◇
1.1.2	Government effectiveness*		0.0	139	○ ◇
1.2	**Regulatory environment**		**14.5**	**137**	◇
1.2.1	Regulatory quality*		15.3	136	◇
1.2.2	Rule of law*		13.7	137	◇
1.3	**Business environment**		**19.3**	**[126]**	
1.3.1	Policy stability for doing business†		19.3	127	◇
1.3.2	Entrepreneurship policies and culture†		n/a	n/a	
Human capital and research			**21.6**	**[106]**	
2.1	**Education**		**56.7**	**[56]**	
2.1.1	Expenditure on education, % GDP	⏲	2.8	114	
2.1.2	Government funding/pupil, secondary, % GDP/cap		n/a	n/a	
2.1.3	School life expectancy, years		n/a	n/a	
2.1.4	PISA scales in reading, maths and science		n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	⏲	12.8	62 ● ◆	
2.2	**Tertiary education**		**8.0**	**120**	
2.2.1	Tertiary enrolment, % gross	⏲	6.4	124	
2.2.2	Graduates in science and engineering, %	⏲	15.5	103	
2.2.3	Tertiary inbound mobility, %	⏲	0.4	102	
2.3	**Research and development (R&D)**		**0.0**	**[122]**	
2.3.1	Researchers, FTE/mn pop.		n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP		n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$		0.0	46	○ ◇
2.3.4	QS university ranking, top 3*		0.0	81	○ ◇
Infrastructure			**14.9**	**137**	◇
3.1	**Information and communication technologies (ICTs)**		**6.3**	**139**	○ ◇
3.1.1	ICT access*		10.9	138	○ ◇
3.1.2	ICT use*		3.4	131	○ ◇
3.1.3	Government online service*		4.6	137	○ ◇
3.2	**General infrastructure**		**25.2**	**120**	
3.2.1	Electricity output, GWh/mn pop.		125.2	126	
3.2.2	Aviation import dwell time		3.7	88 ●	
3.2.3	Logistics performance*		18.2	89	
3.2.4	Gross capital formation, % GDP		14.6	126	◇
3.3	**Ecological sustainability**		**13.1**	**96** ●	
3.3.1	GDP/unit of energy use		3.1	132	○ ◇
3.3.2	Low-carbon energy use, %		32.3	23 ● ◆	
3.3.3	ISO 14001 environment/bn PPP$ GDP		0.0	137	
Market sophistication			**22.0**	**118**	
4.1	**Credit**		**2.5**	**134**	
4.1.1	Finance for startups and scaleups†		n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	⏲	11.3	122	
4.1.3	Loans from microfinance institutions, % GDP	⏲	0.3	50 ●	
4.2	**Investment**		**n/a**	**[n/a]**	
4.2.1	Market capitalization, % GDP		n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP		n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC		n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP		n/a	n/a	
4.3	**Trade, diversification, and market scale**		**41.5**	**123**	
4.3.1	Applied tariff rate, weighted avg., %	⏲	8.8	123	
4.3.2	Domestic industry diversification		n/a	n/a	
4.3.3	Domestic market scale, bn PPP$		210.4	78 ● ◆	

			Score/ Value	Rank	
Business sophistication			**19.4**	**119**	
5.1	**Knowledge workers**		**37.9**	**[57]**	
5.1.1	Knowledge-intensive employment, %	⏲	10.1	102	
5.1.2	Females employed w/advanced degrees, %	⏲	1.4	120	
5.1.3	Youth demographic dividend, %		65.0	4 ●	
5.1.4	GERD performed by business, % GDP		n/a	n/a	
5.1.5	GERD financed by business, %		n/a	n/a	
5.2	**Innovation linkages**		**10.4**	**130**	
5.2.1	Public research–industry co-publications, %		0.9	91 ●	
5.2.2	University–industry R&D collaboration†		19.6	122	
5.2.3	University industry and international engagement, top 5*		10.0	92	
5.2.4	State of cluster development†		12.2	130	
5.2.5	Patent families/bn PPP$ GDP		0.0	98	○ ◇
5.3	**Knowledge absorption**		**9.9**	**139**	○
5.3.1	Intellectual property payments, % total trade	⏲	0.0	132	○ ◇
5.3.2	High-tech imports, % total trade	⏲	2.6	135	◇
5.3.3	ICT services imports, % total trade	⏲	0.0	138	○
5.3.4	FDI net inflows, % GDP		3.2	50 ●	
5.3.5	Green-field R&D & high-tech FDI		0.2	114	
5.3.6	Research talent, % in businesses		n/a	n/a	
Knowledge and technology outputs			**10.0**	**127**	
6.1	**Knowledge creation**		**6.6**	**[101]**	
6.1.1	Patents by origin/bn PPP$ GDP	⏲	0.6	66 ● ◆	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP		n/a	n/a	
6.1.3	Utility models by origin/bn PPP$ GDP		–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP		4.1	119	◇
6.1.5	Citable documents H-index		2.6	127	
6.2	**Knowledge impact**		**21.9**	**86** ●	
6.2.1	Labor productivity growth, %		3.3	25 ● ◆	
6.2.2	Unicorn valuation, % GDP		0.0	58	○ ◇
6.2.3	Software spending, % GDP		0.0	122	
6.2.4	High-tech manufacturing, %		n/a	n/a	
6.3	**Knowledge diffusion**		**1.5**	**136**	◇
6.3.1	Intellectual property receipts, % total trade	⏲	0.0	130	○ ◇
6.3.2	Production and export complexity		7.5	128	○ ◇
6.3.3	High-tech exports, % total trade	⏲	0.1	130	◇
6.3.4	ICT services exports, % total trade	⏲	0.0	138	○
6.3.5	ISO 9001 quality/bn PPP$ GDP		0.1	138	○ ◇
Creative outputs			**4.2**	**[138]**	
7.1	**Intangible assets**		**0.8**	**[135]**	
7.1.1	Intangible asset intensity, top 15, %		n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	⏲	3.5	131	
7.1.3	Global brand value, top 5,000, % GDP		0.0	81	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP		n/a	n/a	
7.2	**Creative goods and services**		**0.2**	**[139]**	
7.2.1	Cultural and creative services exports, % total trade		n/a	n/a	
7.2.2	National feature films/mn pop. 15–69		n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69		n/a	n/a	
7.2.4	Creative goods exports, % total trade	⏲	0.0	135	
7.3	**Online creativity**		**15.0**	**135**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69		0.0	138	○ ◇
7.3.2	GitHub commits/mn pop. 15–69		0.1	134	
7.3.3	Mobile app creation/bn PPP$ GDP		44.8	131	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Denmark

GII 2026 rank **9**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
11	7	High	EUR	6.0	508.7	84,763

		Score/ Value	Rank
Institutions		**87.9**	**2** ● ◆
1.1	**Institutional environment**	**90.1**	**5** ●
1.1.1	Operational stability for businesses*	89.5	7 ●
1.1.2	Government effectiveness*	90.8	4 ●
1.2	**Regulatory environment**	**97.3**	**2** ● ◆
1.2.1	Regulatory quality*	95.0	3 ● ◆
1.2.2	Rule of law*	99.6	2 ● ◆
1.3	**Business environment**	**76.3**	**[9]**
1.3.1	Policy stability for doing business†	76.3	15
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**59.2**	**12**
2.1	**Education**	**68.0**	**14**
2.1.1	Expenditure on education, % GDP ⏲	6.4	14 ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	20.2	42 ○
2.1.3	School life expectancy, years	18.1	14
2.1.4	PISA scales in reading, maths and science	490.6	16
2.1.5	Pupil–teacher ratio, secondary	10.3	38
2.2	**Tertiary education**	**42.2**	**35**
2.2.1	Tertiary enrolment, % gross	79.0	29
2.2.2	Graduates in science and engineering, %	25.4	39
2.2.3	Tertiary inbound mobility, %	9.9	37
2.3	**Research and development (R&D)**	**67.4**	**8**
2.3.1	Researchers, FTE/mn pop.	8,918.6	3 ● ◆
2.3.2	Gross expenditure on R&D, % GDP	3.0	11
2.3.3	Global corporate R&D investors, top 3, mn US$	71.4	11
2.3.4	QS university ranking, top 3*	67.5	17
Infrastructure		**65.1**	**7** ●
3.1	**Information and communication technologies (ICTs)**	**98.5**	**3** ● ◆
3.1.1	ICT access*	100.0	1 ●
3.1.2	ICT use*	95.7	7 ◆
3.1.3	Government online service*	99.9	2 ● ◆
3.2	**General infrastructure**	**59.7**	**22**
3.2.1	Electricity output, GWh/mn pop.	5,909.0	35
3.2.2	Aviation import dwell time	1.3	19
3.2.3	Logistics performance*	90.9	3 ● ◆
3.2.4	Gross capital formation, % GDP	23.0	69 ○
3.3	**Ecological sustainability**	**37.0**	**19**
3.3.1	GDP/unit of energy use	28.3	6 ● ◆
3.3.2	Low-carbon energy use, %	28.4	27
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.4	38
Market sophistication		**59.1**	**13**
4.1	**Credit**	**61.3**	**[12]**
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	144.1	8
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**36.3**	**13**
4.2.1	Market capitalization, % GDP	n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.6	9
4.2.3	Late-stage VC deal count, % global VC	0.2	21
4.2.4	VC investors, deal count/bn PPP$ GDP	0.7	16
4.3	**Trade, diversification, and market scale**	**79.6**	**33**
4.3.1	Applied tariff rate, weighted avg., %	1.3	20
4.3.2	Domestic industry diversification ⏲	89.9	45 ○
4.3.3	Domestic market scale, bn PPP$	508.7	51 ○

		Score/ Value	Rank
Business sophistication		**55.7**	**10**
5.1	**Knowledge workers**	**58.5**	**12**
5.1.1	Knowledge-intensive employment, %	48.6	16
5.1.2	Females employed w/advanced degrees, %	26.8	19
5.1.3	Youth demographic dividend, %	27.5	103 ○
5.1.4	GERD performed by business, % GDP	1.9	13
5.1.5	GERD financed by business, %	55.5	18
5.2	**Innovation linkages**	**66.1**	**9**
5.2.1	Public research–industry co-publications, %	5.4	10
5.2.2	University–industry R&D collaboration†	67.3	12
5.2.3	University industry and international engagement, top 5*	86.5	13
5.2.4	State of cluster development†	76.1	23
5.2.5	Patent families/bn PPP$ GDP	3.7	9
5.3	**Knowledge absorption**	**42.3**	**18**
5.3.1	Intellectual property payments, % total trade	0.9	44
5.3.2	High-tech imports, % total trade	6.1	97 ○
5.3.3	ICT services imports, % total trade	3.9	11
5.3.4	FDI net inflows, % GDP	4.4	34
5.3.5	Green-field R&D & high-tech FDI	4.6	9
5.3.6	Research talent, % in businesses	58.9	18
Knowledge and technology outputs		**47.1**	**13**
6.1	**Knowledge creation**	**53.2**	**11**
6.1.1	Patents by origin/bn PPP$ GDP	7.2	9
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	3.0	7 ◆
6.1.3	Utility models by origin/bn PPP$ GDP	0.1	50 ○
6.1.4	Scientific and technical articles/bn PPP$ GDP	44.9	5 ● ◆
6.1.5	Citable documents H-index	51.3	15
6.2	**Knowledge impact**	**45.2**	**11**
6.2.1	Labor productivity growth, %	0.9	88 ○
6.2.2	Unicorn valuation, % GDP	2.4	23
6.2.3	Software spending, % GDP	0.6	5 ●
6.2.4	High-tech manufacturing, % ⏲	46.1	14
6.3	**Knowledge diffusion**	**43.0**	**23**
6.3.1	Intellectual property receipts, % total trade	2.5	10
6.3.2	Production and export complexity	87.1	21
6.3.3	High-tech exports, % total trade	6.5	34
6.3.4	ICT services exports, % total trade	3.5	39
6.3.5	ISO 9001 quality/bn PPP$ GDP	4.9	56 ○
Creative outputs		**52.8**	**9**
7.1	**Intangible assets**	**53.5**	**15**
7.1.1	Intangible asset intensity, top 15, %	78.3	6
7.1.2	Trademarks by origin/bn PPP$ GDP	19.0	89 ○
7.1.3	Global brand value, top 5,000, % GDP	15.5	9
7.1.4	Industrial designs by origin/bn PPP$ GDP	2.7	28
7.2	**Creative goods and services**	**34.8**	**22**
7.2.1	Cultural and creative services exports, % total trade	1.3	29
7.2.2	National feature films/mn pop. 15–69	5.8	28
7.2.3	Entertainment and media market/th pop. 15–69	59.8	5
7.2.4	Creative goods exports, % total trade	1.3	39
7.3	**Online creativity**	**69.1**	**5** ●
7.3.1	Top-level domains (TLDs)/th pop. 15–69	65.4	7 ●
7.3.2	GitHub commits/mn pop. 15–69	67.4	9
7.3.3	Mobile app creation/bn PPP$ GDP	74.7	22

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Dominican Republic

99

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
110	87	Upper middle	LCN	11.5	332.4	30,538

		Score/ Value	Rank	
Institutions		**54.0**	**59**	
1.1	**Institutional environment**	**60.1**	**55**	
1.1.1	Operational stability for businesses*	75.7	40	● ◆
1.1.2	Government effectiveness*	44.5	77	
1.2	**Regulatory environment**	**50.1**	**63**	
1.2.1	Regulatory quality*	52.3	59	
1.2.2	Rule of law*	47.9	71	
1.3	**Business environment**	**51.7**	**53**	
1.3.1	Policy stability for doing business†	67.1	31	● ◆
1.3.2	Entrepreneurship policies and culture† ⏲	36.3	46	
Human capital and research		**19.3**	**116**	◇
2.1	**Education**	**41.5**	**107**	
2.1.1	Expenditure on education, % GDP	3.8	85	
2.1.2	Government funding/pupil, secondary, % GDP/cap	13.8	72	
2.1.3	School life expectancy, years	13.8	76	
2.1.4	PISA scales in reading, maths and science	350.3	82	○ ◇
2.1.5	Pupil–teacher ratio, secondary	9.4	24	●
2.2	**Tertiary education**	**16.4**	**110**	◇
2.2.1	Tertiary enrolment, % gross	57.7	59	
2.2.2	Graduates in science and engineering, %	12.6	111	◇
2.2.3	Tertiary inbound mobility, %	1.9	82	
2.3	**Research and development (R&D)**	**0.1**	**120**	
2.3.1	Researchers, FTE/mn pop. ⏲	20.0	107	○ ◇
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**41.1**	**82**	
3.1	**Information and communication technologies (ICTs)**	**67.4**	**87**	
3.1.1	ICT access*	69.3	93	
3.1.2	ICT use*	76.2	81	
3.1.3	Government online service*	56.7	84	
3.2	**General infrastructure**	**38.2**	**78**	
3.2.1	Electricity output, GWh/mn pop. ⏲	2,141.6	81	
3.2.2	Aviation import dwell time	2.8	69	
3.2.3	Logistics performance*	22.7	82	
3.2.4	Gross capital formation, % GDP	27.3	33	●
3.3	**Ecological sustainability**	**17.6**	**69**	
3.3.1	GDP/unit of energy use	22.4	16	● ◆
3.3.2	Low-carbon energy use, %	4.4	103	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	131	
Market sophistication		**24.8**	**112**	◇
4.1	**Credit**	**13.6**	**113**	
4.1.1	Finance for startups and scaleups† ⏲	15.9	87	○ ◇
4.1.2	Domestic credit to private sector, % GDP	31.9	94	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**0.6**	**[122]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	105	
4.3	**Trade, diversification, and market scale**	**60.3**	**93**	
4.3.1	Applied tariff rate, weighted avg., %	4.4	91	
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	332.4	62	

		Score/ Value	Rank	
Business sophistication		**25.4**	**76**	
5.1	**Knowledge workers**	**36.9**	**[59]**	
5.1.1	Knowledge-intensive employment, %	18.5	83	
5.1.2	Females employed w/advanced degrees, %	10.8	74	
5.1.3	Youth demographic dividend, %	42.6	50	●
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**21.6**	**82**	
5.2.1	Public research–industry co-publications, %	0.5	119	
5.2.2	University–industry R&D collaboration†	32.1	87	
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	48.8	53	
5.2.5	Patent families/bn PPP$ GDP	0.0	98	○ ◇
5.3	**Knowledge absorption**	**17.8**	**94**	
5.3.1	Intellectual property payments, % total trade	0.8	53	●
5.3.2	High-tech imports, % total trade	6.3	94	
5.3.3	ICT services imports, % total trade	0.7	107	
5.3.4	FDI net inflows, % GDP	3.7	40	●
5.3.5	Green-field R&D & high-tech FDI	0.3	102	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**11.7**	**114**	
6.1	**Knowledge creation**	**1.0**	**137**	○ ◇
6.1.1	Patents by origin/bn PPP$ GDP	0.0	128	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	98	
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	68	
6.1.4	Scientific and technical articles/bn PPP$ GDP	1.1	138	○ ◇
6.1.5	Citable documents H-index	2.5	128	
6.2	**Knowledge impact**	**18.6**	**103**	
6.2.1	Labor productivity growth, %	2.4	43	●
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.0	132	○ ◇
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**15.5**	**95**	
6.3.1	Intellectual property receipts, % total trade	0.0	122	
6.3.2	Production and export complexity	68.6	77	
6.3.3	High-tech exports, % total trade	1.8	65	
6.3.4	ICT services exports, % total trade	0.2	126	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.7	121	
Creative outputs		**14.1**	**104**	
7.1	**Intangible assets**	**6.7**	**112**	◇
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	34.2	61	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.0	125	
7.2	**Creative goods and services**	**20.8**	**56**	
7.2.1	Cultural and creative services exports, % total trade	0.2	89	
7.2.2	National feature films/mn pop. 15–69	3.7	41	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	2.1	24	●
7.3	**Online creativity**	**22.3**	**99**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.7	85	
7.3.2	GitHub commits/mn pop. 15–69	4.9	82	
7.3.3	Mobile app creation/bn PPP$ GDP	60.4	105	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Ecuador

GII 2026 rank **106**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
106	101	Upper middle	LCN	18.3	304.2	16,805

		Score/ Value	Rank	
Institutions		**33.0**	**114**	
1.1	**Institutional environment**	**44.5**	**98**	
1.1.1	Operational stability for businesses*	52.0	103	
1.1.2	Government effectiveness*	37.1	89	
1.2	**Regulatory environment**	**30.2**	**113**	◇
1.2.1	Regulatory quality*	31.1	115	
1.2.2	Rule of law*	29.3	116 ○	◇
1.3	**Business environment**	**24.2**	**115** ○	
1.3.1	Policy stability for doing business†	28.2	107	
1.3.2	Entrepreneurship policies and culture†	20.2	72	
Human capital and research		**26.4**	**96**	
2.1	**Education**	**42.3**	**105**	
2.1.1	Expenditure on education, % GDP	3.7	87	
2.1.2	Government funding/pupil, secondary, % GDP/cap	6.6	88 ○	◇
2.1.3	School life expectancy, years ⏲	15.0	52 ●	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	19.2	101	
2.2	**Tertiary education**	**27.2**	**89**	
2.2.1	Tertiary enrolment, % gross ⏲	67.9	48 ●	
2.2.2	Graduates in science and engineering, % ⏲	20.8	78	
2.2.3	Tertiary inbound mobility, % ⏲	0.7	96	
2.3	**Research and development (R&D)**	**9.8**	**[70]**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	19.5	66	
Infrastructure		**40.6**	**83**	
3.1	**Information and communication technologies (ICTs)**	**70.9**	**85**	
3.1.1	ICT access*	59.0	111	◇
3.1.2	ICT use*	67.6	100	
3.1.3	Government online service*	86.2	25 ●	◆
3.2	**General infrastructure**	**35.4**	**87**	
3.2.1	Electricity output, GWh/mn pop. ⏲	1,966.7	87	
3.2.2	Aviation import dwell time	3.2	78	
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	19.3	105	
3.3	**Ecological sustainability**	**15.4**	**84**	
3.3.1	GDP/unit of energy use	14.0	59 ●	
3.3.2	Low-carbon energy use, %	12.7	68	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.6	83	
Market sophistication		**25.6**	**109**	◇
4.1	**Credit**	**17.8**	**104**	
4.1.1	Finance for startups and scaleups†	19.6	84 ○	
4.1.2	Domestic credit to private sector, % GDP	56.2	58	
4.1.3	Loans from microfinance institutions, % GDP	1.3	29 ●	
4.2	**Investment**	**1.3**	**112** ○	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	95	
4.2.3	Late-stage VC deal count, % global VC	0.0	81	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	93	
4.3	**Trade, diversification, and market scale**	**57.6**	**101**	
4.3.1	Applied tariff rate, weighted avg., %	6.1	104	
4.3.2	Domestic industry diversification	65.8	95 ○	◇
4.3.3	Domestic market scale, bn PPP$	304.2	64	

		Score/ Value	Rank	
Business sophistication		**22.1**	**104**	
5.1	**Knowledge workers**	**30.5**	**[96]**	
5.1.1	Knowledge-intensive employment, %	13.0	94	◇
5.1.2	Females employed w/advanced degrees, %	8.7	82	
5.1.3	Youth demographic dividend, %	40.4	57 ●	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**17.4**	**103**	
5.2.1	Public research–industry co-publications, %	0.4	125 ○	
5.2.2	University–industry R&D collaboration†	28.5	98	
5.2.3	University industry and international engagement, top 5*	28.1	59	
5.2.4	State of cluster development†	25.3	112 ○	
5.2.5	Patent families/bn PPP$ GDP	0.0	86	
5.3	**Knowledge absorption**	**18.3**	**91**	
5.3.1	Intellectual property payments, % total trade	0.8	48 ●	
5.3.2	High-tech imports, % total trade	7.7	71	
5.3.3	ICT services imports, % total trade	0.6	111	
5.3.4	FDI net inflows, % GDP	0.5	115	
5.3.5	Green-field R&D & high-tech FDI	0.2	110	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**14.5**	**98**	
6.1	**Knowledge creation**	**7.7**	**96**	
6.1.1	Patents by origin/bn PPP$ GDP	0.2	97	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	64	
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	59	
6.1.4	Scientific and technical articles/bn PPP$ GDP	13.4	68	
6.1.5	Citable documents H-index	9.8	81	
6.2	**Knowledge impact**	**21.7**	**87**	
6.2.1	Labor productivity growth, %	0.9	91	
6.2.2	Unicorn valuation, % GDP	1.1	35 ●	
6.2.3	Software spending, % GDP	0.3	50 ●	
6.2.4	High-tech manufacturing, %	9.9	85	
6.3	**Knowledge diffusion**	**14.0**	**109**	
6.3.1	Intellectual property receipts, % total trade	0.0	88	
6.3.2	Production and export complexity	52.5	106	◇
6.3.3	High-tech exports, % total trade	0.4	99	
6.3.4	ICT services exports, % total trade	0.3	118 ○	
6.3.5	ISO 9001 quality/bn PPP$ GDP	4.1	64	
Creative outputs		**11.6**	**109**	◇
7.1	**Intangible assets**	**10.7**	**95**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	46.6	38 ●	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.2	103	
7.2	**Creative goods and services**	**1.6**	**126** ○	
7.2.1	Cultural and creative services exports, % total trade	0.0	107 ○	
7.2.2	National feature films/mn pop. 15–69	0.6	87 ○	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	110	
7.3	**Online creativity**	**23.5**	**91**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.3	91	
7.3.2	GitHub commits/mn pop. 15–69	5.9	75	
7.3.3	Mobile app creation/bn PPP$ GDP	63.4	95	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Egypt

83

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
75	95	Lower middle	NAWA	118.4	2,381.5	21,759

		Score/ Value	Rank	
Institutions		**38.4**	**100**	
1.1	**Institutional environment**	**45.1**	**96**	
1.1.1	Operational stability for businesses*	50.0	107	
1.1.2	Government effectiveness*	40.2	83	
1.2	**Regulatory environment**	**34.6**	**105**	
1.2.1	Regulatory quality*	34.8	103	
1.2.2	Rule of law*	34.4	107	
1.3	**Business environment**	**35.6**	**87**	
1.3.1	Policy stability for doing business†	45.9	70	
1.3.2	Entrepreneurship policies and culture†	25.3	65	
Human capital and research		**23.2**	**103**	
2.1	**Education**	**38.6**	**[116]**	
2.1.1	Expenditure on education, % GDP	n/a	n/a	
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	9.6	84 ○	
2.1.3	School life expectancy, years	13.0	87	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	22.8	108 ○	
2.2	**Tertiary education**	**15.1**	**113** ○	
2.2.1	Tertiary enrolment, % gross	38.0	86	
2.2.2	Graduates in science and engineering, %	14.1	108 ○ ◇	
2.2.3	Tertiary inbound mobility, %	3.2	66	
2.3	**Research and development (R&D)**	**15.8**	**55** ◆	
2.3.1	Researchers, FTE/mn pop.	1,120.2	54 ◆	
2.3.2	Gross expenditure on R&D, % GDP	1.0	38 ● ◆	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇	
2.3.4	QS university ranking, top 3*	37.5	48 ◆	
Infrastructure		**37.3**	**93**	
3.1	**Information and communication technologies (ICTs)**	**72.1**	**81** ◆	
3.1.1	ICT access*	80.4	80 ◆	
3.1.2	ICT use*	71.8	93	
3.1.3	Government online service*	63.9	77 ◆	
3.2	**General infrastructure**	**24.9**	**121** ○	
3.2.1	Electricity output, GWh/mn pop. ⏲	1,878.3	88	
3.2.2	Aviation import dwell time	7.6	112 ○ ◇	
3.2.3	Logistics performance*	45.5	56 ◆	
3.2.4	Gross capital formation, % GDP	13.5	129 ○ ◇	
3.3	**Ecological sustainability**	**14.8**	**86**	
3.3.1	GDP/unit of energy use	17.9	29 ● ◆	
3.3.2	Low-carbon energy use, %	2.5	111	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.8	79	
Market sophistication		**32.7**	**83**	
4.1	**Credit**	**19.9**	**97**	
4.1.1	Finance for startups and scaleups†	46.2	51	
4.1.2	Domestic credit to private sector, % GDP	27.6	101	
4.1.3	Loans from microfinance institutions, % GDP	0.5	47	
4.2	**Investment**	**2.7**	**97**	
4.2.1	Market capitalization, % GDP	11.0	71 ○	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	88	
4.2.3	Late-stage VC deal count, % global VC	0.1	41	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	84	
4.3	**Trade, diversification, and market scale**	**75.4**	**51** ◆	
4.3.1	Applied tariff rate, weighted avg., % ⏲	5.4	101	
4.3.2	Domestic industry diversification ⏲	94.1	27 ●	
4.3.3	Domestic market scale, bn PPP$	2,381.5	18 ● ◆	

		Score/ Value	Rank	
Business sophistication		**28.2**	**65**	◆
5.1	**Knowledge workers**	**26.0**	**114**	
5.1.1	Knowledge-intensive employment, % ⏲	20.5	77	
5.1.2	Females employed w/advanced degrees, % ⏲	6.0	96	
5.1.3	Youth demographic dividend, %	48.9	33 ●	
5.1.4	GERD performed by business, % GDP	0.1	62	
5.1.5	GERD financed by business, %	12.1	74	
5.2	**Innovation linkages**	**33.2**	**47**	◆
5.2.1	Public research–industry co-publications, %	0.9	93	
5.2.2	University–industry R&D collaboration†	40.0	59	
5.2.3	University industry and international engagement, top 5*	31.3	55	◆
5.2.4	State of cluster development†	85.1	12 ●	◆
5.2.5	Patent families/bn PPP$ GDP	0.0	94	
5.3	**Knowledge absorption**	**25.4**	**59**	◆
5.3.1	Intellectual property payments, % total trade	0.6	62	
5.3.2	High-tech imports, % total trade	6.8	86	
5.3.3	ICT services imports, % total trade	1.9	53	◆
5.3.4	FDI net inflows, % GDP	5.6	22 ●	
5.3.5	Green-field R&D & high-tech FDI	0.8	65	
5.3.6	Research talent, % in businesses	35.6	40	◆
Knowledge and technology outputs		**17.3**	**85**	
6.1	**Knowledge creation**	**9.6**	**84**	
6.1.1	Patents by origin/bn PPP$ GDP	0.3	90	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	78	
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	72 ○	
6.1.4	Scientific and technical articles/bn PPP$ GDP	13.6	65	
6.1.5	Citable documents H-index	20.6	44 ●	◆
6.2	**Knowledge impact**	**22.9**	**74**	
6.2.1	Labor productivity growth, %	0.2	113	
6.2.2	Unicorn valuation, % GDP	0.5	46	
6.2.3	Software spending, % GDP	0.3	43 ●	◆
6.2.4	High-tech manufacturing, % ⏲	23.4	56	
6.3	**Knowledge diffusion**	**19.3**	**81**	
6.3.1	Intellectual property receipts, % total trade	0.1	76	
6.3.2	Production and export complexity	69.0	74	
6.3.3	High-tech exports, % total trade	1.1	75	
6.3.4	ICT services exports, % total trade	2.1	64	
6.3.5	ISO 9001 quality/bn PPP$ GDP	2.1	85	
Creative outputs		**23.4**	**71**	
7.1	**Intangible assets**	**30.3**	**59**	◆
7.1.1	Intangible asset intensity, top 15, %	61.6	28	
7.1.2	Trademarks by origin/bn PPP$ GDP	31.0	67	
7.1.3	Global brand value, top 5,000, % GDP	0.7	64	
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.0	60	
7.2	**Creative goods and services**	**9.7**	**81**	
7.2.1	Cultural and creative services exports, % total trade	0.2	82	
7.2.2	National feature films/mn pop. 15–69	0.4	89 ○	
7.2.3	Entertainment and media market/th pop. 15–69	0.6	61 ○	
7.2.4	Creative goods exports, % total trade	1.2	40 ●	
7.3	**Online creativity**	**23.2**	**92**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.4	111	
7.3.2	GitHub commits/mn pop. 15–69	4.3	92	
7.3.3	Mobile app creation/bn PPP$ GDP	65.0	83	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

El Salvador

GII 2026 rank **100**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
90	105	Upper middle	LCN	6.4	88.4	13,877

		Score/ Value	Rank	
Institutions		**39.7**	**94**	
1.1	**Institutional environment**	**48.9**	**87**	
1.1.1	Operational stability for businesses*	59.9	86	
1.1.2	Government effectiveness*	38.0	86	
1.2	**Regulatory environment**	**39.0**	**97**	
1.2.1	Regulatory quality*	42.8	85	
1.2.2	Rule of law*	35.3	103	
1.3	**Business environment**	**31.0**	**93**	
1.3.1	Policy stability for doing business†	25.1	116	
1.3.2	Entrepreneurship policies and culture†	36.9	45	
Human capital and research		**17.9**	**123**	◇
2.1	**Education**	**31.7**	**127**	○ ◇
2.1.1	Expenditure on education, % GDP	3.3	97	
2.1.2	Government funding/pupil, secondary, % GDP/cap	15.5	69	
2.1.3	School life expectancy, years	11.0	101	◇
2.1.4	PISA scales in reading, maths and science	360.5	76	○
2.1.5	Pupil–teacher ratio, secondary	23.6	111	◇
2.2	**Tertiary education**	**21.6**	**97**	
2.2.1	Tertiary enrolment, % gross	32.8	92	◇
2.2.2	Graduates in science and engineering, %	22.4	68	
2.2.3	Tertiary inbound mobility, %	0.5	101	
2.3	**Research and development (R&D)**	**0.5**	**112**	
2.3.1	Researchers, FTE/mn pop.	55.5	99	○ ◇
2.3.2	Gross expenditure on R&D, % GDP	0.1	100	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**34.8**	**99**	◇
3.1	**Information and communication technologies (ICTs)**	**44.2**	**119**	◇
3.1.1	ICT access*	47.4	124	◇
3.1.2	ICT use*	n/a	n/a	
3.1.3	Government online service*	40.9	104	◇
3.2	**General infrastructure**	**36.1**	**85**	
3.2.1	Electricity output, GWh/mn pop.	1,328.8	96	◇
3.2.2	Aviation import dwell time	2.1	47	
3.2.3	Logistics performance*	27.3	76	
3.2.4	Gross capital formation, % GDP	21.1	91	
3.3	**Ecological sustainability**	**24.1**	**45**	●
3.3.1	GDP/unit of energy use	13.9	61	
3.3.2	Low-carbon energy use, %	37.5	16	● ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.2	114	
Market sophistication		**31.0**	**93**	
4.1	**Credit**	**24.0**	**80**	
4.1.1	Finance for startups and scaleups†	23.0	82	
4.1.2	Domestic credit to private sector, % GDP	62.5	46	●
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**6.6**	**64**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	49	◆
4.2.3	Late-stage VC deal count, % global VC	0.0	102	○ ◇
4.2.4	VC investors, deal count/bn PPP$ GDP	0.2	45	●
4.3	**Trade, diversification, and market scale**	**62.5**	**90**	
4.3.1	Applied tariff rate, weighted avg., %	2.2	68	
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	88.4	99	

		Score/ Value	Rank	
Business sophistication		**22.5**	**100**	
5.1	**Knowledge workers**	**34.5**	**67**	
5.1.1	Knowledge-intensive employment, %	14.7	89	◇
5.1.2	Females employed w/advanced degrees, %	14.8	58	
5.1.3	Youth demographic dividend, %	41.4	53	●
5.1.4	GERD performed by business, % GDP	0.0	77	
5.1.5	GERD financed by business, %	44.6	38	●
5.2	**Innovation linkages**	**10.4**	**131**	○ ◇
5.2.1	Public research–industry co-publications, %	0.4	128	○
5.2.2	University–industry R&D collaboration†	19.8	121	◇
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	17.4	121	◇
5.2.5	Patent families/bn PPP$ GDP	0.0	98	○ ◇
5.3	**Knowledge absorption**	**22.6**	**64**	
5.3.1	Intellectual property payments, % total trade	0.9	43	●
5.3.2	High-tech imports, % total trade	9.5	47	●
5.3.3	ICT services imports, % total trade	1.2	79	
5.3.4	FDI net inflows, % GDP	1.5	97	
5.3.5	Green-field R&D & high-tech FDI	0.7	77	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**13.5**	**104**	
6.1	**Knowledge creation**	**1.8**	**132**	○ ◇
6.1.1	Patents by origin/bn PPP$ GDP	0.1	119	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	74	
6.1.3	Utility models by origin/bn PPP$ GDP	0.1	53	
6.1.4	Scientific and technical articles/bn PPP$ GDP	1.5	135	○ ◇
6.1.5	Citable documents H-index	1.8	130	○
6.2	**Knowledge impact**	**17.9**	**105**	
6.2.1	Labor productivity growth, %	2.0	54	●
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.0	114	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**20.8**	**74**	
6.3.1	Intellectual property receipts, % total trade	0.0	116	
6.3.2	Production and export complexity	74.4	58	
6.3.3	High-tech exports, % total trade	1.7	66	
6.3.4	ICT services exports, % total trade	2.8	50	●
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.5	99	
Creative outputs		**19.3**	**[83]**	
7.1	**Intangible assets**	**22.7**	**[73]**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	71.2	14	●
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.2	106	
7.2	**Creative goods and services**	**8.9**	**[88]**	
7.2.1	Cultural and creative services exports, % total trade	0.1	99	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.5	62	
7.3	**Online creativity**	**22.8**	**95**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.3	92	
7.3.2	GitHub commits/mn pop. 15–69	5.4	80	
7.3.3	Mobile app creation/bn PPP$ GDP	61.8	102	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Estonia

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
15	26	High	EUR	1.3	67.4	49,087

		Score/ Value	Rank	
Institutions		**73.3**	**18**	
1.1	**Institutional environment**	**79.7**	**18**	
1.1.1	Operational stability for businesses*	84.2	18	
1.1.2	Government effectiveness*	75.3	20	
1.2	**Regulatory environment**	**84.6**	**15**	
1.2.1	Regulatory quality*	81.8	15	
1.2.2	Rule of law*	87.3	14	
1.3	**Business environment**	**55.5**	**46**	
1.3.1	Policy stability for doing business†	43.0	77 ○	◇
1.3.2	Entrepreneurship policies and culture†	67.9	13	
Human capital and research		**44.2**	**34**	◇
2.1	**Education**	**63.6**	**32**	
2.1.1	Expenditure on education, % GDP ⏲	5.2	39	
2.1.2	Government funding/pupil, secondary, % GDP/cap	18.4	51 ○	
2.1.3	School life expectancy, years	15.6	44	◇
2.1.4	PISA scales in reading, maths and science	515.6	6	
2.1.5	Pupil–teacher ratio, secondary	9.0	17	◆
2.2	**Tertiary education**	**41.2**	**37**	
2.2.1	Tertiary enrolment, % gross	65.7	50	
2.2.2	Graduates in science and engineering, %	27.0	33	
2.2.3	Tertiary inbound mobility, %	9.8	38	
2.3	**Research and development (R&D)**	**27.9**	**40**	◇
2.3.1	Researchers, FTE/mn pop.	5,482.0	19	
2.3.2	Gross expenditure on R&D, % GDP	2.0	19	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	29.3	51	◇
Infrastructure		**58.5**	**27**	
3.1	**Information and communication technologies (ICTs)**	**99.0**	**2** ●	◆
3.1.1	ICT access*	98.2	28	
3.1.2	ICT use*	99.4	2 ●	◆
3.1.3	Government online service*	99.4	3 ●	◆
3.2	**General infrastructure**	**52.6**	**34**	
3.2.1	Electricity output, GWh/mn pop.	3,992.0	55	◇
3.2.2	Aviation import dwell time	1.6	29	
3.2.3	Logistics performance*	68.2	25	◇
3.2.4	Gross capital formation, % GDP	25.0	51	
3.3	**Ecological sustainability**	**23.7**	**46**	
3.3.1	GDP/unit of energy use	15.1	49	
3.3.2	Low-carbon energy use, %	12.7	66 ○	
3.3.3	ISO 14001 environment/bn PPP$ GDP	3.8	26	
Market sophistication		**62.1**	**8** ●	
4.1	**Credit**	**44.0**	**35**	
4.1.1	Finance for startups and scaleups†	71.5	17	
4.1.2	Domestic credit to private sector, % GDP	60.5	49	◇
4.1.3	Loans from microfinance institutions, % GDP	4.0	8	◆
4.2	**Investment**	**67.3**	**1** ●	◆
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	1.5	1 ●	◆
4.2.3	Late-stage VC deal count, % global VC	0.1	39	
4.2.4	VC investors, deal count/bn PPP$ GDP	2.5	1 ●	◆
4.3	**Trade, diversification, and market scale**	**74.9**	**53**	◇
4.3.1	Applied tariff rate, weighted avg., %	1.3	20	
4.3.2	Domestic industry diversification	95.4	20	
4.3.3	Domestic market scale, bn PPP$	67.4	109 ○	◇

		Score/ Value	Rank	
Business sophistication		**43.8**	**26**	◇
5.1	**Knowledge workers**	**52.9**	**23**	
5.1.1	Knowledge-intensive employment, %	45.4	22	
5.1.2	Females employed w/advanced degrees, %	28.3	11	
5.1.3	Youth demographic dividend, %	25.8	113 ○	
5.1.4	GERD performed by business, % GDP	1.2	19	
5.1.5	GERD financed by business, %	49.5	28	
5.2	**Innovation linkages**	**33.8**	**46**	◇
5.2.1	Public research–industry co-publications, %	1.8	54	◇
5.2.2	University–industry R&D collaboration†	45.1	48	◇
5.2.3	University industry and international engagement, top 5*	40.6	46	◇
5.2.4	State of cluster development†	53.4	51	◇
5.2.5	Patent families/bn PPP$ GDP	0.5	32	◇
5.3	**Knowledge absorption**	**44.7**	**14**	
5.3.1	Intellectual property payments, % total trade	0.3	86 ○	◇
5.3.2	High-tech imports, % total trade	8.5	60	
5.3.3	ICT services imports, % total trade	6.3	3 ●	◆
5.3.4	FDI net inflows, % GDP	3.0	56	
5.3.5	Green-field R&D & high-tech FDI	4.8	8 ●	
5.3.6	Research talent, % in businesses	50.4	27	
Knowledge and technology outputs		**37.3**	**24**	
6.1	**Knowledge creation**	**26.8**	**37**	◇
6.1.1	Patents by origin/bn PPP$ GDP	1.5	31	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.6	25	◇
6.1.3	Utility models by origin/bn PPP$ GDP	0.5	28	
6.1.4	Scientific and technical articles/bn PPP$ GDP	35.9	13	
6.1.5	Citable documents H-index	18.3	48	◇
6.2	**Knowledge impact**	**41.6**	**21**	
6.2.1	Labor productivity growth, %	–0.5	126 ○	◇
6.2.2	Unicorn valuation, % GDP	19.4	1 ●	◆
6.2.3	Software spending, % GDP	0.1	90 ○	◇
6.2.4	High-tech manufacturing, %	26.6	51	
6.3	**Knowledge diffusion**	**43.6**	**22**	
6.3.1	Intellectual property receipts, % total trade	0.3	36	◇
6.3.2	Production and export complexity	84.6	27	
6.3.3	High-tech exports, % total trade	7.2	32	
6.3.4	ICT services exports, % total trade	10.7	6 ●	◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	6.6	39	
Creative outputs		**51.7**	**10**	
7.1	**Intangible assets**	**40.4**	**34**	
7.1.1	Intangible asset intensity, top 15, %	52.6	49 ○	◇
7.1.2	Trademarks by origin/bn PPP$ GDP	65.2	19	
7.1.3	Global brand value, top 5,000, % GDP	1.5	53	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	3.1	22	
7.2	**Creative goods and services**	**64.2**	**1** ●	◆
7.2.1	Cultural and creative services exports, % total trade	3.4	8	◆
7.2.2	National feature films/mn pop. 15–69	24.5	3 ●	◆
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	1.4	36	
7.3	**Online creativity**	**61.7**	**14**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	32.9	23	
7.3.2	GitHub commits/mn pop. 15–69	67.1	10	
7.3.3	Mobile app creation/bn PPP$ GDP	84.9	4 ●	◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Ethiopia

GII 2026 rank **133**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
115	134	–	SSA	135.5	486.8	4,420

		Score/ Value	Rank	
Institutions		**28.1**	**122**	
1.1	**Institutional environment**	**27.7**	**125**	
1.1.1	Operational stability for businesses*	28.9	127	
1.1.2	Government effectiveness*	26.4	114	
1.2	**Regulatory environment**	**26.9**	**122**	
1.2.1	Regulatory quality*	26.5	127	
1.2.2	Rule of law*	27.3	119	
1.3	**Business environment**	**29.6**	**[97]**	
1.3.1	Policy stability for doing business† ⏲	29.6	103	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**15.1**	**[126]**	
2.1	**Education**	**28.9**	**[131]**	
2.1.1	Expenditure on education, % GDP	2.3	123	◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary ⏲	34.3	127 ○	
2.2	**Tertiary education**	**n/a**	**[n/a]**	
2.2.1	Tertiary enrolment, % gross	n/a	n/a	
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**1.2**	**100**	
2.3.1	Researchers, FTE/mn pop. ⏲	89.0	94	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.3	78	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**24.4**	**128**	
3.1	**Information and communication technologies (ICTs)**	**32.9**	**131**	
3.1.1	ICT access*	23.5	134 ○	
3.1.2	ICT use*	54.3	112	◆
3.1.3	Government online service*	20.8	127	
3.2	**General infrastructure**	**25.9**	**118**	
3.2.1	Electricity output, GWh/mn pop. ⏲	159.4	123	
3.2.2	Aviation import dwell time	6.4	108	◇
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	21.8	82	
3.3	**Ecological sustainability**	**14.5**	**89**	
3.3.1	GDP/unit of energy use	7.0	114	
3.3.2	Low-carbon energy use, %	27.5	29 ●	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	126	
Market sophistication		**14.8**	**136** ○	
4.1	**Credit**	**4.2**	**[129]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	n/a	n/a	
4.1.3	Loans from microfinance institutions, % GDP ⏲	0.5	46	
4.2	**Investment**	**1.1**	**115**	◇
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	107	
4.2.3	Late-stage VC deal count, % global VC	0.0	91	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	90	
4.3	**Trade, diversification, and market scale**	**39.0**	**125**	
4.3.1	Applied tariff rate, weighted avg., % ⏲	10.5	130	◇
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	486.8	52 ●	◆

		Score/ Value	Rank	
Business sophistication		**16.3**	**136** ○	
5.1	**Knowledge workers**	**19.7**	**132**	◇
5.1.1	Knowledge-intensive employment, % ⏲	4.4	120	
5.1.2	Females employed w/advanced degrees, % ⏲	2.4	111	
5.1.3	Youth demographic dividend, %	59.4	19 ●	◇
5.1.4	GERD performed by business, % GDP ⏲	0.0	93	
5.1.5	GERD financed by business, % ⏲	1.5	93	
5.2	**Innovation linkages**	**10.9**	**127**	
5.2.1	Public research–industry co-publications, %	0.6	111	
5.2.2	University–industry R&D collaboration† ⏲	27.8	102	
5.2.3	University industry and international engagement, top 5*	0.0	106 ○	◇
5.2.4	State of cluster development† ⏲	20.2	120	
5.2.5	Patent families/bn PPP$ GDP	0.0	95	
5.3	**Knowledge absorption**	**18.2**	**92**	
5.3.1	Intellectual property payments, % total trade ⏲	0.0	123	
5.3.2	High-tech imports, % total trade ⏲	11.2	28 ●	◆
5.3.3	ICT services imports, % total trade ⏲	2.4	33 ●	
5.3.4	FDI net inflows, % GDP	2.7	66 ●	
5.3.5	Green-field R&D & high-tech FDI	0.1	117	
5.3.6	Research talent, % in businesses ⏲	2.2	85	
Knowledge and technology outputs		**17.0**	**87**	◆
6.1	**Knowledge creation**	**17.6**	**59** ●	◆
6.1.1	Patents by origin/bn PPP$ GDP	0.1	103	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a	
6.1.3	Utility models by origin/bn PPP$ GDP	0.7	23 ●	◆
6.1.4	Scientific and technical articles/bn PPP$ GDP	20.0	41 ●	◆
6.1.5	Citable documents H-index	10.9	73 ●	◆
6.2	**Knowledge impact**	**22.6**	**79**	◆
6.2.1	Labor productivity growth, %	3.7	18 ●	◆
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.0	138 ○	◇
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**10.8**	**125**	
6.3.1	Intellectual property receipts, % total trade ⏲	0.0	123	
6.3.2	Production and export complexity	46.3	120	
6.3.3	High-tech exports, % total trade ⏲	0.1	131	◇
6.3.4	ICT services exports, % total trade ⏲	0.9	93	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.4	132	
Creative outputs		**6.4**	**131**	
7.1	**Intangible assets**	**3.6**	**125**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	6.4	120	
7.1.3	Global brand value, top 5,000, % GDP	0.3	78	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.2	102	
7.2	**Creative goods and services**	**0.3**	**[137]**	
7.2.1	Cultural and creative services exports, % total trade	0.0	129 ○	◇
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade ⏲	0.0	126	
7.3	**Online creativity**	**17.8**	**123**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.0	139 ○	◇
7.3.2	GitHub commits/mn pop. 15–69	1.1	120	
7.3.3	Mobile app creation/bn PPP$ GDP	52.4	120	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Finland

8

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
10	6	High	EUR	5.6	373.2	66,512

		Score/ Value	Rank
Institutions		**84.8**	**4** ●
1.1	**Institutional environment**	**87.9**	**10**
1.1.1	Operational stability for businesses*	87.5	12
1.1.2	Government effectiveness*	88.4	8
1.2	**Regulatory environment**	**97.9**	**1** ● ◆
1.2.1	Regulatory quality*	95.8	2 ● ◆
1.2.2	Rule of law*	100.0	1 ● ◆
1.3	**Business environment**	**68.7**	**19**
1.3.1	Policy stability for doing business†	78.4	10
1.3.2	Entrepreneurship policies and culture†	59.1	18
Human capital and research		**63.9**	**4** ● ◆
2.1	**Education**	**71.3**	**5** ● ◆
2.1.1	Expenditure on education, % GDP ⏲	6.4	13 ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	23.9	20
2.1.3	School life expectancy, years	19.6	3 ● ◆
2.1.4	PISA scales in reading, maths and science	495.1	11
2.1.5	Pupil–teacher ratio, secondary	12.7	60 ○
2.2	**Tertiary education**	**55.4**	**10**
2.2.1	Tertiary enrolment, % gross	110.3	5 ◆
2.2.2	Graduates in science and engineering, %	30.8	18
2.2.3	Tertiary inbound mobility, %	10.5	32
2.3	**Research and development (R&D)**	**64.8**	**10**
2.3.1	Researchers, FTE/mn pop.	8,706.7	4 ● ◆
2.3.2	Gross expenditure on R&D, % GDP	3.2	8
2.3.3	Global corporate R&D investors, top 3, mn US$	68.6	13
2.3.4	QS university ranking, top 3*	58.8	24
Infrastructure		**67.3**	**4** ● ◆
3.1	**Information and communication technologies (ICTs)**	**95.2**	**8**
3.1.1	ICT access*	99.0	19
3.1.2	ICT use*	97.6	5 ◆
3.1.3	Government online service*	89.1	19
3.2	**General infrastructure**	**69.3**	**7**
3.2.1	Electricity output, GWh/mn pop.	14,570.7	9 ◆
3.2.2	Aviation import dwell time	1.5	26
3.2.3	Logistics performance*	95.5	2 ● ◆
3.2.4	Gross capital formation, % GDP	22.6	71 ○
3.3	**Ecological sustainability**	**37.2**	**18**
3.3.1	GDP/unit of energy use	9.6	97 ○
3.3.2	Low-carbon energy use, %	59.0	4 ● ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	3.7	28
Market sophistication		**57.3**	**18**
4.1	**Credit**	**50.6**	**27**
4.1.1	Finance for startups and scaleups†	87.8	6 ◆
4.1.2	Domestic credit to private sector, % GDP	92.0	24
4.1.3	Loans from microfinance institutions, % GDP	2.9	17
4.2	**Investment**	**40.6**	**11**
4.2.1	Market capitalization, % GDP	n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.7	7
4.2.3	Late-stage VC deal count, % global VC	0.2	23
4.2.4	VC investors, deal count/bn PPP$ GDP	0.8	13
4.3	**Trade, diversification, and market scale**	**80.7**	**28**
4.3.1	Applied tariff rate, weighted avg., %	1.3	20
4.3.2	Domestic industry diversification	96.0	17
4.3.3	Domestic market scale, bn PPP$	373.2	60 ○

		Score/ Value	Rank
Business sophistication		**55.4**	**11**
5.1	**Knowledge workers**	**59.8**	**9**
5.1.1	Knowledge-intensive employment, %	48.1	17
5.1.2	Females employed w/advanced degrees, %	27.4	16
5.1.3	Youth demographic dividend, %	25.6	114 ○
5.1.4	GERD performed by business, % GDP	2.2	8
5.1.5	GERD financed by business, %	57.0	15
5.2	**Innovation linkages**	**60.2**	**18**
5.2.1	Public research–industry co-publications, %	4.8	15
5.2.2	University–industry R&D collaboration†	62.8	22
5.2.3	University industry and international engagement, top 5*	65.5	30 ◇
5.2.4	State of cluster development†	66.0	38
5.2.5	Patent families/bn PPP$ GDP	6.5	5 ● ◆
5.3	**Knowledge absorption**	**46.3**	**12**
5.3.1	Intellectual property payments, % total trade	0.8	50
5.3.2	High-tech imports, % total trade	7.5	79 ○
5.3.3	ICT services imports, % total trade	5.8	4 ● ◆
5.3.4	FDI net inflows, % GDP	2.5	71 ○
5.3.5	Green-field R&D & high-tech FDI ⏲	4.4	10
5.3.6	Research talent, % in businesses	60.0	16
Knowledge and technology outputs		**53.3**	**9**
6.1	**Knowledge creation**	**57.2**	**9**
6.1.1	Patents by origin/bn PPP$ GDP	11.5	5 ●
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	4.3	1 ● ◆
6.1.3	Utility models by origin/bn PPP$ GDP	0.5	30
6.1.4	Scientific and technical articles/bn PPP$ GDP	41.2	10 ◆
6.1.5	Citable documents H-index	42.0	21
6.2	**Knowledge impact**	**48.0**	**8**
6.2.1	Labor productivity growth, %	–0.5	125 ○ ◇
6.2.2	Unicorn valuation, % GDP	5.3	9
6.2.3	Software spending, % GDP	0.6	12
6.2.4	High-tech manufacturing, %	36.8	30
6.3	**Knowledge diffusion**	**54.7**	**8**
6.3.1	Intellectual property receipts, % total trade	2.9	8
6.3.2	Production and export complexity	89.7	15
6.3.3	High-tech exports, % total trade	4.4	43
6.3.4	ICT services exports, % total trade	11.0	5 ● ◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	5.7	47
Creative outputs		**46.8**	**17**
7.1	**Intangible assets**	**46.9**	**20**
7.1.1	Intangible asset intensity, top 15, %	71.1	17
7.1.2	Trademarks by origin/bn PPP$ GDP	23.8	84 ○
7.1.3	Global brand value, top 5,000, % GDP	11.6	14
7.1.4	Industrial designs by origin/bn PPP$ GDP	2.1	37
7.2	**Creative goods and services**	**26.3**	**46**
7.2.1	Cultural and creative services exports, % total trade	0.7	50
7.2.2	National feature films/mn pop. 15–69	7.6	21
7.2.3	Entertainment and media market/th pop. 15–69	49.5	11
7.2.4	Creative goods exports, % total trade	0.4	63 ○ ◇
7.3	**Online creativity**	**66.9**	**7**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	33.7	21
7.3.2	GitHub commits/mn pop. 15–69	88.7	4 ● ◆
7.3.3	Mobile app creation/bn PPP$ GDP	78.4	13

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

France

GII 2026 rank **13**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
12	18	High	EUR	66.7	4,533.6	66,061

		Score/ Value	Rank	
Institutions		**65.2**	**35**	◇
1.1	**Institutional environment**	**70.0**	**39**	◇
1.1.1	Operational stability for businesses*	67.1	60 ○	◇
1.1.2	Government effectiveness*	72.8	23	◇
1.2	**Regulatory environment**	**75.4**	**26**	
1.2.1	Regulatory quality*	75.6	24	
1.2.2	Rule of law*	75.3	26	
1.3	**Business environment**	**50.1**	**58**	◇
1.3.1	Policy stability for doing business†	51.7	60 ○	◇
1.3.2	Entrepreneurship policies and culture†	48.5	28	
Human capital and research		**54.8**	**17**	
2.1	**Education**	**62.5**	**37**	
2.1.1	Expenditure on education, % GDP ⏲	5.3	31	
2.1.2	Government funding/pupil, secondary, % GDP/cap	24.5	18	
2.1.3	School life expectancy, years	16.1	37	
2.1.4	PISA scales in reading, maths and science	478.3	26	
2.1.5	Pupil–teacher ratio, secondary ⏲	13.4	66 ○	
2.2	**Tertiary education**	**39.8**	**41**	
2.2.1	Tertiary enrolment, % gross	71.5	41	
2.2.2	Graduates in science and engineering, %	24.7	47	
2.2.3	Tertiary inbound mobility, %	9.9	36	
2.3	**Research and development (R&D)**	**62.0**	**13**	
2.3.1	Researchers, FTE/mn pop.	5,287.5	21	
2.3.2	Gross expenditure on R&D, % GDP	2.2	16	
2.3.3	Global corporate R&D investors, top 3, mn US$	80.4	8 ●	
2.3.4	QS university ranking, top 3*	84.3	8 ●	
Infrastructure		**61.1**	**17**	
3.1	**Information and communication technologies (ICTs)**	**88.4**	**36**	◇
3.1.1	ICT access*	96.1	44	
3.1.2	ICT use*	87.8	34	
3.1.3	Government online service*	81.2	37	
3.2	**General infrastructure**	**59.7**	**21**	
3.2.1	Electricity output, GWh/mn pop.	8,225.7	20	
3.2.2	Aviation import dwell time	1.1	15	
3.2.3	Logistics performance*	81.8	13	
3.2.4	Gross capital formation, % GDP	22.1	79 ○	
3.3	**Ecological sustainability**	**35.1**	**24**	
3.3.1	GDP/unit of energy use	17.2	35	
3.3.2	Low-carbon energy use, %	54.2	6 ● ◆	
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.1	69 ○	
Market sophistication		**58.4**	**16**	
4.1	**Credit**	**58.4**	**17**	
4.1.1	Finance for startups and scaleups†	71.7	16	
4.1.2	Domestic credit to private sector, % GDP	107.6	19	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**27.8**	**23**	
4.2.1	Market capitalization, % GDP ⏲	92.9	18	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.3	23	
4.2.3	Late-stage VC deal count, % global VC	1.2	5 ●	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.3	31	
4.3	**Trade, diversification, and market scale**	**89.0**	**6** ● ◆	
4.3.1	Applied tariff rate, weighted avg., %	1.3	20	
4.3.2	Domestic industry diversification	97.5	8 ●	
4.3.3	Domestic market scale, bn PPP$	4,533.6	9 ●	

		Score/ Value	Rank
Business sophistication		**52.8**	**17**
5.1	**Knowledge workers**	**57.1**	**16**
5.1.1	Knowledge-intensive employment, %	50.5	12
5.1.2	Females employed w/advanced degrees, %	26.9	18
5.1.3	Youth demographic dividend, %	28.6	95 ○
5.1.4	GERD performed by business, % GDP	1.4	17
5.1.5	GERD financed by business, %	54.1	21
5.2	**Innovation linkages**	**60.3**	**17**
5.2.1	Public research–industry co-publications, %	5.1	14
5.2.2	University–industry R&D collaboration†	58.3	30
5.2.3	University industry and international engagement, top 5*	89.9	10
5.2.4	State of cluster development†	66.4	37
5.2.5	Patent families/bn PPP$ GDP	2.2	14
5.3	**Knowledge absorption**	**40.9**	**20**
5.3.1	Intellectual property payments, % total trade	1.5	27
5.3.2	High-tech imports, % total trade	9.9	42
5.3.3	ICT services imports, % total trade	3.1	19
5.3.4	FDI net inflows, % GDP	2.1	80 ○
5.3.5	Green-field R&D & high-tech FDI	2.2	29
5.3.6	Research talent, % in businesses	62.2	13
Knowledge and technology outputs		**43.1**	**14**
6.1	**Knowledge creation**	**41.5**	**19**
6.1.1	Patents by origin/bn PPP$ GDP	5.4	12
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	1.8	11
6.1.3	Utility models by origin/bn PPP$ GDP	0.2	44 ○
6.1.4	Scientific and technical articles/bn PPP$ GDP	16.8	52 ◇
6.1.5	Citable documents H-index	77.5	5 ●
6.2	**Knowledge impact**	**47.1**	**10**
6.2.1	Labor productivity growth, %	1.2	79 ○
6.2.2	Unicorn valuation, % GDP	2.8	18
6.2.3	Software spending, % GDP	0.6	10
6.2.4	High-tech manufacturing, %	47.9	13
6.3	**Knowledge diffusion**	**40.8**	**27**
6.3.1	Intellectual property receipts, % total trade	1.6	14
6.3.2	Production and export complexity	88.5	20
6.3.3	High-tech exports, % total trade	11.2	16
6.3.4	ICT services exports, % total trade	2.8	51
6.3.5	ISO 9001 quality/bn PPP$ GDP	3.4	72 ○
Creative outputs		**55.9**	**7** ●
7.1	**Intangible assets**	**68.2**	**3** ● ◆
7.1.1	Intangible asset intensity, top 15, %	80.6	4 ●
7.1.2	Trademarks by origin/bn PPP$ GDP	60.3	24
7.1.3	Global brand value, top 5,000, % GDP	17.3	5 ●
7.1.4	Industrial designs by origin/bn PPP$ GDP	7.3	9 ● ◆
7.2	**Creative goods and services**	**36.8**	**17**
7.2.1	Cultural and creative services exports, % total trade	1.7	19
7.2.2	National feature films/mn pop. 15–69	5.2	31
7.2.3	Entertainment and media market/th pop. 15–69	44.8	16
7.2.4	Creative goods exports, % total trade	2.4	23
7.3	**Online creativity**	**50.5**	**27**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	31.9	24
7.3.2	GitHub commits/mn pop. 15–69	45.8	24
7.3.3	Mobile app creation/bn PPP$ GDP	73.9	28

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Georgia

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
69	53	Upper middle	NAWA	3.8	114.8	31,090

		Score/ Value	Rank	
Institutions		**64.5**	**37**	◆
1.1	**Institutional environment**	**59.3**	**59**	
1.1.1	Operational stability for businesses*	64.5	70	
1.1.2	Government effectiveness*	54.1	51	◆
1.2	**Regulatory environment**	**59.5**	**48**	◆
1.2.1	Regulatory quality*	63.3	41	◆
1.2.2	Rule of law*	55.7	59	◆
1.3	**Business environment**	**74.6**	**11**	● ◆
1.3.1	Policy stability for doing business†	62.5	38	
1.3.2	Entrepreneurship policies and culture† ⏲	86.8	4	
Human capital and research		**34.9**	**62**	
2.1	**Education**	**55.2**	**67**	
2.1.1	Expenditure on education, % GDP	4.0	79	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years ⏲	16.4	30	◆
2.1.4	PISA scales in reading, maths and science	382.7	68	○
2.1.5	Pupil–teacher ratio, secondary	9.6	27	●
2.2	**Tertiary education**	**44.0**	**29**	● ◆
2.2.1	Tertiary enrolment, % gross	89.5	14	● ◆
2.2.2	Graduates in science and engineering, % ⏲	18.6	95	○
2.2.3	Tertiary inbound mobility, %	19.5	14	● ◆
2.3	**Research and development (R&D)**	**5.5**	**80**	
2.3.1	Researchers, FTE/mn pop.	1,896.0	43	◆
2.3.2	Gross expenditure on R&D, % GDP	0.3	79	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**43.7**	**72**	
3.1	**Information and communication technologies (ICTs)**	**74.6**	**78**	
3.1.1	ICT access*	88.6	62	
3.1.2	ICT use*	87.5	36	
3.1.3	Government online service*	47.7	97	
3.2	**General infrastructure**	**38.1**	**79**	
3.2.1	Electricity output, GWh/mn pop.	3,874.3	57	
3.2.2	Aviation import dwell time	3.1	76	
3.2.3	Logistics performance*	27.3	76	
3.2.4	Gross capital formation, % GDP	23.4	64	
3.3	**Ecological sustainability**	**18.4**	**67**	
3.3.1	GDP/unit of energy use	16.1	42	
3.3.2	Low-carbon energy use, %	17.8	49	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.4	101	
Market sophistication		**39.2**	**57**	
4.1	**Credit**	**37.8**	**43**	
4.1.1	Finance for startups and scaleups† ⏲	66.1	22	
4.1.2	Domestic credit to private sector, % GDP	68.3	41	
4.1.3	Loans from microfinance institutions, % GDP	2.2	21	
4.2	**Investment**	**3.8**	**83**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	57	
4.2.3	Late-stage VC deal count, % global VC ⏲	0.0	89	○
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	72	
4.3	**Trade, diversification, and market scale**	**76.0**	**49**	
4.3.1	Applied tariff rate, weighted avg., %	0.5	5	●
4.3.2	Domestic industry diversification	87.4	50	
4.3.3	Domestic market scale, bn PPP$	114.8	94	

		Score/ Value	Rank	
Business sophistication		**25.9**	**72**	
5.1	**Knowledge workers**	**31.4**	**91**	
5.1.1	Knowledge-intensive employment, % ⏲	25.4	60	
5.1.2	Females employed w/advanced degrees, % ⏲	18.5	41	
5.1.3	Youth demographic dividend, %	32.4	78	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	0.2	97	○ ◇
5.2	**Innovation linkages**	**25.2**	**63**	
5.2.1	Public research–industry co-publications, %	1.1	81	
5.2.2	University–industry R&D collaboration†	46.0	45	
5.2.3	University industry and international engagement, top 5*	5.2	101	○
5.2.4	State of cluster development†	62.9	41	
5.2.5	Patent families/bn PPP$ GDP	0.0	84	
5.3	**Knowledge absorption**	**21.2**	**74**	
5.3.1	Intellectual property payments, % total trade	0.7	60	
5.3.2	High-tech imports, % total trade	7.9	68	
5.3.3	ICT services imports, % total trade	1.3	77	
5.3.4	FDI net inflows, % GDP	6.9	16	● ◆
5.3.5	Green-field R&D & high-tech FDI	0.8	67	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**21.8**	**70**	
6.1	**Knowledge creation**	**12.3**	**73**	
6.1.1	Patents by origin/bn PPP$ GDP	0.9	55	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	67	
6.1.3	Utility models by origin/bn PPP$ GDP	0.4	32	
6.1.4	Scientific and technical articles/bn PPP$ GDP	10.9	83	
6.1.5	Citable documents H-index	10.9	74	
6.2	**Knowledge impact**	**28.3**	**55**	
6.2.1	Labor productivity growth, %	6.8	1	● ◆
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.0	109	○
6.2.4	High-tech manufacturing, %	8.9	90	○
6.3	**Knowledge diffusion**	**24.9**	**60**	
6.3.1	Intellectual property receipts, % total trade	0.1	62	
6.3.2	Production and export complexity	73.3	61	
6.3.3	High-tech exports, % total trade	0.6	89	
6.3.4	ICT services exports, % total trade	4.8	25	●
6.3.5	ISO 9001 quality/bn PPP$ GDP	3.4	70	
Creative outputs		**23.8**	**70**	
7.1	**Intangible assets**	**25.6**	**68**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	27.8	74	
7.1.3	Global brand value, top 5,000, % GDP	1.8	47	
7.1.4	Industrial designs by origin/bn PPP$ GDP	4.3	13	● ◆
7.2	**Creative goods and services**	**10.3**	**78**	
7.2.1	Cultural and creative services exports, % total trade	0.8	48	
7.2.2	National feature films/mn pop. 15–69 ⏲	2.7	52	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.1	91	
7.3	**Online creativity**	**33.8**	**46**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	4.4	60	
7.3.2	GitHub commits/mn pop. 15–69	26.0	37	◆
7.3.3	Mobile app creation/bn PPP$ GDP	71.0	42	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Germany

GII 2026 rank **11**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
8	14	High	EUR	84.1	6,153.7	73,553

		Score/ Value	Rank
Institutions		**72.7**	**21**
1.1	**Institutional environment**	**79.3**	**20**
1.1.1	Operational stability for businesses*	77.0	36
1.1.2	Government effectiveness*	81.5	16
1.2	**Regulatory environment**	**87.5**	**12**
1.2.1	Regulatory quality*	84.3	14
1.2.2	Rule of law*	90.6	11
1.3	**Business environment**	**51.5**	**55** ○
1.3.1	Policy stability for doing business†	59.0	42
1.3.2	Entrepreneurship policies and culture†	43.9	36 ○
Human capital and research		**65.1**	**3** ● ◆
2.1	**Education**	**69.7**	**11**
2.1.1	Expenditure on education, % GDP ⏲	5.2	36
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years	17.3	21
2.1.4	PISA scales in reading, maths and science	482.3	23
2.1.5	Pupil–teacher ratio, secondary	11.3	46
2.2	**Tertiary education**	**56.7**	**6** ●
2.2.1	Tertiary enrolment, % gross	76.7	34
2.2.2	Graduates in science and engineering, %	35.8	5 ● ◆
2.2.3	Tertiary inbound mobility, %	13.4	22
2.3	**Research and development (R&D)**	**68.8**	**5** ●
2.3.1	Researchers, FTE/mn pop.	6,148.1	11
2.3.2	Gross expenditure on R&D, % GDP	3.1	9
2.3.3	Global corporate R&D investors, top 3, mn US$	87.6	3 ● ◆
2.3.4	QS university ranking, top 3*	82.0	10
Infrastructure		**57.9**	**31**
3.1	**Information and communication technologies (ICTs)**	**90.1**	**28**
3.1.1	ICT access*	96.8	39
3.1.2	ICT use*	82.7	60 ○ ◇
3.1.3	Government online service*	90.8	12
3.2	**General infrastructure**	**58.7**	**24**
3.2.1	Electricity output, GWh/mn pop.	5,946.4	34
3.2.2	Aviation import dwell time	1.4	23
3.2.3	Logistics performance*	90.9	3 ● ◆
3.2.4	Gross capital formation, % GDP	21.6	87 ○
3.3	**Ecological sustainability**	**24.8**	**43**
3.3.1	GDP/unit of energy use	21.6	18
3.3.2	Low-carbon energy use, %	14.7	56 ○
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.7	52
Market sophistication		**51.6**	**21**
4.1	**Credit**	**47.3**	**29**
4.1.1	Finance for startups and scaleups†	63.0	29
4.1.2	Domestic credit to private sector, % GDP ⏲	77.3	34
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**18.0**	**35** ◇
4.2.1	Market capitalization, % GDP	45.5	36 ○
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.2	36 ◇
4.2.3	Late-stage VC deal count, % global VC	0.7	9
4.2.4	VC investors, deal count/bn PPP$ GDP	0.3	32
4.3	**Trade, diversification, and market scale**	**89.5**	**4** ● ◆
4.3.1	Applied tariff rate, weighted avg., %	1.3	20
4.3.2	Domestic industry diversification	96.1	15
4.3.3	Domestic market scale, bn PPP$	6,153.7	6 ● ◆

		Score/ Value	Rank
Business sophistication		**55.3**	**12**
5.1	**Knowledge workers**	**53.6**	**21**
5.1.1	Knowledge-intensive employment, %	47.9	18
5.1.2	Females employed w/advanced degrees, %	17.2	44 ◇
5.1.3	Youth demographic dividend, %	23.4	130 ○
5.1.4	GERD performed by business, % GDP	2.1	10
5.1.5	GERD financed by business, %	62.6	8
5.2	**Innovation linkages**	**68.8**	**8**
5.2.1	Public research–industry co-publications, %	6.3	6 ●
5.2.2	University–industry R&D collaboration†	65.7	16
5.2.3	University industry and international engagement, top 5*	89.6	11
5.2.4	State of cluster development†	77.1	22
5.2.5	Patent families/bn PPP$ GDP	3.9	7 ●
5.3	**Knowledge absorption**	**43.5**	**15**
5.3.1	Intellectual property payments, % total trade	1.3	29
5.3.2	High-tech imports, % total trade	12.2	24
5.3.3	ICT services imports, % total trade	3.5	15
5.3.4	FDI net inflows, % GDP	1.6	94 ○
5.3.5	Green-field R&D & high-tech FDI ⏲	2.9	22
5.3.6	Research talent, % in businesses	63.0	12
Knowledge and technology outputs		**50.4**	**11**
6.1	**Knowledge creation**	**57.9**	**7** ●
6.1.1	Patents by origin/bn PPP$ GDP	10.9	6 ●
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	2.6	8
6.1.3	Utility models by origin/bn PPP$ GDP	0.9	21
6.1.4	Scientific and technical articles/bn PPP$ GDP	19.3	43
6.1.5	Citable documents H-index	87.6	3 ● ◆
6.2	**Knowledge impact**	**43.1**	**16**
6.2.1	Labor productivity growth, %	0.5	105 ○
6.2.2	Unicorn valuation, % GDP	2.0	26
6.2.3	Software spending, % GDP	0.5	22
6.2.4	High-tech manufacturing, %	57.1	6
6.3	**Knowledge diffusion**	**50.3**	**16**
6.3.1	Intellectual property receipts, % total trade	2.6	9
6.3.2	Production and export complexity	93.6	5 ●
6.3.3	High-tech exports, % total trade	14.2	12
6.3.4	ICT services exports, % total trade	2.9	48
6.3.5	ISO 9001 quality/bn PPP$ GDP	7.7	31
Creative outputs		**55.6**	**8**
7.1	**Intangible assets**	**62.0**	**5** ●
7.1.1	Intangible asset intensity, top 15, %	74.8	10
7.1.2	Trademarks by origin/bn PPP$ GDP	46.5	39
7.1.3	Global brand value, top 5,000, % GDP	14.1	10
7.1.4	Industrial designs by origin/bn PPP$ GDP	7.7	7 ◆
7.2	**Creative goods and services**	**33.3**	**27**
7.2.1	Cultural and creative services exports, % total trade	1.3	28
7.2.2	National feature films/mn pop. 15–69	2.9	50 ○
7.2.3	Entertainment and media market/th pop. 15–69	51.4	10
7.2.4	Creative goods exports, % total trade	2.0	25
7.3	**Online creativity**	**65.1**	**9**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	65.9	6 ●
7.3.2	GitHub commits/mn pop. 15–69	59.3	13
7.3.3	Mobile app creation/bn PPP$ GDP	69.9	52 ○

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Ghana

101

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
91	103	Lower middle	SSA	35.1	294.9	8,410

		Score/ Value	Rank
Institutions		**49.8**	**71**
1.1	**Institutional environment**	**52.3**	**81**
1.1.1	Operational stability for businesses*	60.5	84
1.1.2	Government effectiveness*	44.1	78 ◆
1.2	**Regulatory environment**	**49.2**	**67** ◆
1.2.1	Regulatory quality*	44.9	80 ◆
1.2.2	Rule of law*	53.4	61 ● ◆
1.3	**Business environment**	**47.9**	**[63]**
1.3.1	Policy stability for doing business†	47.9	66
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**21.2**	**[107]**
2.1	**Education**	**45.0**	**[95]**
2.1.1	Expenditure on education, % GDP ⏲	2.9	110
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years	11.7	96
2.1.4	PISA scales in reading, maths and science	n/a	n/a
2.1.5	Pupil–teacher ratio, secondary	19.1	99
2.2	**Tertiary education**	**15.2**	**112**
2.2.1	Tertiary enrolment, % gross	21.3	104
2.2.2	Graduates in science and engineering, %	18.7	93
2.2.3	Tertiary inbound mobility, %	0.7	95
2.3	**Research and development (R&D)**	**3.4**	**[87]**
2.3.1	Researchers, FTE/mn pop.	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	6.8	80
Infrastructure		**33.0**	**110**
3.1	**Information and communication technologies (ICTs)**	**63.7**	**95**
3.1.1	ICT access*	68.8	94
3.1.2	ICT use*	69.5	98
3.1.3	Government online service*	52.9	86
3.2	**General infrastructure**	**19.5**	**134** ○ ◇
3.2.1	Electricity output, GWh/mn pop.	742.3	105
3.2.2	Aviation import dwell time	5.4	104
3.2.3	Logistics performance*	18.2	89
3.2.4	Gross capital formation, % GDP	10.1	133 ○ ◇
3.3	**Ecological sustainability**	**15.8**	**82**
3.3.1	GDP/unit of energy use	17.4	32 ●
3.3.2	Low-carbon energy use, %	8.3	84
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.4	98
Market sophistication		**16.3**	**132** ○ ◇
4.1	**Credit**	**1.1**	**135** ○ ◇
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	9.0	124 ○ ◇
4.1.3	Loans from microfinance institutions, % GDP	0.1	55
4.2	**Investment**	**2.8**	**96**
4.2.1	Market capitalization, % GDP	8.6	75
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	62
4.2.3	Late-stage VC deal count, % global VC	0.0	60
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	89
4.3	**Trade, diversification, and market scale**	**45.0**	**119**
4.3.1	Applied tariff rate, weighted avg., %	8.3	119
4.3.2	Domestic industry diversification	n/a	n/a
4.3.3	Domestic market scale, bn PPP$	294.9	66

		Score/ Value	Rank
Business sophistication		**26.1**	**70**
5.1	**Knowledge workers**	**32.2**	**[81]**
5.1.1	Knowledge-intensive employment, % ⏲	8.8	104
5.1.2	Females employed w/advanced degrees, % ⏲	3.5	102
5.1.3	Youth demographic dividend, %	54.3	26 ●
5.1.4	GERD performed by business, % GDP	n/a	n/a
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	**23.9**	**69**
5.2.1	Public research–industry co-publications, %	1.7	59 ● ◆
5.2.2	University–industry R&D collaboration†	37.2	66
5.2.3	University industry and international engagement, top 5*	19.1	70
5.2.4	State of cluster development†	43.7	63
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○ ◇
5.3	**Knowledge absorption**	**22.1**	**69**
5.3.1	Intellectual property payments, % total trade	1.5	26 ● ◆
5.3.2	High-tech imports, % total trade	4.0	125
5.3.3	ICT services imports, % total trade	0.8	103
5.3.4	FDI net inflows, % GDP	1.9	86
5.3.5	Green-field R&D & high-tech FDI	1.3	52 ● ◆
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		**15.9**	**90**
6.1	**Knowledge creation**	**6.7**	**100**
6.1.1	Patents by origin/bn PPP$ GDP ⏲	0.0	129 ○
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	105
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	71
6.1.4	Scientific and technical articles/bn PPP$ GDP	14.4	61 ●
6.1.5	Citable documents H-index	10.3	76
6.2	**Knowledge impact**	**29.8**	**51** ●
6.2.1	Labor productivity growth, %	3.2	26 ●
6.2.2	Unicorn valuation, % GDP	1.8	30 ● ◆
6.2.3	Software spending, % GDP	0.0	135 ○ ◇
6.2.4	High-tech manufacturing, %	n/a	n/a
6.3	**Knowledge diffusion**	**11.3**	**121**
6.3.1	Intellectual property receipts, % total trade	0.1	63
6.3.2	Production and export complexity	46.4	119 ○
6.3.3	High-tech exports, % total trade	0.1	126
6.3.4	ICT services exports, % total trade	0.5	106
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.7	122
Creative outputs		**16.0**	**92**
7.1	**Intangible assets**	**8.2**	**106**
7.1.1	Intangible asset intensity, top 15, % ⏲	–52.8	78 ○ ◇
7.1.2	Trademarks by origin/bn PPP$ GDP	2.5	133 ○ ◇
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.1	57 ●
7.2	**Creative goods and services**	**25.9**	**[47]**
7.2.1	Cultural and creative services exports, % total trade	2.4	11 ● ◆
7.2.2	National feature films/mn pop. 15–69	n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	0.0	127 ○
7.3	**Online creativity**	**21.8**	**102**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.2	121
7.3.2	GitHub commits/mn pop. 15–69	3.1	101
7.3.3	Mobile app creation/bn PPP$ GDP	62.0	101

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Greece

GII 2026 rank **41**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
43	40	High	EUR	9.9	466.9	44,985

		Score/ Value	Rank	
Institutions		**52.1**	**65**	◇
1.1	**Institutional environment**	**61.2**	**53**	◇
1.1.1	Operational stability for businesses*	75.0	43	
1.1.2	Government effectiveness*	47.4	66	◇
1.2	**Regulatory environment**	**59.1**	**49**	
1.2.1	Regulatory quality*	59.0	47	
1.2.2	Rule of law*	59.2	52	
1.3	**Business environment**	**35.9**	**86**	
1.3.1	Policy stability for doing business†	43.4	76	
1.3.2	Entrepreneurship policies and culture† ⏲	28.5	59	
Human capital and research		**47.5**	**28**	●
2.1	**Education**	**59.8**	**43**	
2.1.1	Expenditure on education, % GDP ⏲	3.4	95 ○	◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	16.9	61 ○	
2.1.3	School life expectancy, years ⏲	20.9	1 ●	◆
2.1.4	PISA scales in reading, maths and science	436.5	45	
2.1.5	Pupil–teacher ratio, secondary ⏲	8.3	12 ●	◆
2.2	**Tertiary education**	**55.6**	**9** ●	◆
2.2.1	Tertiary enrolment, % gross ⏲	165.1	1 ●	◆
2.2.2	Graduates in science and engineering, %	26.5	35	
2.2.3	Tertiary inbound mobility, % ⏲	3.0	73	
2.3	**Research and development (R&D)**	**27.0**	**44**	
2.3.1	Researchers, FTE/mn pop.	4,887.6	24	
2.3.2	Gross expenditure on R&D, % GDP	1.5	26	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	37.9	46	
Infrastructure		**59.5**	**23**	●
3.1	**Information and communication technologies (ICTs)**	**85.4**	**45**	
3.1.1	ICT access*	94.8	49	
3.1.2	ICT use*	83.7	56	
3.1.3	Government online service*	77.7	45	
3.2	**General infrastructure**	**49.5**	**42**	
3.2.1	Electricity output, GWh/mn pop.	5,121.1	43	
3.2.2	Aviation import dwell time	2.0	42	
3.2.3	Logistics performance*	72.7	18 ●	
3.2.4	Gross capital formation, % GDP	17.6	111 ○	◇
3.3	**Ecological sustainability**	**43.7**	**8** ●	◆
3.3.1	GDP/unit of energy use	19.0	24 ●	
3.3.2	Low-carbon energy use, %	10.8	75	
3.3.3	ISO 14001 environment/bn PPP$ GDP	11.4	3 ●	◆
Market sophistication		**39.7**	**55**	
4.1	**Credit**	**32.4**	**59**	
4.1.1	Finance for startups and scaleups† ⏲	46.1	52	
4.1.2	Domestic credit to private sector, % GDP	48.5	65	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**8.9**	**51**	
4.2.1	Market capitalization, % GDP	31.0	45	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	45	
4.2.3	Late-stage VC deal count, % global VC	0.0	50	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.2	39	
4.3	**Trade, diversification, and market scale**	**77.9**	**41**	
4.3.1	Applied tariff rate, weighted avg., %	1.3	20	
4.3.2	Domestic industry diversification	85.4	58	
4.3.3	Domestic market scale, bn PPP$	466.9	54	

		Score/ Value	Rank	
Business sophistication		**28.3**	**64**	◇
5.1	**Knowledge workers**	**38.8**	**53**	
5.1.1	Knowledge-intensive employment, %	32.5	45	◇
5.1.2	Females employed w/advanced degrees, %	20.4	37	
5.1.3	Youth demographic dividend, %	23.3	131 ○	
5.1.4	GERD performed by business, % GDP	0.8	31	
5.1.5	GERD financed by business, %	39.9	49	
5.2	**Innovation linkages**	**23.5**	**72**	◇
5.2.1	Public research–industry co-publications, %	2.4	31	
5.2.2	University–industry R&D collaboration†	21.7	115 ○	◇
5.2.3	University industry and international engagement, top 5*	45.2	39	
5.2.4	State of cluster development†	16.1	125 ○	◇
5.2.5	Patent families/bn PPP$ GDP	0.3	35	
5.3	**Knowledge absorption**	**22.6**	**66**	◇
5.3.1	Intellectual property payments, % total trade	0.3	84	
5.3.2	High-tech imports, % total trade	7.3	81	
5.3.3	ICT services imports, % total trade	1.1	88	
5.3.4	FDI net inflows, % GDP	2.8	63	
5.3.5	Green-field R&D & high-tech FDI	1.1	58	
5.3.6	Research talent, % in businesses	33.2	43	
Knowledge and technology outputs		**30.0**	**40**	
6.1	**Knowledge creation**	**22.5**	**46**	
6.1.1	Patents by origin/bn PPP$ GDP	1.1	48	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.3	36	
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	62 ○	
6.1.4	Scientific and technical articles/bn PPP$ GDP	31.8	16 ●	
6.1.5	Citable documents H-index	33.8	30	
6.2	**Knowledge impact**	**30.2**	**50**	
6.2.1	Labor productivity growth, %	1.6	70	
6.2.2	Unicorn valuation, % GDP	1.1	37	
6.2.3	Software spending, % GDP	0.5	18 ●	
6.2.4	High-tech manufacturing, %	14.8	75 ○	◇
6.3	**Knowledge diffusion**	**37.4**	**35**	
6.3.1	Intellectual property receipts, % total trade	0.1	81	
6.3.2	Production and export complexity	77.6	47	
6.3.3	High-tech exports, % total trade	2.6	54	
6.3.4	ICT services exports, % total trade	1.5	77	
6.3.5	ISO 9001 quality/bn PPP$ GDP	28.1	2 ●	◆
Creative outputs		**32.0**	**48**	
7.1	**Intangible assets**	**36.2**	**45**	
7.1.1	Intangible asset intensity, top 15, %	52.2	51	
7.1.2	Trademarks by origin/bn PPP$ GDP	44.4	43	
7.1.3	Global brand value, top 5,000, % GDP	1.0	59	
7.1.4	Industrial designs by origin/bn PPP$ GDP	2.8	26 ●	
7.2	**Creative goods and services**	**20.9**	**54**	
7.2.1	Cultural and creative services exports, % total trade	0.6	55	
7.2.2	National feature films/mn pop. 15–69	6.1	27	
7.2.3	Entertainment and media market/th pop. 15–69	23.3	29	
7.2.4	Creative goods exports, % total trade	1.0	43	
7.3	**Online creativity**	**34.7**	**42**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	18.7	33	
7.3.2	GitHub commits/mn pop. 15–69	22.6	40	
7.3.3	Mobile app creation/bn PPP$ GDP	62.9	97 ○	◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Guatemala

120

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
117	119	Upper middle	LCN	18.7	281.7	15,100

		Score/ Value	Rank	
Institutions		**32.9**	**115**	
1.1	**Institutional environment**	**38.8**	**110**	
1.1.1	Operational stability for businesses*	57.9	91	
1.1.2	Government effectiveness*	19.7	129	◇
1.2	**Regulatory environment**	**34.4**	**106**	
1.2.1	Regulatory quality*	39.5	96	
1.2.2	Rule of law*	29.4	115	◇
1.3	**Business environment**	**25.5**	**112**	
1.3.1	Policy stability for doing business†	34.9	93	
1.3.2	Entrepreneurship policies and culture†	16.2	80	
Human capital and research		**13.5**	**132**	◇
2.1	**Education**	**32.5**	**125**	◇
2.1.1	Expenditure on education, % GDP	3.1	108	
2.1.2	Government funding/pupil, secondary, % GDP/cap	5.8	91 ○	◇
2.1.3	School life expectancy, years ⏲	10.6	105	◇
2.1.4	PISA scales in reading, maths and science	363.8	75	
2.1.5	Pupil–teacher ratio, secondary	9.2	21 ●	
2.2	**Tertiary education**	**8.1**	**119**	◇
2.2.1	Tertiary enrolment, % gross ⏲	27.3	94	◇
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, % ⏲	0.4	103	
2.3	**Research and development (R&D)**	**0.0**	**122** ○	◇
2.3.1	Researchers, FTE/mn pop. ⏲	1.4	109 ○	◇
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.0	115 ○	◇
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**35.6**	**96**	
3.1	**Information and communication technologies (ICTs)**	**62.0**	**99**	◇
3.1.1	ICT access*	51.8	118	◇
3.1.2	ICT use*	75.7	85	
3.1.3	Government online service*	58.3	82	
3.2	**General infrastructure**	**30.0**	**106**	
3.2.1	Electricity output, GWh/mn pop. ⏲	781.8	104	◇
3.2.2	Aviation import dwell time	2.9	72	
3.2.3	Logistics performance*	22.7	82	
3.2.4	Gross capital formation, % GDP	16.6	117	◇
3.3	**Ecological sustainability**	**14.7**	**87**	
3.3.1	GDP/unit of energy use	13.1	68	
3.3.2	Low-carbon energy use, %	15.6	52 ●	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.2	118	
Market sophistication		**29.2**	**95**	
4.1	**Credit**	**16.2**	**107**	
4.1.1	Finance for startups and scaleups†	18.8	85	◇
4.1.2	Domestic credit to private sector, % GDP	36.8	81	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**2.0**	**103**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	100	
4.2.3	Late-stage VC deal count, % global VC	0.0	77	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	71	
4.3	**Trade, diversification, and market scale**	**69.6**	**70**	
4.3.1	Applied tariff rate, weighted avg., %	1.8	59 ●	
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	281.7	68 ●	

		Score/ Value	Rank	
Business sophistication		**21.0**	**112**	
5.1	**Knowledge workers**	**21.2**	**130**	◇
5.1.1	Knowledge-intensive employment, % ⏲	11.4	97	◇
5.1.2	Females employed w/advanced degrees, % ⏲	3.4	104	◇
5.1.3	Youth demographic dividend, %	50.4	31 ●	◆
5.1.4	GERD performed by business, % GDP ⏲	0.0	95 ○	
5.1.5	GERD financed by business, % ⏲	11.1	76	
5.2	**Innovation linkages**	**20.0**	**91**	
5.2.1	Public research–industry co-publications, %	0.8	100	
5.2.2	University–industry R&D collaboration†	33.4	81	
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	37.6	77	
5.2.5	Patent families/bn PPP$ GDP	0.0	91	
5.3	**Knowledge absorption**	**21.8**	**70**	
5.3.1	Intellectual property payments, % total trade	1.9	17 ●	◆
5.3.2	High-tech imports, % total trade	10.0	41 ●	
5.3.3	ICT services imports, % total trade	1.0	92	
5.3.4	FDI net inflows, % GDP	1.6	96	
5.3.5	Green-field R&D & high-tech FDI	0.2	108	
5.3.6	Research talent, % in businesses ⏲	3.5	81	
Knowledge and technology outputs		**12.4**	**109**	
6.1	**Knowledge creation**	**1.2**	**135** ○	◇
6.1.1	Patents by origin/bn PPP$ GDP	0.0	130 ○	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	97	
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	76	
6.1.4	Scientific and technical articles/bn PPP$ GDP	1.4	136 ○	◇
6.1.5	Citable documents H-index	4.0	117	
6.2	**Knowledge impact**	**17.1**	**112**	
6.2.1	Labor productivity growth, %	2.0	57 ●	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.0	133	◇
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**18.8**	**84**	
6.3.1	Intellectual property receipts, % total trade	0.1	73	
6.3.2	Production and export complexity	69.0	75	
6.3.3	High-tech exports, % total trade	1.4	68 ●	
6.3.4	ICT services exports, % total trade	2.2	63 ●	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.7	118	
Creative outputs		**10.5**	**[115]**	
7.1	**Intangible assets**	**8.7**	**[104]**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	30.8	70	
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.0	129 ○	◇
7.2	**Creative goods and services**	**4.1**	**[109]**	
7.2.1	Cultural and creative services exports, % total trade	0.1	101	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.2	83	
7.3	**Online creativity**	**20.6**	**107**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.8	83	
7.3.2	GitHub commits/mn pop. 15–69	2.8	102	
7.3.3	Mobile app creation/bn PPP$ GDP	57.3	113	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Honduras

GII 2026 rank **116**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
116	117	Lower middle	LCN	11.0	86.3	7,956

		Score/ Value	Rank	
Institutions		**25.9**	**125**	◇
1.1	**Institutional environment**	**38.5**	**111**	
1.1.1	Operational stability for businesses*	50.0	107	
1.1.2	Government effectiveness*	27.0	112	
1.2	**Regulatory environment**	**28.0**	**119**	
1.2.1	Regulatory quality*	31.6	111	
1.2.2	Rule of law*	24.3	126	
1.3	**Business environment**	**11.4**	**[131]**	
1.3.1	Policy stability for doing business†	11.4	130	◇
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**23.1**	**104**	
2.1	**Education**	**45.0**	**94**	
2.1.1	Expenditure on education, % GDP	4.5	56 ●	
2.1.2	Government funding/pupil, secondary, % GDP/cap	22.5	29 ●	
2.1.3	School life expectancy, years	8.8	112	◇
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	17.6	95	
2.2	**Tertiary education**	**23.6**	**91**	
2.2.1	Tertiary enrolment, % gross	23.3	100	
2.2.2	Graduates in science and engineering, %	22.8	64	
2.2.3	Tertiary inbound mobility, %	4.8	53	
2.3	**Research and development (R&D)**	**0.6**	**108**	
2.3.1	Researchers, FTE/mn pop. ⏲	187.8	87	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.1	108	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**33.3**	**108**	
3.1	**Information and communication technologies (ICTs)**	**48.1**	**113**	
3.1.1	ICT access*	55.9	116	
3.1.2	ICT use*	53.4	113	
3.1.3	Government online service*	34.9	112	
3.2	**General infrastructure**	**37.3**	**82**	
3.2.1	Electricity output, GWh/mn pop. ⏲	1,117.0	98	
3.2.2	Aviation import dwell time	2.9	72	
3.2.3	Logistics performance*	36.4	65	
3.2.4	Gross capital formation, % GDP	22.4	74	
3.3	**Ecological sustainability**	**14.4**	**90**	
3.3.1	GDP/unit of energy use	10.5	90	
3.3.2	Low-carbon energy use, %	20.5	43 ●	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	130	
Market sophistication		**32.2**	**[86]**	
4.1	**Credit**	**31.9**	**[62]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	78.2	32 ●	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**1.6**	**[108]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	99	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP ⏲	0.0	101	
4.3	**Trade, diversification, and market scale**	**63.2**	**86**	
4.3.1	Applied tariff rate, weighted avg., %	2.0	65	◆
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	86.3	100	

		Score/ Value	Rank	
Business sophistication		**19.7**	**118**	
5.1	**Knowledge workers**	**25.4**	**116**	
5.1.1	Knowledge-intensive employment, %	13.3	92	
5.1.2	Females employed w/advanced degrees, %	6.0	95	
5.1.3	Youth demographic dividend, %	48.9	32 ●	
5.1.4	GERD performed by business, % GDP ⏲	0.0	94 ○	
5.1.5	GERD financed by business, % ⏲	21.1	66	
5.2	**Innovation linkages**	**13.7**	**119**	
5.2.1	Public research–industry co-publications, %	0.3	133	◇
5.2.2	University–industry R&D collaboration†	23.3	112	
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	28.4	102	
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**19.8**	**80**	
5.3.1	Intellectual property payments, % total trade	1.1	35 ●	◆
5.3.2	High-tech imports, % total trade	7.8	70	
5.3.3	ICT services imports, % total trade	1.8	57 ●	◆
5.3.4	FDI net inflows, % GDP	3.0	55 ●	
5.3.5	Green-field R&D & high-tech FDI	0.4	93	
5.3.6	Research talent, % in businesses ⏲	3.3	82	
Knowledge and technology outputs		**14.2**	**101**	
6.1	**Knowledge creation**	**1.7**	**133**	
6.1.1	Patents by origin/bn PPP$ GDP	0.0	135 ○	◇
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	89	
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	77 ○	◇
6.1.4	Scientific and technical articles/bn PPP$ GDP	4.3	117	
6.1.5	Citable documents H-index	2.2	129	
6.2	**Knowledge impact**	**26.2**	**62**	
6.2.1	Labor productivity growth, %	3.2	27 ●	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.2	66	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**14.7**	**101**	
6.3.1	Intellectual property receipts, % total trade	0.0	130 ○	◇
6.3.2	Production and export complexity	62.0	90	
6.3.3	High-tech exports, % total trade	0.8	82	
6.3.4	ICT services exports, % total trade	0.6	100	
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.6	98	
Creative outputs		**8.8**	**122**	
7.1	**Intangible assets**	**7.6**	**108**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	41.0	45 ●	◆
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.0	130 ○	◇
7.2	**Creative goods and services**	**1.6**	**[125]**	
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	114	
7.3	**Online creativity**	**18.4**	**121**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.4	112	
7.3.2	GitHub commits/mn pop. 15–69	2.6	107	
7.3.3	Mobile app creation/bn PPP$ GDP	52.4	121	◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Hong Kong, China

14

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
21	8	High	SEAO	7.4	594.5	78,919

		Score/ Value	Rank	
Institutions		**81.6**	**7**	
1.1	**Institutional environment**	**88.0**	**9**	
1.1.1	Operational stability for businesses*	92.1	4	◆
1.1.2	Government effectiveness*	83.8	14	
1.2	**Regulatory environment**	**82.1**	**19**	
1.2.1	Regulatory quality*	90.3	8	
1.2.2	Rule of law*	74.0	30	
1.3	**Business environment**	**74.7**	**10**	
1.3.1	Policy stability for doing business†	77.8	11	
1.3.2	Entrepreneurship policies and culture† ⏲	71.7	8	
Human capital and research		**62.8**	**6**	
2.1	**Education**	**67.6**	**15**	
2.1.1	Expenditure on education, % GDP	3.8	83	◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	24.8	15	
2.1.3	School life expectancy, years	18.7	8	
2.1.4	PISA scales in reading, maths and science	520.2	5	
2.1.5	Pupil–teacher ratio, secondary	10.8	42	
2.2	**Tertiary education**	**66.5**	**3**	● ◆
2.2.1	Tertiary enrolment, % gross	120.1	3	● ◆
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	25.3	8	
2.3	**Research and development (R&D)**	**54.4**	**19**	
2.3.1	Researchers, FTE/mn pop.	5,873.7	14	
2.3.2	Gross expenditure on R&D, % GDP	1.1	36	◇
2.3.3	Global corporate R&D investors, top 3, mn US$	n/a	n/a	
2.3.4	QS university ranking, top 3*	89.8	5	
Infrastructure		**62.4**	**11**	
3.1	**Information and communication technologies (ICTs)**	**97.0**	**4**	◆
3.1.1	ICT access*	99.5	10	
3.1.2	ICT use*	94.5	14	
3.1.3	Government online service*	n/a	n/a	
3.2	**General infrastructure**	**54.7**	**29**	
3.2.1	Electricity output, GWh/mn pop. ⏲	5,035.7	45	
3.2.2	Aviation import dwell time	0.6	3	● ◆
3.2.3	Logistics performance*	86.4	7	
3.2.4	Gross capital formation, % GDP	15.8	122	○ ◇
3.3	**Ecological sustainability**	**35.5**	**22**	
3.3.1	GDP/unit of energy use	40.3	3	● ◆
3.3.2	Low-carbon energy use, %	0.9	125	○ ◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.3	40	
Market sophistication		**74.8**	**2**	● ◆
4.1	**Credit**	**94.0**	**1**	● ◆
4.1.1	Finance for startups and scaleups† ⏲	88.0	5	
4.1.2	Domestic credit to private sector, % GDP	231.0	1	● ◆
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**54.8**	**4**	◆
4.2.1	Market capitalization, % GDP	1,144.9	1	● ◆
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.3	27	
4.2.3	Late-stage VC deal count, % global VC	0.1	28	
4.2.4	VC investors, deal count/bn PPP$ GDP	1.6	5	◆
4.3	**Trade, diversification, and market scale**	**75.7**	**50**	
4.3.1	Applied tariff rate, weighted avg., %	0.0	1	● ◆
4.3.2	Domestic industry diversification	66.9	92	○ ◇
4.3.3	Domestic market scale, bn PPP$	594.5	48	

		Score/ Value	Rank	
Business sophistication		**42.9**	**29**	◇
5.1	**Knowledge workers**	**34.5**	**68**	◇
5.1.1	Knowledge-intensive employment, %	40.7	34	
5.1.2	Females employed w/advanced degrees, %	17.2	45	◇
5.1.3	Youth demographic dividend, %	17.3	139	○ ◇
5.1.4	GERD performed by business, % GDP	0.4	42	◇
5.1.5	GERD financed by business, %	37.7	52	◇
5.2	**Innovation linkages**	**53.3**	**23**	
5.2.1	Public research–industry co-publications, %	2.1	40	◇
5.2.2	University–industry R&D collaboration†	62.0	23	
5.2.3	University industry and international engagement, top 5*	99.7	2	● ◆
5.2.4	State of cluster development†	70.4	32	
5.2.5	Patent families/bn PPP$ GDP	0.6	31	◇
5.3	**Knowledge absorption**	**41.0**	**19**	
5.3.1	Intellectual property payments, % total trade ⏲	0.3	89	○ ◇
5.3.2	High-tech imports, % total trade	54.7	1	● ◆
5.3.3	ICT services imports, % total trade ⏲	0.4	123	○ ◇
5.3.4	FDI net inflows, % GDP	32.4	2	● ◆
5.3.5	Green-field R&D & high-tech FDI	3.9	15	
5.3.6	Research talent, % in businesses	28.9	48	◇
Knowledge and technology outputs		**34.0**	**29**	◇
6.1	**Knowledge creation**	**35.3**	**23**	
6.1.1	Patents by origin/bn PPP$ GDP	0.9	57	◇
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	63	◇
6.1.3	Utility models by origin/bn PPP$ GDP	1.0	18	
6.1.4	Scientific and technical articles/bn PPP$ GDP	50.3	2	● ◆
6.1.5	Citable documents H-index	41.3	23	
6.2	**Knowledge impact**	**43.9**	**14**	
6.2.1	Labor productivity growth, %	2.5	41	
6.2.2	Unicorn valuation, % GDP	5.5	8	
6.2.3	Software spending, % GDP	0.4	28	
6.2.4	High-tech manufacturing, %	9.0	88	○ ◇
6.3	**Knowledge diffusion**	**23.0**	**65**	◇
6.3.1	Intellectual property receipts, % total trade ⏲	0.1	61	◇
6.3.2	Production and export complexity	88.9	18	
6.3.3	High-tech exports, % total trade	0.1	128	○ ◇
6.3.4	ICT services exports, % total trade ⏲	0.6	101	○ ◇
6.3.5	ISO 9001 quality/bn PPP$ GDP	5.4	50	
Creative outputs		**48.8**	**15**	
7.1	**Intangible assets**	**52.5**	**16**	
7.1.1	Intangible asset intensity, top 15, %	56.5	40	◇
7.1.2	Trademarks by origin/bn PPP$ GDP	47.0	36	
7.1.3	Global brand value, top 5,000, % GDP	16.0	8	
7.1.4	Industrial designs by origin/bn PPP$ GDP	2.0	39	
7.2	**Creative goods and services**	**25.7**	**48**	◇
7.2.1	Cultural and creative services exports, % total trade	0.1	95	○ ◇
7.2.2	National feature films/mn pop. 15–69	8.3	18	
7.2.3	Entertainment and media market/th pop. 15–69	55.3	8	
7.2.4	Creative goods exports, % total trade	0.5	61	◇
7.3	**Online creativity**	**64.4**	**11**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	39.8	18	
7.3.2	GitHub commits/mn pop. 15–69	n/a	n/a	
7.3.3	Mobile app creation/bn PPP$ GDP	89.1	2	● ◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Hungary

GII 2026 rank **36**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
32	39	High	EUR	9.6	460.4	48,157

		Score/ Value	Rank	
Institutions		**48.9**	**74**	◇
1.1	**Institutional environment**	**65.8**	**46**	
1.1.1	Operational stability for businesses*	76.3	38	
1.1.2	Government effectiveness*	55.3	50	
1.2	**Regulatory environment**	**56.1**	**55**	◇
1.2.1	Regulatory quality*	55.5	53	◇
1.2.2	Rule of law*	56.7	55	◇
1.3	**Business environment**	**24.8**	**114**	○ ◇
1.3.1	Policy stability for doing business†	22.3	121	○ ◇
1.3.2	Entrepreneurship policies and culture†	27.3	61	○
Human capital and research		**43.2**	**36**	
2.1	**Education**	**55.6**	**63**	
2.1.1	Expenditure on education, % GDP	3.8	84	○
2.1.2	Government funding/pupil, secondary, % GDP/cap	15.5	67	○ ◇
2.1.3	School life expectancy, years	16.0	38	
2.1.4	PISA scales in reading, maths and science	477.2	29	
2.1.5	Pupil–teacher ratio, secondary	10.4	39	
2.2	**Tertiary education**	**37.8**	**48**	
2.2.1	Tertiary enrolment, % gross	60.5	53	
2.2.2	Graduates in science and engineering, %	22.2	69	
2.2.3	Tertiary inbound mobility, %	13.9	20	
2.3	**Research and development (R&D)**	**36.1**	**33**	
2.3.1	Researchers, FTE/mn pop.	4,643.5	26	
2.3.2	Gross expenditure on R&D, % GDP	1.3	34	
2.3.3	Global corporate R&D investors, top 3, mn US$	51.0	31	
2.3.4	QS university ranking, top 3*	29.1	52	
Infrastructure		**57.8**	**32**	
3.1	**Information and communication technologies (ICTs)**	**82.0**	**57**	
3.1.1	ICT access*	98.1	29	
3.1.2	ICT use*	82.3	62	
3.1.3	Government online service*	65.6	72	◇
3.2	**General infrastructure**	**48.5**	**46**	
3.2.1	Electricity output, GWh/mn pop.	3,962.2	56	
3.2.2	Aviation import dwell time	1.0	11	●
3.2.3	Logistics performance*	50.0	50	
3.2.4	Gross capital formation, % GDP	23.7	60	
3.3	**Ecological sustainability**	**42.8**	**10**	● ◆
3.3.1	GDP/unit of energy use	15.9	43	
3.3.2	Low-carbon energy use, %	26.4	34	
3.3.3	ISO 14001 environment/bn PPP$ GDP	9.4	7	● ◆
Market sophistication		**40.0**	**54**	
4.1	**Credit**	**32.8**	**57**	
4.1.1	Finance for startups and scaleups†	54.1	40	
4.1.2	Domestic credit to private sector, % GDP	32.4	92	○ ◇
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**7.2**	**60**	
4.2.1	Market capitalization, % GDP	16.8	62	○
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	41	
4.2.3	Late-stage VC deal count, % global VC	0.0	47	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.2	43	
4.3	**Trade, diversification, and market scale**	**80.0**	**31**	
4.3.1	Applied tariff rate, weighted avg., %	1.3	20	
4.3.2	Domestic industry diversification	92.1	36	
4.3.3	Domestic market scale, bn PPP$	460.4	55	

		Score/ Value	Rank	
Business sophistication		**38.7**	**35**	
5.1	**Knowledge workers**	**45.2**	**33**	
5.1.1	Knowledge-intensive employment, %	42.1	30	
5.1.2	Females employed w/advanced degrees, %	19.7	39	
5.1.3	Youth demographic dividend, %	24.9	120	○
5.1.4	GERD performed by business, % GDP	1.0	25	
5.1.5	GERD financed by business, %	49.4	29	
5.2	**Innovation linkages**	**32.2**	**51**	
5.2.1	Public research–industry co-publications, %	5.2	13	●
5.2.2	University–industry R&D collaboration†	38.1	63	
5.2.3	University industry and international engagement, top 5*	41.7	42	
5.2.4	State of cluster development†	17.3	123	○ ◇
5.2.5	Patent families/bn PPP$ GDP	0.3	39	
5.3	**Knowledge absorption**	**38.7**	**30**	
5.3.1	Intellectual property payments, % total trade	0.9	46	
5.3.2	High-tech imports, % total trade	17.0	13	● ◆
5.3.3	ICT services imports, % total trade	2.1	39	
5.3.4	FDI net inflows, % GDP	–20.7	137	○
5.3.5	Green-field R&D & high-tech FDI	2.1	33	
5.3.6	Research talent, % in businesses	65.8	10	●
Knowledge and technology outputs		**36.4**	**25**	
6.1	**Knowledge creation**	**23.8**	**40**	
6.1.1	Patents by origin/bn PPP$ GDP	1.4	34	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.5	28	
6.1.3	Utility models by origin/bn PPP$ GDP	0.5	27	
6.1.4	Scientific and technical articles/bn PPP$ GDP	22.3	34	
6.1.5	Citable documents H-index	28.9	36	
6.2	**Knowledge impact**	**33.6**	**39**	
6.2.1	Labor productivity growth, %	1.2	78	
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.2	60	
6.2.4	High-tech manufacturing, %	59.3	4	● ◆
6.3	**Knowledge diffusion**	**51.7**	**13**	●
6.3.1	Intellectual property receipts, % total trade	0.9	21	
6.3.2	Production and export complexity	90.0	14	●
6.3.3	High-tech exports, % total trade	16.6	9	● ◆
6.3.4	ICT services exports, % total trade	2.7	53	
6.3.5	ISO 9001 quality/bn PPP$ GDP	20.4	5	● ◆
Creative outputs		**35.1**	**42**	
7.1	**Intangible assets**	**33.1**	**56**	
7.1.1	Intangible asset intensity, top 15, %	53.1	45	
7.1.2	Trademarks by origin/bn PPP$ GDP	33.2	63	
7.1.3	Global brand value, top 5,000, % GDP	2.5	43	
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.5	45	
7.2	**Creative goods and services**	**33.5**	**26**	
7.2.1	Cultural and creative services exports, % total trade	1.0	38	
7.2.2	National feature films/mn pop. 15–69	3.9	37	
7.2.3	Entertainment and media market/th pop. 15–69	16.4	31	◇
7.2.4	Creative goods exports, % total trade	6.7	8	● ◆
7.3	**Online creativity**	**40.7**	**34**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	24.0	27	
7.3.2	GitHub commits/mn pop. 15–69	29.5	33	
7.3.3	Mobile app creation/bn PPP$ GDP	68.7	60	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Iceland

26

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
33	21	High	EUR	0.4	31.5	80,466

			Score/ Value	Rank	
Institutions			**76.9**	**14**	
1.1	**Institutional environment**		**88.1**	**8**	● ◆
1.1.1	Operational stability for businesses*		92.1	4	● ◆
1.1.2	Government effectiveness*		84.1	13	
1.2	**Regulatory environment**		**85.4**	**14**	
1.2.1	Regulatory quality*		80.1	19	
1.2.2	Rule of law*		90.7	10	◆
1.3	**Business environment**		**57.1**	**[43]**	
1.3.1	Policy stability for doing business†	⏲	57.1	47	
1.3.2	Entrepreneurship policies and culture†		n/a	n/a	
Human capital and research			**45.5**	**33**	
2.1	**Education**		**66.8**	**17**	
2.1.1	Expenditure on education, % GDP	⏲	7.3	7	● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap		20.1	43	
2.1.3	School life expectancy, years	⏲	18.1	13	
2.1.4	PISA scales in reading, maths and science		447.3	41	
2.1.5	Pupil–teacher ratio, secondary	⏲	9.7	31	
2.2	**Tertiary education**		**32.1**	**69**	
2.2.1	Tertiary enrolment, % gross	⏲	76.5	35	
2.2.2	Graduates in science and engineering, %	⏲	17.0	100	○ ◇
2.2.3	Tertiary inbound mobility, %	⏲	10.3	34	
2.3	**Research and development (R&D)**		**37.6**	**31**	
2.3.1	Researchers, FTE/mn pop.	⏲	6,237.2	10	
2.3.2	Gross expenditure on R&D, % GDP		2.5	14	
2.3.3	Global corporate R&D investors, top 3, mn US$		43.8	42	
2.3.4	QS university ranking, top 3*		9.7	75	◇
Infrastructure			**68.4**	**2**	● ◆
3.1	**Information and communication technologies (ICTs)**		**93.9**	**12**	
3.1.1	ICT access*		99.3	15	
3.1.2	ICT use*		93.4	17	
3.1.3	Government online service*		88.9	20	
3.2	**General infrastructure**		**73.4**	**4**	● ◆
3.2.1	Electricity output, GWh/mn pop.		50,410.9	1	● ◆
3.2.2	Aviation import dwell time	⏲	2.0	42	
3.2.3	Logistics performance*		68.2	25	
3.2.4	Gross capital formation, % GDP		26.3	40	
3.3	**Ecological sustainability**		**38.0**	**16**	
3.3.1	GDP/unit of energy use		4.0	130	○ ◇
3.3.2	Low-carbon energy use, %		85.4	1	● ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP		1.6	55	
Market sophistication			**49.0**	**29**	
4.1	**Credit**		**37.6**	**[44]**	
4.1.1	Finance for startups and scaleups†		n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP		90.9	26	
4.1.3	Loans from microfinance institutions, % GDP		n/a	n/a	
4.2	**Investment**		**49.0**	**8**	◆
4.2.1	Market capitalization, % GDP		n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP		0.8	3	● ◆
4.2.3	Late-stage VC deal count, % global VC		0.0	53	
4.2.4	VC investors, deal count/bn PPP$ GDP		1.1	10	◆
4.3	**Trade, diversification, and market scale**		**60.3**	**94**	○ ◇
4.3.1	Applied tariff rate, weighted avg., %		1.7	58	
4.3.2	Domestic industry diversification		63.5	98	○ ◇
4.3.3	Domestic market scale, bn PPP$		31.5	133	○ ◇

			Score/ Value	Rank	
Business sophistication			**49.0**	**19**	
5.1	**Knowledge workers**		**57.9**	**14**	
5.1.1	Knowledge-intensive employment, %	⏲	54.7	6	● ◆
5.1.2	Females employed w/advanced degrees, %	⏲	27.6	15	
5.1.3	Youth demographic dividend, %		30.3	86	
5.1.4	GERD performed by business, % GDP		1.8	14	
5.1.5	GERD financed by business, %		41.2	43	
5.2	**Innovation linkages**		**48.8**	**25**	
5.2.1	Public research–industry co-publications, %		5.7	8	● ◆
5.2.2	University–industry R&D collaboration†	⏲	58.6	29	
5.2.3	University industry and international engagement, top 5*		43.9	40	
5.2.4	State of cluster development†	⏲	59.2	43	
5.2.5	Patent families/bn PPP$ GDP		1.1	26	
5.3	**Knowledge absorption**		**40.2**	**22**	
5.3.1	Intellectual property payments, % total trade		0.5	67	
5.3.2	High-tech imports, % total trade		10.2	38	
5.3.3	ICT services imports, % total trade		3.9	12	
5.3.4	FDI net inflows, % GDP		6.4	17	
5.3.5	Green-field R&D & high-tech FDI		3.8	16	
5.3.6	Research talent, % in businesses	⏲	52.1	26	
Knowledge and technology outputs			**27.7**	**45**	
6.1	**Knowledge creation**		**45.0**	**14**	
6.1.1	Patents by origin/bn PPP$ GDP		3.3	19	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP		1.8	12	
6.1.3	Utility models by origin/bn PPP$ GDP		–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP		46.3	3	● ◆
6.1.5	Citable documents H-index		18.0	49	
6.2	**Knowledge impact**		**18.8**	**101**	○ ◇
6.2.1	Labor productivity growth, %		0.7	102	○
6.2.2	Unicorn valuation, % GDP		0.0	58	○ ◇
6.2.3	Software spending, % GDP		0.3	45	
6.2.4	High-tech manufacturing, %		13.2	82	○ ◇
6.3	**Knowledge diffusion**		**19.2**	**82**	◇
6.3.1	Intellectual property receipts, % total trade		0.6	27	
6.3.2	Production and export complexity		n/a	n/a	
6.3.3	High-tech exports, % total trade		4.9	39	
6.3.4	ICT services exports, % total trade		3.8	35	
6.3.5	ISO 9001 quality/bn PPP$ GDP		2.8	79	
Creative outputs			**42.1**	**25**	
7.1	**Intangible assets**		**28.6**	**63**	
7.1.1	Intangible asset intensity, top 15, %		53.0	47	
7.1.2	Trademarks by origin/bn PPP$ GDP		61.8	23	
7.1.3	Global brand value, top 5,000, % GDP		0.4	72	
7.1.4	Industrial designs by origin/bn PPP$ GDP		0.2	107	○ ◇
7.2	**Creative goods and services**		**33.9**	**23**	
7.2.1	Cultural and creative services exports, % total trade		1.1	37	
7.2.2	National feature films/mn pop. 15–69		21.3	5	● ◆
7.2.3	Entertainment and media market/th pop. 15–69		n/a	n/a	
7.2.4	Creative goods exports, % total trade		0.1	93	○ ◇
7.3	**Online creativity**		**77.3**	**3**	● ◆
7.3.1	Top-level domains (TLDs)/th pop. 15–69		100.0	1	● ◆
7.3.2	GitHub commits/mn pop. 15–69		68.0	8	◆
7.3.3	Mobile app creation/bn PPP$ GDP		63.8	92	○

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

India

GII 2026 rank **38**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
25	49	Lower middle	CSA	1,463.9	17,714.2	12,101

		Score/ Value	Rank	
Institutions		**53.9**	**60**	◆
1.1	**Institutional environment**	**58.0**	**62**	◆
1.1.1	Operational stability for businesses*	63.2	74	
1.1.2	Government effectiveness*	52.8	55	◆
1.2	**Regulatory environment**	**48.0**	**72**	◆
1.2.1	Regulatory quality*	44.8	82	◆
1.2.2	Rule of law*	51.2	64	◆
1.3	**Business environment**	**55.8**	**45**	
1.3.1	Policy stability for doing business†	42.7	79	
1.3.2	Entrepreneurship policies and culture†	69.0	11	◆
Human capital and research		**37.1**	**54**	◆
2.1	**Education**	**48.4**	**83**	
2.1.1	Expenditure on education, % GDP	4.1	72	
2.1.2	Government funding/pupil, secondary, % GDP/cap	18.0	53	
2.1.3	School life expectancy, years	13.4	81	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	18.2	98 ○	
2.2	**Tertiary education**	**27.2**	**88**	
2.2.1	Tertiary enrolment, % gross	34.4	91	
2.2.2	Graduates in science and engineering, %	27.1	32	
2.2.3	Tertiary inbound mobility, %	0.1	115 ○	
2.3	**Research and development (R&D)**	**35.7**	**35**	◆
2.3.1	Researchers, FTE/mn pop.	259.3	83 ○	
2.3.2	Gross expenditure on R&D, % GDP	0.6	56	◆
2.3.3	Global corporate R&D investors, top 3, mn US$	67.4	16 ●	◆
2.3.4	QS university ranking, top 3*	63.6	21	◆
Infrastructure		**47.4**	**62**	◆
3.1	**Information and communication technologies (ICTs)**	**78.1**	**66**	◆
3.1.1	ICT access*	79.2	82	
3.1.2	ICT use*	77.0	79	
3.1.3	Government online service*	78.2	44	◆
3.2	**General infrastructure**	**52.1**	**35**	◆
3.2.1	Electricity output, GWh/mn pop.	1,437.9	94 ○	
3.2.2	Aviation import dwell time	1.8	33	◆
3.2.3	Logistics performance*	59.1	37	◆
3.2.4	Gross capital formation, % GDP	32.9	15 ●	
3.3	**Ecological sustainability**	**11.9**	**105** ○	
3.3.1	GDP/unit of energy use	11.5	79	
3.3.2	Low-carbon energy use, %	6.1	94	
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.1	67	
Market sophistication		**45.3**	**35**	◆
4.1	**Credit**	**34.1**	**53**	
4.1.1	Finance for startups and scaleups†	83.2	8 ●	◆
4.1.2	Domestic credit to private sector, % GDP	40.0	76	
4.1.3	Loans from microfinance institutions, % GDP	0.5	45	
4.2	**Investment**	**23.1**	**28**	◆
4.2.1	Market capitalization, % GDP	117.3	11	◆
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	48	◆
4.2.3	Late-stage VC deal count, % global VC	1.5	4 ●	◆
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	60	◆
4.3	**Trade, diversification, and market scale**	**78.6**	**36**	◆
4.3.1	Applied tariff rate, weighted avg., %	6.9	110 ○	
4.3.2	Domestic industry diversification	96.5	11 ●	◆
4.3.3	Domestic market scale, bn PPP$	17,714.2	3 ●	◆

		Score/ Value	Rank	
Business sophistication		**28.5**	**63**	◆
5.1	**Knowledge workers**	**26.0**	**111** ○	
5.1.1	Knowledge-intensive employment, %	11.3	98 ○	
5.1.2	Females employed w/advanced degrees, %	3.5	103 ○	
5.1.3	Youth demographic dividend, %	41.1	55	◇
5.1.4	GERD performed by business, % GDP	0.2	54	◆
5.1.5	GERD financed by business, %	40.6	47	◆
5.2	**Innovation linkages**	**27.4**	**57**	
5.2.1	Public research–industry co-publications, %	2.2	37	◆
5.2.2	University–industry R&D collaboration†	34.2	76	
5.2.3	University industry and international engagement, top 5*	37.0	48	◆
5.2.4	State of cluster development†	37.8	75	
5.2.5	Patent families/bn PPP$ GDP	0.1	44	◆
5.3	**Knowledge absorption**	**32.0**	**42**	◆
5.3.1	Intellectual property payments, % total trade	1.6	22	◆
5.3.2	High-tech imports, % total trade	11.8	26	
5.3.3	ICT services imports, % total trade	2.7	29	◆
5.3.4	FDI net inflows, % GDP	1.0	108 ○	
5.3.5	Green-field R&D & high-tech FDI	0.7	76	
5.3.6	Research talent, % in businesses	30.7	46	◆
Knowledge and technology outputs		**41.8**	**15** ●	◆
6.1	**Knowledge creation**	**26.2**	**39**	◆
6.1.1	Patents by origin/bn PPP$ GDP	3.9	16	◆
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.3	39	◆
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	9.1	95	
6.1.5	Citable documents H-index	44.4	18	◆
6.2	**Knowledge impact**	**53.6**	**7** ●	◆
6.2.1	Labor productivity growth, %	4.0	12 ●	◆
6.2.2	Unicorn valuation, % GDP	5.1	10 ●	◆
6.2.3	Software spending, % GDP	0.3	35	◆
6.2.4	High-tech manufacturing, %	36.2	32	◆
6.3	**Knowledge diffusion**	**45.5**	**21**	◆
6.3.1	Intellectual property receipts, % total trade	0.2	48	◆
6.3.2	Production and export complexity	81.3	40	◆
6.3.3	High-tech exports, % total trade	6.3	35	
6.3.4	ICT services exports, % total trade	14.1	1 ●	◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	5.9	45	◆
Creative outputs		**33.9**	**43**	◆
7.1	**Intangible assets**	**42.3**	**29**	◆
7.1.1	Intangible asset intensity, top 15, %	73.6	13	◆
7.1.2	Trademarks by origin/bn PPP$ GDP	31.6	65	
7.1.3	Global brand value, top 5,000, % GDP	5.9	32	◆
7.1.4	Industrial designs by origin/bn PPP$ GDP	2.2	32	◆
7.2	**Creative goods and services**	**24.6**	**51**	◆
7.2.1	Cultural and creative services exports, % total trade	2.3	12 ●	◆
7.2.2	National feature films/mn pop. 15–69	2.5	55	
7.2.3	Entertainment and media market/th pop. 15–69	0.8	60 ○	
7.2.4	Creative goods exports, % total trade	1.7	29	◆
7.3	**Online creativity**	**26.6**	**67**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.9	102 ○	
7.3.2	GitHub commits/mn pop. 15–69	5.8	76	
7.3.3	Mobile app creation/bn PPP$ GDP	73.1	31	◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Indonesia

55

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
60	60	Upper middle	SEAO	285.7	5,015.8	17,634

		Score/ Value	Rank	
Institutions		**59.2**	**49**	◆
1.1	**Institutional environment**	**55.5**	**72**	
1.1.1	Operational stability for businesses*	63.8	73	
1.1.2	Government effectiveness*	47.1	68	
1.2	**Regulatory environment**	**48.8**	**69**	
1.2.1	Regulatory quality*	50.3	65	
1.2.2	Rule of law*	47.3	74	
1.3	**Business environment**	**73.4**	**13**	● ◆
1.3.1	Policy stability for doing business†	76.8	14	● ◆
1.3.2	Entrepreneurship policies and culture† ⏲	70.0	9	● ◆
Human capital and research		**27.4**	**91**	
2.1	**Education**	**35.4**	**123**	○ ◇
2.1.1	Expenditure on education, % GDP	1.3	131	○ ◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years ⏲	14.0	72	
2.1.4	PISA scales in reading, maths and science	369.0	73	○
2.1.5	Pupil–teacher ratio, secondary	20.6	103	◇
2.2	**Tertiary education**	**20.3**	**100**	
2.2.1	Tertiary enrolment, % gross ⏲	44.9	80	
2.2.2	Graduates in science and engineering, % ⏲	19.4	87	
2.2.3	Tertiary inbound mobility, % ⏲	0.1	116	
2.3	**Research and development (R&D)**	**26.3**	**45**	
2.3.1	Researchers, FTE/mn pop. ⏲	395.3	80	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.3	75	
2.3.3	Global corporate R&D investors, top 3, mn US$	43.4	43	◆
2.3.4	QS university ranking, top 3*	54.1	27	◆
Infrastructure		**46.3**	**67**	
3.1	**Information and communication technologies (ICTs)**	**77.5**	**69**	
3.1.1	ICT access*	75.4	89	
3.1.2	ICT use*	80.8	70	
3.1.3	Government online service*	76.4	51	
3.2	**General infrastructure**	**45.7**	**56**	
3.2.1	Electricity output, GWh/mn pop. ⏲	1,541.5	93	◇
3.2.2	Aviation import dwell time	2.2	52	
3.2.3	Logistics performance*	40.9	60	
3.2.4	Gross capital formation, % GDP	31.0	20	●
3.3	**Ecological sustainability**	**15.8**	**81**	
3.3.1	GDP/unit of energy use	13.4	65	
3.3.2	Low-carbon energy use, %	13.4	64	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.9	74	
Market sophistication		**41.2**	**52**	
4.1	**Credit**	**30.8**	**63**	
4.1.1	Finance for startups and scaleups† ⏲	78.9	12	● ◆
4.1.2	Domestic credit to private sector, % GDP	36.4	82	
4.1.3	Loans from microfinance institutions, % GDP	0.0	63	○
4.2	**Investment**	**6.5**	**65**	
4.2.1	Market capitalization, % GDP	52.0	32	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	91	
4.2.3	Late-stage VC deal count, % global VC	0.1	26	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	96	○
4.3	**Trade, diversification, and market scale**	**86.4**	**11**	● ◆
4.3.1	Applied tariff rate, weighted avg., %	1.7	57	
4.3.2	Domestic industry diversification ⏲	91.5	40	
4.3.3	Domestic market scale, bn PPP$	5,015.8	7	● ◆

		Score/ Value	Rank	
Business sophistication		**25.6**	**75**	
5.1	**Knowledge workers**	**17.5**	**138**	○ ◇
5.1.1	Knowledge-intensive employment, % ⏲	11.1	99	◇
5.1.2	Females employed w/advanced degrees, % ⏲	6.2	94	◇
5.1.3	Youth demographic dividend, %	39.9	60	
5.1.4	GERD performed by business, % GDP ⏲	0.0	83	○
5.1.5	GERD financed by business, % ⏲	6.3	81	
5.2	**Innovation linkages**	**39.5**	**31**	◆
5.2.1	Public research–industry co-publications, %	0.6	109	
5.2.2	University–industry R&D collaboration†	68.3	10	● ◆
5.2.3	University industry and international engagement, top 5*	32.3	52	
5.2.4	State of cluster development†	90.3	7	● ◆
5.2.5	Patent families/bn PPP$ GDP	0.0	96	
5.3	**Knowledge absorption**	**19.8**	**79**	
5.3.1	Intellectual property payments, % total trade	0.8	47	
5.3.2	High-tech imports, % total trade	9.6	46	
5.3.3	ICT services imports, % total trade	1.9	50	
5.3.4	FDI net inflows, % GDP	1.7	91	
5.3.5	Green-field R&D & high-tech FDI	0.2	112	○
5.3.6	Research talent, % in businesses ⏲	4.4	77	○
Knowledge and technology outputs		**23.1**	**66**	
6.1	**Knowledge creation**	**13.6**	**69**	
6.1.1	Patents by origin/bn PPP$ GDP	0.4	77	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	79	
6.1.3	Utility models by origin/bn PPP$ GDP	1.0	16	●
6.1.4	Scientific and technical articles/bn PPP$ GDP	3.2	125	○ ◇
6.1.5	Citable documents H-index	15.2	58	
6.2	**Knowledge impact**	**35.0**	**31**	◆
6.2.1	Labor productivity growth, %	2.1	52	
6.2.2	Unicorn valuation, % GDP	0.8	43	
6.2.3	Software spending, % GDP	0.6	14	● ◆
6.2.4	High-tech manufacturing, % ⏲	27.0	50	
6.3	**Knowledge diffusion**	**20.7**	**77**	
6.3.1	Intellectual property receipts, % total trade	0.1	71	
6.3.2	Production and export complexity	72.1	67	
6.3.3	High-tech exports, % total trade	3.5	48	
6.3.4	ICT services exports, % total trade	1.3	80	
6.3.5	ISO 9001 quality/bn PPP$ GDP	2.5	81	
Creative outputs		**27.6**	**57**	
7.1	**Intangible assets**	**34.8**	**51**	
7.1.1	Intangible asset intensity, top 15, %	72.4	15	◆
7.1.2	Trademarks by origin/bn PPP$ GDP	27.4	76	
7.1.3	Global brand value, top 5,000, % GDP	2.6	40	
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.2	53	
7.2	**Creative goods and services**	**15.2**	**66**	
7.2.1	Cultural and creative services exports, % total trade	0.1	106	
7.2.2	National feature films/mn pop. 15–69	0.8	83	○
7.2.3	Entertainment and media market/th pop. 15–69	2.8	50	◇
7.2.4	Creative goods exports, % total trade	2.9	20	● ◆
7.3	**Online creativity**	**25.7**	**71**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.6	89	
7.3.2	GitHub commits/mn pop. 15–69	5.6	77	
7.3.3	Mobile app creation/bn PPP$ GDP	69.8	53	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Iran (Islamic Republic of) 81

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
58	104	Upper middle	CSA	92.4	1,878.9	21,473

		Score/ Value	Rank
Institutions		**14.6**	**136** ○ ◇
1.1	**Institutional environment**	**20.3**	**133** ◇
1.1.1	Operational stability for businesses*	15.8	135 ○ ◇
1.1.2	Government effectiveness*	24.9	117 ◇
1.2	**Regulatory environment**	**16.3**	**136** ○ ◇
1.2.1	Regulatory quality*	9.7	138 ○ ◇
1.2.2	Rule of law*	22.9	131 ◇
1.3	**Business environment**	**7.0**	**132** ◇
1.3.1	Policy stability for doing business†	8.1	132 ○ ◇
1.3.2	Entrepreneurship policies and culture† ⏲	6.0	88 ○ ◇
Human capital and research		**36.1**	**56**
2.1	**Education**	**45.9**	**92**
2.1.1	Expenditure on education, % GDP	2.8	116
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	16.1	66
2.1.3	School life expectancy, years ⏲	14.1	69
2.1.4	PISA scales in reading, maths and science	n/a	n/a
2.1.5	Pupil–teacher ratio, secondary ⏲	16.3	86
2.2	**Tertiary education**	**44.5**	**26** ● ◆
2.2.1	Tertiary enrolment, % gross ⏲	58.7	57
2.2.2	Graduates in science and engineering, % ⏲	35.0	9 ● ◆
2.2.3	Tertiary inbound mobility, % ⏲	3.9	62
2.3	**Research and development (R&D)**	**18.0**	**53**
2.3.1	Researchers, FTE/mn pop. ⏲	2,239.7	42 ◆
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.7	50
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	39.5	44
Infrastructure		**38.1**	**91**
3.1	**Information and communication technologies (ICTs)**	**63.3**	**96**
3.1.1	ICT access*	81.1	79
3.1.2	ICT use*	83.8	55
3.1.3	Government online service*	25.1	125 ◇
3.2	**General infrastructure**	**47.6**	**50** ◆
3.2.1	Electricity output, GWh/mn pop. ⏲	4,251.7	52
3.2.2	Aviation import dwell time	3.2	78
3.2.3	Logistics performance*	9.1	107 ○ ◇
3.2.4	Gross capital formation, % GDP	45.9	2 ● ◆
3.3	**Ecological sustainability**	**3.3**	**136** ○ ◇
3.3.1	GDP/unit of energy use	4.6	127 ◇
3.3.2	Low-carbon energy use, %	1.2	122
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.5	85
Market sophistication		**36.2**	**68**
4.1	**Credit**	**27.7**	**67**
4.1.1	Finance for startups and scaleups† ⏲	32.5	73
4.1.2	Domestic credit to private sector, % GDP ⏲	57.8	54
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**25.4**	**24** ● ◆
4.2.1	Market capitalization, % GDP	289.3	1 ● ◆
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	113 ○ ◇
4.2.3	Late-stage VC deal count, % global VC	0.0	59
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	113 ○
4.3	**Trade, diversification, and market scale**	**55.4**	**104**
4.3.1	Applied tariff rate, weighted avg., % ⏲	11.7	133 ◇
4.3.2	Domestic industry diversification ⏲	84.6	61
4.3.3	Domestic market scale, bn PPP$	1,878.9	22 ●

		Score/ Value	Rank
Business sophistication		**21.1**	**111**
5.1	**Knowledge workers**	**24.5**	**120**
5.1.1	Knowledge-intensive employment, % ⏲	21.2	72
5.1.2	Females employed w/advanced degrees, % ⏲	8.4	86 ◇
5.1.3	Youth demographic dividend, %	35.1	72
5.1.4	GERD performed by business, % GDP ⏲	0.2	55
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	**22.4**	**78**
5.2.1	Public research–industry co-publications, %	1.0	82
5.2.2	University–industry R&D collaboration†	18.8	123 ◇
5.2.3	University industry and international engagement, top 5*	50.7	33 ◆
5.2.4	State of cluster development†	30.5	96
5.2.5	Patent families/bn PPP$ GDP	0.0	83
5.3	**Knowledge absorption**	**16.3**	**103** ◇
5.3.1	Intellectual property payments, % total trade ⏲	0.2	100 ◇
5.3.2	High-tech imports, % total trade	7.4	80
5.3.3	ICT services imports, % total trade ⏲	0.5	118 ◇
5.3.4	FDI net inflows, % GDP	0.3	119 ◇
5.3.5	Green-field R&D & high-tech FDI	0.0	124 ◇
5.3.6	Research talent, % in businesses ⏲	21.5	55
Knowledge and technology outputs		**25.6**	**54**
6.1	**Knowledge creation**	**28.6**	**31** ● ◆
6.1.1	Patents by origin/bn PPP$ GDP	4.6	13 ● ◆
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.2	45
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	26.9	25 ● ◆
6.1.5	Citable documents H-index	25.3	40 ●
6.2	**Knowledge impact**	**33.4**	**42**
6.2.1	Labor productivity growth, %	2.0	55
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.6	9 ● ◆
6.2.4	High-tech manufacturing, % ⏲	30.1	43
6.3	**Knowledge diffusion**	**14.9**	**100**
6.3.1	Intellectual property receipts, % total trade ⏲	0.0	99
6.3.2	Production and export complexity	66.4	85
6.3.3	High-tech exports, % total trade	0.3	106
6.3.4	ICT services exports, % total trade ⏲	0.2	125
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.7	97
Creative outputs		**26.3**	**64**
7.1	**Intangible assets**	**49.0**	**18** ● ◆
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	165.7	2 ● ◆
7.1.3	Global brand value, top 5,000, % GDP	0.3	76
7.1.4	Industrial designs by origin/bn PPP$ GDP	4.1	16 ● ◆
7.2	**Creative goods and services**	**5.0**	**104**
7.2.1	Cultural and creative services exports, % total trade	0.2	84
7.2.2	National feature films/mn pop. 15–69	2.6	53
7.2.3	Entertainment and media market/th pop. 15–69	1.0	59 ◇
7.2.4	Creative goods exports, % total trade ⏲	0.1	90
7.3	**Online creativity**	**2.1**	**139** ○ ◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	4.5	59
7.3.2	GitHub commits/mn pop. 15–69	1.9	111 ◇
7.3.3	Mobile app creation/bn PPP$ GDP	0.0	138 ○ ◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Ireland

19

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
19	20	High	EUR	5.3	811.7	147,878

			Score/ Value	Rank
Institutions			**79.7**	**10** ●
1.1	**Institutional environment**		**82.7**	**14**
1.1.1	Operational stability for businesses*		82.2	24
1.1.2	Government effectiveness*		83.2	15
1.2	**Regulatory environment**		**90.7**	**10** ●
1.2.1	Regulatory quality*		91.6	6 ●
1.2.2	Rule of law*		89.8	12
1.3	**Business environment**		**65.7**	**22**
1.3.1	Policy stability for doing business†		74.5	19
1.3.2	Entrepreneurship policies and culture†	⏲	56.8	20
Human capital and research			**49.0**	**25** ◇
2.1	**Education**		**55.4**	**64** ◇
2.1.1	Expenditure on education, % GDP	⏲	2.9	111 ○ ◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	⏲	10.4	80 ○ ◇
2.1.3	School life expectancy, years	⏲	18.8	6 ●
2.1.4	PISA scales in reading, maths and science		503.8	8
2.1.5	Pupil–teacher ratio, secondary	⏲	14.1	72 ○ ◇
2.2	**Tertiary education**		**43.3**	**32**
2.2.1	Tertiary enrolment, % gross	⏲	77.6	31
2.2.2	Graduates in science and engineering, %	⏲	25.8	37
2.2.3	Tertiary inbound mobility, %	⏲	11.0	27
2.3	**Research and development (R&D)**		**48.3**	**21**
2.3.1	Researchers, FTE/mn pop.		5,741.9	16
2.3.2	Gross expenditure on R&D, % GDP		1.4	32 ◇
2.3.3	Global corporate R&D investors, top 3, mn US$		53.0	29
2.3.4	QS university ranking, top 3*		64.3	20
Infrastructure			**62.3**	**12**
3.1	**Information and communication technologies (ICTs)**		**91.7**	**20**
3.1.1	ICT access*		98.6	21
3.1.2	ICT use*		91.3	21
3.1.3	Government online service*		85.2	29
3.2	**General infrastructure**		**53.0**	**32**
3.2.1	Electricity output, GWh/mn pop.		5,707.9	38
3.2.2	Aviation import dwell time		1.4	23
3.2.3	Logistics performance*		68.2	25 ◇
3.2.4	Gross capital formation, % GDP		22.0	80 ○
3.3	**Ecological sustainability**		**42.1**	**11** ◆
3.3.1	GDP/unit of energy use		44.7	2 ● ◆
3.3.2	Low-carbon energy use, %		12.7	67
3.3.3	ISO 14001 environment/bn PPP$ GDP		1.7	54
Market sophistication			**46.0**	**34** ◇
4.1	**Credit**		**36.7**	**47** ◇
4.1.1	Finance for startups and scaleups†	⏲	65.7	24
4.1.2	Domestic credit to private sector, % GDP		23.8	106 ○ ◇
4.1.3	Loans from microfinance institutions, % GDP		n/a	n/a
4.2	**Investment**		**24.6**	**26**
4.2.1	Market capitalization, % GDP	⏲	36.4	41
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP		0.5	12
4.2.3	Late-stage VC deal count, % global VC		0.3	19
4.2.4	VC investors, deal count/bn PPP$ GDP		0.5	23
4.3	**Trade, diversification, and market scale**		**76.7**	**47**
4.3.1	Applied tariff rate, weighted avg., %		1.3	20
4.3.2	Domestic industry diversification		n/a	n/a
4.3.3	Domestic market scale, bn PPP$		811.7	40

		Score/ Value	Rank
Business sophistication		**54.7**	**14**
5.1	**Knowledge workers**	**57.7**	**15**
5.1.1	Knowledge-intensive employment, %	50.5	13
5.1.2	Females employed w/advanced degrees, %	31.7	2 ● ◆
5.1.3	Youth demographic dividend, %	31.4	80 ○
5.1.4	GERD performed by business, % GDP	1.2	21
5.1.5	GERD financed by business, %	44.8	37 ◇
5.2	**Innovation linkages**	**55.4**	**20**
5.2.1	Public research–industry co-publications, %	3.7	23
5.2.2	University–industry R&D collaboration†	65.9	15
5.2.3	University industry and international engagement, top 5*	79.9	18
5.2.4	State of cluster development†	68.6	34
5.2.5	Patent families/bn PPP$ GDP	1.3	21
5.3	**Knowledge absorption**	**51.1**	**7** ●
5.3.1	Intellectual property payments, % total trade	23.1	1 ● ◆
5.3.2	High-tech imports, % total trade	6.8	87 ○
5.3.3	ICT services imports, % total trade	2.8	28
5.3.4	FDI net inflows, % GDP	–10.1	136 ○
5.3.5	Green-field R&D & high-tech FDI	5.0	7 ●
5.3.6	Research talent, % in businesses	49.1	30
Knowledge and technology outputs		**40.6**	**18**
6.1	**Knowledge creation**	**20.7**	**50** ◇
6.1.1	Patents by origin/bn PPP$ GDP	1.6	29
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.6	27 ◇
6.1.3	Utility models by origin/bn PPP$ GDP	0.1	46
6.1.4	Scientific and technical articles/bn PPP$ GDP	14.7	59 ◇
6.1.5	Citable documents H-index	35.5	27
6.2	**Knowledge impact**	**37.6**	**25**
6.2.1	Labor productivity growth, %	0.7	100 ○
6.2.2	Unicorn valuation, % GDP	2.0	27
6.2.3	Software spending, % GDP	0.6	7 ●
6.2.4	High-tech manufacturing, %	n/a	n/a
6.3	**Knowledge diffusion**	**63.6**	**2** ● ◆
6.3.1	Intellectual property receipts, % total trade	2.5	11
6.3.2	Production and export complexity	90.3	13
6.3.3	High-tech exports, % total trade	15.7	10 ●
6.3.4	ICT services exports, % total trade	39.2	1 ● ◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	3.7	67
Creative outputs		**42.9**	**23**
7.1	**Intangible assets**	**43.0**	**26**
7.1.1	Intangible asset intensity, top 15, %	87.1	2 ● ◆
7.1.2	Trademarks by origin/bn PPP$ GDP	n/a	n/a
7.1.3	Global brand value, top 5,000, % GDP	3.8	38 ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.6	74 ○ ◇
7.2	**Creative goods and services**	**30.8**	**32**
7.2.1	Cultural and creative services exports, % total trade	1.3	26
7.2.2	National feature films/mn pop. 15–69	6.8	25
7.2.3	Entertainment and media market/th pop. 15–69	45.4	15
7.2.4	Creative goods exports, % total trade	0.9	45
7.3	**Online creativity**	**54.9**	**23**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	31.7	25
7.3.2	GitHub commits/mn pop. 15–69	60.8	12
7.3.3	Mobile app creation/bn PPP$ GDP	72.1	35

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Israel

GII 2026 rank **15**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
14	23	High	NAWA	9.5	567.6	55,766

		Score/ Value	Rank	
Institutions		**65.7**	**33**	◇
1.1	**Institutional environment**	**66.7**	**44**	◇
1.1.1	Operational stability for businesses*	61.2	79 ○	◇
1.1.2	Government effectiveness*	72.1	27	◇
1.2	**Regulatory environment**	**70.6**	**29**	◇
1.2.1	Regulatory quality*	74.8	26	
1.2.2	Rule of law*	66.4	39	◇
1.3	**Business environment**	**59.8**	**31**	
1.3.1	Policy stability for doing business† ⏲	73.2	23	
1.3.2	Entrepreneurship policies and culture†	46.3	34	
Human capital and research		**53.9**	**19**	
2.1	**Education**	**58.2**	**49**	◇
2.1.1	Expenditure on education, % GDP ⏲	5.9	20	
2.1.2	Government funding/pupil, secondary, % GDP/cap	18.7	49 ○	
2.1.3	School life expectancy, years	15.0	51	◇
2.1.4	PISA scales in reading, maths and science	465.5	37	◇
2.1.5	Pupil–teacher ratio, secondary	14.0	70 ○	◇
2.2	**Tertiary education**	**33.9**	**64** ○	◇
2.2.1	Tertiary enrolment, % gross	56.3	60	◇
2.2.2	Graduates in science and engineering, % ⏲	26.9	34	
2.2.3	Tertiary inbound mobility, %	3.1	71 ○	◇
2.3	**Research and development (R&D)**	**69.7**	**4** ●	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	6.8	1 ●	◆
2.3.3	Global corporate R&D investors, top 3, mn US$	59.7	22	
2.3.4	QS university ranking, top 3*	49.4	34	◇
Infrastructure		**53.3**	**47**	◇
3.1	**Information and communication technologies (ICTs)**	**88.4**	**35**	◇
3.1.1	ICT access*	88.8	61	◇
3.1.2	ICT use*	94.0	15	
3.1.3	Government online service*	82.4	35	
3.2	**General infrastructure**	**55.0**	**28**	
3.2.1	Electricity output, GWh/mn pop.	8,170.5	21	
3.2.2	Aviation import dwell time	2.6	63 ○	◇
3.2.3	Logistics performance*	68.2	25	◇
3.2.4	Gross capital formation, % GDP	25.2	49	
3.3	**Ecological sustainability**	**16.5**	**77** ○	◇
3.3.1	GDP/unit of energy use	18.2	28	
3.3.2	Low-carbon energy use, %	5.1	98 ○	
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.0	71 ○	
Market sophistication		**58.6**	**15**	
4.1	**Credit**	**47.1**	**30**	
4.1.1	Finance for startups and scaleups†	66.0	23	
4.1.2	Domestic credit to private sector, % GDP	69.8	39	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**50.2**	**7**	
4.2.1	Market capitalization, % GDP	54.7	31	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	1.0	1 ●	◆
4.2.3	Late-stage VC deal count, % global VC	0.4	14	
4.2.4	VC investors, deal count/bn PPP$ GDP	1.2	8	
4.3	**Trade, diversification, and market scale**	**78.6**	**35**	
4.3.1	Applied tariff rate, weighted avg., %	1.4	49	
4.3.2	Domestic industry diversification ⏲	86.8	52 ○	
4.3.3	Domestic market scale, bn PPP$	567.6	49	

		Score/ Value	Rank	
Business sophistication		**55.8**	**9**	
5.1	**Knowledge workers**	**72.7**	**1** ●	◆
5.1.1	Knowledge-intensive employment, % ⏲	51.5	11	
5.1.2	Females employed w/advanced degrees, % ⏲	24.8	22	
5.1.3	Youth demographic dividend, %	42.7	48	◆
5.1.4	GERD performed by business, % GDP	6.3	1 ●	◆
5.1.5	GERD financed by business, %	44.9	36	◇
5.2	**Innovation linkages**	**64.9**	**11**	
5.2.1	Public research–industry co-publications, %	3.1	26	
5.2.2	University–industry R&D collaboration† ⏲	100.0	1 ●	◆
5.2.3	University industry and international engagement, top 5*	49.6	35	◇
5.2.4	State of cluster development† ⏲	100.0	1 ●	◆
5.2.5	Patent families/bn PPP$ GDP	3.7	8	
5.3	**Knowledge absorption**	**29.8**	**49**	◇
5.3.1	Intellectual property payments, % total trade	1.0	37	
5.3.2	High-tech imports, % total trade	10.9	31	
5.3.3	ICT services imports, % total trade	2.0	46	
5.3.4	FDI net inflows, % GDP	3.4	42	
5.3.5	Green-field R&D & high-tech FDI	2.4	27	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**55.2**	**6** ●	
6.1	**Knowledge creation**	**52.5**	**12**	
6.1.1	Patents by origin/bn PPP$ GDP	2.7	22	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	3.1	6 ●	◆
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	26.7	26	
6.1.5	Citable documents H-index	45.2	17	
6.2	**Knowledge impact**	**54.5**	**6** ●	
6.2.1	Labor productivity growth, %	1.8	63	
6.2.2	Unicorn valuation, % GDP	7.7	1 ●	◆
6.2.3	Software spending, % GDP	0.2	64	◇
6.2.4	High-tech manufacturing, % ⏲	43.0	18	
6.3	**Knowledge diffusion**	**58.7**	**3** ●	◆
6.3.1	Intellectual property receipts, % total trade	0.7	26	
6.3.2	Production and export complexity	92.9	7	
6.3.3	High-tech exports, % total trade	12.5	15	
6.3.4	ICT services exports, % total trade	24.0	1 ●	◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	11.4	19	◆
Creative outputs		**38.7**	**31**	◇
7.1	**Intangible assets**	**30.2**	**61**	◇
7.1.1	Intangible asset intensity, top 15, %	70.1	18	
7.1.2	Trademarks by origin/bn PPP$ GDP	7.0	118 ○	◇
7.1.3	Global brand value, top 5,000, % GDP	2.5	42	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.9	61 ○	
7.2	**Creative goods and services**	**38.0**	**14**	
7.2.1	Cultural and creative services exports, % total trade	3.3	9	◆
7.2.2	National feature films/mn pop. 15–69	3.7	42	
7.2.3	Entertainment and media market/th pop. 15–69	30.9	21	◇
7.2.4	Creative goods exports, % total trade	1.6	32	
7.3	**Online creativity**	**56.3**	**19**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	15.0	36	◇
7.3.2	GitHub commits/mn pop. 15–69	69.4	7 ●	
7.3.3	Mobile app creation/bn PPP$ GDP	84.5	6 ●	◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Italy

27

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
16	36	High	EUR	59.1	3,720.3	63,126

		Score/ Value	Rank
Institutions		**56.6**	**53**
1.1	**Institutional environment**	**65.5**	**47**
1.1.1	Operational stability for businesses*	68.4	57
1.1.2	Government effectiveness*	62.6	37
1.2	**Regulatory environment**	**64.9**	**39**
1.2.1	Regulatory quality*	63.0	43
1.2.2	Rule of law*	66.8	37
1.3	**Business environment**	**39.5**	**81** ○
1.3.1	Policy stability for doing business†	48.9	63
1.3.2	Entrepreneurship policies and culture†	30.1	53 ○
Human capital and research		**47.4**	**29**
2.1	**Education**	**60.8**	**41**
2.1.1	Expenditure on education, % GDP ⏲	4.1	76 ○
2.1.2	Government funding/pupil, secondary, % GDP/cap	21.9	34
2.1.3	School life expectancy, years ⏲	16.8	27
2.1.4	PISA scales in reading, maths and science	476.8	31
2.1.5	Pupil–teacher ratio, secondary ⏲	10.0	35
2.2	**Tertiary education**	**34.9**	**59**
2.2.1	Tertiary enrolment, % gross ⏲	75.9	37
2.2.2	Graduates in science and engineering, %	23.2	59 ○
2.2.3	Tertiary inbound mobility, % ⏲	4.8	54
2.3	**Research and development (R&D)**	**46.4**	**23**
2.3.1	Researchers, FTE/mn pop.	3,064.4	32
2.3.2	Gross expenditure on R&D, % GDP	1.4	31
2.3.3	Global corporate R&D investors, top 3, mn US$	69.1	12 ●
2.3.4	QS university ranking, top 3*	66.5	18
Infrastructure		**58.4**	**28**
3.1	**Information and communication technologies (ICTs)**	**84.0**	**50**
3.1.1	ICT access*	94.7	50
3.1.2	ICT use*	85.9	43
3.1.3	Government online service*	71.4	61
3.2	**General infrastructure**	**51.1**	**37**
3.2.1	Electricity output, GWh/mn pop.	4,609.5	47
3.2.2	Aviation import dwell time	2.5	60 ○
3.2.3	Logistics performance*	72.7	18
3.2.4	Gross capital formation, % GDP	22.7	70 ○
3.3	**Ecological sustainability**	**40.0**	**15** ●
3.3.1	GDP/unit of energy use	23.3	13 ●
3.3.2	Low-carbon energy use, %	14.5	58
3.3.3	ISO 14001 environment/bn PPP$ GDP	7.8	12 ● ◆
Market sophistication		**41.9**	**46**
4.1	**Credit**	**26.0**	**73** ○ ◇
4.1.1	Finance for startups and scaleups†	54.1	39
4.1.2	Domestic credit to private sector, % GDP	60.4	50
4.1.3	Loans from microfinance institutions, % GDP	0.0	65 ○ ◇
4.2	**Investment**	**10.4**	**47**
4.2.1	Market capitalization, % GDP	n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	43
4.2.3	Late-stage VC deal count, % global VC	0.3	18
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	49
4.3	**Trade, diversification, and market scale**	**89.2**	**5** ●
4.3.1	Applied tariff rate, weighted avg., %	1.3	20
4.3.2	Domestic industry diversification	99.8	2 ● ◆
4.3.3	Domestic market scale, bn PPP$	3,720.3	12 ● ◆

		Score/ Value	Rank
Business sophistication		**39.2**	**33**
5.1	**Knowledge workers**	**38.8**	**54**
5.1.1	Knowledge-intensive employment, %	37.4	39
5.1.2	Females employed w/advanced degrees, %	14.9	56 ◇
5.1.3	Youth demographic dividend, %	21.6	136 ○ ◇
5.1.4	GERD performed by business, % GDP	0.8	33
5.1.5	GERD financed by business, %	51.1	25
5.2	**Innovation linkages**	**48.5**	**26**
5.2.1	Public research–industry co-publications, %	3.3	24
5.2.2	University–industry R&D collaboration†	49.8	39
5.2.3	University industry and international engagement, top 5*	68.4	27
5.2.4	State of cluster development†	65.3	39
5.2.5	Patent families/bn PPP$ GDP	1.3	19
5.3	**Knowledge absorption**	**30.4**	**46**
5.3.1	Intellectual property payments, % total trade	1.0	40
5.3.2	High-tech imports, % total trade	9.9	43
5.3.3	ICT services imports, % total trade	2.3	37
5.3.4	FDI net inflows, % GDP	2.0	83 ○
5.3.5	Green-field R&D & high-tech FDI	1.0	62
5.3.6	Research talent, % in businesses	40.8	36
Knowledge and technology outputs		**40.3**	**20**
6.1	**Knowledge creation**	**38.3**	**20**
6.1.1	Patents by origin/bn PPP$ GDP	3.9	17 ●
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	1.0	20
6.1.3	Utility models by origin/bn PPP$ GDP	0.5	29
6.1.4	Scientific and technical articles/bn PPP$ GDP	24.2	30
6.1.5	Citable documents H-index	68.1	9 ● ◆
6.2	**Knowledge impact**	**34.3**	**34**
6.2.1	Labor productivity growth, %	1.6	68 ○
6.2.2	Unicorn valuation, % GDP	0.2	55
6.2.3	Software spending, % GDP	0.6	15 ●
6.2.4	High-tech manufacturing, %	36.3	31
6.3	**Knowledge diffusion**	**48.3**	**17** ●
6.3.1	Intellectual property receipts, % total trade	0.7	25
6.3.2	Production and export complexity	89.0	17
6.3.3	High-tech exports, % total trade	8.8	25
6.3.4	ICT services exports, % total trade	1.3	81 ○
6.3.5	ISO 9001 quality/bn PPP$ GDP	28.1	3 ● ◆
Creative outputs		**47.0**	**16** ●
7.1	**Intangible assets**	**59.0**	**7** ● ◆
7.1.1	Intangible asset intensity, top 15, %	72.1	16
7.1.2	Trademarks by origin/bn PPP$ GDP	36.5	56
7.1.3	Global brand value, top 5,000, % GDP	9.1	21
7.1.4	Industrial designs by origin/bn PPP$ GDP	14.2	4 ● ◆
7.2	**Creative goods and services**	**33.3**	**28**
7.2.1	Cultural and creative services exports, % total trade	0.9	41
7.2.2	National feature films/mn pop. 15–69	8.5	17
7.2.3	Entertainment and media market/th pop. 15–69	27.5	24
7.2.4	Creative goods exports, % total trade	3.0	18 ◆
7.3	**Online creativity**	**36.6**	**36**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	22.5	29
7.3.2	GitHub commits/mn pop. 15–69	19.6	42
7.3.3	Mobile app creation/bn PPP$ GDP	67.8	66

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Jamaica

GII 2026 rank

87

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
88	91	Upper middle	LCN	2.8	38.3	13,924

		Score/ Value	Rank
Institutions		**50.7**	**69**
1.1	**Institutional environment**	**56.0**	**69**
1.1.1	Operational stability for businesses*	65.1	68
1.1.2	Government effectiveness*	46.9	70
1.2	**Regulatory environment**	**49.9**	**65**
1.2.1	Regulatory quality*	49.4	67
1.2.2	Rule of law*	50.3	65
1.3	**Business environment**	**46.2**	**67**
1.3.1	Policy stability for doing business† ⏲	56.1	49 ●
1.3.2	Entrepreneurship policies and culture† ⏲	36.3	47
Human capital and research		**28.9**	**[87]**
2.1	**Education**	**57.8**	**51** ●
2.1.1	Expenditure on education, % GDP	5.5	24 ●
2.1.2	Government funding/pupil, secondary, % GDP/cap	33.1	5 ● ◆
2.1.3	School life expectancy, years	n/a	n/a
2.1.4	PISA scales in reading, maths and science	396.7	64
2.1.5	Pupil–teacher ratio, secondary	16.0	83
2.2	**Tertiary education**	**n/a**	**[n/a]**
2.2.1	Tertiary enrolment, % gross	n/a	n/a
2.2.2	Graduates in science and engineering, %	n/a	n/a
2.2.3	Tertiary inbound mobility, %	n/a	n/a
2.3	**Research and development (R&D)**	**0.0**	**[122]**
2.3.1	Researchers, FTE/mn pop.	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇
Infrastructure		**34.9**	**97** ◇
3.1	**Information and communication technologies (ICTs)**	**66.7**	**90**
3.1.1	ICT access*	82.3	77
3.1.2	ICT use*	69.7	97
3.1.3	Government online service*	48.0	96
3.2	**General infrastructure**	**29.5**	**107**
3.2.1	Electricity output, GWh/mn pop. ⏲	1,647.9	92 ◇
3.2.2	Aviation import dwell time	4.5	96
3.2.3	Logistics performance*	18.2	89 ○
3.2.4	Gross capital formation, % GDP	21.8	83
3.3	**Ecological sustainability**	**8.4**	**114**
3.3.1	GDP/unit of energy use	10.8	87
3.3.2	Low-carbon energy use, %	3.0	109
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.3	105
Market sophistication		**24.5**	**113** ◇
4.1	**Credit**	**26.5**	**72**
4.1.1	Finance for startups and scaleups† ⏲	35.7	65
4.1.2	Domestic credit to private sector, % GDP	45.1	73
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**11.2**	**[43]**
4.2.1	Market capitalization, % GDP	60.9	27 ●
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	94
4.3	**Trade, diversification, and market scale**	**35.9**	**128** ○ ◇
4.3.1	Applied tariff rate, weighted avg., % ⏲	8.0	118 ○ ◇
4.3.2	Domestic industry diversification	n/a	n/a
4.3.3	Domestic market scale, bn PPP$	38.3	130 ○ ◇

		Score/ Value	Rank
Business sophistication		**22.9**	**93**
5.1	**Knowledge workers**	**32.8**	**[79]**
5.1.1	Knowledge-intensive employment, % ⏲	22.6	68
5.1.2	Females employed w/advanced degrees, % ⏲	10.7	75
5.1.3	Youth demographic dividend, %	33.4	76
5.1.4	GERD performed by business, % GDP	n/a	n/a
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	**17.9**	**99**
5.2.1	Public research–industry co-publications, %	0.5	123 ○
5.2.2	University–industry R&D collaboration† ⏲	33.6	79
5.2.3	University industry and international engagement, top 5*	17.7	72
5.2.4	State of cluster development† ⏲	32.5	92
5.2.5	Patent families/bn PPP$ GDP	0.0	68
5.3	**Knowledge absorption**	**18.0**	**93**
5.3.1	Intellectual property payments, % total trade	0.6	64 ●
5.3.2	High-tech imports, % total trade	3.8	127 ○ ◇
5.3.3	ICT services imports, % total trade	1.0	94
5.3.4	FDI net inflows, % GDP	1.8	90
5.3.5	Green-field R&D & high-tech FDI	1.1	55 ●
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		**10.6**	**121** ○ ◇
6.1	**Knowledge creation**	**3.9**	**122** ○
6.1.1	Patents by origin/bn PPP$ GDP	0.1	115
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a
6.1.3	Utility models by origin/bn PPP$ GDP	0.1	57
6.1.4	Scientific and technical articles/bn PPP$ GDP	5.1	114
6.1.5	Citable documents H-index	4.6	110
6.2	**Knowledge impact**	**12.0**	**129** ○ ◇
6.2.1	Labor productivity growth, %	0.1	117 ◇
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.1	100
6.2.4	High-tech manufacturing, %	n/a	n/a
6.3	**Knowledge diffusion**	**15.9**	**93**
6.3.1	Intellectual property receipts, % total trade	0.1	77
6.3.2	Production and export complexity	61.0	92
6.3.3	High-tech exports, % total trade ⏲	0.1	123 ○
6.3.4	ICT services exports, % total trade	1.5	78
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.4	101
Creative outputs		**24.2**	**67**
7.1	**Intangible assets**	**39.2**	**38** ●
7.1.1	Intangible asset intensity, top 15, %	60.2	32 ●
7.1.2	Trademarks by origin/bn PPP$ GDP	50.9	30 ●
7.1.3	Global brand value, top 5,000, % GDP	5.5	33 ● ◆
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.2	54 ●
7.2	**Creative goods and services**	**1.2**	**[129]**
7.2.1	Cultural and creative services exports, % total trade	0.0	108
7.2.2	National feature films/mn pop. 15–69	n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade ⏲	0.0	116
7.3	**Online creativity**	**17.1**	**126** ○
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.3	93
7.3.2	GitHub commits/mn pop. 15–69	3.3	99
7.3.3	Mobile app creation/bn PPP$ GDP	46.7	128 ○ ◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Japan

12

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
13	11	High	SEAO	123.1	6,758.2	54,815

		Score/ Value	Rank
Institutions		**72.2**	**23**
1.1	**Institutional environment**	**91.0**	**4** ●
1.1.1	Operational stability for businesses*	86.8	13
1.1.2	Government effectiveness*	95.2	2 ● ◆
1.2	**Regulatory environment**	**84.0**	**16**
1.2.1	Regulatory quality*	80.1	20
1.2.2	Rule of law*	87.9	13
1.3	**Business environment**	**41.6**	**74** ○ ◇
1.3.1	Policy stability for doing business†	54.6	55 ◇
1.3.2	Entrepreneurship policies and culture†	28.6	58 ○ ◇
Human capital and research		**54.3**	**18**
2.1	**Education**	**66.5**	**20**
2.1.1	Expenditure on education, % GDP ⏲	3.3	96 ○ ◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years ⏲	15.4	48 ◇
2.1.4	PISA scales in reading, maths and science	532.7	3 ● ◆
2.1.5	Pupil–teacher ratio, secondary ⏲	10.5	40
2.2	**Tertiary education**	**28.8**	**82** ○ ◇
2.2.1	Tertiary enrolment, % gross ⏲	64.5	51
2.2.2	Graduates in science and engineering, % ⏲	20.1	82 ○ ◇
2.2.3	Tertiary inbound mobility, % ⏲	4.7	55 ○
2.3	**Research and development (R&D)**	**67.6**	**7**
2.3.1	Researchers, FTE/mn pop.	5,682.0	17
2.3.2	Gross expenditure on R&D, % GDP	3.6	3 ●
2.3.3	Global corporate R&D investors, top 3, mn US$	81.6	7
2.3.4	QS university ranking, top 3*	80.3	11
Infrastructure		**59.1**	**24**
3.1	**Information and communication technologies (ICTs)**	**93.6**	**14**
3.1.1	ICT access*	96.7	40
3.1.2	ICT use*	91.0	24
3.1.3	Government online service*	93.1	9
3.2	**General infrastructure**	**60.4**	**19**
3.2.1	Electricity output, GWh/mn pop.	7,840.4	24
3.2.2	Aviation import dwell time	1.8	33 ◇
3.2.3	Logistics performance*	81.8	13
3.2.4	Gross capital formation, % GDP	26.2	41
3.3	**Ecological sustainability**	**23.3**	**48**
3.3.1	GDP/unit of energy use	15.1	48
3.3.2	Low-carbon energy use, %	13.5	63
3.3.3	ISO 14001 environment/bn PPP$ GDP	3.5	29
Market sophistication		**62.2**	**7**
4.1	**Credit**	**69.6**	**6**
4.1.1	Finance for startups and scaleups†	55.5	37 ◇
4.1.2	Domestic credit to private sector, % GDP	194.6	3 ● ◆
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**28.6**	**20**
4.2.1	Market capitalization, % GDP	143.0	8
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.2	35 ◇
4.2.3	Late-stage VC deal count, % global VC	1.2	6
4.2.4	VC investors, deal count/bn PPP$ GDP	0.3	35 ◇
4.3	**Trade, diversification, and market scale**	**88.5**	**7**
4.3.1	Applied tariff rate, weighted avg., %	1.3	19
4.3.2	Domestic industry diversification	92.0	37
4.3.3	Domestic market scale, bn PPP$	6,758.2	5 ◆

		Score/ Value	Rank
Business sophistication		**58.1**	**7**
5.1	**Knowledge workers**	**55.1**	**18**
5.1.1	Knowledge-intensive employment, %	21.6	70 ○ ◇
5.1.2	Females employed w/advanced degrees, % ⏲	22.9	27
5.1.3	Youth demographic dividend, %	20.7	137 ○ ◇
5.1.4	GERD performed by business, % GDP	2.9	3 ● ◆
5.1.5	GERD financed by business, %	77.5	3 ● ◆
5.2	**Innovation linkages**	**69.6**	**6**
5.2.1	Public research–industry co-publications, %	9.0	1 ● ◆
5.2.2	University–industry R&D collaboration†	56.6	33
5.2.3	University industry and international engagement, top 5*	70.0	26
5.2.4	State of cluster development†	56.0	46 ◇
5.2.5	Patent families/bn PPP$ GDP	10.8	3 ● ◆
5.3	**Knowledge absorption**	**49.5**	**10**
5.3.1	Intellectual property payments, % total trade	3.0	8
5.3.2	High-tech imports, % total trade	15.5	15
5.3.3	ICT services imports, % total trade	3.1	20
5.3.4	FDI net inflows, % GDP	0.7	112 ○
5.3.5	Green-field R&D & high-tech FDI	1.0	61 ◇
5.3.6	Research talent, % in businesses	74.8	5 ◆
Knowledge and technology outputs		**48.3**	**12**
6.1	**Knowledge creation**	**58.0**	**6**
6.1.1	Patents by origin/bn PPP$ GDP	36.3	3 ● ◆
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	6.4	1 ● ◆
6.1.3	Utility models by origin/bn PPP$ GDP	0.4	34
6.1.4	Scientific and technical articles/bn PPP$ GDP	14.3	62 ◇
6.1.5	Citable documents H-index	65.0	11
6.2	**Knowledge impact**	**34.4**	**33**
6.2.1	Labor productivity growth, %	1.0	86 ○
6.2.2	Unicorn valuation, % GDP	0.4	49 ◇
6.2.3	Software spending, % GDP	0.3	39
6.2.4	High-tech manufacturing, %	54.6	8
6.3	**Knowledge diffusion**	**52.7**	**11**
6.3.1	Intellectual property receipts, % total trade	5.2	1 ● ◆
6.3.2	Production and export complexity	100.0	1 ● ◆
6.3.3	High-tech exports, % total trade	11.2	17
6.3.4	ICT services exports, % total trade	1.2	85 ○
6.3.5	ISO 9001 quality/bn PPP$ GDP	6.4	41
Creative outputs		**45.9**	**18**
7.1	**Intangible assets**	**58.1**	**9**
7.1.1	Intangible asset intensity, top 15, %	66.5	22
7.1.2	Trademarks by origin/bn PPP$ GDP	36.8	54
7.1.3	Global brand value, top 5,000, % GDP	18.4	4 ◆
7.1.4	Industrial designs by origin/bn PPP$ GDP	3.2	21
7.2	**Creative goods and services**	**30.9**	**31**
7.2.1	Cultural and creative services exports, % total trade	0.4	65 ○
7.2.2	National feature films/mn pop. 15–69	8.6	16
7.2.3	Entertainment and media market/th pop. 15–69	47.0	13
7.2.4	Creative goods exports, % total trade	1.6	31
7.3	**Online creativity**	**36.2**	**39** ◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	10.5	41 ◇
7.3.2	GitHub commits/mn pop. 15–69	27.0	35 ◇
7.3.3	Mobile app creation/bn PPP$ GDP	71.2	41

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Jordan

GII 2026 rank **60**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
65	63	Lower middle	NAWA	11.5	131.7	11,511

		Score/ Value	Rank	
Institutions		**54.5**	**56**	◆
1.1	**Institutional environment**	**53.3**	**78**	
1.1.1	Operational stability for businesses*	58.6	89	
1.1.2	Government effectiveness*	48.1	65	◆
1.2	**Regulatory environment**	**55.1**	**58**	◆
1.2.1	Regulatory quality*	54.0	56	◆
1.2.2	Rule of law*	56.2	57	◆
1.3	**Business environment**	**55.1**	**49**	
1.3.1	Policy stability for doing business†	62.2	39 ●	
1.3.2	Entrepreneurship policies and culture†	47.9	31	
Human capital and research		**31.0**	**80**	
2.1	**Education**	**39.5**	**112**	
2.1.1	Expenditure on education, % GDP	3.2	102	
2.1.2	Government funding/pupil, secondary, % GDP/cap	16.5	64	
2.1.3	School life expectancy, years	13.3	84	
2.1.4	PISA scales in reading, maths and science	359.3	78 ○	
2.1.5	Pupil–teacher ratio, secondary	14.1	71	
2.2	**Tertiary education**	**29.7**	**79**	
2.2.1	Tertiary enrolment, % gross	35.9	89	
2.2.2	Graduates in science and engineering, %	22.1	71	
2.2.3	Tertiary inbound mobility, %	10.2	35	
2.3	**Research and development (R&D)**	**23.8**	**48**	◆
2.3.1	Researchers, FTE/mn pop. ⏲	576.0	71	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.7	52	
2.3.3	Global corporate R&D investors, top 3, mn US$	45.7	39 ●	◆
2.3.4	QS university ranking, top 3*	33.8	49	◆
Infrastructure		**43.5**	**76**	◆
3.1	**Information and communication technologies (ICTs)**	**79.2**	**62**	◆
3.1.1	ICT access*	90.9	56	◆
3.1.2	ICT use*	75.8	83	
3.1.3	Government online service*	71.0	63	◆
3.2	**General infrastructure**	**35.3**	**88**	
3.2.1	Electricity output, GWh/mn pop. ⏲	2,080.1	84	
3.2.2	Aviation import dwell time	3.6	87	
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	20.3	97	
3.3	**Ecological sustainability**	**16.1**	**79**	
3.3.1	GDP/unit of energy use	13.0	71	
3.3.2	Low-carbon energy use, %	7.4	90	
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.2	45	◆
Market sophistication		**37.2**	**66**	
4.1	**Credit**	**28.7**	**65**	
4.1.1	Finance for startups and scaleups†	46.6	50	
4.1.2	Domestic credit to private sector, % GDP	80.2	31 ●	◆
4.1.3	Loans from microfinance institutions, % GDP	0.8	38	
4.2	**Investment**	**8.2**	**57**	◆
4.2.1	Market capitalization, % GDP	48.5	34	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	59	
4.2.3	Late-stage VC deal count, % global VC	0.0	72	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.2	46	◆
4.3	**Trade, diversification, and market scale**	**74.6**	**54**	◆
4.3.1	Applied tariff rate, weighted avg., %	1.8	60	◆
4.3.2	Domestic industry diversification ⏲	92.3	35	
4.3.3	Domestic market scale, bn PPP$	131.7	91	

		Score/ Value	Rank	
Business sophistication		**30.7**	**57**	◆
5.1	**Knowledge workers**	**40.7**	**[50]**	
5.1.1	Knowledge-intensive employment, % ⏲	22.7	66	◆
5.1.2	Females employed w/advanced degrees, % ⏲	8.4	85	
5.1.3	Youth demographic dividend, %	48.6	34 ●	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**36.8**	**40** ●	◆
5.2.1	Public research–industry co-publications, %	0.3	131 ○	◇
5.2.2	University–industry R&D collaboration†	54.7	36 ●	◆
5.2.3	University industry and international engagement, top 5*	45.4	38	◆
5.2.4	State of cluster development†	80.1	19 ●	◆
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**14.6**	**119** ○	
5.3.1	Intellectual property payments, % total trade	0.1	112	
5.3.2	High-tech imports, % total trade	6.6	89	
5.3.3	ICT services imports, % total trade	0.2	136 ○	◇
5.3.4	FDI net inflows, % GDP	3.0	57	
5.3.5	Green-field R&D & high-tech FDI	0.7	78	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**23.2**	**64**	
6.1	**Knowledge creation**	**29.8**	**29** ●	◆
6.1.1	Patents by origin/bn PPP$ GDP	0.1	110 ○	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.2	47	◆
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	62.7	1 ●	◆
6.1.5	Citable documents H-index	11.9	69	
6.2	**Knowledge impact**	**20.4**	**93**	
6.2.1	Labor productivity growth, %	0.3	109	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.3	44	◆
6.2.4	High-tech manufacturing, % ⏲	20.5	63	
6.3	**Knowledge diffusion**	**19.4**	**80**	
6.3.1	Intellectual property receipts, % total trade	0.1	74	
6.3.2	Production and export complexity	69.4	73	
6.3.3	High-tech exports, % total trade	1.0	77	
6.3.4	ICT services exports, % total trade	0.2	123 ○	
6.3.5	ISO 9001 quality/bn PPP$ GDP	6.5	40 ●	◆
Creative outputs		**24.1**	**68**	
7.1	**Intangible assets**	**26.5**	**66**	
7.1.1	Intangible asset intensity, top 15, %	35.0	65 ○	
7.1.2	Trademarks by origin/bn PPP$ GDP	44.8	41	◆
7.1.3	Global brand value, top 5,000, % GDP	0.8	60	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.7	69	
7.2	**Creative goods and services**	**16.7**	**64**	
7.2.1	Cultural and creative services exports, % total trade	0.0	123 ○	
7.2.2	National feature films/mn pop. 15–69	1.6	71	
7.2.3	Entertainment and media market/th pop. 15–69	1.7	54 ○	
7.2.4	Creative goods exports, % total trade	3.4	14 ●	◆
7.3	**Online creativity**	**26.8**	**65**	◆
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.8	82	◆
7.3.2	GitHub commits/mn pop. 15–69	4.8	83	
7.3.3	Mobile app creation/bn PPP$ GDP	74.0	27 ●	◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Kazakhstan

73

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
73	73	Upper middle	CSA	20.8	912.6	44,778

		Score/ Value	Rank
Institutions		**48.1**	**75**
1.1	**Institutional environment**	**53.8**	**77**
1.1.1	Operational stability for businesses*	61.2	79
1.1.2	Government effectiveness*	46.3	72
1.2	**Regulatory environment**	**45.7**	**75**
1.2.1	Regulatory quality*	48.3	71
1.2.2	Rule of law*	43.1	86
1.3	**Business environment**	**44.9**	**69**
1.3.1	Policy stability for doing business†	41.9	81
1.3.2	Entrepreneurship policies and culture† ⏲	48.0	30
Human capital and research		**33.6**	**67**
2.1	**Education**	**53.7**	**71**
2.1.1	Expenditure on education, % GDP	4.9	46
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	21.9	35
2.1.3	School life expectancy, years	14.3	66
2.1.4	PISA scales in reading, maths and science	411.6	53
2.1.5	Pupil–teacher ratio, secondary	9.9	34
2.2	**Tertiary education**	**32.3**	**68**
2.2.1	Tertiary enrolment, % gross	52.9	70
2.2.2	Graduates in science and engineering, %	25.5	38
2.2.3	Tertiary inbound mobility, %	4.1	61
2.3	**Research and development (R&D)**	**14.7**	**57**
2.3.1	Researchers, FTE/mn pop.	758.0	63
2.3.2	Gross expenditure on R&D, % GDP	0.2	94 ○
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	49.3	35 ● ◆
Infrastructure		**46.5**	**65**
3.1	**Information and communication technologies (ICTs)**	**90.5**	**27 ● ◆**
3.1.1	ICT access*	91.2	55
3.1.2	ICT use*	87.6	35
3.1.3	Government online service*	92.7	10 ● ◆
3.2	**General infrastructure**	**42.3**	**64**
3.2.1	Electricity output, GWh/mn pop.	6,032.6	33 ● ◆
3.2.2	Aviation import dwell time	3.5	83
3.2.3	Logistics performance*	27.3	76
3.2.4	Gross capital formation, % GDP	27.9	31 ●
3.3	**Ecological sustainability**	**6.8**	**124 ○ ◇**
3.3.1	GDP/unit of energy use	9.0	103
3.3.2	Low-carbon energy use, %	2.2	113 ○
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.4	92
Market sophistication		**32.2**	**89**
4.1	**Credit**	**19.9**	**96**
4.1.1	Finance for startups and scaleups† ⏲	39.7	60
4.1.2	Domestic credit to private sector, % GDP	27.3	102
4.1.3	Loans from microfinance institutions, % GDP	1.2	30
4.2	**Investment**	**3.9**	**82**
4.2.1	Market capitalization, % GDP	30.2	46
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	94 ○
4.2.3	Late-stage VC deal count, % global VC	0.0	71
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	82
4.3	**Trade, diversification, and market scale**	**72.6**	**57**
4.3.1	Applied tariff rate, weighted avg., %	2.7	76
4.3.2	Domestic industry diversification	74.7	79
4.3.3	Domestic market scale, bn PPP$	912.6	36 ●

		Score/ Value	Rank
Business sophistication		**24.4**	**84**
5.1	**Knowledge workers**	**34.6**	**65**
5.1.1	Knowledge-intensive employment, %	n/a	n/a
5.1.2	Females employed w/advanced degrees, % ⏲	20.7	36
5.1.3	Youth demographic dividend, %	43.5	47 ◆
5.1.4	GERD performed by business, % GDP	0.0	74
5.1.5	GERD financed by business, %	15.6	69
5.2	**Innovation linkages**	**19.6**	**92**
5.2.1	Public research–industry co-publications, %	1.4	66
5.2.2	University–industry R&D collaboration†	25.0	108 ○
5.2.3	University industry and international engagement, top 5*	29.6	57
5.2.4	State of cluster development†	27.1	106
5.2.5	Patent families/bn PPP$ GDP	0.0	85
5.3	**Knowledge absorption**	**19.1**	**84**
5.3.1	Intellectual property payments, % total trade	0.5	72
5.3.2	High-tech imports, % total trade	10.4	35 ●
5.3.3	ICT services imports, % total trade	0.7	105
5.3.4	FDI net inflows, % GDP	1.7	92
5.3.5	Green-field R&D & high-tech FDI	0.3	97
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		**21.9**	**69**
6.1	**Knowledge creation**	**21.0**	**49**
6.1.1	Patents by origin/bn PPP$ GDP	1.1	47
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	75
6.1.3	Utility models by origin/bn PPP$ GDP	1.8	7 ● ◆
6.1.4	Scientific and technical articles/bn PPP$ GDP	5.3	113 ○
6.1.5	Citable documents H-index	7.3	90
6.2	**Knowledge impact**	**22.2**	**83**
6.2.1	Labor productivity growth, %	3.5	20 ●
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.0	137 ○ ◇
6.2.4	High-tech manufacturing, %	18.4	69
6.3	**Knowledge diffusion**	**22.6**	**68**
6.3.1	Intellectual property receipts, % total trade	0.0	97
6.3.2	Production and export complexity	74.9	54
6.3.3	High-tech exports, % total trade	8.7	27 ●
6.3.4	ICT services exports, % total trade	1.1	90
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.7	117 ○
Creative outputs		**20.4**	**77**
7.1	**Intangible assets**	**20.6**	**80**
7.1.1	Intangible asset intensity, top 15, % ⏲	13.2	70 ○
7.1.2	Trademarks by origin/bn PPP$ GDP	38.7	50
7.1.3	Global brand value, top 5,000, % GDP	0.6	66
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.5	81
7.2	**Creative goods and services**	**15.0**	**68**
7.2.1	Cultural and creative services exports, % total trade	0.5	58
7.2.2	National feature films/mn pop. 15–69	6.9	24 ●
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	0.3	74
7.3	**Online creativity**	**25.7**	**72**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	2.1	79
7.3.2	GitHub commits/mn pop. 15–69	6.0	73
7.3.3	Mobile app creation/bn PPP$ GDP	68.8	58

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Kenya

GII 2026 rank **97**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
86	111	Lower middle	SSA	57.5	403.1	7,556

		Score/ Value	Rank	
Institutions		**36.4**	**104**	
1.1	**Institutional environment**	**40.9**	**106**	
1.1.1	Operational stability for businesses*	46.7	113	
1.1.2	Government effectiveness*	35.1	98	
1.2	**Regulatory environment**	**40.0**	**95**	
1.2.1	Regulatory quality*	38.9	97	
1.2.2	Rule of law*	41.2	90	
1.3	**Business environment**	**28.3**	**104**	
1.3.1	Policy stability for doing business†	32.1	97	
1.3.2	Entrepreneurship policies and culture†	24.4	66	
Human capital and research		**17.1**	**125** ○	
2.1	**Education**	**32.3**	**[126]**	
2.1.1	Expenditure on education, % GDP	4.0	78	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary ⏲	40.0	129 ○ ◇	
2.2	**Tertiary education**	**15.0**	**114**	
2.2.1	Tertiary enrolment, % gross	10.4	115	
2.2.2	Graduates in science and engineering, %	20.1	83	
2.2.3	Tertiary inbound mobility, % ⏲	1.3	91	
2.3	**Research and development (R&D)**	**3.9**	**84**	
2.3.1	Researchers, FTE/mn pop.	384.0	81	
2.3.2	Gross expenditure on R&D, % GDP	0.8	46 ◆	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇	
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇	
Infrastructure		**38.9**	**88**	
3.1	**Information and communication technologies (ICTs)**	**60.2**	**101**	
3.1.1	ICT access*	46.9	125 ○ ◇	
3.1.2	ICT use*	60.5	109	
3.1.3	Government online service*	73.2	55 ◆	
3.2	**General infrastructure**	**31.8**	**98**	
3.2.1	Electricity output, GWh/mn pop.	227.5	121 ○	
3.2.2	Aviation import dwell time	3.0	74	
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	17.1	114 ◇	
3.3	**Ecological sustainability**	**24.7**	**44** ● ◆	
3.3.1	GDP/unit of energy use	10.2	93	
3.3.2	Low-carbon energy use, %	45.5	11 ● ◆	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.4	99	
Market sophistication		**25.0**	**110**	
4.1	**Credit**	**14.9**	**110**	
4.1.1	Finance for startups and scaleups†	31.6	75	
4.1.2	Domestic credit to private sector, % GDP ⏲	31.8	95	
4.1.3	Loans from microfinance institutions, % GDP	0.2	53	
4.2	**Investment**	**9.6**	**49** ◆	
4.2.1	Market capitalization, % GDP	11.7	70	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.2	30 ● ◆	
4.2.3	Late-stage VC deal count, % global VC	0.1	34 ●	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.2	41 ◆	
4.3	**Trade, diversification, and market scale**	**50.6**	**115**	
4.3.1	Applied tariff rate, weighted avg., %	9.9	127 ○ ◇	
4.3.2	Domestic industry diversification	71.1	83	
4.3.3	Domestic market scale, bn PPP$	403.1	57	

		Score/ Value	Rank	
Business sophistication		**22.5**	**99**	
5.1	**Knowledge workers**	**26.0**	**113**	
5.1.1	Knowledge-intensive employment, % ⏲	15.9	87	
5.1.2	Females employed w/advanced degrees, % ⏲	1.9	115 ○	
5.1.3	Youth demographic dividend, %	57.3	24 ●	
5.1.4	GERD performed by business, % GDP	0.1	63	
5.1.5	GERD financed by business, %	14.5	70	
5.2	**Innovation linkages**	**20.1**	**89**	
5.2.1	Public research–industry co-publications, %	1.8	53 ◆	
5.2.2	University–industry R&D collaboration†	33.1	83	
5.2.3	University industry and international engagement, top 5*	11.7	90	
5.2.4	State of cluster development†	35.3	83	
5.2.5	Patent families/bn PPP$ GDP	0.0	89	
5.3	**Knowledge absorption**	**21.5**	**73**	
5.3.1	Intellectual property payments, % total trade ⏲	0.2	94	
5.3.2	High-tech imports, % total trade	11.0	29 ●	
5.3.3	ICT services imports, % total trade ⏲	0.6	112	
5.3.4	FDI net inflows, % GDP	0.5	114	
5.3.5	Green-field R&D & high-tech FDI	1.9	36 ● ◆	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**20.9**	**73**	
6.1	**Knowledge creation**	**20.2**	**51** ◆	
6.1.1	Patents by origin/bn PPP$ GDP	1.1	49 ◆	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	90	
6.1.3	Utility models by origin/bn PPP$ GDP	1.4	8 ● ◆	
6.1.4	Scientific and technical articles/bn PPP$ GDP	9.9	90	
6.1.5	Citable documents H-index	16.1	54	
6.2	**Knowledge impact**	**19.6**	**97**	
6.2.1	Labor productivity growth, %	2.4	45 ●	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇	
6.2.3	Software spending, % GDP	0.1	91	
6.2.4	High-tech manufacturing, %	13.3	81	
6.3	**Knowledge diffusion**	**22.9**	**66**	
6.3.1	Intellectual property receipts, % total trade ⏲	0.3	39 ● ◆	
6.3.2	Production and export complexity	62.5	89	
6.3.3	High-tech exports, % total trade	0.6	90	
6.3.4	ICT services exports, % total trade ⏲	4.5	30 ●	
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.8	94	
Creative outputs		**15.2**	**95**	
7.1	**Intangible assets**	**16.5**	**86**	
7.1.1	Intangible asset intensity, top 15, %	–12.6	75 ○ ◇	
7.1.2	Trademarks by origin/bn PPP$ GDP	16.0	98	
7.1.3	Global brand value, top 5,000, % GDP	1.4	55	
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.1	59	
7.2	**Creative goods and services**	**2.7**	**117**	
7.2.1	Cultural and creative services exports, % total trade	0.0	120 ○	
7.2.2	National feature films/mn pop. 15–69	1.0	82	
7.2.3	Entertainment and media market/th pop. 15–69	1.9	53	
7.2.4	Creative goods exports, % total trade	0.1	87	
7.3	**Online creativity**	**25.4**	**78**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.8	106	
7.3.2	GitHub commits/mn pop. 15–69	6.7	67	
7.3.3	Mobile app creation/bn PPP$ GDP	68.6	61	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Kuwait

62

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
71	61	High	NAWA	5.0	270.2	52,866

		Score/ Value	Rank	
Institutions		**52.5**	**63**	◇
1.1	**Institutional environment**	**59.6**	**56**	◇
1.1.1	Operational stability for businesses*	68.4	57	
1.1.2	Government effectiveness*	50.9	58	◇
1.2	**Regulatory environment**	**57.4**	**54**	◇
1.2.1	Regulatory quality*	57.2	50	
1.2.2	Rule of law*	57.6	53	◇
1.3	**Business environment**	**40.5**	**77**	
1.3.1	Policy stability for doing business†	51.9	59	
1.3.2	Entrepreneurship policies and culture† ⏲	29.2	56	
Human capital and research		**35.6**	**[58]**	
2.1	**Education**	**69.8**	**[10]**	
2.1.1	Expenditure on education, % GDP	6.4	12 ● ◆	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	n/a	n/a	
2.2	**Tertiary education**	**30.3**	**[77]**	
2.2.1	Tertiary enrolment, % gross ⏲	51.9	72	
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**6.7**	**78**	◇
2.3.1	Researchers, FTE/mn pop.	144.8	89	◇
2.3.2	Gross expenditure on R&D, % GDP	0.1	104 ○	◇
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	24.1	57	
Infrastructure		**50.0**	**53**	
3.1	**Information and communication technologies (ICTs)**	**84.8**	**47**	
3.1.1	ICT access*	100.0	4 ●	
3.1.2	ICT use*	98.1	3 ● ◆	
3.1.3	Government online service*	56.3	85	◇
3.2	**General infrastructure**	**58.6**	**25** ●	
3.2.1	Electricity output, GWh/mn pop. ⏲	18,136.6	5 ● ◆	
3.2.2	Aviation import dwell time	2.5	60	
3.2.3	Logistics performance*	50.0	50	
3.2.4	Gross capital formation, % GDP	21.0	92	
3.3	**Ecological sustainability**	**6.7**	**126** ○	◇
3.3.1	GDP/unit of energy use	4.4	128 ○	◇
3.3.2	Low-carbon energy use, %	0.1	136 ○	◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.3	41	
Market sophistication		**36.7**	**67**	
4.1	**Credit**	**46.0**	**31**	
4.1.1	Finance for startups and scaleups† ⏲	54.0	41	
4.1.2	Domestic credit to private sector, % GDP ⏲	92.0	25 ●	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**8.7**	**52**	
4.2.1	Market capitalization, % GDP	83.6	20	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	89	◇
4.2.3	Late-stage VC deal count, % global VC	0.0	73	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	75	
4.3	**Trade, diversification, and market scale**	**55.3**	**105**	◇
4.3.1	Applied tariff rate, weighted avg., %	3.4	80	
4.3.2	Domestic industry diversification ⏲	39.2	107 ○	◇
4.3.3	Domestic market scale, bn PPP$	270.2	71	

		Score/ Value	Rank	
Business sophistication		**22.8**	**94**	◇
5.1	**Knowledge workers**	**19.5**	**[134]**	
5.1.1	Knowledge-intensive employment, % ⏲	22.7	67	
5.1.2	Females employed w/advanced degrees, %	n/a	n/a	
5.1.3	Youth demographic dividend, %	28.8	93	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	2.4	91 ○	◇
5.2	**Innovation linkages**	**33.0**	**49**	
5.2.1	Public research–industry co-publications, %	1.0	87	◇
5.2.2	University–industry R&D collaboration†	46.5	43	
5.2.3	University industry and international engagement, top 5*	34.2	50	
5.2.4	State of cluster development†	73.6	25 ●	
5.2.5	Patent families/bn PPP$ GDP	0.0	93	
5.3	**Knowledge absorption**	**15.9**	**106**	◇
5.3.1	Intellectual property payments, % total trade	0.5	71	
5.3.2	High-tech imports, % total trade	6.0	100	
5.3.3	ICT services imports, % total trade	0.4	124 ○	◇
5.3.4	FDI net inflows, % GDP	0.7	111	
5.3.5	Green-field R&D & high-tech FDI	0.6	83	◇
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**18.7**	**80**	◇
6.1	**Knowledge creation**	**7.3**	**98**	◇
6.1.1	Patents by origin/bn PPP$ GDP	0.1	107	◇
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	83	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	10.9	82	◇
6.1.5	Citable documents H-index	9.5	84	◇
6.2	**Knowledge impact**	**14.2**	**121**	◇
6.2.1	Labor productivity growth, %	–3.0	138 ○	◇
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.4	24 ●	
6.2.4	High-tech manufacturing, % ⏲	20.9	62	
6.3	**Knowledge diffusion**	**34.4**	**40**	
6.3.1	Intellectual property receipts, % total trade	0.9	22 ●	
6.3.2	Production and export complexity	72.7	64	◇
6.3.3	High-tech exports, % total trade	0.5	93	◇
6.3.4	ICT services exports, % total trade	7.3	12 ●	
6.3.5	ISO 9001 quality/bn PPP$ GDP	4.2	62	
Creative outputs		**26.0**	**65**	
7.1	**Intangible assets**	**36.9**	**44**	
7.1.1	Intangible asset intensity, top 15, %	53.0	46	
7.1.2	Trademarks by origin/bn PPP$ GDP	21.2	87	
7.1.3	Global brand value, top 5,000, % GDP	9.4	20 ●	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.9	65	
7.2	**Creative goods and services**	**6.2**	**100**	◇
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a	
7.2.2	National feature films/mn pop. 15–69	0.3	94 ○	◇
7.2.3	Entertainment and media market/th pop. 15–69	12.2	33	◇
7.2.4	Creative goods exports, % total trade	0.2	85	◇
7.3	**Online creativity**	**24.2**	**84**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	2.7	74	◇
7.3.2	GitHub commits/mn pop. 15–69	2.5	108	◇
7.3.3	Mobile app creation/bn PPP$ GDP	67.3	68	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Kyrgyzstan

GII 2026 rank **92**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
79	106	Lower middle	CSA	7.3	64.1	8,870

		Score/ Value	Rank	
Institutions		**32.7**	**116**	
1.1	**Institutional environment**	**27.6**	**126**	◇
1.1.1	Operational stability for businesses*	34.9	122	◇
1.1.2	Government effectiveness*	20.3	128	
1.2	**Regulatory environment**	**32.2**	**111**	
1.2.1	Regulatory quality*	34.4	104	
1.2.2	Rule of law*	30.0	112	
1.3	**Business environment**	**38.3**	**[84]**	
1.3.1	Policy stability for doing business†	38.3	86	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**34.4**	**64**	◆
2.1	**Education**	**63.9**	**30**	● ◆
2.1.1	Expenditure on education, % GDP	6.8	8	● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	25.9	13	● ◆
2.1.3	School life expectancy, years	13.0	89	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary ⏲	12.4	57	◆
2.2	**Tertiary education**	**34.6**	**60**	
2.2.1	Tertiary enrolment, % gross	53.9	68	◆
2.2.2	Graduates in science and engineering, %	18.8	92	
2.2.3	Tertiary inbound mobility, %	16.7	16	● ◆
2.3	**Research and development (R&D)**	**4.5**	**83**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	0.1	109	○
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	12.9	73	
Infrastructure		**34.6**	**100**	
3.1	**Information and communication technologies (ICTs)**	**73.3**	**80**	◆
3.1.1	ICT access*	86.0	69	◆
3.1.2	ICT use*	81.2	69	◆
3.1.3	Government online service*	52.7	87	
3.2	**General infrastructure**	**13.4**	**137**	○ ◇
3.2.1	Electricity output, GWh/mn pop.	2,034.6	86	
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	9.1	107	○
3.2.4	Gross capital formation, % GDP	19.3	104	
3.3	**Ecological sustainability**	**17.0**	**73**	
3.3.1	GDP/unit of energy use	10.4	91	
3.3.2	Low-carbon energy use, %	27.2	30	●
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	133	○
Market sophistication		**24.4**	**114**	
4.1	**Credit**	**17.9**	**103**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	23.2	107	
4.1.3	Loans from microfinance institutions, % GDP	3.2	15	●
4.2	**Investment**	**1.4**	**[110]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	92	
4.3	**Trade, diversification, and market scale**	**54.0**	**108**	
4.3.1	Applied tariff rate, weighted avg., %	3.4	82	
4.3.2	Domestic industry diversification	49.8	105	○ ◇
4.3.3	Domestic market scale, bn PPP$	64.1	111	

		Score/ Value	Rank	
Business sophistication		**19.8**	**115**	
5.1	**Knowledge workers**	**25.1**	**118**	
5.1.1	Knowledge-intensive employment, % ⏲	21.3	71	◆
5.1.2	Females employed w/advanced degrees, %	n/a	n/a	
5.1.3	Youth demographic dividend, %	47.9	35	●
5.1.4	GERD performed by business, % GDP	0.0	85	
5.1.5	GERD financed by business, %	6.1	82	
5.2	**Innovation linkages**	**17.7**	**101**	
5.2.1	Public research–industry co-publications, %	0.6	108	
5.2.2	University–industry R&D collaboration†	28.4	99	
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	35.5	81	
5.2.5	Patent families/bn PPP$ GDP	0.0	98	○ ◇
5.3	**Knowledge absorption**	**16.5**	**100**	
5.3.1	Intellectual property payments, % total trade	0.2	105	
5.3.2	High-tech imports, % total trade	6.0	99	
5.3.3	ICT services imports, % total trade	1.1	89	
5.3.4	FDI net inflows, % GDP	1.8	87	
5.3.5	Green-field R&D & high-tech FDI	0.6	79	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**18.7**	**79**	
6.1	**Knowledge creation**	**10.6**	**82**	
6.1.1	Patents by origin/bn PPP$ GDP	1.2	41	● ◆
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	103	
6.1.3	Utility models by origin/bn PPP$ GDP	0.4	31	
6.1.4	Scientific and technical articles/bn PPP$ GDP	8.6	97	
6.1.5	Citable documents H-index	3.7	119	
6.2	**Knowledge impact**	**24.8**	**67**	
6.2.1	Labor productivity growth, %	6.2	2	● ◆
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.0	110	
6.2.4	High-tech manufacturing, %	2.2	107	○ ◇
6.3	**Knowledge diffusion**	**20.8**	**75**	
6.3.1	Intellectual property receipts, % total trade	0.1	69	
6.3.2	Production and export complexity	71.5	70	
6.3.3	High-tech exports, % total trade	1.3	71	
6.3.4	ICT services exports, % total trade	3.4	43	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.3	133	○
Creative outputs		**19.5**	**81**	
7.1	**Intangible assets**	**5.7**	**117**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	27.2	77	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.1	120	
7.2	**Creative goods and services**	**42.6**	**12**	● ◆
7.2.1	Cultural and creative services exports, % total trade	1.9	17	● ◆
7.2.2	National feature films/mn pop. 15–69	19.4	6	● ◆
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.6	54	
7.3	**Online creativity**	**24.1**	**86**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.8	108	
7.3.2	GitHub commits/mn pop. 15–69	4.6	85	
7.3.3	Mobile app creation/bn PPP$ GDP	66.9	69	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Lao People's Democratic Republic

108

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
127	89	Lower middle	SEAO	7.9	79.5	10,212

		Score/ Value	Rank
Institutions		**51.1**	**68** ●
1.1	**Institutional environment**	**42.9**	**101**
1.1.1	Operational stability for businesses*	57.9	91
1.1.2	Government effectiveness*	28.0	106
1.2	**Regulatory environment**	**33.0**	**109**
1.2.1	Regulatory quality*	31.4	114
1.2.2	Rule of law*	34.6	106
1.3	**Business environment**	**77.3**	**[7]**
1.3.1	Policy stability for doing business†	77.3	13 ● ◆
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**18.6**	**[121]**
2.1	**Education**	**36.8**	**[119]**
2.1.1	Expenditure on education, % GDP	1.2	132 ○ ◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years ⏲	10.1	107
2.1.4	PISA scales in reading, maths and science	n/a	n/a
2.1.5	Pupil–teacher ratio, secondary ⏲	16.6	90
2.2	**Tertiary education**	**18.9**	**103**
2.2.1	Tertiary enrolment, % gross ⏲	14.9	111
2.2.2	Graduates in science and engineering, % ⏲	23.1	61
2.2.3	Tertiary inbound mobility, % ⏲	0.6	97
2.3	**Research and development (R&D)**	**0.0**	**[122]**
2.3.1	Researchers, FTE/mn pop.	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇
Infrastructure		**29.7**	**117**
3.1	**Information and communication technologies (ICTs)**	**48.2**	**112**
3.1.1	ICT access*	64.6	104
3.1.2	ICT use*	60.9	108
3.1.3	Government online service*	19.0	131 ◇
3.2	**General infrastructure**	**20.8**	**[130]**
3.2.1	Electricity output, GWh/mn pop. ⏲	6,673.2	30 ● ◆
3.2.2	Aviation import dwell time	n/a	n/a
3.2.3	Logistics performance*	13.6	104
3.2.4	Gross capital formation, % GDP	n/a	n/a
3.3	**Ecological sustainability**	**20.1**	**57** ●
3.3.1	GDP/unit of energy use	9.1	100
3.3.2	Low-carbon energy use, %	36.2	20 ● ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.4	96
Market sophistication		**38.2**	**[60]**
4.1	**Credit**	**7.1**	**[126]**
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	n/a	n/a
4.1.3	Loans from microfinance institutions, % GDP	0.8	37
4.2	**Investment**	**n/a**	**[n/a]**
4.2.1	Market capitalization, % GDP	n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a
4.3	**Trade, diversification, and market scale**	**69.4**	**72**
4.3.1	Applied tariff rate, weighted avg., % ⏲	0.2	4 ● ◆
4.3.2	Domestic industry diversification	n/a	n/a
4.3.3	Domestic market scale, bn PPP$	79.5	102

		Score/ Value	Rank
Business sophistication		**25.9**	**73**
5.1	**Knowledge workers**	**29.0**	**[99]**
5.1.1	Knowledge-intensive employment, % ⏲	9.0	103
5.1.2	Females employed w/advanced degrees, % ⏲	4.6	98
5.1.3	Youth demographic dividend, %	47.7	36 ●
5.1.4	GERD performed by business, % GDP	n/a	n/a
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	**36.9**	**39** ● ◆
5.2.1	Public research–industry co-publications, %	1.5	60 ●
5.2.2	University–industry R&D collaboration†	60.2	25 ● ◆
5.2.3	University industry and international engagement, top 5*	n/a	n/a
5.2.4	State of cluster development†	70.8	30 ● ◆
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○ ◇
5.3	**Knowledge absorption**	**12.0**	**135** ◇
5.3.1	Intellectual property payments, % total trade ⏲	0.0	132 ○ ◇
5.3.2	High-tech imports, % total trade	3.5	130
5.3.3	ICT services imports, % total trade ⏲	0.6	114
5.3.4	FDI net inflows, % GDP	7.3	13 ● ◆
5.3.5	Green-field R&D & high-tech FDI	0.0	125 ○ ◇
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		**10.6**	**122**
6.1	**Knowledge creation**	**2.2**	**127**
6.1.1	Patents by origin/bn PPP$ GDP ⏲	0.0	132 ○
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107 ○ ◇
6.1.3	Utility models by origin/bn PPP$ GDP ⏲	0.0	61
6.1.4	Scientific and technical articles/bn PPP$ GDP	4.0	121
6.1.5	Citable documents H-index	3.8	118
6.2	**Knowledge impact**	**15.8**	**116**
6.2.1	Labor productivity growth, %	0.4	108
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.2	76
6.2.4	High-tech manufacturing, %	n/a	n/a
6.3	**Knowledge diffusion**	**13.7**	**112**
6.3.1	Intellectual property receipts, % total trade ⏲	0.0	130 ○ ◇
6.3.2	Production and export complexity	52.8	105
6.3.3	High-tech exports, % total trade ⏲	1.6	67 ●
6.3.4	ICT services exports, % total trade ⏲	1.1	88
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.0	107
Creative outputs		**8.9**	**121**
7.1	**Intangible assets**	**3.1**	**128**
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	14.8	102
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP ⏲	0.0	124
7.2	**Creative goods and services**	**9.3**	**[83]**
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a
7.2.2	National feature films/mn pop. 15–69	n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	0.3	75
7.3	**Online creativity**	**20.0**	**117**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	2.0	81 ◆
7.3.2	GitHub commits/mn pop. 15–69	0.9	122
7.3.3	Mobile app creation/bn PPP$ GDP	57.0	114

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Latvia

GII 2026 rank **40**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
45	38	High	EUR	1.9	82.4	44,106

		Score/ Value	Rank	
Institutions		**60.6**	**43**	
1.1	**Institutional environment**	**70.8**	**35**	
1.1.1	Operational stability for businesses*	80.3	27	
1.1.2	Government effectiveness*	61.3	40	
1.2	**Regulatory environment**	**76.2**	**24**	
1.2.1	Regulatory quality*	74.4	27	
1.2.2	Rule of law*	78.0	23	
1.3	**Business environment**	**34.7**	**88**	
1.3.1	Policy stability for doing business†	19.5	126 ○	◇
1.3.2	Entrepreneurship policies and culture†	49.9	26	
Human capital and research		**37.4**	**52**	
2.1	**Education**	**60.2**	**42**	
2.1.1	Expenditure on education, % GDP	4.3	64	
2.1.2	Government funding/pupil, secondary, % GDP/cap	20.8	38	
2.1.3	School life expectancy, years	16.0	39	
2.1.4	PISA scales in reading, maths and science	483.9	22	
2.1.5	Pupil–teacher ratio, secondary	9.9	33	
2.2	**Tertiary education**	**39.3**	**43**	
2.2.1	Tertiary enrolment, % gross	82.9	20 ●	
2.2.2	Graduates in science and engineering, %	19.4	86 ○	
2.2.3	Tertiary inbound mobility, %	14.1	19	
2.3	**Research and development (R&D)**	**12.8**	**60**	◇
2.3.1	Researchers, FTE/mn pop.	2,328.3	40	
2.3.2	Gross expenditure on R&D, % GDP	0.9	45	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	15.1	70	◇
Infrastructure		**55.5**	**40**	
3.1	**Information and communication technologies (ICTs)**	**88.9**	**34**	
3.1.1	ICT access*	95.1	47	
3.1.2	ICT use*	94.5	13 ●	
3.1.3	Government online service*	77.0	47	
3.2	**General infrastructure**	**48.8**	**45**	
3.2.1	Electricity output, GWh/mn pop.	3,397.1	62	
3.2.2	Aviation import dwell time	1.8	33	
3.2.3	Logistics performance*	63.6	33	
3.2.4	Gross capital formation, % GDP	22.4	75	
3.3	**Ecological sustainability**	**28.9**	**38**	
3.3.1	GDP/unit of energy use	16.4	40	
3.3.2	Low-carbon energy use, %	17.5	50	
3.3.3	ISO 14001 environment/bn PPP$ GDP	4.8	20 ●	
Market sophistication		**42.0**	**45**	
4.1	**Credit**	**37.2**	**45**	
4.1.1	Finance for startups and scaleups†	64.1	27	
4.1.2	Domestic credit to private sector, % GDP	29.5	97 ○	◇
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**16.4**	**37**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.3	25	
4.2.3	Late-stage VC deal count, % global VC	0.0	63	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.3	30	
4.3	**Trade, diversification, and market scale**	**72.3**	**60**	
4.3.1	Applied tariff rate, weighted avg., %	1.3	20	
4.3.2	Domestic industry diversification	85.6	57	
4.3.3	Domestic market scale, bn PPP$	82.4	101 ○	◇

		Score/ Value	Rank	
Business sophistication		**33.6**	**43**	
5.1	**Knowledge workers**	**45.0**	**35**	
5.1.1	Knowledge-intensive employment, %	44.9	23	
5.1.2	Females employed w/advanced degrees, %	28.1	13 ●	
5.1.3	Youth demographic dividend, %	25.5	116 ○	
5.1.4	GERD performed by business, % GDP	0.3	48	
5.1.5	GERD financed by business, %	35.7	55	
5.2	**Innovation linkages**	**25.6**	**60**	◇
5.2.1	Public research–industry co-publications, %	1.8	51	
5.2.2	University–industry R&D collaboration†	49.1	40	
5.2.3	University industry and international engagement, top 5*	25.9	62	◇
5.2.4	State of cluster development†	26.4	108 ○	◇
5.2.5	Patent families/bn PPP$ GDP	0.3	38	
5.3	**Knowledge absorption**	**30.2**	**48**	
5.3.1	Intellectual property payments, % total trade	0.1	107 ○	
5.3.2	High-tech imports, % total trade	8.4	64	
5.3.3	ICT services imports, % total trade	2.1	43	
5.3.4	FDI net inflows, % GDP	3.5	41	
5.3.5	Green-field R&D & high-tech FDI	4.0	14 ●	
5.3.6	Research talent, % in businesses	33.4	42	
Knowledge and technology outputs		**24.9**	**56**	
6.1	**Knowledge creation**	**19.8**	**52**	
6.1.1	Patents by origin/bn PPP$ GDP	1.5	32	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.5	30	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	21.4	38	
6.1.5	Citable documents H-index	9.7	82	◇
6.2	**Knowledge impact**	**19.8**	**95**	◇
6.2.1	Labor productivity growth, %	2.3	48	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.1	92	◇
6.2.4	High-tech manufacturing, %	15.0	72	◇
6.3	**Knowledge diffusion**	**35.2**	**38**	
6.3.1	Intellectual property receipts, % total trade	0.0	83	◇
6.3.2	Production and export complexity	82.2	37	
6.3.3	High-tech exports, % total trade	6.9	33	
6.3.4	ICT services exports, % total trade	5.1	23	
6.3.5	ISO 9001 quality/bn PPP$ GDP	10.8	21 ●	
Creative outputs		**36.5**	**37**	
7.1	**Intangible assets**	**18.1**	**84**	◇
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	39.0	49	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.8	40	
7.2	**Creative goods and services**	**58.8**	**2** ●	◆
7.2.1	Cultural and creative services exports, % total trade	2.2	15 ●	
7.2.2	National feature films/mn pop. 15–69	21.6	4 ●	◆
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	2.9	21 ●	◆
7.3	**Online creativity**	**50.9**	**26**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	20.8	31	
7.3.2	GitHub commits/mn pop. 15–69	50.9	20 ●	
7.3.3	Mobile app creation/bn PPP$ GDP	80.9	8 ●	◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Lebanon

86

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
81	90	Lower middle	NAWA	5.8	63.3	11,816

		Score/ Value	Rank
Institutions		**21.7**	**132** ○ ◇
1.1	**Institutional environment**	**13.0**	**136** ○ ◇
1.1.1	Operational stability for businesses*	11.8	137 ○ ◇
1.1.2	Government effectiveness*	14.2	135 ○ ◇
1.2	**Regulatory environment**	**24.9**	**128**
1.2.1	Regulatory quality*	23.4	129 ○ ◇
1.2.2	Rule of law*	26.5	121
1.3	**Business environment**	**27.0**	**108**
1.3.1	Policy stability for doing business† ⏲	10.6	131 ○ ◇
1.3.2	Entrepreneurship policies and culture† ⏲	43.5	37
Human capital and research		**34.2**	**66** ◆
2.1	**Education**	**37.9**	**118**
2.1.1	Expenditure on education, % GDP	1.2	133 ○ ◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years ⏲	11.2	99
2.1.4	PISA scales in reading, maths and science ⏲	376.8	71
2.1.5	Pupil–teacher ratio, secondary ⏲	9.0	16 ● ◆
2.2	**Tertiary education**	**45.6**	**23** ● ◆
2.2.1	Tertiary enrolment, % gross ⏲	54.4	67 ◆
2.2.2	Graduates in science and engineering, % ⏲	30.6	20 ● ◆
2.2.3	Tertiary inbound mobility, % ⏲	12.9	24 ●
2.3	**Research and development (R&D)**	**19.2**	**[51]**
2.3.1	Researchers, FTE/mn pop.	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	38.3	45 ◆
Infrastructure		**38.1**	**92**
3.1	**Information and communication technologies (ICTs)**	**58.5**	**105**
3.1.1	ICT access*	75.6	88
3.1.2	ICT use*	66.2	101
3.1.3	Government online service*	33.7	115
3.2	**General infrastructure**	**39.5**	**[72]**
3.2.1	Electricity output, GWh/mn pop. ⏲	1,079.5	100
3.2.2	Aviation import dwell time	3.3	80
3.2.3	Logistics performance*	n/a	n/a
3.2.4	Gross capital formation, % GDP	n/a	n/a
3.3	**Ecological sustainability**	**16.2**	**78**
3.3.1	GDP/unit of energy use	17.4	31 ●
3.3.2	Low-carbon energy use, %	3.3	108
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.4	62
Market sophistication		**41.2**	**53** ◆
4.1	**Credit**	**59.0**	**16** ● ◆
4.1.1	Finance for startups and scaleups† ⏲	73.5	14
4.1.2	Domestic credit to private sector, % GDP ⏲	106.6	20
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**5.5**	**71**
4.2.1	Market capitalization, % GDP ⏲	27.3	50
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	55
4.2.3	Late-stage VC deal count, % global VC	0.0	79
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	69
4.3	**Trade, diversification, and market scale**	**59.0**	**98**
4.3.1	Applied tariff rate, weighted avg., %	5.0	98
4.3.2	Domestic industry diversification ⏲	76.8	73
4.3.3	Domestic market scale, bn PPP$ ⏲	63.3	113

		Score/ Value	Rank
Business sophistication		**27.0**	**66**
5.1	**Knowledge workers**	**45.6**	**[31]**
5.1.1	Knowledge-intensive employment, % ⏲	27.5	53
5.1.2	Females employed w/advanced degrees, % ⏲	14.6	59
5.1.3	Youth demographic dividend, %	42.5	51
5.1.4	GERD performed by business, % GDP	n/a	n/a
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	**20.4**	**88**
5.2.1	Public research–industry co-publications, %	0.2	137 ○ ◇
5.2.2	University–industry R&D collaboration† ⏲	29.1	96
5.2.3	University industry and international engagement, top 5*	40.0	47 ◆
5.2.4	State of cluster development† ⏲	29.7	99
5.2.5	Patent families/bn PPP$ GDP	0.0	79
5.3	**Knowledge absorption**	**15.2**	**115**
5.3.1	Intellectual property payments, % total trade ⏲	0.1	120
5.3.2	High-tech imports, % total trade	5.4	110
5.3.3	ICT services imports, % total trade ⏲	0.3	131 ○
5.3.4	FDI net inflows, % GDP ⏲	2.8	61
5.3.5	Green-field R&D & high-tech FDI	n/a	n/a
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		**26.2**	**50** ◆
6.1	**Knowledge creation**	**43.1**	**[17]**
6.1.1	Patents by origin/bn PPP$ GDP	n/a	n/a
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	45.5	4 ● ◆
6.1.5	Citable documents H-index	13.9	64
6.2	**Knowledge impact**	**13.2**	**127**
6.2.1	Labor productivity growth, %	0.3	110
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.0	121 ◇
6.2.4	High-tech manufacturing, % ⏲	14.6	77
6.3	**Knowledge diffusion**	**22.3**	**69**
6.3.1	Intellectual property receipts, % total trade ⏲	0.1	59
6.3.2	Production and export complexity	75.1	53 ◆
6.3.3	High-tech exports, % total trade	0.5	97
6.3.4	ICT services exports, % total trade ⏲	0.8	95
6.3.5	ISO 9001 quality/bn PPP$ GDP	7.8	28 ● ◆
Creative outputs		**11.4**	**111**
7.1	**Intangible assets**	**0.0**	**[138]**
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	n/a	n/a
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	n/a	n/a
7.2	**Creative goods and services**	**17.6**	**63**
7.2.1	Cultural and creative services exports, % total trade	1.0	39
7.2.2	National feature films/mn pop. 15–69	3.8	40
7.2.3	Entertainment and media market/th pop. 15–69 ⏲	1.5	55
7.2.4	Creative goods exports, % total trade	1.4	35 ●
7.3	**Online creativity**	**28.1**	**59** ◆
7.3.1	Top-level domains (TLDs)/th pop. 15–69	3.0	70 ◆
7.3.2	GitHub commits/mn pop. 15–69	10.1	58 ◆
7.3.3	Mobile app creation/bn PPP$ GDP	71.3	40 ●

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Lesotho

GII 2026 rank **128**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
137	118	Lower middle	SSA	2.4	7.4	3,089

		Score/ Value	Rank	
Institutions		**33.9**	**109**	
1.1	**Institutional environment**	**41.1**	**104**	
1.1.1	Operational stability for businesses*	55.9	95	
1.1.2	Government effectiveness*	26.3	115	
1.2	**Regulatory environment**	**38.8**	**98**	
1.2.1	Regulatory quality*	35.1	102	
1.2.2	Rule of law*	42.5	87 ●	
1.3	**Business environment**	**21.8**	**[120]**	
1.3.1	Policy stability for doing business†	21.8	124	◇
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**22.4**	**105**	
2.1	**Education**	**58.1**	**50** ●	
2.1.1	Expenditure on education, % GDP	6.6	10 ● ◆	
2.1.2	Government funding/pupil, secondary, % GDP/cap	34.6	3 ● ◆	
2.1.3	School life expectancy, years	11.0	100	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	25.3	113	
2.2	**Tertiary education**	**8.6**	**117**	◇
2.2.1	Tertiary enrolment, % gross	9.9	119	
2.2.2	Graduates in science and engineering, %	15.4	104	
2.2.3	Tertiary inbound mobility, %	0.4	107	
2.3	**Research and development (R&D)**	**0.4**	**114**	
2.3.1	Researchers, FTE/mn pop.	32.2	101	
2.3.2	Gross expenditure on R&D, % GDP	0.1	102	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**31.3**	**115**	
3.1	**Information and communication technologies (ICTs)**	**39.7**	**124**	◇
3.1.1	ICT access*	59.0	110	
3.1.2	ICT use*	46.0	118	◇
3.1.3	Government online service*	14.1	135 ○	◇
3.2	**General infrastructure**	**49.4**	**[43]**	
3.2.1	Electricity output, GWh/mn pop.	n/a	n/a	
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	30.2	24 ●	
3.3	**Ecological sustainability**	**4.8**	**134**	◇
3.3.1	GDP/unit of energy use	n/a	n/a	
3.3.2	Low-carbon energy use, %	5.8	96	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.4	93	
Market sophistication		**26.5**	**108**	
4.1	**Credit**	**22.3**	**86** ●	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	25.6	105	
4.1.3	Loans from microfinance institutions, % GDP	4.0	9 ●	
4.2	**Investment**	**n/a**	**[n/a]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**30.6**	**134**	◇
4.3.1	Applied tariff rate, weighted avg., %	1.9	63 ● ◆	
4.3.2	Domestic industry diversification	0.0	110 ○	◇
4.3.3	Domestic market scale, bn PPP$	7.4	137 ○	◇

		Score/ Value	Rank	
Business sophistication		**18.4**	**124**	◇
5.1	**Knowledge workers**	**30.8**	**[94]**	
5.1.1	Knowledge-intensive employment, %	8.6	105	
5.1.2	Females employed w/advanced degrees, %	2.7	110	
5.1.3	Youth demographic dividend, %	53.6	28 ●	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**12.2**	**123**	
5.2.1	Public research–industry co-publications, %	2.1	39 ●	◆
5.2.2	University–industry R&D collaboration†	12.9	131	◇
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	12.8	129	◇
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**12.3**	**133**	◇
5.3.1	Intellectual property payments, % total trade	0.2	106	
5.3.2	High-tech imports, % total trade	4.6	118	
5.3.3	ICT services imports, % total trade	0.5	121	
5.3.4	FDI net inflows, % GDP	–0.7	128	◇
5.3.5	Green-field R&D & high-tech FDI	0.0	125 ○	◇
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**5.7**	**138** ○	◇
6.1	**Knowledge creation**	**5.7**	**108**	
6.1.1	Patents by origin/bn PPP$ GDP	0.2	99	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	52 ●	◆
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	9.8	91 ●	
6.1.5	Citable documents H-index	0.3	138 ○	◇
6.2	**Knowledge impact**	**10.7**	**131**	◇
6.2.1	Labor productivity growth, %	–0.2	121	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.1	103	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**0.6**	**138** ○	◇
6.3.1	Intellectual property receipts, % total trade	0.0	109	
6.3.2	Production and export complexity	n/a	n/a	
6.3.3	High-tech exports, % total trade	0.1	120	
6.3.4	ICT services exports, % total trade	0.0	139 ○	◇
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.6	124	
Creative outputs		**7.2**	**[128]**	
7.1	**Intangible assets**	**6.3**	**[116]**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	11.7	109	
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4	Industrial designs by origin/bn PPP$ GDP	n/a	n/a	
7.2	**Creative goods and services**	**0.9**	**[134]**	
7.2.1	Cultural and creative services exports, % total trade	0.0	125	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	111	
7.3	**Online creativity**	**15.4**	**133**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.3	116	
7.3.2	GitHub commits/mn pop. 15–69	1.0	121	
7.3.3	Mobile app creation/bn PPP$ GDP	45.0	130	◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Lithuania

32

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
34	27	High	EUR	2.8	165.2	57,201

			Score/ Value	Rank
Institutions			**72.9**	**20**
1.1	**Institutional environment**		**77.9**	**23**
1.1.1	Operational stability for businesses*		82.9	22
1.1.2	Government effectiveness*		72.9	22
1.2	**Regulatory environment**		**81.9**	**20**
1.2.1	Regulatory quality*		79.2	21
1.2.2	Rule of law*		84.7	18
1.3	**Business environment**		**58.9**	**36**
1.3.1	Policy stability for doing business†		43.4	75
1.3.2	Entrepreneurship policies and culture†		74.4	6 ● ◆
Human capital and research			**39.7**	**44**
2.1	**Education**		**58.8**	**46**
2.1.1	Expenditure on education, % GDP	⏲	4.3	67
2.1.2	Government funding/pupil, secondary, % GDP/cap		18.1	52
2.1.3	School life expectancy, years		16.1	36
2.1.4	PISA scales in reading, maths and science		477.1	30
2.1.5	Pupil–teacher ratio, secondary		9.0	19
2.2	**Tertiary education**		**40.7**	**40**
2.2.1	Tertiary enrolment, % gross		75.6	38
2.2.2	Graduates in science and engineering, %	⏲	23.7	56
2.2.3	Tertiary inbound mobility, %		11.4	26
2.3	**Research and development (R&D)**		**19.8**	**50**
2.3.1	Researchers, FTE/mn pop.		3,701.5	31
2.3.2	Gross expenditure on R&D, % GDP		1.0	37
2.3.3	Global corporate R&D investors, top 3, mn US$		0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*		27.9	54
Infrastructure			**59.8**	**22**
3.1	**Information and communication technologies (ICTs)**		**93.7**	**13** ●
3.1.1	ICT access*		97.4	34
3.1.2	ICT use*		97.7	4 ● ◆
3.1.3	Government online service*		86.0	26
3.2	**General infrastructure**		**45.5**	**59**
3.2.1	Electricity output, GWh/mn pop.		2,603.2	75 ◇
3.2.2	Aviation import dwell time		2.1	47
3.2.3	Logistics performance*		59.1	37
3.2.4	Gross capital formation, % GDP		21.3	90 ○
3.3	**Ecological sustainability**		**40.2**	**13** ●
3.3.1	GDP/unit of energy use		17.3	33
3.3.2	Low-carbon energy use, %		14.3	60
3.3.3	ISO 14001 environment/bn PPP$ GDP		9.9	6 ● ◆
Market sophistication			**49.4**	**28**
4.1	**Credit**		**48.1**	**28**
4.1.1	Finance for startups and scaleups†		83.0	9 ● ◆
4.1.2	Domestic credit to private sector, % GDP		36.0	83 ○
4.1.3	Loans from microfinance institutions, % GDP		n/a	n/a
4.2	**Investment**		**22.9**	**30**
4.2.1	Market capitalization, % GDP		n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP		0.4	16
4.2.3	Late-stage VC deal count, % global VC		0.0	51
4.2.4	VC investors, deal count/bn PPP$ GDP		0.5	22
4.3	**Trade, diversification, and market scale**		**77.3**	**43**
4.3.1	Applied tariff rate, weighted avg., %		1.3	20
4.3.2	Domestic industry diversification	⏲	93.6	29
4.3.3	Domestic market scale, bn PPP$		165.2	86 ○

			Score/ Value	Rank
Business sophistication			**39.2**	**34**
5.1	**Knowledge workers**		**48.8**	**27**
5.1.1	Knowledge-intensive employment, %		50.3	14 ●
5.1.2	Females employed w/advanced degrees, %		32.0	1 ● ◆
5.1.3	Youth demographic dividend, %		24.4	124 ○
5.1.4	GERD performed by business, % GDP		0.4	44
5.1.5	GERD financed by business, %		34.5	56
5.2	**Innovation linkages**		**38.5**	**36**
5.2.1	Public research–industry co-publications, %		4.6	16 ●
5.2.2	University–industry R&D collaboration†		55.3	35
5.2.3	University industry and international engagement, top 5*		25.7	63 ○ ◇
5.2.4	State of cluster development†		53.9	50
5.2.5	Patent families/bn PPP$ GDP		0.3	37
5.3	**Knowledge absorption**		**30.3**	**47**
5.3.1	Intellectual property payments, % total trade		0.5	73
5.3.2	High-tech imports, % total trade		7.6	76
5.3.3	ICT services imports, % total trade		2.6	30
5.3.4	FDI net inflows, % GDP		4.6	30
5.3.5	Green-field R&D & high-tech FDI		3.1	20
5.3.6	Research talent, % in businesses		31.8	44
Knowledge and technology outputs			**32.5**	**31**
6.1	**Knowledge creation**		**17.5**	**60**
6.1.1	Patents by origin/bn PPP$ GDP		0.8	59
6.1.2	PCT patents by inventor origin/bn PPP$ GDP		0.2	43
6.1.3	Utility models by origin/bn PPP$ GDP		–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP		23.0	33
6.1.5	Citable documents H-index		13.4	65
6.2	**Knowledge impact**		**44.4**	**13** ●
6.2.1	Labor productivity growth, %		1.4	73
6.2.2	Unicorn valuation, % GDP		8.0	1 ● ◆
6.2.3	Software spending, % GDP		0.1	102 ○ ◇
6.2.4	High-tech manufacturing, %	⏲	23.4	55
6.3	**Knowledge diffusion**		**35.5**	**37**
6.3.1	Intellectual property receipts, % total trade		0.0	98 ○ ◇
6.3.2	Production and export complexity		84.0	28
6.3.3	High-tech exports, % total trade		8.1	29
6.3.4	ICT services exports, % total trade		4.6	28
6.3.5	ISO 9001 quality/bn PPP$ GDP		11.0	20
Creative outputs			**36.0**	**39**
7.1	**Intangible assets**		**29.0**	**62**
7.1.1	Intangible asset intensity, top 15, %		21.5	69 ○ ◇
7.1.2	Trademarks by origin/bn PPP$ GDP		49.0	32
7.1.3	Global brand value, top 5,000, % GDP		0.2	79 ○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP		2.1	33
7.2	**Creative goods and services**		**37.8**	**16** ●
7.2.1	Cultural and creative services exports, % total trade		1.2	34
7.2.2	National feature films/mn pop. 15–69		15.7	8 ● ◆
7.2.3	Entertainment and media market/th pop. 15–69		n/a	n/a
7.2.4	Creative goods exports, % total trade		1.4	37
7.3	**Online creativity**		**48.0**	**29**
7.3.1	Top-level domains (TLDs)/th pop. 15–69		22.9	28
7.3.2	GitHub commits/mn pop. 15–69		40.6	27
7.3.3	Mobile app creation/bn PPP$ GDP		80.5	9 ●

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Luxembourg

GII 2026 rank **23**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
31	25	High	EUR	0.7	104.5	152,395

		Score/ Value	Rank	
Institutions		**83.6**	**6**	
1.1	**Institutional environment**	**91.4**	**3**	● ◆
1.1.1	Operational stability for businesses*	88.8	8	
1.1.2	Government effectiveness*	94.0	3	● ◆
1.2	**Regulatory environment**	**93.3**	**4**	●
1.2.1	Regulatory quality*	92.7	5	●
1.2.2	Rule of law*	93.9	5	●
1.3	**Business environment**	**66.2**	**21**	
1.3.1	Policy stability for doing business†	90.3	3	● ◆
1.3.2	Entrepreneurship policies and culture†	42.2	40	
Human capital and research		**47.2**	**30**	◇
2.1	**Education**	**57.2**	**54**	◇
2.1.1	Expenditure on education, % GDP ⏲	3.7	86	○ ◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	21.0	37	
2.1.3	School life expectancy, years	14.5	62	◇
2.1.4	PISA scales in reading, maths and science ⏲	476.7	32	
2.1.5	Pupil–teacher ratio, secondary	8.0	7	◆
2.2	**Tertiary education**	**52.7**	**11**	
2.2.1	Tertiary enrolment, % gross	22.4	101	○ ◇
2.2.2	Graduates in science and engineering, %	22.6	67	
2.2.3	Tertiary inbound mobility, %	51.5	1	● ◆
2.3	**Research and development (R&D)**	**31.7**	**36**	◇
2.3.1	Researchers, FTE/mn pop.	5,181.9	22	
2.3.2	Gross expenditure on R&D, % GDP	1.0	40	◇
2.3.3	Global corporate R&D investors, top 3, mn US$	48.7	34	
2.3.4	QS university ranking, top 3*	13.3	72	◇
Infrastructure		**47.7**	**61**	◇
3.1	**Information and communication technologies (ICTs)**	**85.8**	**43**	◇
3.1.1	ICT access*	99.9	6	
3.1.2	ICT use*	87.0	41	
3.1.3	Government online service*	70.6	64	◇
3.2	**General infrastructure**	**30.7**	**101**	○ ◇
3.2.1	Electricity output, GWh/mn pop.	2,405.6	79	◇
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	68.2	25	◇
3.2.4	Gross capital formation, % GDP	15.7	123	○ ◇
3.3	**Ecological sustainability**	**26.6**	**39**	
3.3.1	GDP/unit of energy use	26.5	8	
3.3.2	Low-carbon energy use, %	10.7	76	
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.5	57	
Market sophistication		**49.9**	**25**	◇
4.1	**Credit**	**44.0**	**34**	
4.1.1	Finance for startups and scaleups†	53.0	42	◇
4.1.2	Domestic credit to private sector, % GDP	85.1	28	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**39.0**	**12**	
4.2.1	Market capitalization, % GDP	56.2	28	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.4	20	
4.2.3	Late-stage VC deal count, % global VC	0.0	48	
4.2.4	VC investors, deal count/bn PPP$ GDP	3.7	1	● ◆
4.3	**Trade, diversification, and market scale**	**66.8**	**80**	◇
4.3.1	Applied tariff rate, weighted avg., %	1.3	20	
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	104.5	96	○ ◇

		Score/ Value	Rank	
Business sophistication		**55.0**	**13**	
5.1	**Knowledge workers**	**54.9**	**19**	
5.1.1	Knowledge-intensive employment, %	65.6	1	● ◆
5.1.2	Females employed w/advanced degrees, %	29.1	8	
5.1.3	Youth demographic dividend, %	26.5	107	○
5.1.4	GERD performed by business, % GDP	0.4	41	◇
5.1.5	GERD financed by business, %	42.9	39	◇
5.2	**Innovation linkages**	**60.3**	**16**	
5.2.1	Public research–industry co-publications, %	4.2	19	
5.2.2	University–industry R&D collaboration†	59.9	27	
5.2.3	University industry and international engagement, top 5*	85.4	15	
5.2.4	State of cluster development†	73.4	26	
5.2.5	Patent families/bn PPP$ GDP	2.9	11	
5.3	**Knowledge absorption**	**49.9**	**8**	
5.3.1	Intellectual property payments, % total trade	5.4	1	● ◆
5.3.2	High-tech imports, % total trade	1.3	137	○ ◇
5.3.3	ICT services imports, % total trade	4.8	6	◆
5.3.4	FDI net inflows, % GDP	–96.1	139	○ ◇
5.3.5	Green-field R&D & high-tech FDI	10.2	1	● ◆
5.3.6	Research talent, % in businesses	31.2	45	◇
Knowledge and technology outputs		**23.9**	**59**	◇
6.1	**Knowledge creation**	**26.3**	**38**	◇
6.1.1	Patents by origin/bn PPP$ GDP	4.3	14	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.9	22	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	16.9	51	◇
6.1.5	Citable documents H-index	12.6	66	◇
6.2	**Knowledge impact**	**26.6**	**60**	◇
6.2.1	Labor productivity growth, %	–0.7	129	○ ◇
6.2.2	Unicorn valuation, % GDP	3.1	15	
6.2.3	Software spending, % GDP	0.1	82	◇
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**18.8**	**85**	◇
6.3.1	Intellectual property receipts, % total trade	1.3	15	
6.3.2	Production and export complexity	n/a	n/a	
6.3.3	High-tech exports, % total trade	0.6	92	○ ◇
6.3.4	ICT services exports, % total trade	2.9	47	
6.3.5	ISO 9001 quality/bn PPP$ GDP	3.1	76	
Creative outputs		**49.0**	**13**	
7.1	**Intangible assets**	**46.0**	**22**	
7.1.1	Intangible asset intensity, top 15, %	69.3	20	
7.1.2	Trademarks by origin/bn PPP$ GDP	40.7	47	
7.1.3	Global brand value, top 5,000, % GDP	9.0	23	
7.1.4	Industrial designs by origin/bn PPP$ GDP	2.1	36	
7.2	**Creative goods and services**	**43.5**	**11**	
7.2.1	Cultural and creative services exports, % total trade	8.7	1	● ◆
7.2.2	National feature films/mn pop. 15–69	8.1	19	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.1	104	○ ◇
7.3	**Online creativity**	**60.3**	**17**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	68.2	5	● ◆
7.3.2	GitHub commits/mn pop. 15–69	42.6	25	
7.3.3	Mobile app creation/bn PPP$ GDP	70.0	50	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Madagascar

113

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
84	130	Low	SSA	32.7	64.1	2,040

		Score/ Value	Rank	
Institutions		**27.9**	**123**	
1.1	**Institutional environment**	**34.1**	**115**	
1.1.1	Operational stability for businesses*	47.4	112	
1.1.2	Government effectiveness*	20.9	125	
1.2	**Regulatory environment**	**29.9**	**114**	
1.2.1	Regulatory quality*	28.6	117	
1.2.2	Rule of law*	31.3	110	
1.3	**Business environment**	**19.7**	**125**	
1.3.1	Policy stability for doing business†	21.9	122	
1.3.2	Entrepreneurship policies and culture†	17.4	79	
Human capital and research		**19.2**	**118**	
2.1	**Education**	**39.2**	**[114]**	
2.1.1	Expenditure on education, % GDP	3.0	109	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	9.1	111	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	19.1	100	
2.2	**Tertiary education**	**18.1**	**108**	
2.2.1	Tertiary enrolment, % gross	6.1	125	
2.2.2	Graduates in science and engineering, %	24.2	49 ●	
2.2.3	Tertiary inbound mobility, %	0.3	109	
2.3	**Research and development (R&D)**	**0.1**	**119**	
2.3.1	Researchers, FTE/mn pop.	32.9	100	
2.3.2	Gross expenditure on R&D, % GDP	0.0	113	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇	
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇	
Infrastructure		**17.6**	**135** ○	
3.1	**Information and communication technologies (ICTs)**	**21.6**	**134**	
3.1.1	ICT access*	13.3	137 ○	
3.1.2	ICT use*	23.2	126	
3.1.3	Government online service*	28.4	120	
3.2	**General infrastructure**	**26.1**	**117**	
3.2.1	Electricity output, GWh/mn pop.	84.6	128	
3.2.2	Aviation import dwell time	4.3	92	
3.2.3	Logistics performance*	9.1	107 ○ ◇	
3.2.4	Gross capital formation, % GDP	21.9	81	
3.3	**Ecological sustainability**	**5.2**	**132** ◇	
3.3.1	GDP/unit of energy use	5.2	125	
3.3.2	Low-carbon energy use, %	7.0	92	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.2	116	
Market sophistication		**19.6**	**124**	
4.1	**Credit**	**13.0**	**116**	
4.1.1	Finance for startups and scaleups†	28.1	77	
4.1.2	Domestic credit to private sector, % GDP	16.6	116	
4.1.3	Loans from microfinance institutions, % GDP	0.7	39	
4.2	**Investment**	**8.6**	**[54]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.2	48 ●	
4.3	**Trade, diversification, and market scale**	**37.2**	**126**	
4.3.1	Applied tariff rate, weighted avg., %	7.0	111	
4.3.2	Domestic industry diversification	26.6	108 ○	
4.3.3	Domestic market scale, bn PPP$	64.1	110	

		Score/ Value	Rank	
Business sophistication		**24.8**	**79**	◆
5.1	**Knowledge workers**	**43.6**	**[40]**	
5.1.1	Knowledge-intensive employment, %	4.2	121 ○	
5.1.2	Females employed w/advanced degrees, %	n/a	n/a	
5.1.3	Youth demographic dividend, %	58.6	20 ● ◇	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**13.2**	**120**	
5.2.1	Public research–industry co-publications, %	1.0	88	
5.2.2	University–industry R&D collaboration†	18.3	124	
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	23.2	114	
5.2.5	Patent families/bn PPP$ GDP	0.0	76 ● ◆	
5.3	**Knowledge absorption**	**17.7**	**96**	
5.3.1	Intellectual property payments, % total trade	0.3	90	
5.3.2	High-tech imports, % total trade	6.1	96	
5.3.3	ICT services imports, % total trade	1.7	60 ●	
5.3.4	FDI net inflows, % GDP	3.3	48 ●	
5.3.5	Green-field R&D & high-tech FDI	0.2	107	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**10.2**	**125**	
6.1	**Knowledge creation**	**4.2**	**120**	
6.1.1	Patents by origin/bn PPP$ GDP	0.0	126	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	81 ◆	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	7.4	102	
6.1.5	Citable documents H-index	4.0	116	
6.2	**Knowledge impact**	**9.9**	**136** ○ ◇	
6.2.1	Labor productivity growth, %	0.8	96	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇	
6.2.3	Software spending, % GDP	0.0	123	
6.2.4	High-tech manufacturing, %	0.9	109 ○ ◇	
6.3	**Knowledge diffusion**	**16.5**	**92**	
6.3.1	Intellectual property receipts, % total trade	0.0	103	
6.3.2	Production and export complexity	47.0	115	
6.3.3	High-tech exports, % total trade	0.2	116	
6.3.4	ICT services exports, % total trade	4.6	29 ● ◆	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.7	120	
Creative outputs		**26.8**	**[61]**	
7.1	**Intangible assets**	**43.7**	**[24]**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	62.0	22 ● ◆	
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4	Industrial designs by origin/bn PPP$ GDP	4.2	15 ● ◆	
7.2	**Creative goods and services**	**5.0**	**[103]**	
7.2.1	Cultural and creative services exports, % total trade	0.4	68 ●	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	115	
7.3	**Online creativity**	**14.6**	**136** ○	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.1	131	
7.3.2	GitHub commits/mn pop. 15–69	1.2	118	
7.3.3	Mobile app creation/bn PPP$ GDP	42.3	135 ○	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Malawi

GII 2026 rank **126**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
123	124	Low	SSA	22.2	42.3	1,758

		Score/ Value	Rank	
Institutions		**37.6**	**102**	
1.1	**Institutional environment**	**31.6**	**118**	
1.1.1	Operational stability for businesses*	38.8	119	
1.1.2	Government effectiveness*	24.4	119	
1.2	**Regulatory environment**	**40.7**	**93**	◆
1.2.1	Regulatory quality*	32.7	110	
1.2.2	Rule of law*	48.7	69	◆
1.3	**Business environment**	**40.5**	**[78]**	
1.3.1	Policy stability for doing business†	40.5	84	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**6.5**	**[138]**	
2.1	**Education**	**18.8**	**[138]**	
2.1.1	Expenditure on education, % GDP	2.7	117	
2.1.2	Government funding/pupil, secondary, % GDP/cap	16.9	62	
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	49.8	130 ○	◇
2.2	**Tertiary education**	**0.0**	**[130]**	
2.2.1	Tertiary enrolment, % gross	2.7	130 ○	◇
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**0.7**	**107**	
2.3.1	Researchers, FTE/mn pop.	25.2	104	
2.3.2	Gross expenditure on R&D, % GDP	0.2	91	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**16.4**	**136**	
3.1	**Information and communication technologies (ICTs)**	**28.1**	**132**	
3.1.1	ICT access*	31.1	132	
3.1.2	ICT use*	17.8	128	
3.1.3	Government online service*	35.3	111	
3.2	**General infrastructure**	**4.4**	**[139]**	
3.2.1	Electricity output, GWh/mn pop.	n/a	n/a	
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	11.9	131 ○	◇
3.3	**Ecological sustainability**	**16.8**	**75**	◆
3.3.1	GDP/unit of energy use	n/a	n/a	
3.3.2	Low-carbon energy use, %	28.0	28 ●	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	124	
Market sophistication		**28.7**	**97**	◆
4.1	**Credit**	**4.3**	**128**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	7.9	126 ○	◇
4.1.3	Loans from microfinance institutions, % GDP	0.9	35	
4.2	**Investment**	**n/a**	**[n/a]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**53.1**	**110**	◆
4.3.1	Applied tariff rate, weighted avg., %	5.4	102	◆
4.3.2	Domestic industry diversification	66.6	94	
4.3.3	Domestic market scale, bn PPP$	42.3	127	

		Score/ Value	Rank	
Business sophistication		**31.6**	**50** ●	◆
5.1	**Knowledge workers**	**32.4**	**80**	
5.1.1	Knowledge-intensive employment, %	19.9	79	◆
5.1.2	Females employed w/advanced degrees, %	2.2	112	
5.1.3	Youth demographic dividend, %	61.4	12 ●	
5.1.4	GERD performed by business, % GDP	0.0	89	
5.1.5	GERD financed by business, %	29.5	60	◆
5.2	**Innovation linkages**	**22.7**	**76**	
5.2.1	Public research–industry co-publications, %	0.5	114	
5.2.2	University–industry R&D collaboration†	43.8	50 ●	◆
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	40.8	66	
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**39.9**	**24** ●	◆
5.3.1	Intellectual property payments, % total trade	2.6	9 ●	◆
5.3.2	High-tech imports, % total trade	10.0	40 ●	◆
5.3.3	ICT services imports, % total trade	7.8	1 ●	◆
5.3.4	FDI net inflows, % GDP	1.8	88	
5.3.5	Green-field R&D & high-tech FDI	0.6	81	
5.3.6	Research talent, % in businesses	2.3	84	
Knowledge and technology outputs		**14.0**	**102**	
6.1	**Knowledge creation**	**11.7**	**75**	◆
6.1.1	Patents by origin/bn PPP$ GDP	0.1	108	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107 ○	◇
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	23.8	31 ●	◆
6.1.5	Citable documents H-index	6.9	92	
6.2	**Knowledge impact**	**11.0**	**130**	
6.2.1	Labor productivity growth, %	0.3	111	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.0	116	
6.2.4	High-tech manufacturing, %	7.3	93	
6.3	**Knowledge diffusion**	**19.1**	**83**	◆
6.3.1	Intellectual property receipts, % total trade	0.1	57 ●	◆
6.3.2	Production and export complexity	48.9	112	
6.3.3	High-tech exports, % total trade	0.0	136 ○	◇
6.3.4	ICT services exports, % total trade	5.7	20 ●	◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.2	135	
Creative outputs		**6.6**	**130**	
7.1	**Intangible assets**	**2.3**	**[131]**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	8.9	116	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	n/a	n/a	
7.2	**Creative goods and services**	**6.5**	**97**	
7.2.1	Cultural and creative services exports, % total trade	0.3	79	
7.2.2	National feature films/mn pop. 15–69	3.5	44 ●	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	112	
7.3	**Online creativity**	**15.1**	**134**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.1	134	
7.3.2	GitHub commits/mn pop. 15–69	0.5	128	
7.3.3	Mobile app creation/bn PPP$ GDP	44.8	132	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Malaysia

34

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
40	29	Upper middle	SEAO	36.0	1,478.1	43,665

		Score/ Value	Rank	
Institutions		**68.9**	**27**	◆
1.1	**Institutional environment**	**74.9**	**27**	◆
1.1.1	Operational stability for businesses*	84.2	18	◆
1.1.2	Government effectiveness*	65.6	33	◆
1.2	**Regulatory environment**	**62.2**	**45**	◆
1.2.1	Regulatory quality*	64.0	40	◆
1.2.2	Rule of law*	60.3	49	◆
1.3	**Business environment**	**69.7**	**18**	◆
1.3.1	Policy stability for doing business†	80.2	9 ●	◆
1.3.2	Entrepreneurship policies and culture† ⏲	59.1	17	
Human capital and research		**38.3**	**51**	
2.1	**Education**	**43.4**	**104** ○	
2.1.1	Expenditure on education, % GDP	3.5	93 ○	
2.1.2	Government funding/pupil, secondary, % GDP/cap	17.0	60 ○	
2.1.3	School life expectancy, years	12.1	94 ○	◇
2.1.4	PISA scales in reading, maths and science	404.4	57 ○	
2.1.5	Pupil–teacher ratio, secondary	12.2	53	
2.2	**Tertiary education**	**47.3**	**17**	◆
2.2.1	Tertiary enrolment, % gross	38.5	84 ○	
2.2.2	Graduates in science and engineering, %	35.1	8 ●	◆
2.2.3	Tertiary inbound mobility, %	12.5	25	◆
2.3	**Research and development (R&D)**	**24.3**	**47**	
2.3.1	Researchers, FTE/mn pop. ⏲	1,218.3	52	
2.3.2	Gross expenditure on R&D, % GDP ⏲	1.0	39	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	70.6	15 ●	◆
Infrastructure		**50.9**	**51**	◆
3.1	**Information and communication technologies (ICTs)**	**85.2**	**46**	
3.1.1	ICT access*	97.8	31	◆
3.1.2	ICT use*	90.5	26	◆
3.1.3	Government online service*	67.3	68	
3.2	**General infrastructure**	**54.0**	**30**	◆
3.2.1	Electricity output, GWh/mn pop. ⏲	5,494.1	41	◆
3.2.2	Aviation import dwell time	0.9	9 ●	◆
3.2.3	Logistics performance*	68.2	25	◆
3.2.4	Gross capital formation, % GDP	22.2	76	
3.3	**Ecological sustainability**	**13.5**	**94** ○	
3.3.1	GDP/unit of energy use	10.3	92 ○	
3.3.2	Low-carbon energy use, %	4.5	102 ○	
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.5	36	
Market sophistication		**56.0**	**19**	◆
4.1	**Credit**	**71.2**	**5** ●	◆
4.1.1	Finance for startups and scaleups† ⏲	93.6	3	
4.1.2	Domestic credit to private sector, % GDP	116.1	17	◆
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**12.4**	**41**	
4.2.1	Market capitalization, % GDP	98.1	16	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	61	
4.2.3	Late-stage VC deal count, % global VC	0.1	32	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	55	
4.3	**Trade, diversification, and market scale**	**84.3**	**14** ●	◆
4.3.1	Applied tariff rate, weighted avg., %	0.9	14 ●	
4.3.2	Domestic industry diversification ⏲	91.4	41	
4.3.3	Domestic market scale, bn PPP$	1,478.1	29	

		Score/ Value	Rank	
Business sophistication		**43.0**	**28**	◆
5.1	**Knowledge workers**	**42.3**	**45**	◆
5.1.1	Knowledge-intensive employment, %	n/a	n/a	
5.1.2	Females employed w/advanced degrees, % ⏲	15.3	54	
5.1.3	Youth demographic dividend, %	37.1	67	
5.1.4	GERD performed by business, % GDP ⏲	0.5	39	
5.1.5	GERD financed by business, % ⏲	54.7	19	◆
5.2	**Innovation linkages**	**45.8**	**28**	◆
5.2.1	Public research–industry co-publications, %	1.1	79	
5.2.2	University–industry R&D collaboration†	64.3	19	◆
5.2.3	University industry and international engagement, top 5*	67.8	28	◆
5.2.4	State of cluster development†	82.9	16 ●	◆
5.2.5	Patent families/bn PPP$ GDP	0.1	52	
5.3	**Knowledge absorption**	**40.8**	**21**	◆
5.3.1	Intellectual property payments, % total trade	0.9	41	
5.3.2	High-tech imports, % total trade	33.9	1 ●	◆
5.3.3	ICT services imports, % total trade	1.9	51	
5.3.4	FDI net inflows, % GDP	3.1	53	
5.3.5	Green-field R&D & high-tech FDI	1.7	40	◆
5.3.6	Research talent, % in businesses ⏲	30.1	47	
Knowledge and technology outputs		**32.4**	**32**	◆
6.1	**Knowledge creation**	**13.5**	**70**	
6.1.1	Patents by origin/bn PPP$ GDP	0.6	67	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	58	
6.1.3	Utility models by origin/bn PPP$ GDP	0.1	48	
6.1.4	Scientific and technical articles/bn PPP$ GDP	14.6	60	
6.1.5	Citable documents H-index	26.2	38	
6.2	**Knowledge impact**	**36.5**	**28**	◆
6.2.1	Labor productivity growth, %	2.9	35	
6.2.2	Unicorn valuation, % GDP	0.3	52	
6.2.3	Software spending, % GDP	0.3	31	◆
6.2.4	High-tech manufacturing, % ⏲	44.0	17	◆
6.3	**Knowledge diffusion**	**47.1**	**18**	◆
6.3.1	Intellectual property receipts, % total trade	0.1	60	
6.3.2	Production and export complexity	83.3	31	◆
6.3.3	High-tech exports, % total trade	46.7	1 ●	◆
6.3.4	ICT services exports, % total trade	1.6	74	
6.3.5	ISO 9001 quality/bn PPP$ GDP	11.6	18	◆
Creative outputs		**32.1**	**46**	
7.1	**Intangible assets**	**35.7**	**47**	
7.1.1	Intangible asset intensity, top 15, %	50.9	52 ○	
7.1.2	Trademarks by origin/bn PPP$ GDP	15.5	101 ○	
7.1.3	Global brand value, top 5,000, % GDP	11.3	16	◆
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.4	85	
7.2	**Creative goods and services**	**30.5**	**33**	◆
7.2.1	Cultural and creative services exports, % total trade	0.4	63	
7.2.2	National feature films/mn pop. 15–69	2.4	57	
7.2.3	Entertainment and media market/th pop. 15–69	9.0	39	
7.2.4	Creative goods exports, % total trade	9.4	3 ●	◆
7.3	**Online creativity**	**26.7**	**66**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	7.1	51	
7.3.2	GitHub commits/mn pop. 15–69	8.1	64	
7.3.3	Mobile app creation/bn PPP$ GDP	64.8	84	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Mali

GII 2026 rank **134**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
133	127	Low	SSA	25.2	73.0	2,890

		Score/ Value	Rank	
Institutions		**30.7**	**119**	
1.1	**Institutional environment**	**16.0**	**135**	
1.1.1	Operational stability for businesses*	21.7	131	
1.1.2	Government effectiveness*	10.2	136	◇
1.2	**Regulatory environment**	**27.3**	**121**	
1.2.1	Regulatory quality*	28.3	120	
1.2.2	Rule of law*	26.3	122	
1.3	**Business environment**	**48.8**	**[61]**	
1.3.1	Policy stability for doing business†	48.8	64	●
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**21.1**	**108**	
2.1	**Education**	**41.5**	**106**	
2.1.1	Expenditure on education, % GDP	4.2	69	●
2.1.2	Government funding/pupil, secondary, % GDP/cap	22.8	27	● ◆
2.1.3	School life expectancy, years	6.9	118	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	16.2	85	
2.2	**Tertiary education**	**n/a**	**[n/a]**	
2.2.1	Tertiary enrolment, % gross	n/a	n/a	
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**0.6**	**110**	
2.3.1	Researchers, FTE/mn pop.	26.0	103	
2.3.2	Gross expenditure on R&D, % GDP	0.1	95	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**23.6**	**129**	
3.1	**Information and communication technologies (ICTs)**	**33.9**	**129**	
3.1.1	ICT access*	48.0	122	◆
3.1.2	ICT use*	n/a	n/a	
3.1.3	Government online service*	19.8	129	
3.2	**General infrastructure**	**29.1**	**111**	
3.2.1	Electricity output, GWh/mn pop.	293.2	119	
3.2.2	Aviation import dwell time	3.4	82	
3.2.3	Logistics performance*	22.7	82	
3.2.4	Gross capital formation, % GDP	17.7	110	
3.3	**Ecological sustainability**	**8.0**	**117**	
3.3.1	GDP/unit of energy use	8.4	106	
3.3.2	Low-carbon energy use, %	7.7	87	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	122	
Market sophistication		**16.4**	**131**	
4.1	**Credit**	**13.2**	**[115]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	n/a	n/a	
4.1.3	Loans from microfinance institutions, % GDP	1.5	25	●
4.2	**Investment**	**0.8**	**119**	◇
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	105	
4.2.3	Late-stage VC deal count, % global VC	0.0	99	◇
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	103	
4.3	**Trade, diversification, and market scale**	**35.3**	**130**	
4.3.1	Applied tariff rate, weighted avg., %	4.4	90	◆
4.3.2	Domestic industry diversification	0.0	110	○ ◇
4.3.3	Domestic market scale, bn PPP$	73.0	106	

		Score/ Value	Rank	
Business sophistication		**23.0**	**92**	
5.1	**Knowledge workers**	**29.0**	**100**	
5.1.1	Knowledge-intensive employment, %	4.9	115	
5.1.2	Females employed w/advanced degrees, %	0.7	126	
5.1.3	Youth demographic dividend, %	66.2	2	● ◆
5.1.4	GERD performed by business, % GDP	0.0	75	◆
5.1.5	GERD financed by business, %	30.4	58	● ◆
5.2	**Innovation linkages**	**26.4**	**[59]**	
5.2.1	Public research–industry co-publications, %	0.5	124	
5.2.2	University–industry R&D collaboration†	36.6	70	●
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	37.3	79	
5.2.5	Patent families/bn PPP$ GDP	n/a	n/a	
5.3	**Knowledge absorption**	**13.8**	**126**	
5.3.1	Intellectual property payments, % total trade	0.0	132	○ ◇
5.3.2	High-tech imports, % total trade	5.5	108	
5.3.3	ICT services imports, % total trade	1.5	68	●
5.3.4	FDI net inflows, % GDP	3.1	52	●
5.3.5	Green-field R&D & high-tech FDI	0.0	125	○ ◇
5.3.6	Research talent, % in businesses	5.8	72	
Knowledge and technology outputs		**8.6**	**133**	
6.1	**Knowledge creation**	**2.3**	**126**	
6.1.1	Patents by origin/bn PPP$ GDP	0.0	127	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107	○ ◇
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	77	○ ◇
6.1.4	Scientific and technical articles/bn PPP$ GDP	4.3	118	
6.1.5	Citable documents H-index	4.6	110	
6.2	**Knowledge impact**	**9.6**	**137**	◇
6.2.1	Labor productivity growth, %	0.2	115	
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.0	127	
6.2.4	High-tech manufacturing, %	4.8	101	
6.3	**Knowledge diffusion**	**14.0**	**111**	
6.3.1	Intellectual property receipts, % total trade	0.0	124	
6.3.2	Production and export complexity	49.3	111	
6.3.3	High-tech exports, % total trade	0.2	112	◆
6.3.4	ICT services exports, % total trade	2.7	54	●
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.4	130	
Creative outputs		**6.1**	**133**	
7.1	**Intangible assets**	**2.9**	**129**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	5.6	122	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.2	104	
7.2	**Creative goods and services**	**0.3**	**[138]**	
7.2.1	Cultural and creative services exports, % total trade	0.0	122	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	128	
7.3	**Online creativity**	**18.2**	**122**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.2	126	
7.3.2	GitHub commits/mn pop. 15–69	0.1	135	
7.3.3	Mobile app creation/bn PPP$ GDP	54.4	118	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Malta

31

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
26	32	High	EUR	0.5	44.3	78,711

		Score/ Value	Rank	
Institutions		**62.1**	**40**	
1.1	**Institutional environment**	**68.6**	**43**	
1.1.1	Operational stability for businesses*	78.9	28	
1.1.2	Government effectiveness*	58.3	45	
1.2	**Regulatory environment**	**64.4**	**40**	
1.2.1	Regulatory quality*	59.3	46	
1.2.2	Rule of law*	69.4	33	
1.3	**Business environment**	**53.3**	**[50]**	
1.3.1	Policy stability for doing business†	53.3	57	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**38.4**	**50**	
2.1	**Education**	**63.8**	**31**	
2.1.1	Expenditure on education, % GDP	4.7	51	
2.1.2	Government funding/pupil, secondary, % GDP/cap	26.8	11	◆
2.1.3	School life expectancy, years	16.2	33	
2.1.4	PISA scales in reading, maths and science	459.0	39	
2.1.5	Pupil–teacher ratio, secondary	7.0	3 ●	◆
2.2	**Tertiary education**	**43.5**	**31**	
2.2.1	Tertiary enrolment, % gross	80.5	24	
2.2.2	Graduates in science and engineering, %	12.9	110 ○	◇
2.2.3	Tertiary inbound mobility, %	29.6	7 ●	◆
2.3	**Research and development (R&D)**	**8.1**	**75**	◇
2.3.1	Researchers, FTE/mn pop.	2,522.0	38	
2.3.2	Gross expenditure on R&D, % GDP	0.5	61	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**58.9**	**25**	
3.1	**Information and communication technologies (ICTs)**	**93.3**	**15**	
3.1.1	ICT access*	99.8	8 ●	
3.1.2	ICT use*	95.0	11	
3.1.3	Government online service*	85.0	30	
3.2	**General infrastructure**	**45.7**	**55**	
3.2.1	Electricity output, GWh/mn pop.	3,806.6	59	
3.2.2	Aviation import dwell time	1.5	26	
3.2.3	Logistics performance*	54.5	42	
3.2.4	Gross capital formation, % GDP	19.3	106 ○	
3.3	**Ecological sustainability**	**37.6**	**17**	
3.3.1	GDP/unit of energy use	44.7	1 ●	◆
3.3.2	Low-carbon energy use, %	1.3	121 ○	◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.7	53	
Market sophistication		**41.8**	**47**	
4.1	**Credit**	**24.7**	**[78]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	61.9	47	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**28.5**	**21**	
4.2.1	Market capitalization, % GDP	21.0	58 ○	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.3	21	
4.2.3	Late-stage VC deal count, % global VC	0.0	70	
4.2.4	VC investors, deal count/bn PPP$ GDP	1.3	7	◆
4.3	**Trade, diversification, and market scale**	**72.1**	**61**	
4.3.1	Applied tariff rate, weighted avg., %	1.3	20	
4.3.2	Domestic industry diversification	91.6	39	
4.3.3	Domestic market scale, bn PPP$	44.3	125 ○	◇

		Score/ Value	Rank	
Business sophistication		**48.5**	**22**	
5.1	**Knowledge workers**	**44.9**	**36**	
5.1.1	Knowledge-intensive employment, %	46.4	21	
5.1.2	Females employed w/advanced degrees, %	19.9	38	
5.1.3	Youth demographic dividend, %	21.9	135 ○	◇
5.1.4	GERD performed by business, % GDP	0.4	46	
5.1.5	GERD financed by business, %	58.9	11	
5.2	**Innovation linkages**	**29.3**	**55**	
5.2.1	Public research–industry co-publications, %	1.5	63	
5.2.2	University–industry R&D collaboration†	43.1	51	
5.2.3	University industry and international engagement, top 5*	26.7	60	◇
5.2.4	State of cluster development†	39.6	70	
5.2.5	Patent families/bn PPP$ GDP	1.2	22	
5.3	**Knowledge absorption**	**71.2**	**1** ●	◆
5.3.1	Intellectual property payments, % total trade	4.8	1 ●	◆
5.3.2	High-tech imports, % total trade	5.9	101 ○	
5.3.3	ICT services imports, % total trade	4.4	8 ●	◆
5.3.4	FDI net inflows, % GDP	131.5	1 ●	◆
5.3.5	Green-field R&D & high-tech FDI	7.9	4 ●	◆
5.3.6	Research talent, % in businesses	55.2	21	
Knowledge and technology outputs		**26.6**	**48**	
6.1	**Knowledge creation**	**16.9**	**62**	
6.1.1	Patents by origin/bn PPP$ GDP	1.7	28	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.4	32	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	14.9	58	
6.1.5	Citable documents H-index	7.8	88	◇
6.2	**Knowledge impact**	**43.2**	**15**	
6.2.1	Labor productivity growth, %	2.5	42	
6.2.2	Unicorn valuation, % GDP	3.3	13	
6.2.3	Software spending, % GDP	0.3	48	
6.2.4	High-tech manufacturing, %	39.0	26	
6.3	**Knowledge diffusion**	**19.8**	**79**	◇
6.3.1	Intellectual property receipts, % total trade	0.9	20	
6.3.2	Production and export complexity	n/a	n/a	
6.3.3	High-tech exports, % total trade	4.9	40	
6.3.4	ICT services exports, % total trade	1.6	76	
6.3.5	ISO 9001 quality/bn PPP$ GDP	6.2	42	
Creative outputs		**48.8**	**14**	
7.1	**Intangible assets**	**54.9**	**14**	◆
7.1.1	Intangible asset intensity, top 15, %	59.5	33	
7.1.2	Trademarks by origin/bn PPP$ GDP	120.2	4 ●	◆
7.1.3	Global brand value, top 5,000, % GDP	1.2	57	
7.1.4	Industrial designs by origin/bn PPP$ GDP	7.4	8	◆
7.2	**Creative goods and services**	**36.3**	**19**	
7.2.1	Cultural and creative services exports, % total trade	17.0	1 ●	◆
7.2.2	National feature films/mn pop. 15–69	5.1	32	
7.2.3	Entertainment and media market/th pop. 15–69	22.6	30	
7.2.4	Creative goods exports, % total trade	0.1	94 ○	◇
7.3	**Online creativity**	**49.2**	**28**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	41.6	17	
7.3.2	GitHub commits/mn pop. 15–69	31.3	31	
7.3.3	Mobile app creation/bn PPP$ GDP	74.6	23	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Mauritania

GII 2026 rank **131**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
135	122	Lower middle	SSA	5.3	40.6	8,775

		Score/ Value	Rank	
Institutions		**38.6**	**98**	
1.1	**Institutional environment**	**41.6**	**103**	
1.1.1	Operational stability for businesses*	59.2	87	
1.1.2	Government effectiveness*	24.0	120	
1.2	**Regulatory environment**	**29.8**	**116**	
1.2.1	Regulatory quality*	27.9	124	
1.2.2	Rule of law*	31.7	109	
1.3	**Business environment**	**44.3**	**[70]**	
1.3.1	Policy stability for doing business† ⏲	44.3	73 ●	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**23.2**	**102**	
2.1	**Education**	**38.4**	**117**	
2.1.1	Expenditure on education, % GDP	7.6	4 ● ◆	
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	8.9	86	
2.1.3	School life expectancy, years ⏲	8.7	114	◇
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary ⏲	28.6	120	◇
2.2	**Tertiary education**	**31.2**	**73 ●**	
2.2.1	Tertiary enrolment, % gross ⏲	6.0	126	◇
2.2.2	Graduates in science and engineering, % ⏲	34.6	10 ● ◆	
2.2.3	Tertiary inbound mobility, % ⏲	1.4	89	
2.3	**Research and development (R&D)**	**0.0**	**121**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.0	114	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**26.4**	**125**	◇
3.1	**Information and communication technologies (ICTs)**	**39.0**	**125**	◇
3.1.1	ICT access*	57.2	113	
3.1.2	ICT use*	59.6	110	
3.1.3	Government online service*	0.0	138 ○	◇
3.2	**General infrastructure**	**28.4**	**114**	
3.2.1	Electricity output, GWh/mn pop. ⏲	374.2	118	
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	9.1	107	
3.2.4	Gross capital formation, % GDP	40.4	3 ● ◆	
3.3	**Ecological sustainability**	**11.9**	**106**	
3.3.1	GDP/unit of energy use	15.3	46 ●	
3.3.2	Low-carbon energy use, %	3.4	107	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.2	112	
Market sophistication		**18.0**	**[129]**	
4.1	**Credit**	**7.2**	**[125]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP ⏲	22.7	109	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**n/a**	**[n/a]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**28.8**	**136**	◇
4.3.1	Applied tariff rate, weighted avg., %	10.0	128	◇
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	40.6	129	◇

		Score/ Value	Rank	
Business sophistication		**19.7**	**116**	
5.1	**Knowledge workers**	**31.0**	**[93]**	
5.1.1	Knowledge-intensive employment, %	n/a	n/a	
5.1.2	Females employed w/advanced degrees, % ⏲	0.7	127	
5.1.3	Youth demographic dividend, %	62.1	10 ● ◆	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, % ⏲	0.0	99 ○	◇
5.2	**Innovation linkages**	**15.6**	**110**	
5.2.1	Public research–industry co-publications, %	0.6	110	
5.2.2	University–industry R&D collaboration† ⏲	42.2	53 ●	
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development† ⏲	13.4	128	◇
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**12.6**	**132**	◇
5.3.1	Intellectual property payments, % total trade ⏲	0.0	126	
5.3.2	High-tech imports, % total trade	2.7	134	◇
5.3.3	ICT services imports, % total trade ⏲	0.9	100	
5.3.4	FDI net inflows, % GDP	11.9	7 ● ◆	
5.3.5	Green-field R&D & high-tech FDI	0.0	125 ○	◇
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**9.2**	**132**	
6.1	**Knowledge creation**	**1.1**	**136**	◇
6.1.1	Patents by origin/bn PPP$ GDP	0.1	117	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107 ○	◇
6.1.3	Utility models by origin/bn PPP$ GDP ⏲	0.0	77 ○	◇
6.1.4	Scientific and technical articles/bn PPP$ GDP	2.7	130	
6.1.5	Citable documents H-index	0.4	137	◇
6.2	**Knowledge impact**	**17.5**	**109**	
6.2.1	Labor productivity growth, %	1.2	77 ●	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.1	84 ●	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**9.2**	**129**	
6.3.1	Intellectual property receipts, % total trade ⏲	0.0	125	
6.3.2	Production and export complexity	43.3	122	◇
6.3.3	High-tech exports, % total trade	0.0	135	
6.3.4	ICT services exports, % total trade ⏲	0.1	131	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.6	123	
Creative outputs		**4.9**	**[137]**	
7.1	**Intangible assets**	**0.4**	**[137]**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	2.1	135	◇
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.0	130 ○	◇
7.2	**Creative goods and services**	**1.3**	**[128]**	
7.2.1	Cultural and creative services exports, % total trade	0.1	98	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	133	
7.3	**Online creativity**	**17.3**	**124**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.1	129	
7.3.2	GitHub commits/mn pop. 15–69	0.6	125	
7.3.3	Mobile app creation/bn PPP$ GDP	51.1	123	◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Mauritius

50

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
54	52	Upper middle	SSA	1.3	41.5	33,024

		Score/ Value	Rank	
Institutions		**65.5**	**34**	◆
1.1	**Institutional environment**	**74.7**	**28**	◆
1.1.1	Operational stability for businesses*	87.5	10	● ◆
1.1.2	Government effectiveness*	61.9	39	◆
1.2	**Regulatory environment**	**68.9**	**32**	◆
1.2.1	Regulatory quality*	70.5	31	◆
1.2.2	Rule of law*	67.3	36	◆
1.3	**Business environment**	**52.8**	**52**	
1.3.1	Policy stability for doing business†	57.8	46	
1.3.2	Entrepreneurship policies and culture†	47.8	32	
Human capital and research		**31.8**	**76**	
2.1	**Education**	**64.0**	**29**	
2.1.1	Expenditure on education, % GDP	4.2	68	
2.1.2	Government funding/pupil, secondary, % GDP/cap	32.6	7	● ◆
2.1.3	School life expectancy, years ⏲	14.2	67	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	10.8	41	
2.2	**Tertiary education**	**28.8**	**83**	
2.2.1	Tertiary enrolment, % gross	45.8	78	
2.2.2	Graduates in science and engineering, % ⏲	21.8	74	
2.2.3	Tertiary inbound mobility, %	7.0	44	
2.3	**Research and development (R&D)**	**2.6**	**92**	
2.3.1	Researchers, FTE/mn pop.	688.5	67	
2.3.2	Gross expenditure on R&D, % GDP	0.3	80	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**43.1**	**79**	
3.1	**Information and communication technologies (ICTs)**	**75.4**	**75**	
3.1.1	ICT access*	84.9	70	
3.1.2	ICT use*	90.7	25	● ◆
3.1.3	Government online service*	50.7	92	
3.2	**General infrastructure**	**34.6**	**92**	
3.2.1	Electricity output, GWh/mn pop.	2,712.7	73	
3.2.2	Aviation import dwell time	2.6	63	
3.2.3	Logistics performance*	18.2	89	○
3.2.4	Gross capital formation, % GDP	21.6	85	
3.3	**Ecological sustainability**	**19.2**	**66**	
3.3.1	GDP/unit of energy use	21.8	17	● ◆
3.3.2	Low-carbon energy use, %	4.5	101	
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.0	70	
Market sophistication		**44.6**	**38**	◆
4.1	**Credit**	**36.4**	**49**	
4.1.1	Finance for startups and scaleups†	44.5	55	
4.1.2	Domestic credit to private sector, % GDP	69.9	38	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**29.2**	**19**	● ◆
4.2.1	Market capitalization, % GDP	62.6	25	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP ⏲	0.1	39	◆
4.2.3	Late-stage VC deal count, % global VC ⏲	0.0	102	○ ◇
4.2.4	VC investors, deal count/bn PPP$ GDP	1.4	6	● ◆
4.3	**Trade, diversification, and market scale**	**68.3**	**75**	
4.3.1	Applied tariff rate, weighted avg., %	0.9	13	●
4.3.2	Domestic industry diversification	77.6	72	
4.3.3	Domestic market scale, bn PPP$	41.5	128	○ ◇

		Score/ Value	Rank	
Business sophistication		**23.3**	**90**	
5.1	**Knowledge workers**	**23.3**	**123**	○ ◇
5.1.1	Knowledge-intensive employment, % ⏲	30.3	49	
5.1.2	Females employed w/advanced degrees, % ⏲	13.3	65	
5.1.3	Youth demographic dividend, %	27.6	102	◇
5.1.4	GERD performed by business, % GDP	0.0	81	○
5.1.5	GERD financed by business, %	7.0	80	
5.2	**Innovation linkages**	**25.5**	**61**	
5.2.1	Public research–industry co-publications, %	2.4	33	
5.2.2	University–industry R&D collaboration†	28.2	100	
5.2.3	University industry and international engagement, top 5*	18.6	71	
5.2.4	State of cluster development†	34.8	86	
5.2.5	Patent families/bn PPP$ GDP	1.1	24	● ◆
5.3	**Knowledge absorption**	**21.1**	**75**	
5.3.1	Intellectual property payments, % total trade	0.1	111	◇
5.3.2	High-tech imports, % total trade	4.6	119	○
5.3.3	ICT services imports, % total trade	2.4	32	◆
5.3.4	FDI net inflows, % GDP	4.7	29	
5.3.5	Green-field R&D & high-tech FDI	2.9	23	● ◆
5.3.6	Research talent, % in businesses	4.7	76	○
Knowledge and technology outputs		**14.5**	**99**	
6.1	**Knowledge creation**	**5.0**	**[116]**	
6.1.1	Patents by origin/bn PPP$ GDP	0.2	98	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	4.6	115	
6.1.5	Citable documents H-index	4.8	105	
6.2	**Knowledge impact**	**17.4**	**110**	
6.2.1	Labor productivity growth, %	2.2	50	
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.2	80	
6.2.4	High-tech manufacturing, %	4.9	100	○ ◇
6.3	**Knowledge diffusion**	**20.9**	**73**	
6.3.1	Intellectual property receipts, % total trade	0.0	112	
6.3.2	Production and export complexity	73.2	62	
6.3.3	High-tech exports, % total trade	0.3	105	
6.3.4	ICT services exports, % total trade	2.1	66	
6.3.5	ISO 9001 quality/bn PPP$ GDP	5.0	54	
Creative outputs		**38.8**	**30**	◆
7.1	**Intangible assets**	**35.5**	**48**	
7.1.1	Intangible asset intensity, top 15, %	40.4	60	
7.1.2	Trademarks by origin/bn PPP$ GDP	50.7	31	
7.1.3	Global brand value, top 5,000, % GDP	1.4	54	
7.1.4	Industrial designs by origin/bn PPP$ GDP	2.8	27	
7.2	**Creative goods and services**	**54.5**	**4**	● ◆
7.2.1	Cultural and creative services exports, % total trade ⏲	4.6	6	● ◆
7.2.2	National feature films/mn pop. 15–69	27.7	2	● ◆
7.2.3	Entertainment and media market/th pop. 15–69	10.0	37	◆
7.2.4	Creative goods exports, % total trade	0.4	67	
7.3	**Online creativity**	**29.6**	**53**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	7.2	50	
7.3.2	GitHub commits/mn pop. 15–69	16.0	48	
7.3.3	Mobile app creation/bn PPP$ GDP	65.6	80	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Mexico

GII 2026 rank **65**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
53	81	Upper middle	LCN	131.9	3,436.9	25,770

		Score/ Value	Rank
Institutions		**33.1**	**112** ○
1.1	**Institutional environment**	**42.9**	**102**
1.1.1	Operational stability for businesses*	48.7	111 ○
1.1.2	Government effectiveness*	37.1	90
1.2	**Regulatory environment**	**33.6**	**108** ○
1.2.1	Regulatory quality*	42.3	86
1.2.2	Rule of law*	24.9	123 ○ ◇
1.3	**Business environment**	**22.8**	**118** ○
1.3.1	Policy stability for doing business†	25.2	115 ○
1.3.2	Entrepreneurship policies and culture†	20.4	71 ○
Human capital and research		**33.0**	**69**
2.1	**Education**	**45.6**	**93**
2.1.1	Expenditure on education, % GDP ⏲	4.1	77
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	14.0	71 ○
2.1.3	School life expectancy, years	14.9	54
2.1.4	PISA scales in reading, maths and science	406.8	54
2.1.5	Pupil–teacher ratio, secondary ⏲	15.6	81
2.2	**Tertiary education**	**27.7**	**86**
2.2.1	Tertiary enrolment, % gross	48.2	75
2.2.2	Graduates in science and engineering, % ⏲	23.8	55
2.2.3	Tertiary inbound mobility, %	2.0	81
2.3	**Research and development (R&D)**	**25.7**	**46**
2.3.1	Researchers, FTE/mn pop.	438.2	77
2.3.2	Gross expenditure on R&D, % GDP	0.3	81
2.3.3	Global corporate R&D investors, top 3, mn US$	45.9	37 ◆
2.3.4	QS university ranking, top 3*	49.2	36 ● ◆
Infrastructure		**43.6**	**74**
3.1	**Information and communication technologies (ICTs)**	**75.6**	**73**
3.1.1	ICT access*	76.4	86
3.1.2	ICT use*	78.9	75
3.1.3	Government online service*	71.6	60
3.2	**General infrastructure**	**42.1**	**66**
3.2.1	Electricity output, GWh/mn pop.	3,012.2	68
3.2.2	Aviation import dwell time	2.0	42
3.2.3	Logistics performance*	36.4	65
3.2.4	Gross capital formation, % GDP	23.8	59
3.3	**Ecological sustainability**	**13.1**	**95**
3.3.1	GDP/unit of energy use	13.9	63
3.3.2	Low-carbon energy use, %	6.8	93
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.7	81
Market sophistication		**35.0**	**75**
4.1	**Credit**	**19.2**	**98**
4.1.1	Finance for startups and scaleups†	37.0	63
4.1.2	Domestic credit to private sector, % GDP	34.6	86
4.1.3	Loans from microfinance institutions, % GDP	0.9	34
4.2	**Investment**	**5.3**	**72**
4.2.1	Market capitalization, % GDP ⏲	32.7	43
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	79
4.2.3	Late-stage VC deal count, % global VC	0.1	30
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	77
4.3	**Trade, diversification, and market scale**	**80.5**	**29** ●
4.3.1	Applied tariff rate, weighted avg., %	2.8	77
4.3.2	Domestic industry diversification	86.3	55
4.3.3	Domestic market scale, bn PPP$	3,436.9	13 ● ◆

		Score/ Value	Rank
Business sophistication		**26.9**	**67**
5.1	**Knowledge workers**	**26.0**	**112** ○
5.1.1	Knowledge-intensive employment, %	21.2	73
5.1.2	Females employed w/advanced degrees, %	11.2	71
5.1.3	Youth demographic dividend, %	40.4	58
5.1.4	GERD performed by business, % GDP	0.0	73 ○
5.1.5	GERD financed by business, %	13.4	73
5.2	**Innovation linkages**	**22.1**	**80**
5.2.1	Public research–industry co-publications, %	0.5	116 ○
5.2.2	University–industry R&D collaboration†	33.3	82
5.2.3	University industry and international engagement, top 5*	24.1	65
5.2.4	State of cluster development†	46.5	57
5.2.5	Patent families/bn PPP$ GDP	0.0	69
5.3	**Knowledge absorption**	**32.7**	**37** ◆
5.3.1	Intellectual property payments, % total trade	0.8	51
5.3.2	High-tech imports, % total trade	16.9	14 ● ◆
5.3.3	ICT services imports, % total trade	0.9	97
5.3.4	FDI net inflows, % GDP	2.3	77
5.3.5	Green-field R&D & high-tech FDI	1.3	50
5.3.6	Research talent, % in businesses	50.0	28 ◆
Knowledge and technology outputs		**23.1**	**65**
6.1	**Knowledge creation**	**10.8**	**81**
6.1.1	Patents by origin/bn PPP$ GDP	0.4	80
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	70
6.1.3	Utility models by origin/bn PPP$ GDP	0.2	42
6.1.4	Scientific and technical articles/bn PPP$ GDP	6.3	108 ○
6.1.5	Citable documents H-index	29.5	34 ● ◆
6.2	**Knowledge impact**	**29.0**	**52**
6.2.1	Labor productivity growth, %	–0.2	119 ○ ◇
6.2.2	Unicorn valuation, % GDP	0.7	44
6.2.3	Software spending, % GDP	0.2	71
6.2.4	High-tech manufacturing, %	49.2	11 ● ◆
6.3	**Knowledge diffusion**	**29.7**	**51**
6.3.1	Intellectual property receipts, % total trade	0.2	46
6.3.2	Production and export complexity	85.6	26 ● ◆
6.3.3	High-tech exports, % total trade	13.7	14 ● ◆
6.3.4	ICT services exports, % total trade	0.2	120 ○
6.3.5	ISO 9001 quality/bn PPP$ GDP	2.7	80
Creative outputs		**30.5**	**52**
7.1	**Intangible assets**	**34.8**	**52**
7.1.1	Intangible asset intensity, top 15, %	69.6	19 ●
7.1.2	Trademarks by origin/bn PPP$ GDP	47.9	34 ●
7.1.3	Global brand value, top 5,000, % GDP	4.1	36
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.3	91
7.2	**Creative goods and services**	**28.5**	**39** ◆
7.2.1	Cultural and creative services exports, % total trade	0.1	97
7.2.2	National feature films/mn pop. 15–69	2.6	54
7.2.3	Entertainment and media market/th pop. 15–69	11.6	34 ◆
7.2.4	Creative goods exports, % total trade	8.3	5 ● ◆
7.3	**Online creativity**	**23.9**	**88**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	3.2	69
7.3.2	GitHub commits/mn pop. 15–69	4.5	87
7.3.3	Mobile app creation/bn PPP$ GDP	64.0	89

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Mongolia

72

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
57	93	Upper middle	SEAO	3.5	73.0	20,378

		Score/ Value	Rank
Institutions		**39.2**	**95**
1.1	**Institutional environment**	**48.0**	**90**
1.1.1	Operational stability for businesses*	63.2	74
1.1.2	Government effectiveness*	32.8	104
1.2	**Regulatory environment**	**47.6**	**73**
1.2.1	Regulatory quality*	45.4	77
1.2.2	Rule of law*	49.8	66
1.3	**Business environment**	**21.9**	**[119]**
1.3.1	Policy stability for doing business†	21.9	123
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**28.3**	**88**
2.1	**Education**	**54.3**	**68**
2.1.1	Expenditure on education, % GDP	5.2	38 ●
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years ⏲	14.8	55
2.1.4	PISA scales in reading, maths and science	405.1	55
2.1.5	Pupil–teacher ratio, secondary ⏲	16.4	88
2.2	**Tertiary education**	**29.1**	**81**
2.2.1	Tertiary enrolment, % gross	69.0	47
2.2.2	Graduates in science and engineering, %	20.7	80
2.2.3	Tertiary inbound mobility, %	3.0	72
2.3	**Research and development (R&D)**	**1.6**	**97**
2.3.1	Researchers, FTE/mn pop. ⏲	535.4	72
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.1	105
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇
Infrastructure		**39.4**	**86**
3.1	**Information and communication technologies (ICTs)**	**82.3**	**55**
3.1.1	ICT access*	83.2	75
3.1.2	ICT use*	85.1	48
3.1.3	Government online service*	78.6	41
3.2	**General infrastructure**	**29.4**	**109**
3.2.1	Electricity output, GWh/mn pop.	2,516.9	77
3.2.2	Aviation import dwell time	n/a	n/a
3.2.3	Logistics performance*	18.2	89
3.2.4	Gross capital formation, % GDP	34.3	11 ● ◆
3.3	**Ecological sustainability**	**6.6**	**127** ◇
3.3.1	GDP/unit of energy use	6.9	116 ◇
3.3.2	Low-carbon energy use, %	0.9	123
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.2	64
Market sophistication		**32.2**	**87**
4.1	**Credit**	**41.0**	**38 ● ◆**
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	44.9	74
4.1.3	Loans from microfinance institutions, % GDP	7.2	4 ● ◆
4.2	**Investment**	**1.4**	**111**
4.2.1	Market capitalization, % GDP	n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	83
4.2.3	Late-stage VC deal count, % global VC	0.0	101 ○
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	98
4.3	**Trade, diversification, and market scale**	**54.1**	**107**
4.3.1	Applied tariff rate, weighted avg., %	4.8	95
4.3.2	Domestic industry diversification	59.7	100 ◇
4.3.3	Domestic market scale, bn PPP$	73.0	105

		Score/ Value	Rank
Business sophistication		**21.7**	**106**
5.1	**Knowledge workers**	**34.9**	**64**
5.1.1	Knowledge-intensive employment, % ⏲	30.3	48
5.1.2	Females employed w/advanced degrees, % ⏲	22.1	28 ● ◆
5.1.3	Youth demographic dividend, %	46.3	40 ◆
5.1.4	GERD performed by business, % GDP ⏲	0.0	96 ○ ◇
5.1.5	GERD financed by business, % ⏲	1.7	92 ○ ◇
5.2	**Innovation linkages**	**15.0**	**113**
5.2.1	Public research–industry co-publications, %	1.3	70
5.2.2	University–industry R&D collaboration†	24.1	109
5.2.3	University industry and international engagement, top 5*	13.9	82
5.2.4	State of cluster development†	22.4	117
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○ ◇
5.3	**Knowledge absorption**	**15.1**	**116** ◇
5.3.1	Intellectual property payments, % total trade	0.2	92
5.3.2	High-tech imports, % total trade	4.5	120
5.3.3	ICT services imports, % total trade	1.1	86
5.3.4	FDI net inflows, % GDP	12.5	6 ● ◆
5.3.5	Green-field R&D & high-tech FDI	0.1	120 ◇
5.3.6	Research talent, % in businesses ⏲	10.4	65
Knowledge and technology outputs		**17.0**	**88**
6.1	**Knowledge creation**	**18.2**	**57**
6.1.1	Patents by origin/bn PPP$ GDP	1.3	36 ●
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	86
6.1.3	Utility models by origin/bn PPP$ GDP	1.3	11 ●
6.1.4	Scientific and technical articles/bn PPP$ GDP	11.4	77
6.1.5	Citable documents H-index	4.7	109
6.2	**Knowledge impact**	**20.5**	**92**
6.2.1	Labor productivity growth, %	3.8	16 ●
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.1	92
6.2.4	High-tech manufacturing, %	4.9	99 ◇
6.3	**Knowledge diffusion**	**12.3**	**115** ◇
6.3.1	Intellectual property receipts, % total trade	0.0	106
6.3.2	Production and export complexity	37.8	124 ○ ◇
6.3.3	High-tech exports, % total trade	0.4	102
6.3.4	ICT services exports, % total trade	0.4	112
6.3.5	ISO 9001 quality/bn PPP$ GDP	6.2	43
Creative outputs		**35.2**	**41** ◆
7.1	**Intangible assets**	**59.0**	**8 ● ◆**
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	155.8	3 ● ◆
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	14.9	3 ● ◆
7.2	**Creative goods and services**	**2.4**	**[118]**
7.2.1	Cultural and creative services exports, % total trade	0.2	88
7.2.2	National feature films/mn pop. 15–69	n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade ⏲	0.0	129 ○
7.3	**Online creativity**	**20.5**	**111**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.8	84
7.3.2	GitHub commits/mn pop. 15–69	7.2	66
7.3.3	Mobile app creation/bn PPP$ GDP	52.4	119

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Montenegro

GII 2026 rank **76**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
68	79	Upper middle	EUR	0.6	21.5	34,408

		Score/ Value	Rank	
Institutions		**44.4**	**85**	
1.1	**Institutional environment**	**58.8**	**61**	
1.1.1	Operational stability for businesses*	65.8	65	
1.1.2	Government effectiveness*	51.8	56	
1.2	**Regulatory environment**	**53.4**	**60**	
1.2.1	Regulatory quality*	50.3	64	
1.2.2	Rule of law*	56.5	56	◆
1.3	**Business environment**	**21.0**	**[122]**	
1.3.1	Policy stability for doing business† ⏲	21.0	125	○
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**32.2**	**74**	
2.1	**Education**	**59.4**	**[44]**	
2.1.1	Expenditure on education, % GDP	n/a	n/a	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years ⏲	15.5	46	
2.1.4	PISA scales in reading, maths and science	404.6	56	
2.1.5	Pupil–teacher ratio, secondary ⏲	11.2	45	
2.2	**Tertiary education**	**33.7**	**65**	
2.2.1	Tertiary enrolment, % gross ⏲	55.2	61	
2.2.2	Graduates in science and engineering, %	19.5	85	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**3.4**	**88**	
2.3.1	Researchers, FTE/mn pop.	974.5	56	
2.3.2	Gross expenditure on R&D, % GDP	0.3	70	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**45.3**	**68**	
3.1	**Information and communication technologies (ICTs)**	**74.9**	**77**	
3.1.1	ICT access*	93.2	53	◆
3.1.2	ICT use*	89.0	31	●
3.1.3	Government online service*	42.4	102	◇
3.2	**General infrastructure**	**31.3**	**100**	
3.2.1	Electricity output, GWh/mn pop.	5,668.3	40	◆
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	31.8	71	
3.2.4	Gross capital formation, % GDP	25.7	43	
3.3	**Ecological sustainability**	**29.8**	**36**	◆
3.3.1	GDP/unit of energy use	15.9	44	
3.3.2	Low-carbon energy use, %	19.2	46	
3.3.3	ISO 14001 environment/bn PPP$ GDP	5.1	19	●
Market sophistication		**27.9**	**102**	
4.1	**Credit**	**15.1**	**108**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	45.3	72	
4.1.3	Loans from microfinance institutions, % GDP	1.4	26	
4.2	**Investment**	**9.5**	**[50]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	53	◆
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**59.1**	**97**	
4.3.1	Applied tariff rate, weighted avg., %	1.0	16	●
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	21.5	134	○ ◇

		Score/ Value	Rank	
Business sophistication		**22.5**	**102**	
5.1	**Knowledge workers**	**29.9**	**97**	
5.1.1	Knowledge-intensive employment, % ⏲	37.8	38	◆
5.1.2	Females employed w/advanced degrees, % ⏲	16.5	48	
5.1.3	Youth demographic dividend, %	30.0	88	
5.1.4	GERD performed by business, % GDP	0.0	78	
5.1.5	GERD financed by business, % ⏲	11.8	75	
5.2	**Innovation linkages**	**14.9**	**115**	
5.2.1	Public research–industry co-publications, %	1.0	89	
5.2.2	University–industry R&D collaboration† ⏲	30.0	93	
5.2.3	University industry and international engagement, top 5*	13.0	84	
5.2.4	State of cluster development† ⏲	20.8	118	○
5.2.5	Patent families/bn PPP$ GDP	0.0	98	○ ◇
5.3	**Knowledge absorption**	**22.6**	**65**	
5.3.1	Intellectual property payments, % total trade	0.2	93	
5.3.2	High-tech imports, % total trade	7.0	84	
5.3.3	ICT services imports, % total trade	3.0	23	● ◆
5.3.4	FDI net inflows, % GDP	9.4	10	● ◆
5.3.5	Green-field R&D & high-tech FDI	1.4	47	
5.3.6	Research talent, % in businesses	10.4	66	
Knowledge and technology outputs		**25.3**	**55**	
6.1	**Knowledge creation**	**18.2**	**56**	
6.1.1	Patents by origin/bn PPP$ GDP	1.0	50	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.4	33	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	26.1	27	● ◆
6.1.5	Citable documents H-index	2.7	126	○
6.2	**Knowledge impact**	**37.8**	**24**	● ◆
6.2.1	Labor productivity growth, %	5.8	5	● ◆
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.3	40	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**20.0**	**78**	
6.3.1	Intellectual property receipts, % total trade	0.3	38	◆
6.3.2	Production and export complexity	n/a	n/a	
6.3.3	High-tech exports, % total trade	0.7	84	
6.3.4	ICT services exports, % total trade	4.8	26	●
6.3.5	ISO 9001 quality/bn PPP$ GDP	9.7	23	●
Creative outputs		**20.8**	**75**	
7.1	**Intangible assets**	**4.5**	**122**	○ ◇
7.1.1	Intangible asset intensity, top 15, % ⏲	–181.4	78	○ ◇
7.1.2	Trademarks by origin/bn PPP$ GDP ⏲	27.4	75	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.1	114	
7.2	**Creative goods and services**	**9.5**	**[82]**	
7.2.1	Cultural and creative services exports, % total trade	0.6	54	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.2	84	
7.3	**Online creativity**	**64.6**	**10**	● ◆
7.3.1	Top-level domains (TLDs)/th pop. 15–69	100.0	1	● ◆
7.3.2	GitHub commits/mn pop. 15–69	23.1	38	◆
7.3.3	Mobile app creation/bn PPP$ GDP	70.7	45	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Morocco

54

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
46	76	Lower middle	NAWA	38.4	431.3	11,437

		Score/ Value	Rank	
Institutions		**50.5**	**70**	
1.1	**Institutional environment**	**55.8**	**71**	◆
1.1.1	Operational stability for businesses*	64.5	72	
1.1.2	Government effectiveness*	47.1	69	◆
1.2	**Regulatory environment**	**45.0**	**78**	
1.2.1	Regulatory quality*	46.5	74	◆
1.2.2	Rule of law*	43.5	84	
1.3	**Business environment**	**50.8**	**56**	
1.3.1	Policy stability for doing business†	73.3	22 ●	◆
1.3.2	Entrepreneurship policies and culture†	28.3	60	
Human capital and research		**29.5**	**85**	
2.1	**Education**	**50.5**	**78**	
2.1.1	Expenditure on education, % GDP	6.0	18 ●	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	15.2	50	◆
2.1.4	PISA scales in reading, maths and science	356.5	79 ○	
2.1.5	Pupil–teacher ratio, secondary	19.5	102 ○	
2.2	**Tertiary education**	**34.5**	**62**	
2.2.1	Tertiary enrolment, % gross	48.2	76	◆
2.2.2	Graduates in science and engineering, %	29.7	23 ●	
2.2.3	Tertiary inbound mobility, %	1.9	84	
2.3	**Research and development (R&D)**	**3.5**	**86**	
2.3.1	Researchers, FTE/mn pop. ⏲	1,083.4	55	
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**41.7**	**81**	
3.1	**Information and communication technologies (ICTs)**	**72.0**	**82**	◆
3.1.1	ICT access*	87.6	64	◆
3.1.2	ICT use*	81.3	68	◆
3.1.3	Government online service*	47.3	98	
3.2	**General infrastructure**	**40.4**	**68**	
3.2.1	Electricity output, GWh/mn pop.	1,172.3	97	
3.2.2	Aviation import dwell time	4.1	90 ○	
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	29.9	25 ●	
3.3	**Ecological sustainability**	**12.7**	**101**	
3.3.1	GDP/unit of energy use	14.2	55	
3.3.2	Low-carbon energy use, %	4.4	104	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.8	78	
Market sophistication		**32.7**	**82**	
4.1	**Credit**	**24.5**	**79**	
4.1.1	Finance for startups and scaleups†	36.3	64	
4.1.2	Domestic credit to private sector, % GDP	77.8	33	
4.1.3	Loans from microfinance institutions, % GDP ⏲	0.6	41	
4.2	**Investment**	**6.3**	**67**	
4.2.1	Market capitalization, % GDP	43.6	37	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	68	
4.2.3	Late-stage VC deal count, % global VC	0.0	74	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	66	
4.3	**Trade, diversification, and market scale**	**67.4**	**77**	
4.3.1	Applied tariff rate, weighted avg., %	5.0	97	
4.3.2	Domestic industry diversification	83.0	64	
4.3.3	Domestic market scale, bn PPP$	431.3	56	

		Score/ Value	Rank	
Business sophistication		**22.6**	**97**	
5.1	**Knowledge workers**	**28.8**	**[104]**	
5.1.1	Knowledge-intensive employment, %	n/a	n/a	
5.1.2	Females employed w/advanced degrees, % ⏲	3.1	107 ○	
5.1.3	Youth demographic dividend, %	40.9	56	◇
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**20.5**	**86**	
5.2.1	Public research–industry co-publications, %	0.7	106	
5.2.2	University–industry R&D collaboration†	33.0	84	
5.2.3	University industry and international engagement, top 5*	17.7	72	
5.2.4	State of cluster development†	43.8	62	
5.2.5	Patent families/bn PPP$ GDP	0.0	67	
5.3	**Knowledge absorption**	**18.6**	**86**	
5.3.1	Intellectual property payments, % total trade	0.3	91	
5.3.2	High-tech imports, % total trade	10.3	37	
5.3.3	ICT services imports, % total trade	1.0	93	
5.3.4	FDI net inflows, % GDP	1.2	104	
5.3.5	Green-field R&D & high-tech FDI	1.3	51	◆
5.3.6	Research talent, % in businesses ⏲	7.0	70	
Knowledge and technology outputs		**24.3**	**58**	◆
6.1	**Knowledge creation**	**16.1**	**63**	
6.1.1	Patents by origin/bn PPP$ GDP	0.9	58	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	56	◆
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	21.9	36	
6.1.5	Citable documents H-index	12.0	68	
6.2	**Knowledge impact**	**33.9**	**36**	◆
6.2.1	Labor productivity growth, %	4.0	13 ●	◆
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.2	58	
6.2.4	High-tech manufacturing, %	37.8	28 ●	◆
6.3	**Knowledge diffusion**	**23.0**	**64**	
6.3.1	Intellectual property receipts, % total trade	0.0	108 ○	
6.3.2	Production and export complexity	66.4	84	
6.3.3	High-tech exports, % total trade	4.4	44	
6.3.4	ICT services exports, % total trade	3.5	40	
6.3.5	ISO 9001 quality/bn PPP$ GDP	3.1	75	
Creative outputs		**36.0**	**38**	◆
7.1	**Intangible assets**	**55.8**	**11** ●	◆
7.1.1	Intangible asset intensity, top 15, %	75.8	8 ●	◆
7.1.2	Trademarks by origin/bn PPP$ GDP	68.8	16 ●	◆
7.1.3	Global brand value, top 5,000, % GDP	2.0	45	
7.1.4	Industrial designs by origin/bn PPP$ GDP	13.5	5 ●	◆
7.2	**Creative goods and services**	**4.9**	**106**	
7.2.1	Cultural and creative services exports, % total trade	0.5	61	
7.2.2	National feature films/mn pop. 15–69	1.0	80 ○	
7.2.3	Entertainment and media market/th pop. 15–69	1.5	57 ○	
7.2.4	Creative goods exports, % total trade	0.1	95	
7.3	**Online creativity**	**27.6**	**63**	◆
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.3	90	
7.3.2	GitHub commits/mn pop. 15–69	5.4	81	
7.3.3	Mobile app creation/bn PPP$ GDP	76.2	16 ●	◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Mozambique

GII 2026 rank **129**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
118	133	Low	SSA	35.6	62.1	1,733

		Score/ Value	Rank	
Institutions		**24.9**	**129**	
1.1	**Institutional environment**	**31.1**	**120**	
1.1.1	Operational stability for businesses*	37.5	120	
1.1.2	Government effectiveness*	24.6	118	
1.2	**Regulatory environment**	**26.1**	**126**	
1.2.1	Regulatory quality*	28.2	122	
1.2.2	Rule of law*	23.9	128	
1.3	**Business environment**	**17.5**	**127**	◇
1.3.1	Policy stability for doing business†	28.5	105	
1.3.2	Entrepreneurship policies and culture† ⏲	6.6	87	
Human capital and research		**14.9**	**[128]**	
2.1	**Education**	**43.6**	**[102]**	
2.1.1	Expenditure on education, % GDP ⏲	6.0	19	● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years ⏲	10.4	106	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary ⏲	32.2	125	
2.2	**Tertiary education**	**1.3**	**129**	○ ◇
2.2.1	Tertiary enrolment, % gross ⏲	7.5	122	
2.2.2	Graduates in science and engineering, % ⏲	9.6	118	
2.2.3	Tertiary inbound mobility, % ⏲	0.4	106	
2.3	**Research and development (R&D)**	**0.0**	**[122]**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**23.2**	**130**	
3.1	**Information and communication technologies (ICTs)**	**24.1**	**133**	
3.1.1	ICT access*	36.6	129	
3.1.2	ICT use*	8.4	129	
3.1.3	Government online service*	27.3	124	
3.2	**General infrastructure**	**28.9**	**112**	
3.2.1	Electricity output, GWh/mn pop. ⏲	592.0	110	◆
3.2.2	Aviation import dwell time	7.8	113	◇
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	29.5	28	● ◆
3.3	**Ecological sustainability**	**16.6**	**76**	● ◆
3.3.1	GDP/unit of energy use	4.0	131	◇
3.3.2	Low-carbon energy use, %	36.4	19	● ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.6	84	◆
Market sophistication		**21.3**	**120**	
4.1	**Credit**	**7.5**	**124**	
4.1.1	Finance for startups and scaleups† ⏲	4.9	90	
4.1.2	Domestic credit to private sector, % GDP	17.6	113	
4.1.3	Loans from microfinance institutions, % GDP	1.4	27	●
4.2	**Investment**	**3.2**	**[87]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP ⏲	0.0	84	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**53.0**	**111**	◆
4.3.1	Applied tariff rate, weighted avg., %	4.2	88	◆
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	62.1	116	

		Score/ Value	Rank	
Business sophistication		**21.6**	**108**	
5.1	**Knowledge workers**	**33.9**	**[72]**	
5.1.1	Knowledge-intensive employment, % ⏲	4.4	119	
5.1.2	Females employed w/advanced degrees, % ⏲	1.0	122	
5.1.3	Youth demographic dividend, %	64.1	6	●
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**14.9**	**116**	
5.2.1	Public research–industry co-publications, %	2.4	34	● ◆
5.2.2	University–industry R&D collaboration†	18.2	125	
5.2.3	University industry and international engagement, top 5*	13.0	84	
5.2.4	State of cluster development†	17.2	124	
5.2.5	Patent families/bn PPP$ GDP	0.0	98	○ ◇
5.3	**Knowledge absorption**	**15.9**	**105**	
5.3.1	Intellectual property payments, % total trade	0.0	132	○ ◇
5.3.2	High-tech imports, % total trade	5.5	106	
5.3.3	ICT services imports, % total trade	1.3	78	●
5.3.4	FDI net inflows, % GDP	14.8	4	● ◆
5.3.5	Green-field R&D & high-tech FDI	0.1	116	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**8.1**	**134**	
6.1	**Knowledge creation**	**5.4**	**112**	
6.1.1	Patents by origin/bn PPP$ GDP	0.2	96	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107	○ ◇
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	64	
6.1.4	Scientific and technical articles/bn PPP$ GDP	11.0	80	
6.1.5	Citable documents H-index	4.8	105	
6.2	**Knowledge impact**	**9.2**	**138**	○ ◇
6.2.1	Labor productivity growth, %	–0.4	122	◇
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.0	129	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**9.8**	**128**	
6.3.1	Intellectual property receipts, % total trade	0.0	130	○ ◇
6.3.2	Production and export complexity	43.7	121	
6.3.3	High-tech exports, % total trade	0.1	119	
6.3.4	ICT services exports, % total trade	0.1	135	
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.4	100	◆
Creative outputs		**14.1**	**105**	
7.1	**Intangible assets**	**14.9**	**89**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	24.9	83	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.6	42	● ◆
7.2	**Creative goods and services**	**6.0**	**[101]**	
7.2.1	Cultural and creative services exports, % total trade	0.0	126	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.4	69	● ◆
7.3	**Online creativity**	**20.5**	**108**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.1	128	
7.3.2	GitHub commits/mn pop. 15–69	0.3	131	
7.3.3	Mobile app creation/bn PPP$ GDP	61.2	103	◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Myanmar

125

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
103	132	Lower middle	SEAO	54.9	273.2	4,951

		Score/ Value	Rank
Institutions		**11.4**	**138** ○ ◇
1.1	**Institutional environment**	**12.2**	**137** ○ ◇
1.1.1	Operational stability for businesses*	21.1	132 ◇
1.1.2	Government effectiveness*	3.4	138 ○ ◇
1.2	**Regulatory environment**	**10.6**	**138** ○ ◇
1.2.1	Regulatory quality*	12.0	137 ○ ◇
1.2.2	Rule of law*	9.3	138 ○ ◇
1.3	**Business environment**	**n/a**	**[n/a]**
1.3.1	Policy stability for doing business†	n/a	n/a
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**20.4**	**112**
2.1	**Education**	**29.2**	**130**
2.1.1	Expenditure on education, % GDP	2.0	127
2.1.2	Government funding/pupil, secondary, % GDP/cap	10.1	83
2.1.3	School life expectancy, years	11.7	97
2.1.4	PISA scales in reading, maths and science	n/a	n/a
2.1.5	Pupil–teacher ratio, secondary	27.2	118
2.2	**Tertiary education**	**32.0**	**70**
2.2.1	Tertiary enrolment, % gross	20.4	107
2.2.2	Graduates in science and engineering, %	33.7	12
2.2.3	Tertiary inbound mobility, %	0.0	118
2.3	**Research and development (R&D)**	**0.1**	**118**
2.3.1	Researchers, FTE/mn pop.	28.0	102
2.3.2	Gross expenditure on R&D, % GDP	0.0	112
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇
Infrastructure		**33.0**	**109**
3.1	**Information and communication technologies (ICTs)**	**47.8**	**115**
3.1.1	ICT access*	60.7	106
3.1.2	ICT use*	63.6	103
3.1.3	Government online service*	18.9	132 ◇
3.2	**General infrastructure**	**38.6**	**75**
3.2.1	Electricity output, GWh/mn pop.	387.8	117
3.2.2	Aviation import dwell time	4.8	100
3.2.3	Logistics performance*	n/a	n/a
3.2.4	Gross capital formation, % GDP	31.4	18 ●
3.3	**Ecological sustainability**	**12.8**	**99**
3.3.1	GDP/unit of energy use	13.3	67
3.3.2	Low-carbon energy use, %	9.7	80
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.2	110
Market sophistication		**26.8**	**107**
4.1	**Credit**	**14.9**	**109**
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	29.0	100
4.1.3	Loans from microfinance institutions, % GDP	2.2	20 ●
4.2	**Investment**	**0.1**	**[124]**
4.2.1	Market capitalization, % GDP	n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	114 ○ ◇
4.3	**Trade, diversification, and market scale**	**65.3**	**82**
4.3.1	Applied tariff rate, weighted avg., %	3.2	78
4.3.2	Domestic industry diversification	67.6	91
4.3.3	Domestic market scale, bn PPP$	273.2	69 ●

		Score/ Value	Rank
Business sophistication		**15.5**	**[138]**
5.1	**Knowledge workers**	**24.4**	**[121]**
5.1.1	Knowledge-intensive employment, %	5.2	114 ◇
5.1.2	Females employed w/advanced degrees, %	7.2	92
5.1.3	Youth demographic dividend, %	39.8	61 ● ◇
5.1.4	GERD performed by business, % GDP	n/a	n/a
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	**5.9**	**[134]**
5.2.1	Public research–industry co-publications, %	1.1	80
5.2.2	University–industry R&D collaboration†	n/a	n/a
5.2.3	University industry and international engagement, top 5*	n/a	n/a
5.2.4	State of cluster development†	n/a	n/a
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○ ◇
5.3	**Knowledge absorption**	**16.3**	**102**
5.3.1	Intellectual property payments, % total trade	0.2	96
5.3.2	High-tech imports, % total trade	5.4	111
5.3.3	ICT services imports, % total trade	1.6	67 ●
5.3.4	FDI net inflows, % GDP	1.9	85
5.3.5	Green-field R&D & high-tech FDI	0.1	119
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		**12.1**	**111**
6.1	**Knowledge creation**	**2.0**	**[130]**
6.1.1	Patents by origin/bn PPP$ GDP	n/a	n/a
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	1.3	137 ○
6.1.5	Citable documents H-index	3.1	124
6.2	**Knowledge impact**	**19.6**	**96**
6.2.1	Labor productivity growth, %	–1.0	131 ◇
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.2	68 ●
6.2.4	High-tech manufacturing, %	34.7	36 ● ◆
6.3	**Knowledge diffusion**	**14.7**	**102**
6.3.1	Intellectual property receipts, % total trade	0.1	72
6.3.2	Production and export complexity	48.5	113
6.3.3	High-tech exports, % total trade	2.7	53 ●
6.3.4	ICT services exports, % total trade	0.9	94
6.3.5	ISO 9001 quality/bn PPP$ GDP	2.2	82
Creative outputs		**14.6**	**101**
7.1	**Intangible assets**	**7.9**	**107**
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	15.8	100
7.1.3	Global brand value, top 5,000, % GDP	0.4	73
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.5	79
7.2	**Creative goods and services**	**20.4**	**[57]**
7.2.1	Cultural and creative services exports, % total trade	0.0	116
7.2.2	National feature films/mn pop. 15–69	n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	1.8	28 ● ◆
7.3	**Online creativity**	**22.2**	**100**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.0	136 ◇
7.3.2	GitHub commits/mn pop. 15–69	0.4	130
7.3.3	Mobile app creation/bn PPP$ GDP	66.2	74

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Namibia

GII 2026 rank **102**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
129	75	Lower middle	SSA	3.1	37.6	12,342

		Score/ Value	Rank	
Institutions		**56.7**	**52**	◆
1.1	**Institutional environment**	**56.1**	**68**	◆
1.1.1	Operational stability for businesses*	67.1	60	◆
1.1.2	Government effectiveness*	45.1	76	◆
1.2	**Regulatory environment**	**55.2**	**57**	◆
1.2.1	Regulatory quality*	50.5	62	◆
1.2.2	Rule of law*	59.9	50 ●	◆
1.3	**Business environment**	**58.9**	**[37]**	
1.3.1	Policy stability for doing business†	58.9	43 ●	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**30.9**	**83**	
2.1	**Education**	**81.5**	**[2]**	
2.1.1	Expenditure on education, % GDP	9.1	1 ●	◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	22.2	107	
2.2	**Tertiary education**	**8.2**	**118**	◇
2.2.1	Tertiary enrolment, % gross ⏲	26.1	95	
2.2.2	Graduates in science and engineering, % ⏲	10.3	116 ○	◇
2.2.3	Tertiary inbound mobility, % ⏲	3.1	68	
2.3	**Research and development (R&D)**	**2.9**	**91**	
2.3.1	Researchers, FTE/mn pop. ⏲	224.8	86	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.6	55	◆
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**38.4**	**89**	
3.1	**Information and communication technologies (ICTs)**	**57.2**	**106**	
3.1.1	ICT access*	66.3	102	
3.1.2	ICT use*	65.4	102	
3.1.3	Government online service*	39.8	106	
3.2	**General infrastructure**	**40.9**	**67**	
3.2.1	Electricity output, GWh/mn pop.	854.5	103	
3.2.2	Aviation import dwell time ⏲	1.9	37 ●	◆
3.2.3	Logistics performance*	36.4	65	
3.2.4	Gross capital formation, % GDP	25.3	48 ●	
3.3	**Ecological sustainability**	**17.0**	**72**	
3.3.1	GDP/unit of energy use	14.1	58	
3.3.2	Low-carbon energy use, %	15.0	55	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.9	73	
Market sophistication		**28.0**	**101**	
4.1	**Credit**	**22.7**	**[84]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	57.5	55	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**4.6**	**74**	
4.2.1	Market capitalization, % GDP	18.3	61	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP ⏲	0.1	66	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	86	
4.3	**Trade, diversification, and market scale**	**56.8**	**102**	
4.3.1	Applied tariff rate, weighted avg., %	2.6	71	
4.3.2	Domestic industry diversification	57.8	102 ○	
4.3.3	Domestic market scale, bn PPP$	37.6	131 ○	◇

		Score/ Value	Rank	
Business sophistication		**24.0**	**88**	
5.1	**Knowledge workers**	**31.5**	**88**	
5.1.1	Knowledge-intensive employment, % ⏲	18.1	84	
5.1.2	Females employed w/advanced degrees, % ⏲	7.4	90	
5.1.3	Youth demographic dividend, %	54.0	27 ●	
5.1.4	GERD performed by business, % GDP ⏲	0.1	61	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**22.1**	**81**	
5.2.1	Public research–industry co-publications, %	2.5	30 ●	◆
5.2.2	University–industry R&D collaboration†	33.8	78	
5.2.3	University industry and international engagement, top 5*	16.7	75	
5.2.4	State of cluster development†	29.8	98	
5.2.5	Patent families/bn PPP$ GDP	0.1	50 ●	◆
5.3	**Knowledge absorption**	**18.5**	**87**	
5.3.1	Intellectual property payments, % total trade	0.2	97	
5.3.2	High-tech imports, % total trade	8.6	59	
5.3.3	ICT services imports, % total trade	1.9	49 ●	◆
5.3.4	FDI net inflows, % GDP	13.8	5 ●	◆
5.3.5	Green-field R&D & high-tech FDI	0.3	99	
5.3.6	Research talent, % in businesses ⏲	6.8	71	
Knowledge and technology outputs		**10.0**	**126**	
6.1	**Knowledge creation**	**5.8**	**107**	
6.1.1	Patents by origin/bn PPP$ GDP	0.1	105	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107 ○	◇
6.1.3	Utility models by origin/bn PPP$ GDP	0.1	55	
6.1.4	Scientific and technical articles/bn PPP$ GDP	12.6	71	
6.1.5	Citable documents H-index	4.5	112	
6.2	**Knowledge impact**	**10.1**	**133** ○	◇
6.2.1	Labor productivity growth, %	–0.2	120	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.1	84	
6.2.4	High-tech manufacturing, %	3.4	105 ○	◇
6.3	**Knowledge diffusion**	**14.1**	**107**	
6.3.1	Intellectual property receipts, % total trade	0.0	85	
6.3.2	Production and export complexity	57.6	97	
6.3.3	High-tech exports, % total trade	0.8	81	
6.3.4	ICT services exports, % total trade	0.3	115	
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.9	89	
Creative outputs		**8.6**	**124**	
7.1	**Intangible assets**	**4.6**	**121**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	8.9	115	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.3	90	
7.2	**Creative goods and services**	**9.1**	**[84]**	
7.2.1	Cultural and creative services exports, % total trade	0.7	49	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.1	98	
7.3	**Online creativity**	**15.9**	**130** ○	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	3.6	66	◆
7.3.2	GitHub commits/mn pop. 15–69	1.6	114	
7.3.3	Mobile app creation/bn PPP$ GDP	42.6	134 ○	◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Nepal

104

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
100	100	Lower middle	CSA	29.6	182.0	6,140

		Score/ Value	Rank	
Institutions		**35.0**	**107**	
1.1	**Institutional environment**	**35.5**	**114**	
1.1.1	Operational stability for businesses*	50.7	105	
1.1.2	Government effectiveness*	20.4	127	○
1.2	**Regulatory environment**	**39.2**	**96**	
1.2.1	Regulatory quality*	33.5	109	
1.2.2	Rule of law*	45.0	80	
1.3	**Business environment**	**30.4**	**[95]**	
1.3.1	Policy stability for doing business†	30.4	99	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**26.4**	**[97]**	
2.1	**Education**	**46.3**	**[90]**	
2.1.1	Expenditure on education, % GDP	3.7	88	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	13.6	79	◆
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	27.0	117	
2.2	**Tertiary education**	**32.8**	**66**	
2.2.1	Tertiary enrolment, % gross	21.3	105	
2.2.2	Graduates in science and engineering, %	24.9	46	●
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**0.0**	**[122]**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**34.5**	**101**	
3.1	**Information and communication technologies (ICTs)**	**42.0**	**121**	◇
3.1.1	ICT access*	50.4	119	
3.1.2	ICT use*	n/a	n/a	
3.1.3	Government online service*	33.6	116	
3.2	**General infrastructure**	**45.6**	**57**	◆
3.2.1	Electricity output, GWh/mn pop.	412.1	116	
3.2.2	Aviation import dwell time	2.2	52	◆
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	30.9	21	●
3.3	**Ecological sustainability**	**16.0**	**80**	
3.3.1	GDP/unit of energy use	10.5	89	
3.3.2	Low-carbon energy use, %	22.3	39	●
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.4	90	
Market sophistication		**35.3**	**72**	
4.1	**Credit**	**54.7**	**22**	● ◆
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	92.1	23	● ◆
4.1.3	Loans from microfinance institutions, % GDP	7.9	3	● ◆
4.2	**Investment**	**1.0**	**117**	○
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	103	
4.2.3	Late-stage VC deal count, % global VC	0.0	91	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	99	
4.3	**Trade, diversification, and market scale**	**50.3**	**116**	
4.3.1	Applied tariff rate, weighted avg., %	11.2	131	○ ◇
4.3.2	Domestic industry diversification	88.1	48	
4.3.3	Domestic market scale, bn PPP$	182.0	83	

		Score/ Value	Rank	
Business sophistication		**19.4**	**120**	
5.1	**Knowledge workers**	**28.9**	**[102]**	
5.1.1	Knowledge-intensive employment, %	13.2	93	
5.1.2	Females employed w/advanced degrees, %	2.9	108	
5.1.3	Youth demographic dividend, %	46.9	38	●
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**14.8**	**117**	
5.2.1	Public research–industry co-publications, %	1.5	62	
5.2.2	University–industry R&D collaboration†	29.1	97	
5.2.3	University industry and international engagement, top 5*	8.0	95	◇
5.2.4	State of cluster development†	20.5	119	
5.2.5	Patent families/bn PPP$ GDP	0.0	98	○ ◇
5.3	**Knowledge absorption**	**14.4**	**121**	
5.3.1	Intellectual property payments, % total trade	0.1	119	
5.3.2	High-tech imports, % total trade	8.7	55	
5.3.3	ICT services imports, % total trade	0.2	135	○ ◇
5.3.4	FDI net inflows, % GDP	0.2	124	
5.3.5	Green-field R&D & high-tech FDI	0.2	103	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**15.4**	**93**	
6.1	**Knowledge creation**	**12.5**	**[72]**	
6.1.1	Patents by origin/bn PPP$ GDP	0.2	95	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	15.7	55	●
6.1.5	Citable documents H-index	8.9	87	
6.2	**Knowledge impact**	**16.5**	**113**	
6.2.1	Labor productivity growth, %	2.4	44	●
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.0	130	○ ◇
6.2.4	High-tech manufacturing, %	9.0	89	
6.3	**Knowledge diffusion**	**17.1**	**91**	
6.3.1	Intellectual property receipts, % total trade	0.0	117	
6.3.2	Production and export complexity	65.4	86	
6.3.3	High-tech exports, % total trade	0.1	127	○
6.3.4	ICT services exports, % total trade	1.1	89	
6.3.5	ISO 9001 quality/bn PPP$ GDP	4.0	65	
Creative outputs		**13.5**	**107**	
7.1	**Intangible assets**	**8.8**	**100**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	39.7	48	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.1	109	
7.2	**Creative goods and services**	**11.1**	**75**	
7.2.1	Cultural and creative services exports, % total trade	0.8	46	●
7.2.2	National feature films/mn pop. 15–69	2.7	51	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.2	80	
7.3	**Online creativity**	**25.4**	**77**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.2	95	
7.3.2	GitHub commits/mn pop. 15–69	6.5	68	
7.3.3	Mobile app creation/bn PPP$ GDP	68.5	63	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Netherlands (Kingdom of the) 7

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
7	9	High	EUR	18.3	1,516.7	84,035

		Score/ Value	Rank
Institutions		**77.2**	**13**
1.1	**Institutional environment**	**82.2**	**15**
1.1.1	Operational stability for businesses*	77.6	35
1.1.2	Government effectiveness*	86.7	12
1.2	**Regulatory environment**	**91.2**	**8** ●
1.2.1	Regulatory quality*	89.8	10
1.2.2	Rule of law*	92.6	7 ●
1.3	**Business environment**	**58.1**	**39**
1.3.1	Policy stability for doing business†	49.5	62 ○ ◇
1.3.2	Entrepreneurship policies and culture†	66.7	15
Human capital and research		**55.9**	**16**
2.1	**Education**	**64.3**	**27**
2.1.1	Expenditure on education, % GDP ⏲	5.2	40
2.1.2	Government funding/pupil, secondary, % GDP/cap	22.0	33
2.1.3	School life expectancy, years ⏲	18.4	12
2.1.4	PISA scales in reading, maths and science	480.1	25
2.1.5	Pupil–teacher ratio, secondary ⏲	13.5	67 ○
2.2	**Tertiary education**	**40.7**	**38**
2.2.1	Tertiary enrolment, % gross ⏲	86.6	16
2.2.2	Graduates in science and engineering, % ⏲	20.2	81 ○ ◇
2.2.3	Tertiary inbound mobility, % ⏲	13.7	21
2.3	**Research and development (R&D)**	**62.6**	**11**
2.3.1	Researchers, FTE/mn pop.	6,724.5	9
2.3.2	Gross expenditure on R&D, % GDP	2.3	15
2.3.3	Global corporate R&D investors, top 3, mn US$	72.9	10
2.3.4	QS university ranking, top 3*	78.7	12
Infrastructure		**57.9**	**30**
3.1	**Information and communication technologies (ICTs)**	**92.1**	**19**
3.1.1	ICT access*	97.9	30
3.1.2	ICT use*	87.9	33
3.1.3	Government online service*	90.5	15
3.2	**General infrastructure**	**60.3**	**20**
3.2.1	Electricity output, GWh/mn pop.	6,844.3	28
3.2.2	Aviation import dwell time	0.6	3 ● ◆
3.2.3	Logistics performance*	90.9	3 ● ◆
3.2.4	Gross capital formation, % GDP	19.9	101 ○
3.3	**Ecological sustainability**	**21.5**	**52**
3.3.1	GDP/unit of energy use	20.0	22
3.3.2	Low-carbon energy use, %	11.6	71 ○
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.4	61 ○
Market sophistication		**59.5**	**12**
4.1	**Credit**	**60.8**	**14**
4.1.1	Finance for startups and scaleups†	87.8	7 ◆
4.1.2	Domestic credit to private sector, % GDP	82.3	29
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**33.7**	**17**
4.2.1	Market capitalization, % GDP ⏲	108.2	12
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.4	17
4.2.3	Late-stage VC deal count, % global VC	0.5	13
4.2.4	VC investors, deal count/bn PPP$ GDP	0.8	14
4.3	**Trade, diversification, and market scale**	**84.0**	**15**
4.3.1	Applied tariff rate, weighted avg., %	1.3	20
4.3.2	Domestic industry diversification	92.6	33
4.3.3	Domestic market scale, bn PPP$	1,516.7	27

		Score/ Value	Rank
Business sophistication		**61.4**	**5** ● ◆
5.1	**Knowledge workers**	**58.5**	**11**
5.1.1	Knowledge-intensive employment, %	56.1	4 ●
5.1.2	Females employed w/advanced degrees, %	24.4	23
5.1.3	Youth demographic dividend, %	26.6	105 ○
5.1.4	GERD performed by business, % GDP	1.6	15
5.1.5	GERD financed by business, %	58.6	12
5.2	**Innovation linkages**	**68.9**	**7** ●
5.2.1	Public research–industry co-publications, %	5.2	12
5.2.2	University–industry R&D collaboration†	69.5	9
5.2.3	University industry and international engagement, top 5*	99.7	2 ● ◆
5.2.4	State of cluster development†	77.9	21
5.2.5	Patent families/bn PPP$ GDP	3.4	10
5.3	**Knowledge absorption**	**56.7**	**4** ● ◆
5.3.1	Intellectual property payments, % total trade	4.3	1 ● ◆
5.3.2	High-tech imports, % total trade	11.0	30
5.3.3	ICT services imports, % total trade	3.1	21
5.3.4	FDI net inflows, % GDP	–10.1	135 ○
5.3.5	Green-field R&D & high-tech FDI	4.1	13
5.3.6	Research talent, % in businesses	71.5	6
Knowledge and technology outputs		**51.7**	**10**
6.1	**Knowledge creation**	**59.6**	**5** ●
6.1.1	Patents by origin/bn PPP$ GDP	6.1	10
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	2.5	9
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	28.7	20
6.1.5	Citable documents H-index	71.4	8 ●
6.2	**Knowledge impact**	**42.5**	**17**
6.2.1	Labor productivity growth, %	1.2	80 ○
6.2.2	Unicorn valuation, % GDP	2.4	24
6.2.3	Software spending, % GDP	0.5	19
6.2.4	High-tech manufacturing, %	42.4	19
6.3	**Knowledge diffusion**	**52.9**	**10**
6.3.1	Intellectual property receipts, % total trade	4.6	4 ● ◆
6.3.2	Production and export complexity	85.8	25
6.3.3	High-tech exports, % total trade	11.0	18
6.3.4	ICT services exports, % total trade	5.0	24
6.3.5	ISO 9001 quality/bn PPP$ GDP	4.9	55
Creative outputs		**57.1**	**5** ● ◆
7.1	**Intangible assets**	**48.1**	**19**
7.1.1	Intangible asset intensity, top 15, %	79.0	5 ●
7.1.2	Trademarks by origin/bn PPP$ GDP	34.1	62 ○
7.1.3	Global brand value, top 5,000, % GDP	8.3	25
7.1.4	Industrial designs by origin/bn PPP$ GDP	3.0	25
7.2	**Creative goods and services**	**41.4**	**13**
7.2.1	Cultural and creative services exports, % total trade	2.2	14
7.2.2	National feature films/mn pop. 15–69	3.9	38
7.2.3	Entertainment and media market/th pop. 15–69	45.7	14
7.2.4	Creative goods exports, % total trade	3.3	16
7.3	**Online creativity**	**91.1**	**1** ● ◆
7.3.1	Top-level domains (TLDs)/th pop. 15–69	100.0	1 ● ◆
7.3.2	GitHub commits/mn pop. 15–69	100.0	1 ● ◆
7.3.3	Mobile app creation/bn PPP$ GDP	73.2	30

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

New Zealand

24

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
37	17	High	SEAO	5.3	297.0	55,781

		Score/ Value	Rank
Institutions		**84.9**	**3** ●
1.1	**Institutional environment**	**92.0**	**2** ● ◆
1.1.1	Operational stability for businesses*	94.7	3 ● ◆
1.1.2	Government effectiveness*	89.2	5 ●
1.2	**Regulatory environment**	**92.2**	**7** ●
1.2.1	Regulatory quality*	92.9	4 ●
1.2.2	Rule of law*	91.6	9 ●
1.3	**Business environment**	**70.6**	**[15]**
1.3.1	Policy stability for doing business†	70.6	27
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**52.3**	**21**
2.1	**Education**	**63.3**	**33**
2.1.1	Expenditure on education, % GDP	5.2	37
2.1.2	Government funding/pupil, secondary, % GDP/cap	17.2	59 ○
2.1.3	School life expectancy, years	19.2	4 ● ◆
2.1.4	PISA scales in reading, maths and science	494.7	12
2.1.5	Pupil–teacher ratio, secondary	15.4	78 ○ ◇
2.2	**Tertiary education**	**46.3**	**21**
2.2.1	Tertiary enrolment, % gross	77.2	32
2.2.2	Graduates in science and engineering, %	24.0	51
2.2.3	Tertiary inbound mobility, %	17.6	15
2.3	**Research and development (R&D)**	**47.3**	**22**
2.3.1	Researchers, FTE/mn pop. ⏲	5,352.7	20
2.3.2	Gross expenditure on R&D, % GDP ⏲	1.5	25
2.3.3	Global corporate R&D investors, top 3, mn US$	51.8	30
2.3.4	QS university ranking, top 3*	62.8	22
Infrastructure		**60.1**	**21**
3.1	**Information and communication technologies (ICTs)**	**90.6**	**26**
3.1.1	ICT access*	93.8	52 ◇
3.1.2	ICT use*	84.5	50 ◇
3.1.3	Government online service*	93.4	8 ●
3.2	**General infrastructure**	**57.7**	**26**
3.2.1	Electricity output, GWh/mn pop.	8,568.2	18
3.2.2	Aviation import dwell time	1.0	11
3.2.3	Logistics performance*	68.2	25 ◇
3.2.4	Gross capital formation, % GDP	23.3	67 ○
3.3	**Ecological sustainability**	**32.0**	**30**
3.3.1	GDP/unit of energy use	13.3	66 ○
3.3.2	Low-carbon energy use, %	47.3	8 ● ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.2	43
Market sophistication		**51.5**	**22**
4.1	**Credit**	**60.6**	**[15]**
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	142.6	9 ●
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**21.4**	**33** ◇
4.2.1	Market capitalization, % GDP	37.5	40 ◇
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.4	15
4.2.3	Late-stage VC deal count, % global VC	0.1	29
4.2.4	VC investors, deal count/bn PPP$ GDP	0.5	20
4.3	**Trade, diversification, and market scale**	**72.6**	**58** ◇
4.3.1	Applied tariff rate, weighted avg., %	0.7	8 ●
4.3.2	Domestic industry diversification	69.3	87 ○ ◇
4.3.3	Domestic market scale, bn PPP$	297.0	65

		Score/ Value	Rank
Business sophistication		**46.8**	**24** ◇
5.1	**Knowledge workers**	**45.5**	**32** ◇
5.1.1	Knowledge-intensive employment, %	n/a	n/a
5.1.2	Females employed w/advanced degrees, % ⏲	21.5	31
5.1.3	Youth demographic dividend, %	30.5	85 ○
5.1.4	GERD performed by business, % GDP ⏲	1.0	26
5.1.5	GERD financed by business, %	51.2	24
5.2	**Innovation linkages**	**54.9**	**22**
5.2.1	Public research–industry co-publications, %	4.2	20
5.2.2	University–industry R&D collaboration†	63.2	21
5.2.3	University industry and international engagement, top 5*	76.2	20
5.2.4	State of cluster development†	71.9	27
5.2.5	Patent families/bn PPP$ GDP	0.9	27
5.3	**Knowledge absorption**	**40.0**	**23**
5.3.1	Intellectual property payments, % total trade	1.8	19
5.3.2	High-tech imports, % total trade	12.5	21
5.3.3	ICT services imports, % total trade	3.8	13 ●
5.3.4	FDI net inflows, % GDP	2.1	79 ○
5.3.5	Green-field R&D & high-tech FDI	1.9	39
5.3.6	Research talent, % in businesses ⏲	42.9	33 ◇
Knowledge and technology outputs		**29.0**	**41** ◇
6.1	**Knowledge creation**	**33.2**	**26**
6.1.1	Patents by origin/bn PPP$ GDP	1.0	51 ◇
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.9	21
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	34.6	15
6.1.5	Citable documents H-index	35.0	28
6.2	**Knowledge impact**	**21.0**	**90** ○ ◇
6.2.1	Labor productivity growth, %	0.7	99 ○
6.2.2	Unicorn valuation, % GDP	0.4	51 ◇
6.2.3	Software spending, % GDP	0.2	53
6.2.4	High-tech manufacturing, %	18.3	70 ○ ◇
6.3	**Knowledge diffusion**	**32.9**	**42**
6.3.1	Intellectual property receipts, % total trade	1.7	13 ●
6.3.2	Production and export complexity	77.5	48 ◇
6.3.3	High-tech exports, % total trade	2.2	59 ◇
6.3.4	ICT services exports, % total trade	1.9	68 ○
6.3.5	ISO 9001 quality/bn PPP$ GDP	4.5	60
Creative outputs		**38.4**	**32** ◇
7.1	**Intangible assets**	**38.2**	**40**
7.1.1	Intangible asset intensity, top 15, %	59.1	34 ◇
7.1.2	Trademarks by origin/bn PPP$ GDP	70.2	15
7.1.3	Global brand value, top 5,000, % GDP	2.0	46 ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.3	49
7.2	**Creative goods and services**	**21.6**	**53** ◇
7.2.1	Cultural and creative services exports, % total trade	0.7	51
7.2.2	National feature films/mn pop. 15–69	3.8	39
7.2.3	Entertainment and media market/th pop. 15–69	42.5	18
7.2.4	Creative goods exports, % total trade	0.5	59 ◇
7.3	**Online creativity**	**55.7**	**21**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	42.4	16
7.3.2	GitHub commits/mn pop. 15–69	54.4	17
7.3.3	Mobile app creation/bn PPP$ GDP	70.2	47

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Nicaragua

GII 2026 rank **124**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
130	114	Lower middle	LCN	7.0	63.6	9,082

		Score/ Value	Rank	
Institutions		**17.3**	**133**	◇
1.1	**Institutional environment**	**30.4**	**121**	
1.1.1	Operational stability for businesses*	44.7	114	
1.1.2	Government effectiveness*	16.1	133	◇
1.2	**Regulatory environment**	**18.2**	**135**	◇
1.2.1	Regulatory quality*	22.6	130	◇
1.2.2	Rule of law*	13.8	136	◇
1.3	**Business environment**	**3.4**	**[135]**	
1.3.1	Policy stability for doing business†	3.4	134 ○	◇
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**14.2**	**129**	◇
2.1	**Education**	**23.9**	**136**	◇
2.1.1	Expenditure on education, % GDP	2.9	113	
2.1.2	Government funding/pupil, secondary, % GDP/cap	5.8	92 ○	◇
2.1.3	School life expectancy, years	11.8	95	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	36.4	128	◇
2.2	**Tertiary education**	**18.8**	**104**	
2.2.1	Tertiary enrolment, % gross	30.4	93	
2.2.2	Graduates in science and engineering, %	19.5	84	
2.2.3	Tertiary inbound mobility, %	1.7	87	
2.3	**Research and development (R&D)**	**0.0**	**[122]**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**34.2**	**103**	
3.1	**Information and communication technologies (ICTs)**	**50.7**	**110**	
3.1.1	ICT access*	57.2	112	
3.1.2	ICT use*	61.1	107	
3.1.3	Government online service*	33.7	114	
3.2	**General infrastructure**	**32.0**	**95**	
3.2.1	Electricity output, GWh/mn pop.	663.1	107	
3.2.2	Aviation import dwell time	3.5	83	
3.2.3	Logistics performance*	18.2	89	
3.2.4	Gross capital formation, % GDP	24.0	58 ●	
3.3	**Ecological sustainability**	**19.9**	**62** ●	
3.3.1	GDP/unit of energy use	11.4	80	
3.3.2	Low-carbon energy use, %	32.5	22 ●	◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	125	
Market sophistication		**44.8**	**36** ●	◆
4.1	**Credit**	**20.0**	**94**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	32.3	93	
4.1.3	Loans from microfinance institutions, % GDP	3.2	14 ●	
4.2	**Investment**	**n/a**	**[n/a]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**69.6**	**69** ●	
4.3.1	Applied tariff rate, weighted avg., %	1.6	55 ●	◆
4.3.2	Domestic industry diversification	83.2	62 ●	
4.3.3	Domestic market scale, bn PPP$	63.6	112	

		Score/ Value	Rank	
Business sophistication		**26.0**	**71** ●	
5.1	**Knowledge workers**	**58.2**	**[13]**	
5.1.1	Knowledge-intensive employment, %	n/a	n/a	
5.1.2	Females employed w/advanced degrees, %	n/a	n/a	
5.1.3	Youth demographic dividend, %	46.0	42 ●	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**6.7**	**133**	◇
5.2.1	Public research–industry co-publications, %	1.5	61 ●	
5.2.2	University–industry R&D collaboration†	5.5	134 ○	◇
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	4.7	132	◇
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**13.1**	**130**	
5.3.1	Intellectual property payments, % total trade	0.0	125	
5.3.2	High-tech imports, % total trade	6.5	92	
5.3.3	ICT services imports, % total trade	0.3	129	
5.3.4	FDI net inflows, % GDP	7.1	14 ●	◆
5.3.5	Green-field R&D & high-tech FDI	0.0	125 ○	◇
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**12.0**	**113**	
6.1	**Knowledge creation**	**1.5**	**[134]**	
6.1.1	Patents by origin/bn PPP$ GDP	n/a	n/a	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107 ○	◇
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	1.7	134	
6.1.5	Citable documents H-index	3.2	122	
6.2	**Knowledge impact**	**19.2**	**98**	
6.2.1	Labor productivity growth, %	2.7	37 ●	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.0	111	
6.2.4	High-tech manufacturing, %	13.6	79	
6.3	**Knowledge diffusion**	**15.2**	**98**	
6.3.1	Intellectual property receipts, % total trade	0.0	130 ○	◇
6.3.2	Production and export complexity	50.4	107	
6.3.3	High-tech exports, % total trade	0.2	115	
6.3.4	ICT services exports, % total trade	2.6	56 ●	
6.3.5	ISO 9001 quality/bn PPP$ GDP	2.1	84	
Creative outputs		**5.5**	**[135]**	
7.1	**Intangible assets**	**0.0**	**[138]**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	n/a	n/a	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	n/a	n/a	
7.2	**Creative goods and services**	**1.1**	**[132]**	
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	121	
7.3	**Online creativity**	**20.8**	**106**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.2	96	
7.3.2	GitHub commits/mn pop. 15–69	2.1	110	
7.3.3	Mobile app creation/bn PPP$ GDP	59.1	108	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Niger

138

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
132	138	Low	SSA	27.9	61.0	2,095

		Score/ Value	Rank	
Institutions		**25.6**	**128**	
1.1	**Institutional environment**	**22.2**	**130**	
1.1.1	Operational stability for businesses*	21.1	132	
1.1.2	Government effectiveness*	23.3	121	
1.2	**Regulatory environment**	**29.0**	**118**	
1.2.1	Regulatory quality*	28.3	121	
1.2.2	Rule of law*	29.8	113	
1.3	**Business environment**	**n/a**	**[n/a]**	
1.3.1	Policy stability for doing business†	n/a	n/a	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**11.0**	**137**	◇
2.1	**Education**	**25.2**	**135**	◇
2.1.1	Expenditure on education, % GDP	4.1	74 ●	
2.1.2	Government funding/pupil, secondary, % GDP/cap	11.6	79	◇
2.1.3	School life expectancy, years	6.7	119	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	30.9	122	
2.2	**Tertiary education**	**7.9**	**121**	
2.2.1	Tertiary enrolment, % gross	4.2	128	
2.2.2	Graduates in science and engineering, %	12.3	112	
2.2.3	Tertiary inbound mobility, %	5.4	50 ●	
2.3	**Research and development (R&D)**	**0.0**	**[122]**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**13.0**	**139**	○ ◇
3.1	**Information and communication technologies (ICTs)**	**18.3**	**136**	
3.1.1	ICT access*	32.6	131	
3.1.2	ICT use*	5.5	130	◇
3.1.3	Government online service*	16.8	134	
3.2	**General infrastructure**	**14.8**	**[136]**	
3.2.1	Electricity output, GWh/mn pop.	37.6	132	
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	22.1	78 ●	
3.3	**Ecological sustainability**	**5.8**	**129**	
3.3.1	GDP/unit of energy use	9.8	96	◆
3.3.2	Low-carbon energy use, %	0.4	130	◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.0	139 ○	◇
Market sophistication		**15.4**	**[134]**	
4.1	**Credit**	**0.9**	**[136]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	n/a	n/a	
4.1.3	Loans from microfinance institutions, % GDP	0.1	56	
4.2	**Investment**	**1.6**	**[107]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	108	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**43.9**	**121**	
4.3.1	Applied tariff rate, weighted avg., %	7.6	115	
4.3.2	Domestic industry diversification	52.0	104	
4.3.3	Domestic market scale, bn PPP$	61.0	118	

		Score/ Value	Rank	
Business sophistication		**17.6**	**[128]**	
5.1	**Knowledge workers**	**33.6**	**[74]**	
5.1.1	Knowledge-intensive employment, %	2.0	125 ○	◇
5.1.2	Females employed w/advanced degrees, %	0.3	128	◇
5.1.3	Youth demographic dividend, %	66.6	1 ●	◆
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**3.3**	**[137]**	
5.2.1	Public research–industry co-publications, %	0.6	112	
5.2.2	University–industry R&D collaboration†	n/a	n/a	
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	n/a	n/a	
5.2.5	Patent families/bn PPP$ GDP	0.0	72 ●	◆
5.3	**Knowledge absorption**	**15.8**	**108**	
5.3.1	Intellectual property payments, % total trade	0.0	132 ○	◇
5.3.2	High-tech imports, % total trade	4.4	122	
5.3.3	ICT services imports, % total trade	2.0	47 ●	
5.3.4	FDI net inflows, % GDP	4.7	28 ●	
5.3.5	Green-field R&D & high-tech FDI	0.0	125 ○	◇
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**10.0**	**128**	
6.1	**Knowledge creation**	**2.1**	**128**	◇
6.1.1	Patents by origin/bn PPP$ GDP	0.1	104	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107 ○	◇
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	77 ○	◇
6.1.4	Scientific and technical articles/bn PPP$ GDP	3.6	124	◇
6.1.5	Citable documents H-index	3.0	125	
6.2	**Knowledge impact**	**13.6**	**124**	
6.2.1	Labor productivity growth, %	0.9	89 ●	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.0	128	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**14.2**	**105**	
6.3.1	Intellectual property receipts, % total trade	0.0	119	
6.3.2	Production and export complexity	53.2	104	
6.3.3	High-tech exports, % total trade	0.2	109	◆
6.3.4	ICT services exports, % total trade	2.4	60 ●	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.2	136	
Creative outputs		**5.5**	**[134]**	
7.1	**Intangible assets**	**1.0**	**[134]**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	2.2	134	
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.0	126	
7.2	**Creative goods and services**	**3.7**	**[111]**	
7.2.1	Cultural and creative services exports, % total trade	0.3	74 ●	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	130	
7.3	**Online creativity**	**16.2**	**128**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.3	117	◆
7.3.2	GitHub commits/mn pop. 15–69	0.0	136	
7.3.3	Mobile app creation/bn PPP$ GDP	48.4	125	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Nigeria

GII 2026 rank **118**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
96	128	Lower middle	SSA	237.5	2,254.2	9,488

		Score/ Value	Rank	
Institutions		**28.3**	**121**	
1.1	**Institutional environment**	**22.8**	**129**	◇
1.1.1	Operational stability for businesses*	28.3	129	◇
1.1.2	Government effectiveness*	17.3	132	◇
1.2	**Regulatory environment**	**29.9**	**115**	
1.2.1	Regulatory quality*	31.5	113	
1.2.2	Rule of law*	28.3	117	
1.3	**Business environment**	**32.2**	**[92]**	
1.3.1	Policy stability for doing business†	32.2	96	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**20.2**	**[113]**	
2.1	**Education**	**39.4**	**[113]**	
2.1.1	Expenditure on education, % GDP	0.3	135 ○	◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary ⏲	15.3	77	
2.2	**Tertiary education**	**n/a**	**[n/a]**	
2.2.1	Tertiary enrolment, % gross	n/a	n/a	
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**1.1**	**101**	
2.3.1	Researchers, FTE/mn pop. ⏲	22.1	106	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.3	74	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**27.8**	**123**	◇
3.1	**Information and communication technologies (ICTs)**	**47.4**	**117**	
3.1.1	ICT access*	49.2	120	◇
3.1.2	ICT use*	48.8	115	◇
3.1.3	Government online service*	44.3	100	
3.2	**General infrastructure**	**23.4**	**127**	
3.2.1	Electricity output, GWh/mn pop.	157.7	124	
3.2.2	Aviation import dwell time	5.9	106	
3.2.3	Logistics performance*	22.7	82	
3.2.4	Gross capital formation, % GDP	17.3	113	◇
3.3	**Ecological sustainability**	**12.7**	**100**	
3.3.1	GDP/unit of energy use	17.3	34 ●	
3.3.2	Low-carbon energy use, %	2.0	115	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	123	
Market sophistication		**19.9**	**123**	◇
4.1	**Credit**	**2.6**	**132**	◇
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP ⏲	9.6	123	◇
4.1.3	Loans from microfinance institutions, % GDP	0.4	48	
4.2	**Investment**	**3.6**	**84**	
4.2.1	Market capitalization, % GDP	13.6	66	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	70	
4.2.3	Late-stage VC deal count, % global VC	0.1	37 ●	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	79	
4.3	**Trade, diversification, and market scale**	**53.6**	**109**	
4.3.1	Applied tariff rate, weighted avg., %	8.6	121	
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	2,254.2	19 ● ◆	

		Score/ Value	Rank	
Business sophistication		**18.4**	**126**	◇
5.1	**Knowledge workers**	**26.8**	**109**	
5.1.1	Knowledge-intensive employment, % ⏲	5.8	112	◇
5.1.2	Females employed w/advanced degrees, % ⏲	3.9	100	
5.1.3	Youth demographic dividend, %	61.2	15 ● ◆	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, % ⏲	0.0	98 ○	◇
5.2	**Innovation linkages**	**12.1**	**124**	
5.2.1	Public research–industry co-publications, %	0.8	98	
5.2.2	University–industry R&D collaboration†	12.2	132 ○	◇
5.2.3	University industry and international engagement, top 5*	16.1	77	
5.2.4	State of cluster development†	23.2	115	
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**16.2**	**104**	
5.3.1	Intellectual property payments, % total trade	0.4	77	
5.3.2	High-tech imports, % total trade	5.2	114	
5.3.3	ICT services imports, % total trade	1.2	85	
5.3.4	FDI net inflows, % GDP	0.3	123	
5.3.5	Green-field R&D & high-tech FDI	0.2	106	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**12.5**	**108**	
6.1	**Knowledge creation**	**6.5**	**102**	
6.1.1	Patents by origin/bn PPP$ GDP ⏲	0.3	89	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	104	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	4.0	120	
6.1.5	Citable documents H-index	15.1	61 ●	
6.2	**Knowledge impact**	**25.2**	**65** ●	
6.2.1	Labor productivity growth, %	–0.9	130	◇
6.2.2	Unicorn valuation, % GDP	2.8	19 ●	◆
6.2.3	Software spending, % GDP	0.2	74 ●	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**5.9**	**132**	◇
6.3.1	Intellectual property receipts, % total trade	0.0	130 ○	◇
6.3.2	Production and export complexity	24.3	127 ○	◇
6.3.3	High-tech exports, % total trade	0.1	124	
6.3.4	ICT services exports, % total trade	0.3	116	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.9	111	
Creative outputs		**17.9**	**84**	
7.1	**Intangible assets**	**24.3**	**72** ●	
7.1.1	Intangible asset intensity, top 15, %	54.9	44 ●	
7.1.2	Trademarks by origin/bn PPP$ GDP ⏲	7.2	117	
7.1.3	Global brand value, top 5,000, % GDP	0.7	63 ●	
7.1.4	Industrial designs by origin/bn PPP$ GDP ⏲	0.6	72 ●	
7.2	**Creative goods and services**	**0.4**	**136** ○	
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a	
7.2.2	National feature films/mn pop. 15–69	0.4	91	
7.2.3	Entertainment and media market/th pop. 15–69	0.0	63 ○	◇
7.2.4	Creative goods exports, % total trade	0.0	136 ○	
7.3	**Online creativity**	**22.4**	**98**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.4	110	
7.3.2	GitHub commits/mn pop. 15–69	2.7	105	
7.3.3	Mobile app creation/bn PPP$ GDP	64.2	88	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

North Macedonia

61

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
64	67	Upper middle	EUR	1.8	53.4	29,510

		Score/ Value	Rank	
Institutions		**45.8**	**83**	
1.1	**Institutional environment**	**56.8**	**67**	
1.1.1	Operational stability for businesses*	71.7	47	
1.1.2	Government effectiveness*	41.8	80	
1.2	**Regulatory environment**	**50.3**	**62**	
1.2.1	Regulatory quality*	53.8	58	
1.2.2	Rule of law*	46.8	76	
1.3	**Business environment**	**30.4**	**96**	
1.3.1	Policy stability for doing business†	37.1	88	
1.3.2	Entrepreneurship policies and culture† ⏲	23.7	67	
Human capital and research		**32.2**	**72**	
2.1	**Education**	**55.9**	**[60]**	
2.1.1	Expenditure on education, % GDP	n/a	n/a	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years ⏲	14.7	58	
2.1.4	PISA scales in reading, maths and science	375.7	72 ○	
2.1.5	Pupil–teacher ratio, secondary ⏲	8.0	8 ● ◆	
2.2	**Tertiary education**	**37.3**	**49**	
2.2.1	Tertiary enrolment, % gross ⏲	55.0	64	
2.2.2	Graduates in science and engineering, %	25.0	44	
2.2.3	Tertiary inbound mobility, % ⏲	10.6	31 ● ◆	
2.3	**Research and development (R&D)**	**3.5**	**85**	
2.3.1	Researchers, FTE/mn pop.	888.1	60	
2.3.2	Gross expenditure on R&D, % GDP	0.4	68	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇	
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇	
Infrastructure		**51.8**	**49**	◆
3.1	**Information and communication technologies (ICTs)**	**78.5**	**64**	
3.1.1	ICT access*	96.2	43	◆
3.1.2	ICT use*	79.6	74	
3.1.3	Government online service*	59.6	80	
3.2	**General infrastructure**	**29.5**	**[108]**	
3.2.1	Electricity output, GWh/mn pop.	3,228.8	64	
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	45.5	56	
3.2.4	Gross capital formation, % GDP	n/a	n/a	
3.3	**Ecological sustainability**	**47.5**	**4** ● ◆	
3.3.1	GDP/unit of energy use	16.8	37	
3.3.2	Low-carbon energy use, %	7.7	89	
3.3.3	ISO 14001 environment/bn PPP$ GDP	14.4	1 ● ◆	
Market sophistication		**35.5**	**71**	
4.1	**Credit**	**34.0**	**54**	
4.1.1	Finance for startups and scaleups† ⏲	46.8	49	
4.1.2	Domestic credit to private sector, % GDP	53.9	61	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**2.3**	**99** ○	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	64	
4.2.3	Late-stage VC deal count, % global VC	0.0	87 ○	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	100 ○	
4.3	**Trade, diversification, and market scale**	**70.3**	**66**	
4.3.1	Applied tariff rate, weighted avg., %	1.7	56	
4.3.2	Domestic industry diversification ⏲	87.2	51	
4.3.3	Domestic market scale, bn PPP$	53.4	121 ○	

		Score/ Value	Rank	
Business sophistication		**26.2**	**69**	
5.1	**Knowledge workers**	**31.5**	**89**	
5.1.1	Knowledge-intensive employment, %	33.8	42	◆
5.1.2	Females employed w/advanced degrees, %	17.5	43	
5.1.3	Youth demographic dividend, %	27.7	101	◇
5.1.4	GERD performed by business, % GDP	0.1	65	
5.1.5	GERD financed by business, %	23.4	64	
5.2	**Innovation linkages**	**17.4**	**105**	
5.2.1	Public research–industry co-publications, %	0.8	101	
5.2.2	University–industry R&D collaboration†	31.5	88	
5.2.3	University industry and international engagement, top 5*	14.2	81 ○	
5.2.4	State of cluster development†	31.0	95	
5.2.5	Patent families/bn PPP$ GDP	0.1	57	
5.3	**Knowledge absorption**	**29.7**	**50**	
5.3.1	Intellectual property payments, % total trade	1.4	28 ●	
5.3.2	High-tech imports, % total trade	7.6	73	
5.3.3	ICT services imports, % total trade	1.8	54	
5.3.4	FDI net inflows, % GDP	5.5	23 ●	
5.3.5	Green-field R&D & high-tech FDI	n/a	n/a	
5.3.6	Research talent, % in businesses	25.1	53	
Knowledge and technology outputs		**28.3**	**43**	
6.1	**Knowledge creation**	**10.2**	**83**	
6.1.1	Patents by origin/bn PPP$ GDP	0.5	70	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	57	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	13.4	67	
6.1.5	Citable documents H-index	6.7	93	
6.2	**Knowledge impact**	**34.5**	**32** ●	
6.2.1	Labor productivity growth, %	3.4	22 ●	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.1	89	
6.2.4	High-tech manufacturing, % ⏲	51.5	9 ●	◆
6.3	**Knowledge diffusion**	**40.3**	**30** ●	◆
6.3.1	Intellectual property receipts, % total trade	0.2	49	
6.3.2	Production and export complexity	75.7	51	
6.3.3	High-tech exports, % total trade	3.8	46	
6.3.4	ICT services exports, % total trade	5.9	19 ●	◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	20.6	4 ●	◆
Creative outputs		**19.8**	**79**	
7.1	**Intangible assets**	**16.1**	**87**	
7.1.1	Intangible asset intensity, top 15, % ⏲	–26.7	76 ○	◇
7.1.2	Trademarks by origin/bn PPP$ GDP	36.5	55	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.3	50	
7.2	**Creative goods and services**	**18.8**	**60**	
7.2.1	Cultural and creative services exports, % total trade	1.5	22 ●	◆
7.2.2	National feature films/mn pop. 15–69	5.4	30	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.1	92	
7.3	**Online creativity**	**28.0**	**60**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	7.4	48	
7.3.2	GitHub commits/mn pop. 15–69	14.3	54	
7.3.3	Mobile app creation/bn PPP$ GDP	62.3	100	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Norway

GII 2026 rank **21**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
30	16	High	EUR	5.6	600.5	106,694

		Score/ Value	Rank
Institutions		**81.4**	**8**
1.1	**Institutional environment**	**89.6**	**6** ●
1.1.1	Operational stability for businesses*	90.1	6 ●
1.1.2	Government effectiveness*	89.0	6 ●
1.2	**Regulatory environment**	**93.4**	**3** ●
1.2.1	Regulatory quality*	88.6	12
1.2.2	Rule of law*	98.3	3 ● ◆
1.3	**Business environment**	**61.1**	**29**
1.3.1	Policy stability for doing business†	71.0	26
1.3.2	Entrepreneurship policies and culture†	51.3	23
Human capital and research		**51.9**	**22**
2.1	**Education**	**64.9**	**25**
2.1.1	Expenditure on education, % GDP ⏲	5.4	27
2.1.2	Government funding/pupil, secondary, % GDP/cap	17.8	56 ○
2.1.3	School life expectancy, years	18.5	11
2.1.4	PISA scales in reading, maths and science	474.4	33
2.1.5	Pupil–teacher ratio, secondary	7.9	6 ● ◆
2.2	**Tertiary education**	**39.2**	**45**
2.2.1	Tertiary enrolment, % gross	95.5	11
2.2.2	Graduates in science and engineering, %	23.9	53
2.2.3	Tertiary inbound mobility, %	4.2	60 ○
2.3	**Research and development (R&D)**	**51.4**	**20**
2.3.1	Researchers, FTE/mn pop.	6,985.1	6
2.3.2	Gross expenditure on R&D, % GDP	1.8	22
2.3.3	Global corporate R&D investors, top 3, mn US$	57.3	25
2.3.4	QS university ranking, top 3*	54.4	26
Infrastructure		**67.3**	**3** ● ◆
3.1	**Information and communication technologies (ICTs)**	**91.5**	**22**
3.1.1	ICT access*	98.4	27
3.1.2	ICT use*	86.8	42
3.1.3	Government online service*	89.4	18
3.2	**General infrastructure**	**73.4**	**3** ● ◆
3.2.1	Electricity output, GWh/mn pop.	28,188.6	1 ● ◆
3.2.2	Aviation import dwell time	1.9	37 ◇
3.2.3	Logistics performance*	72.7	18
3.2.4	Gross capital formation, % GDP	24.1	56
3.3	**Ecological sustainability**	**37.0**	**20**
3.3.1	GDP/unit of energy use	14.9	50
3.3.2	Low-carbon energy use, %	51.6	7 ● ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	3.1	33
Market sophistication		**52.5**	**20**
4.1	**Credit**	**56.3**	**20**
4.1.1	Finance for startups and scaleups†	58.1	33
4.1.2	Domestic credit to private sector, % GDP	128.8	12
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**22.9**	**31** ◇
4.2.1	Market capitalization, % GDP ⏲	68.2	23
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.4	19
4.2.3	Late-stage VC deal count, % global VC	0.2	22
4.2.4	VC investors, deal count/bn PPP$ GDP	0.4	25
4.3	**Trade, diversification, and market scale**	**78.4**	**38**
4.3.1	Applied tariff rate, weighted avg., %	1.6	52
4.3.2	Domestic industry diversification	87.5	49
4.3.3	Domestic market scale, bn PPP$	600.5	47

		Score/ Value	Rank
Business sophistication		**48.5**	**21**
5.1	**Knowledge workers**	**54.8**	**20**
5.1.1	Knowledge-intensive employment, %	51.8	10
5.1.2	Females employed w/advanced degrees, %	29.5	6 ●
5.1.3	Youth demographic dividend, %	28.0	99 ○
5.1.4	GERD performed by business, % GDP	1.0	24
5.1.5	GERD financed by business, %	45.6	34 ◇
5.2	**Innovation linkages**	**54.9**	**21**
5.2.1	Public research–industry co-publications, %	3.2	25
5.2.2	University–industry R&D collaboration†	73.3	4 ●
5.2.3	University industry and international engagement, top 5*	55.9	31 ◇
5.2.4	State of cluster development†	90.1	8 ◆
5.2.5	Patent families/bn PPP$ GDP	1.2	23
5.3	**Knowledge absorption**	**35.9**	**33** ◇
5.3.1	Intellectual property payments, % total trade	0.3	85 ○ ◇
5.3.2	High-tech imports, % total trade	7.5	78 ○
5.3.3	ICT services imports, % total trade	4.5	7 ●
5.3.4	FDI net inflows, % GDP	2.6	69 ○
5.3.5	Green-field R&D & high-tech FDI	2.0	35
5.3.6	Research talent, % in businesses	53.9	23
Knowledge and technology outputs		**31.9**	**33** ◇
6.1	**Knowledge creation**	**38.0**	**21**
6.1.1	Patents by origin/bn PPP$ GDP	2.7	23
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	1.1	19
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	28.7	21
6.1.5	Citable documents H-index	42.1	20
6.2	**Knowledge impact**	**30.9**	**48** ◇
6.2.1	Labor productivity growth, %	0.7	98 ○
6.2.2	Unicorn valuation, % GDP	0.8	42 ◇
6.2.3	Software spending, % GDP	0.6	7
6.2.4	High-tech manufacturing, %	22.2	57 ○ ◇
6.3	**Knowledge diffusion**	**26.9**	**55** ◇
6.3.1	Intellectual property receipts, % total trade	0.2	45 ◇
6.3.2	Production and export complexity	81.8	38
6.3.3	High-tech exports, % total trade	3.6	47
6.3.4	ICT services exports, % total trade	2.4	58
6.3.5	ISO 9001 quality/bn PPP$ GDP	4.6	59
Creative outputs		**41.4**	**27**
7.1	**Intangible assets**	**35.0**	**49** ◇
7.1.1	Intangible asset intensity, top 15, %	62.3	27
7.1.2	Trademarks by origin/bn PPP$ GDP	12.5	108 ○
7.1.3	Global brand value, top 5,000, % GDP	8.6	24
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.6	76 ○ ◇
7.2	**Creative goods and services**	**29.7**	**35**
7.2.1	Cultural and creative services exports, % total trade	0.5	60
7.2.2	National feature films/mn pop. 15–69	10.2	11
7.2.3	Entertainment and media market/th pop. 15–69	56.8	7
7.2.4	Creative goods exports, % total trade	0.5	60 ◇
7.3	**Online creativity**	**65.8**	**8**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	50.9	12
7.3.2	GitHub commits/mn pop. 15–69	75.6	6 ●
7.3.3	Mobile app creation/bn PPP$ GDP	70.9	44

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Oman

69

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
89	47	High	NAWA	5.5	232.2	42,211

		Score/ Value	Rank	
Institutions		**63.6**	**39**	
1.1	**Institutional environment**	**64.0**	**50**	
1.1.1	Operational stability for businesses*	71.1	50	
1.1.2	Government effectiveness*	56.9	49	
1.2	**Regulatory environment**	**63.5**	**43**	
1.2.1	Regulatory quality*	64.2	38 ●	
1.2.2	Rule of law*	62.8	45	
1.3	**Business environment**	**63.5**	**28** ●	
1.3.1	Policy stability for doing business†	75.9	18 ●	
1.3.2	Entrepreneurship policies and culture†	51.1	24 ●	
Human capital and research		**32.3**	**71**	◇
2.1	**Education**	**51.8**	**74**	◇
2.1.1	Expenditure on education, % GDP	4.4	61	
2.1.2	Government funding/pupil, secondary, % GDP/cap	17.8	55	
2.1.3	School life expectancy, years	13.0	86	◇
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	12.3	56	
2.2	**Tertiary education**	**34.6**	**61**	
2.2.1	Tertiary enrolment, % gross	42.2	82	◇
2.2.2	Graduates in science and engineering, %	30.3	22 ●	
2.2.3	Tertiary inbound mobility, %	2.7	74	
2.3	**Research and development (R&D)**	**10.4**	**68**	◇
2.3.1	Researchers, FTE/mn pop.	739.4	64	◇
2.3.2	Gross expenditure on R&D, % GDP	0.4	67	◇
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	28.9	53	
Infrastructure		**49.7**	**54**	◇
3.1	**Information and communication technologies (ICTs)**	**86.2**	**41**	
3.1.1	ICT access*	98.7	20 ●	
3.1.2	ICT use*	83.0	59	
3.1.3	Government online service*	76.9	48	
3.2	**General infrastructure**	**52.9**	**33** ●	
3.2.1	Electricity output, GWh/mn pop.	8,867.3	16 ●	
3.2.2	Aviation import dwell time	2.7	67	
3.2.3	Logistics performance*	54.5	42	
3.2.4	Gross capital formation, % GDP	26.4	38	
3.3	**Ecological sustainability**	**10.1**	**110** ○	◇
3.3.1	GDP/unit of energy use	6.0	121 ○	◇
3.3.2	Low-carbon energy use, %	0.5	126 ○	◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	3.1	32 ●	
Market sophistication		**38.5**	**58**	
4.1	**Credit**	**40.3**	**39**	
4.1.1	Finance for startups and scaleups†	55.2	38	
4.1.2	Domestic credit to private sector, % GDP	63.2	45	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**4.6**	**75**	◇
4.2.1	Market capitalization, % GDP	24.0	53	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	74	◇
4.2.3	Late-stage VC deal count, % global VC	0.0	76	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	59	
4.3	**Trade, diversification, and market scale**	**70.6**	**64**	
4.3.1	Applied tariff rate, weighted avg., %	1.9	64	
4.3.2	Domestic industry diversification	75.5	77	
4.3.3	Domestic market scale, bn PPP$	232.2	76	

		Score/ Value	Rank	
Business sophistication		**29.7**	**60**	
5.1	**Knowledge workers**	**31.0**	**92**	◇
5.1.1	Knowledge-intensive employment, %	n/a	n/a	
5.1.2	Females employed w/advanced degrees, %	6.6	93	◇
5.1.3	Youth demographic dividend, %	37.8	64	◆
5.1.4	GERD performed by business, % GDP	0.2	58	◇
5.1.5	GERD financed by business, %	45.8	33	
5.2	**Innovation linkages**	**39.0**	**33** ●	
5.2.1	Public research–industry co-publications, %	0.8	99	◇
5.2.2	University–industry R&D collaboration†	60.0	26 ●	
5.2.3	University industry and international engagement, top 5*	41.7	42	
5.2.4	State of cluster development†	83.8	14 ●	◆
5.2.5	Patent families/bn PPP$ GDP	0.0	81	
5.3	**Knowledge absorption**	**19.3**	**82**	◇
5.3.1	Intellectual property payments, % total trade	0.5	69	
5.3.2	High-tech imports, % total trade	5.3	113 ○	
5.3.3	ICT services imports, % total trade	1.0	91	
5.3.4	FDI net inflows, % GDP	9.9	9 ●	
5.3.5	Green-field R&D & high-tech FDI	1.1	56	
5.3.6	Research talent, % in businesses	16.2	57	◇
Knowledge and technology outputs		**13.2**	**105**	◇
6.1	**Knowledge creation**	**8.1**	**93**	◇
6.1.1	Patents by origin/bn PPP$ GDP	0.4	75	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	88	
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	75 ○	
6.1.4	Scientific and technical articles/bn PPP$ GDP	13.8	64	
6.1.5	Citable documents H-index	10.0	79	◇
6.2	**Knowledge impact**	**14.1**	**122** ○	◇
6.2.1	Labor productivity growth, %	–1.7	135 ○	◇
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.0	114 ○	◇
6.2.4	High-tech manufacturing, %	32.7	39	
6.3	**Knowledge diffusion**	**17.3**	**90**	◇
6.3.1	Intellectual property receipts, % total trade	0.0	101	◇
6.3.2	Production and export complexity	57.3	98 ○	◇
6.3.3	High-tech exports, % total trade	1.8	64	
6.3.4	ICT services exports, % total trade	0.7	97	
6.3.5	ISO 9001 quality/bn PPP$ GDP	5.9	44	
Creative outputs		**21.4**	**73**	◇
7.1	**Intangible assets**	**25.1**	**71**	
7.1.1	Intangible asset intensity, top 15, %	33.5	67 ○	◇
7.1.2	Trademarks by origin/bn PPP$ GDP	34.9	59	
7.1.3	Global brand value, top 5,000, % GDP	2.5	41	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.4	89	◇
7.2	**Creative goods and services**	**9.8**	**[79]**	
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	7.8	40	◇
7.2.4	Creative goods exports, % total trade	0.4	70	
7.3	**Online creativity**	**25.6**	**76**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.9	101	◇
7.3.2	GitHub commits/mn pop. 15–69	4.4	90	◇
7.3.3	Mobile app creation/bn PPP$ GDP	71.3	39	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Pakistan

GII 2026 rank **95**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
72	121	Lower middle	CSA	255.2	1,671.4	6,950

		Score/ Value	Rank	
Institutions		**25.8**	**126**	◇
1.1	**Institutional environment**	**29.5**	**124**	
1.1.1	Operational stability for businesses*	31.6	126	◇
1.1.2	Government effectiveness*	27.5	108	
1.2	**Regulatory environment**	**27.8**	**120**	
1.2.1	Regulatory quality*	27.5	125	
1.2.2	Rule of law*	28.1	118	
1.3	**Business environment**	**20.1**	**123**	◇
1.3.1	Policy stability for doing business†	26.9	111	
1.3.2	Entrepreneurship policies and culture† ⏲	13.3	83	
Human capital and research		**18.8**	**[119]**	
2.1	**Education**	**40.2**	**[111]**	
2.1.1	Expenditure on education, % GDP	1.9	128 ○	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	8.2	116 ○	◇
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	9.7	30 ●	◆
2.2	**Tertiary education**	**5.0**	**[127]**	
2.2.1	Tertiary enrolment, % gross	10.9	114	
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**11.2**	**65**	
2.3.1	Researchers, FTE/mn pop. ⏲	473.7	75	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.2	93	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	37.7	47 ●	◆
Infrastructure		**33.3**	**107**	
3.1	**Information and communication technologies (ICTs)**	**60.2**	**100**	
3.1.1	ICT access*	48.4	121	◇
3.1.2	ICT use*	67.9	99	
3.1.3	Government online service*	64.4	75	◆
3.2	**General infrastructure**	**24.0**	**124**	
3.2.1	Electricity output, GWh/mn pop. ⏲	610.0	109	
3.2.2	Aviation import dwell time	4.9	102	
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	13.6	128 ○	◇
3.3	**Ecological sustainability**	**15.5**	**83**	
3.3.1	GDP/unit of energy use	12.9	72	
3.3.2	Low-carbon energy use, %	13.9	62	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.8	77	
Market sophistication		**28.6**	**99**	
4.1	**Credit**	**13.5**	**114**	
4.1.1	Finance for startups and scaleups† ⏲	33.4	70	
4.1.2	Domestic credit to private sector, % GDP	11.5	121 ○	
4.1.3	Loans from microfinance institutions, % GDP	0.6	43	
4.2	**Investment**	**1.7**	**105**	
4.2.1	Market capitalization, % GDP	10.4	73	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	101	
4.2.3	Late-stage VC deal count, % global VC	0.0	58	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	106 ○	
4.3	**Trade, diversification, and market scale**	**70.7**	**63**	
4.3.1	Applied tariff rate, weighted avg., %	6.2	105	
4.3.2	Domestic industry diversification ⏲	89.3	47	
4.3.3	Domestic market scale, bn PPP$	1,671.4	26 ●	◆

		Score/ Value	Rank	
Business sophistication		**24.5**	**83**	
5.1	**Knowledge workers**	**33.7**	**[73]**	
5.1.1	Knowledge-intensive employment, %	12.7	95	
5.1.2	Females employed w/advanced degrees, %	1.9	114	
5.1.3	Youth demographic dividend, %	55.8	25 ●	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**19.0**	**94**	
5.2.1	Public research–industry co-publications, %	0.5	122	
5.2.2	University–industry R&D collaboration†	23.3	111	
5.2.3	University industry and international engagement, top 5*	31.6	54	◆
5.2.4	State of cluster development†	34.5	88	
5.2.5	Patent families/bn PPP$ GDP	0.0	97	
5.3	**Knowledge absorption**	**20.7**	**77**	
5.3.1	Intellectual property payments, % total trade	0.3	83	
5.3.2	High-tech imports, % total trade	13.0	19 ●	◆
5.3.3	ICT services imports, % total trade	0.9	95	
5.3.4	FDI net inflows, % GDP	0.6	113	
5.3.5	Green-field R&D & high-tech FDI	0.5	89	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**21.7**	**71**	
6.1	**Knowledge creation**	**18.5**	**[55]**	
6.1.1	Patents by origin/bn PPP$ GDP	0.3	85	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	17.4	49 ●	
6.1.5	Citable documents H-index	22.2	41 ●	◆
6.2	**Knowledge impact**	**22.1**	**84**	
6.2.1	Labor productivity growth, %	0.5	104	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.3	33 ●	◆
6.2.4	High-tech manufacturing, % ⏲	21.5	59	
6.3	**Knowledge diffusion**	**24.7**	**61**	
6.3.1	Intellectual property receipts, % total trade	0.0	96	
6.3.2	Production and export complexity	63.2	87	
6.3.3	High-tech exports, % total trade	1.1	73	
6.3.4	ICT services exports, % total trade	6.9	15 ●	◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	2.2	83	
Creative outputs		**20.6**	**76**	
7.1	**Intangible assets**	**26.3**	**67**	
7.1.1	Intangible asset intensity, top 15, %	55.1	43	
7.1.2	Trademarks by origin/bn PPP$ GDP	32.1	64	
7.1.3	Global brand value, top 5,000, % GDP	0.6	65	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.4	88	
7.2	**Creative goods and services**	**2.0**	**120**	
7.2.1	Cultural and creative services exports, % total trade	0.2	87	
7.2.2	National feature films/mn pop. 15–69	0.2	96 ○	
7.2.3	Entertainment and media market/th pop. 15–69	0.0	62 ○	◇
7.2.4	Creative goods exports, % total trade	0.1	100	
7.3	**Online creativity**	**27.9**	**61**	◆
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.3	114	
7.3.2	GitHub commits/mn pop. 15–69	2.8	103	
7.3.3	Mobile app creation/bn PPP$ GDP	80.5	10 ●	◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Panama

89

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
93	86	High	LCN	4.6	199.3	43,651

			Score/ Value	Rank	
Institutions			**47.0**	**79**	◇
1.1	**Institutional environment**		**57.6**	**65**	◇
1.1.1	Operational stability for businesses*		66.4	62	
1.1.2	Government effectiveness*		48.8	63	◇
1.2	**Regulatory environment**		**45.6**	**76**	◇
1.2.1	Regulatory quality*		45.3	79	◇
1.2.2	Rule of law*		45.9	79	◇
1.3	**Business environment**		**37.6**	**85**	
1.3.1	Policy stability for doing business†		45.5	71	
1.3.2	Entrepreneurship policies and culture†	⏲	29.7	54	
Human capital and research			**18.7**	**120**	◇
2.1	**Education**		**36.3**	**120**	◇
2.1.1	Expenditure on education, % GDP		2.5	121	◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	⏲	10.4	82	◇
2.1.3	School life expectancy, years	⏲	13.0	88	
2.1.4	PISA scales in reading, maths and science		378.8	70	◇
2.1.5	Pupil–teacher ratio, secondary	⏲	13.1	64	
2.2	**Tertiary education**		**18.6**	**105**	◇
2.2.1	Tertiary enrolment, % gross	⏲	53.7	69	
2.2.2	Graduates in science and engineering, %	⏲	14.8	105	◇
2.2.3	Tertiary inbound mobility, %	⏲	2.5	76	
2.3	**Research and development (R&D)**		**1.3**	**99**	◇
2.3.1	Researchers, FTE/mn pop.		250.5	84	◇
2.3.2	Gross expenditure on R&D, % GDP		0.2	89	◇
2.3.3	Global corporate R&D investors, top 3, mn US$		0.0	46 ○	◇
2.3.4	QS university ranking, top 3*		0.0	81 ○	◇
Infrastructure			**48.7**	**57** ●	◇
3.1	**Information and communication technologies (ICTs)**		**64.7**	**94**	◇
3.1.1	ICT access*		71.4	91	◇
3.1.2	ICT use*		n/a	n/a	
3.1.3	Government online service*		58.0	83	◇
3.2	**General infrastructure**		**50.9**	**40** ●	
3.2.1	Electricity output, GWh/mn pop.	⏲	2,940.3	69	
3.2.2	Aviation import dwell time		2.1	47	
3.2.3	Logistics performance*		45.5	56	◇
3.2.4	Gross capital formation, % GDP		34.9	8 ● ◆	
3.3	**Ecological sustainability**		**30.6**	**34** ●	
3.3.1	GDP/unit of energy use		35.2	4 ● ◆	
3.3.2	Low-carbon energy use, %		11.0	74	
3.3.3	ISO 14001 environment/bn PPP$ GDP		0.2	111	◇
Market sophistication			**33.8**	**78**	◇
4.1	**Credit**		**33.8**	**56** ●	
4.1.1	Finance for startups and scaleups†	⏲	25.8	80	◇
4.1.2	Domestic credit to private sector, % GDP	⏲	100.2	22 ●	
4.1.3	Loans from microfinance institutions, % GDP		n/a	n/a	
4.2	**Investment**		**7.9**	**58**	
4.2.1	Market capitalization, % GDP		22.0	56	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP		0.1	42 ●	
4.2.3	Late-stage VC deal count, % global VC		0.0	85	
4.2.4	VC investors, deal count/bn PPP$ GDP		0.2	38 ●	
4.3	**Trade, diversification, and market scale**		**59.6**	**96**	◇
4.3.1	Applied tariff rate, weighted avg., %		2.7	72	
4.3.2	Domestic industry diversification		49.6	106 ○	◇
4.3.3	Domestic market scale, bn PPP$		199.3	79	

			Score/ Value	Rank	
Business sophistication			**17.2**	**134** ○	◇
5.1	**Knowledge workers**		**22.6**	**126**	◇
5.1.1	Knowledge-intensive employment, %	⏲	22.4	69	◇
5.1.2	Females employed w/advanced degrees, %	⏲	9.8	79	◇
5.1.3	Youth demographic dividend, %		40.0	59 ● ◆	
5.1.4	GERD performed by business, % GDP		0.0	91 ○	◇
5.1.5	GERD financed by business, %		3.5	87	◇
5.2	**Innovation linkages**		**17.4**	**104**	◇
5.2.1	Public research–industry co-publications, %		1.8	55 ●	
5.2.2	University–industry R&D collaboration†		20.4	117	◇
5.2.3	University industry and international engagement, top 5*		n/a	n/a	
5.2.4	State of cluster development†		28.8	101	◇
5.2.5	Patent families/bn PPP$ GDP		0.0	66	
5.3	**Knowledge absorption**		**11.4**	**137** ○	◇
5.3.1	Intellectual property payments, % total trade		0.1	118	◇
5.3.2	High-tech imports, % total trade		3.6	128 ○	◇
5.3.3	ICT services imports, % total trade		0.5	120	◇
5.3.4	FDI net inflows, % GDP		3.3	47 ●	
5.3.5	Green-field R&D & high-tech FDI		0.4	91	◇
5.3.6	Research talent, % in businesses		4.4	79	◇
Knowledge and technology outputs			**15.8**	**91**	◇
6.1	**Knowledge creation**		**3.9**	**121**	◇
6.1.1	Patents by origin/bn PPP$ GDP		0.1	124 ○	◇
6.1.2	PCT patents by inventor origin/bn PPP$ GDP		0.0	100	
6.1.3	Utility models by origin/bn PPP$ GDP		0.0	63	
6.1.4	Scientific and technical articles/bn PPP$ GDP		4.0	122	◇
6.1.5	Citable documents H-index		11.3	71	
6.2	**Knowledge impact**		**25.1**	**66**	
6.2.1	Labor productivity growth, %		5.0	9 ● ◆	
6.2.2	Unicorn valuation, % GDP		0.0	58 ○	◇
6.2.3	Software spending, % GDP		0.2	70	
6.2.4	High-tech manufacturing, %		3.2	106 ○	◇
6.3	**Knowledge diffusion**		**18.3**	**87**	◇
6.3.1	Intellectual property receipts, % total trade		0.0	113	◇
6.3.2	Production and export complexity		74.4	58	
6.3.3	High-tech exports, % total trade		0.1	133 ○	◇
6.3.4	ICT services exports, % total trade		1.6	75	
6.3.5	ISO 9001 quality/bn PPP$ GDP		1.8	92	
Creative outputs			**15.7**	**94**	◇
7.1	**Intangible assets**		**14.5**	**90**	◇
7.1.1	Intangible asset intensity, top 15, %	⏲	2.5	71	◇
7.1.2	Trademarks by origin/bn PPP$ GDP		31.0	68	
7.1.3	Global brand value, top 5,000, % GDP		0.5	69	
7.1.4	Industrial designs by origin/bn PPP$ GDP		0.0	128 ○	◇
7.2	**Creative goods and services**		**5.0**	**105**	◇
7.2.1	Cultural and creative services exports, % total trade		0.2	85	
7.2.2	National feature films/mn pop. 15–69		2.2	61	
7.2.3	Entertainment and media market/th pop. 15–69		n/a	n/a	
7.2.4	Creative goods exports, % total trade		0.1	105	◇
7.3	**Online creativity**		**28.9**	**57** ●	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69		14.0	38 ●	
7.3.2	GitHub commits/mn pop. 15–69		4.6	84	◇
7.3.3	Mobile app creation/bn PPP$ GDP		68.1	64	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Paraguay

GII 2026 rank

109

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
101	107	Upper middle	LCN	7.0	137.5	19,717

		Score/ Value	Rank	
Institutions		**40.7**	**91**	
1.1	**Institutional environment**	**48.4**	**89**	
1.1.1	Operational stability for businesses*	63.2	74	
1.1.2	Government effectiveness*	33.7	102	
1.2	**Regulatory environment**	**41.0**	**90**	
1.2.1	Regulatory quality*	43.7	83	
1.2.2	Rule of law*	38.4	99	
1.3	**Business environment**	**32.6**	**91**	
1.3.1	Policy stability for doing business†	47.6	67 ●	
1.3.2	Entrepreneurship policies and culture† ⏲	17.7	77	
Human capital and research		**11.5**	**[136]**	
2.1	**Education**	**22.1**	**[137]**	
2.1.1	Expenditure on education, % GDP	3.5	92	
2.1.2	Government funding/pupil, secondary, % GDP/cap	13.8	73	
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	359.7	77	◇
2.1.5	Pupil–teacher ratio, secondary	n/a	n/a	
2.2	**Tertiary education**	**n/a**	**[n/a]**	
2.2.1	Tertiary enrolment, % gross	n/a	n/a	
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**0.8**	**105**	
2.3.1	Researchers, FTE/mn pop. ⏲	138.8	90	◇
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.1	96	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**43.2**	**78**	
3.1	**Information and communication technologies (ICTs)**	**66.3**	**91**	
3.1.1	ICT access*	67.7	98	
3.1.2	ICT use*	70.6	95	
3.1.3	Government online service*	60.4	79	
3.2	**General infrastructure**	**30.0**	**105**	
3.2.1	Electricity output, GWh/mn pop. ⏲	7,750.1	25 ●	◆
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	27.3	76	
3.2.4	Gross capital formation, % GDP	22.4	73	
3.3	**Ecological sustainability**	**33.3**	**28** ●	◆
3.3.1	GDP/unit of energy use	14.5	52 ●	
3.3.2	Low-carbon energy use, %	58.6	5 ●	◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.5	89	
Market sophistication		**26.9**	**106**	
4.1	**Credit**	**17.5**	**105**	
4.1.1	Finance for startups and scaleups† ⏲	12.3	89	
4.1.2	Domestic credit to private sector, % GDP	57.4	56 ●	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**0.8**	**121**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP ⏲	0.0	114	◇
4.2.3	Late-stage VC deal count, % global VC ⏲	0.0	102 ○	◇
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	88	
4.3	**Trade, diversification, and market scale**	**62.4**	**91**	
4.3.1	Applied tariff rate, weighted avg., %	3.3	79	
4.3.2	Domestic industry diversification	66.6	93	◇
4.3.3	Domestic market scale, bn PPP$	137.5	89	

		Score/ Value	Rank	
Business sophistication		**21.3**	**110**	
5.1	**Knowledge workers**	**28.9**	**103**	
5.1.1	Knowledge-intensive employment, %	20.9	74	
5.1.2	Females employed w/advanced degrees, % ⏲	9.5	80	
5.1.3	Youth demographic dividend, %	44.6	45 ●	◆
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	0.5	96	◇
5.2	**Innovation linkages**	**12.5**	**122**	
5.2.1	Public research–industry co-publications, %	1.2	73 ●	
5.2.2	University–industry R&D collaboration†	16.0	126	◇
5.2.3	University industry and international engagement, top 5*	9.4	93	
5.2.4	State of cluster development†	23.6	113	
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**22.4**	**68** ●	
5.3.1	Intellectual property payments, % total trade	0.1	116	◇
5.3.2	High-tech imports, % total trade	20.4	8 ●	◆
5.3.3	ICT services imports, % total trade	0.0	139 ○	◇
5.3.4	FDI net inflows, % GDP	2.4	75	
5.3.5	Green-field R&D & high-tech FDI	0.7	72	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**10.5**	**124**	◇
6.1	**Knowledge creation**	**2.8**	**125**	
6.1.1	Patents by origin/bn PPP$ GDP	0.1	109	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a	
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	60	
6.1.4	Scientific and technical articles/bn PPP$ GDP	2.7	129	◇
6.1.5	Citable documents H-index	3.5	120	
6.2	**Knowledge impact**	**13.4**	**126**	◇
6.2.1	Labor productivity growth, %	1.9	60 ●	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.0	111	
6.2.4	High-tech manufacturing, %	1.8	108 ○	◇
6.3	**Knowledge diffusion**	**15.4**	**97**	
6.3.1	Intellectual property receipts, % total trade	0.0	130 ○	◇
6.3.2	Production and export complexity	63.0	88	
6.3.3	High-tech exports, % total trade	1.1	74	
6.3.4	ICT services exports, % total trade	0.1	133	
6.3.5	ISO 9001 quality/bn PPP$ GDP	3.3	73 ●	
Creative outputs		**16.6**	**89**	
7.1	**Intangible assets**	**20.7**	**78**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	104.1	6 ●	◆
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.1	112	
7.2	**Creative goods and services**	**2.0**	**[121]**	
7.2.1	Cultural and creative services exports, % total trade	0.0	127 ○	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.1	96	
7.3	**Online creativity**	**23.0**	**94**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.6	88	
7.3.2	GitHub commits/mn pop. 15–69	3.9	94	
7.3.3	Mobile app creation/bn PPP$ GDP	63.5	94	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Peru

80

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
82	72	Upper middle	LCN	34.6	653.1	18,980

		Score/ Value	Rank
Institutions		**40.6**	**92**
1.1	**Institutional environment**	**51.4**	**82**
1.1.1	Operational stability for businesses*	65.1	68
1.1.2	Government effectiveness*	37.6	88
1.2	**Regulatory environment**	**44.7**	**79**
1.2.1	Regulatory quality*	49.2	68
1.2.2	Rule of law*	40.2	92
1.3	**Business environment**	**25.8**	**111** ○
1.3.1	Policy stability for doing business†	29.9	102
1.3.2	Entrepreneurship policies and culture†	21.7	70 ○
Human capital and research		**37.4**	**53**
2.1	**Education**	**48.0**	**84**
2.1.1	Expenditure on education, % GDP	4.4	62
2.1.2	Government funding/pupil, secondary, % GDP/cap	16.5	63
2.1.3	School life expectancy, years ⏲	14.8	56
2.1.4	PISA scales in reading, maths and science	402.4	61
2.1.5	Pupil–teacher ratio, secondary	13.8	68
2.2	**Tertiary education**	**56.5**	**7** ● ◆
2.2.1	Tertiary enrolment, % gross ⏲	71.2	42
2.2.2	Graduates in science and engineering, % ⏲	29.6	24
2.2.3	Tertiary inbound mobility, %	n/a	n/a
2.3	**Research and development (R&D)**	**7.6**	**76**
2.3.1	Researchers, FTE/mn pop.	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.2	92 ○
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	20.3	64
Infrastructure		**47.0**	**63**
3.1	**Information and communication technologies (ICTs)**	**77.4**	**70**
3.1.1	ICT access*	67.0	100 ◇
3.1.2	ICT use*	84.7	49
3.1.3	Government online service*	80.5	40 ●
3.2	**General infrastructure**	**38.4**	**76**
3.2.1	Electricity output, GWh/mn pop.	1,692.5	91
3.2.2	Aviation import dwell time	2.3	56
3.2.3	Logistics performance*	40.9	60
3.2.4	Gross capital formation, % GDP	19.2	107 ○
3.3	**Ecological sustainability**	**25.2**	**42** ●
3.3.1	GDP/unit of energy use	17.6	30 ●
3.3.2	Low-carbon energy use, %	14.1	61
3.3.3	ISO 14001 environment/bn PPP$ GDP	3.4	31 ●
Market sophistication		**39.2**	**56**
4.1	**Credit**	**32.7**	**58**
4.1.1	Finance for startups and scaleups†	34.9	68
4.1.2	Domestic credit to private sector, % GDP	40.0	77
4.1.3	Loans from microfinance institutions, % GDP	5.4	6 ● ◆
4.2	**Investment**	**3.9**	**81**
4.2.1	Market capitalization, % GDP	29.7	47
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	90 ○
4.2.3	Late-stage VC deal count, % global VC	0.0	61
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	85
4.3	**Trade, diversification, and market scale**	**81.0**	**26** ●
4.3.1	Applied tariff rate, weighted avg., %	0.6	7 ●
4.3.2	Domestic industry diversification	86.7	53
4.3.3	Domestic market scale, bn PPP$	653.1	45

		Score/ Value	Rank
Business sophistication		**21.3**	**109** ○
5.1	**Knowledge workers**	**26.4**	**110** ○
5.1.1	Knowledge-intensive employment, %	16.6	86
5.1.2	Females employed w/advanced degrees, %	7.9	88 ◇
5.1.3	Youth demographic dividend, %	39.6	62
5.1.4	GERD performed by business, % GDP ⏲	0.1	71
5.1.5	GERD financed by business, %	29.9	59
5.2	**Innovation linkages**	**12.7**	**121** ○
5.2.1	Public research–industry co-publications, %	0.8	94
5.2.2	University–industry R&D collaboration†	21.4	116 ○
5.2.3	University industry and international engagement, top 5*	7.0	97 ○
5.2.4	State of cluster development†	25.3	111 ○
5.2.5	Patent families/bn PPP$ GDP	0.0	75
5.3	**Knowledge absorption**	**24.9**	**61**
5.3.1	Intellectual property payments, % total trade	0.8	49
5.3.2	High-tech imports, % total trade	7.6	75
5.3.3	ICT services imports, % total trade	3.0	22 ● ◆
5.3.4	FDI net inflows, % GDP	2.8	60
5.3.5	Green-field R&D & high-tech FDI	0.4	95
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		**16.2**	**89**
6.1	**Knowledge creation**	**15.3**	**66**
6.1.1	Patents by origin/bn PPP$ GDP	0.3	81
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	73
6.1.3	Utility models by origin/bn PPP$ GDP	1.1	13 ●
6.1.4	Scientific and technical articles/bn PPP$ GDP	7.0	105
6.1.5	Citable documents H-index	14.4	62
6.2	**Knowledge impact**	**17.6**	**108** ○
6.2.1	Labor productivity growth, %	1.0	83
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.2	68
6.2.4	High-tech manufacturing, %	11.5	83
6.3	**Knowledge diffusion**	**15.8**	**94**
6.3.1	Intellectual property receipts, % total trade	0.1	79
6.3.2	Production and export complexity	56.3	99 ◇
6.3.3	High-tech exports, % total trade	0.4	103
6.3.4	ICT services exports, % total trade	0.2	122 ○
6.3.5	ISO 9001 quality/bn PPP$ GDP	5.6	49
Creative outputs		**21.2**	**74**
7.1	**Intangible assets**	**26.9**	**65**
7.1.1	Intangible asset intensity, top 15, %	45.7	58
7.1.2	Trademarks by origin/bn PPP$ GDP	54.9	28 ●
7.1.3	Global brand value, top 5,000, % GDP	0.6	67
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.2	101
7.2	**Creative goods and services**	**6.3**	**99**
7.2.1	Cultural and creative services exports, % total trade	0.1	91
7.2.2	National feature films/mn pop. 15–69	1.4	72
7.2.3	Entertainment and media market/th pop. 15–69	6.4	45
7.2.4	Creative goods exports, % total trade	0.3	71
7.3	**Online creativity**	**24.8**	**81**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	2.9	71
7.3.2	GitHub commits/mn pop. 15–69	7.3	65
7.3.3	Mobile app creation/bn PPP$ GDP	64.3	86

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Philippines

GII 2026 rank **52**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
49	69	Lower middle	SEAO	116.8	1,477.7	12,920

		Score/ Value	Rank	
Institutions		**54.1**	**58**	◆
1.1	**Institutional environment**	**54.7**	**74**	◆
1.1.1	Operational stability for businesses*	63.2	74	
1.1.2	Government effectiveness*	46.3	73	◆
1.2	**Regulatory environment**	**43.9**	**81**	
1.2.1	Regulatory quality*	49.1	69	◆
1.2.2	Rule of law*	38.6	96	
1.3	**Business environment**	**63.8**	**[27]**	
1.3.1	Policy stability for doing business†	63.8	37	◆
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**25.5**	**100**	
2.1	**Education**	**38.8**	**115**	○
2.1.1	Expenditure on education, % GDP	4.0	80	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	13.6	80	◆
2.1.4	PISA scales in reading, maths and science	352.5	80	○
2.1.5	Pupil–teacher ratio, secondary	23.9	112	○
2.2	**Tertiary education**	**27.7**	**87**	
2.2.1	Tertiary enrolment, % gross	47.4	77	◆
2.2.2	Graduates in science and engineering, %	25.0	45	
2.2.3	Tertiary inbound mobility, %	0.5	98	○
2.3	**Research and development (R&D)**	**10.1**	**69**	
2.3.1	Researchers, FTE/mn pop.	320.3	82	
2.3.2	Gross expenditure on R&D, % GDP	0.3	77	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	33.4	50	◆
Infrastructure		**46.5**	**64**	◆
3.1	**Information and communication technologies (ICTs)**	**76.7**	**71**	◆
3.1.1	ICT access*	80.4	81	◆
3.1.2	ICT use*	73.1	90	
3.1.3	Government online service*	76.6	49	◆
3.2	**General infrastructure**	**43.0**	**63**	
3.2.1	Electricity output, GWh/mn pop.	1,095.7	99	
3.2.2	Aviation import dwell time	2.6	63	
3.2.3	Logistics performance*	54.5	42	◆
3.2.4	Gross capital formation, % GDP	23.3	66	
3.3	**Ecological sustainability**	**19.9**	**61**	
3.3.1	GDP/unit of energy use	16.6	39	
3.3.2	Low-carbon energy use, %	18.7	47	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.7	82	
Market sophistication		**32.6**	**84**	
4.1	**Credit**	**9.7**	**121**	○
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	49.9	64	
4.1.3	Loans from microfinance institutions, % GDP	0.0	59	○
4.2	**Investment**	**6.3**	**66**	
4.2.1	Market capitalization, % GDP	55.9	29	◆
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	92	○
4.2.3	Late-stage VC deal count, % global VC	0.0	55	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	80	
4.3	**Trade, diversification, and market scale**	**81.8**	**24**	● ◆
4.3.1	Applied tariff rate, weighted avg., %	1.9	61	◆
4.3.2	Domestic industry diversification	90.8	44	
4.3.3	Domestic market scale, bn PPP$	1,477.7	30	● ◆

		Score/ Value	Rank	
Business sophistication		**32.0**	**49**	◆
5.1	**Knowledge workers**	**35.0**	**63**	
5.1.1	Knowledge-intensive employment, %	14.0	90	
5.1.2	Females employed w/advanced degrees, %	14.3	61	◆
5.1.3	Youth demographic dividend, %	45.4	44	
5.1.4	GERD performed by business, % GDP	0.1	64	
5.1.5	GERD financed by business, %	41.2	42	◆
5.2	**Innovation linkages**	**34.1**	**45**	◆
5.2.1	Public research–industry co-publications, %	1.9	47	◆
5.2.2	University–industry R&D collaboration†	64.7	17	● ◆
5.2.3	University industry and international engagement, top 5*	6.4	99	○ ◇
5.2.4	State of cluster development†	78.6	20	● ◆
5.2.5	Patent families/bn PPP$ GDP	0.0	88	
5.3	**Knowledge absorption**	**26.8**	**57**	◆
5.3.1	Intellectual property payments, % total trade	0.4	78	
5.3.2	High-tech imports, % total trade	22.0	6	● ◆
5.3.3	ICT services imports, % total trade	1.6	66	
5.3.4	FDI net inflows, % GDP	2.1	78	
5.3.5	Green-field R&D & high-tech FDI	0.7	74	
5.3.6	Research talent, % in businesses	13.9	59	
Knowledge and technology outputs		**30.7**	**37**	◆
6.1	**Knowledge creation**	**15.3**	**65**	
6.1.1	Patents by origin/bn PPP$ GDP	0.6	65	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	85	
6.1.3	Utility models by origin/bn PPP$ GDP	1.2	12	● ◆
6.1.4	Scientific and technical articles/bn PPP$ GDP	2.4	133	○
6.1.5	Citable documents H-index	15.1	60	
6.2	**Knowledge impact**	**33.9**	**35**	◆
6.2.1	Labor productivity growth, %	1.7	64	
6.2.2	Unicorn valuation, % GDP	1.1	36	
6.2.3	Software spending, % GDP	0.3	48	
6.2.4	High-tech manufacturing, %	41.2	23	● ◆
6.3	**Knowledge diffusion**	**43.0**	**24**	● ◆
6.3.1	Intellectual property receipts, % total trade	0.0	100	
6.3.2	Production and export complexity	80.8	42	◆
6.3.3	High-tech exports, % total trade	25.8	4	● ◆
6.3.4	ICT services exports, % total trade	6.0	18	● ◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	2.9	78	
Creative outputs		**28.0**	**55**	◆
7.1	**Intangible assets**	**34.0**	**54**	◆
7.1.1	Intangible asset intensity, top 15, %	52.4	50	
7.1.2	Trademarks by origin/bn PPP$ GDP	27.9	73	
7.1.3	Global brand value, top 5,000, % GDP	6.1	30	● ◆
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.9	63	
7.2	**Creative goods and services**	**18.5**	**61**	
7.2.1	Cultural and creative services exports, % total trade	0.1	90	
7.2.2	National feature films/mn pop. 15–69	2.4	58	
7.2.3	Entertainment and media market/th pop. 15–69	3.3	48	○ ◆
7.2.4	Creative goods exports, % total trade	3.4	15	● ◆
7.3	**Online creativity**	**25.6**	**74**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.8	107	○
7.3.2	GitHub commits/mn pop. 15–69	6.4	70	
7.3.3	Mobile app creation/bn PPP$ GDP	69.7	54	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Poland

39

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
36	42	High	EUR	38.1	2,019.8	55,340

		Score/ Value	Rank	
Institutions		**53.0**	**61**	◇
1.1	**Institutional environment**	**65.3**	**48**	
1.1.1	Operational stability for businesses*	71.1	50	
1.1.2	Government effectiveness*	59.6	43	
1.2	**Regulatory environment**	**65.0**	**38**	
1.2.1	Regulatory quality*	64.2	39	
1.2.2	Rule of law*	65.8	42	
1.3	**Business environment**	**28.6**	**100**	○ ◇
1.3.1	Policy stability for doing business†	35.2	92	○ ◇
1.3.2	Entrepreneurship policies and culture†	22.0	69	○ ◇
Human capital and research		**43.8**	**35**	
2.1	**Education**	**61.0**	**40**	
2.1.1	Expenditure on education, % GDP	4.3	65	◴
2.1.2	Government funding/pupil, secondary, % GDP/cap	18.0	54	
2.1.3	School life expectancy, years	17.1	24	
2.1.4	PISA scales in reading, maths and science	492.3	14	●
2.1.5	Pupil–teacher ratio, secondary	10.2	36	
2.2	**Tertiary education**	**32.4**	**67**	
2.2.1	Tertiary enrolment, % gross	80.9	23	●
2.2.2	Graduates in science and engineering, %	18.8	91	○
2.2.3	Tertiary inbound mobility, %	6.8	45	
2.3	**Research and development (R&D)**	**38.0**	**29**	
2.3.1	Researchers, FTE/mn pop.	3,921.9	28	
2.3.2	Gross expenditure on R&D, % GDP	1.4	30	
2.3.3	Global corporate R&D investors, top 3, mn US$	51.0	32	
2.3.4	QS university ranking, top 3*	42.5	40	
Infrastructure		**52.3**	**48**	
3.1	**Information and communication technologies (ICTs)**	**89.3**	**32**	
3.1.1	ICT access*	98.4	26	
3.1.2	ICT use*	93.2	18	●
3.1.3	Government online service*	76.4	50	
3.2	**General infrastructure**	**47.7**	**49**	
3.2.1	Electricity output, GWh/mn pop.	4,490.2	50	
3.2.2	Aviation import dwell time	2.1	47	
3.2.3	Logistics performance*	68.2	25	
3.2.4	Gross capital formation, % GDP	17.8	109	○ ◇
3.3	**Ecological sustainability**	**19.9**	**60**	
3.3.1	GDP/unit of energy use	16.7	38	
3.3.2	Low-carbon energy use, %	7.9	85	○
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.5	35	
Market sophistication		**37.9**	**62**	
4.1	**Credit**	**21.4**	**88**	○ ◇
4.1.1	Finance for startups and scaleups†	49.6	46	
4.1.2	Domestic credit to private sector, % GDP	33.6	88	○ ◇
4.1.3	Loans from microfinance institutions, % GDP	0.3	51	○
4.2	**Investment**	**6.2**	**69**	◇
4.2.1	Market capitalization, % GDP	22.9	55	○
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	58	
4.2.3	Late-stage VC deal count, % global VC	0.1	25	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	64	
4.3	**Trade, diversification, and market scale**	**86.0**	**13**	●
4.3.1	Applied tariff rate, weighted avg., %	1.3	20	
4.3.2	Domestic industry diversification	96.0	18	●
4.3.3	Domestic market scale, bn PPP$	2,019.8	20	●

		Score/ Value	Rank	
Business sophistication		**38.7**	**36**	
5.1	**Knowledge workers**	**50.2**	**24**	●
5.1.1	Knowledge-intensive employment, %	44.8	24	
5.1.2	Females employed w/advanced degrees, %	25.5	20	●
5.1.3	Youth demographic dividend, %	24.2	127	○
5.1.4	GERD performed by business, % GDP	0.9	29	
5.1.5	GERD financed by business, %	54.7	20	
5.2	**Innovation linkages**	**27.5**	**56**	◇
5.2.1	Public research–industry co-publications, %	1.9	45	
5.2.2	University–industry R&D collaboration†	33.9	77	◇
5.2.3	University industry and international engagement, top 5*	30.7	56	◇
5.2.4	State of cluster development†	46.0	58	
5.2.5	Patent families/bn PPP$ GDP	0.2	40	
5.3	**Knowledge absorption**	**38.5**	**31**	
5.3.1	Intellectual property payments, % total trade	1.0	38	
5.3.2	High-tech imports, % total trade	12.2	25	
5.3.3	ICT services imports, % total trade	2.9	26	
5.3.4	FDI net inflows, % GDP	4.2	37	
5.3.5	Green-field R&D & high-tech FDI	2.1	32	
5.3.6	Research talent, % in businesses	56.2	19	
Knowledge and technology outputs		**30.1**	**39**	
6.1	**Knowledge creation**	**22.7**	**44**	
6.1.1	Patents by origin/bn PPP$ GDP	2.1	26	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.2	41	
6.1.3	Utility models by origin/bn PPP$ GDP	0.3	36	
6.1.4	Scientific and technical articles/bn PPP$ GDP	19.4	42	
6.1.5	Citable documents H-index	36.9	26	
6.2	**Knowledge impact**	**30.3**	**49**	
6.2.1	Labor productivity growth, %	3.1	31	◆
6.2.2	Unicorn valuation, % GDP	0.2	56	
6.2.3	Software spending, % GDP	0.2	57	
6.2.4	High-tech manufacturing, %	31.8	40	
6.3	**Knowledge diffusion**	**37.2**	**36**	
6.3.1	Intellectual property receipts, % total trade	0.3	37	
6.3.2	Production and export complexity	86.6	24	
6.3.3	High-tech exports, % total trade	8.9	24	●
6.3.4	ICT services exports, % total trade	4.3	32	
6.3.5	ISO 9001 quality/bn PPP$ GDP	8.9	24	●
Creative outputs		**37.5**	**34**	
7.1	**Intangible assets**	**39.9**	**35**	
7.1.1	Intangible asset intensity, top 15, %	62.9	25	
7.1.2	Trademarks by origin/bn PPP$ GDP	26.8	78	
7.1.3	Global brand value, top 5,000, % GDP	4.1	35	
7.1.4	Industrial designs by origin/bn PPP$ GDP	3.2	20	●
7.2	**Creative goods and services**	**28.3**	**41**	
7.2.1	Cultural and creative services exports, % total trade	1.3	30	
7.2.2	National feature films/mn pop. 15–69	2.2	62	○
7.2.3	Entertainment and media market/th pop. 15–69	13.5	32	◇
7.2.4	Creative goods exports, % total trade	4.1	12	● ◆
7.3	**Online creativity**	**42.0**	**33**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	16.5	35	
7.3.2	GitHub commits/mn pop. 15–69	38.2	28	
7.3.3	Mobile app creation/bn PPP$ GDP	71.4	38	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Portugal

GII 2026 rank **30**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
27	28	High	EUR	10.4	535.2	49,753

		Score/ Value	Rank
Institutions		**60.7**	**42**
1.1	**Institutional environment**	**71.1**	**34**
1.1.1	Operational stability for businesses*	75.7	40
1.1.2	Government effectiveness*	66.5	32
1.2	**Regulatory environment**	**71.5**	**27**
1.2.1	Regulatory quality*	65.5	35
1.2.2	Rule of law*	77.5	24
1.3	**Business environment**	**39.5**	**79** ○
1.3.1	Policy stability for doing business†	44.3	74 ○
1.3.2	Entrepreneurship policies and culture† ⏲	34.8	50
Human capital and research		**53.0**	**20**
2.1	**Education**	**67.1**	**16** ●
2.1.1	Expenditure on education, % GDP ⏲	4.6	55
2.1.2	Government funding/pupil, secondary, % GDP/cap	28.6	10 ● ◆
2.1.3	School life expectancy, years ⏲	17.5	19
2.1.4	PISA scales in reading, maths and science	477.6	27
2.1.5	Pupil–teacher ratio, secondary ⏲	8.6	15 ●
2.2	**Tertiary education**	**46.9**	**19**
2.2.1	Tertiary enrolment, % gross ⏲	77.7	30
2.2.2	Graduates in science and engineering, % ⏲	27.4	31
2.2.3	Tertiary inbound mobility, % ⏲	13.3	23
2.3	**Research and development (R&D)**	**44.9**	**25**
2.3.1	Researchers, FTE/mn pop.	6,135.8	12 ●
2.3.2	Gross expenditure on R&D, % GDP	1.7	23
2.3.3	Global corporate R&D investors, top 3, mn US$	45.0	40
2.3.4	QS university ranking, top 3*	49.7	33
Infrastructure		**55.0**	**43**
3.1	**Information and communication technologies (ICTs)**	**85.4**	**44**
3.1.1	ICT access*	97.7	32
3.1.2	ICT use*	84.0	54
3.1.3	Government online service*	74.5	54
3.2	**General infrastructure**	**47.8**	**48**
3.2.1	Electricity output, GWh/mn pop.	4,433.0	51
3.2.2	Aviation import dwell time	1.6	29
3.2.3	Logistics performance*	59.1	37
3.2.4	Gross capital formation, % GDP	20.1	99 ○
3.3	**Ecological sustainability**	**31.8**	**31**
3.3.1	GDP/unit of energy use	22.5	15 ●
3.3.2	Low-carbon energy use, %	25.3	37
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.7	34
Market sophistication		**49.7**	**26**
4.1	**Credit**	**50.9**	**26**
4.1.1	Finance for startups and scaleups† ⏲	70.4	19
4.1.2	Domestic credit to private sector, % GDP	77.2	35
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**14.9**	**38**
4.2.1	Market capitalization, % GDP ⏲	29.2	48
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.2	32
4.2.3	Late-stage VC deal count, % global VC	0.1	31
4.2.4	VC investors, deal count/bn PPP$ GDP	0.5	24
4.3	**Trade, diversification, and market scale**	**83.1**	**19**
4.3.1	Applied tariff rate, weighted avg., %	1.3	20
4.3.2	Domestic industry diversification	100.0	1 ● ◆
4.3.3	Domestic market scale, bn PPP$	535.2	50

		Score/ Value	Rank
Business sophistication		**39.7**	**31**
5.1	**Knowledge workers**	**47.0**	**29**
5.1.1	Knowledge-intensive employment, %	41.3	32
5.1.2	Females employed w/advanced degrees, %	20.9	34
5.1.3	Youth demographic dividend, %	23.0	134 ○
5.1.4	GERD performed by business, % GDP	1.1	22
5.1.5	GERD financed by business, %	56.0	16
5.2	**Innovation linkages**	**38.6**	**35**
5.2.1	Public research–industry co-publications, %	1.8	52
5.2.2	University–industry R&D collaboration†	48.5	41
5.2.3	University industry and international engagement, top 5*	55.9	31
5.2.4	State of cluster development†	55.3	47
5.2.5	Patent families/bn PPP$ GDP	0.6	30
5.3	**Knowledge absorption**	**33.4**	**35**
5.3.1	Intellectual property payments, % total trade	0.7	57
5.3.2	High-tech imports, % total trade	8.8	53
5.3.3	ICT services imports, % total trade	1.5	74 ○
5.3.4	FDI net inflows, % GDP	4.5	33
5.3.5	Green-field R&D & high-tech FDI	3.7	17
5.3.6	Research talent, % in businesses	46.9	31
Knowledge and technology outputs		**31.1**	**34**
6.1	**Knowledge creation**	**27.4**	**36**
6.1.1	Patents by origin/bn PPP$ GDP	2.1	25
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.5	31
6.1.3	Utility models by origin/bn PPP$ GDP	0.1	52 ○
6.1.4	Scientific and technical articles/bn PPP$ GDP	36.9	11 ● ◆
6.1.5	Citable documents H-index	34.7	29
6.2	**Knowledge impact**	**33.5**	**41**
6.2.1	Labor productivity growth, %	1.9	58 ○
6.2.2	Unicorn valuation, % GDP	0.4	50
6.2.3	Software spending, % GDP	0.6	11 ●
6.2.4	High-tech manufacturing, %	27.7	46 ○
6.3	**Knowledge diffusion**	**32.5**	**45**
6.3.1	Intellectual property receipts, % total trade	0.1	52
6.3.2	Production and export complexity	81.4	39
6.3.3	High-tech exports, % total trade	3.0	52
6.3.4	ICT services exports, % total trade	3.6	38
6.3.5	ISO 9001 quality/bn PPP$ GDP	12.7	17 ●
Creative outputs		**43.6**	**20**
7.1	**Intangible assets**	**46.2**	**21**
7.1.1	Intangible asset intensity, top 15, %	61.5	29
7.1.2	Trademarks by origin/bn PPP$ GDP	72.2	13 ● ◆
7.1.3	Global brand value, top 5,000, % GDP	6.1	31
7.1.4	Industrial designs by origin/bn PPP$ GDP	2.3	31
7.2	**Creative goods and services**	**27.4**	**44**
7.2.1	Cultural and creative services exports, % total trade	0.9	42
7.2.2	National feature films/mn pop. 15–69	8.6	15
7.2.3	Entertainment and media market/th pop. 15–69	26.9	27 ○
7.2.4	Creative goods exports, % total trade	1.3	38
7.3	**Online creativity**	**54.6**	**24**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	49.4	13 ●
7.3.2	GitHub commits/mn pop. 15–69	42.4	26
7.3.3	Mobile app creation/bn PPP$ GDP	72.1	34

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Qatar

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
67	33	High	NAWA	3.1	380.2	122,283

		Score/ Value	Rank
Institutions		**73.5**	**17** ●
1.1	**Institutional environment**	**78.3**	**22**
1.1.1	Operational stability for businesses*	85.5	17 ●
1.1.2	Government effectiveness*	71.2	28
1.2	**Regulatory environment**	**68.6**	**33**
1.2.1	Regulatory quality*	71.1	29
1.2.2	Rule of law*	66.1	40
1.3	**Business environment**	**73.5**	**12** ● ◆
1.3.1	Policy stability for doing business†	77.3	12 ● ◆
1.3.2	Entrepreneurship policies and culture†	69.7	10 ● ◆
Human capital and research		**40.4**	**42**
2.1	**Education**	**50.1**	**79** ◇
2.1.1	Expenditure on education, % GDP ⏲	3.2	100 ◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years	13.3	83 ◇
2.1.4	PISA scales in reading, maths and science	421.9	50 ◇
2.1.5	Pupil–teacher ratio, secondary	12.2	55
2.2	**Tertiary education**	**56.4**	**8** ● ◆
2.2.1	Tertiary enrolment, % gross	43.0	81 ◇
2.2.2	Graduates in science and engineering, %	22.1	70
2.2.3	Tertiary inbound mobility, %	41.7	1 ● ◆
2.3	**Research and development (R&D)**	**14.7**	**58** ◇
2.3.1	Researchers, FTE/mn pop. ⏲	947.8	57 ◇
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.7	53
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	39.6	43
Infrastructure		**61.2**	**16** ●
3.1	**Information and communication technologies (ICTs)**	**89.1**	**33**
3.1.1	ICT access*	99.9	7 ●
3.1.2	ICT use*	95.6	8 ●
3.1.3	Government online service*	71.8	58
3.2	**General infrastructure**	**81.7**	**1** ● ◆
3.2.1	Electricity output, GWh/mn pop. ⏲	21,178.1	4 ● ◆
3.2.2	Aviation import dwell time	1.2	18
3.2.3	Logistics performance*	63.6	33
3.2.4	Gross capital formation, % GDP	n/a	n/a
3.3	**Ecological sustainability**	**12.9**	**98** ◇
3.3.1	GDP/unit of energy use	5.7	122 ○ ◇
3.3.2	Low-carbon energy use, %	0.4	128 ○ ◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	4.5	25
Market sophistication		**43.2**	**41**
4.1	**Credit**	**56.6**	**19**
4.1.1	Finance for startups and scaleups†	63.0	30
4.1.2	Domestic credit to private sector, % GDP	119.4	16 ●
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**8.6**	**55**
4.2.1	Market capitalization, % GDP	75.7	21
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	97 ◇
4.2.3	Late-stage VC deal count, % global VC	0.0	86
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	58
4.3	**Trade, diversification, and market scale**	**64.3**	**84**
4.3.1	Applied tariff rate, weighted avg., %	3.4	81
4.3.2	Domestic industry diversification ⏲	63.3	99 ○ ◇
4.3.3	Domestic market scale, bn PPP$	380.2	59

		Score/ Value	Rank
Business sophistication		**30.5**	**58**
5.1	**Knowledge workers**	**19.7**	**133** ○ ◇
5.1.1	Knowledge-intensive employment, % ⏲	27.7	52 ◇
5.1.2	Females employed w/advanced degrees, % ⏲	8.6	83 ◇
5.1.3	Youth demographic dividend, %	25.4	118
5.1.4	GERD performed by business, % GDP ⏲	0.1	66 ◇
5.1.5	GERD financed by business, % ⏲	10.2	77 ◇
5.2	**Innovation linkages**	**49.4**	**24**
5.2.1	Public research–industry co-publications, %	1.8	58
5.2.2	University–industry R&D collaboration†	64.4	18 ●
5.2.3	University industry and international engagement, top 5*	82.3	16
5.2.4	State of cluster development†	80.1	18 ●
5.2.5	Patent families/bn PPP$ GDP	0.0	73
5.3	**Knowledge absorption**	**22.5**	**67** ◇
5.3.1	Intellectual property payments, % total trade	0.2	98
5.3.2	High-tech imports, % total trade	6.2	95
5.3.3	ICT services imports, % total trade	2.3	36
5.3.4	FDI net inflows, % GDP	0.0	125 ○
5.3.5	Green-field R&D & high-tech FDI	n/a	n/a
5.3.6	Research talent, % in businesses ⏲	17.0	56 ◇
Knowledge and technology outputs		**19.2**	**78** ◇
6.1	**Knowledge creation**	**8.3**	**92** ◇
6.1.1	Patents by origin/bn PPP$ GDP	0.1	122 ○ ◇
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	92
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	10.7	85 ◇
6.1.5	Citable documents H-index	15.2	58
6.2	**Knowledge impact**	**28.7**	**54**
6.2.1	Labor productivity growth, %	0.9	92
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.4	30
6.2.4	High-tech manufacturing, % ⏲	38.4	27
6.3	**Knowledge diffusion**	**20.7**	**76** ◇
6.3.1	Intellectual property receipts, % total trade	0.1	65
6.3.2	Production and export complexity	68.8	76 ◇
6.3.3	High-tech exports, % total trade	0.6	88 ◇
6.3.4	ICT services exports, % total trade	1.1	87
6.3.5	ISO 9001 quality/bn PPP$ GDP	6.7	37
Creative outputs		**27.6**	**58**
7.1	**Intangible assets**	**38.7**	**39**
7.1.1	Intangible asset intensity, top 15, %	37.0	63
7.1.2	Trademarks by origin/bn PPP$ GDP	4.3	126 ○ ◇
7.1.3	Global brand value, top 5,000, % GDP	11.4	15 ●
7.1.4	Industrial designs by origin/bn PPP$ GDP	n/a	n/a
7.2	**Creative goods and services**	**8.8**	**89** ◇
7.2.1	Cultural and creative services exports, % total trade	0.3	75
7.2.2	National feature films/mn pop. 15–69	0.4	90 ○ ◇
7.2.3	Entertainment and media market/th pop. 15–69	27.3	25
7.2.4	Creative goods exports, % total trade	0.0	137 ○ ◇
7.3	**Online creativity**	**24.2**	**83** ◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	2.9	72 ◇
7.3.2	GitHub commits/mn pop. 15–69	6.0	74 ◇
7.3.3	Mobile app creation/bn PPP$ GDP	63.6	93

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Republic of Korea

GII 2026 rank **4**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
6	4	High	SEAO	51.7	3,363.4	65,080

		Score/ Value	Rank	
Institutions		**72.4**	**22**	
1.1	**Institutional environment**	**80.8**	**17**	
1.1.1	Operational stability for businesses*	81.6	25	
1.1.2	Government effectiveness*	80.0	18	
1.2	**Regulatory environment**	**75.4**	**25**	
1.2.1	Regulatory quality*	72.3	28	◇
1.2.2	Rule of law*	78.6	22	
1.3	**Business environment**	**61.1**	**30**	
1.3.1	Policy stability for doing business†	53.8	56 ○	◇
1.3.2	Entrepreneurship policies and culture†	68.4	12	
Human capital and research		**71.7**	**1** ●	◆
2.1	**Education**	**78.8**	**4**	◆
2.1.1	Expenditure on education, % GDP ⏲	5.4	29	
2.1.2	Government funding/pupil, secondary, % GDP/cap	44.6	1 ●	◆
2.1.3	School life expectancy, years	16.9	26	
2.1.4	PISA scales in reading, maths and science	523.5	4	
2.1.5	Pupil–teacher ratio, secondary	11.4	48	
2.2	**Tertiary education**	**51.9**	**12**	
2.2.1	Tertiary enrolment, % gross	111.9	4	◆
2.2.2	Graduates in science and engineering, %	31.0	16	
2.2.3	Tertiary inbound mobility, %	5.3	52 ○	
2.3	**Research and development (R&D)**	**84.5**	**1** ●	◆
2.3.1	Researchers, FTE/mn pop.	9,726.3	2 ●	◆
2.3.2	Gross expenditure on R&D, % GDP	5.1	2 ●	◆
2.3.3	Global corporate R&D investors, top 3, mn US$	84.7	4	
2.3.4	QS university ranking, top 3*	83.6	9	
Infrastructure		**65.9**	**6**	◆
3.1	**Information and communication technologies (ICTs)**	**96.8**	**5**	◆
3.1.1	ICT access*	99.4	13	
3.1.2	ICT use*	91.0	23	
3.1.3	Government online service*	100.0	1 ●	◆
3.2	**General infrastructure**	**67.9**	**9**	
3.2.1	Electricity output, GWh/mn pop.	11,678.8	13	
3.2.2	Aviation import dwell time	0.9	9	
3.2.3	Logistics performance*	77.3	16	
3.2.4	Gross capital formation, % GDP	30.5	22	◆
3.3	**Ecological sustainability**	**33.0**	**29**	
3.3.1	GDP/unit of energy use	9.8	95 ○	
3.3.2	Low-carbon energy use, %	18.7	48	
3.3.3	ISO 14001 environment/bn PPP$ GDP	8.6	9	◆
Market sophistication		**61.9**	**9**	
4.1	**Credit**	**69.6**	**7**	
4.1.1	Finance for startups and scaleups†	70.6	18	
4.1.2	Domestic credit to private sector, % GDP	160.3	6	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**35.2**	**15**	
4.2.1	Market capitalization, % GDP	93.7	17	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.5	13	
4.2.3	Late-stage VC deal count, % global VC	1.1	7	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.5	18	
4.3	**Trade, diversification, and market scale**	**81.0**	**25**	
4.3.1	Applied tariff rate, weighted avg., %	3.9	86 ○	◇
4.3.2	Domestic industry diversification	96.2	14	
4.3.3	Domestic market scale, bn PPP$	3,363.4	14	

		Score/ Value	Rank	
Business sophistication		**60.7**	**6**	
5.1	**Knowledge workers**	**68.3**	**4**	◆
5.1.1	Knowledge-intensive employment, %	42.3	29	
5.1.2	Females employed w/advanced degrees, %	24.0	24	
5.1.3	Youth demographic dividend, %	19.4	138 ○	◇
5.1.4	GERD performed by business, % GDP	4.2	1 ●	◆
5.1.5	GERD financed by business, %	78.5	2 ●	◆
5.2	**Innovation linkages**	**71.0**	**4**	
5.2.1	Public research–industry co-publications, %	7.1	5	◆
5.2.2	University–industry R&D collaboration†	58.9	28	
5.2.3	University industry and international engagement, top 5*	80.1	17	
5.2.4	State of cluster development†	71.0	29	
5.2.5	Patent families/bn PPP$ GDP	11.1	2 ●	◆
5.3	**Knowledge absorption**	**42.8**	**16**	
5.3.1	Intellectual property payments, % total trade	1.6	24	
5.3.2	High-tech imports, % total trade	17.6	12	
5.3.3	ICT services imports, % total trade	1.5	73 ○	◇
5.3.4	FDI net inflows, % GDP	1.0	106 ○	
5.3.5	Green-field R&D & high-tech FDI	0.8	68 ○	◇
5.3.6	Research talent, % in businesses	81.9	1 ●	◆
Knowledge and technology outputs		**54.1**	**7**	
6.1	**Knowledge creation**	**61.7**	**4**	
6.1.1	Patents by origin/bn PPP$ GDP	60.2	1 ●	◆
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	6.7	1 ●	◆
6.1.3	Utility models by origin/bn PPP$ GDP	0.6	25	
6.1.4	Scientific and technical articles/bn PPP$ GDP	23.7	32	
6.1.5	Citable documents H-index	47.7	16	
6.2	**Knowledge impact**	**44.5**	**12**	
6.2.1	Labor productivity growth, %	1.0	84 ○	
6.2.2	Unicorn valuation, % GDP	3.2	14	
6.2.3	Software spending, % GDP	0.3	50	
6.2.4	High-tech manufacturing, %	56.8	7	
6.3	**Knowledge diffusion**	**56.1**	**6**	
6.3.1	Intellectual property receipts, % total trade	1.1	18	
6.3.2	Production and export complexity	97.6	3 ●	◆
6.3.3	High-tech exports, % total trade	25.7	5	◆
6.3.4	ICT services exports, % total trade	1.8	69 ○	
6.3.5	ISO 9001 quality/bn PPP$ GDP	15.9	13	◆
Creative outputs		**58.4**	**2** ●	◆
7.1	**Intangible assets**	**77.3**	**2** ●	◆
7.1.1	Intangible asset intensity, top 15, %	73.2	14	
7.1.2	Trademarks by origin/bn PPP$ GDP	81.6	11	◆
7.1.3	Global brand value, top 5,000, % GDP	18.6	2 ●	◆
7.1.4	Industrial designs by origin/bn PPP$ GDP	15.9	2 ●	◆
7.2	**Creative goods and services**	**35.6**	**20**	
7.2.1	Cultural and creative services exports, % total trade	1.1	36	
7.2.2	National feature films/mn pop. 15–69	4.3	35	
7.2.3	Entertainment and media market/th pop. 15–69	36.3	20	
7.2.4	Creative goods exports, % total trade	4.4	11	◆
7.3	**Online creativity**	**43.5**	**31**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	7.4	49	◇
7.3.2	GitHub commits/mn pop. 15–69	47.7	22	
7.3.3	Mobile app creation/bn PPP$ GDP	75.3	19	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Republic of Moldova

68

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
51	94	Upper middle	EUR	3.0	46.7	19,591

		Score/ Value	Rank
Institutions		**43.3**	**88**
1.1	**Institutional environment**	**54.2**	**76**
1.1.1	Operational stability for businesses*	59.2	87
1.1.2	Government effectiveness*	49.1	61
1.2	**Regulatory environment**	**47.2**	**74**
1.2.1	Regulatory quality*	46.0	75
1.2.2	Rule of law*	48.3	70
1.3	**Business environment**	**28.4**	**[101]**
1.3.1	Policy stability for doing business† ⏲	28.4	106
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**32.0**	**75**
2.1	**Education**	**57.5**	**53**
2.1.1	Expenditure on education, % GDP	6.6	11 ● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	22.4	30 ●
2.1.3	School life expectancy, years ⏲	14.5	60
2.1.4	PISA scales in reading, maths and science	414.0	52
2.1.5	Pupil–teacher ratio, secondary	11.8	51
2.2	**Tertiary education**	**36.1**	**52**
2.2.1	Tertiary enrolment, % gross	74.7	39 ●
2.2.2	Graduates in science and engineering, %	22.9	62
2.2.3	Tertiary inbound mobility, %	7.1	43
2.3	**Research and development (R&D)**	**2.3**	**94**
2.3.1	Researchers, FTE/mn pop.	649.9	68
2.3.2	Gross expenditure on R&D, % GDP	0.2	84
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇
Infrastructure		**35.8**	**95**
3.1	**Information and communication technologies (ICTs)**	**75.5**	**74**
3.1.1	ICT access*	77.7	84
3.1.2	ICT use*	81.6	65
3.1.3	Government online service*	67.1	69
3.2	**General infrastructure**	**20.3**	**131** ○ ◇
3.2.1	Electricity output, GWh/mn pop.	2,603.2	76
3.2.2	Aviation import dwell time	n/a	n/a
3.2.3	Logistics performance*	18.2	89 ○
3.2.4	Gross capital formation, % GDP	23.0	68
3.3	**Ecological sustainability**	**11.8**	**107**
3.3.1	GDP/unit of energy use	11.3	82
3.3.2	Low-carbon energy use, %	1.9	117
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.8	50
Market sophistication		**32.3**	**85**
4.1	**Credit**	**26.8**	**71**
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	29.3	98
4.1.3	Loans from microfinance institutions, % GDP	4.8	7 ● ◆
4.2	**Investment**	**3.1**	**[92]**
4.2.1	Market capitalization, % GDP	n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	86
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a
4.3	**Trade, diversification, and market scale**	**66.9**	**79**
4.3.1	Applied tariff rate, weighted avg., %	1.6	54
4.3.2	Domestic industry diversification	78.3	70
4.3.3	Domestic market scale, bn PPP$	46.7	124 ○

		Score/ Value	Rank
Business sophistication		**16.9**	**135** ○ ◇
5.1	**Knowledge workers**	**20.2**	**131** ○ ◇
5.1.1	Knowledge-intensive employment, %	18.6	82
5.1.2	Females employed w/advanced degrees, %	11.5	70
5.1.3	Youth demographic dividend, %	31.0	83
5.1.4	GERD performed by business, % GDP	0.1	69
5.1.5	GERD financed by business, %	7.6	79
5.2	**Innovation linkages**	**10.7**	**128** ○ ◇
5.2.1	Public research–industry co-publications, %	0.5	120 ○
5.2.2	University–industry R&D collaboration† ⏲	22.3	114 ○
5.2.3	University industry and international engagement, top 5*	n/a	n/a
5.2.4	State of cluster development† ⏲	15.3	127 ○ ◇
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○ ◇
5.3	**Knowledge absorption**	**19.7**	**81**
5.3.1	Intellectual property payments, % total trade	0.5	70
5.3.2	High-tech imports, % total trade	8.4	63
5.3.3	ICT services imports, % total trade	1.5	70
5.3.4	FDI net inflows, % GDP	2.9	59
5.3.5	Green-field R&D & high-tech FDI	1.2	54
5.3.6	Research talent, % in businesses	7.6	68
Knowledge and technology outputs		**25.9**	**52**
6.1	**Knowledge creation**	**27.6**	**34** ● ◆
6.1.1	Patents by origin/bn PPP$ GDP	0.8	61
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	55
6.1.3	Utility models by origin/bn PPP$ GDP	2.6	1 ● ◆
6.1.4	Scientific and technical articles/bn PPP$ GDP	10.3	87
6.1.5	Citable documents H-index	4.9	103
6.2	**Knowledge impact**	**19.1**	**99**
6.2.1	Labor productivity growth, %	2.3	49
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.1	99
6.2.4	High-tech manufacturing, %	15.0	73
6.3	**Knowledge diffusion**	**30.9**	**49**
6.3.1	Intellectual property receipts, % total trade	0.0	86
6.3.2	Production and export complexity	71.6	69
6.3.3	High-tech exports, % total trade	0.7	85
6.3.4	ICT services exports, % total trade	9.0	8 ● ◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	4.8	57
Creative outputs		**31.1**	**50**
7.1	**Intangible assets**	**37.0**	**43** ●
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	89.6	9 ●
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	5.6	12 ● ◆
7.2	**Creative goods and services**	**16.5**	**[65]**
7.2.1	Cultural and creative services exports, % total trade	1.1	35 ●
7.2.2	National feature films/mn pop. 15–69	n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	0.3	76
7.3	**Online creativity**	**33.8**	**45** ●
7.3.1	Top-level domains (TLDs)/th pop. 15–69	3.7	65
7.3.2	GitHub commits/mn pop. 15–69	18.3	45 ◆
7.3.3	Mobile app creation/bn PPP$ GDP	79.5	11 ● ◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Romania

GII 2026 rank

49

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
48	55	High	EUR	18.9	919.9	48,847

		Score/ Value	Rank	
Institutions		**46.0**	**82**	◇
1.1	**Institutional environment**	**55.8**	**70**	◇
1.1.1	Operational stability for businesses*	58.6	89	◇
1.1.2	Government effectiveness*	53.1	52	◇
1.2	**Regulatory environment**	**58.8**	**50**	
1.2.1	Regulatory quality*	56.7	52	◇
1.2.2	Rule of law*	60.9	48	
1.3	**Business environment**	**23.3**	**117** ○	◇
1.3.1	Policy stability for doing business†	26.5	114 ○	◇
1.3.2	Entrepreneurship policies and culture†	20.2	73 ○	◇
Human capital and research		**35.6**	**59**	
2.1	**Education**	**48.6**	**82**	◇
2.1.1	Expenditure on education, % GDP ⏲	3.3	98 ○	◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	18.9	47	
2.1.3	School life expectancy, years ⏲	13.8	75	◇
2.1.4	PISA scales in reading, maths and science	427.9	47	◇
2.1.5	Pupil–teacher ratio, secondary ⏲	11.4	47	
2.2	**Tertiary education**	**39.2**	**44**	
2.2.1	Tertiary enrolment, % gross ⏲	55.2	62	
2.2.2	Graduates in science and engineering, %	29.2	26	
2.2.3	Tertiary inbound mobility, % ⏲	6.7	46	
2.3	**Research and development (R&D)**	**18.9**	**52**	
2.3.1	Researchers, FTE/mn pop.	1,122.6	53	◇
2.3.2	Gross expenditure on R&D, % GDP	0.5	62	
2.3.3	Global corporate R&D investors, top 3, mn US$	42.4	45	
2.3.4	QS university ranking, top 3*	15.8	69	◇
Infrastructure		**56.3**	**37**	
3.1	**Information and communication technologies (ICTs)**	**78.7**	**63**	◇
3.1.1	ICT access*	93.8	51	
3.1.2	ICT use*	83.7	57	
3.1.3	Government online service*	58.5	81	◇
3.2	**General infrastructure**	**46.4**	**53**	
3.2.1	Electricity output, GWh/mn pop.	2,779.1	72	◇
3.2.2	Aviation import dwell time	1.9	37	
3.2.3	Logistics performance*	50.0	50	
3.2.4	Gross capital formation, % GDP	25.4	45	
3.3	**Ecological sustainability**	**43.9**	**7** ●	◆
3.3.1	GDP/unit of energy use	24.9	12 ●	
3.3.2	Low-carbon energy use, %	20.0	44	
3.3.3	ISO 14001 environment/bn PPP$ GDP	8.0	10 ●	◆
Market sophistication		**37.8**	**64**	
4.1	**Credit**	**27.0**	**70**	
4.1.1	Finance for startups and scaleups†	44.1	56	
4.1.2	Domestic credit to private sector, % GDP	22.7	108 ○	◇
4.1.3	Loans from microfinance institutions, % GDP	3.3	11 ●	◆
4.2	**Investment**	**3.1**	**91** ○	◇
4.2.1	Market capitalization, % GDP	12.0	69 ○	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	75	◇
4.2.3	Late-stage VC deal count, % global VC	0.0	46	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	76	
4.3	**Trade, diversification, and market scale**	**83.3**	**17** ●	
4.3.1	Applied tariff rate, weighted avg., %	1.3	20	
4.3.2	Domestic industry diversification	95.4	21	
4.3.3	Domestic market scale, bn PPP$	919.9	35	

		Score/ Value	Rank	
Business sophistication		**29.7**	**61**	
5.1	**Knowledge workers**	**35.7**	**60**	
5.1.1	Knowledge-intensive employment, %	28.5	51	◇
5.1.2	Females employed w/advanced degrees, %	13.1	67	◇
5.1.3	Youth demographic dividend, %	26.6	106 ○	
5.1.4	GERD performed by business, % GDP	0.3	50	
5.1.5	GERD financed by business, %	55.7	17 ●	
5.2	**Innovation linkages**	**21.2**	**84**	◇
5.2.1	Public research–industry co-publications, %	2.0	42	
5.2.2	University–industry R&D collaboration†	35.8	72	
5.2.3	University industry and international engagement, top 5*	15.4	79 ○	◇
5.2.4	State of cluster development†	32.2	93 ○	◇
5.2.5	Patent families/bn PPP$ GDP	0.0	61	
5.3	**Knowledge absorption**	**32.1**	**41**	
5.3.1	Intellectual property payments, % total trade	0.8	54	
5.3.2	High-tech imports, % total trade	12.3	22 ●	
5.3.3	ICT services imports, % total trade	2.9	25 ●	
5.3.4	FDI net inflows, % GDP	2.8	64	
5.3.5	Green-field R&D & high-tech FDI	1.3	49	
5.3.6	Research talent, % in businesses	37.9	37	
Knowledge and technology outputs		**29.0**	**42**	
6.1	**Knowledge creation**	**13.0**	**71**	
6.1.1	Patents by origin/bn PPP$ GDP	0.9	54	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	61	
6.1.3	Utility models by origin/bn PPP$ GDP	0.1	58	
6.1.4	Scientific and technical articles/bn PPP$ GDP	15.3	57	
6.1.5	Citable documents H-index	20.7	43	
6.2	**Knowledge impact**	**32.3**	**45**	
6.2.1	Labor productivity growth, %	3.1	30	◆
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.2	62	
6.2.4	High-tech manufacturing, %	40.7	24	
6.3	**Knowledge diffusion**	**41.7**	**25** ●	
6.3.1	Intellectual property receipts, % total trade	0.1	70	
6.3.2	Production and export complexity	86.8	22 ●	
6.3.3	High-tech exports, % total trade	7.4	31	
6.3.4	ICT services exports, % total trade	7.4	10 ●	◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	13.6	16 ●	
Creative outputs		**30.0**	**53**	
7.1	**Intangible assets**	**33.5**	**55**	
7.1.1	Intangible asset intensity, top 15, %	55.5	42	
7.1.2	Trademarks by origin/bn PPP$ GDP	38.1	51	
7.1.3	Global brand value, top 5,000, % GDP	1.6	52	
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.6	43	
7.2	**Creative goods and services**	**20.8**	**55**	
7.2.1	Cultural and creative services exports, % total trade	1.9	16 ●	
7.2.2	National feature films/mn pop. 15–69	2.0	66 ○	
7.2.3	Entertainment and media market/th pop. 15–69	7.6	41	◇
7.2.4	Creative goods exports, % total trade	1.0	42	
7.3	**Online creativity**	**32.3**	**49**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	8.3	45	
7.3.2	GitHub commits/mn pop. 15–69	18.8	44	
7.3.3	Mobile app creation/bn PPP$ GDP	69.6	56	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Russian Federation

58

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
55	71	High	EUR	144.0	7,143.1	49,049

		Score/ Value	Rank
Institutions		**25.6**	**127** ○ ◇
1.1	**Institutional environment**	**25.2**	**128** ○ ◇
1.1.1	Operational stability for businesses*	15.8	135 ○ ◇
1.1.2	Government effectiveness*	34.5	100 ◇
1.2	**Regulatory environment**	**22.7**	**130** ○ ◇
1.2.1	Regulatory quality*	20.7	131 ○ ◇
1.2.2	Rule of law*	24.8	124 ◇
1.3	**Business environment**	**28.9**	**99** ◇
1.3.1	Policy stability for doing business† ⏲	38.2	87
1.3.2	Entrepreneurship policies and culture† ⏲	19.7	75 ◇
Human capital and research		**46.4**	**32**
2.1	**Education**	**64.1**	**28**
2.1.1	Expenditure on education, % GDP	4.2	70
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years ⏲	14.9	53
2.1.4	PISA scales in reading, maths and science ⏲	481.3	24
2.1.5	Pupil–teacher ratio, secondary ⏲	8.1	9 ● ◆
2.2	**Tertiary education**	**37.8**	**47**
2.2.1	Tertiary enrolment, % gross	60.4	54
2.2.2	Graduates in science and engineering, % ⏲	31.4	14 ● ◆
2.2.3	Tertiary inbound mobility, %	0.4	104 ◇
2.3	**Research and development (R&D)**	**37.2**	**32**
2.3.1	Researchers, FTE/mn pop.	2,638.6	36
2.3.2	Gross expenditure on R&D, % GDP	0.9	42
2.3.3	Global corporate R&D investors, top 3, mn US$	58.4	24 ●
2.3.4	QS university ranking, top 3*	51.1	32
Infrastructure		**45.2**	**69** ◇
3.1	**Information and communication technologies (ICTs)**	**83.5**	**52**
3.1.1	ICT access*	86.2	67 ◇
3.1.2	ICT use*	91.2	22 ●
3.1.3	Government online service*	73.1	56
3.2	**General infrastructure**	**45.1**	**61**
3.2.1	Electricity output, GWh/mn pop. ⏲	8,059.5	22 ●
3.2.2	Aviation import dwell time	2.3	56
3.2.3	Logistics performance*	22.7	82 ◇
3.2.4	Gross capital formation, % GDP	26.7	37
3.3	**Ecological sustainability**	**7.0**	**123** ◇
3.3.1	GDP/unit of energy use	6.4	119 ○ ◇
3.3.2	Low-carbon energy use, %	10.0	79
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	135 ○ ◇
Market sophistication		**35.2**	**73** ◇
4.1	**Credit**	**19.9**	**95** ◇
4.1.1	Finance for startups and scaleups† ⏲	35.1	67 ◇
4.1.2	Domestic credit to private sector, % GDP ⏲	54.6	59
4.1.3	Loans from microfinance institutions, % GDP	0.4	49
4.2	**Investment**	**3.5**	**85** ◇
4.2.1	Market capitalization, % GDP ⏲	33.5	42
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	115 ○ ◇
4.2.3	Late-stage VC deal count, % global VC	0.0	44
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	108 ○ ◇
4.3	**Trade, diversification, and market scale**	**82.3**	**22** ●
4.3.1	Applied tariff rate, weighted avg., % ⏲	4.0	87 ◇
4.3.2	Domestic industry diversification	94.0	28
4.3.3	Domestic market scale, bn PPP$	7,143.1	4 ● ◆

		Score/ Value	Rank
Business sophistication		**33.5**	**44**
5.1	**Knowledge workers**	**41.7**	**46**
5.1.1	Knowledge-intensive employment, %	47.8	19 ●
5.1.2	Females employed w/advanced degrees, %	20.7	35
5.1.3	Youth demographic dividend, %	28.0	100
5.1.4	GERD performed by business, % GDP	0.5	38
5.1.5	GERD financed by business, % ⏲	29.2	61
5.2	**Innovation linkages**	**33.1**	**48**
5.2.1	Public research–industry co-publications, %	1.4	67
5.2.2	University–industry R&D collaboration† ⏲	36.8	68
5.2.3	University industry and international engagement, top 5*	66.1	29
5.2.4	State of cluster development† ⏲	45.6	60
5.2.5	Patent families/bn PPP$ GDP	0.1	60
5.3	**Knowledge absorption**	**25.6**	**58**
5.3.1	Intellectual property payments, % total trade	0.8	55
5.3.2	High-tech imports, % total trade ⏲	9.6	45
5.3.3	ICT services imports, % total trade	0.9	98 ◇
5.3.4	FDI net inflows, % GDP	–0.9	129 ○
5.3.5	Green-field R&D & high-tech FDI	0.0	123 ○ ◇
5.3.6	Research talent, % in businesses ⏲	46.5	32
Knowledge and technology outputs		**24.8**	**57**
6.1	**Knowledge creation**	**31.7**	**28**
6.1.1	Patents by origin/bn PPP$ GDP	3.2	20 ●
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	59
6.1.3	Utility models by origin/bn PPP$ GDP	1.9	6 ● ◆
6.1.4	Scientific and technical articles/bn PPP$ GDP	6.1	110 ◇
6.1.5	Citable documents H-index	37.4	25
6.2	**Knowledge impact**	**24.3**	**71**
6.2.1	Labor productivity growth, %	1.6	69
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.2	56
6.2.4	High-tech manufacturing, %	26.3	52
6.3	**Knowledge diffusion**	**18.2**	**88** ◇
6.3.1	Intellectual property receipts, % total trade	0.1	51
6.3.2	Production and export complexity	72.3	65 ◇
6.3.3	High-tech exports, % total trade ⏲	2.4	56
6.3.4	ICT services exports, % total trade	0.6	102
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.3	134 ○ ◇
Creative outputs		**28.0**	**56**
7.1	**Intangible assets**	**37.3**	**42**
7.1.1	Intangible asset intensity, top 15, %	53.0	48
7.1.2	Trademarks by origin/bn PPP$ GDP	75.5	12 ● ◆
7.1.3	Global brand value, top 5,000, % GDP	1.7	50
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.3	51
7.2	**Creative goods and services**	**7.7**	**94** ◇
7.2.1	Cultural and creative services exports, % total trade	0.3	78
7.2.2	National feature films/mn pop. 15–69 ⏲	1.4	74
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade ⏲	0.4	68
7.3	**Online creativity**	**29.9**	**52** ◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	9.6	42
7.3.2	GitHub commits/mn pop. 15–69	10.1	57 ◇
7.3.3	Mobile app creation/bn PPP$ GDP	70.1	48

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Rwanda

GII 2026 rank **96**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
114	80	Low	SSA	14.6	58.1	4,101

		Score/ Value	Rank	
Institutions		**69.0**	**26**	● ◆
1.1	**Institutional environment**	**60.9**	**54**	◆
1.1.1	Operational stability for businesses*	70.4	52	◆
1.1.2	Government effectiveness*	51.4	57	◆
1.2	**Regulatory environment**	**54.2**	**59**	◆
1.2.1	Regulatory quality*	53.8	57	◆
1.2.2	Rule of law*	54.5	60	◆
1.3	**Business environment**	**91.9**	**[3]**	
1.3.1	Policy stability for doing business†	91.9	2	● ◆
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**26.3**	**98**	◆
2.1	**Education**	**46.0**	**91**	
2.1.1	Expenditure on education, % GDP	4.6	53	
2.1.2	Government funding/pupil, secondary, % GDP/cap	20.3	41	
2.1.3	School life expectancy, years	12.9	90	◆
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	26.3	115	
2.2	**Tertiary education**	**29.8**	**78**	◆
2.2.1	Tertiary enrolment, % gross	9.4	120 ○	
2.2.2	Graduates in science and engineering, %	29.5	25 ●	◆
2.2.3	Tertiary inbound mobility, %	6.2	48	
2.3	**Research and development (R&D)**	**3.2**	**90**	◆
2.3.1	Researchers, FTE/mn pop. ⏲	133.1	91	◆
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.8	47	◆
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**32.6**	**113**	◆
3.1	**Information and communication technologies (ICTs)**	**57.0**	**108**	◆
3.1.1	ICT access*	43.9	127	◆
3.1.2	ICT use*	48.8	116	◆
3.1.3	Government online service*	78.4	43 ●	◆
3.2	**General infrastructure**	**32.8**	**94**	◆
3.2.1	Electricity output, GWh/mn pop. ⏲	85.1	127 ○	
3.2.2	Aviation import dwell time	4.7	98	
3.2.3	Logistics performance*	31.8	71	◆
3.2.4	Gross capital formation, % GDP	24.9	52	
3.3	**Ecological sustainability**	**7.9**	**118**	
3.3.1	GDP/unit of energy use	7.5	111	
3.3.2	Low-carbon energy use, %	9.1	82	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.2	115	
Market sophistication		**21.2**	**121**	
4.1	**Credit**	**11.0**	**117**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	22.6	110	
4.1.3	Loans from microfinance institutions, % GDP	1.6	24	
4.2	**Investment**	**7.5**	**59**	
4.2.1	Market capitalization, % GDP	21.9	57	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.2	31 ●	◆
4.2.3	Late-stage VC deal count, % global VC	0.0	66	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	95	
4.3	**Trade, diversification, and market scale**	**45.2**	**117**	
4.3.1	Applied tariff rate, weighted avg., % ⏲	8.0	117	
4.3.2	Domestic industry diversification	59.2	101	
4.3.3	Domestic market scale, bn PPP$	58.1	120	

		Score/ Value	Rank	
Business sophistication		**22.7**	**95**	
5.1	**Knowledge workers**	**22.0**	**129** ○	◇
5.1.1	Knowledge-intensive employment, % ⏲	8.3	107	
5.1.2	Females employed w/advanced degrees, % ⏲	3.2	106	◆
5.1.3	Youth demographic dividend, %	57.4	23 ●	◇
5.1.4	GERD performed by business, % GDP ⏲	0.0	72	◆
5.1.5	GERD financed by business, %	6.0	83	
5.2	**Innovation linkages**	**30.8**	**53**	◆
5.2.1	Public research–industry co-publications, %	2.3	35 ●	◆
5.2.2	University–industry R&D collaboration†	46.3	44 ●	◆
5.2.3	University industry and international engagement, top 5*	16.5	76	
5.2.4	State of cluster development†	65.2	40 ●	◆
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**15.5**	**112**	
5.3.1	Intellectual property payments, % total trade ⏲	0.0	128 ○	
5.3.2	High-tech imports, % total trade	5.5	109	
5.3.3	ICT services imports, % total trade ⏲	0.5	116	
5.3.4	FDI net inflows, % GDP	3.2	51	
5.3.5	Green-field R&D & high-tech FDI	1.4	46	◆
5.3.6	Research talent, % in businesses ⏲	11.7	60	◆
Knowledge and technology outputs		**15.1**	**94**	◆
6.1	**Knowledge creation**	**10.9**	**80**	
6.1.1	Patents by origin/bn PPP$ GDP	0.2	102	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107 ○	◇
6.1.3	Utility models by origin/bn PPP$ GDP	0.5	26 ●	◆
6.1.4	Scientific and technical articles/bn PPP$ GDP	18.2	47	◆
6.1.5	Citable documents H-index	4.1	115	
6.2	**Knowledge impact**	**23.4**	**73**	◆
6.2.1	Labor productivity growth, %	4.9	10 ●	◆
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.1	106	
6.2.4	High-tech manufacturing, %	8.2	92	
6.3	**Knowledge diffusion**	**10.9**	**123**	
6.3.1	Intellectual property receipts, % total trade ⏲	0.0	104	
6.3.2	Production and export complexity	47.0	116	
6.3.3	High-tech exports, % total trade	0.2	113	
6.3.4	ICT services exports, % total trade ⏲	0.7	96	
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.5	128 ○	
Creative outputs		**9.3**	**120**	
7.1	**Intangible assets**	**6.8**	**111**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	31.0	69	◆
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.1	113	
7.2	**Creative goods and services**	**3.5**	**[112]**	
7.2.1	Cultural and creative services exports, % total trade	0.0	117	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.2	82	◆
7.3	**Online creativity**	**20.1**	**116**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.2	125	
7.3.2	GitHub commits/mn pop. 15–69	4.4	88	◆
7.3.3	Mobile app creation/bn PPP$ GDP	55.7	117	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Saudi Arabia

42

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
62	30	High	NAWA	34.6	2,688.5	74,668

		Score/ Value	Rank	
Institutions		**70.1**	**25**	
1.1	**Institutional environment**	**70.0**	**38**	
1.1.1	Operational stability for businesses*	77.6	33	
1.1.2	Government effectiveness*	62.3	38	
1.2	**Regulatory environment**	**61.0**	**47**	
1.2.1	Regulatory quality*	64.8	37	
1.2.2	Rule of law*	57.1	54	◇
1.3	**Business environment**	**79.5**	**5**	● ◆
1.3.1	Policy stability for doing business†	74.5	20	
1.3.2	Entrepreneurship policies and culture†	84.4	5	● ◆
Human capital and research		**47.0**	**31**	
2.1	**Education**	**55.7**	**61**	
2.1.1	Expenditure on education, % GDP	4.5	59	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	17.0	25	
2.1.4	PISA scales in reading, maths and science	387.2	67	○ ◇
2.1.5	Pupil–teacher ratio, secondary	13.9	69	◇
2.2	**Tertiary education**	**47.0**	**18**	
2.2.1	Tertiary enrolment, % gross	83.9	19	
2.2.2	Graduates in science and engineering, %	31.5	13	● ◆
2.2.3	Tertiary inbound mobility, %	5.7	49	
2.3	**Research and development (R&D)**	**38.1**	**28**	
2.3.1	Researchers, FTE/mn pop.	1,234.7	51	◇
2.3.2	Gross expenditure on R&D, % GDP	0.6	57	
2.3.3	Global corporate R&D investors, top 3, mn US$	63.8	19	
2.3.4	QS university ranking, top 3*	67.5	16	●
Infrastructure		**56.2**	**38**	
3.1	**Information and communication technologies (ICTs)**	**99.1**	**1**	● ◆
3.1.1	ICT access*	98.5	24	
3.1.2	ICT use*	100.0	1	● ◆
3.1.3	Government online service*	98.8	4	● ◆
3.2	**General infrastructure**	**62.1**	**16**	●
3.2.1	Electricity output, GWh/mn pop.	13,099.7 ⏲	11	●
3.2.2	Aviation import dwell time	2.1	47	
3.2.3	Logistics performance*	59.1	37	
3.2.4	Gross capital formation, % GDP	30.2	23	◆
3.3	**Ecological sustainability**	**7.4**	**120**	○ ◇
3.3.1	GDP/unit of energy use	6.7	118	○ ◇
3.3.2	Low-carbon energy use, %	0.3	131	○ ◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.8	51	
Market sophistication		**50.2**	**24**	
4.1	**Credit**	**57.9**	**18**	
4.1.1	Finance for startups and scaleups†	96.5	2	● ◆
4.1.2	Domestic credit to private sector, % GDP	50.1 ⏲	63	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**23.1**	**29**	
4.2.1	Market capitalization, % GDP	226.8	4	● ◆
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	63	◇
4.2.3	Late-stage VC deal count, % global VC	0.1	36	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	61	
4.3	**Trade, diversification, and market scale**	**69.5**	**71**	
4.3.1	Applied tariff rate, weighted avg., %	4.5	92	◇
4.3.2	Domestic industry diversification	68.7	90	○ ◇
4.3.3	Domestic market scale, bn PPP$	2,688.5	17	●

		Score/ Value	Rank	
Business sophistication		**32.3**	**47**	
5.1	**Knowledge workers**	**33.6**	**[75]**	
5.1.1	Knowledge-intensive employment, %	n/a	n/a	
5.1.2	Females employed w/advanced degrees, %	n/a	n/a	
5.1.3	Youth demographic dividend, %	38.6	63	◆
5.1.4	GERD performed by business, % GDP	0.3	52	
5.1.5	GERD financed by business, %	41.1	45	
5.2	**Innovation linkages**	**44.9**	**29**	
5.2.1	Public research–industry co-publications, %	0.7	105	○ ◇
5.2.2	University–industry R&D collaboration†	52.6	38	
5.2.3	University industry and international engagement, top 5*	74.6	21	
5.2.4	State of cluster development†	86.2	10	● ◆
5.2.5	Patent families/bn PPP$ GDP	0.1	45	
5.3	**Knowledge absorption**	**18.4**	**90**	◇
5.3.1	Intellectual property payments, % total trade	0.5	74	
5.3.2	High-tech imports, % total trade	8.9	52	
5.3.3	ICT services imports, % total trade	0.8	102	◇
5.3.4	FDI net inflows, % GDP	1.9	84	
5.3.5	Green-field R&D & high-tech FDI	0.8	66	
5.3.6	Research talent, % in businesses	11.6	61	◇
Knowledge and technology outputs		**22.5**	**67**	
6.1	**Knowledge creation**	**21.8**	**47**	
6.1.1	Patents by origin/bn PPP$ GDP	1.2	40	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.2	49	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	21.9	37	
6.1.5	Citable documents H-index	29.0	35	
6.2	**Knowledge impact**	**24.7**	**68**	
6.2.1	Labor productivity growth, %	0.6	103	○
6.2.2	Unicorn valuation, % GDP	0.3	54	
6.2.3	Software spending, % GDP	0.3	38	
6.2.4	High-tech manufacturing, %	28.1	44	
6.3	**Knowledge diffusion**	**21.0**	**72**	◇
6.3.1	Intellectual property receipts, % total trade	0.1	54	
6.3.2	Production and export complexity	77.2	49	
6.3.3	High-tech exports, % total trade	2.6	55	
6.3.4	ICT services exports, % total trade	0.5	105	○
6.3.5	ISO 9001 quality/bn PPP$ GDP	3.3	74	
Creative outputs		**26.8**	**62**	
7.1	**Intangible assets**	**35.9**	**46**	
7.1.1	Intangible asset intensity, top 15, %	62.7	26	
7.1.2	Trademarks by origin/bn PPP$ GDP	12.9	107	○ ◇
7.1.3	Global brand value, top 5,000, % GDP	9.7	18	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.5	82	
7.2	**Creative goods and services**	**11.2**	**74**	◇
7.2.1	Cultural and creative services exports, % total trade	0.0	109	○ ◇
7.2.2	National feature films/mn pop. 15–69	1.4	73	○
7.2.3	Entertainment and media market/th pop. 15–69	25.6	28	
7.2.4	Creative goods exports, % total trade	0.4	66	
7.3	**Online creativity**	**24.1**	**87**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.7	87	◇
7.3.2	GitHub commits/mn pop. 15–69	4.3	91	◇
7.3.3	Mobile app creation/bn PPP$ GDP	66.2	75	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Senegal

GII 2026 rank **90**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
99	82	Lower middle	SSA	18.9	102.7	5,355

		Score/ Value	Rank	
Institutions		**52.9**	**62**	◆
1.1	**Institutional environment**	**57.2**	**66**	◆
1.1.1	Operational stability for businesses*	65.8	65	
1.1.2	Government effectiveness*	48.5	64	◆
1.2	**Regulatory environment**	**44.2**	**80**	
1.2.1	Regulatory quality*	41.2	90	
1.2.2	Rule of law*	47.3	73	
1.3	**Business environment**	**57.2**	**42**	
1.3.1	Policy stability for doing business†	64.0	36 ●	◆
1.3.2	Entrepreneurship policies and culture† ⏲	50.4	25	
Human capital and research		**30.9**	**81**	
2.1	**Education**	**52.9**	**72**	
2.1.1	Expenditure on education, % GDP	6.2	16 ●	◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	31.7	8 ●	◆
2.1.3	School life expectancy, years ⏲	9.1	110 ○	◇
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary ⏲	23.0	109	
2.2	**Tertiary education**	**39.7**	**42**	◆
2.2.1	Tertiary enrolment, % gross	15.3	109	
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	29.9	6 ●	◆
2.3	**Research and development (R&D)**	**0.0**	**[122]**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**34.1**	**104**	
3.1	**Information and communication technologies (ICTs)**	**55.8**	**109**	
3.1.1	ICT access*	67.8	97	
3.1.2	ICT use*	62.5	104	
3.1.3	Government online service*	37.2	110	
3.2	**General infrastructure**	**36.1**	**[86]**	
3.2.1	Electricity output, GWh/mn pop. ⏲	437.4	113	
3.2.2	Aviation import dwell time	n/a	n/a	
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	38.7	6 ●	◆
3.3	**Ecological sustainability**	**10.4**	**108**	
3.3.1	GDP/unit of energy use	13.8	64	
3.3.2	Low-carbon energy use, %	2.1	114	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.3	104	
Market sophistication		**32.1**	**90**	
4.1	**Credit**	**37.9**	**41**	
4.1.1	Finance for startups and scaleups† ⏲	40.4	59	
4.1.2	Domestic credit to private sector, % GDP	n/a	n/a	
4.1.3	Loans from microfinance institutions, % GDP	3.9	10 ●	
4.2	**Investment**	**7.0**	**61**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.2	37	◆
4.2.3	Late-stage VC deal count, % global VC	0.0	65	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	63	
4.3	**Trade, diversification, and market scale**	**51.5**	**113**	
4.3.1	Applied tariff rate, weighted avg., %	8.5	120 ○	
4.3.2	Domestic industry diversification	76.3	75	
4.3.3	Domestic market scale, bn PPP$	102.7	97	

		Score/ Value	Rank	
Business sophistication		**20.8**	**113**	
5.1	**Knowledge workers**	**30.8**	**[95]**	
5.1.1	Knowledge-intensive employment, % ⏲	4.7	116 ○	◇
5.1.2	Females employed w/advanced degrees, % ⏲	1.9	116 ○	
5.1.3	Youth demographic dividend, %	57.9	22 ●	
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**16.4**	**107**	
5.2.1	Public research–industry co-publications, %	0.3	132 ○	◇
5.2.2	University–industry R&D collaboration†	35.8	73	
5.2.3	University industry and international engagement, top 5*	15.1	80	
5.2.4	State of cluster development†	26.9	107	
5.2.5	Patent families/bn PPP$ GDP	0.0	82	
5.3	**Knowledge absorption**	**15.3**	**114**	
5.3.1	Intellectual property payments, % total trade ⏲	0.0	122 ○	
5.3.2	High-tech imports, % total trade	5.2	115	
5.3.3	ICT services imports, % total trade ⏲	0.9	99	
5.3.4	FDI net inflows, % GDP	10.8	8 ●	◆
5.3.5	Green-field R&D & high-tech FDI	0.5	86	
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**18.3**	**82**	
6.1	**Knowledge creation**	**4.3**	**119**	
6.1.1	Patents by origin/bn PPP$ GDP	0.2	101	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	94	
6.1.3	Utility models by origin/bn PPP$ GDP ⏲	0.0	77 ○	◇
6.1.4	Scientific and technical articles/bn PPP$ GDP	8.1	99	
6.1.5	Citable documents H-index	5.7	97	
6.2	**Knowledge impact**	**35.9**	**29 ●**	◆
6.2.1	Labor productivity growth, %	1.7	65	
6.2.2	Unicorn valuation, % GDP	4.3	11 ●	◆
6.2.3	Software spending, % GDP	0.2	72	
6.2.4	High-tech manufacturing, %	15.8	71	
6.3	**Knowledge diffusion**	**14.7**	**103**	
6.3.1	Intellectual property receipts, % total trade ⏲	0.1	75	
6.3.2	Production and export complexity	57.7	96	
6.3.3	High-tech exports, % total trade	0.4	100	
6.3.4	ICT services exports, % total trade ⏲	1.2	84	
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.0	109	
Creative outputs		**11.0**	**113**	
7.1	**Intangible assets**	**6.4**	**114**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	6.4	119 ○	
7.1.3	Global brand value, top 5,000, % GDP	1.7	49	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.3	93	
7.2	**Creative goods and services**	**11.0**	**[76]**	
7.2.1	Cultural and creative services exports, % total trade	0.8	44	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.1	97	
7.3	**Online creativity**	**20.2**	**115**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.5	109	
7.3.2	GitHub commits/mn pop. 15–69	1.3	117	
7.3.3	Mobile app creation/bn PPP$ GDP	58.8	110	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Serbia

56

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
61	59	Upper middle	EUR	6.7	213.8	32,742

		Score/ Value	Rank	
Institutions		**47.6**	**76**	
1.1	**Institutional environment**	**53.2**	**79**	
1.1.1	Operational stability for businesses*	61.2	79	
1.1.2	Government effectiveness*	45.2	75	
1.2	**Regulatory environment**	**48.3**	**71**	
1.2.1	Regulatory quality*	49.1	70	
1.2.2	Rule of law*	47.4	72	
1.3	**Business environment**	**41.5**	**75**	
1.3.1	Policy stability for doing business† ⏲	42.7	78	
1.3.2	Entrepreneurship policies and culture† ⏲	40.2	42	
Human capital and research		**38.6**	**48**	
2.1	**Education**	**57.8**	**52**	
2.1.1	Expenditure on education, % GDP	3.4	94 ○	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	14.5	61	
2.1.4	PISA scales in reading, maths and science	442.6	42	
2.1.5	Pupil–teacher ratio, secondary	7.0	4 ● ◆	
2.2	**Tertiary education**	**46.1**	**22** ◆	
2.2.1	Tertiary enrolment, % gross	70.6	43	
2.2.2	Graduates in science and engineering, %	33.8	11 ● ◆	
2.2.3	Tertiary inbound mobility, %	4.6	58	
2.3	**Research and development (R&D)**	**11.9**	**61**	
2.3.1	Researchers, FTE/mn pop.	2,687.6	35 ◆	
2.3.2	Gross expenditure on R&D, % GDP	0.9	44	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇	
2.3.4	QS university ranking, top 3*	7.9	79	
Infrastructure		**54.3**	**45** ◆	
3.1	**Information and communication technologies (ICTs)**	**84.6**	**48**	
3.1.1	ICT access*	87.2	65	
3.1.2	ICT use*	84.2	53	
3.1.3	Government online service*	82.4	36	
3.2	**General infrastructure**	**43.8**	**62**	
3.2.1	Electricity output, GWh/mn pop.	5,683.3	39 ◆	
3.2.2	Aviation import dwell time	2.2	52	
3.2.3	Logistics performance*	31.8	71	
3.2.4	Gross capital formation, % GDP	24.5	53	
3.3	**Ecological sustainability**	**34.6**	**26** ◆	
3.3.1	GDP/unit of energy use	11.0	85	
3.3.2	Low-carbon energy use, %	7.8	86	
3.3.3	ISO 14001 environment/bn PPP$ GDP	10.7	4 ● ◆	
Market sophistication		**35.1**	**74**	
4.1	**Credit**	**25.3**	**77**	
4.1.1	Finance for startups and scaleups† ⏲	38.9	62	
4.1.2	Domestic credit to private sector, % GDP	32.6	91 ○	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**3.1**	**[89]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	98 ○	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	68	
4.3	**Trade, diversification, and market scale**	**77.0**	**44**	
4.3.1	Applied tariff rate, weighted avg., %	1.9	62	
4.3.2	Domestic industry diversification	95.4	22 ◆	
4.3.3	Domestic market scale, bn PPP$	213.8	77	

		Score/ Value	Rank	
Business sophistication		**24.4**	**85**	
5.1	**Knowledge workers**	**25.1**	**117** ○	
5.1.1	Knowledge-intensive employment, %	32.8	44 ◆	
5.1.2	Females employed w/advanced degrees, %	16.6	47	
5.1.3	Youth demographic dividend, %	24.4	125 ○ ◇	
5.1.4	GERD performed by business, % GDP	0.4	43	
5.1.5	GERD financed by business, %	0.8	95 ○ ◇	
5.2	**Innovation linkages**	**20.4**	**87**	
5.2.1	Public research–industry co-publications, %	1.0	83	
5.2.2	University–industry R&D collaboration† ⏲	30.4	92	
5.2.3	University industry and international engagement, top 5*	19.4	68	
5.2.4	State of cluster development† ⏲	38.6	72	
5.2.5	Patent families/bn PPP$ GDP	0.1	55	
5.3	**Knowledge absorption**	**27.7**	**55**	
5.3.1	Intellectual property payments, % total trade	1.6	23 ● ◆	
5.3.2	High-tech imports, % total trade	6.8	85	
5.3.3	ICT services imports, % total trade	2.0	45	
5.3.4	FDI net inflows, % GDP	6.4	18 ● ◆	
5.3.5	Green-field R&D & high-tech FDI	2.2	30 ◆	
5.3.6	Research talent, % in businesses	14.0	58	
Knowledge and technology outputs		**30.8**	**36** ◆	
6.1	**Knowledge creation**	**19.2**	**53**	
6.1.1	Patents by origin/bn PPP$ GDP	0.8	62	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.2	48	
6.1.3	Utility models by origin/bn PPP$ GDP	0.3	38	
6.1.4	Scientific and technical articles/bn PPP$ GDP	31.7	17 ● ◆	
6.1.5	Citable documents H-index	16.7	51	
6.2	**Knowledge impact**	**26.5**	**61**	
6.2.1	Labor productivity growth, %	3.9	14 ●	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇	
6.2.3	Software spending, % GDP	0.0	119 ○	
6.2.4	High-tech manufacturing, %	27.1	49	
6.3	**Knowledge diffusion**	**46.7**	**20** ● ◆	
6.3.1	Intellectual property receipts, % total trade	0.5	33 ◆	
6.3.2	Production and export complexity	82.4	36	
6.3.3	High-tech exports, % total trade	3.2	50	
6.3.4	ICT services exports, % total trade	9.1	7 ● ◆	
6.3.5	ISO 9001 quality/bn PPP$ GDP	18.5	8 ● ◆	
Creative outputs		**19.3**	**82**	
7.1	**Intangible assets**	**6.3**	**115** ○ ◇	
7.1.1	Intangible asset intensity, top 15, %	–253.5	78 ○ ◇	
7.1.2	Trademarks by origin/bn PPP$ GDP	23.6	85	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○ ◇	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.5	83	
7.2	**Creative goods and services**	**29.0**	**37** ◆	
7.2.1	Cultural and creative services exports, % total trade	2.3	13 ● ◆	
7.2.2	National feature films/mn pop. 15–69	4.2	36	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.8	48	
7.3	**Online creativity**	**35.6**	**41** ◆	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	5.8	53	
7.3.2	GitHub commits/mn pop. 15–69	26.8	36 ◆	
7.3.3	Mobile app creation/bn PPP$ GDP	74.0	26	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Singapore

GII 2026 rank **5**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
9	1	High	SEAO	5.9	953.9	156,969

		Score/ Value	Rank
Institutions		**97.7**	**1** ● ◆
1.1	**Institutional environment**	**100.0**	**1** ● ◆
1.1.1	Operational stability for businesses*	100.0	1 ● ◆
1.1.2	Government effectiveness*	100.0	1 ● ◆
1.2	**Regulatory environment**	**93.0**	**5**
1.2.1	Regulatory quality*	100.0	1 ● ◆
1.2.2	Rule of law*	86.0	17
1.3	**Business environment**	**100.0**	**[1]**
1.3.1	Policy stability for doing business†	100.0	1 ● ◆
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**65.4**	**2** ● ◆
2.1	**Education**	**59.0**	**45** ◇
2.1.1	Expenditure on education, % GDP	2.2	124 ○ ◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	15.5	68 ○ ◇
2.1.3	School life expectancy, years ⏲	16.8	28
2.1.4	PISA scales in reading, maths and science	559.6	2 ● ◆
2.1.5	Pupil–teacher ratio, secondary ⏲	12.0	52
2.2	**Tertiary education**	**75.1**	**2** ● ◆
2.2.1	Tertiary enrolment, % gross ⏲	97.3	10
2.2.2	Graduates in science and engineering, % ⏲	35.6	6 ◆
2.2.3	Tertiary inbound mobility, %	n/a	n/a
2.3	**Research and development (R&D)**	**62.0**	**12**
2.3.1	Researchers, FTE/mn pop. ⏲	8,507.1	5 ◆
2.3.2	Gross expenditure on R&D, % GDP ⏲	2.0	18
2.3.3	Global corporate R&D investors, top 3, mn US$	61.2	21
2.3.4	QS university ranking, top 3*	74.6	13
Infrastructure		**61.6**	**15**
3.1	**Information and communication technologies (ICTs)**	**96.8**	**6** ◆
3.1.1	ICT access*	99.5	10
3.1.2	ICT use*	92.8	20
3.1.3	Government online service*	98.0	6 ◆
3.2	**General infrastructure**	**67.3**	**10**
3.2.1	Electricity output, GWh/mn pop.	9,755.5	15
3.2.2	Aviation import dwell time	0.3	1 ● ◆
3.2.3	Logistics performance*	100.0	1 ● ◆
3.2.4	Gross capital formation, % GDP	21.6	86 ○
3.3	**Ecological sustainability**	**20.7**	**54**
3.3.1	GDP/unit of energy use	21.5	20
3.3.2	Low-carbon energy use, %	0.4	129 ○ ◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.4	39
Market sophistication		**63.3**	**5**
4.1	**Credit**	**54.6**	**[23]**
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP ⏲	129.2	11
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**57.2**	**3** ● ◆
4.2.1	Market capitalization, % GDP	119.5	10
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.7	4 ◆
4.2.3	Late-stage VC deal count, % global VC	0.4	15
4.2.4	VC investors, deal count/bn PPP$ GDP	2.5	1 ● ◆
4.3	**Trade, diversification, and market scale**	**77.9**	**40**
4.3.1	Applied tariff rate, weighted avg., %	0.0	2 ● ◆
4.3.2	Domestic industry diversification	69.3	86 ○ ◇
4.3.3	Domestic market scale, bn PPP$	953.9	33

		Score/ Value	Rank
Business sophistication		**62.2**	**4** ◆
5.1	**Knowledge workers**	**63.1**	**7**
5.1.1	Knowledge-intensive employment, % ⏲	61.8	2 ● ◆
5.1.2	Females employed w/advanced degrees, % ⏲	31.6	3 ● ◆
5.1.3	Youth demographic dividend, %	24.6	121 ○
5.1.4	GERD performed by business, % GDP ⏲	1.3	18
5.1.5	GERD financed by business, %	60.8	9
5.2	**Innovation linkages**	**65.0**	**10**
5.2.1	Public research–industry co-publications, %	3.7	22
5.2.2	University–industry R&D collaboration†	69.9	8
5.2.3	University industry and international engagement, top 5*	100.0	1 ● ◆
5.2.4	State of cluster development†	84.0	13
5.2.5	Patent families/bn PPP$ GDP	2.1	15
5.3	**Knowledge absorption**	**58.4**	**3** ● ◆
5.3.1	Intellectual property payments, % total trade	2.0	14
5.3.2	High-tech imports, % total trade	22.5	4 ◆
5.3.3	ICT services imports, % total trade	3.7	14
5.3.4	FDI net inflows, % GDP	26.0	3 ● ◆
5.3.5	Green-field R&D & high-tech FDI	6.3	6 ◆
5.3.6	Research talent, % in businesses ⏲	54.4	22
Knowledge and technology outputs		**53.7**	**8**
6.1	**Knowledge creation**	**35.0**	**25**
6.1.1	Patents by origin/bn PPP$ GDP	2.1	27
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	1.3	17
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	20.4	40
6.1.5	Citable documents H-index	41.3	22
6.2	**Knowledge impact**	**69.7**	**2** ● ◆
6.2.1	Labor productivity growth, %	3.1	29 ◆
6.2.2	Unicorn valuation, % GDP	18.0	1 ● ◆
6.2.3	Software spending, % GDP	0.2	63 ◇
6.2.4	High-tech manufacturing, %	79.7	1 ● ◆
6.3	**Knowledge diffusion**	**56.4**	**5** ◆
6.3.1	Intellectual property receipts, % total trade	2.0	12
6.3.2	Production and export complexity	95.4	4
6.3.3	High-tech exports, % total trade	25.8	3 ● ◆
6.3.4	ICT services exports, % total trade	3.5	41
6.3.5	ISO 9001 quality/bn PPP$ GDP	7.3	34
Creative outputs		**50.3**	**11**
7.1	**Intangible assets**	**40.4**	**33**
7.1.1	Intangible asset intensity, top 15, %	56.7	39 ○ ◇
7.1.2	Trademarks by origin/bn PPP$ GDP	15.8	99 ○
7.1.3	Global brand value, top 5,000, % GDP	13.6	11
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.6	73 ○ ◇
7.2	**Creative goods and services**	**52.8**	**6** ◆
7.2.1	Cultural and creative services exports, % total trade	6.3	1 ● ◆
7.2.2	National feature films/mn pop. 15–69	2.4	59 ○
7.2.3	Entertainment and media market/th pop. 15–69	38.2	19
7.2.4	Creative goods exports, % total trade	4.0	13 ◆
7.3	**Online creativity**	**67.5**	**6**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	16.9	34 ◇
7.3.2	GitHub commits/mn pop. 15–69	100.0	1 ● ◆
7.3.3	Mobile app creation/bn PPP$ GDP	85.7	3 ● ◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Slovakia

48

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
44	50	High	EUR	5.5	257.9	47,597

		Score/ Value	Rank	
Institutions		**49.1**	**73**	◇
1.1	**Institutional environment**	**69.1**	**42**	
1.1.1	Operational stability for businesses*	78.9	28	
1.1.2	Government effectiveness*	59.2	44	
1.2	**Regulatory environment**	**61.3**	**46**	
1.2.1	Regulatory quality*	57.2	49	
1.2.2	Rule of law*	65.4	43	
1.3	**Business environment**	**17.0**	**128**	○ ◇
1.3.1	Policy stability for doing business† ⏲	26.7	112	○ ◇
1.3.2	Entrepreneurship policies and culture†	7.3	86	○ ◇
Human capital and research		**35.9**	**57**	
2.1	**Education**	**56.7**	**55**	
2.1.1	Expenditure on education, % GDP ⏲	4.7	52	
2.1.2	Government funding/pupil, secondary, % GDP/cap	21.1	36	
2.1.3	School life expectancy, years	15.2	49	
2.1.4	PISA scales in reading, maths and science	457.7	40	
2.1.5	Pupil–teacher ratio, secondary	12.6	59	
2.2	**Tertiary education**	**36.1**	**53**	
2.2.1	Tertiary enrolment, % gross	54.5	65	
2.2.2	Graduates in science and engineering, %	20.7	79	○
2.2.3	Tertiary inbound mobility, %	15.6	18	●
2.3	**Research and development (R&D)**	**14.8**	**56**	
2.3.1	Researchers, FTE/mn pop.	3,729.4	30	
2.3.2	Gross expenditure on R&D, % GDP	1.0	41	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	8.7	76	◇
Infrastructure		**56.8**	**35**	
3.1	**Information and communication technologies (ICTs)**	**81.1**	**58**	
3.1.1	ICT access*	95.8	46	
3.1.2	ICT use*	82.5	61	
3.1.3	Government online service*	65.1	73	◇
3.2	**General infrastructure**	**46.0**	**54**	
3.2.1	Electricity output, GWh/mn pop.	5,293.0	42	
3.2.2	Aviation import dwell time	2.2	52	
3.2.3	Logistics performance*	54.5	42	
3.2.4	Gross capital formation, % GDP	19.7	103	○
3.3	**Ecological sustainability**	**43.3**	**9**	● ◆
3.3.1	GDP/unit of energy use	13.0	70	
3.3.2	Low-carbon energy use, %	37.0	17	●
3.3.3	ISO 14001 environment/bn PPP$ GDP	8.9	8	● ◆
Market sophistication		**38.4**	**59**	
4.1	**Credit**	**35.8**	**51**	
4.1.1	Finance for startups and scaleups†	47.8	47	
4.1.2	Domestic credit to private sector, % GDP	59.7	52	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**6.7**	**62**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	51	
4.2.3	Late-stage VC deal count, % global VC	0.0	54	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.2	44	
4.3	**Trade, diversification, and market scale**	**72.7**	**56**	
4.3.1	Applied tariff rate, weighted avg., %	1.3	20	
4.3.2	Domestic industry diversification	75.6	76	○
4.3.3	Domestic market scale, bn PPP$	257.9	74	

		Score/ Value	Rank	
Business sophistication		**30.8**	**56**	
5.1	**Knowledge workers**	**40.7**	**49**	
5.1.1	Knowledge-intensive employment, %	41.1	33	
5.1.2	Females employed w/advanced degrees, %	19.2	40	
5.1.3	Youth demographic dividend, %	25.4	117	○
5.1.4	GERD performed by business, % GDP	0.6	37	
5.1.5	GERD financed by business, %	41.1	44	
5.2	**Innovation linkages**	**22.6**	**77**	◇
5.2.1	Public research–industry co-publications, %	1.9	44	
5.2.2	University–industry R&D collaboration† ⏲	31.0	91	○ ◇
5.2.3	University industry and international engagement, top 5*	19.7	67	◇
5.2.4	State of cluster development† ⏲	38.1	73	◇
5.2.5	Patent families/bn PPP$ GDP	0.1	49	
5.3	**Knowledge absorption**	**29.0**	**52**	
5.3.1	Intellectual property payments, % total trade	0.7	56	
5.3.2	High-tech imports, % total trade	13.0	18	●
5.3.3	ICT services imports, % total trade	1.6	65	
5.3.4	FDI net inflows, % GDP	2.7	65	
5.3.5	Green-field R&D & high-tech FDI	1.4	48	
5.3.6	Research talent, % in businesses	34.6	41	
Knowledge and technology outputs		**32.8**	**30**	
6.1	**Knowledge creation**	**23.0**	**43**	
6.1.1	Patents by origin/bn PPP$ GDP	0.9	53	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.4	34	
6.1.3	Utility models by origin/bn PPP$ GDP	1.0	17	● ◆
6.1.4	Scientific and technical articles/bn PPP$ GDP	21.0	39	
6.1.5	Citable documents H-index	16.4	52	
6.2	**Knowledge impact**	**36.8**	**27**	
6.2.1	Labor productivity growth, %	2.0	56	
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.3	40	
6.2.4	High-tech manufacturing, %	58.8	5	● ◆
6.3	**Knowledge diffusion**	**38.5**	**33**	
6.3.1	Intellectual property receipts, % total trade	0.1	80	
6.3.2	Production and export complexity	89.2	16	●
6.3.3	High-tech exports, % total trade	9.2	22	●
6.3.4	ICT services exports, % total trade	2.2	62	
6.3.5	ISO 9001 quality/bn PPP$ GDP	17.9	9	● ◆
Creative outputs		**28.6**	**54**	
7.1	**Intangible assets**	**22.3**	**76**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	54.9	27	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	2.1	34	
7.2	**Creative goods and services**	**33.6**	**25**	●
7.2.1	Cultural and creative services exports, % total trade	0.4	66	
7.2.2	National feature films/mn pop. 15–69	6.1	26	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	4.8	10	● ◆
7.3	**Online creativity**	**36.3**	**37**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	18.8	32	
7.3.2	GitHub commits/mn pop. 15–69	20.5	41	
7.3.3	Mobile app creation/bn PPP$ GDP	69.7	55	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Slovenia

GII 2026 rank **35**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
38	35	High	EUR	2.1	123.0	57,716

		Score/ Value	Rank
Institutions		**58.7**	**51**
1.1	**Institutional environment**	**77.1**	**24**
1.1.1	Operational stability for businesses*	84.2	18
1.1.2	Government effectiveness*	70.0	30
1.2	**Regulatory environment**	**71.1**	**28**
1.2.1	Regulatory quality*	66.9	33
1.2.2	Rule of law*	75.3	25
1.3	**Business environment**	**28.0**	**105** ○ ◇
1.3.1	Policy stability for doing business†	27.3	110 ○ ◇
1.3.2	Entrepreneurship policies and culture†	28.7	57 ○
Human capital and research		**49.2**	**24**
2.1	**Education**	**63.3**	**34**
2.1.1	Expenditure on education, % GDP	5.3	33
2.1.2	Government funding/pupil, secondary, % GDP/cap	23.0	26
2.1.3	School life expectancy, years	17.4	20
2.1.4	PISA scales in reading, maths and science	484.3	21
2.1.5	Pupil–teacher ratio, secondary	15.0	76 ◇
2.2	**Tertiary education**	**46.3**	**20**
2.2.1	Tertiary enrolment, % gross	80.1	26
2.2.2	Graduates in science and engineering, %	28.3	28
2.2.3	Tertiary inbound mobility, %	10.6	30
2.3	**Research and development (R&D)**	**37.9**	**30**
2.3.1	Researchers, FTE/mn pop.	5,604.7	18
2.3.2	Gross expenditure on R&D, % GDP	2.2	17
2.3.3	Global corporate R&D investors, top 3, mn US$	48.6	35
2.3.4	QS university ranking, top 3*	17.0	68
Infrastructure		**60.2**	**20** ●
3.1	**Information and communication technologies (ICTs)**	**89.5**	**30**
3.1.1	ICT access*	99.2	16 ●
3.1.2	ICT use*	85.6	45
3.1.3	Government online service*	83.6	32
3.2	**General infrastructure**	**50.9**	**39**
3.2.1	Electricity output, GWh/mn pop.	8,053.6	23
3.2.2	Aviation import dwell time	2.0	42
3.2.3	Logistics performance*	54.5	42
3.2.4	Gross capital formation, % GDP	22.1	77
3.3	**Ecological sustainability**	**40.1**	**14** ●
3.3.1	GDP/unit of energy use	15.8	45
3.3.2	Low-carbon energy use, %	37.5	15 ●
3.3.3	ISO 14001 environment/bn PPP$ GDP	6.5	16 ●
Market sophistication		**38.2**	**61**
4.1	**Credit**	**32.2**	**60**
4.1.1	Finance for startups and scaleups†	51.6	43
4.1.2	Domestic credit to private sector, % GDP	35.4	85 ○ ◇
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**4.7**	**73** ◇
4.2.1	Market capitalization, % GDP	14.6	65 ○
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	67 ◇
4.2.3	Late-stage VC deal count, % global VC	0.0	93 ○
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	50
4.3	**Trade, diversification, and market scale**	**77.6**	**42**
4.3.1	Applied tariff rate, weighted avg., %	1.3	20
4.3.2	Domestic industry diversification	97.4	9 ●
4.3.3	Domestic market scale, bn PPP$	123.0	93 ○

		Score/ Value	Rank
Business sophistication		**37.4**	**37**
5.1	**Knowledge workers**	**47.9**	**28**
5.1.1	Knowledge-intensive employment, %	42.0	31
5.1.2	Females employed w/advanced degrees, %	23.2	26
5.1.3	Youth demographic dividend, %	24.5	123 ○
5.1.4	GERD performed by business, % GDP	1.5	16
5.1.5	GERD financed by business, %	42.6	40
5.2	**Innovation linkages**	**32.9**	**50**
5.2.1	Public research–industry co-publications, %	2.4	32
5.2.2	University–industry R&D collaboration†	46.7	42
5.2.3	University industry and international engagement, top 5*	32.2	53 ◇
5.2.4	State of cluster development†	39.4	71 ◇
5.2.5	Patent families/bn PPP$ GDP	1.1	25
5.3	**Knowledge absorption**	**31.4**	**44**
5.3.1	Intellectual property payments, % total trade	0.5	66
5.3.2	High-tech imports, % total trade	10.9	32
5.3.3	ICT services imports, % total trade	1.6	62
5.3.4	FDI net inflows, % GDP	2.8	62
5.3.5	Green-field R&D & high-tech FDI	1.3	53
5.3.6	Research talent, % in businesses	55.9	20
Knowledge and technology outputs		**35.0**	**27**
6.1	**Knowledge creation**	**35.6**	**22**
6.1.1	Patents by origin/bn PPP$ GDP	2.6	24
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.9	23
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	41.3	7 ● ◆
6.1.5	Citable documents H-index	19.4	46
6.2	**Knowledge impact**	**28.2**	**57**
6.2.1	Labor productivity growth, %	2.1	53
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.1	96 ○ ◇
6.2.4	High-tech manufacturing, %	44.6	16 ●
6.3	**Knowledge diffusion**	**41.3**	**26**
6.3.1	Intellectual property receipts, % total trade	0.3	40
6.3.2	Production and export complexity	92.2	8 ●
6.3.3	High-tech exports, % total trade	8.8	26
6.3.4	ICT services exports, % total trade	2.1	65
6.3.5	ISO 9001 quality/bn PPP$ GDP	18.8	7 ● ◆
Creative outputs		**32.0**	**47**
7.1	**Intangible assets**	**22.5**	**75**
7.1.1	Intangible asset intensity, top 15, %	–4.4	73 ○ ◇
7.1.2	Trademarks by origin/bn PPP$ GDP	41.0	46
7.1.3	Global brand value, top 5,000, % GDP	0.8	61
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.6	44
7.2	**Creative goods and services**	**36.6**	**18** ●
7.2.1	Cultural and creative services exports, % total trade	1.2	32
7.2.2	National feature films/mn pop. 15–69	12.1	10 ● ◆
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	1.9	26
7.3	**Online creativity**	**46.5**	**30**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	25.4	26
7.3.2	GitHub commits/mn pop. 15–69	36.7	29
7.3.3	Mobile app creation/bn PPP$ GDP	77.3	14 ●

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

South Africa

63

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
63	70	Upper middle	SSA	64.7	1,026.5	16,050

		Score/ Value	Rank
Institutions		**38.8**	**97**
1.1	**Institutional environment**	**43.5**	**99**
1.1.1	Operational stability for businesses*	50.0	109 ○
1.1.2	Government effectiveness*	36.9	92
1.2	**Regulatory environment**	**49.1**	**68**
1.2.1	Regulatory quality*	45.7	76
1.2.2	Rule of law*	52.6	62
1.3	**Business environment**	**23.8**	**116** ○
1.3.1	Policy stability for doing business†	31.7	98
1.3.2	Entrepreneurship policies and culture†	15.9	81 ○
Human capital and research		**27.8**	**90**
2.1	**Education**	**51.0**	**76**
2.1.1	Expenditure on education, % GDP	6.0	17 ● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	22.8	28
2.1.3	School life expectancy, years ⏲	13.9	74
2.1.4	PISA scales in reading, maths and science	n/a	n/a
2.1.5	Pupil–teacher ratio, secondary ⏲	30.3	121 ○ ◇
2.2	**Tertiary education**	**16.0**	**111** ○ ◇
2.2.1	Tertiary enrolment, % gross ⏲	23.5	99 ◇
2.2.2	Graduates in science and engineering, % ⏲	17.4	98 ○
2.2.3	Tertiary inbound mobility, % ⏲	3.2	67
2.3	**Research and development (R&D)**	**16.3**	**54**
2.3.1	Researchers, FTE/mn pop. ⏲	457.6	76
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.6	58
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	51.9	31 ● ◆
Infrastructure		**46.4**	**66**
3.1	**Information and communication technologies (ICTs)**	**83.8**	**51**
3.1.1	ICT access*	84.8	71
3.1.2	ICT use*	80.1	73
3.1.3	Government online service*	86.4	24 ● ◆
3.2	**General infrastructure**	**47.4**	**51** ◆
3.2.1	Electricity output, GWh/mn pop.	3,611.9	60
3.2.2	Aviation import dwell time	1.3	19 ●
3.2.3	Logistics performance*	72.7	18 ● ◆
3.2.4	Gross capital formation, % GDP	14.2	127 ○ ◇
3.3	**Ecological sustainability**	**8.0**	**116** ○
3.3.1	GDP/unit of energy use	6.7	117 ○ ◇
3.3.2	Low-carbon energy use, %	3.5	106 ○
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.4	59
Market sophistication		**42.7**	**42**
4.1	**Credit**	**29.8**	**64**
4.1.1	Finance for startups and scaleups†	41.8	58
4.1.2	Domestic credit to private sector, % GDP	89.4	27 ● ◆
4.1.3	Loans from microfinance institutions, % GDP	1.2	31
4.2	**Investment**	**27.9**	**22** ● ◆
4.2.1	Market capitalization, % GDP	267.4	3 ● ◆
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	56
4.2.3	Late-stage VC deal count, % global VC	0.1	33
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	52
4.3	**Trade, diversification, and market scale**	**70.5**	**65**
4.3.1	Applied tariff rate, weighted avg., %	4.3	89
4.3.2	Domestic industry diversification	79.4	69
4.3.3	Domestic market scale, bn PPP$	1,026.5	32

		Score/ Value	Rank
Business sophistication		**32.5**	**45**
5.1	**Knowledge workers**	**31.9**	**86**
5.1.1	Knowledge-intensive employment, % ⏲	24.0	62
5.1.2	Females employed w/advanced degrees, % ⏲	11.2	72
5.1.3	Youth demographic dividend, %	41.9	52
5.1.4	GERD performed by business, % GDP ⏲	0.2	57
5.1.5	GERD financed by business, %	27.7	63
5.2	**Innovation linkages**	**36.2**	**42** ◆
5.2.1	Public research–industry co-publications, %	1.3	71
5.2.2	University–industry R&D collaboration†	44.9	49
5.2.3	University industry and international engagement, top 5*	70.9	25 ◆
5.2.4	State of cluster development†	47.6	55
5.2.5	Patent families/bn PPP$ GDP	0.1	47
5.3	**Knowledge absorption**	**29.6**	**51**
5.3.1	Intellectual property payments, % total trade	1.3	31 ●
5.3.2	High-tech imports, % total trade	9.4	49
5.3.3	ICT services imports, % total trade	3.4	17 ● ◆
5.3.4	FDI net inflows, % GDP	1.3	102
5.3.5	Green-field R&D & high-tech FDI	2.1	31 ◆
5.3.6	Research talent, % in businesses ⏲	11.2	64
Knowledge and technology outputs		**20.8**	**74**
6.1	**Knowledge creation**	**18.7**	**54**
6.1.1	Patents by origin/bn PPP$ GDP	0.4	79
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.2	44
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	18.6	45
6.1.5	Citable documents H-index	33.1	31 ● ◆
6.2	**Knowledge impact**	**21.7**	**88**
6.2.1	Labor productivity growth, %	–0.4	124 ○ ◇
6.2.2	Unicorn valuation, % GDP	0.9	40
6.2.3	Software spending, % GDP	0.3	36
6.2.4	High-tech manufacturing, %	18.8	67
6.3	**Knowledge diffusion**	**22.2**	**70**
6.3.1	Intellectual property receipts, % total trade	0.2	50
6.3.2	Production and export complexity	74.7	56
6.3.3	High-tech exports, % total trade	2.1	60
6.3.4	ICT services exports, % total trade	1.2	83
6.3.5	ISO 9001 quality/bn PPP$ GDP	4.4	61
Creative outputs		**27.4**	**59**
7.1	**Intangible assets**	**37.6**	**41**
7.1.1	Intangible asset intensity, top 15, %	63.7	24
7.1.2	Trademarks by origin/bn PPP$ GDP	25.3	82
7.1.3	Global brand value, top 5,000, % GDP	9.1	22 ● ◆
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.6	78
7.2	**Creative goods and services**	**8.9**	**85**
7.2.1	Cultural and creative services exports, % total trade	0.4	71
7.2.2	National feature films/mn pop. 15–69	0.2	95 ○
7.2.3	Entertainment and media market/th pop. 15–69	6.8	44
7.2.4	Creative goods exports, % total trade	0.7	53
7.3	**Online creativity**	**25.6**	**75**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	5.5	55
7.3.2	GitHub commits/mn pop. 15–69	4.5	86
7.3.3	Mobile app creation/bn PPP$ GDP	66.8	70

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Spain

GII 2026 rank **28**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
22	31	High	EUR	47.9	2,828.5	56,888

		Score/ Value	Rank
Institutions		**55.7**	**55**
1.1	**Institutional environment**	**70.5**	**37**
1.1.1	Operational stability for businesses*	70.4	52
1.1.2	Government effectiveness*	70.6	29
1.2	**Regulatory environment**	**68.4**	**34**
1.2.1	Regulatory quality*	62.5	44
1.2.2	Rule of law*	74.2	29
1.3	**Business environment**	**28.4**	**102** ○ ◇
1.3.1	Policy stability for doing business†	30.0	100 ○ ◇
1.3.2	Entrepreneurship policies and culture†	26.7	63 ○
Human capital and research		**48.4**	**27**
2.1	**Education**	**62.0**	**39**
2.1.1	Expenditure on education, % GDP ⏲	4.6	54
2.1.2	Government funding/pupil, secondary, % GDP/cap	20.1	45 ○
2.1.3	School life expectancy, years	17.7	15 ●
2.1.4	PISA scales in reading, maths and science	477.3	28
2.1.5	Pupil–teacher ratio, secondary	10.8	43
2.2	**Tertiary education**	**37.0**	**50**
2.2.1	Tertiary enrolment, % gross	93.8	12 ●
2.2.2	Graduates in science and engineering, %	22.0	73 ○
2.2.3	Tertiary inbound mobility, %	4.6	57
2.3	**Research and development (R&D)**	**46.3**	**24**
2.3.1	Researchers, FTE/mn pop.	3,792.3	29
2.3.2	Gross expenditure on R&D, % GDP	1.5	27
2.3.3	Global corporate R&D investors, top 3, mn US$	66.8	17 ●
2.3.4	QS university ranking, top 3*	59.8	23
Infrastructure		**63.0**	**9** ●
3.1	**Information and communication technologies (ICTs)**	**91.5**	**23**
3.1.1	ICT access*	98.5	23
3.1.2	ICT use*	87.3	39
3.1.3	Government online service*	88.6	22
3.2	**General infrastructure**	**55.6**	**27**
3.2.1	Electricity output, GWh/mn pop.	5,763.2	37
3.2.2	Aviation import dwell time	1.6	29
3.2.3	Logistics performance*	81.8	13
3.2.4	Gross capital formation, % GDP	21.3	89 ○
3.3	**Ecological sustainability**	**41.8**	**12** ● ◆
3.3.1	GDP/unit of energy use	19.9	23
3.3.2	Low-carbon energy use, %	26.1	35
3.3.3	ISO 14001 environment/bn PPP$ GDP	7.8	13 ● ◆
Market sophistication		**46.6**	**33**
4.1	**Credit**	**36.0**	**50**
4.1.1	Finance for startups and scaleups†	41.9	57 ○ ◇
4.1.2	Domestic credit to private sector, % GDP	74.2	37
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**17.2**	**36**
4.2.1	Market capitalization, % GDP	45.7	35
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.2	29
4.2.3	Late-stage VC deal count, % global VC	0.5	10 ●
4.2.4	VC investors, deal count/bn PPP$ GDP	0.3	36
4.3	**Trade, diversification, and market scale**	**86.7**	**8** ●
4.3.1	Applied tariff rate, weighted avg., %	1.3	20
4.3.2	Domestic industry diversification	94.8	24
4.3.3	Domestic market scale, bn PPP$	2,828.5	15 ● ◆

		Score/ Value	Rank
Business sophistication		**39.7**	**30**
5.1	**Knowledge workers**	**45.1**	**34**
5.1.1	Knowledge-intensive employment, %	36.8	40
5.1.2	Females employed w/advanced degrees, %	25.2	21
5.1.3	Youth demographic dividend, %	23.2	132 ○
5.1.4	GERD performed by business, % GDP	0.8	32
5.1.5	GERD financed by business, %	48.0	32
5.2	**Innovation linkages**	**41.6**	**30**
5.2.1	Public research–industry co-publications, %	2.8	28
5.2.2	University–industry R&D collaboration†	37.2	65 ○
5.2.3	University industry and international engagement, top 5*	71.0	24
5.2.4	State of cluster development†	60.2	42
5.2.5	Patent families/bn PPP$ GDP	0.4	33
5.3	**Knowledge absorption**	**32.4**	**39**
5.3.1	Intellectual property payments, % total trade	1.1	33
5.3.2	High-tech imports, % total trade	7.8	69 ○
5.3.3	ICT services imports, % total trade	2.1	42
5.3.4	FDI net inflows, % GDP	3.3	46
5.3.5	Green-field R&D & high-tech FDI	2.5	25
5.3.6	Research talent, % in businesses	40.9	35
Knowledge and technology outputs		**37.7**	**23**
6.1	**Knowledge creation**	**35.2**	**24**
6.1.1	Patents by origin/bn PPP$ GDP	1.3	39
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.6	26
6.1.3	Utility models by origin/bn PPP$ GDP	0.9	19
6.1.4	Scientific and technical articles/bn PPP$ GDP	25.6	28
6.1.5	Citable documents H-index	62.6	12 ● ◆
6.2	**Knowledge impact**	**37.3**	**26**
6.2.1	Labor productivity growth, %	1.4	74 ○
6.2.2	Unicorn valuation, % GDP	0.4	48
6.2.3	Software spending, % GDP	0.7	2 ● ◆
6.2.4	High-tech manufacturing, %	35.2	33
6.3	**Knowledge diffusion**	**40.5**	**29**
6.3.1	Intellectual property receipts, % total trade	0.8	24
6.3.2	Production and export complexity	83.4	30
6.3.3	High-tech exports, % total trade	4.7	42
6.3.4	ICT services exports, % total trade	3.8	37
6.3.5	ISO 9001 quality/bn PPP$ GDP	15.5	14 ●
Creative outputs		**42.6**	**24**
7.1	**Intangible assets**	**49.8**	**17** ●
7.1.1	Intangible asset intensity, top 15, %	57.4	38
7.1.2	Trademarks by origin/bn PPP$ GDP	38.0	53
7.1.3	Global brand value, top 5,000, % GDP	8.0	26
7.1.4	Industrial designs by origin/bn PPP$ GDP	6.6	11 ● ◆
7.2	**Creative goods and services**	**28.4**	**40**
7.2.1	Cultural and creative services exports, % total trade	1.5	24
7.2.2	National feature films/mn pop. 15–69	8.8	14
7.2.3	Entertainment and media market/th pop. 15–69	28.9	23
7.2.4	Creative goods exports, % total trade	0.8	50
7.3	**Online creativity**	**42.5**	**32**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	21.1	30
7.3.2	GitHub commits/mn pop. 15–69	34.3	30
7.3.3	Mobile app creation/bn PPP$ GDP	72.0	36

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Sri Lanka

94

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
87	102	Lower middle	CSA	23.2	343.1	14,994

		Score/ Value	Rank	
Institutions		**38.4**	**99**	
1.1	**Institutional environment**	**44.8**	**97**	
1.1.1	Operational stability for businesses*	53.9	99	
1.1.2	Government effectiveness*	35.7	95	
1.2	**Regulatory environment**	**42.9**	**84**	
1.2.1	Regulatory quality*	39.7	94	
1.2.2	Rule of law*	46.1	78	
1.3	**Business environment**	**27.6**	**[106]**	
1.3.1	Policy stability for doing business†	27.6	108	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**19.2**	**117**	
2.1	**Education**	**34.2**	**124**	○
2.1.1	Expenditure on education, % GDP	1.8	130	○
2.1.2	Government funding/pupil, secondary, % GDP/cap	6.3	90	○ ◇
2.1.3	School life expectancy, years	12.7	91	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	16.3	87	
2.2	**Tertiary education**	**22.7**	**94**	
2.2.1	Tertiary enrolment, % gross	20.7	106	
2.2.2	Graduates in science and engineering, %	25.4	40	●
2.2.3	Tertiary inbound mobility, %	0.5	99	
2.3	**Research and development (R&D)**	**0.6**	**109**	
2.3.1	Researchers, FTE/mn pop.	94.5	92	
2.3.2	Gross expenditure on R&D, % GDP	0.1	97	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**41.9**	**80**	
3.1	**Information and communication technologies (ICTs)**	**62.0**	**98**	
3.1.1	ICT access*	66.1	103	
3.1.2	ICT use*	74.1	89	
3.1.3	Government online service*	45.8	99	
3.2	**General infrastructure**	**38.3**	**77**	
3.2.1	Electricity output, GWh/mn pop.	709.9	106	
3.2.2	Aviation import dwell time	2.8	69	
3.2.3	Logistics performance*	31.8	71	
3.2.4	Gross capital formation, % GDP	26.3	39	●
3.3	**Ecological sustainability**	**25.4**	**41**	● ◆
3.3.1	GDP/unit of energy use	26.0	10	● ◆
3.3.2	Low-carbon energy use, %	11.2	73	
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.1	66	
Market sophistication		**27.0**	**105**	
4.1	**Credit**	**18.0**	**[102]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	47.0	70	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**2.2**	**101**	
4.2.1	Market capitalization, % GDP	16.6	64	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	102	○
4.2.3	Late-stage VC deal count, % global VC	0.0	93	○
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	102	○
4.3	**Trade, diversification, and market scale**	**60.8**	**92**	
4.3.1	Applied tariff rate, weighted avg., %	6.4	107	
4.3.2	Domestic industry diversification	76.4	74	
4.3.3	Domestic market scale, bn PPP$	343.1	61	●

		Score/ Value	Rank	
Business sophistication		**20.7**	**114**	
5.1	**Knowledge workers**	**27.1**	**108**	
5.1.1	Knowledge-intensive employment, %	20.3	78	
5.1.2	Females employed w/advanced degrees, %	4.4	99	
5.1.3	Youth demographic dividend, %	36.6	68	◇
5.1.4	GERD performed by business, % GDP	0.0	76	
5.1.5	GERD financed by business, %	41.9	41	● ◆
5.2	**Innovation linkages**	**15.9**	**109**	
5.2.1	Public research–industry co-publications, %	1.0	86	
5.2.2	University–industry R&D collaboration†	31.1	89	
5.2.3	University industry and international engagement, top 5*	5.1	102	○ ◇
5.2.4	State of cluster development†	31.8	94	
5.2.5	Patent families/bn PPP$ GDP	0.0	77	
5.3	**Knowledge absorption**	**19.2**	**83**	
5.3.1	Intellectual property payments, % total trade	0.4	76	
5.3.2	High-tech imports, % total trade	6.1	98	
5.3.3	ICT services imports, % total trade	1.2	83	
5.3.4	FDI net inflows, % GDP	0.9	109	
5.3.5	Green-field R&D & high-tech FDI	0.5	85	
5.3.6	Research talent, % in businesses	22.4	54	
Knowledge and technology outputs		**15.6**	**92**	
6.1	**Knowledge creation**	**9.0**	**88**	
6.1.1	Patents by origin/bn PPP$ GDP	0.7	64	●
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	62	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	6.2	109	
6.1.5	Citable documents H-index	11.3	71	
6.2	**Knowledge impact**	**14.8**	**119**	
6.2.1	Labor productivity growth, %	–1.1	133	○ ◇
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.4	26	● ◆
6.2.4	High-tech manufacturing, %	9.2	87	
6.3	**Knowledge diffusion**	**22.8**	**67**	
6.3.1	Intellectual property receipts, % total trade	0.0	89	
6.3.2	Production and export complexity	67.5	81	
6.3.3	High-tech exports, % total trade	0.7	86	
6.3.4	ICT services exports, % total trade	4.7	27	● ◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	3.1	77	
Creative outputs		**20.4**	**78**	
7.1	**Intangible assets**	**22.5**	**74**	
7.1.1	Intangible asset intensity, top 15, %	35.0	66	
7.1.2	Trademarks by origin/bn PPP$ GDP	26.7	79	
7.1.3	Global brand value, top 5,000, % GDP	0.4	71	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.5	80	
7.2	**Creative goods and services**	**8.9**	**[87]**	
7.2.1	Cultural and creative services exports, % total trade	0.1	105	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.5	58	●
7.3	**Online creativity**	**27.9**	**62**	● ◆
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.0	100	
7.3.2	GitHub commits/mn pop. 15–69	17.5	46	● ◆
7.3.3	Mobile app creation/bn PPP$ GDP	65.1	82	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Sweden

GII 2026 rank **2**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
3	3	High	EUR	10.7	780.1	73,070

		Score/ Value	Rank
Institutions		**78.5**	**11**
1.1	**Institutional environment**	**87.4**	**11**
1.1.1	Operational stability for businesses*	87.5	10
1.1.2	Government effectiveness*	87.3	10
1.2	**Regulatory environment**	**90.8**	**9**
1.2.1	Regulatory quality*	88.6	11
1.2.2	Rule of law*	93.0	6
1.3	**Business environment**	**57.4**	**41**
1.3.1	Policy stability for doing business†	72.5	24
1.3.2	Entrepreneurship policies and culture†	42.3	39 ○
Human capital and research		**63.6**	**5 ●**
2.1	**Education**	**70.4**	**9 ◆**
2.1.1	Expenditure on education, % GDP ⏲	7.3	6 ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	22.1	32
2.1.3	School life expectancy, years	18.6	10
2.1.4	PISA scales in reading, maths and science	487.4	18
2.1.5	Pupil–teacher ratio, secondary	12.7	61 ○
2.2	**Tertiary education**	**44.9**	**24**
2.2.1	Tertiary enrolment, % gross	84.0	18
2.2.2	Graduates in science and engineering, % ⏲	28.7	27
2.2.3	Tertiary inbound mobility, %	7.2	42 ○
2.3	**Research and development (R&D)**	**75.3**	**2 ● ◆**
2.3.1	Researchers, FTE/mn pop.	10,349.3	1 ● ◆
2.3.2	Gross expenditure on R&D, % GDP	3.6	4 ●
2.3.3	Global corporate R&D investors, top 3, mn US$	74.7	9
2.3.4	QS university ranking, top 3*	74.0	14
Infrastructure		**71.7**	**1 ● ◆**
3.1	**Information and communication technologies (ICTs)**	**93.1**	**16**
3.1.1	ICT access*	98.4	25
3.1.2	ICT use*	94.9	12
3.1.3	Government online service*	86.0	27
3.2	**General infrastructure**	**69.5**	**6 ◆**
3.2.1	Electricity output, GWh/mn pop.	16,182.8	6 ◆
3.2.2	Aviation import dwell time	1.9	37 ○ ◇
3.2.3	Logistics performance*	86.4	7
3.2.4	Gross capital formation, % GDP	25.3	47 ○
3.3	**Ecological sustainability**	**52.5**	**2 ● ◆**
3.3.1	GDP/unit of energy use	14.2	57 ○
3.3.2	Low-carbon energy use, %	64.5	3 ● ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	7.8	11 ◆
Market sophistication		**63.1**	**6**
4.1	**Credit**	**62.9**	**9**
4.1.1	Finance for startups and scaleups†	72.8	15
4.1.2	Domestic credit to private sector, % GDP	125.5	13
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**43.7**	**10**
4.2.1	Market capitalization, % GDP	n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.7	5 ◆
4.2.3	Late-stage VC deal count, % global VC	0.5	11
4.2.4	VC investors, deal count/bn PPP$ GDP	0.8	15
4.3	**Trade, diversification, and market scale**	**82.6**	**20**
4.3.1	Applied tariff rate, weighted avg., %	1.3	20
4.3.2	Domestic industry diversification	94.8	25
4.3.3	Domestic market scale, bn PPP$	780.1	41

		Score/ Value	Rank
Business sophistication		**66.7**	**1 ● ◆**
5.1	**Knowledge workers**	**69.1**	**3 ● ◆**
5.1.1	Knowledge-intensive employment, %	57.8	3 ●
5.1.2	Females employed w/advanced degrees, %	29.8	5 ●
5.1.3	Youth demographic dividend, %	28.4	97 ○
5.1.4	GERD performed by business, % GDP	2.6	5
5.1.5	GERD financed by business, %	63.5	7
5.2	**Innovation linkages**	**69.6**	**5 ●**
5.2.1	Public research–industry co-publications, %	5.7	7
5.2.2	University–industry R&D collaboration†	68.2	11
5.2.3	University industry and international engagement, top 5*	87.8	12
5.2.4	State of cluster development†	80.9	17
5.2.5	Patent families/bn PPP$ GDP	5.2	6
5.3	**Knowledge absorption**	**61.4**	**2 ● ◆**
5.3.1	Intellectual property payments, % total trade	5.1	1 ● ◆
5.3.2	High-tech imports, % total trade	8.7	57 ○
5.3.3	ICT services imports, % total trade	5.5	5 ● ◆
5.3.4	FDI net inflows, % GDP	5.7	21
5.3.5	Green-field R&D & high-tech FDI	3.3	19
5.3.6	Research talent, % in businesses	75.7	4 ● ◆
Knowledge and technology outputs		**57.3**	**4 ● ◆**
6.1	**Knowledge creation**	**70.0**	**3 ● ◆**
6.1.1	Patents by origin/bn PPP$ GDP	9.0	8
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	3.8	1 ● ◆
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	41.2	9 ◆
6.1.5	Citable documents H-index	58.7	13
6.2	**Knowledge impact**	**47.5**	**9**
6.2.1	Labor productivity growth, %	0.7	101 ○
6.2.2	Unicorn valuation, % GDP	2.7	21
6.2.3	Software spending, % GDP	0.6	4 ●
6.2.4	High-tech manufacturing, %	50.3	10
6.3	**Knowledge diffusion**	**54.3**	**9**
6.3.1	Intellectual property receipts, % total trade	3.0	6
6.3.2	Production and export complexity	91.3	12
6.3.3	High-tech exports, % total trade	8.5	28
6.3.4	ICT services exports, % total trade	7.4	11
6.3.5	ISO 9001 quality/bn PPP$ GDP	8.5	25
Creative outputs		**58.2**	**4 ● ◆**
7.1	**Intangible assets**	**55.1**	**13**
7.1.1	Intangible asset intensity, top 15, %	75.3	9
7.1.2	Trademarks by origin/bn PPP$ GDP	28.3	72 ○
7.1.3	Global brand value, top 5,000, % GDP	16.4	7
7.1.4	Industrial designs by origin/bn PPP$ GDP	2.6	29
7.2	**Creative goods and services**	**53.4**	**5 ● ◆**
7.2.1	Cultural and creative services exports, % total trade	4.7	1 ● ◆
7.2.2	National feature films/mn pop. 15–69	7.4	22
7.2.3	Entertainment and media market/th pop. 15–69	52.8	9
7.2.4	Creative goods exports, % total trade	1.4	34
7.3	**Online creativity**	**69.3**	**4 ●**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	48.6	14
7.3.2	GitHub commits/mn pop. 15–69	79.9	5 ●
7.3.3	Mobile app creation/bn PPP$ GDP	79.2	12

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Switzerland

1

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
1	2	High	EUR	9.0	881.8	97,659

		Score/ Value	Rank
Institutions		**84.3**	**5**
1.1	**Institutional environment**	**88.6**	**7**
1.1.1	Operational stability for businesses*	88.2	9
1.1.2	Government effectiveness*	88.9	7
1.2	**Regulatory environment**	**92.5**	**6**
1.2.1	Regulatory quality*	91.1	7
1.2.2	Rule of law*	93.9	4 ●
1.3	**Business environment**	**72.0**	**14**
1.3.1	Policy stability for doing business†	83.8	6 ◆
1.3.2	Entrepreneurship policies and culture†	60.2	16
Human capital and research		**61.0**	**8**
2.1	**Education**	**64.5**	**26**
2.1.1	Expenditure on education, % GDP ⏲	4.9	47 ○
2.1.2	Government funding/pupil, secondary, % GDP/cap	22.4	31 ○
2.1.3	School life expectancy, years	16.5	29
2.1.4	PISA scales in reading, maths and science	497.9	9
2.1.5	Pupil–teacher ratio, secondary	9.3	22
2.2	**Tertiary education**	**50.0**	**15**
2.2.1	Tertiary enrolment, % gross	73.5	40
2.2.2	Graduates in science and engineering, %	26.0	36
2.2.3	Tertiary inbound mobility, %	20.1	13
2.3	**Research and development (R&D)**	**68.5**	**6**
2.3.1	Researchers, FTE/mn pop. ⏲	6,058.5	13
2.3.2	Gross expenditure on R&D, % GDP ⏲	3.1	10
2.3.3	Global corporate R&D investors, top 3, mn US$	83.4	5
2.3.4	QS university ranking, top 3*	86.1	7
Infrastructure		**66.4**	**5** ◆
3.1	**Information and communication technologies (ICTs)**	**89.4**	**31**
3.1.1	ICT access*	100.0	1 ●
3.1.2	ICT use*	87.4	38
3.1.3	Government online service*	80.8	38
3.2	**General infrastructure**	**65.3**	**12**
3.2.1	Electricity output, GWh/mn pop.	8,738.5	17
3.2.2	Aviation import dwell time	1.0	11
3.2.3	Logistics performance*	90.9	3 ● ◆
3.2.4	Gross capital formation, % GDP	26.2	42
3.3	**Ecological sustainability**	**44.6**	**6** ◆
3.3.1	GDP/unit of energy use	31.2	5 ◆
3.3.2	Low-carbon energy use, %	47.3	9 ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.5	56 ○
Market sophistication		**70.6**	**3** ● ◆
4.1	**Credit**	**78.0**	**3** ● ◆
4.1.1	Finance for startups and scaleups†	83.0	10 ◆
4.1.2	Domestic credit to private sector, % GDP ⏲	170.4	5
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**52.9**	**6** ◆
4.2.1	Market capitalization, % GDP	220.0	5 ◆
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.6	10
4.2.3	Late-stage VC deal count, % global VC	0.4	17
4.2.4	VC investors, deal count/bn PPP$ GDP	1.1	9
4.3	**Trade, diversification, and market scale**	**80.8**	**27**
4.3.1	Applied tariff rate, weighted avg., %	0.8	12
4.3.2	Domestic industry diversification ⏲	84.7	60 ○
4.3.3	Domestic market scale, bn PPP$	881.8	38

		Score/ Value	Rank
Business sophistication		**64.4**	**3** ● ◆
5.1	**Knowledge workers**	**59.1**	**10**
5.1.1	Knowledge-intensive employment, %	52.6	7
5.1.2	Females employed w/advanced degrees, %	22.0	29
5.1.3	Youth demographic dividend, %	25.0	119 ○
5.1.4	GERD performed by business, % GDP ⏲	2.2	9
5.1.5	GERD financed by business, %	63.7	6
5.2	**Innovation linkages**	**82.3**	**1** ● ◆
5.2.1	Public research–industry co-publications, %	8.2	4 ● ◆
5.2.2	University–industry R&D collaboration†	75.7	3 ●
5.2.3	University industry and international engagement, top 5*	98.0	5
5.2.4	State of cluster development†	90.3	6 ◆
5.2.5	Patent families/bn PPP$ GDP	7.5	4 ● ◆
5.3	**Knowledge absorption**	**51.7**	**6**
5.3.1	Intellectual property payments, % total trade	5.4	1 ● ◆
5.3.2	High-tech imports, % total trade	7.6	77 ○
5.3.3	ICT services imports, % total trade	3.4	18
5.3.4	FDI net inflows, % GDP	–8.7	134 ○
5.3.5	Green-field R&D & high-tech FDI	4.3	11
5.3.6	Research talent, % in businesses ⏲	49.3	29
Knowledge and technology outputs		**61.8**	**2** ● ◆
6.1	**Knowledge creation**	**73.9**	**1** ● ◆
6.1.1	Patents by origin/bn PPP$ GDP	13.1	4
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	3.4	1 ● ◆
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	41.2	8 ◆
6.1.5	Citable documents H-index	65.9	10
6.2	**Knowledge impact**	**55.0**	**5**
6.2.1	Labor productivity growth, %	1.5	72 ○
6.2.2	Unicorn valuation, % GDP	2.2	25
6.2.3	Software spending, % GDP	0.7	3 ●
6.2.4	High-tech manufacturing, % ⏲	71.5	2 ● ◆
6.3	**Knowledge diffusion**	**56.5**	**4** ● ◆
6.3.1	Intellectual property receipts, % total trade	5.1	2 ● ◆
6.3.2	Production and export complexity	97.9	2 ● ◆
6.3.3	High-tech exports, % total trade	14.6	11
6.3.4	ICT services exports, % total trade	3.3	45
6.3.5	ISO 9001 quality/bn PPP$ GDP	5.2	51 ○
Creative outputs		**66.2**	**1** ● ◆
7.1	**Intangible assets**	**61.5**	**6**
7.1.1	Intangible asset intensity, top 15, %	76.7	7
7.1.2	Trademarks by origin/bn PPP$ GDP	48.8	33
7.1.3	Global brand value, top 5,000, % GDP	18.4	3 ● ◆
7.1.4	Industrial designs by origin/bn PPP$ GDP	3.1	23
7.2	**Creative goods and services**	**56.1**	**3** ● ◆
7.2.1	Cultural and creative services exports, % total trade	0.7	52 ○
7.2.2	National feature films/mn pop. 15–69	19.2	7 ◆
7.2.3	Entertainment and media market/th pop. 15–69	90.0	2 ● ◆
7.2.4	Creative goods exports, % total trade	2.8	22
7.3	**Online creativity**	**85.6**	**2** ● ◆
7.3.1	Top-level domains (TLDs)/th pop. 15–69	83.1	4 ● ◆
7.3.2	GitHub commits/mn pop. 15–69	98.2	3 ● ◆
7.3.3	Mobile app creation/bn PPP$ GDP	75.4	18

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Tajikistan

GII 2026 rank **112**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
113	113	Lower middle	CSA	10.8	63.1	6,089

			Score/ Value	Rank
Institutions			**39.1**	**96**
1.1	**Institutional environment**		**35.8**	**113**
1.1.1	Operational stability for businesses*		44.1	116
1.1.2	Government effectiveness*		27.5	109
1.2	**Regulatory environment**		**26.3**	**124**
1.2.1	Regulatory quality*		28.4	119
1.2.2	Rule of law*		24.2	127
1.3	**Business environment**		**55.2**	**[48]**
1.3.1	Policy stability for doing business†	⏲	55.2	54 ●
1.3.2	Entrepreneurship policies and culture†		n/a	n/a
Human capital and research			**27.0**	**92**
2.1	**Education**		**58.4**	**[48]**
2.1.1	Expenditure on education, % GDP		5.4	26 ●
2.1.2	Government funding/pupil, secondary, % GDP/cap		n/a	n/a
2.1.3	School life expectancy, years		n/a	n/a
2.1.4	PISA scales in reading, maths and science		n/a	n/a
2.1.5	Pupil–teacher ratio, secondary		n/a	n/a
2.2	**Tertiary education**		**22.1**	**95**
2.2.1	Tertiary enrolment, % gross		35.6	90
2.2.2	Graduates in science and engineering, %	⏲	22.0	72
2.2.3	Tertiary inbound mobility, %	⏲	0.8	93
2.3	**Research and development (R&D)**		**0.4**	**113**
2.3.1	Researchers, FTE/mn pop.		n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP	⏲	0.1	103
2.3.3	Global corporate R&D investors, top 3, mn US$		0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*		0.0	81 ○ ◇
Infrastructure			**28.5**	**120**
3.1	**Information and communication technologies (ICTs)**		**45.2**	**118**
3.1.1	ICT access*		56.9	114
3.1.2	ICT use*		n/a	n/a
3.1.3	Government online service*		33.5	117
3.2	**General infrastructure**		**17.8**	**135** ◇
3.2.1	Electricity output, GWh/mn pop.	⏲	2,104.0	82
3.2.2	Aviation import dwell time		n/a	n/a
3.2.3	Logistics performance*		18.2	89
3.2.4	Gross capital formation, % GDP		20.8	93
3.3	**Ecological sustainability**		**22.6**	**50** ●
3.3.1	GDP/unit of energy use		11.2	84
3.3.2	Low-carbon energy use, %		40.3	12 ● ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP		0.1	136 ○
Market sophistication			**22.5**	**[117]**
4.1	**Credit**		**2.6**	**[133]**
4.1.1	Finance for startups and scaleups†		n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	⏲	12.2	120
4.1.3	Loans from microfinance institutions, % GDP		n/a	n/a
4.2	**Investment**		**2.0**	**[102]**
4.2.1	Market capitalization, % GDP		n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP		0.0	80
4.2.3	Late-stage VC deal count, % global VC		0.0	97
4.2.4	VC investors, deal count/bn PPP$ GDP		n/a	n/a
4.3	**Trade, diversification, and market scale**		**63.0**	**87**
4.3.1	Applied tariff rate, weighted avg., %	⏲	2.4	70 ●
4.3.2	Domestic industry diversification	⏲	69.3	88
4.3.3	Domestic market scale, bn PPP$		63.1	114

			Score/ Value	Rank
Business sophistication			**22.7**	**96**
5.1	**Knowledge workers**		**42.5**	**[44]**
5.1.1	Knowledge-intensive employment, %	⏲	23.3	65
5.1.2	Females employed w/advanced degrees, %	⏲	7.3	91
5.1.3	Youth demographic dividend, %		52.6	29 ●
5.1.4	GERD performed by business, % GDP		n/a	n/a
5.1.5	GERD financed by business, %		n/a	n/a
5.2	**Innovation linkages**		**11.6**	**126**
5.2.1	Public research–industry co-publications, %		0.3	135 ◇
5.2.2	University–industry R&D collaboration†	⏲	26.0	106
5.2.3	University industry and international engagement, top 5*		n/a	n/a
5.2.4	State of cluster development†	⏲	17.3	122
5.2.5	Patent families/bn PPP$ GDP		0.0	98 ○ ◇
5.3	**Knowledge absorption**		**13.9**	**124**
5.3.1	Intellectual property payments, % total trade		0.0	130
5.3.2	High-tech imports, % total trade	⏲	7.2	82
5.3.3	ICT services imports, % total trade		0.2	137 ○ ◇
5.3.4	FDI net inflows, % GDP		1.6	93
5.3.5	Green-field R&D & high-tech FDI		0.5	87
5.3.6	Research talent, % in businesses		n/a	n/a
Knowledge and technology outputs			**18.1**	**83**
6.1	**Knowledge creation**		**23.0**	**41** ● ◆
6.1.1	Patents by origin/bn PPP$ GDP	⏲	0.4	76 ●
6.1.2	PCT patents by inventor origin/bn PPP$ GDP		0.0	87
6.1.3	Utility models by origin/bn PPP$ GDP	⏲	3.4	1 ● ◆
6.1.4	Scientific and technical articles/bn PPP$ GDP		3.8	123
6.1.5	Citable documents H-index		1.3	132
6.2	**Knowledge impact**		**22.7**	**78** ●
6.2.1	Labor productivity growth, %		5.2	8 ● ◆
6.2.2	Unicorn valuation, % GDP		0.0	58 ○ ◇
6.2.3	Software spending, % GDP		0.0	108
6.2.4	High-tech manufacturing, %	⏲	4.3	102 ◇
6.3	**Knowledge diffusion**		**8.6**	**130**
6.3.1	Intellectual property receipts, % total trade		0.0	129
6.3.2	Production and export complexity		40.1	123 ◇
6.3.3	High-tech exports, % total trade	⏲	0.9	80
6.3.4	ICT services exports, % total trade		0.0	137 ○
6.3.5	ISO 9001 quality/bn PPP$ GDP		0.1	137 ○ ◇
Creative outputs			**7.3**	**127** ◇
7.1	**Intangible assets**		**2.5**	**130**
7.1.1	Intangible asset intensity, top 15, %		n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP		13.6	105
7.1.3	Global brand value, top 5,000, % GDP		0.0	81 ○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP		0.0	130 ○ ◇
7.2	**Creative goods and services**		**1.6**	**[124]**
7.2.1	Cultural and creative services exports, % total trade		0.0	111
7.2.2	National feature films/mn pop. 15–69		n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69		n/a	n/a
7.2.4	Creative goods exports, % total trade	⏲	0.1	102
7.3	**Online creativity**		**22.5**	**97**
7.3.1	Top-level domains (TLDs)/th pop. 15–69		0.3	120
7.3.2	GitHub commits/mn pop. 15–69		0.8	123
7.3.3	Mobile app creation/bn PPP$ GDP		66.4	73 ●

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Thailand

44

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
41	46	Upper middle	SEAO	71.6	1,853.8	26,359

		Score/ Value	Rank	
Institutions		**46.7**	**80**	
1.1	**Institutional environment**	**57.7**	**64**	
1.1.1	Operational stability for businesses*	66.4	62	
1.1.2	Government effectiveness*	49.0	62	
1.2	**Regulatory environment**	**48.4**	**70**	
1.2.1	Regulatory quality*	49.8	66	
1.2.2	Rule of law*	47.1	75	
1.3	**Business environment**	**33.8**	**89**	
1.3.1	Policy stability for doing business†	37.0	90	
1.3.2	Entrepreneurship policies and culture†	30.7	52	
Human capital and research		**36.6**	**55**	
2.1	**Education**	**44.9**	**96**	
2.1.1	Expenditure on education, % GDP	2.5	119 ○ ◇	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	14.8	57	
2.1.4	PISA scales in reading, maths and science	394.0	66 ○	
2.1.5	Pupil–teacher ratio, secondary	17.5	94 ○	
2.2	**Tertiary education**	**35.9**	**56**	
2.2.1	Tertiary enrolment, % gross	49.1	74	
2.2.2	Graduates in science and engineering, %	30.5	21 ◆	
2.2.3	Tertiary inbound mobility, %	2.3	77	
2.3	**Research and development (R&D)**	**28.9**	**37** ◆	
2.3.1	Researchers, FTE/mn pop. ⏲	1,592.0	48	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.9	43	
2.3.3	Global corporate R&D investors, top 3, mn US$	44.0	41 ◆	
2.3.4	QS university ranking, top 3*	42.4	41	
Infrastructure		**48.7**	**58**	
3.1	**Information and communication technologies (ICTs)**	**84.4**	**49**	
3.1.1	ICT access*	95.0	48 ◆	
3.1.2	ICT use*	87.1	40	
3.1.3	Government online service*	71.3	62	
3.2	**General infrastructure**	**46.9**	**52** ◆	
3.2.1	Electricity output, GWh/mn pop.	2,825.1	70	
3.2.2	Aviation import dwell time	1.9	37	
3.2.3	Logistics performance*	63.6	33 ◆	
3.2.4	Gross capital formation, % GDP	20.6	94	
3.3	**Ecological sustainability**	**14.6**	**88**	
3.3.1	GDP/unit of energy use	11.0	86	
3.3.2	Low-carbon energy use, %	5.9	95	
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.5	37	
Market sophistication		**49.5**	**27** ◆	
4.1	**Credit**	**56.2**	**21** ● ◆	
4.1.1	Finance for startups and scaleups†	49.7	45	
4.1.2	Domestic credit to private sector, % GDP	147.1	7 ● ◆	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**10.6**	**45**	
4.2.1	Market capitalization, % GDP	107.1	14 ●	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	104 ○	
4.2.3	Late-stage VC deal count, % global VC	0.0	49	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	83	
4.3	**Trade, diversification, and market scale**	**81.8**	**23** ●	
4.3.1	Applied tariff rate, weighted avg., %	2.7	73	
4.3.2	Domestic industry diversification ⏲	95.0	23 ◆	
4.3.3	Domestic market scale, bn PPP$	1,853.8	23 ●	

		Score/ Value	Rank	
Business sophistication		**34.4**	**41** ◆	
5.1	**Knowledge workers**	**34.0**	**70**	
5.1.1	Knowledge-intensive employment, % ⏲	13.5	91 ○ ◇	
5.1.2	Females employed w/advanced degrees, % ⏲	10.9	73	
5.1.3	Youth demographic dividend, %	26.5	109 ○ ◇	
5.1.4	GERD performed by business, % GDP ⏲	0.6	35	
5.1.5	GERD financed by business, %	67.0	5 ● ◆	
5.2	**Innovation linkages**	**29.6**	**54**	
5.2.1	Public research–industry co-publications, %	1.2	74	
5.2.2	University–industry R&D collaboration†	45.3	47	
5.2.3	University industry and international engagement, top 5*	43.2	41	
5.2.4	State of cluster development†	45.0	61	
5.2.5	Patent families/bn PPP$ GDP	0.1	58	
5.3	**Knowledge absorption**	**39.6**	**25** ◆	
5.3.1	Intellectual property payments, % total trade	1.8	20 ● ◆	
5.3.2	High-tech imports, % total trade	20.2	9 ● ◆	
5.3.3	ICT services imports, % total trade	0.3	125 ○ ◇	
5.3.4	FDI net inflows, % GDP	2.4	74	
5.3.5	Green-field R&D & high-tech FDI	0.9	64	
5.3.6	Research talent, % in businesses ⏲	67.2	7 ● ◆	
Knowledge and technology outputs		**30.5**	**38**	
6.1	**Knowledge creation**	**27.5**	**35** ◆	
6.1.1	Patents by origin/bn PPP$ GDP	0.5	71	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	68	
6.1.3	Utility models by origin/bn PPP$ GDP	2.3	5 ● ◆	
6.1.4	Scientific and technical articles/bn PPP$ GDP	10.7	84	
6.1.5	Citable documents H-index	21.8	42	
6.2	**Knowledge impact**	**31.3**	**47**	
6.2.1	Labor productivity growth, %	1.4	75	
6.2.2	Unicorn valuation, % GDP	1.0	38	
6.2.3	Software spending, % GDP	0.3	40	
6.2.4	High-tech manufacturing, % ⏲	34.7	35	
6.3	**Knowledge diffusion**	**32.8**	**43**	
6.3.1	Intellectual property receipts, % total trade	0.1	64	
6.3.2	Production and export complexity	82.7	33 ◆	
6.3.3	High-tech exports, % total trade	17.3	8 ● ◆	
6.3.4	ICT services exports, % total trade	0.1	130 ○	
6.3.5	ISO 9001 quality/bn PPP$ GDP	6.8	35	
Creative outputs		**33.6**	**44** ◆	
7.1	**Intangible assets**	**41.5**	**31**	
7.1.1	Intangible asset intensity, top 15, %	60.2	31	
7.1.2	Trademarks by origin/bn PPP$ GDP	20.4	88	
7.1.3	Global brand value, top 5,000, % GDP	7.9	27 ◆	
7.1.4	Industrial designs by origin/bn PPP$ GDP	2.5	30	
7.2	**Creative goods and services**	**25.5**	**49**	
7.2.1	Cultural and creative services exports, % total trade	0.0	110 ○	
7.2.2	National feature films/mn pop. 15–69	1.0	81 ○	
7.2.3	Entertainment and media market/th pop. 15–69	7.4	42	
7.2.4	Creative goods exports, % total trade	8.2	6 ● ◆	
7.3	**Online creativity**	**25.9**	**70**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	2.5	75	
7.3.2	GitHub commits/mn pop. 15–69	6.1	72	
7.3.3	Mobile app creation/bn PPP$ GDP	69.0	57	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Togo

GII 2026 rank **122**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
112	123	Low	SSA	9.7	33.0	3,373

		Score/ Value	Rank	
Institutions		**33.7**	**110**	
1.1	**Institutional environment**	**37.9**	**112**	
1.1.1	Operational stability for businesses*	53.3	100	◆
1.1.2	Government effectiveness*	22.5	124	
1.2	**Regulatory environment**	**37.1**	**101**	
1.2.1	Regulatory quality*	37.0	100	
1.2.2	Rule of law*	37.2	100	
1.3	**Business environment**	**26.2**	**[110]**	
1.3.1	Policy stability for doing business†	n/a	n/a	
1.3.2	Entrepreneurship policies and culture† ⏲	26.2	64	
Human capital and research		**20.2**	**[114]**	
2.1	**Education**	**52.1**	**[73]**	
2.1.1	Expenditure on education, % GDP	4.1	71	●
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years ⏲	12.3	92	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary ⏲	17.8	96	
2.2	**Tertiary education**	**7.5**	**[122]**	
2.2.1	Tertiary enrolment, % gross ⏲	14.9	110	◆
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**0.9**	**103**	
2.3.1	Researchers, FTE/mn pop.	57.8	97	
2.3.2	Gross expenditure on R&D, % GDP	0.2	83	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**25.1**	**127**	
3.1	**Information and communication technologies (ICTs)**	**39.8**	**123**	
3.1.1	ICT access*	56.6	115	◆
3.1.2	ICT use*	29.4	122	
3.1.3	Government online service*	33.5	118	
3.2	**General infrastructure**	**30.6**	**103**	
3.2.1	Electricity output, GWh/mn pop. ⏲	77.3	130	○
3.2.2	Aviation import dwell time	4.7	98	
3.2.3	Logistics performance*	18.2	89	
3.2.4	Gross capital formation, % GDP	26.8	35	● ◆
3.3	**Ecological sustainability**	**4.8**	**133**	○ ◇
3.3.1	GDP/unit of energy use	6.1	120	
3.3.2	Low-carbon energy use, %	2.5	112	◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.5	86	
Market sophistication		**28.6**	**100**	◆
4.1	**Credit**	**38.5**	**40**	● ◆
4.1.1	Finance for startups and scaleups† ⏲	22.4	83	
4.1.2	Domestic credit to private sector, % GDP	n/a	n/a	
4.1.3	Loans from microfinance institutions, % GDP	6.1	5	● ◆
4.2	**Investment**	**2.9**	**[93]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	87	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**44.3**	**120**	
4.3.1	Applied tariff rate, weighted avg., %	10.4	129	◇
4.3.2	Domestic industry diversification ⏲	81.1	66	◆
4.3.3	Domestic market scale, bn PPP$	33.0	132	○

		Score/ Value	Rank	
Business sophistication		**15.9**	**[137]**	
5.1	**Knowledge workers**	**32.0**	**[84]**	
5.1.1	Knowledge-intensive employment, % ⏲	6.7	111	
5.1.2	Females employed w/advanced degrees, % ⏲	1.5	119	
5.1.3	Youth demographic dividend, %	58.6	21	● ◇
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**0.0**	**[139]**	
5.2.1	Public research–industry co-publications, %	0.0	139	○ ◇
5.2.2	University–industry R&D collaboration†	n/a	n/a	
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	n/a	n/a	
5.2.5	Patent families/bn PPP$ GDP	0.0	98	○ ◇
5.3	**Knowledge absorption**	**15.8**	**109**	
5.3.1	Intellectual property payments, % total trade ⏲	0.0	132	○ ◇
5.3.2	High-tech imports, % total trade	6.6	90	
5.3.3	ICT services imports, % total trade ⏲	0.9	96	
5.3.4	FDI net inflows, % GDP	–0.1	126	◇
5.3.5	Green-field R&D & high-tech FDI	0.7	71	● ◆
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**13.0**	**107**	
6.1	**Knowledge creation**	**4.7**	**118**	
6.1.1	Patents by origin/bn PPP$ GDP	0.4	78	● ◆
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107	○ ◇
6.1.3	Utility models by origin/bn PPP$ GDP ⏲	0.0	77	○ ◇
6.1.4	Scientific and technical articles/bn PPP$ GDP	9.6	92	
6.1.5	Citable documents H-index	1.4	131	◇
6.2	**Knowledge impact**	**19.8**	**94**	
6.2.1	Labor productivity growth, %	2.8	36	●
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.1	100	
6.2.4	High-tech manufacturing, % ⏲	13.3	80	◆
6.3	**Knowledge diffusion**	**14.5**	**104**	
6.3.1	Intellectual property receipts, % total trade ⏲	0.0	127	
6.3.2	Production and export complexity	55.4	100	
6.3.3	High-tech exports, % total trade	0.2	114	
6.3.4	ICT services exports, % total trade ⏲	1.7	71	●
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.4	102	◆
Creative outputs		**12.4**	**108**	
7.1	**Intangible assets**	**4.7**	**120**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	4.5	125	
7.1.3	Global brand value, top 5,000, % GDP	2.2	44	● ◆
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.1	121	
7.2	**Creative goods and services**	**19.9**	**[59]**	
7.2.1	Cultural and creative services exports, % total trade	1.8	18	● ◆
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	119	
7.3	**Online creativity**	**20.4**	**112**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.3	118	◆
7.3.2	GitHub commits/mn pop. 15–69	1.2	119	
7.3.3	Mobile app creation/bn PPP$ GDP	59.7	107	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Trinidad and Tobago

107

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
121	96	High	LCN	1.5	51.5	35,900

		Score/ Value	Rank	
Institutions		**47.3**	**77**	◇
1.1	**Institutional environment**	**57.9**	**63**	● ◇
1.1.1	Operational stability for businesses*	70.4	52	●
1.1.2	Government effectiveness*	45.4	74	◇
1.2	**Regulatory environment**	**42.7**	**85**	◇
1.2.1	Regulatory quality*	42.0	87	◇
1.2.2	Rule of law*	43.4	85	◇
1.3	**Business environment**	**41.2**	**[76]**	
1.3.1	Policy stability for doing business†	41.2	83	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**30.9**	**82**	◇
2.1	**Education**	**46.5**	**[88]**	
2.1.1	Expenditure on education, % GDP	3.2	101	◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	13.1	74	◇
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	11.5	49	●
2.2	**Tertiary education**	**44.8**	**25**	●
2.2.1	Tertiary enrolment, % gross	23.8	97	◇
2.2.2	Graduates in science and engineering, %	31.3	15	● ◆
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**1.4**	**98**	◇
2.3.1	Researchers, FTE/mn pop.	492.7	74	◇
2.3.2	Gross expenditure on R&D, % GDP	0.1	110	○ ◇
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**32.3**	**114**	◇
3.1	**Information and communication technologies (ICTs)**	**67.2**	**89**	◇
3.1.1	ICT access*	78.2	83	◇
3.1.2	ICT use*	71.7	94	◇
3.1.3	Government online service*	51.9	89	◇
3.2	**General infrastructure**	**29.1**	**110**	◇
3.2.1	Electricity output, GWh/mn pop.	6,951.8	27	●
3.2.2	Aviation import dwell time	7.4	111	○ ◇
3.2.3	Logistics performance*	18.2	89	◇
3.2.4	Gross capital formation, % GDP	n/a	n/a	
3.3	**Ecological sustainability**	**0.6**	**139**	○ ◇
3.3.1	GDP/unit of energy use	2.6	133	○ ◇
3.3.2	Low-carbon energy use, %	0.0	139	○ ◇
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.3	109	◇
Market sophistication		**31.1**	**[92]**	
4.1	**Credit**	**18.7**	**[99]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	48.4	66	●
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**n/a**	**[n/a]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	n/a	n/a	
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**43.5**	**122**	◇
4.3.1	Applied tariff rate, weighted avg., %	6.4	108	◇
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	51.5	123	◇

		Score/ Value	Rank	
Business sophistication		**17.5**	**129**	◇
5.1	**Knowledge workers**	**24.4**	**122**	◇
5.1.1	Knowledge-intensive employment, %	31.1	46	● ◇
5.1.2	Females employed w/advanced degrees, %	15.2	55	●
5.1.3	Youth demographic dividend, %	29.7	91	
5.1.4	GERD performed by business, % GDP	0.0	87	
5.1.5	GERD financed by business, %	2.7	88	◇
5.2	**Innovation linkages**	**17.1**	**106**	◇
5.2.1	Public research–industry co-publications, %	1.3	72	●
5.2.2	University–industry R&D collaboration†	20.0	119	◇
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	33.5	90	◇
5.2.5	Patent families/bn PPP$ GDP	0.0	70	●
5.3	**Knowledge absorption**	**11.1**	**138**	○ ◇
5.3.1	Intellectual property payments, % total trade	0.1	115	
5.3.2	High-tech imports, % total trade	5.6	104	
5.3.3	ICT services imports, % total trade	0.7	109	◇
5.3.4	FDI net inflows, % GDP	–1.2	130	
5.3.5	Green-field R&D & high-tech FDI	0.0	125	○ ◇
5.3.6	Research talent, % in businesses	1.4	89	
Knowledge and technology outputs		**11.3**	**117**	◇
6.1	**Knowledge creation**	**3.0**	**124**	◇
6.1.1	Patents by origin/bn PPP$ GDP	0.1	123	◇
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	84	
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	67	
6.1.4	Scientific and technical articles/bn PPP$ GDP	5.6	111	◇
6.1.5	Citable documents H-index	4.4	113	◇
6.2	**Knowledge impact**	**15.5**	**118**	◇
6.2.1	Labor productivity growth, %	0.4	107	
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.2	78	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**15.4**	**96**	◇
6.3.1	Intellectual property receipts, % total trade	0.0	95	◇
6.3.2	Production and export complexity	68.5	78	◇
6.3.3	High-tech exports, % total trade	0.5	95	◇
6.3.4	ICT services exports, % total trade	0.3	117	◇
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.3	103	◇
Creative outputs		**10.0**	**118**	◇
7.1	**Intangible assets**	**8.7**	**103**	◇
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	10.9	111	◇
7.1.3	Global brand value, top 5,000, % GDP	0.0	81	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.9	62	●
7.2	**Creative goods and services**	**3.8**	**110**	◇
7.2.1	Cultural and creative services exports, % total trade	0.0	121	◇
7.2.2	National feature films/mn pop. 15–69	1.8	70	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.1	88	◇
7.3	**Online creativity**	**18.6**	**119**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	2.1	80	◇
7.3.2	GitHub commits/mn pop. 15–69	5.6	78	◇
7.3.3	Mobile app creation/bn PPP$ GDP	48.1	126	◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Tunisia

GII 2026 rank **71**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
56	92	Lower middle	NAWA	12.3	186.3	14,983

		Score/ Value	Rank	
Institutions		**34.5**	**108**	
1.1	**Institutional environment**	**43.3**	**100**	
1.1.1	Operational stability for businesses*	50.0	109	
1.1.2	Government effectiveness*	36.6	93	
1.2	**Regulatory environment**	**40.5**	**94**	
1.2.1	Regulatory quality*	37.5	99	
1.2.2	Rule of law*	43.5	83	
1.3	**Business environment**	**19.7**	**124** ○	◇
1.3.1	Policy stability for doing business†	24.5	118	
1.3.2	Entrepreneurship policies and culture† ⏲	14.9	82 ○	◇
Human capital and research		**39.6**	**45**	◆
2.1	**Education**	**69.1**	**[12]**	
2.1.1	Expenditure on education, % GDP	6.7	9 ●	◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years ⏲	14.3	63	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary ⏲	14.6	74	
2.2	**Tertiary education**	**43.1**	**33** ●	◆
2.2.1	Tertiary enrolment, % gross ⏲	38.1	85	
2.2.2	Graduates in science and engineering, % ⏲	37.9	1 ●	◆
2.2.3	Tertiary inbound mobility, % ⏲	3.1	69	
2.3	**Research and development (R&D)**	**6.8**	**77**	
2.3.1	Researchers, FTE/mn pop.	1,667.6	46	◆
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.7	49	◆
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**33.8**	**105**	
3.1	**Information and communication technologies (ICTs)**	**67.3**	**88**	
3.1.1	ICT access*	73.5	90	
3.1.2	ICT use*	77.0	78	
3.1.3	Government online service*	51.3	91	
3.2	**General infrastructure**	**20.1**	**133** ○	◇
3.2.1	Electricity output, GWh/mn pop. ⏲	1,743.9	90	
3.2.2	Aviation import dwell time	6.4	108 ○	◇
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	12.0	130 ○	◇
3.3	**Ecological sustainability**	**14.0**	**91**	
3.3.1	GDP/unit of energy use	14.0	60	
3.3.2	Low-carbon energy use, %	0.9	124 ○	
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.0	48	◆
Market sophistication		**31.9**	**91**	
4.1	**Credit**	**22.8**	**83**	
4.1.1	Finance for startups and scaleups† ⏲	31.9	74	
4.1.2	Domestic credit to private sector, % GDP	60.6	48	
4.1.3	Loans from microfinance institutions, % GDP	1.4	28	
4.2	**Investment**	**4.5**	**77**	
4.2.1	Market capitalization, % GDP	16.6	63	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	60	
4.2.3	Late-stage VC deal count, % global VC	0.0	68	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	62	
4.3	**Trade, diversification, and market scale**	**68.5**	**74**	
4.3.1	Applied tariff rate, weighted avg., %	4.9	96	
4.3.2	Domestic industry diversification	94.2	26 ●	
4.3.3	Domestic market scale, bn PPP$	186.3	82	

		Score/ Value	Rank	
Business sophistication		**21.9**	**105**	
5.1	**Knowledge workers**	**29.0**	**101**	
5.1.1	Knowledge-intensive employment, % ⏲	19.6	81	
5.1.2	Females employed w/advanced degrees, % ⏲	10.0	78	◆
5.1.3	Youth demographic dividend, %	37.2	66	◇
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, % ⏲	13.5	72	
5.2	**Innovation linkages**	**15.2**	**112**	
5.2.1	Public research–industry co-publications, %	0.3	134 ○	◇
5.2.2	University–industry R&D collaboration†	25.0	107	
5.2.3	University industry and international engagement, top 5*	24.8	64	
5.2.4	State of cluster development†	22.8	116	
5.2.5	Patent families/bn PPP$ GDP	0.0	78	
5.3	**Knowledge absorption**	**21.6**	**71**	
5.3.1	Intellectual property payments, % total trade ⏲	0.1	109	
5.3.2	High-tech imports, % total trade	9.8	44	
5.3.3	ICT services imports, % total trade ⏲	0.8	101	
5.3.4	FDI net inflows, % GDP	1.5	99	
5.3.5	Green-field R&D & high-tech FDI	3.3	18 ●	◆
5.3.6	Research talent, % in businesses	8.1	67	
Knowledge and technology outputs		**25.7**	**53**	◆
6.1	**Knowledge creation**	**23.0**	**42**	◆
6.1.1	Patents by origin/bn PPP$ GDP	1.3	38 ●	◆
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.1	66	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	36.5	12 ●	◆
6.1.5	Citable documents H-index	12.2	67	
6.2	**Knowledge impact**	**25.9**	**63**	
6.2.1	Labor productivity growth, %	0.8	93	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.3	46	◆
6.2.4	High-tech manufacturing, %	34.5	37	◆
6.3	**Knowledge diffusion**	**28.1**	**54**	◆
6.3.1	Intellectual property receipts, % total trade ⏲	0.1	58	
6.3.2	Production and export complexity	78.1	46	◆
6.3.3	High-tech exports, % total trade	5.5	38 ●	
6.3.4	ICT services exports, % total trade ⏲	2.4	59	
6.3.5	ISO 9001 quality/bn PPP$ GDP	7.3	32 ●	◆
Creative outputs		**27.0**	**60**	◆
7.1	**Intangible assets**	**34.6**	**53**	◆
7.1.1	Intangible asset intensity, top 15, %	48.9	55	
7.1.2	Trademarks by origin/bn PPP$ GDP ⏲	31.2	66	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	3.9	17 ●	◆
7.2	**Creative goods and services**	**12.9**	**72**	
7.2.1	Cultural and creative services exports, % total trade	0.4	67	
7.2.2	National feature films/mn pop. 15–69	1.3	77	
7.2.3	Entertainment and media market/th pop. 15–69	1.5	56 ○	
7.2.4	Creative goods exports, % total trade	1.5	33 ●	
7.3	**Online creativity**	**25.6**	**73**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	2.2	78	◆
7.3.2	GitHub commits/mn pop. 15–69	9.0	62	◆
7.3.3	Mobile app creation/bn PPP$ GDP	65.7	79	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Türkiye

45

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
39	51	Upper middle	NAWA	87.7	3,766.8	43,786

		Score/ Value	Rank	
Institutions		**37.1**	**103**	○
1.1	**Institutional environment**	**45.8**	**94**	○
1.1.1	Operational stability for businesses*	50.7	105	○
1.1.2	Government effectiveness*	40.8	81	
1.2	**Regulatory environment**	**37.1**	**102**	○
1.2.1	Regulatory quality*	41.9	88	
1.2.2	Rule of law*	32.2	108	○
1.3	**Business environment**	**28.3**	**103**	○
1.3.1	Policy stability for doing business†	27.4	109	○
1.3.2	Entrepreneurship policies and culture† ⏲	29.2	55	
Human capital and research		**40.6**	**41**	◆
2.1	**Education**	**50.9**	**77**	
2.1.1	Expenditure on education, % GDP ⏲	3.1	106	○
2.1.2	Government funding/pupil, secondary, % GDP/cap	9.0	85	○ ◇
2.1.3	School life expectancy, years ⏲	18.8	7	● ◆
2.1.4	PISA scales in reading, maths and science	461.7	38	◆
2.1.5	Pupil–teacher ratio, secondary ⏲	15.6	80	
2.2	**Tertiary education**	**35.2**	**58**	
2.2.1	Tertiary enrolment, % gross ⏲	105.9	9	● ◆
2.2.2	Graduates in science and engineering, % ⏲	18.6	94	○
2.2.3	Tertiary inbound mobility, % ⏲	4.3	59	
2.3	**Research and development (R&D)**	**35.8**	**34**	◆
2.3.1	Researchers, FTE/mn pop.	2,825.8	33	◆
2.3.2	Gross expenditure on R&D, % GDP	1.5	29	◆
2.3.3	Global corporate R&D investors, top 3, mn US$	48.0	36	◆
2.3.4	QS university ranking, top 3*	46.3	39	
Infrastructure		**54.0**	**46**	◆
3.1	**Information and communication technologies (ICTs)**	**87.6**	**38**	◆
3.1.1	ICT access*	90.5	57	
3.1.2	ICT use*	81.8	64	
3.1.3	Government online service*	90.7	13	● ◆
3.2	**General infrastructure**	**51.8**	**36**	◆
3.2.1	Electricity output, GWh/mn pop.	4,079.9	54	
3.2.2	Aviation import dwell time	3.1	76	○
3.2.3	Logistics performance*	59.1	37	◆
3.2.4	Gross capital formation, % GDP	32.3	16	● ◆
3.3	**Ecological sustainability**	**22.6**	**49**	
3.3.1	GDP/unit of energy use	18.5	27	◆
3.3.2	Low-carbon energy use, %	14.5	57	
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.9	49	
Market sophistication		**42.3**	**44**	
4.1	**Credit**	**37.8**	**42**	
4.1.1	Finance for startups and scaleups† ⏲	59.4	32	
4.1.2	Domestic credit to private sector, % GDP	43.0	75	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**6.0**	**70**	
4.2.1	Market capitalization, % GDP	31.0	44	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	69	
4.2.3	Late-stage VC deal count, % global VC	0.1	24	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	70	
4.3	**Trade, diversification, and market scale**	**83.2**	**18**	● ◆
4.3.1	Applied tariff rate, weighted avg., %	3.5	83	
4.3.2	Domestic industry diversification	98.5	5	● ◆
4.3.3	Domestic market scale, bn PPP$	3,766.8	11	● ◆

		Score/ Value	Rank	
Business sophistication		**36.0**	**38**	◆
5.1	**Knowledge workers**	**40.9**	**48**	
5.1.1	Knowledge-intensive employment, %	25.4	59	
5.1.2	Females employed w/advanced degrees, %	13.4	64	
5.1.3	Youth demographic dividend, %	34.7	74	
5.1.4	GERD performed by business, % GDP	0.9	27	◆
5.1.5	GERD financed by business, %	53.8	22	◆
5.2	**Innovation linkages**	**35.5**	**44**	◆
5.2.1	Public research–industry co-publications, %	1.4	68	
5.2.2	University–industry R&D collaboration†	35.7	74	
5.2.3	University industry and international engagement, top 5*	71.3	23	◆
5.2.4	State of cluster development†	47.9	54	
5.2.5	Patent families/bn PPP$ GDP	0.3	34	◆
5.3	**Knowledge absorption**	**31.6**	**43**	◆
5.3.1	Intellectual property payments, % total trade	0.9	42	
5.3.2	High-tech imports, % total trade	8.3	66	
5.3.3	ICT services imports, % total trade	1.3	76	
5.3.4	FDI net inflows, % GDP	1.1	105	○
5.3.5	Green-field R&D & high-tech FDI	0.6	84	
5.3.6	Research talent, % in businesses	66.3	8	● ◆
Knowledge and technology outputs		**26.5**	**49**	
6.1	**Knowledge creation**	**27.6**	**33**	◆
6.1.1	Patents by origin/bn PPP$ GDP	3.0	21	◆
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.5	29	◆
6.1.3	Utility models by origin/bn PPP$ GDP	0.9	22	
6.1.4	Scientific and technical articles/bn PPP$ GDP	17.4	48	
6.1.5	Citable documents H-index	30.0	33	◆
6.2	**Knowledge impact**	**28.7**	**53**	
6.2.1	Labor productivity growth, %	1.7	66	
6.2.2	Unicorn valuation, % GDP	0.1	57	
6.2.3	Software spending, % GDP	0.4	28	◆
6.2.4	High-tech manufacturing, %	30.2	42	
6.3	**Knowledge diffusion**	**23.1**	**63**	
6.3.1	Intellectual property receipts, % total trade	0.1	56	
6.3.2	Production and export complexity	81.1	41	
6.3.3	High-tech exports, % total trade	2.2	58	
6.3.4	ICT services exports, % total trade	1.3	82	
6.3.5	ISO 9001 quality/bn PPP$ GDP	4.1	63	
Creative outputs		**39.6**	**28**	◆
7.1	**Intangible assets**	**55.4**	**12**	● ◆
7.1.1	Intangible asset intensity, top 15, %	58.4	36	
7.1.2	Trademarks by origin/bn PPP$ GDP	103.2	7	● ◆
7.1.3	Global brand value, top 5,000, % GDP	1.0	58	
7.1.4	Industrial designs by origin/bn PPP$ GDP	11.8	6	● ◆
7.2	**Creative goods and services**	**18.2**	**62**	
7.2.1	Cultural and creative services exports, % total trade	0.1	94	○
7.2.2	National feature films/mn pop. 15–69	3.5	43	
7.2.3	Entertainment and media market/th pop. 15–69	2.7	51	○ ◇
7.2.4	Creative goods exports, % total trade	2.9	19	● ◆
7.3	**Online creativity**	**29.6**	**55**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	7.5	47	
7.3.2	GitHub commits/mn pop. 15–69	6.5	69	
7.3.3	Mobile app creation/bn PPP$ GDP	74.7	21	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Uganda

GII 2026 rank **123**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
111	125	Low	SSA	51.4	187.5	3,904

		Score/ Value	Rank	
Institutions		**43.4**	**87**	
1.1	**Institutional environment**	**39.3**	**108**	
1.1.1	Operational stability for businesses*	44.7	114	
1.1.2	Government effectiveness*	33.8	101	
1.2	**Regulatory environment**	**34.4**	**107**	
1.2.1	Regulatory quality*	34.2	105	
1.2.2	Rule of law*	34.7	105	
1.3	**Business environment**	**56.4**	**[44]**	
1.3.1	Policy stability for doing business† ⏲	56.4	48 ●	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**13.7**	**[131]**	
2.1	**Education**	**25.6**	**[134]**	
2.1.1	Expenditure on education, % GDP ⏲	2.6	118	◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	n/a	n/a	
2.2	**Tertiary education**	**n/a**	**[n/a]**	
2.2.1	Tertiary enrolment, % gross	n/a	n/a	
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**1.8**	**95**	◆
2.3.1	Researchers, FTE/mn pop. ⏲	81.3	95	
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.4	64	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○	◇
2.3.4	QS university ranking, top 3*	0.0	81 ○	◇
Infrastructure		**27.9**	**122**	◆
3.1	**Information and communication technologies (ICTs)**	**38.3**	**126**	
3.1.1	ICT access*	33.6	130 ○	
3.1.2	ICT use*	28.5	123 ○	
3.1.3	Government online service*	52.7	88	◆
3.2	**General infrastructure**	**31.7**	**99**	
3.2.1	Electricity output, GWh/mn pop. ⏲	128.8	125 ○	
3.2.2	Aviation import dwell time	4.3	92	
3.2.3	Logistics performance*	n/a	n/a	
3.2.4	Gross capital formation, % GDP	21.7	84	
3.3	**Ecological sustainability**	**13.7**	**93**	
3.3.1	GDP/unit of energy use	5.5	123	
3.3.2	Low-carbon energy use, %	22.8	38 ●	
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.1	68 ●	◆
Market sophistication		**15.4**	**135** ○	
4.1	**Credit**	**2.9**	**131** ○	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	14.3	118	
4.1.3	Loans from microfinance institutions, % GDP	0.3	52	
4.2	**Investment**	**3.9**	**80**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	50 ●	
4.2.3	Late-stage VC deal count, % global VC	0.0	62	◆
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	104	
4.3	**Trade, diversification, and market scale**	**39.5**	**124**	
4.3.1	Applied tariff rate, weighted avg., %	9.2	125	
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	187.5	81	◆

		Score/ Value	Rank	
Business sophistication		**19.0**	**121**	
5.1	**Knowledge workers**	**22.9**	**124**	◇
5.1.1	Knowledge-intensive employment, % ⏲	5.2	113	
5.1.2	Females employed w/advanced degrees, % ⏲	3.3	105	◆
5.1.3	Youth demographic dividend, %	64.0	7 ●	
5.1.4	GERD performed by business, % GDP ⏲	0.0	90 ○	
5.1.5	GERD financed by business, %	3.6	86	
5.2	**Innovation linkages**	**21.4**	**83**	
5.2.1	Public research–industry co-publications, %	1.2	75	
5.2.2	University–industry R&D collaboration† ⏲	32.3	86	
5.2.3	University industry and international engagement, top 5*	28.8	58	◆
5.2.4	State of cluster development† ⏲	32.7	91	
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○	◇
5.3	**Knowledge absorption**	**12.6**	**131** ○	
5.3.1	Intellectual property payments, % total trade	0.0	132 ○	◇
5.3.2	High-tech imports, % total trade	7.1	83	
5.3.3	ICT services imports, % total trade	0.3	128	
5.3.4	FDI net inflows, % GDP	6.2	19 ●	
5.3.5	Green-field R&D & high-tech FDI	0.3	101	
5.3.6	Research talent, % in businesses ⏲	5.1	74	
Knowledge and technology outputs		**17.0**	**86**	◆
6.1	**Knowledge creation**	**8.8**	**90**	
6.1.1	Patents by origin/bn PPP$ GDP	0.1	106	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	95	
6.1.3	Utility models by origin/bn PPP$ GDP	0.1	47 ●	
6.1.4	Scientific and technical articles/bn PPP$ GDP	17.0	50 ●	
6.1.5	Citable documents H-index	10.3	77	◆
6.2	**Knowledge impact**	**28.3**	**56** ●	◆
6.2.1	Labor productivity growth, %	1.3	76	
6.2.2	Unicorn valuation, % GDP	2.8	20 ●	◆
6.2.3	Software spending, % GDP	0.0	134 ○	
6.2.4	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**14.0**	**110**	
6.3.1	Intellectual property receipts, % total trade	0.1	68 ●	◆
6.3.2	Production and export complexity	57.7	95	
6.3.3	High-tech exports, % total trade	0.2	117	
6.3.4	ICT services exports, % total trade	0.4	114	
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.9	90	◆
Creative outputs		**8.8**	**123**	
7.1	**Intangible assets**	**4.9**	**118**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	14.6	103	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.2	97	
7.2	**Creative goods and services**	**3.2**	**113**	
7.2.1	Cultural and creative services exports, % total trade	0.0	115	
7.2.2	National feature films/mn pop. 15–69	2.3	60	◇
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	117	
7.3	**Online creativity**	**22.0**	**101**	◆
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.1	127	
7.3.2	GitHub commits/mn pop. 15–69	1.4	115	
7.3.3	Mobile app creation/bn PPP$ GDP	64.4	85	◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Ukraine

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
59	78	Upper middle	EUR	39.0	686.9	20,904

		Score/ Value	Rank
Institutions		**33.5**	**111**
1.1	**Institutional environment**	**30.2**	**122** ○ ◇
1.1.1	Operational stability for businesses*	32.9	125 ○ ◇
1.1.2	Government effectiveness*	27.6	107 ◇
1.2	**Regulatory environment**	**37.4**	**100**
1.2.1	Regulatory quality*	39.7	95
1.2.2	Rule of law*	35.1	104
1.3	**Business environment**	**32.8**	**90**
1.3.1	Policy stability for doing business†	34.0	95
1.3.2	Entrepreneurship policies and culture† ⏲	31.7	51
Human capital and research		**34.3**	**65**
2.1	**Education**	**58.5**	**47**
2.1.1	Expenditure on education, % GDP ⏲	5.1	41
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	26.1	12 ●
2.1.3	School life expectancy, years	14.0	70
2.1.4	PISA scales in reading, maths and science	439.5	43
2.1.5	Pupil–teacher ratio, secondary	9.6	28
2.2	**Tertiary education**	**35.9**	**55**
2.2.1	Tertiary enrolment, % gross	87.2	15 ● ◆
2.2.2	Graduates in science and engineering, %	23.9	52
2.2.3	Tertiary inbound mobility, %	2.2	78
2.3	**Research and development (R&D)**	**8.5**	**71**
2.3.1	Researchers, FTE/mn pop. ⏲	586.1	70
2.3.2	Gross expenditure on R&D, % GDP	0.4	69
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	23.1	60
Infrastructure		**43.5**	**77**
3.1	**Information and communication technologies (ICTs)**	**90.7**	**25** ● ◆
3.1.1	ICT access*	83.2	74
3.1.2	ICT use*	n/a	n/a
3.1.3	Government online service*	98.2	5 ● ◆
3.2	**General infrastructure**	**20.2**	**132** ○ ◇
3.2.1	Electricity output, GWh/mn pop.	2,625.8	74
3.2.2	Aviation import dwell time	n/a	n/a
3.2.3	Logistics performance*	27.3	76
3.2.4	Gross capital formation, % GDP	19.2	108 ○
3.3	**Ecological sustainability**	**19.5**	**64**
3.3.1	GDP/unit of energy use	8.9	104
3.3.2	Low-carbon energy use, %	30.4	25 ● ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	1.1	65
Market sophistication		**32.8**	**81**
4.1	**Credit**	**16.7**	**106**
4.1.1	Finance for startups and scaleups† ⏲	44.6	54
4.1.2	Domestic credit to private sector, % GDP	18.2	112 ○
4.1.3	Loans from microfinance institutions, % GDP	0.0	58 ○
4.2	**Investment**	**3.1**	**90**
4.2.1	Market capitalization, % GDP ⏲	4.3	80
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	76
4.2.3	Late-stage VC deal count, % global VC	0.0	78
4.2.4	VC investors, deal count/bn PPP$ GDP	0.1	54
4.3	**Trade, diversification, and market scale**	**78.5**	**37**
4.3.1	Applied tariff rate, weighted avg., %	1.6	53
4.3.2	Domestic industry diversification	86.6	54
4.3.3	Domestic market scale, bn PPP$	686.9	44

		Score/ Value	Rank
Business sophistication		**31.0**	**54**
5.1	**Knowledge workers**	**44.2**	**39** ◆
5.1.1	Knowledge-intensive employment, % ⏲	37.9	37 ◆
5.1.2	Females employed w/advanced degrees, % ⏲	30.0	4 ● ◆
5.1.3	Youth demographic dividend, %	24.6	122 ○ ◇
5.1.4	GERD performed by business, % GDP	0.2	56
5.1.5	GERD financed by business, %	40.4	48
5.2	**Innovation linkages**	**23.3**	**73**
5.2.1	Public research–industry co-publications, %	2.8	27 ◆
5.2.2	University–industry R&D collaboration†	34.7	75
5.2.3	University industry and international engagement, top 5*	8.1	94 ○
5.2.4	State of cluster development†	41.7	64
5.2.5	Patent families/bn PPP$ GDP	0.0	63
5.3	**Knowledge absorption**	**25.4**	**60**
5.3.1	Intellectual property payments, % total trade	0.6	63
5.3.2	High-tech imports, % total trade	12.8	20 ●
5.3.3	ICT services imports, % total trade	1.5	72
5.3.4	FDI net inflows, % GDP	1.6	95
5.3.5	Green-field R&D & high-tech FDI	0.8	70
5.3.6	Research talent, % in businesses	26.5	51
Knowledge and technology outputs		**27.4**	**46**
6.1	**Knowledge creation**	**32.4**	**27** ◆
6.1.1	Patents by origin/bn PPP$ GDP	1.5	33
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.2	46
6.1.3	Utility models by origin/bn PPP$ GDP	5.6	1 ● ◆
6.1.4	Scientific and technical articles/bn PPP$ GDP	12.3	73
6.1.5	Citable documents H-index	16.4	52
6.2	**Knowledge impact**	**17.4**	**111**
6.2.1	Labor productivity growth, %	–1.7	136 ○ ◇
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.4	25 ● ◆
6.2.4	High-tech manufacturing, %	21.6	58
6.3	**Knowledge diffusion**	**32.3**	**46**
6.3.1	Intellectual property receipts, % total trade	0.1	67
6.3.2	Production and export complexity	75.3	52
6.3.3	High-tech exports, % total trade	1.2	72
6.3.4	ICT services exports, % total trade	8.9	9 ● ◆
6.3.5	ISO 9001 quality/bn PPP$ GDP	5.1	53
Creative outputs		**24.1**	**69**
7.1	**Intangible assets**	**28.2**	**64**
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	58.0	26
7.1.3	Global brand value, top 5,000, % GDP	0.3	75
7.1.4	Industrial designs by origin/bn PPP$ GDP	3.8	18 ●
7.2	**Creative goods and services**	**7.5**	**95**
7.2.1	Cultural and creative services exports, % total trade	0.5	59
7.2.2	National feature films/mn pop. 15–69	1.8	69
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	0.1	86
7.3	**Online creativity**	**32.5**	**48**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	4.4	61
7.3.2	GitHub commits/mn pop. 15–69	15.8	49
7.3.3	Mobile app creation/bn PPP$ GDP	77.3	15 ● ◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

United Arab Emirates

GII 2026 rank **25**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
42	12	High	NAWA	11.3	935.4	84,403

			Score/ Value	Rank	
Institutions			80.2	9	
1.1	**Institutional environment**		**78.6**	**21**	
1.1.1	Operational stability for businesses*		82.9	22	
1.1.2	Government effectiveness*		74.3	21	◇
1.2	**Regulatory environment**		**69.5**	**30**	◇
1.2.1	Regulatory quality*		75.1	25	
1.2.2	Rule of law*		63.9	44	◇
1.3	**Business environment**		**92.6**	**2** ● ◆	
1.3.1	Policy stability for doing business†		85.1	4 ● ◆	
1.3.2	Entrepreneurship policies and culture†		100.0	1 ● ◆	
Human capital and research			57.9	13	
2.1	**Education**		**56.5**	**57**	◇
2.1.1	Expenditure on education, % GDP	⏲	3.9	82 ○	
2.1.2	Government funding/pupil, secondary, % GDP/cap	⏲	23.8	21	
2.1.3	School life expectancy, years		15.8	42	
2.1.4	PISA scales in reading, maths and science		426.8	48	◇
2.1.5	Pupil–teacher ratio, secondary		8.4	13	◆
2.2	**Tertiary education**		**77.5**	**1** ● ◆	
2.2.1	Tertiary enrolment, % gross		63.7	52	
2.2.2	Graduates in science and engineering, %		36.5	3 ● ◆	
2.2.3	Tertiary inbound mobility, %		65.0	1 ● ◆	
2.3	**Research and development (R&D)**		**39.6**	**27**	◇
2.3.1	Researchers, FTE/mn pop.	⏲	2,606.8	37	◇
2.3.2	Gross expenditure on R&D, % GDP	⏲	1.5	28	
2.3.3	Global corporate R&D investors, top 3, mn US$		57.2	26	
2.3.4	QS university ranking, top 3*		53.9	28	
Infrastructure			62.2	13	
3.1	**Information and communication technologies (ICTs)**		**95.6**	**7**	
3.1.1	ICT access*		99.9	5 ●	
3.1.2	ICT use*		97.0	6 ● ◆	
3.1.3	Government online service*		89.9	16	
3.2	**General infrastructure**		**70.3**	**5** ● ◆	
3.2.1	Electricity output, GWh/mn pop.	⏲	15,979.9	7 ◆	
3.2.2	Aviation import dwell time		1.4	23	
3.2.3	Logistics performance*		86.4	7	
3.2.4	Gross capital formation, % GDP		25.2	50	
3.3	**Ecological sustainability**		**20.5**	**55**	
3.3.1	GDP/unit of energy use		7.5	112 ○	◇
3.3.2	Low-carbon energy use, %		9.2	81 ○	
3.3.3	ISO 14001 environment/bn PPP$ GDP		5.6	17	◆
Market sophistication			59.1	14	
4.1	**Credit**		**63.1**	**8**	
4.1.1	Finance for startups and scaleups†		100.0	1 ● ◆	
4.1.2	Domestic credit to private sector, % GDP	⏲	65.5	43	◇
4.1.3	Loans from microfinance institutions, % GDP		n/a	n/a	
4.2	**Investment**		**35.8**	**14**	
4.2.1	Market capitalization, % GDP		184.0	7	◆
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP		0.3	26	
4.2.3	Late-stage VC deal count, % global VC		0.1	35	
4.2.4	VC investors, deal count/bn PPP$ GDP		0.9	12	
4.3	**Trade, diversification, and market scale**		**78.2**	**39**	
4.3.1	Applied tariff rate, weighted avg., %		2.7	75	◇
4.3.2	Domestic industry diversification		91.2	43	
4.3.3	Domestic market scale, bn PPP$		935.4	34	

			Score/ Value	Rank	
Business sophistication			45.0	25	◇
5.1	**Knowledge workers**		**33.5**	**77**	◇
5.1.1	Knowledge-intensive employment, %	⏲	33.6	43	◇
5.1.2	Females employed w/advanced degrees, %	⏲	13.2	66	◇
5.1.3	Youth demographic dividend, %		28.4	96 ○	
5.1.4	GERD performed by business, % GDP	⏲	0.9	30	◇
5.1.5	GERD financed by business, %		n/a	n/a	
5.2	**Innovation linkages**		**46.9**	**27**	◇
5.2.1	Public research–industry co-publications, %		1.4	69	◇
5.2.2	University–industry R&D collaboration†		57.7	31	
5.2.3	University industry and international engagement, top 5*		72.2	22	
5.2.4	State of cluster development†		86.0	11	
5.2.5	Patent families/bn PPP$ GDP		0.2	41	◇
5.3	**Knowledge absorption**		**54.6**	**5** ● ◆	
5.3.1	Intellectual property payments, % total trade		0.7	59	
5.3.2	High-tech imports, % total trade		18.9	10	
5.3.3	ICT services imports, % total trade		1.4	75	◇
5.3.4	FDI net inflows, % GDP		6.2	20	
5.3.5	Green-field R&D & high-tech FDI		10.7	1 ● ◆	
5.3.6	Research talent, % in businesses	⏲	78.1	2 ● ◆	
Knowledge and technology outputs			26.9	47	◇
6.1	**Knowledge creation**		**9.5**	**85** ○	◇
6.1.1	Patents by origin/bn PPP$ GDP		0.3	82 ○	◇
6.1.2	PCT patents by inventor origin/bn PPP$ GDP		0.1	51	◇
6.1.3	Utility models by origin/bn PPP$ GDP		0.0	73 ○	
6.1.4	Scientific and technical articles/bn PPP$ GDP		12.5	72	◇
6.1.5	Citable documents H-index		17.1	50	◇
6.2	**Knowledge impact**		**32.1**	**46**	
6.2.1	Labor productivity growth, %		0.9	90 ○	
6.2.2	Unicorn valuation, % GDP		1.9	28	
6.2.3	Software spending, % GDP		0.3	32	
6.2.4	High-tech manufacturing, %		27.4	48	
6.3	**Knowledge diffusion**		**39.2**	**32**	
6.3.1	Intellectual property receipts, % total trade		1.0	19	
6.3.2	Production and export complexity		74.7	56	◇
6.3.3	High-tech exports, % total trade		13.8	13	
6.3.4	ICT services exports, % total trade		1.7	72	
6.3.5	ISO 9001 quality/bn PPP$ GDP		9.9	22	
Creative outputs			36.8	36	◇
7.1	**Intangible assets**		**41.7**	**30**	
7.1.1	Intangible asset intensity, top 15, %		60.7	30	
7.1.2	Trademarks by origin/bn PPP$ GDP		13.2	106 ○	
7.1.3	Global brand value, top 5,000, % GDP		16.9	6 ●	
7.1.4	Industrial designs by origin/bn PPP$ GDP		0.1	111 ○	◇
7.2	**Creative goods and services**		**28.2**	**42**	
7.2.1	Cultural and creative services exports, % total trade		0.3	73	
7.2.2	National feature films/mn pop. 15–69		0.5	88 ○	◇
7.2.3	Entertainment and media market/th pop. 15–69		27.0	26	◇
7.2.4	Creative goods exports, % total trade		5.7	9	◆
7.3	**Online creativity**		**35.6**	**40**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69		8.8	44	◇
7.3.2	GitHub commits/mn pop. 15–69		16.6	47	◇
7.3.3	Mobile app creation/bn PPP$ GDP		81.6	7	◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

United Kingdom

6

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
4	10	High	EUR	69.6	4,454.7	63,759

		Score/ Value	Rank	
Institutions		**67.5**	**28**	◇
1.1	**Institutional environment**	**72.4**	**31**	◇
1.1.1	Operational stability for businesses*	72.4	46	◇
1.1.2	Government effectiveness*	72.4	25	◇
1.2	**Regulatory environment**	**83.4**	**18**	
1.2.1	Regulatory quality*	84.6	13	
1.2.2	Rule of law*	82.2	20	
1.3	**Business environment**	**46.7**	**66** ○	◇
1.3.1	Policy stability for doing business†	55.8	50	◇
1.3.2	Entrepreneurship policies and culture†	37.6	44 ○	◇
Human capital and research		**61.2**	**7** ●	
2.1	**Education**	**66.5**	**21**	
2.1.1	Expenditure on education, % GDP ⏲	5.9	21	
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	25.1	14	
2.1.3	School life expectancy, years ⏲	17.7	16	
2.1.4	PISA scales in reading, maths and science	494.3	13	
2.1.5	Pupil–teacher ratio, secondary ⏲	16.5	89 ○	◇
2.2	**Tertiary education**	**50.2**	**14**	
2.2.1	Tertiary enrolment, % gross ⏲	80.4	25	
2.2.2	Graduates in science and engineering, % ⏲	22.8	63 ○	
2.2.3	Tertiary inbound mobility, % ⏲	23.4	9	
2.3	**Research and development (R&D)**	**67.0**	**9**	
2.3.1	Researchers, FTE/mn pop. ⏲	4,763.5	25	
2.3.2	Gross expenditure on R&D, % GDP ⏲	2.8	12	
2.3.3	Global corporate R&D investors, top 3, mn US$	81.9	6 ●	
2.3.4	QS university ranking, top 3*	99.3	2 ● ◆	
Infrastructure		**60.2**	**19**	
3.1	**Information and communication technologies (ICTs)**	**94.2**	**11**	
3.1.1	ICT access*	98.5	22	
3.1.2	ICT use*	89.7	29	
3.1.3	Government online service*	94.4	7 ●	
3.2	**General infrastructure**	**50.9**	**38**	◇
3.2.1	Electricity output, GWh/mn pop.	4,086.4	53 ○	◇
3.2.2	Aviation import dwell time	0.8	7	
3.2.3	Logistics performance*	72.7	18	
3.2.4	Gross capital formation, % GDP	17.5	112 ○	◇
3.3	**Ecological sustainability**	**35.4**	**23**	
3.3.1	GDP/unit of energy use	25.9	11	
3.3.2	Low-carbon energy use, %	21.1	42	
3.3.3	ISO 14001 environment/bn PPP$ GDP	3.8	27	
Market sophistication		**65.1**	**4** ●	
4.1	**Credit**	**51.9**	**25**	
4.1.1	Finance for startups and scaleups†	56.6	35 ○	◇
4.1.2	Domestic credit to private sector, % GDP	112.7	18	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**53.1**	**5** ● ◆	
4.2.1	Market capitalization, % GDP ⏲	108.1	13	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.7	6 ● ◆	
4.2.3	Late-stage VC deal count, % global VC	2.7	3 ● ◆	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.9	11	
4.3	**Trade, diversification, and market scale**	**90.4**	**3** ● ◆	
4.3.1	Applied tariff rate, weighted avg., %	0.7	11	
4.3.2	Domestic industry diversification	97.6	7	
4.3.3	Domestic market scale, bn PPP$	4,454.7	10	

		Score/ Value	Rank	
Business sophistication		**54.7**	**15**	
5.1	**Knowledge workers**	**62.5**	**8**	
5.1.1	Knowledge-intensive employment, %	55.5	5 ●	
5.1.2	Females employed w/advanced degrees, %	27.6	14	
5.1.3	Youth demographic dividend, %	28.8	92 ○	
5.1.4	GERD performed by business, % GDP	1.9	12	
5.1.5	GERD financed by business, %	58.0	14	
5.2	**Innovation linkages**	**62.6**	**14**	
5.2.1	Public research–industry co-publications, %	5.4	11	
5.2.2	University–industry R&D collaboration†	64.2	20	
5.2.3	University industry and international engagement, top 5*	94.8	8	
5.2.4	State of cluster development†	70.2	33	
5.2.5	Patent families/bn PPP$ GDP	1.5	17	
5.3	**Knowledge absorption**	**38.9**	**28**	
5.3.1	Intellectual property payments, % total trade	1.8	18	
5.3.2	High-tech imports, % total trade	10.6	34	
5.3.3	ICT services imports, % total trade	1.8	55 ○	
5.3.4	FDI net inflows, % GDP	1.0	107 ○	
5.3.5	Green-field R&D & high-tech FDI	4.2	12	
5.3.6	Research talent, % in businesses ⏲	41.9	34	◇
Knowledge and technology outputs		**56.5**	**5** ●	
6.1	**Knowledge creation**	**57.9**	**8**	
6.1.1	Patents by origin/bn PPP$ GDP	4.0	15	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	1.4	15	
6.1.3	Utility models by origin/bn PPP$ GDP	–	–	
6.1.4	Scientific and technical articles/bn PPP$ GDP	31.4	18	
6.1.5	Citable documents H-index	100.0	1 ● ◆	
6.2	**Knowledge impact**	**61.1**	**4** ● ◆	
6.2.1	Labor productivity growth, %	2.6	38	◆
6.2.2	Unicorn valuation, % GDP	6.3	7 ●	◆
6.2.3	Software spending, % GDP	0.6	15	
6.2.4	High-tech manufacturing, %	41.5	21	
6.3	**Knowledge diffusion**	**50.4**	**15**	
6.3.1	Intellectual property receipts, % total trade	3.0	7 ●	
6.3.2	Production and export complexity	91.5	11	
6.3.3	High-tech exports, % total trade	8.0	30	
6.3.4	ICT services exports, % total trade	5.2	22	
6.3.5	ISO 9001 quality/bn PPP$ GDP	7.7	29	
Creative outputs		**58.3**	**3** ●	◆
7.1	**Intangible assets**	**62.4**	**4** ●	
7.1.1	Intangible asset intensity, top 15, %	84.0	3 ●	◆
7.1.2	Trademarks by origin/bn PPP$ GDP	46.7	37	
7.1.3	Global brand value, top 5,000, % GDP	13.4	12	
7.1.4	Industrial designs by origin/bn PPP$ GDP	7.2	10	◆
7.2	**Creative goods and services**	**47.3**	**8**	
7.2.1	Cultural and creative services exports, % total trade	3.5	7	◆
7.2.2	National feature films/mn pop. 15–69	3.4	45 ○	
7.2.3	Entertainment and media market/th pop. 15–69	64.3	3 ●	
7.2.4	Creative goods exports, % total trade	1.6	30	
7.3	**Online creativity**	**60.9**	**15**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	56.3	10	
7.3.2	GitHub commits/mn pop. 15–69	52.1	18	
7.3.3	Mobile app creation/bn PPP$ GDP	74.5	24	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

United Republic of Tanzania

119

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
119	116	Lower middle	SSA	70.5	293.6	4,371

		Score/ Value	Rank
Institutions		**45.8**	**84**
1.1	**Institutional environment**	**45.3**	**95**
1.1.1	Operational stability for businesses*	55.3	96
1.1.2	Government effectiveness*	35.3	96
1.2	**Regulatory environment**	**36.9**	**103**
1.2.1	Regulatory quality*	33.9	108
1.2.2	Rule of law*	39.9	93
1.3	**Business environment**	**55.3**	**[47]**
1.3.1	Policy stability for doing business†	55.3	53 ●
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**13.7**	**[130]**
2.1	**Education**	**35.7**	**[121]**
2.1.1	Expenditure on education, % GDP	3.2	105
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years ⏲	8.8	113 ○ ◇
2.1.4	PISA scales in reading, maths and science	n/a	n/a
2.1.5	Pupil–teacher ratio, secondary ⏲	23.4	110
2.2	**Tertiary education**	**5.5**	**126** ○ ◇
2.2.1	Tertiary enrolment, % gross	4.0	129 ○ ◇
2.2.2	Graduates in science and engineering, %	13.7	109 ◇
2.2.3	Tertiary inbound mobility, %	0.4	105
2.3	**Research and development (R&D)**	**0.0**	**[122]**
2.3.1	Researchers, FTE/mn pop.	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇
Infrastructure		**32.6**	**112**
3.1	**Information and communication technologies (ICTs)**	**50.1**	**111**
3.1.1	ICT access*	60.3	107
3.1.2	ICT use*	52.6	114
3.1.3	Government online service*	37.3	109
3.2	**General infrastructure**	**39.7**	**71** ●
3.2.1	Electricity output, GWh/mn pop.	176.2	122
3.2.2	Aviation import dwell time	6.0	107 ◇
3.2.3	Logistics performance*	n/a	n/a
3.2.4	Gross capital formation, % GDP	37.2	7 ● ◆
3.3	**Ecological sustainability**	**8.0**	**115** ◇
3.3.1	GDP/unit of energy use	8.1	107 ◇
3.3.2	Low-carbon energy use, %	7.7	88
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.3	106
Market sophistication		**18.7**	**128** ◇
4.1	**Credit**	**2.9**	**130** ◇
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	16.8	115
4.1.3	Loans from microfinance institutions, % GDP ⏲	0.1	54
4.2	**Investment**	**1.6**	**109**
4.2.1	Market capitalization, % GDP	8.5	76
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	93
4.2.3	Late-stage VC deal count, % global VC	0.0	67
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	112 ○
4.3	**Trade, diversification, and market scale**	**51.6**	**112**
4.3.1	Applied tariff rate, weighted avg., %	9.2	126 ◇
4.3.2	Domestic industry diversification ⏲	72.0	82
4.3.3	Domestic market scale, bn PPP$	293.6	67 ●

		Score/ Value	Rank
Business sophistication		**24.1**	**86**
5.1	**Knowledge workers**	**33.6**	**[76]**
5.1.1	Knowledge-intensive employment, % ⏲	3.9	122 ○ ◇
5.1.2	Females employed w/advanced degrees, % ⏲	2.2	113
5.1.3	Youth demographic dividend, %	62.2	9 ● ◆
5.1.4	GERD performed by business, % GDP	n/a	n/a
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	**24.7**	**65** ●
5.2.1	Public research–industry co-publications, %	0.9	92
5.2.2	University–industry R&D collaboration†	45.3	46 ●
5.2.3	University industry and international engagement, top 5*	13.3	83
5.2.4	State of cluster development†	54.8	49 ●
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○ ◇
5.3	**Knowledge absorption**	**13.9**	**123**
5.3.1	Intellectual property payments, % total trade ⏲	0.0	121
5.3.2	High-tech imports, % total trade	7.6	74 ●
5.3.3	ICT services imports, % total trade ⏲	0.3	127
5.3.4	FDI net inflows, % GDP	2.1	81
5.3.5	Green-field R&D & high-tech FDI	0.2	113
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		**11.5**	**116**
6.1	**Knowledge creation**	**6.0**	**106**
6.1.1	Patents by origin/bn PPP$ GDP	n/a	n/a
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107 ○ ◇
6.1.3	Utility models by origin/bn PPP$ GDP ⏲	0.0	74
6.1.4	Scientific and technical articles/bn PPP$ GDP	9.4	94
6.1.5	Citable documents H-index	9.6	83
6.2	**Knowledge impact**	**13.5**	**125**
6.2.1	Labor productivity growth, %	1.5	71 ●
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.0	135 ○ ◇
6.2.4	High-tech manufacturing, % ⏲	6.9	95
6.3	**Knowledge diffusion**	**15.0**	**99**
6.3.1	Intellectual property receipts, % total trade	0.5	32 ● ◆
6.3.2	Production and export complexity	50.2	109
6.3.3	High-tech exports, % total trade	0.2	110
6.3.4	ICT services exports, % total trade ⏲	0.4	111
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.7	119
Creative outputs		**10.6**	**[114]**
7.1	**Intangible assets**	**3.5**	**[126]**
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	10.7	112
7.1.3	Global brand value, top 5,000, % GDP	0.3	77
7.1.4	Industrial designs by origin/bn PPP$ GDP	n/a	n/a
7.2	**Creative goods and services**	**13.8**	**[71]**
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a
7.2.2	National feature films/mn pop. 15–69	n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	0.4	65 ●
7.3	**Online creativity**	**21.5**	**105**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.2	124
7.3.2	GitHub commits/mn pop. 15–69	0.5	127
7.3.3	Mobile app creation/bn PPP$ GDP	63.9	90

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

United States of America

3

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
2	5	High	NAC	347.3	30,615.7	89,599

		Score/ Value	Rank
Institutions		**73.0**	**19**
1.1	**Institutional environment**	**76.9**	**25**
1.1.1	Operational stability for businesses*	77.0	36
1.1.2	Government effectiveness*	76.9	19
1.2	**Regulatory environment**	**77.8**	**23**
1.2.1	Regulatory quality*	80.7	17
1.2.2	Rule of law*	74.9	27
1.3	**Business environment**	**64.4**	**26**
1.3.1	Policy stability for doing business†	76.0	17
1.3.2	Entrepreneurship policies and culture†	52.8	22
Human capital and research		**57.3**	**14**
2.1	**Education**	**62.3**	**38**
2.1.1	Expenditure on education, % GDP	5.4	28
2.1.2	Government funding/pupil, secondary, % GDP/cap	23.4	23
2.1.3	School life expectancy, years	15.9	40
2.1.4	PISA scales in reading, maths and science	489.4	17
2.1.5	Pupil–teacher ratio, secondary	14.5	73 ○ ◇
2.2	**Tertiary education**	**34.3**	**63** ◇
2.2.1	Tertiary enrolment, % gross	79.4	28
2.2.2	Graduates in science and engineering, %	21.8	75 ○
2.2.3	Tertiary inbound mobility, %	5.3	51
2.3	**Research and development (R&D)**	**75.1**	**3** ● ◆
2.3.1	Researchers, FTE/mn pop.	5,141.5	23
2.3.2	Gross expenditure on R&D, % GDP	3.4	5
2.3.3	Global corporate R&D investors, top 3, mn US$	100.0	1 ● ◆
2.3.4	QS university ranking, top 3*	100.0	1 ● ◆
Infrastructure		**57.5**	**33**
3.1	**Information and communication technologies (ICTs)**	**94.8**	**9**
3.1.1	ICT access*	99.2	17
3.1.2	ICT use*	95.6	9 ◆
3.1.3	Government online service*	89.6	17
3.2	**General infrastructure**	**63.7**	**14**
3.2.1	Electricity output, GWh/mn pop.	13,374.3	10
3.2.2	Aviation import dwell time	1.1	15
3.2.3	Logistics performance*	77.3	16
3.2.4	Gross capital formation, % GDP	21.5	88 ○
3.3	**Ecological sustainability**	**14.0**	**92** ○ ◇
3.3.1	GDP/unit of energy use	11.4	81 ○
3.3.2	Low-carbon energy use, %	17.0	51
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.2	117 ○ ◇
Market sophistication		**79.3**	**1** ● ◆
4.1	**Credit**	**80.1**	**2** ● ◆
4.1.1	Finance for startups and scaleups†	73.5	13
4.1.2	Domestic credit to private sector, % GDP	201.2	2 ● ◆
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**62.1**	**2** ● ◆
4.2.1	Market capitalization, % GDP	184.4	6 ◆
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.5	11
4.2.3	Late-stage VC deal count, % global VC	11.6	1 ● ◆
4.2.4	VC investors, deal count/bn PPP$ GDP	0.5	19
4.3	**Trade, diversification, and market scale**	**95.8**	**1** ● ◆
4.3.1	Applied tariff rate, weighted avg., %	1.1	18
4.3.2	Domestic industry diversification	98.8	3 ●
4.3.3	Domestic market scale, bn PPP$	30,615.7	2 ● ◆

		Score/ Value	Rank
Business sophistication		**64.7**	**2** ● ◆
5.1	**Knowledge workers**	**69.2**	**2** ● ◆
5.1.1	Knowledge-intensive employment, %	52.5	8
5.1.2	Females employed w/advanced degrees, %	28.9	10
5.1.3	Youth demographic dividend, %	30.1	87 ○
5.1.4	GERD performed by business, % GDP	2.7	4
5.1.5	GERD financed by business, %	68.7	4 ◆
5.2	**Innovation linkages**	**78.8**	**2** ● ◆
5.2.1	Public research–industry co-publications, %	8.5	2 ● ◆
5.2.2	University–industry R&D collaboration†	75.8	2 ●
5.2.3	University industry and international engagement, top 5*	95.4	6
5.2.4	State of cluster development†	96.1	3 ● ◆
5.2.5	Patent families/bn PPP$ GDP	2.4	13
5.3	**Knowledge absorption**	**46.0**	**13**
5.3.1	Intellectual property payments, % total trade	1.6	25
5.3.2	High-tech imports, % total trade	21.2	7 ◆
5.3.3	ICT services imports, % total trade	2.0	44
5.3.4	FDI net inflows, % GDP	1.3	101 ○
5.3.5	Green-field R&D & high-tech FDI	1.5	43
5.3.6	Research talent, % in businesses	76.4	3 ● ◆
Knowledge and technology outputs		**59.6**	**3** ● ◆
6.1	**Knowledge creation**	**56.2**	**10**
6.1.1	Patents by origin/bn PPP$ GDP	9.2	7
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	1.6	14
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	12.9	70 ◇
6.1.5	Citable documents H-index	100.0	1 ● ◆
6.2	**Knowledge impact**	**75.6**	**1** ● ◆
6.2.1	Labor productivity growth, %	1.6	67
6.2.2	Unicorn valuation, % GDP	13.4	1 ● ◆
6.2.3	Software spending, % GDP	1.3	1 ● ◆
6.2.4	High-tech manufacturing, %	44.7	15
6.3	**Knowledge diffusion**	**46.9**	**19**
6.3.1	Intellectual property receipts, % total trade	4.4	5 ◆
6.3.2	Production and export complexity	88.8	19
6.3.3	High-tech exports, % total trade	10.5	20
6.3.4	ICT services exports, % total trade	2.5	57
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.0	108 ○ ◇
Creative outputs		**56.7**	**6**
7.1	**Intangible assets**	**56.5**	**10**
7.1.1	Intangible asset intensity, top 15, %	91.8	1 ● ◆
7.1.2	Trademarks by origin/bn PPP$ GDP	16.8	94 ○
7.1.3	Global brand value, top 5,000, % GDP	21.9	1 ● ◆
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.7	66
7.2	**Creative goods and services**	**49.7**	**7** ◆
7.2.1	Cultural and creative services exports, % total trade	1.6	20
7.2.2	National feature films/mn pop. 15–69	2.2	63 ○
7.2.3	Entertainment and media market/th pop. 15–69	100.0	1 ● ◆
7.2.4	Creative goods exports, % total trade	3.0	17
7.3	**Online creativity**	**64.1**	**12**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	58.2	8
7.3.2	GitHub commits/mn pop. 15–69	59.0	14
7.3.3	Mobile app creation/bn PPP$ GDP	74.9	20

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Uruguay

GII 2026 rank

66

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
77	**56**	**High**	**LCN**	**3.4**	**129.6**	**37,190**

		Score/ Value	Rank	
Institutions		**67.3**	**29**	
1.1	**Institutional environment**	**73.4**	**30**	
1.1.1	Operational stability for businesses*	86.8	13	●
1.1.2	Government effectiveness*	60.0	42	
1.2	**Regulatory environment**	**68.9**	**31**	
1.2.1	Regulatory quality*	63.2	42	
1.2.2	Rule of law*	74.7	28	●
1.3	**Business environment**	**59.5**	**33**	
1.3.1	Policy stability for doing business†	83.3	7	● ◆
1.3.2	Entrepreneurship policies and culture†	35.6	49	
Human capital and research		**31.4**	**78**	◇
2.1	**Education**	**46.5**	**89**	◇
2.1.1	Expenditure on education, % GDP	4.8	49	
2.1.2	Government funding/pupil, secondary, % GDP/cap	14.4	70	◇
2.1.3	School life expectancy, years ⏲	17.6	17	●
2.1.4	PISA scales in reading, maths and science	424.8	49	◇
2.1.5	Pupil–teacher ratio, secondary	n/a	n/a	
2.2	**Tertiary education**	**20.0**	**102**	◇
2.2.1	Tertiary enrolment, % gross ⏲	80.0	27	
2.2.2	Graduates in science and engineering, % ⏲	11.7	113 ○	◇
2.2.3	Tertiary inbound mobility, % ⏲	2.1	80	◇
2.3	**Research and development (R&D)**	**27.7**	**42**	
2.3.1	Researchers, FTE/mn pop.	937.6	59	◇
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.7	51	
2.3.3	Global corporate R&D investors, top 3, mn US$	68.3	14	●
2.3.4	QS university ranking, top 3*	23.0	61	
Infrastructure		**54.5**	**44**	
3.1	**Information and communication technologies (ICTs)**	**86.9**	**40**	
3.1.1	ICT access*	89.6	60	
3.1.2	ICT use*	85.2	47	
3.1.3	Government online service*	85.9	28	
3.2	**General infrastructure**	**42.2**	**65**	◇
3.2.1	Electricity output, GWh/mn pop.	5,113.1	44	
3.2.2	Aviation import dwell time	1.3	19	●
3.2.3	Logistics performance*	40.9	60	◇
3.2.4	Gross capital formation, % GDP	16.2	121 ○	◇
3.3	**Ecological sustainability**	**34.2**	**27**	●
3.3.1	GDP/unit of energy use	16.2	41	
3.3.2	Low-carbon energy use, %	47.2	10	● ◆
3.3.3	ISO 14001 environment/bn PPP$ GDP	2.2	44	
Market sophistication		**29.4**	**94**	◇
4.1	**Credit**	**21.8**	**87**	◇
4.1.1	Finance for startups and scaleups†	32.7	72	◇
4.1.2	Domestic credit to private sector, % GDP	31.1	96	◇
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**6.7**	**63**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	46	
4.2.3	Late-stage VC deal count, % global VC	0.0	84 ○	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.2	47	
4.3	**Trade, diversification, and market scale**	**59.8**	**95**	◇
4.3.1	Applied tariff rate, weighted avg., %	4.8	94	◇
4.3.2	Domestic industry diversification	70.7	85	◇
4.3.3	Domestic market scale, bn PPP$	129.6	92	

		Score/ Value	Rank	
Business sophistication		**22.5**	**101**	◇
5.1	**Knowledge workers**	**22.0**	**128** ○	◇
5.1.1	Knowledge-intensive employment, % ⏲	24.9	61	◇
5.1.2	Females employed w/advanced degrees, % ⏲	10.1	77	◇
5.1.3	Youth demographic dividend, %	31.4	81	
5.1.4	GERD performed by business, % GDP ⏲	0.4	47	
5.1.5	GERD financed by business, % ⏲	4.2	84 ○	◇
5.2	**Innovation linkages**	**23.8**	**71**	◇
5.2.1	Public research–industry co-publications, %	0.8	102	◇
5.2.2	University–industry R&D collaboration†	37.5	64	
5.2.3	University industry and international engagement, top 5*	n/a	n/a	
5.2.4	State of cluster development†	46.5	56	
5.2.5	Patent families/bn PPP$ GDP	0.1	48	
5.3	**Knowledge absorption**	**21.6**	**72**	◇
5.3.1	Intellectual property payments, % total trade	1.1	36	
5.3.2	High-tech imports, % total trade	6.6	91	
5.3.3	ICT services imports, % total trade	2.1	40	
5.3.4	FDI net inflows, % GDP	0.3	121 ○	
5.3.5	Green-field R&D & high-tech FDI	1.6	42	
5.3.6	Research talent, % in businesses	1.8	86 ○	◇
Knowledge and technology outputs		**20.2**	**77**	◇
6.1	**Knowledge creation**	**9.4**	**86**	◇
6.1.1	Patents by origin/bn PPP$ GDP	0.1	111 ○	◇
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a	
6.1.3	Utility models by origin/bn PPP$ GDP	0.2	41	
6.1.4	Scientific and technical articles/bn PPP$ GDP	11.8	76	◇
6.1.5	Citable documents H-index	10.2	78	
6.2	**Knowledge impact**	**18.8**	**102**	◇
6.2.1	Labor productivity growth, %	1.0	87	
6.2.2	Unicorn valuation, % GDP	0.0	58 ○	◇
6.2.3	Software spending, % GDP	0.2	61	
6.2.4	High-tech manufacturing, %	15.0	74	◇
6.3	**Knowledge diffusion**	**32.3**	**47**	
6.3.1	Intellectual property receipts, % total trade	0.5	31	
6.3.2	Production and export complexity	70.8	71	◇
6.3.3	High-tech exports, % total trade	0.9	79	◇
6.3.4	ICT services exports, % total trade	6.4	16	●
6.3.5	ISO 9001 quality/bn PPP$ GDP	7.3	33	
Creative outputs		**19.6**	**80**	◇
7.1	**Intangible assets**	**9.6**	**98**	◇
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	47.9	35	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○	◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.1	118 ○	◇
7.2	**Creative goods and services**	**25.4**	**50**	
7.2.1	Cultural and creative services exports, % total trade	1.5	23	●
7.2.2	National feature films/mn pop. 15–69	12.2	9	● ◆
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.1	108	◇
7.3	**Online creativity**	**33.8**	**47**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	9.1	43	
7.3.2	GitHub commits/mn pop. 15–69	18.9	43	
7.3.3	Mobile app creation/bn PPP$ GDP	73.2	29	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Uzbekistan

77

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
78	68	Lower middle	CSA	37.1	473.5	12,559

		Score/ Value	Rank	
Institutions		**54.2**	**57**	◆
1.1	**Institutional environment**	**50.4**	**83**	
1.1.1	Operational stability for businesses*	61.8	78	
1.1.2	Government effectiveness*	39.0	85	
1.2	**Regulatory environment**	**35.4**	**104**	
1.2.1	Regulatory quality*	34.1	107	
1.2.2	Rule of law*	36.6	101	
1.3	**Business environment**	**76.9**	**8**	● ◆
1.3.1	Policy stability for doing business† ⏲	60.4	41	
1.3.2	Entrepreneurship policies and culture†	93.4	3	● ◆
Human capital and research		**32.4**	**70**	◆
2.1	**Education**	**44.3**	**100**	
2.1.1	Expenditure on education, % GDP	5.5	25	●
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	12.2	77	
2.1.3	School life expectancy, years	13.7	77	◆
2.1.4	PISA scales in reading, maths and science	351.4	81	○
2.1.5	Pupil–teacher ratio, secondary	9.6	29	● ◆
2.2	**Tertiary education**	**44.3**	**27**	● ◆
2.2.1	Tertiary enrolment, % gross	59.8	55	◆
2.2.2	Graduates in science and engineering, % ⏲	36.8	2	● ◆
2.2.3	Tertiary inbound mobility, %	0.8	94	
2.3	**Research and development (R&D)**	**8.4**	**73**	
2.3.1	Researchers, FTE/mn pop.	639.5	69	
2.3.2	Gross expenditure on R&D, % GDP	0.1	99	○
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	26.2	56	◆
Infrastructure		**43.9**	**71**	◆
3.1	**Information and communication technologies (ICTs)**	**79.3**	**61**	◆
3.1.1	ICT access*	86.1	68	◆
3.1.2	ICT use*	80.2	72	◆
3.1.3	Government online service*	71.7	59	◆
3.2	**General infrastructure**	**37.3**	**83**	
3.2.1	Electricity output, GWh/mn pop. ⏲	2,084.8	83	
3.2.2	Aviation import dwell time	5.2	103	○
3.2.3	Logistics performance*	22.7	82	
3.2.4	Gross capital formation, % GDP	34.1	12	●
3.3	**Ecological sustainability**	**15.2**	**85**	
3.3.1	GDP/unit of energy use	7.0	115	○ ◇
3.3.2	Low-carbon energy use, %	1.9	118	○
3.3.3	ISO 14001 environment/bn PPP$ GDP	4.8	22	● ◆
Market sophistication		**36.1**	**69**	
4.1	**Credit**	**36.4**	**48**	
4.1.1	Finance for startups and scaleups†	92.7	4	● ◆
4.1.2	Domestic credit to private sector, % GDP	33.2	89	
4.1.3	Loans from microfinance institutions, % GDP	0.5	44	
4.2	**Investment**	**2.2**	**100**	
4.2.1	Market capitalization, % GDP	13.0	68	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	96	
4.2.3	Late-stage VC deal count, % global VC	0.0	82	
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	87	
4.3	**Trade, diversification, and market scale**	**69.7**	**68**	
4.3.1	Applied tariff rate, weighted avg., % ⏲	5.2	100	
4.3.2	Domestic industry diversification	91.3	42	
4.3.3	Domestic market scale, bn PPP$	473.5	53	

		Score/ Value	Rank	
Business sophistication		**24.6**	**81**	
5.1	**Knowledge workers**	**33.1**	**78**	
5.1.1	Knowledge-intensive employment, %	n/a	n/a	
5.1.2	Females employed w/advanced degrees, % ⏲	8.1	87	
5.1.3	Youth demographic dividend, %	46.0	43	
5.1.4	GERD performed by business, % GDP	0.0	80	
5.1.5	GERD financed by business, %	38.5	51	
5.2	**Innovation linkages**	**23.1**	**74**	
5.2.1	Public research–industry co-publications, %	0.8	96	
5.2.2	University–industry R&D collaboration† ⏲	36.5	71	
5.2.3	University industry and international engagement, top 5*	11.6	91	○
5.2.4	State of cluster development† ⏲	58.2	44	◆
5.2.5	Patent families/bn PPP$ GDP	0.0	98	○ ◇
5.3	**Knowledge absorption**	**17.8**	**95**	
5.3.1	Intellectual property payments, % total trade	0.4	79	
5.3.2	High-tech imports, % total trade	11.3	27	●
5.3.3	ICT services imports, % total trade	1.2	81	
5.3.4	FDI net inflows, % GDP	2.5	70	
5.3.5	Green-field R&D & high-tech FDI	0.4	96	
5.3.6	Research talent, % in businesses	4.4	78	○
Knowledge and technology outputs		**23.3**	**62**	
6.1	**Knowledge creation**	**15.3**	**67**	
6.1.1	Patents by origin/bn PPP$ GDP	1.2	43	◆
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	101	
6.1.3	Utility models by origin/bn PPP$ GDP	1.1	14	● ◆
6.1.4	Scientific and technical articles/bn PPP$ GDP	7.3	103	
6.1.5	Citable documents H-index	4.8	107	
6.2	**Knowledge impact**	**32.9**	**44**	◆
6.2.1	Labor productivity growth, %	5.2	7	● ◆
6.2.2	Unicorn valuation, % GDP	0.9	39	
6.2.3	Software spending, % GDP	0.0	117	○ ◇
6.2.4	High-tech manufacturing, %	26.2	53	
6.3	**Knowledge diffusion**	**21.8**	**71**	
6.3.1	Intellectual property receipts, % total trade	0.0	87	
6.3.2	Production and export complexity	71.8	68	
6.3.3	High-tech exports, % total trade	0.6	87	
6.3.4	ICT services exports, % total trade	1.8	70	
6.3.5	ISO 9001 quality/bn PPP$ GDP	6.7	36	◆
Creative outputs		**15.1**	**96**	
7.1	**Intangible assets**	**14.0**	**92**	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	45.7	40	◆
7.1.3	Global brand value, top 5,000, % GDP	0.2	80	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.6	71	
7.2	**Creative goods and services**	**7.8**	**92**	
7.2.1	Cultural and creative services exports, % total trade	0.4	70	
7.2.2	National feature films/mn pop. 15–69	2.2	64	
7.2.3	Entertainment and media market/th pop. 15–69	1.2	58	○
7.2.4	Creative goods exports, % total trade	0.4	64	
7.3	**Online creativity**	**24.6**	**82**	
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.8	105	
7.3.2	GitHub commits/mn pop. 15–69	3.2	100	
7.3.3	Mobile app creation/bn PPP$ GDP	69.9	51	

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Venezuela (Bolivarian Republic of) 127

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
124	126	–	LCN	28.5	234.3	8,785

		Score/ Value	Rank
Institutions		**2.6**	**139** ○ ◇
1.1	**Institutional environment**	**2.9**	**139** ○ ◇
1.1.1	Operational stability for businesses*	0.0	139 ○ ◇
1.1.2	Government effectiveness*	5.7	137 ◇
1.2	**Regulatory environment**	**0.0**	**139** ○ ◇
1.2.1	Regulatory quality*	0.0	139 ○ ◇
1.2.2	Rule of law*	0.0	139 ○ ◇
1.3	**Business environment**	**4.8**	**134** ◇
1.3.1	Policy stability for doing business†	8.0	133 ◇
1.3.2	Entrepreneurship policies and culture†	1.6	90 ◇
Human capital and research		**48.8**	**[26]**
2.1	**Education**	**92.0**	**[1]**
2.1.1	Expenditure on education, % GDP	n/a	n/a
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years	n/a	n/a
2.1.4	PISA scales in reading, maths and science	n/a	n/a
2.1.5	Pupil–teacher ratio, secondary	9.5	26 ●
2.2	**Tertiary education**	**n/a**	**[n/a]**
2.2.1	Tertiary enrolment, % gross	n/a	n/a
2.2.2	Graduates in science and engineering, %	n/a	n/a
2.2.3	Tertiary inbound mobility, %	n/a	n/a
2.3	**Research and development (R&D)**	**5.5**	**81** ●
2.3.1	Researchers, FTE/mn pop. ⏲	180.0	88 ◇
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	14.8	71 ●
Infrastructure		**22.2**	**131** ◇
3.1	**Information and communication technologies (ICTs)**	**35.8**	**127** ◇
3.1.1	ICT access*	59.1	109 ◇
3.1.2	ICT use*	25.4	124 ◇
3.1.3	Government online service*	22.7	126 ◇
3.2	**General infrastructure**	**24.0**	**125** ◇
3.2.1	Electricity output, GWh/mn pop. ⏲	2,485.2	78 ●
3.2.2	Aviation import dwell time ⏲	3.5	83
3.2.3	Logistics performance*	9.1	107 ◇
3.2.4	Gross capital formation, % GDP ⏲	11.6	132
3.3	**Ecological sustainability**	**6.8**	**125** ◇
3.3.1	GDP/unit of energy use	4.8	126 ◇
3.3.2	Low-carbon energy use, %	12.5	69 ●
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.1	132
Market sophistication		**17.4**	**[130]**
4.1	**Credit**	**0.0**	**[138]**
4.1.1	Finance for startups and scaleups†	0.0	91 ○ ◇
4.1.2	Domestic credit to private sector, % GDP	n/a	n/a
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	**0.9**	**[118]**
4.2.1	Market capitalization, % GDP	n/a	n/a
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	110
4.2.3	Late-stage VC deal count, % global VC	n/a	n/a
4.2.4	VC investors, deal count/bn PPP$ GDP	0.0	111
4.3	**Trade, diversification, and market scale**	**51.2**	**[114]**
4.3.1	Applied tariff rate, weighted avg., %	n/a	n/a
4.3.2	Domestic industry diversification	n/a	n/a
4.3.3	Domestic market scale, bn PPP$	234.3	75 ●

		Score/ Value	Rank
Business sophistication		**24.9**	**78** ●
5.1	**Knowledge workers**	**45.6**	**[30]**
5.1.1	Knowledge-intensive employment, % ⏲	19.7	80
5.1.2	Females employed w/advanced degrees, % ⏲	18.4	42
5.1.3	Youth demographic dividend, %	42.6	49 ●
5.1.4	GERD performed by business, % GDP	n/a	n/a
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	**10.6**	**129** ◇
5.2.1	Public research–industry co-publications, %	0.8	97
5.2.2	University–industry R&D collaboration†	26.3	105
5.2.3	University industry and international engagement, top 5*	12.8	88
5.2.4	State of cluster development†	5.2	131 ◇
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○ ◇
5.3	**Knowledge absorption**	**18.4**	**89**
5.3.1	Intellectual property payments, % total trade ⏲	1.1	34 ●
5.3.2	High-tech imports, % total trade	n/a	n/a
5.3.3	ICT services imports, % total trade ⏲	1.2	82
5.3.4	FDI net inflows, % GDP	1.3	100
5.3.5	Green-field R&D & high-tech FDI ⏲	0.0	125 ○ ◇
5.3.6	Research talent, % in businesses ⏲	7.3	69
Knowledge and technology outputs		**10.6**	**123** ◇
6.1	**Knowledge creation**	**7.1**	**[99]**
6.1.1	Patents by origin/bn PPP$ GDP	0.3	86
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	n/a	n/a
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	3.1	127 ◇
6.1.5	Citable documents H-index	11.7	70 ●
6.2	**Knowledge impact**	**14.3**	**120** ◇
6.2.1	Labor productivity growth, %	1.0	82
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.0	120
6.2.4	High-tech manufacturing, %	n/a	n/a
6.3	**Knowledge diffusion**	**10.2**	**126** ◇
6.3.1	Intellectual property receipts, % total trade	0.0	93
6.3.2	Production and export complexity	36.3	126 ◇
6.3.3	High-tech exports, % total trade	n/a	n/a
6.3.4	ICT services exports, % total trade ⏲	0.2	127
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.8	116
Creative outputs		**9.8**	**119** ◇
7.1	**Intangible assets**	**7.2**	**109** ◇
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	36.0	58 ●
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.0	123
7.2	**Creative goods and services**	**2.4**	**[119]**
7.2.1	Cultural and creative services exports, % total trade	0.0	118
7.2.2	National feature films/mn pop. 15–69	1.3	76
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	n/a	n/a
7.3	**Online creativity**	**22.5**	**96**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	1.1	98
7.3.2	GitHub commits/mn pop. 15–69	2.7	106
7.3.3	Mobile app creation/bn PPP$ GDP	63.9	91

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Viet Nam

43

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
35	54	Lower middle	SEAO	101.6	1,807.0	17,688

			Score/ Value	Rank	
Institutions			**52.2**	**64**	◆
1.1	**Institutional environment**		**54.7**	**75**	◆
1.1.1	Operational stability for businesses*		69.1	56	◆
1.1.2	Government effectiveness*		40.3	82	
1.2	**Regulatory environment**		**42.6**	**86**	
1.2.1	Regulatory quality*		40.5	91	
1.2.2	Rule of law*		44.7	81	
1.3	**Business environment**		**59.2**	**35**	
1.3.1	Policy stability for doing business†		70.0	28	◆
1.3.2	Entrepreneurship policies and culture†	⏲	48.5	27	
Human capital and research			**31.1**	**79**	
2.1	**Education**		**49.4**	**[81]**	
2.1.1	Expenditure on education, % GDP	⏲	2.9	112 ○	
2.1.2	Government funding/pupil, secondary, % GDP/cap		n/a	n/a	
2.1.3	School life expectancy, years		n/a	n/a	
2.1.4	PISA scales in reading, maths and science		467.9	36	◆
2.1.5	Pupil–teacher ratio, secondary	⏲	21.4	106 ○	
2.2	**Tertiary education**		**22.8**	**93**	
2.2.1	Tertiary enrolment, % gross		37.6	87	
2.2.2	Graduates in science and engineering, %	⏲	22.7	65	
2.2.3	Tertiary inbound mobility, %		0.3	111 ○	
2.3	**Research and development (R&D)**		**21.2**	**49**	◆
2.3.1	Researchers, FTE/mn pop.	⏲	836.1	62	
2.3.2	Gross expenditure on R&D, % GDP	⏲	0.4	65	
2.3.3	Global corporate R&D investors, top 3, mn US$		42.8	44	◆
2.3.4	QS university ranking, top 3*		27.7	55	◆
Infrastructure			**48.6**	**59**	◆
3.1	**Information and communication technologies (ICTs)**		**78.4**	**65**	◆
3.1.1	ICT access*		86.6	66	◆
3.1.2	ICT use*		83.6	58	◆
3.1.3	Government online service*		64.9	74	◆
3.2	**General infrastructure**		**50.2**	**41**	◆
3.2.1	Electricity output, GWh/mn pop.		3,033.3	66	◆
3.2.2	Aviation import dwell time		2.4	59	◆
3.2.3	Logistics performance*		54.5	42	◆
3.2.4	Gross capital formation, % GDP		31.0	19 ●	
3.3	**Ecological sustainability**		**17.1**	**71**	
3.3.1	GDP/unit of energy use		13.0	69	
3.3.2	Low-carbon energy use, %		10.2	77	
3.3.3	ISO 14001 environment/bn PPP$ GDP		2.1	47	◆
Market sophistication			**42.4**	**43**	◆
4.1	**Credit**		**34.8**	**52**	
4.1.1	Finance for startups and scaleups†	⏲	50.9	44	
4.1.2	Domestic credit to private sector, % GDP	⏲	125.0	14 ●	◆
4.1.3	Loans from microfinance institutions, % GDP		0.1	57 ○	
4.2	**Investment**		**6.3**	**68**	
4.2.1	Market capitalization, % GDP		42.5	38	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP		0.0	73	
4.2.3	Late-stage VC deal count, % global VC		0.1	40	
4.2.4	VC investors, deal count/bn PPP$ GDP		0.1	67	
4.3	**Trade, diversification, and market scale**		**86.1**	**12** ●	◆
4.3.1	Applied tariff rate, weighted avg., %	⏲	1.0	15 ●	◆
4.3.2	Domestic industry diversification		95.7	19 ●	
4.3.3	Domestic market scale, bn PPP$		1,807.0	24	◆

			Score/ Value	Rank	
Business sophistication			**32.2**	**48**	◆
5.1	**Knowledge workers**		**31.9**	**85**	
5.1.1	Knowledge-intensive employment, %	⏲	10.7	100 ○	
5.1.2	Females employed w/advanced degrees, %	⏲	8.5	84	
5.1.3	Youth demographic dividend, %		36.4	69	◇
5.1.4	GERD performed by business, % GDP	⏲	0.3	49	◆
5.1.5	GERD financed by business, %		58.1	13 ●	◆
5.2	**Innovation linkages**		**36.0**	**43**	◆
5.2.1	Public research–industry co-publications, %		1.8	50	◆
5.2.2	University–industry R&D collaboration†		60.7	24	◆
5.2.3	University industry and international engagement, top 5*		26.4	61	
5.2.4	State of cluster development†		71.4	28	◆
5.2.5	Patent families/bn PPP$ GDP		0.0	64	
5.3	**Knowledge absorption**		**28.6**	**53**	◆
5.3.1	Intellectual property payments, % total trade		0.4	75	
5.3.2	High-tech imports, % total trade	⏲	24.3	3 ●	◆
5.3.3	ICT services imports, % total trade		0.2	134 ○	◇
5.3.4	FDI net inflows, % GDP		4.3	35	
5.3.5	Green-field R&D & high-tech FDI		1.0	60	
5.3.6	Research talent, % in businesses	⏲	27.5	49	◆
Knowledge and technology outputs			**30.9**	**35**	◆
6.1	**Knowledge creation**		**11.1**	**78**	
6.1.1	Patents by origin/bn PPP$ GDP		0.7	63	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP		0.0	77	
6.1.3	Utility models by origin/bn PPP$ GDP		0.4	33	
6.1.4	Scientific and technical articles/bn PPP$ GDP		7.0	106 ○	
6.1.5	Citable documents H-index		15.8	56	
6.2	**Knowledge impact**		**41.9**	**18** ●	◆
6.2.1	Labor productivity growth, %		5.2	6 ●	◆
6.2.2	Unicorn valuation, % GDP		1.2	34	
6.2.3	Software spending, % GDP		0.2	59	
6.2.4	High-tech manufacturing, %		39.1	25	◆
6.3	**Knowledge diffusion**		**39.7**	**31**	◆
6.3.1	Intellectual property receipts, % total trade		0.0	110 ○	
6.3.2	Production and export complexity		79.7	44	◆
6.3.3	High-tech exports, % total trade	⏲	31.6	1 ●	◆
6.3.4	ICT services exports, % total trade		0.6	103	
6.3.5	ISO 9001 quality/bn PPP$ GDP		4.7	58	◆
Creative outputs			**37.5**	**35**	◆
7.1	**Intangible assets**		**40.5**	**32**	◆
7.1.1	Intangible asset intensity, top 15, %		48.9	54	
7.1.2	Trademarks by origin/bn PPP$ GDP		52.1	29	◆
7.1.3	Global brand value, top 5,000, % GDP		7.6	28	◆
7.1.4	Industrial designs by origin/bn PPP$ GDP		1.4	48	
7.2	**Creative goods and services**		**34.9**	**21** ●	◆
7.2.1	Cultural and creative services exports, % total trade		0.1	96 ○	
7.2.2	National feature films/mn pop. 15–69		0.6	86 ○	
7.2.3	Entertainment and media market/th pop. 15–69		n/a	n/a	
7.2.4	Creative goods exports, % total trade	⏲	10.6	1 ●	◆
7.3	**Online creativity**		**33.9**	**44**	◆
7.3.1	Top-level domains (TLDs)/th pop. 15–69		2.3	77	◆
7.3.2	GitHub commits/mn pop. 15–69		14.8	51	◆
7.3.3	Mobile app creation/bn PPP$ GDP		84.7	5 ●	◆

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ⏲ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Zambia

GII 2026 rank **115**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
120	110	Lower middle	SSA	21.9	97.8	4,503

		Score/ Value	Rank
Institutions		**43.9**	**86**
1.1	**Institutional environment**	**40.9**	**105**
1.1.1	Operational stability for businesses*	52.6	101
1.1.2	Government effectiveness*	29.2	105
1.2	**Regulatory environment**	**37.8**	**99**
1.2.1	Regulatory quality*	36.7	101
1.2.2	Rule of law*	38.9	95
1.3	**Business environment**	**52.9**	**[51]**
1.3.1	Policy stability for doing business†	52.9	58 ●
1.3.2	Entrepreneurship policies and culture†	n/a	n/a
Human capital and research		**20.5**	**[111]**
2.1	**Education**	**41.1**	**[109]**
2.1.1	Expenditure on education, % GDP	4.1	75 ●
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years	n/a	n/a
2.1.4	PISA scales in reading, maths and science	n/a	n/a
2.1.5	Pupil–teacher ratio, secondary	32.6	126 ○ ◇
2.2	**Tertiary education**	**n/a**	**[n/a]**
2.2.1	Tertiary enrolment, % gross	n/a	n/a
2.2.2	Graduates in science and engineering, %	n/a	n/a
2.2.3	Tertiary inbound mobility, %	n/a	n/a
2.3	**Research and development (R&D)**	**0.0**	**[122]**
2.3.1	Researchers, FTE/mn pop.	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46 ○ ◇
2.3.4	QS university ranking, top 3*	0.0	81 ○ ◇
Infrastructure		**28.7**	**118**
3.1	**Information and communication technologies (ICTs)**	**33.7**	**130** ◇
3.1.1	ICT access*	28.0	133 ○ ◇
3.1.2	ICT use*	n/a	n/a
3.1.3	Government online service*	39.3	108
3.2	**General infrastructure**	**40.2**	**70** ●
3.2.1	Electricity output, GWh/mn pop.	629.3	108
3.2.2	Aviation import dwell time	4.4	95
3.2.3	Logistics performance*	n/a	n/a
3.2.4	Gross capital formation, % GDP	31.6	17 ●
3.3	**Ecological sustainability**	**12.1**	**103**
3.3.1	GDP/unit of energy use	4.3	129 ○ ◇
3.3.2	Low-carbon energy use, %	26.8	32 ●
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.2	120
Market sophistication		**24.0**	**115**
4.1	**Credit**	**10.6**	**119**
4.1.1	Finance for startups and scaleups†	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	17.0	114
4.1.3	Loans from microfinance institutions, % GDP	1.8	23 ●
4.2	**Investment**	**4.6**	**76**
4.2.1	Market capitalization, % GDP	19.0	60
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	54 ●
4.2.3	Late-stage VC deal count, % global VC	0.0	79
4.2.4	VC investors, deal count/bn PPP$ GDP ◴	0.1	73
4.3	**Trade, diversification, and market scale**	**56.7**	**103**
4.3.1	Applied tariff rate, weighted avg., %	6.2	106
4.3.2	Domestic industry diversification	75.0	78
4.3.3	Domestic market scale, bn PPP$	97.8	98

		Score/ Value	Rank
Business sophistication		**24.1**	**87**
5.1	**Knowledge workers**	**37.4**	**[58]**
5.1.1	Knowledge-intensive employment, % ◴	7.1	110
5.1.2	Females employed w/advanced degrees, % ◴	4.8	97
5.1.3	Youth demographic dividend, %	61.3	13 ● ◆
5.1.4	GERD performed by business, % GDP	n/a	n/a
5.1.5	GERD financed by business, %	n/a	n/a
5.2	**Innovation linkages**	**20.9**	**85**
5.2.1	Public research–industry co-publications, %	2.0	41 ● ◆
5.2.2	University–industry R&D collaboration†	29.5	95
5.2.3	University industry and international engagement, top 5*	17.4	74
5.2.4	State of cluster development†	35.3	82
5.2.5	Patent families/bn PPP$ GDP	0.0	98 ○ ◇
5.3	**Knowledge absorption**	**13.9**	**125**
5.3.1	Intellectual property payments, % total trade ◴	0.2	95
5.3.2	High-tech imports, % total trade	4.9	117
5.3.3	ICT services imports, % total trade ◴	0.4	122
5.3.4	FDI net inflows, % GDP	3.8	38 ●
5.3.5	Green-field R&D & high-tech FDI	0.3	100
5.3.6	Research talent, % in businesses	n/a	n/a
Knowledge and technology outputs		**11.2**	**119**
6.1	**Knowledge creation**	**6.1**	**105**
6.1.1	Patents by origin/bn PPP$ GDP	0.2	94
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	107 ○ ◇
6.1.3	Utility models by origin/bn PPP$ GDP	–	–
6.1.4	Scientific and technical articles/bn PPP$ GDP	9.5	93
6.1.5	Citable documents H-index	6.0	95
6.2	**Knowledge impact**	**15.7**	**117**
6.2.1	Labor productivity growth, %	0.8	95
6.2.2	Unicorn valuation, % GDP	0.0	58 ○ ◇
6.2.3	Software spending, % GDP	0.0	123 ◇
6.2.4	High-tech manufacturing, %	18.6	68
6.3	**Knowledge diffusion**	**11.7**	**117**
6.3.1	Intellectual property receipts, % total trade ◴	0.0	130 ○ ◇
6.3.2	Production and export complexity	54.9	101
6.3.3	High-tech exports, % total trade	0.2	111
6.3.4	ICT services exports, % total trade ◴	0.2	121
6.3.5	ISO 9001 quality/bn PPP$ GDP	0.5	126
Creative outputs		**10.4**	**116**
7.1	**Intangible assets**	**8.6**	**105**
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	11.1	110
7.1.3	Global brand value, top 5,000, % GDP	0.0	81 ○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.9	64 ●
7.2	**Creative goods and services**	**2.9**	**[115]**
7.2.1	Cultural and creative services exports, % total trade	0.1	93
7.2.2	National feature films/mn pop. 15–69	n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Creative goods exports, % total trade	0.1	101
7.3	**Online creativity**	**21.7**	**103**
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.1	130
7.3.2	GitHub commits/mn pop. 15–69	0.6	126
7.3.3	Mobile app creation/bn PPP$ GDP	64.3	87

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

GII 2026 rank

Zimbabwe

132

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
108	136	Lower middle	SSA	17.0	136.2	7,843

		Score/ Value	Rank	
Institutions		**22.2**	**130**	◇
1.1	**Institutional environment**	**19.4**	**134**	○ ◇
1.1.1	Operational stability for businesses*	21.1	132	○ ◇
1.1.2	Government effectiveness*	17.8	130	◇
1.2	**Regulatory environment**	**20.7**	**131**	◇
1.2.1	Regulatory quality*	18.0	133	◇
1.2.2	Rule of law*	23.5	129	◇
1.3	**Business environment**	**26.5**	**[109]**	
1.3.1	Policy stability for doing business†	26.5	113	
1.3.2	Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research		**6.3**	**[139]**	
2.1	**Education**	**0.7**	**[139]**	
2.1.1	Expenditure on education, % GDP	0.4	134	○ ◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil–teacher ratio, secondary	n/a	n/a	
2.2	**Tertiary education**	**18.1**	**107**	
2.2.1	Tertiary enrolment, % gross	7.7	121	◇
2.2.2	Graduates in science and engineering, %	23.8	54	●
2.2.3	Tertiary inbound mobility, %	0.5	100	
2.3	**Research and development (R&D)**	**0.0**	**[122]**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	46	○ ◇
2.3.4	QS university ranking, top 3*	0.0	81	○ ◇
Infrastructure		**28.6**	**119**	
3.1	**Information and communication technologies (ICTs)**	**48.0**	**114**	
3.1.1	ICT access*	59.8	108	
3.1.2	ICT use*	55.1	111	
3.1.3	Government online service*	29.0	119	
3.2	**General infrastructure**	**30.2**	**104**	
3.2.1	Electricity output, GWh/mn pop.	495.3	112	
3.2.2	Aviation import dwell time	3.8	89	
3.2.3	Logistics performance*	18.2	89	
3.2.4	Gross capital formation, % GDP	n/a	n/a	
3.3	**Ecological sustainability**	**7.8**	**119**	◇
3.3.1	GDP/unit of energy use	8.6	105	◇
3.3.2	Low-carbon energy use, %	5.1	99	
3.3.3	ISO 14001 environment/bn PPP$ GDP	0.5	88	●
Market sophistication		**12.6**	**[138]**	
4.1	**Credit**	**0.0**	**[138]**	
4.1.1	Finance for startups and scaleups†	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	6.5	128	○ ◇
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	**0.8**	**[120]**	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP	0.0	109	
4.2.3	Late-stage VC deal count, % global VC	0.0	95	
4.2.4	VC investors, deal count/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**37.1**	**127**	◇
4.3.1	Applied tariff rate, weighted avg., %	43.0	137	○ ◇
4.3.2	Domestic industry diversification	65.5	96	
4.3.3	Domestic market scale, bn PPP$	136.2	90	

		Score/ Value	Rank	
Business sophistication		**26.2**	**68**	●
5.1	**Knowledge workers**	**43.4**	**[43]**	
5.1.1	Knowledge-intensive employment, %	10.4	101	
5.1.2	Females employed w/advanced degrees, %	8.9	81	●
5.1.3	Youth demographic dividend, %	61.3	14	● ◆
5.1.4	GERD performed by business, % GDP	n/a	n/a	
5.1.5	GERD financed by business, %	n/a	n/a	
5.2	**Innovation linkages**	**18.8**	**97**	
5.2.1	Public research–industry co-publications, %	1.8	57	● ◆
5.2.2	University–industry R&D collaboration†	36.6	69	●
5.2.3	University industry and international engagement, top 5*	12.2	89	
5.2.4	State of cluster development†	25.7	109	
5.2.5	Patent families/bn PPP$ GDP	0.0	98	○ ◇
5.3	**Knowledge absorption**	**16.4**	**101**	
5.3.1	Intellectual property payments, % total trade	0.1	110	
5.3.2	High-tech imports, % total trade	6.3	93	
5.3.3	ICT services imports, % total trade	1.6	63	●
5.3.4	FDI net inflows, % GDP	1.2	103	
5.3.5	Green-field R&D & high-tech FDI	0.0	125	○ ◇
5.3.6	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**11.3**	**118**	
6.1	**Knowledge creation**	**5.0**	**117**	
6.1.1	Patents by origin/bn PPP$ GDP	0.2	91	
6.1.2	PCT patents by inventor origin/bn PPP$ GDP	0.0	99	
6.1.3	Utility models by origin/bn PPP$ GDP	0.1	54	●
6.1.4	Scientific and technical articles/bn PPP$ GDP	6.7	107	
6.1.5	Citable documents H-index	7.2	91	
6.2	**Knowledge impact**	**18.1**	**104**	
6.2.1	Labor productivity growth, %	2.6	40	●
6.2.2	Unicorn valuation, % GDP	0.0	58	○ ◇
6.2.3	Software spending, % GDP	0.1	94	
6.2.4	High-tech manufacturing, %	8.3	91	
6.3	**Knowledge diffusion**	**10.8**	**124**	
6.3.1	Intellectual property receipts, % total trade	0.0	84	
6.3.2	Production and export complexity	46.8	117	
6.3.3	High-tech exports, % total trade	0.2	118	
6.3.4	ICT services exports, % total trade	0.2	124	
6.3.5	ISO 9001 quality/bn PPP$ GDP	1.2	104	
Creative outputs		**14.7**	**100**	
7.1	**Intangible assets**	**19.6**	**83**	●
7.1.1	Intangible asset intensity, top 15, %	46.5	57	
7.1.2	Trademarks by origin/bn PPP$ GDP	6.0	121	
7.1.3	Global brand value, top 5,000, % GDP	0.0	81	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.2	99	
7.2	**Creative goods and services**	**1.1**	**130**	
7.2.1	Cultural and creative services exports, % total trade	0.0	114	
7.2.2	National feature films/mn pop. 15–69	0.6	84	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Creative goods exports, % total trade	0.0	125	
7.3	**Online creativity**	**18.5**	**120**	◇
7.3.1	Top-level domains (TLDs)/th pop. 15–69	0.9	103	
7.3.2	GitHub commits/mn pop. 15–69	2.4	109	
7.3.3	Mobile app creation/bn PPP$ GDP	52.3	122	◇

Notes: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy data are older than the base year. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash – indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.
Examine the underlying data further via the GII Innovation Ecosystems & Data Explorer at: https://www.wipo.int/gii-ranking/en

Appendix I – Conceptual and measurement framework of the Global Innovation Index

Rationale and origins

The Global Innovation Index (GII) evaluates the innovation performance of around 140 countries and of the top 100 innovation clusters, identifying strengths, weaknesses and data gaps.

Although the visible output of the GII is a comparative ranking, its core purpose is to advance a pathway toward a better measurement and a fuller understanding of innovation, together with the identification of effective policies and practices. The underlying dataset – at index, sub-index and indicator levels – allows for performance tracking over time and benchmarking against peers within similar regional or income groupings.

Defining innovation in the GII

The GII embraces an expansive conceptualization of innovation rooted in the foundational framework established by the *Oslo Manual*, developed jointly by Eurostat and the Organisation for Economic Co-operation and Development (OECD). The *Oslo Manual*'s fourth iteration in 2018 presented a refined and more encompassing definition of innovation: "An innovation is a new or improved product or process (or combination thereof) that differs significantly from the unit's[1] previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)" (OECD and Eurostat, 2018).

This revision of the *Oslo Manual* simultaneously introduced comprehensive definitions relevant to business innovation and various categories of innovative enterprises. Within this framework, innovation manifests as enhanced outcomes achieved through novel goods and services, or integrated combinations thereof. The GII increasingly recognizes that innovation measurement must account for hybrid models that blur traditional boundaries between products and services, particularly within the digital economy, where platform-based innovations create entirely new value ecosystems.

How innovation is conceived has shifted considerably over recent decades. Earlier work focused largely on the R&D-driven product innovation taking place within manufacturing firms and performed by highly skilled staff in R&D-intensive organizations. Innovation was generally seen as a closed, internal and geographically concentrated process, with technological progress described as "revolutionary" and occurring at the "global knowledge frontier." Such a view implied a divide between leading and lagging economies, leaving low- and middle-income countries in a "catch-up" position.

Innovation capability is now understood more broadly as being the ability to combine technologies in new ways, including through incremental change and "innovation without research." Non-R&D investments are a key part of putting technology to productive use. The

1 The generic term "unit" describes the actor responsible for innovations. It refers to any institutional unit in any sector, including households and their individual Members (see https://www.stats.gov.cn/english/InternationalTraining/202405/P020201012342666850167.pdf).

growth of frugal and reverse innovation illustrates how resource-constrained settings can produce breakthroughs that go on to reshape global markets. There is also growing attention to how innovation unfolds in low- and middle-income economies, including in informal sectors, and to the role of incremental innovation in development outcomes (Kraemer-Mbula and Wunsch-Vincent, 2016).

The innovation process has also changed substantially over time. Investment in innovation-related activities and intangible assets has risen at the firm, national and global levels, drawing in new actors from beyond high-income economies, including non-profit organizations. Knowledge production has become more collaborative, more distributed across geographies and more complex than in earlier decades.

The GII has from the outset treated creativity and creative outputs as integral to innovation, rather than as a separate domain. In the view of the GII team, innovation and creativity are complementary facets of the same phenomenon.

A persistent challenge is to identify those metrics that capture innovation as it occurs today. Direct official measures of innovation outputs remain limited. There are, for instance, no official statistics on the volume of innovative activity (the count of new products, processes or other innovations) for any specific innovation actor, let alone for entire economies. Existing approaches also tend to overlook outputs from users, public and service sectors, as well as the informal mechanisms that often drive innovation in developing economies.

The GII aims to improve innovation measurement to give a more complete view of innovation ecosystems worldwide. The diffusion of artificial intelligence (AI)-enabled innovation tools and digital collaboration platforms has changed the pace and scale at which ideas can be tested, refined and deployed, prompting new measurement approaches that capture both human creativity and machine-augmented innovation. Attention is therefore given to continually perfecting the innovation metrics used. To advance measurement, WIPO launched in 2024 the GII iLens Innovation Data Lab series, which pilots new indicators and tests emerging data sources in priority areas such as innovation finance, startup ecosystems, deep science applications and innovation linkages. The Data Lab workshops focus particularly on big data sources and advanced analytical tools powered by AI, which are especially valuable when traditional statistics are subject to time lags or are unavailable. In addition, since 2022, a monthly GII Innovation Insights Blog explores in depth particular innovation indicators.

The GII conceptual framework

The GII's conceptual framework rests on two equally weighted sub-indices that together capture innovation ecosystems: the Innovation Input Sub-Index and the Innovation Output Sub-Index. From these, three measures are produced:

- **Innovation Input Sub-Index**: five pillars cover the economic conditions that enable innovation. The underlying premise is that today's investments in scientific capacity, innovation infrastructure, human capital and a supportive innovation environment lay the groundwork for tomorrow's innovation outputs.
- **Innovation Output Sub-Index**: two pillars capture the results of innovative activity in the economy. Although the Output Sub-Index has fewer pillars, it carries the same weight as the Input Sub-Index in the overall GII score, which means output indicators receive proportionally greater weight than do input indicators.
- **Overall GII score**: the simple average of the Input and Output Sub-Indices, from which the GII economy rankings are derived.

This year's conceptual framework includes 79 different indicators, demonstrating a continuous evolution in addressing emerging innovation measurement challenges (see Economy profiles section for the complete Framework of the Global Innovation Index 2026). The seven pillars (five input, two output) each contains three sub-pillars, with individual indicators comprising each sub-pillar. Sub-pillar values are derived from the weighted averaging of indicator scores, normalized to generate 0–100 scale results. Pillar scores emerge through the weighted averaging of constituent sub-pillar values.

Appendix Box 1 GII origins, development and GII data infrastructure

The idea of creating a global index on innovation – benchmarking economies worldwide on their innovation performance - began in 2007 as a magazine article. It is now produced by a United Nations specialized agency and used by governments to assess and shape innovation policy. Over this period, WIPO's role has grown from knowledge partner to sole publisher, and the GII has evolved from a single economy ranking into a wider set of innovation data and analysis – the so-called "GII family" – with a GII Global Innovation Tracker analyzing global innovation trends, the GII economy-wide innovation ranking, the GII's ranking of the world's Top 100 Innovation Clusters, as well as the biannual GII themes, such as "Powering entrepreneurs at the frontier of science" in this GII 2026 edition.

Origins as World Business magazine article, INSEAD and CII; 2007 to 2010

Soumitra Dutta, then a professor at INSEAD, and Simon Caulkin proposed the GII in a 2007 article in World Business magazine, which ranked 107 economies.[2] INSEAD then published the 2008-2009 and 2009-2010 editions together with the Confederation of Indian Industry (CII).[3]

WIPO as knowledge partner and co-publisher, 2011 to 2020

The World Intellectual Property Organization (WIPO) – a United Nations specialized agency – joined as knowledge partner in 2011 and became co-publisher in 2012, alongside INSEAD and, from 2013 to 2020, Cornell University.

Since 2011, the partners worked to strengthen the technical rigor of the GII, with WIPO taking on a growing share of the technical work. At WIPO's initiative, the GII has been built in line with the Organisation for Economic Co-operation and Development (OECD)/Joint Research Centre (JRC) *Handbook on Constructing Composite Indicators*, and the European Commission's JRC has audited it every year since 2011.[4] Rules for the treatment of outliers, the use of weights as scaling coefficients rather than as measures of importance and 90 percent confidence intervals around each rank were introduced together with the JRC. A minimum data coverage threshold of 66 percent for each sub-index followed. The indicator framework was also stabilized, with only minor changes from one year to the next, which makes results easier to compare over time.

In 2019, resolutions of the UN General Assembly and of the Economic and Social Council (ECOSOC) on science, technology and innovation referred to the GII as a tool for measuring national innovation systems.[5]

WIPO as sole publisher, 2021

In 2021, WIPO became the sole publisher of the GII. WIPO brought all production in-house: the framework, data collection and quality control, modelling, drafting, dissemination and engagement with Member States. This required a dedicated technical and governance infrastructure, described below. Coverage has also widened. The GII 2026 ranks 139 economies, which account for 95.5 percent of the world's population and 98 percent of world GDP in purchasing power parity terms, using 79 indicators grouped into seven pillars and 21 sub-pillars. The set of indicators used in the GII has been overhauled significantly in 2013, and progressively but more incrementally since.

From 2021 to 2025, WIPO had an agreement with the Portulans Institute to coordinate the GII Academic Network, and to promote the GII's dissemination.

2 Dutta, S. and S. Caulkin (2007). The world's top innovators. World Business, January 2007, in association with BT. https://mastic.mosti.gov.my/publication/global-innovation-index-2007-1th-edition/

3 INSEAD and Confederation of Indian Industry (2009). Global Innovation Index 2008-2009 (2nd edition). Fontainebleau; INSEAD and Confederation of Indian Industry (2010). Global Innovation Index 2009-2010 (3rd edition). Fontainebleau.

4 OECD and JRC (2008). Handbook on Constructing Composite Indicators: Methodology and User Guide. Paris: OECD Publishing. The audits are carried out by the JRC Competence Centre on Composite Indicators and Scoreboards (JRC-COIN) at the request of the GII team. The audit of the GII 2026, the sixteenth in a row, is published in Appendix II.

5 United Nations General Assembly resolution A/RES/74/229, Science, technology and innovation for sustainable development, adopted on December 19, 2019; and Economic and Social Council resolution E/RES/2019/25, Science, technology and innovation for development, adopted on July 23, 2019.

Beyond the economy ranking

In 2017, WIPO added a ranking of the world's top 100 science and technology clusters to the GII. It was based first on the location of inventors named in patent applications, and scientific authors. In 2025, venture capital deals were added as a third metric and the ranking was renamed the Top 100 Innovation Clusters. Since 2022, WIPO has released the cluster ranking ahead of the full GII report. City and provincial governments in particular use it to benchmark their local innovation ecosystems.

In 2021, WIPO introduced the Global Innovation Tracker, which follows global trends in science and innovation investment, technological progress, technology adoption and socioeconomic impact. The special theme, a feature of earlier editions, has been published every two years since 2022 and draws on contributions from outside experts. The GII 2026 theme is deep science entrepreneurship. Since late 2022, the GII Innovation Insights series has examined individual indicators in more depth, and since 2024 the GII-iLens Innovation Data Lab has tested new data sources and pilot indicators, for example on innovation finance, startups and deep science.

Governance and quality assurance

The rankings are produced under strict governance arrangements designed to safeguard the independence of the GII development process. Methodological decisions are taken by a technical expert model review committee in the GII team, independently of rank outcomes; neither Member States nor WIPO management take part in the model review. The methodology is documented in a single technical reference produced by the GII WIPO Secretariat, and methodology and data are transparent and reproducible, so that researchers and other third parties can replicate the GII and reuse its data. The JRC audit, published each year in Appendix II, tests the statistical soundness of the index and the robustness of the rankings. In 2023, an audit of the GII by WIPO's Internal Oversight Division found no critical issues. It recommended clearer governance arrangements and certain methodological refinements[6] For example, strengths and weaknesses are no longer signaled for indicators whose data year is more than five years older than the most common data year.

Data infrastructure

Since 2021, WIPO has built a dedicated data infrastructure covering data storage, coding, model calculation, quality control and visualization. It has five parts:

1. **The GII database**: stores all collected data in structured form for every WIPO Member State (not only ranked GII economies) and for all indicators, together with the outlier records arising from quality checks. Since 2024, it has also held the country-level and global data for the Global Innovation Tracker, and the micro-level data (often company-related) used for certain indicators, such as global corporate R&D investors, unicorn valuation, intangible asset intensity, global brand value and top universities.
2. **Code repository on GitHub**: contains the R code and applications for each stage of the workflow, including data collection, calculation and quality control across all indicators. Since 2024, it has included the code for the country-level trend calculations of the Global Innovation Tracker.
3. **The GII2 R-package**: a custom-built R-package for calculating the GII model and analyzing its results. Its structure follows the COINr R-package developed by the JRC and the steps set out in the OECD/JRC Handbook on Constructing Composite Indicators.
4. **Quality control**: each indicator undergoes an annual quality control process, with tests of means, outliers (z-scores on unscaled and scaled data), rank changes, and missing or outdated data. The GII team then asks data providers for clarification or source-level corrections when needed.
5. **GII Innovation Ecosystems & Data Explorer**: since 2024, the Explorer, developed with OneTandem, allows users to generate GII economy briefs and profiles, compare economies, and access time series for every indicator, including micro-data on intangible assets, top

6 WIPO Internal Oversight Division (2023). Audit of the WIPO Global Innovation Index (GII). IOD Ref: IA 2022-03, April 14, 2023. Geneva: WIPO. Available at https://www.wipo.int/documents/d/about-wipo/docs-en-oversight-iaod-audit-audit-gii.pdf.

universities and the most valuable brands. Individual cluster briefs were added in 2024 and regional briefs in 2025. The Explorer is available in English and Spanish and works on mobile devices. A separate GII Economy Monitoring Board report (available on request) tracks the data status of economies not yet ranked and flags missing or outdated indicators, to support economies working toward inclusion.

Use by Member States

WIPO's engagement with Member States has grown to some 80 national and regional events and missions every year, including workshops on the GII model, country innovation data and policy implications, as well as inter-ministerial task forces. In the 2026 WIPO Member State survey, 78 percent of responding Member States reported using the GII, most often to improve innovation ecosystems and policy (63 percent), to improve innovation data (53 percent) and as a reference in economic plans and policies (41 percent).

Interest in sub-national innovation indices modelled on the GII continues to grow. WIPO has supported such efforts since 2022 and has expanded its work on defining and measuring sub-national innovation, including by convening countries to share experiences (WIPO, 2024).

Adjustments to the GII model in 2026

Appendix 1 Table 1 summarizes the adjustments made to the GII 2026 framework. The methodology has changed for one indicator (3.3.2). In addition, there are two new indicators, and one indicator has been dropped from the framework. Due to the addition and removal of these indicators, the numbering of three indicators has been adjusted, but without altering the methodology.

Appendix I Table 1 Changes to the GII 2026 framework

GII 2025	Adjustment	GII 2026
	New indicator	3.2.2 Aviation import dwell time
3.2.2 Logistics performance*	New indicator numbering	3.2.3 Logistics performance*
3.2.3 Gross capital formation, % GDP	New indicator numbering	3.2.4 Gross capital formation, % GDP
3.3.2 Low-carbon energy use, %	Methodology changed	3.3.2 Low-carbon energy use, %
4.2.5 VC investor co-participation/bn PPP$ GDP	Removed	
	New indicator	5.3.5 Green-field R&D & high-tech FDI
5.3.5 Research talent, % in businesses	New indicator numbering	5.3.6 Research talent, % in businesses

Note: Refer to Appendix III: Sources and definitions for a detailed explanation of terminology and acronyms.
Source: Global Innovation Index 2026, WIPO.

Data limitations and treatment

The timeliest possible indicators are used for the GII 2026: from the non-missing data, 4.1 percent are from 2026, 31.4 percent from 2025, 44.7 percent from 2024, 10.4 percent from 2023, 4.7 percent from 2022, 1.3 percent from 2021, and the small remainder of 3.5 percent are from earlier years.[7]

7 The GII is calculated based on 9,781 data points out of a possible 10,981 (139 economies multiplied by 79 indicators), implying that 10.9 percent of data points are missing. If an indicator for an economy is missing, it is marked as "n/a" in the economy profiles and "–" for cases where the indicator is not treated as missing.

The 79 indicators included in the GII 2026 model are of three types:

- quantitative/objective/hard data (64 indicators);
- composite indicators/index data (10 indicators); and
- survey/qualitative/subjective/soft data (5 indicators).

This year, for an economy to feature in the GII 2026, the minimum data coverage required is at least 36 indicators in the Innovation Input Sub-Index (66 percent) and 16 indicators in the Innovation Output Sub-Index (66 percent), with scores for at least two sub-pillars per pillar. Since the GII 2024, indicator 6.1.3 – Utility models by origin/bn PPP$ GDP has been excluded from the minimum data coverage (DMC) requirement. In the GII 2026, 139 economies had sufficient data available to be included in the Index. A total of 109 economies did not make it into the GII 2026 because of a lack of available data. For each economy, only the most recent yearly data were considered. As a rule, the GII indicators in the 2026 edition consider data from as far back as 2016.

Missing values

For the sake of transparency and the replicability of results, missing values are not estimated; instead, they are indicated with "n/a" and are not considered in the sub-pillar score. In other words, missing indicators do not translate into a zero for the country in question; rather, the indicator is simply not taken into consideration in the aggregation process.

That said, the audit undertaken by the European Commission's Competence Centre on Composite Indicators and Scoreboards at the Joint Research Centre (JRC-COIN) (see Appendix II) assesses the robustness of the GII modeling choices (no imputation of missing data, fixed predefined weights and arithmetic averages) by imputing missing data, applying random sets of perturbed weights and using geometric averages. Since 2012, based on this assessment, a confidence interval has been provided for each ranking in the GII, as well as for the Input and Output Sub-Indices (Appendix II).

Treatment of series with outliers

Potentially problematic indicators with outliers that could polarize results and unduly bias the rankings were treated according to the rules listed below, as per the recommendations of the JRC-COIN. Only hard data indicators were treated (32 out of 64).

First rule: selection

Indicators were classified as problematic if they had:

- an absolute value of skewness greater than 2.25; and
- kurtosis greater than 3.5.[8]

Second rule: treatment

Indicators with between one and five outliers (23 cases) were winsorized; the values distorting the indicator distribution were assigned the next highest value, up to the level where skewness and/or kurtosis had the values specified above.[9]

Indicators with five or more outliers, and for which skewness or kurtosis did not fall within the ranges specified above, were transformed using natural logarithms after multiplication by a

8 Based on Groeneveld and Meeden (1984), which sets the criteria of absolute skewness above 1 and kurtosis above 3.5. The skewness criterion was relaxed to accommodate the small sample under consideration (139 economies).
9 The indicators treated using winsorization are: 4.1.3, 4.2.1, 4.2.2, 4.3.1, 4.3.2, 5.1.4, 5.3.2, 5.3.3, 6.1.5, 6.3.3 and 7.3.2 (one outlier); 2.2.3, 3.2.1, 5.3.5 and 7.3.1 (two outliers); 4.2.4, 6.1.3 and 6.3.4 (three outliers); 6.1.2 and 7.2.1 (four outliers); and 5.3.1 and 6.2.2 (five outliers). Finally, indicator 7.1.1 was winsorized from the bottom of the distribution on two outlier observations.

given factor *f*.[10] Since only "goods" were affected (i.e., indicators for which higher values indicate better outcomes, as opposed to "bads"), the following formula was used:

$$\ln\left[\frac{(\max \times f - 1)\,(\textit{economy value} - \min)}{\max - \min} + 1\right]$$

where "min" and "max" are the minimum and maximum indicator sample values, respectively.

Normalization

The 79 indicators were then normalized into the [0, 100] range, with higher scores representing better outcomes. Normalization was undertaken according to the min–max method, where the "min" and "max" values were the minimum and maximum indicator sample values, respectively. Following the recommendation of the JRC-COIN, all indicators, including index and survey data, were normalized to a 0–100 range. Such normalization ensures that all indicators share the same range, facilitating their individual contribution to the overall index score.

Weights

In 2012, the JRC-COIN and GII team made a joint decision that scaling coefficients of 0.5 or 1.0 should be used instead of importance coefficients. This decision aimed to achieve balanced sub-pillar and pillar scores by considering the underlying components. In other words, the goal was to ensure that indicators and sub-pillars contribute a similar amount of variance to their respective sub-pillars/pillars.

To prevent multicollinearity during the aggregation process, any indicators within a sub-index that exhibited a high correlation, exceeding an absolute correlation of 0.95, were assigned a weight of 0.5. In 2026, there were two indicators that received a 0.5 weight – indicators 1.2.1 and 1.2.2. All other indicators had a weight of 1. Additionally, two sub-pillars – 7.2 Creative goods and services and 7.3 Online creativity – were also assigned a weight of 0.5.

Strengths and weaknesses

Strengths and weaknesses are calculated for all economies covered in the GII and are presented in the individual economy profiles (see the explanatory section, Economy profiles) and in the GII Economy briefs available through the GII Innovation Ecosystems & Data Explorer. In simple terms, strengths and weaknesses are the top- and bottom-ranked indicators for each country. In addition, income group strengths and weaknesses are also provided, which are the respective high- and low-performing indicators within income groups.

The methodology for the calculation of strengths and weaknesses is as follows:

- The scores of each indicator are converted to percentile ranks.
- Strengths are defined as those indicators of an economy that have a percentile rank greater than or equal to the 10th percentile rank (across the indicators of that economy). This can result in more than 10 strengths in the event of tied results.
- Weaknesses are defined in an equivalent manner for the bottom 10 indicators.
- If a country has an indicator that ranks equal to or lower than three, it is automatically a strength, regardless of the percentile rank.
- Importantly, although the cut-off value used to define the strengths (i.e., the 10th highest percentile rank) is calculated using only indicator percentile ranks, it is also applied to pillars and sub-pillars.

10 Indicators 2.3.3, 4.2.3, 4.3.3, 5.2.5, 6.1.1, 6.3.1, 7.1.4, 7.2.4 and 7.3.3 were treated using log-transformation (factor *f* of 1).

- In addition, for pillars and sub-pillars that do not meet the data minimum coverage (DMC) criteria, strengths and weaknesses are not signaled. Pillars and sub-pillars that do not meet the DMC are presented in brackets in the economy profiles.
- Income group strengths and weaknesses are like overall strengths and weaknesses, but defined within income groups and use means and standard deviations. The methodology for calculation is as follows:
  - For a given economy, income group strengths are those scores that are above the income group average plus the standard deviation within the group.
  - For that economy, weaknesses are those scores that are below the income group average minus the standard deviation within the group.
  - The only exceptions to the income group strengths and weaknesses are the top 25 high-income economies, where these strengths and weaknesses are computed within the top 25 group only.
  - As the only non-high-income economy in the top 25, China's income group strengths and weaknesses are computed relative to the non-top 25 group.

- Since, occasionally, the low threshold for weaknesses is below zero, any score of zero is automatically marked as a weakness.
- Finally, as of 2023 and following the recommendation of the audit by the WIPO Internal Oversight Section,[11] strengths and weaknesses are reset, or not signaled, where the data year for a given indicator is older than the indicator mode minus five years. In practice, for the GII 2026, this means that for indicators with a data year mode of 2024, the data year of an economy must be 2019 or later to qualify as a strength or weakness.

Caveats regarding the year-to-year comparison of rankings

The GII tracks the performance of national innovation systems across economies globally and presents changes in economy rankings over time.

While year-on-year comparisons can provide useful insights into trends, it is important to note that scores and rankings are not directly comparable between one year and another. Each ranking reflects the relative position of a particular economy based on the conceptual framework, the data coverage and the sample of economies of a given year. Rankings may also be influenced by changes in the underlying indicators at source and in data availability, which can affect comparability across editions.

Several factors influence the year-on-year rankings of an economy:

- the actual performance of the economy in question;
- adjustments made to the GII framework (changes in indicator composition and measurement revisions);
- data updates, the treatment of outliers and missing values; and
- the inclusion or exclusion of economies in the sample.

Additionally, the following characteristics complicate a time-series analysis based on simple GII rankings or scores:

- **Missing values:** the GII produces relative index scores, which means that a missing value for one economy affects the index score of other economies. Because the number of missing values decreases every year, this problem reduces over time.
- **Reference year:** the data underlying the GII do not refer to a single year, but to several years, depending on the latest available year for any given indicator. In addition, the reference years for different indicators are not the same for every economy, due to measures to limit the number of missing data points.
- **Scaling factors:** most GII indicators are scaled using either GDP or population, with the intention of enabling cross-economy comparability. However, this implies that year-on-year changes in individual indicators may be driven either by the variable (numerator) or by its scaling factor (denominator).

11 IOD Ref: IA 2022-03, April 14, 2023, available at: https://www.wipo.int/documents/d/about-wipo/docs-en-oversight-iaod-audit-audit-gii.pdf.

– **Consistent data collection:** measuring the change in year-on-year performance relies on the consistent collection of data over time. Changes in the definition of indicators or in the data collection process could create movements within the rankings unrelated to performance.

A detailed study at the economy level based on the GII database and the economy profiles over time, coupled with analytical work on the ground, including that of innovation actors and decision-makers, yields the best results in terms of monitoring an economy's innovation performance, as well as identifying possible avenues for improvement.

References

Dutta, S. and S. Calkin (2007) The world's top innovators.*World Business*, 8 (January/February), 26–37. Available at: https://mastic.mosti.gov.my/publication/global-innovation-index-2007-1th-edition.

Groeneveld, R.A. and G. Meeden (1984). Measuring skewness and kurtosis. *The Statistician*, 33(4), 391–399.

Kraemer-Mbula, E. and S. Wunsch-Vincent (eds) (2016). *The Informal Economy in Developing Nations: Hidden Engine of Innovation?* (Intellectual Property, Innovation and Economic Development). Cambridge and Geneva: Cambridge University Press and World Intellectual Property Organization.

OECD (Organisation for Economic Co-operation and Development) and Eurostat (2018). *Oslo Manual 2018: Guidelines for Collecting, Reporting and Using Data on Innovation* (4th edition). Paris and Luxembourg: OECD and Eurostat. Available at: https://doi.org/10.1787/9789264304604-en.

United Nations Economic and Social Council (2019) *Science, technology and innovation for development*. Resolution E/RES/2019/25, adopted on 23 July 2019. New York: United Nations. Available at: https://unctad.org/system/files/official-document/ecosoc_res_2019d25_en.pdf

United Nations General Assembly (2019). *Science, technology and innovation for sustainable development*. Resolution A/RES/74/229. Available at: https://digitallibrary.un.org/record/3847342?v=pdf

WIPO (World Intellectual Property Organization) (2024). *Enabling Innovation Measurement at the Sub-National Level: A WIPO Toolkit*. Geneva: WIPO. Available at: https://doi.org/10.34667/tind.48577.

Appendix II – Joint Research Centre (JRC) statistical audit of the 2026 Global Innovation Index

This statistical audit was conducted by **Petra Krylova, Jaime Lagüera González**, **Panagiotis Ravanos**, **Michaela Saisana**, and **Oscar Smallenbroek**, European Commission, JRC, Ispra, Italy.

Introduction

Robust and reliable monitoring frameworks are essential to better policymaking. As is the case in other socioeconomic fields, understanding and coherently modeling innovation within individual countries, as well as at the global level, is crucial for identifying those emerging trends and best practices that can be used to inform future strategies. Developing and monitoring a framework for innovation presents conceptual and practical challenges such as those related to data quality and choice of methodology. Addressing such challenges is essential for ensuring that policymakers have access to robust and useful information that can be used as input when designing effective innovation policies. This 19th edition of the Global Innovation Index (GII) 2026 organizes data from 139 economies across 79 indicators into a structured framework of 21 sub-pillars, seven pillars, two sub-indices, and an overall summary index. This appendix delves into the practical challenges of constructing the GII, with the aim of examining the statistical coherence of the conceptual framework and the robustness of the final rankings in relation to the calculations and assumptions from which they are derived.

Statistical coherence should be regarded as a necessary but not sufficient condition for a sound GII, since the correlations underpinning most of the statistical analyses carried out herein need not "necessarily represent the real influence of the individual indicators on the phenomenon being measured" (OECD/EC JRC, 2008: 26). Similarly, neither is conceptual clarity alone sufficient, as it does not take into account the measurement quality of the individual indicators, nor how they interact with each other. Therefore, as would be the case for any composite index, developing the GII requires a continuous dialogue between statistical rigor and conceptual understanding, ensuring that empirical data and theory complement each other.

The European Commission's Competence Centre on Composite Indicators and Scoreboards (CC-COIN) at the Joint Research Centre (JRC) in Ispra, Italy, has been invited to audit the GII for a 16th consecutive year. As in previous editions, the present JRC-COIN audit focuses on the statistical soundness of the multilevel structure of the index and on the impact of key modeling assumptions on the results, most notably country rankings.[1] The independent statistical assessment of the GII provided by the JRC-COIN guarantees the transparency and reliability of the index for both policymakers and other stakeholders alike, thus facilitating more accurate priority setting and policy formulation in the field of innovation.

As in previous GII reports, the JRC-COIN analysis complements the economy rankings of the GII, the Innovation Input Sub-Index and the Innovation Output Sub-Index with confidence intervals, to allow for a better appreciation of the robustness of these rankings in relation to the choice of computation methodology. The JRC-COIN analysis also includes an assessment of the added value of the GII, and it supplements the GII scores with a measure of the "distance to the performance frontier" of innovation using data envelopment analysis.

1 The JRC analysis was based on the recommendations of the OECD/EC JRC (2008) *Handbook on Constructing Composite Indicators* and on more recent research from the JRC. The JRC audits on composite indicators are conducted at the request of the index developers and are available at: https://knowledge4policy.ec.europa.eu/composite-indicators_en and https://composite-indicators.jrc.ec.europa.eu.

Box 1 Conceptual and statistical coherence in the GII 2026 framework

Step 1 Conceptual consistency

- compatibility with existing literature on innovation and pillar definition
- use of scaling factors per indicator to present a fair picture of economy differences (e.g., GDP, population)

Step 2 Data checks

- check for data timeliness (95 percent of available data refer to 2022 or a later year)
- inclusion requirements per economy (availability of ≥66 percent for the Input and the Output Sub-Indices separately and data availability for at least two sub-pillars per pillar)
- check for reporting errors (interquartile range)
- outlier identification (skewness and kurtosis) and treatment (winsorization or logarithmic transformation)
- direct contact with data providers

Step 3 Statistical coherence

- treatment of pairs of highly collinear variables as a single indicator
- assessment of grouping of indicators into sub-pillars, pillars, sub-indices and the GII
- use of weights as scaling coefficients to ensure statistical coherence
- assessment of arithmetic average aggregation approach
- assessment of potential redundancy of information in the overall GII

Step 4 Qualitative review

- internal qualitative review (by WIPO, the GII Corporate and Academic Network partners, as well as the GII Advisory Board members)
- a one-off qualitative audit (by the WIPO Internal Oversight Section)[2]
- external qualitative review (by JRC-COIN and international experts).

Source: European Commission, Joint Research Centre, 2026.

Conceptual and statistical coherence within the GII framework

The GII model was assessed by the JRC-COIN in June 2026. Suggestions for fine-tuning certain aspects were communicated to developers during an iterative process with the JRC-COIN aiming to set the foundations for a balanced index. This four-step process is outlined in Box 1.

Step 1: Conceptual consistency

GII 2026 organizes a total of 79 indicators into a hierarchical structure of sub-pillars, pillars, an Input and an Output sub-index, and the final overall index. These were selected as relevant to specific areas of innovation activities based on a literature review, expert opinion, economy coverage and timeliness. To present a fair picture of economies' differences, indicators were scaled either at source or by the GII team, as appropriate and where needed. For example, Venture capital (VC) received, deal count (indicator 4.2.2) is expressed as number of deals per billion PPP$ GDP, while Researchers (indicator 2.3.1) is expressed as FTE workers per million population. As of 2023 and on the advice of JRC-COIN, the GII developers normalize all 79 indicators to a 0–100 range which facilitates their individual contributions to the overall index score.

2 IOD Ref: IA 2022-03, April 14, 2023 Available at: https://www.wipo.int/documents/d/about-wipo/docs-en-oversight-iaod-audit-audit-gii.pdf.

The 2026 edition of the GII includes a few changes to the indicators considered.

- The methodology for calculating one indicator (3.3.2 Low-carbon energy use) has changed. In particular, the indicator is now calculated as the share of a country's total energy supply (expressed in petajoules) that comes from low-carbon intensive sources.
- In sub-pillar 3.2 General infrastructure, a new indicator 3.2.2 Aviation import dwell time has been included. The reason for its inclusion concerns the discontinuation of the World Bank Logistics Performance Index (LPI) in an index format. The new version of the LPI is a dashboard of six indicators based on hard data. Developers selected Aviation import dwell time among those six indicators as most suited. For the current edition of the GII, developers have maintained the Logistics Performance Index as indicator 3.2.3 in the GII framework based on 2024 data (last edition of LPI). This was done to allow for a smooth transition towards full discontinuation of the LPI as a GII component from 2027 onwards. The developers plan to undertake a critical re-assessment of sub-pillar 3.2 in the 2027 edition of the index, with the objective of discontinuing the LPI in its original form.
- Indicator 4.2.5 Joint venture deals (VC investor co-participation per bn PPP$ GDP) has been removed from the 2026 framework. This indicator was highly correlated with indicator 4.2.4 VC investors. Developers selected the latter as more relevant to avoid the potential double counting of information in the overall index resulting from highly correlated components.
- Finally, in sub-pillar 5.3 Knowledge absorption, indicator 5.3.5. Green-field R&D & high-tech FDI has been introduced to the framework. The reason is conceptual: developers opted for reinforming the measurement of FDI by also looking at the announced investments in specific R&D and high-tech projects.

The above changes highlight the developers' commitment to rigorously monitoring, evaluating, and refining the theoretical framework and the data sources underpinning the index, both from a conceptual and statistical point of view. This continuous improvement process ensures that the index delivers a reliable, accurate and timely assessment of innovation performance that provides policymakers with reliable insights to drive evidence-based decision-making.

Step 2: Data checks

The data used for each economy were those most recently released within the period 2016 to 2026. Also, more than 95 percent of the available data refers to 2022 or a later year. With regards to the inclusion of countries in the GII, the 2026 edition follows the criteria adopted in 2016,[3] according to which economies are only included if (i) data availability is at least 66 percent within each of the two sub-indices (i.e., 36 out of 54 variables within the Input Sub-Index and 17 out of the 25 variables in the Output Sub-Index) and (ii) at least two of the three sub-pillars in each pillar can be computed. These criteria aim to ensure that economy scores for the GII and for the two Input and Output Sub-Indices are not overly sensitive to missing values (as was the case for the Output Sub-Index scores of several economies in previous editions). In the current edition of the Index, three additional countries fulfill these criteria compared to the previous iteration (Bhutan, Democratic Republic of Congo, and Chad) and are thus added to the GII 2026, while three other countries failed to fulfill the criteria and were excluded from this year's iteration (Congo, Guinea, Seychelles). Thus, the number of economies is the same as in the previous version of the index (139).

In practice, data availability for all economies included in the GII 2026 is quite satisfactory: at least 80 percent of data is available for 77 percent of the economies covered (equivalent to 107 economies out of 139), while 84 percent of the considered indicators are available for at least 75 percent of the 139 economies covered. This highlights the significant efforts conducted by the GII in promoting continuous data monitoring and collection in the realm of innovation-related variables. There are only two indicators for which the share of missing data is relatively high: indicator 4.1.3 Loans from microfinance institutions and indicator 7.2.3 Entertainment and media market, for which data are available for 47 percent and 46 percent of the 139 countries respectively. JRC-COIN would like to suggest that developers keep these two indicators under closer scrutiny for the next iterations of the GII and investigate the potential of increasing their data availability.

3 These criteria were adopted following a JRC-COIN recommendation based on previous GII audits.

Data quality checks by the JRC-COIN team also consider the properties of data distributions, and the skewness and kurtosis, which flag indicators with reduced ability to differentiate between countries. In 2011, a joint decision by the GII team and the JRC-COIN determined that values would be treated if an indicator had absolute skewness greater than 2.0 and kurtosis greater than 3.5.[4] In 2017, having analyzed data in the GIIs compiled between 2011 and 2017, less stringent criteria were adopted. An indicator was only treated if the absolute skewness was greater than 2.25 and kurtosis greater than 3.5. Such indicators were treated either by winsorization or by natural logarithm (in cases of more than five outliers; see Appendix I). In 2018, exceptional behavior by foreign direct investment (FDI) net outflows (indicator 6.3.4 at the time) was observed (Annex 3, JRC Audit, GII 2018) and, from 2018 onward, it was recommended that the GII rule for the treatment of outliers be amended as follows:

- for indicators with absolute skewness greater than 2.25 and kurtosis greater than 3.5, apply either winsorization or the natural logarithm (in cases of more than five outliers);
- for indicators with absolute skewness less than 2.25 and kurtosis greater than 10.0, produce scatterplots to identify potentially problematic values that need to be considered as outliers and treated accordingly.

For a total of 32 indicators, one up to five values were winsorized, while for an additional nine indicators (2.3.3 Global corporate R&D investors, 4.2.3 Late-stage VC deal count, 4.3.3 Domestic market scale, 5.2.5 Patent families, 6.1.1 Patents by origin, 6.3.1 Intellectual property receipts, 7.1.4 Industrial designs by origin, 7.2.4 Creative goods exports, and 7.3.3 Mobile app creation) the natural logarithm was applied. For two of these five indicators (4.2.3 Late-stage VC deal count and 5.2.5 Patent families) the values of skewness and kurtosis did not abide by the set thresholds after applying the natural logarithm transformation.

Compared to the previous edition of the GII in 2025, there were two less indicators that needed a natural logarithm treatment (nine versus 11 last year). The JRC guidelines for data treatment are governed by the principle of least intervention. Therefore, winsorization is preferred as a first treatment followed by natural logarithm transformation. To reduce the indicators treated by the natural logarithm, the JRC would like to suggest increasing the number of maximum winsorized data points for the GII indicators by two from five to seven. This corresponds to the upper 5 percent (7/139) of the distribution with 139 countries, that is to say, values are trimmed up to the 95 percent percentile (if needed). Tests conducted by the JRC indicate that increasing the number of winsorized points would eliminate the need to apply the natural logarithm to six of the nine indicators. For the remaining three indicators (2.3.3 Global corporate R&D investors, 6.1.1 Patents by origin, and 6.3.1 Intellectual property receipts) the logarithmic transformation is already sufficient to bring skewness and kurtosis values within the recommended thresholds.

Step 3: Statistical coherence

Weights as scaling coefficients

The JRC-COIN and the GII team jointly decided in 2012 that weights of 0.5 or 1.0 were to be used as scaling coefficients and not importance coefficients, with the aim of arriving at sub-pillar and pillar scores that were balanced in their underlying components (i.e., that indicators and sub-pillars can explain a similar amount of variance in their respective sub-pillars/pillars).[5] In weighted arithmetic averages, the ratio of two nominal weights gives the rate of substitutability between two indicators (see, e.g., Becker *et al.* (2017) and Paruolo *et al.* (2013)), and hence can be used to reveal the relative importance of individual indicators. This importance can then be compared with *ex-post* measures of a variable's importance, such as the non-linear Pearson correlation ratio.

4 Groeneveld and Meeden (1984) set the criteria for absolute skewness above 1 and for kurtosis above 3.5. The skewness criterion was relaxed in the GII case after ad hoc tests were conducted in the GII 2008–GII 2018 series range.

5 In this context, a weight of 0.5 does not mean that the corresponding indicators are multiplied by a weight of 0.5 *per se*, but that an indicator receives half (0.5 or 50 percent) of the maximum weight allocated within its aggregation level. The "nominal' weight is then obtained by dividing the scaling coefficients by their sum. So, in a hypothetical pillar with three indicators, two of which get a scaling coefficient of 1.0 and the third gets a coefficient of 0.5, the third indicator's nominal weight (*0.2* = 0.5/(0.5 +1+1)) is half of the nominal weight of the other two indicators *0.4* = 1.0/(0.5 +1+1)).

Three additional indicators are slightly unbalanced and fall just below the inclusion threshold. Specifically, SP1.1 and SP1.2 are highly correlated with P1, with correlation coefficients just below the 0.95 cutoff, while the correlation of SP1.3 with P1 is below 0.80. Based on the current contribution of these sub-pillars to the pillar, the developers may also consider applying a scaling coefficient of 0.5 to improve balance across the sub-pillars, which would result in a correlation around 0.80 between all sub-pillars and pillars.

As a result of this analysis, two indicators (1.2.1 Regulatory quality, 1.2.2 Rule of law) and two sub-pillars (7.2 Creative goods and services and 7.3 Online creativity) are given a weight of 0.5.

Despite this weighting adjustment, three indicators (3.2.4 Gross capital formation, 5.3.4 FDI net inflows and 6.2.1 Labor productivity growth) were found to be non-influential in this year's GII framework, meaning that they could not explain at least 9 percent of economies' overall variation in the respective sub-pillar scores (see Appendix II Table 1).

These three indicators also remain statistically non-influential at both the sub-index and the index level, while there are five additional indicators (2.1.1 Expenditure on education, 2.2.2 Graduates in science and engineering, 3.3.2 Low-carbon energy use, 4.1.3 Loans from microfinance institutions, 7.2.2 National feature films) which are not sufficiently correlated with the (Input or Output) Sub-Index level as well as the GII itself. This means that, at least for 3.2.4 Gross capital formation, 5.3.4 FDI net inflows and 6.2.1 Labor productivity growth, there is evidence of a weak relationship between a country's GII index scores and its Gross capital formation, FDI net inflows or Labor productivity growth.

As previously noted, a weak statistical relationship does not imply that an indicator is conceptually unsuitable. Rather, it reflects the amount of information (or variability) that the indicator contributes to the overall index. This is given by the squared Pearson correlation coefficients in Appendix II Table 1. Specifically, the weak correlation between the Gross capital formation, FDI net inflows, and Labor productivity indicators and the GII indicates only a limited relationship, without suggesting any causality or its absence. The JRC-COIN encourages the developers to carefully monitor the statistical fit of these indicators in future editions of the index and to thoughtfully assess their impact on economies most affected by their inclusion in the framework.

The indicator 5.1.3 Youth demographic dividend warrants special attention. The indicator's statistical fit with the remaining GII variables is rather peculiar: it shows a statistically significant negative correlation (< –0.4) with all other indicators within the sub-pillar 5.1 Knowledge workers, as well as with the GII index, with which it has a negative correlation coefficient of –0.76. Similarly, weak correlations are observed with many other indicators across the GII framework – 64 out of 77 indicators show a negative correlation below –0.3 with this indicator.

As JRC-COIN has noted previously (Laguera-Gonzalez *et al.,* 2025), this indicator has a pronounced regional impact, as it tends to favor African countries by effectively providing a "bonus" that reflects their unique demographic advantage. The youthful populations in many African economies position them with significant *potential* for innovation and economic growth in the years ahead, driven by their expanding youth population that could transform into valuable human capital. This regional dimension highlights the indicator's role in capturing forward-looking potential innovation capacity that may not be fully reflected by other measures in the index. While the JRC-COIN acknowledges the conceptual reasoning for including this indicator and its future-oriented nature, it comments the following on its statistical fit within the GII framework: the strong negative correlations observed can reduce the framework's ability to effectively differentiate and rank countries and increase sensitivity to weighting choices. Therefore, the JRC-COIN echoes its suggestion in the previous Audit (Laguera-Gonzalez *et al.,* 2025) and encourages the developers to further delve into the insights provided by the Youth demographic dividend indicator in the GII framework and to carefully consider retaining the indicator as a critical *but contextual* component in future index editions – particularly for its value in highlighting the innovation potential of regions with youthful demographic profiles, such as Africa.

The remaining 70 indicators out of the 79 in total were found to be sufficiently influential – in the statistical sense – in the GII framework.

Principal component analysis and reliability item analysis

Principal component analysis (PCA) was used to assess the extent to which the conceptual framework is confirmed by statistical approaches. PCA results confirm the presence of a single latent dimension in each of the seven pillars (one component with an eigenvalue greater than 1.0) that captures between approximately 68 percent (pillar 3: Infrastructure) and up to 80 percent (pillar 1: Institutions) of the total variance in the three underlying sub-pillars. Furthermore, results confirm the expectation that in the vast majority of cases, the sub-pillars are more closely correlated with their own pillar than with any other pillar and that nearly all correlation coefficients are greater than 0.70 (with the exception of 3.3 Ecological sustainability 0.69), suggesting that each sub-pillar's variation can explain at least 50 percent of the variation in its parent pillar (Appendix II Table 2).

The five input pillars share a single statistical dimension that summarizes 81 percent of the total variance, and the five loadings (correlation coefficients) of these pillars are very similar to each other. This similarity suggests that the five pillars make a roughly equal contribution to the variation of the Innovation Input Sub-Index scores, as envisaged by the development team. Consequently, the reliability of the Input Sub-Index, measured by Cronbach's alpha value, is very high at 0.93 – well above the 0.70 threshold for a reliable aggregate (Nunally, 1978).

The two output pillars – Knowledge and technology outputs and Creative outputs – are strongly correlated with each other (0.88); they are also both strongly correlated with the Innovation Output Sub-Index (0.96 and 0.97, respectively). As expected, the reliability of the Output Sub-Index, measured by Cronbach's alpha value, is also very high (0.93).

Finally, the two sub-indices are equally important in the overall GII. The GII is built as a simple arithmetic average of the Input Sub-Index and the Output Sub-Index. In fact, the Pearson correlation coefficients of the two sub-indices with the GII (around 0.97 in both cases), and the correlation between themselves (0.90), suggests that they are effectively placed on an equal footing.

Appendix II Table 1 Statistical coherence in the GII 2026: correlations between indicators and their aggregates

Indicator		**Correlations and R2 (variance explained)**		
code	Name	Sub-Pillar	Sub-Index	GII
Input				
1.1.1	Operational stability for businesses	0.962 [93%]	0.774 [60%]	0.682 [46%]
1.1.2	Government effectiveness	0.969 [94%]	0.937 [88%]	0.888 [79%]
1.2.1	Regulatory quality	0.988 [98%]	0.91 [83%]	0.857 [73%]
1.2.2	Rule of law	0.989 [98%]	0.88 [77%]	0.831 [69%]
1.3.1	Policy stability for doing business	0.935 [87%]	0.561 [31%]	0.459 [21%]
1.3.2	Entrepreneurship policies and culture	0.917 [84%]	0.509 [26%]	0.406 [16%]
2.1.1	Expenditure on education	0.667 [44%]	0.274 [8%]	0.246 [6%]
2.1.2	Government funding/pupil, secondary	0.713 [51%]	0.303 [9%]	0.307 [9%]
2.1.3	School life expectancy	0.685 [47%]	0.772 [60%]	0.762 [58%]
2.1.4	PISA scales in reading, maths and science	0.801 [64%]	0.775 [60%]	0.8 [64%]
2.1.5	Pupil-teacher ratio, secondary	0.615 [38%]	0.521 [27%]	0.487 [24%]
2.2.1	Tertiary enrolment	0.686 [47%]	0.713 [51%]	0.72 [52%]
2.2.2	Graduates in science and engineering	0.659 [43%]	0.259 [7%]	0.242 [6%]
2.2.3	Tertiary inbound mobility	0.664 [44%]	0.512 [26%]	0.445 [20%]

Appendix II Table 1 Statistical coherence in the GII 2026: correlations between indicators and their aggregates (cont.)

Indicator		Correlations and R2 (variance explained)		
code	Name	Sub-Pillar	Sub-Index	GII
Input				
2.3.1	Researchers	0.87 [76%]	0.852 [73%]	0.864 [75%]
2.3.2	Gross expenditure on R&D	0.872 [76%]	0.769 [59%]	0.809 [65%]
2.3.3	Global corporate R&D investors	0.93 [86%]	0.76 [58%]	0.793 [63%]
2.3.4	QS university ranking	0.919 [85%]	0.795 [63%]	0.822 [68%]
3.1.1	ICT access	0.94 [88%]	0.795 [63%]	0.766 [59%]
3.1.2	ICT use	0.94 [88%]	0.739 [55%]	0.711 [51%]
3.1.3	Government online service	0.895 [80%]	0.783 [61%]	0.782 [61%]
3.2.1	Electricity output	0.776 [60%]	0.651 [42%]	0.579 [33%]
3.2.2	Aviation import time	0.719 [52%]	0.685 [47%]	0.672 [45%]
3.2.3	Logistics performance	0.837 [70%]	0.904 [82%]	0.898 [81%]
3.2.4	Gross capital formation	0.255 [6%]	-0.019 [0%]	-0.051 [0%]
3.3.1	GDP/unit of energy use	0.575 [33%]	0.372 [14%]	0.388 [15%]
3.3.2	Low-carbon energy use	0.621 [39%]	0.239 [6%]	0.227 [5%]
3.3.3	ISO 14001 environmental certificates	0.687 [47%]	0.434 [19%]	0.455 [21%]
4.1.1	Finance for startups and scale-ups	0.788 [62%]	0.731 [53%]	0.678 [46%]
4.1.2	Domestic credit to private sector	0.831 [69%]	0.701 [49%]	0.694 [48%]
4.1.3	Loans from microfinance institutions	0.702 [49%]	-0.021 [0%]	-0.062 [0%]
4.2.1	Market capitalization	0.675 [46%]	0.481 [23%]	0.463 [21%]
4.2.2	Venture capital (VC) received	0.889 [79%]	0.727 [53%]	0.731 [53%]
4.2.3	Late-stage VC deal count	0.519 [27%]	0.484 [23%]	0.561 [31%]
4.2.4	VC investors	0.855 [73%]	0.657 [43%]	0.65 [42%]
4.3.1	Applied tariff rate, weighted avg.	0.799 [64%]	0.638 [41%]	0.607 [37%]
4.3.2	Domestic industry diversification	0.802 [64%]	0.484 [23%]	0.535 [29%]
4.3.3	Domestic market scale	0.676 [46%]	0.436 [19%]	0.519 [27%]
5.1.1	Knowledge-intensive employment	0.733 [54%]	0.848 [72%]	0.841 [71%]
5.1.2	Females employed w/advanced degrees	0.778 [61%]	0.781 [61%]	0.795 [63%]
5.1.3	Youth demographic dividend	-0.366 [13%]	-0.768 [59%]	-0.762 [58%]
5.1.4	GERD performed by business	0.852 [73%]	0.761 [58%]	0.808 [65%]
5.1.5	GERD financed by business	0.784 [61%]	0.719 [52%]	0.766 [59%]
5.2.1	Public research–industry co-publications	0.808 [65%]	0.751 [56%]	0.796 [63%]
5.2.2	University–industry R&D collaboration	0.885 [78%]	0.792 [63%]	0.757 [57%]
5.2.3	University industry & international engagement	0.887 [79%]	0.822 [68%]	0.818 [67%]
5.2.4	State of cluster development	0.839 [70%]	0.731 [53%]	0.684 [47%]

Appendix II Table 1 Statistical coherence in the GII 2026: correlations between indicators and their aggregates (cont.)

Indicator		Correlations and R2 (variance explained)		
code	Name	Sub-Pillar	Sub-Index	GII
Input				
5.2.5	Patent families	0.743 [55%]	0.661 [44%]	0.685 [47%]
5.3.1	Intellectual property payments	0.78 [61%]	0.542 [29%]	0.57 [32%]
5.3.2	High-tech imports	0.442 [20%]	0.4 [16%]	0.434 [19%]
5.3.3	ICT services imports	0.685 [47%]	0.49 [24%]	0.509 [26%]
5.3.4	FDI net inflows	0.062 [0%]	-0.024 [0%]	-0.035 [0%]
5.3.5	Green-field R&D & high-tech FDI	0.768 [59%]	0.625 [39%]	0.614 [38%]
5.3.6	Research talent	0.782 [61%]	0.757 [57%]	0.804 [65%]
Output				
6.1.1	Patents by origin	0.891 [79%]	0.815 [66%]	0.783 [61%]
6.1.2	PCT patents by inventor origin	0.875 [76%]	0.783 [61%]	0.785 [62%]
6.1.3	Utility models by origin	0.498 [25%]	0.333 [11%]	0.259 [7%]
6.1.4	Scientific and technical articles	0.694 [48%]	0.612 [37%]	0.634 [40%]
6.1.5	Citable documents H-index	0.847 [72%]	0.842 [71%]	0.819 [67%]
6.2.1	Labor productivity growth	0.281 [8%]	0.047 [0%]	0.015 [0%]
6.2.2	Unicorn valuation	0.792 [63%]	0.625 [39%]	0.628 [39%]
6.2.3	Software spending	0.628 [39%]	0.664 [44%]	0.67 [45%]
6.2.4	High-tech manufacturing	0.727 [53%]	0.733 [54%]	0.706 [50%]
6.3.1	Intellectual property receipts	0.697 [49%]	0.766 [59%]	0.767 [59%]
6.3.2	Production and export complexity	0.842 [71%]	0.801 [64%]	0.816 [67%]
6.3.3	High-tech exports	0.698 [49%]	0.637 [41%]	0.613 [38%]
6.3.4	ICT services exports	0.657 [43%]	0.449 [20%]	0.405 [16%]
6.3.5	ISO 9001 quality certificates	0.649 [42%]	0.481 [23%]	0.464 [22%]
7.1.1	Intangible asset intensity, top 15	0.776 [60%]	0.576 [33%]	0.548 [30%]
7.1.2	Trademarks by origin	0.56 [31%]	0.369 [14%]	0.302 [9%]
7.1.3	Global brand value, top 5,000	0.722 [52%]	0.754 [57%]	0.78 [61%]
7.1.4	Industrial designs by origin	0.797 [64%]	0.646 [42%]	0.555 [31%]
7.2.1	Cultural and creative services exports	0.702 [49%]	0.539 [29%]	0.527 [28%]
7.2.2	National feature films	0.631 [40%]	0.193 [4%]	0.24 [6%]
7.2.3	Entertainment and media market	0.699 [49%]	0.794 [63%]	0.861 [74%]
7.2.4	Creative goods exports	0.618 [38%]	0.578 [33%]	0.538 [29%]
7.3.1	Top-level domains (TLDs)	0.897 [81%]	0.68 [46%]	0.703 [49%]
7.3.2	GitHub commits	0.953 [91%]	0.856 [73%]	0.875 [77%]
7.3.3	Mobile app creation	0.646 [42%]	0.606 [37%]	0.605 [37%]

Note: An indicator can explain 9 percent of the variation of values in its aggregate if the Pearson correlation coefficient between the two series is 0.3. Values where Pearson correlation coefficients are lower than 0.3 are marked as gray. Values where Pearson correlation coefficients are negative and lower than –0.3 (indicating strong negative correlation) are marked as pink.

Source: European Commission, Joint Research Centre, 2026.

Appendix II Table 2 Statistical coherence in the GII 2026: correlations between sub-pillars and pillars

	Pillars						
Sub-pillar	Institutions	Human capital and research	Infra-structure	Market sophisti-cation	Business sophisti-cation	Knowledge and technology outputs	Creative outputs
1.1 Institutional environment	0.95	0.71	0.83	0.72	0.73	0.64	0.72
1.2 Regulatory environment	0.94	0.75	0.81	0.73	0.79	0.70	0.77
1.3 Business environment	0.80	0.34	0.38	0.38	0.42	0.30	0.29
2.1 Education	0.46	0.79	0.54	0.52	0.51	0.51	0.54
2.2 Tertiary education	0.58	0.82	0.69	0.65	0.54	0.57	0.60
2.3 Research and development (R&D)	0.65	0.88	0.75	0.81	0.90	0.88	0.84
3.1 Information and communication technology (ICT)	0.71	0.75	0.92	0.74	0.65	0.71	0.76
3.2 General infrastructure	0.71	0.72	0.84	0.72	0.68	0.67	0.67
3.3 Ecological sustainability	0.42	0.45	0.69	0.48	0.48	0.54	0.53
4.1 Credit	0.62	0.71	0.67	0.87	0.64	0.64	0.69
4.2 Investment	0.68	0.70	0.62	0.81	0.80	0.73	0.77
4.3 Trade, div ersification, and market scale	0.45	0.65	0.75	0.77	0.62	0.72	0.71
5.1 Knowledge workers	0.44	0.64	0.48	0.58	0.85	0.70	0.65
5.2 Innovation linkages	0.80	0.81	0.74	0.80	0.92	0.83	0.81
5.3 Knowledge absorption	0.63	0.71	0.71	0.71	0.88	0.78	0.82
6.1 Knowledge creation	0.55	0.81	0.68	0.75	0.85	0.91	0.82
6.2 Knowledge impact	0.58	0.69	0.67	0.73	0.74	0.88	0.75
6.3 Knowledge diffusion	0.55	0.69	0.75	0.71	0.75	0.90	0.78
7.1 Intangible assets	0.51	0.71	0.68	0.72	0.73	0.76	0.91
7.2 Creative goods and services	0.62	0.66	0.69	0.71	0.71	0.74	0.79
7.3 Online creativity	0.69	0.75	0.72	0.72	0.81	0.76	0.80

Source: European Commission, Joint Research Centre, 2026.

Added value of the GII

The strong statistical association between the components of a composite index could also signal potential redundancy (or double counting) of information within the composite index. For the case of the GII, the Input and Output Sub-Indices correlate strongly with each other and with the overall GII, while the pillars in the Input and the Output Sub-Indices have a very high statistical reliability. However, analysis conducted by the JRC-COIN on country rankings based on these aggregates confirms that this high statistical reliability does not result in redundancy of information. A country's GII ranking differs from that in any of its seven pillars by 10 positions or more for at least 45 percent (up to 72 percent) of the 139 economies included in the GII 2026 (Appendix II Table 3). Similarly, the average change in country ranks (Saisana *et al.,* 2005) between any pillar and the GII is at least 10.5 rank positions (Creative outputs) and up to 21 rank positions (Institutions). This serves as a demonstration of the added value of the GII ranking, which helps to highlight other aspects of innovation within individual countries that are not immediately apparent from analysis of the seven pillars individually. It also highlights the usefulness of taking due account of the information contained in each of the GII pillars, sub-

pillars and indicators individually. By doing so, economy-specific strengths and bottlenecks in innovation inputs, framework conditions, and outputs can be identified and serve as a basis for evidence-based policymaking.

Appendix II Table 3 Distribution of differences between pillar and GII 2026 rankings

	Innovation Input Sub-Index					Innovation Output Sub-Index	
Rank difference (positions)	Insti-tutions (%)	Human capital and research (%)	Infra-structure (%)	Market sophistication (%)	Business sophistication (%)	Knowledge and technology outputs (%)	Creative outputs (%)
30 or more	28.1	9.4	7.2	9.4	17.3	7.2	4.3
20–29	18.0	19.4	12.2	14.4	15.1	10.1	11.5
10–19	25.9	25.9	33.8	31.7	17.3	33.8	28.8
10 or more*	71.9	54.7	53.2	55.4	49.6	51.1	44.6
5–9	15.8	21.6	18.7	16.5	19.4	16.5	25.2
Less than 5	12.2	23.7	28.1	28.1	30.9	32.4	30.2
Same rank	1.4	2.2	1.4	5.8	4.3	4.3	5.8
Spearman rank correlation coefficient with the GII	0.78	0.87	0.92	0.88	0.84	0.92	0.94

Note: The gray row is the sum of the first three rows (“More than 30”, “20–29” and “10–19”).
Source: European Commission, Joint Research Centre, 2026.

Step 4: Qualitative Review

Lastly, JRC-COIN evaluated the GII results – in particular, the overall economy classifications and relative performances in terms of the Innovation Input or Output Sub-Indices – with the aim to verify that the overall results are robust with respect to the modeling assumptions made during the development of the GII.

The impact of modeling assumptions on the GII results

Any composite index, the GII included, is the result of methodological choices made along the way during its development. In many cases, such choices have a clear rationale, but there is always some equally plausible alternative that could be also chosen. The existence of such alternatives creates an inherent uncertainty in composite index scores and rankings, as these are likely to differ each time a different methodological choice is made. A powerful characteristic of a composite index is that the information it conveys (notably, country rankings) is robust to these alternative methodological choices. Robustness verifies its reliability as a monitoring framework of the underlying phenomenon that is being measured. Overall, the results in this section verify the robustness of the GII with respect to modeling assumptions and its reliability as a monitoring framework for innovation performance at the global level. Notwithstanding these positive results, the structure of the GII model is, and must remain, open to future improvements which may be needed as better data, more comprehensive surveys and assessments, and new, relevant research studies become available.

An important part of the GII statistical audit is to check the potential effect of varying methodological choices made while developing the GII within plausible ranges.

Modeling assumptions with a direct impact on GII scores and rankings relate to:

- the underlying structure selected for the index based on pillars;
- the choice of individual variables to be used as indicators;

- decisions regarding whether (and how) to impute missing data;
- decisions regarding whether (and how) to treat outliers;
- the selection of the normalization formula to be used;
- the choice of aggregation weights for indicators and their aggregates; and
- the aggregation rule to be used at each different level of the index structure.

The rationale for the choices made by the GII developers regarding each of these issues is well-grounded: for instance, expert opinion coupled with statistical analysis informs the selection of the individual indicators; common practice and easier interpretation suggest the use of a minimum–maximum normalization approach in the [0–100] range; statistical analysis guides the treatment of outliers; while simplicity and parsimony criteria advocate for the developers' choice for not imputing missing data. The uncertainty that naturally stems from the above-mentioned modeling choices is accounted for in the robustness assessment carried out by the JRC-COIN. In particular, the methodology applied allows for the joint and simultaneous analysis of the impact made by such choices on the aggregate scores. The analysis carried out by JRC-COIN supplements the GII 2026 individual economy rankings with confidence intervals, to better appreciate the robustness of these rankings in relation to the modeling choices.

As suggested by the relevant literature on composite indicators (Saisana *et al.*, 2005; Saisana *et al.*, 2011; Vertesy, 2016; Vertesy and Deiss, 2016; Montalto *et al.*, 2019) the robustness assessment is based on Monte Carlo simulation and multi-modeling approaches, applied to data that are assumed to be "error-free" where potential outliers, errors and typos have already been corrected at a preliminary stage. In particular, the three key modeling issues considered in the assessment of the GII were the treatment of missing data, the aggregation formula and weights applied to the pillar level.

The Monte Carlo simulation comprised 5,000 runs of different sets of weights for the seven GII pillars. Weights were assigned to the pillars based on random perturbations centered on the reference values. The ranges of simulated weights were defined by considering both the need for a wide enough interval to allow for meaningful robustness checks and the need to respect the underlying principle of the GII that the Input and the Output Sub-Indices should be placed on an equal footing. As a result of these considerations, the limit values of uncertainty for the five input pillars are between 10 and 30 percent, whereas the limit values for the two output pillars are between 40 and 60 percent (Appendix II Table 4).

Appendix II Table 4 Uncertainty parameters: missing values, aggregation and weights

	Reference	**Alternative(s)**
I. Uncertainty in the treatment of missing values	No estimation of missing data	Expectation–maximization (EM)
		k-nearest neighbour imputation (kNN, k = 10)
II. Uncertainty in the aggregation formula at pillar level	Arithmetic average	Weighted generalized mean (p = 0, 0.25, 0.5, 0.75)
III. Uncertainty intervals for the GII pillar weights		
Pillar	Reference value for the weight	Distribution assigned for robustness analysis
Institutions	0.2	U[0.1,0.3]
Human capital and research	0.2	U[0.1,0.3]
Infrastructure	0.2	U[0.1,0.3]
Market sophistication	0.2	U[0.1,0.3]
Business sophistication	0.2	U[0.1,0.3]
Knowledge and technology outputs	0.5	U[0.4,0.6]
Creative outputs	0.5	U[0.4,0.6]

Source: European Commission, Joint Research Centre, 2026.

For transparency and replicability purposes, the GII team has always opted not to estimate missing data. In cases where missing data exists, the score of the aggregate containing the missing value is based on the other elements of the aggregate for which values are observed. This "no imputation" choice is common in other composite indicators and is usually selected to improve transparency and avoid any methodological black box in the imputation of data. Technically, this constitutes a form of "shadow" imputation (for example, in an arithmetic average it is equivalent to replacing the missing value with the arithmetic average of the elements for which values are observed). Hence, the available data (indicators) in the incomplete pillar may dominate it, sometimes biasing the ranks up or down. To test the impact of not imputing missing values, the JRC-COIN estimated missing data using two different data imputation approaches: (a) the expectation–maximization (EM) algorithm and (b) the k-nearest neighbor (k-NN) approach (using the 10 nearest neighbors). Both were applied within each GII pillar and then compared to the no-imputation approach (see Appendix II Table 6).[6]

With regards to the aggregation formula, decision theory practitioners challenge the use of simple arithmetic averages because of their fully compensatory nature, where a country's high comparative advantage on a few indicators can compensate for its comparative disadvantage on many other indicators (Munda, 2008). To assess the impact of this modeling choice, the JRC-COIN explored various scenarios of the weighted generalized mean[7] as an alternative to the arithmetic average. These scenarios allow less compensability,[8] rewarding economies with balanced profiles and encouraging them to improve in the GII pillars in which they perform poorly, rather than just excelling in any GII pillar.

Fifteen models were tested based on the combination of no imputation versus EM or k-NN imputation and arithmetic versus generalized average, with the geometric average being the variation of the generalized average that allows the least compensability among those tested. A random combination of these choices plus a random set of perturbed weights were used in a total of 5,000 simulations for the GII and each of the two sub-indices (see Appendix II Table 4 for a summary of the uncertainties considered).

Uncertainty analysis results

The main results of the robustness analysis are shown in Appendix II Figure 1, with median ranks and 90 percent confidence intervals computed across the 5,000 Monte Carlo simulations for the GII and the two sub-indices. Economies are in ascending order (best to worst performing) according to their reference rank (solid straight line), with the dot representing the median rank over the simulations.

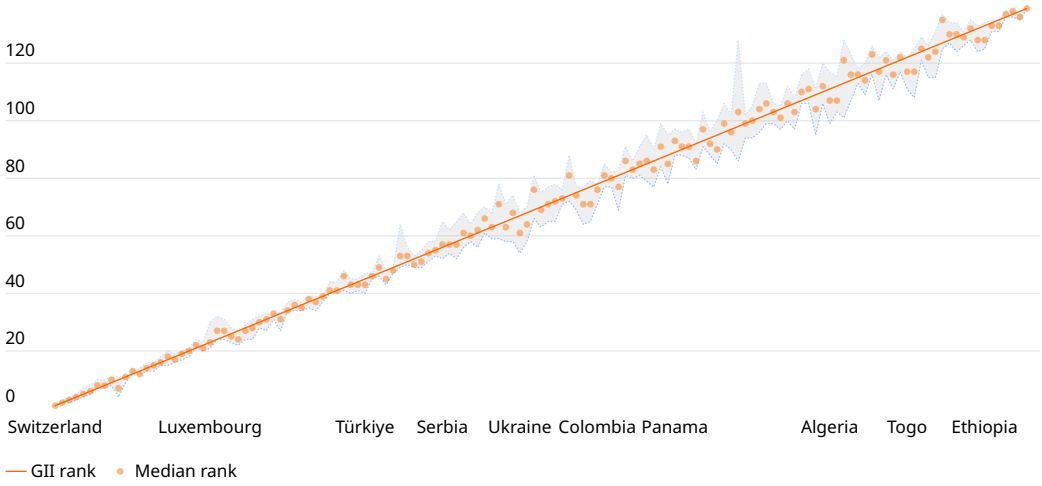
6 The expectation–maximization (EM) algorithm (;) is an iterative procedure that finds the maximum likelihood estimates of the parameter vector by repeating two steps: (a) The expectation step (E-step): given a set of parameter estimates, such as a mean vector and covariance matrix for a multivariate normal distribution, the E-step calculates the conditional expectation of the complete-data log likelihood, given the observed data and the parameter estimates. (b) The maximization step (M-step): given a complete-data log likelihood, the M-step finds the parameter estimates to maximize the complete-data log likelihood from the E-step. The two steps are iterated until the iterations converge. The k-nearest neighbor approach replaces a missing value for a country A with the average of the values observed for the same indicator in k (which in this case is equal to five) other sample countries which are identified as country A's "nearest neighbors," in the sense that their performance in the other indicators is similar to that of country A. This involves two steps: (a) estimating measure of distance between country A and all other sample countries (e.g., the Euclidean distance) based on the indicators for which country A has observed data and selecting the k countries with the smaller distance to country A, and (b) obtaining the average of the indicator values for the selected countries and using it to fill the missing value for country A.

7 The various scenarios for the generalized mean involve using different exponent values: 0, 0.25, 0.75, and 0.5, allowing for various levels of compensability. In the geometric average (exponent value = 0), pillars are multiplied as opposed to summed in the arithmetic average. Pillar weights appear as exponents in the multiplication. All pillar scores were greater than zero, hence there was no reason to rescale them to avoid zero values that would have led to zero geometric averages.

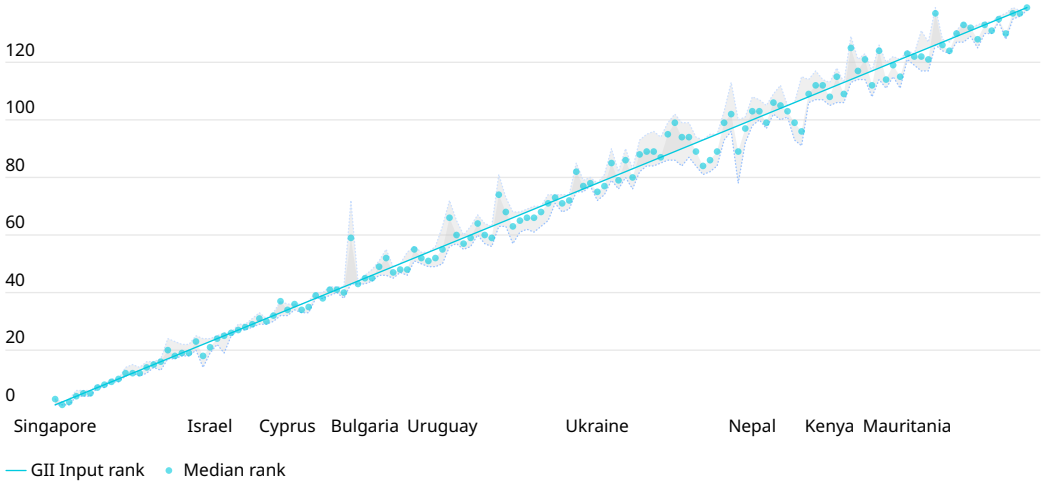
8 To elaborate more on the limited compensability under different p values, assume two components A and B being aggregated into a composite index with equal weights, where A = 0.5 × B. If p = 1 (arithmetic mean), a decline in A (the component in which performance is worse and in fact half that of B) of 1 unit will cause the same decline in the composite index as a decline in B (the component in which performance is two times larger) by 1 unit (perfect compensability). This is because the relative impact of an increase in A compared to B is equal to $(A/B)a^{-1}$. If p = 0.75, 0.5, or 0.25, the decline in A will cause a decline in the composite index which will be about 1.18, 1.41, and 1.68 times larger, respectively, compared to a decline in B by the same amount, while when p 0 (geometric mean) the decline in A will cause a decline in the composite index which will be 2 times larger compared to a decline in B by the same amount (see the discussion on the properties of the generalized mean in UNDP, 1997).

Appendix II Figure 1 Robustness analysis of the GII, Input and Output Sub-Indices

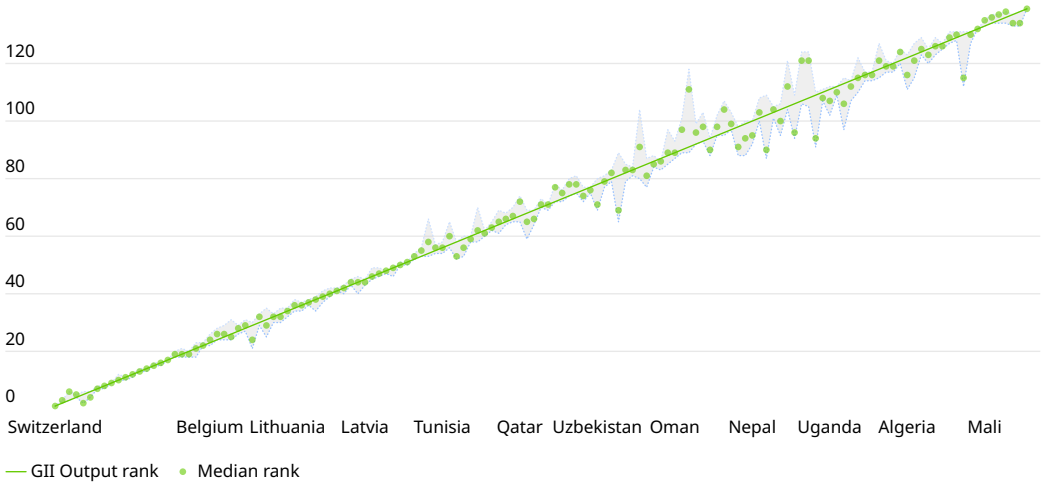
(a) Index rank vs. median rank, 90 percent confidence intervals



(b) Input rank vs. median rank, 90 percent confidence intervals



(c) Output rank vs. median rank, 90 percent confidence intervals



Notes: Median ranks and intervals are calculated over 5,000 simulated scenarios combining simulated weights, imputation (based on EM or k-NN) versus no imputation of missing values, and various scenarios of the generalized mean versus arithmetic average at the pillar level. The Spearman rank correlation between the median rank and the GII 2026 rank is 0.998; between the median rank and the Innovation Input 2026 rank is 0.995; and between the median rank and the Innovation Output 2026 rank is 0.994.

Source: European Commission, Joint Research Centre, 2026.

As is evident, all published GII 2026 ranks lie within the simulated 90 percent confidence intervals. Furthermore, for most economies these intervals are sufficiently narrow to allow meaningful inferences to be drawn with regard to each economy's relative standing in terms of innovation performance: the width of the 90 percent GII rank confidence interval is less than 10 positions in rank for 86 of the 139 economies considered in the GII (62 percent), while this holds for 103 of the 139 economies in the case of the Input Sub-Index and for 110 in the case of the Output Sub-Index. This suggests a significant robustness of the GII and its sub-indices to effectively discriminate between the economies ranked even if various methodological choices change. However, it is also true that a small group of economies experience significant changes in rank with variations in weights and aggregation formula and when imputing missing data. Two economies – Brunei Darussalam and Madagascar – have 90 percent confidence interval widths of more than 20 positions (27 and 42 positions, respectively). Consequently, their rankings (98th and 113th) in the GII classification should be interpreted cautiously and not taken at face value. However, this is a remarkable improvement compared to GII versions up to 2016, when more than 40 economies had confidence interval widths of more than 20 positions. The improvement in confidence intervals in the GII 2026 ranking is the direct result of the decision to adopt a more stringent criterion for an economy's inclusion since 2016, which now requires at least 66 percent data availability within each of the two sub-indices. There is also an improvement compared to the previous version of the GII in 2025, in which seven economies realized confidence intervals larger than 20 positions.

Similarly, some caution is also warranted with regards to the ranking of three economies (Belarus, Bhutan and Paraguay) for the Input Sub-Index, for which the 90 percent confidence interval has a width of more than 20 positions (22, 29 and 24, respectively). In the Output Sub-Index, this occurs for four economies – Bhutan, Ghana, Lebanon and Madagascar – for which the 90 percent confidence interval widths are up to 29 positions. The higher data availability in the Output Sub-Index in the latest GII editions has contributed to reducing the number of countries with very wide intervals compared to previous editions (e.g., the GII 2019 edition in which there were 13 countries with confidence intervals wider than 20 positions).

Although the rankings for a few economies in the GII or in the two sub-indices appear to be sensitive to methodological choices, the published rankings for the vast majority of the 139 countries included in the 2026 GII and its two sub-indices can be considered as representative of the plurality of scenarios simulated in this audit. Taking the median simulated rank from the Monte Carlo uncertainty analysis as the benchmark for an economy's expected rank in the realm of the GII's unavoidable methodological uncertainties, 69 percent of the economies are found to shift fewer than three positions with respect to the published rank in the GII; the percentage for the Input and the Output Sub-Indices is similarly large (at 59 and 68 percent, respectively).

To offer full transparency and complete information, Appendix II Table 5 reports the GII 2026 Index and Input and Output Sub-Indices' economy ranks together with the simulated 90 percent confidence intervals to allow a better appreciation of the robustness of the results to the choice of weights, aggregation formula and the impact of estimating missing data (where applicable).

Appendix II Table 5 GII 2026 and Input/Output Sub-Indices: rankings and 90 percent confidence intervals

	GII 2026		Input Sub-Index		Output Sub-Index	
	Rank	Interval	Rank	Interval	Rank	Interval
Switzerland	1	[1, 1]	2	[1, 2]	1	[1, 1]
Sweden	2	[2, 3]	3	[1, 3]	3	[3, 6]
United States of America	3	[2, 4]	5	[4, 6]	2	[2, 3]
Republic of Korea	4	[3, 5]	4	[4, 6]	6	[4, 6]
Singapore	5	[4, 7]	1	[1, 3]	9	[9, 9]
United Kingdom	6	[5, 8]	10	[9, 10]	4	[4, 5]
Netherlands (Kingdom of the)	7	[7, 10]	9	[9, 10]	7	[7, 8]
Finland	8	[7, 10]	6	[4, 6]	10	[10, 12]
Denmark	9	[8, 11]	7	[7, 8]	11	[10, 11]
China	10	[4, 11]	22	[14, 24]	5	[2, 6]
Germany	11	[9, 11]	14	[12, 16]	8	[7, 8]
Japan	12	[12, 13]	11	[11, 14]	13	[13, 14]
France	13	[12, 14]	18	[17, 23]	12	[11, 12]
Hong Kong, China	14	[13, 16]	8	[7, 8]	21	[18, 23]
Israel	15	[13, 16]	23	[19, 24]	14	[13, 14]
Canada	16	[15, 18]	15	[14, 16]	18	[18, 20]
Estonia	17	[15, 20]	26	[25, 26]	15	[15, 16]
Austria	18	[16, 19]	19	[18, 22]	17	[17, 17]
Ireland	19	[17, 20]	20	[18, 22]	19	[18, 21]
Australia	20	[18, 21]	13	[11, 14]	24	[24, 28]
Norway	21	[21, 24]	16	[13, 17]	30	[29, 33]
Belgium	22	[20, 23]	24	[22, 25]	23	[22, 26]
Luxembourg	23	[21, 30]	25	[19, 26]	31	[25, 35]
New Zealand	24	[24, 32]	17	[17, 24]	37	[36, 38]
United Arab Emirates	25	[24, 31]	12	[12, 15]	42	[40, 43]
Iceland	26	[23, 28]	21	[20, 25]	33	[30, 35]
Italy	27	[22, 27]	36	[33, 36]	16	[15, 16]
Spain	28	[24, 29]	31	[29, 31]	22	[22, 23]
Cyprus	29	[24, 31]	34	[32, 36]	20	[18, 20]
Portugal	30	[28, 32]	28	[27, 29]	27	[26, 29]
Malta	31	[27, 33]	32	[30, 33]	26	[24, 31]
Lithuania	32	[31, 33]	27	[27, 29]	34	[32, 35]
Czech Republic	33	[27, 33]	37	[33, 37]	29	[21, 30]
Malaysia	34	[34, 37]	29	[28, 31]	40	[39, 42]
Slovenia	35	[34, 38]	35	[34, 36]	38	[34, 39]
Hungary	36	[34, 37]	39	[38, 40]	32	[30, 33]
Bulgaria	37	[35, 39]	45	[43, 46]	28	[27, 31]
India	38	[34, 39]	49	[45, 49]	25	[24, 29]
Poland	39	[37, 39]	42	[38, 42]	36	[34, 37]

Appendix II Table 5 GII 2026 and Input/Output Sub-Indices: rankings and 90 percent confidence intervals (cont.)

	GII 2026		Input Sub-Index		Output Sub-Index	
	Rank	Interval	Rank	Interval	Rank	Interval
Latvia	40	[40, 44]	38	[38, 40]	45	[43, 45]
Greece	41	[40, 44]	40	[39, 42]	43	[43, 45]
Saudi Arabia	42	[41, 48]	30	[29, 33]	62	[60, 62]
Viet Nam	43	[40, 45]	54	[49, 54]	35	[34, 38]
Thailand	44	[41, 45]	46	[44, 48]	41	[41, 42]
Türkiye	45	[40, 47]	51	[46, 54]	39	[37, 41]
Croatia	46	[45, 47]	44	[43, 44]	47	[46, 49]
Qatar	47	[46, 53]	33	[32, 37]	67	[65, 74]
Slovakia	48	[43, 48]	50	[47, 50]	44	[40, 46]
Romania	49	[47, 49]	55	[49, 56]	48	[47, 48]
Mauritius	50	[49, 64]	52	[51, 56]	54	[53, 66]
Chile	51	[50, 56]	41	[40, 42]	70	[70, 73]
Philippines	52	[49, 53]	69	[61, 70]	49	[46, 49]
Brazil	53	[49, 55]	66	[57, 68]	50	[50, 51]
Morocco	54	[51, 58]	76	[75, 79]	46	[45, 49]
Indonesia	55	[53, 58]	60	[56, 63]	60	[58, 60]
Serbia	56	[52, 65]	59	[55, 60]	61	[58, 70]
Georgia	57	[54, 62]	53	[50, 54]	69	[64, 69]
Russian Federation	58	[52, 65]	71	[65, 74]	55	[54, 57]
Armenia	59	[56, 68]	77	[77, 80]	52	[52, 54]
Jordan	60	[58, 64]	63	[56, 63]	65	[64, 68]
North Macedonia	61	[56, 68]	67	[61, 68]	64	[61, 69]
Kuwait	62	[61, 70]	61	[60, 67]	71	[69, 71]
South Africa	63	[59, 68]	70	[63, 70]	63	[62, 65]
Bahrain	64	[59, 78]	48	[46, 55]	80	[79, 83]
Mexico	65	[58, 71]	81	[76, 82]	53	[53, 56]
Uruguay	66	[58, 74]	56	[50, 63]	77	[75, 77]
Ukraine	67	[54, 68]	78	[72, 78]	59	[53, 60]
Republic of Moldova	68	[58, 70]	94	[82, 95]	51	[50, 51]
Oman	69	[66, 81]	47	[46, 51]	89	[87, 93]
Costa Rica	70	[63, 75]	62	[57, 64]	76	[72, 77]
Tunisia	71	[65, 77]	92	[84, 94]	56	[54, 58]
Mongolia	72	[65, 78]	93	[81, 93]	57	[56, 65]
Kazakhstan	73	[71, 76]	73	[68, 74]	73	[72, 76]
Bhutan	74	[72, 88]	43	[43, 72]	102	[87, 109]
Argentina	75	[69, 77]	83	[76, 83]	66	[65, 70]
Montenegro	76	[64, 77]	79	[74, 81]	68	[59, 69]
Uzbekistan	77	[65, 79]	68	[62, 69]	78	[69, 80]
Colombia	78	[71, 78]	74	[69, 74]	74	[74, 80]
Albania	79	[77, 85]	57	[56, 72]	94	[88, 94]
Peru	80	[77, 82]	72	[71, 74]	82	[79, 85]
Iran (Islamic Republic of)	81	[69, 83]	104	[100, 112]	58	[52, 58]
Botswana	82	[81, 91]	64	[63, 81]	95	[95, 102]

Appendix II Table 5 GII 2026 and Input/Output Sub-Indices: rankings and 90 percent confidence intervals (cont.)

	GII 2026		Input Sub-Index		Output Sub-Index	
	Rank	Interval	Rank	Interval	Rank	Interval
Egypt	83	[80, 86]	95	[84, 95]	75	[75, 81]
Bosnia and Herzegovina	84	[81, 91]	84	[82, 93]	83	[81, 84]
Azerbaijan	85	[79, 95]	65	[63, 73]	109	[91, 110]
Lebanon	86	[77, 90]	90	[84, 99]	81	[65, 89]
Jamaica	87	[84, 99]	91	[87, 99]	88	[85, 97]
Belarus	88	[78, 95]	98	[78, 100]	85	[77, 87]
Panama	89	[88, 97]	86	[84, 96]	93	[93, 103]
Senegal	90	[88, 96]	82	[80, 90]	99	[88, 100]
Barbados	91	[87, 97]	85	[84, 95]	98	[88, 98]
Kyrgyzstan	92	[83, 92]	106	[93, 106]	79	[77, 81]
Cambodia	93	[91, 103]	88	[86, 99]	97	[97, 103]
Sri Lanka	94	[88, 96]	102	[97, 105]	87	[83, 86]
Pakistan	95	[85, 100]	121	[111, 121]	72	[72, 78]
Rwanda	96	[92, 106]	80	[79, 90]	114	[107, 114]
Kenya	97	[90, 102]	111	[105, 113]	86	[84, 88]
Brunei Darussalam	98	[86, 128]	58	[57, 65]	138	[133, 138]
Dominican Republic	99	[94, 102]	87	[85, 94]	110	[107, 111]
El Salvador	100	[94, 105]	105	[101, 105]	90	[89, 101]
Ghana	101	[96, 113]	103	[102, 109]	91	[89, 118]
Namibia	102	[99, 113]	75	[75, 85]	129	[128, 131]
Cabo Verde	103	[99, 106]	97	[96, 113]	104	[95, 106]
Nepal	104	[97, 105]	100	[98, 108]	100	[92, 100]
Bangladesh	105	[100, 112]	115	[114, 121]	92	[92, 99]
Ecuador	106	[97, 108]	101	[100, 107]	106	[94, 109]
Trinidad and Tobago	107	[106, 116]	96	[93, 103]	121	[120, 125]
Lao People's Democratic Republic	108	[106, 118]	89	[86, 102]	127	[125, 127]
Paraguay	109	[95, 111]	107	[91, 115]	101	[100, 108]
Côte d'Ivoire	110	[106, 120]	108	[106, 114]	107	[106, 124]
Algeria	111	[99, 117]	99	[92, 101]	122	[111, 123]
Tajikistan	112	[103, 115]	113	[106, 113]	113	[97, 115]
Madagascar	113	[101, 128]	130	[127, 134]	84	[80, 104]
Bolivia (Plurinational State of)	114	[107, 123]	120	[115, 122]	105	[104, 121]
Zambia	115	[113, 118]	110	[107, 114]	120	[117, 120]
Honduras	116	[109, 120]	117	[108, 117]	116	[114, 117]
Benin	117	[116, 126]	109	[107, 117]	128	[127, 131]
Nigeria	118	[107, 122]	128	[123, 127]	96	[95, 107]
United Republic of Tanzania	119	[116, 124]	116	[114, 123]	119	[117, 121]
Guatemala	120	[111, 121]	119	[111, 120]	117	[114, 117]
Cameroon	121	[117, 124]	112	[106, 118]	126	[123, 129]

Appendix II Table 5 GII 2026 and Input/Output Sub-Indices: rankings and 90 percent confidence intervals (cont.)

	GII 2026		Input Sub-Index		Output Sub-Index	
	Rank	Interval	Rank	Interval	Rank	Interval
Togo	122	[111, 122]	123	[119, 123]	112	[109, 112]
Uganda	123	[108, 125]	125	[117, 127]	111	[102, 112]
Nicaragua	124	[121, 129]	114	[113, 129]	130	[112, 131]
Myanmar	125	[115, 126]	132	[125, 133]	103	[101, 105]
Malawi	126	[115, 131]	124	[117, 131]	123	[115, 127]
Venezuela (Bolivarian Republic of)	127	[125, 137]	126	[126, 139]	124	[123, 129]
Lesotho	128	[127, 134]	118	[114, 126]	137	[133, 137]
Mozambique	129	[124, 134]	133	[130, 134]	118	[115, 127]
Burkina Faso	130	[126, 131]	129	[127, 131]	125	[120, 125]
Mauritania	131	[128, 135]	122	[121, 124]	135	[134, 137]
Zimbabwe	132	[124, 133]	136	[128, 137]	108	[105, 124]
Ethiopia	133	[125, 134]	134	[130, 134]	115	[110, 122]
Mali	134	[131, 135]	127	[124, 128]	133	[133, 135]
Burundi	135	[131, 135]	131	[129, 132]	131	[127, 131]
Angola	136	[136, 138]	135	[134, 136]	136	[134, 138]
Democratic Republic of the Congo	137	[136, 138]	137	[135, 139]	134	[134, 137]
Niger	138	[135, 138]	138	[136, 138]	132	[132, 132]
Chad	139	[139, 139]	139	[138, 139]	139	[139, 139]

Notes: Median ranks and intervals are calculated over 5,000 simulated scenarios combining simulated weights, imputation (based on EM or k-NN) versus no imputation of missing values, and various scenarios of the generalized mean versus arithmetic average at the pillar level.

Source: European Commission, Joint Research Centre, 2026.

Sensitivity analysis results

Complementary to the uncertainty analysis, sensitivity analysis has been used to identify which of the modeling assumptions have the greatest impact on certain country rankings. Appendix II Table 6 summarizes the impact of one-off changes in the imputation method (no imputation versus EM or k-NN imputation) and/or the aggregation formula (arithmetic versus generalized aggregation), keeping the aggregation weights fixed at their reference values (as in the nominal GII). As with the results of previous audits, neither the GII nor the Input or Output Sub-Indices are found to be heavily influenced by the imputation of missing data, or by the aggregation formula. Regarding the GII index, there is only one economy (Brunei Darussalam) for which rank deteriorates by more than 20 positions when generalized aggregation is used instead of arithmetic aggregation. On the other hand, Bhutan's Input Sub-Index rank deteriorates by more than 20 positions when a combination of a different aggregation and imputation method is used (generalized aggregation and k-NN). The choice of the imputation method appears to also be crucial for the ranking of three other countries in the case of the Output Sub-Index, namely Ghana, Nicaragua and Zimbabwe. For these countries, missing data account for 16, 32, and 4 percent of the Output Sub-Index indicators.[9]

9 Zimbabwe is missing data for indicator 7.2.3 only. However, the normalized values of the remaining three indicators within sub-pillar 7.2 are very low (less than 3 with 100 being the best performance) and hence their average – which is implicitly assigned to indicator 7.2.3 in the nominal GII – is similarly low. The alternative imputation methods are based also on the data of similar countries to impute indicator 7.2.3, potentially resulting in much larger values than the average.

Overall, the analysis carried out by JRC-COIN verifies that the rankings of the 2026 GII are reliable and, for the vast majority of the considered economies, the simulated 90 percent confidence intervals are narrow enough to allow meaningful inferences to be drawn for their relative performance. There are a few economies that appear to be sensitive to the way missing values are treated, most of which have a rather large share of missing data. It is however suggested that the readers of the GII 2026 report consider an economy's ranking in the GII 2026 and in the Input and Output Sub-Indices not only at face value, but also within the 90 percent confidence intervals, to better appreciate the degree to which an economy's rank depends on modeling choices.

Appendix II Table 6 Sensitivity analysis: impact of modeling choices on countries with the most sensitive rankings

			Number of countries that:			
Index or Sub-Index	**Uncertainty tested (pillar level only)**	**Spearman rank correlation between the two series**	**improve by more than 20 positions**	**improve between 10 and 20 positions**	**deteriorate by more than 20 positions**	**deteriorate between 10 and 20 positions**
GII	Geometric vs. arithmetic average	0.994	0	0	1*	1
	EM imputation vs. no imputation of missing data	0.995	0	5	0	1
	k-NN imputation vs. no imputation of missing data	0.996	0	3	0	1
	Geometric average and EM imputation vs. arithmetic average and no imputation of missing data	0.993	0	8	0	1
	Geometric average and k-NN imputation vs. arithmetic average and no imputation of missing data	0.994	0	2	0	1
Input Sub-Index	Geometric vs. arithmetic average	0.996	0	0	0	1
	EM imputation vs. no imputation of missing data	0.995	0	3	0	0
	k-NN imputation vs. no imputation of missing data	0.993	0	4	0	5
	Geometric average and EM imputation vs. arithmetic average and no imputation of missing data	0.993	0	3	0	2

Appendix II Table 6 Sensitivity analysis: impact of modeling choices on countries with the most sensitive rankings (cont.)

			Number of countries that:			
Index or Sub-Index	**Uncertainty tested (pillar level only)**	**Spearman rank correlation between the two series**	**improve by more than 20 positions**	**improve between 10 and 20 positions**	**deteriorate by more than 20 positions**	**deteriorate between 10 and 20 positions**
	Geometric average and k-NN imputation vs. arithmetic average and no imputation of missing data	0.988	0	7	1**	7
Output Sub-Index	Geometric vs. arithmetic average	0.999	0	0	0	0
	EM imputation vs. no imputation of missing data	0.988	1x	7	2***	5
	k-NN imputation vs. no imputation of missing data	0.991	0	7	1****	3
	Geometric average and EM imputation vs. arithmetic average and no imputation of missing data	0.988	1x	6	0	4
	Geometric average and k-NN imputation vs. arithmetic average and no imputation of missing data	0.989	0	6	1****	4

Notes: EM is the expectation–maximization algorithm and k-NN is the k-nearest neighbor approach. * Brunei Darussalam; ** Bhutan; *** Ghana, Zimbabwe; **** Ghana; [x] Nicaragua.

Source: European Commission, Joint Research Centre, 2026.

Best-practice frontier in the GII by data envelopment analysis

Can we benchmark economies' multidimensional innovation performance without applying a fixed and uniform set of weights that might be unfair to a particular economy?

Indicator developers often face this question, particularly when stakeholders feel that the selection of aggregation weights might not reflect their current trajectory and future aspirations. Indeed, innovation policies at the national level must strike a balance between global trends that need to be followed (such as lately the adoption of AI) and each country's unique context (e.g., development stage), future strategies (e.g., *how* they inspire to adopt AI), and challenges that lie ahead. Evaluating multidimensional innovation performance by applying a common set of weights to all economies could hinder the acceptance of an innovation index, as the chosen weighting scheme might be perceived as unfair to specific economies since it does not reflect their national priorities or the distinct challenges they encounter compared to other economies. Scholars have indicated that composite indices could use country-specific weights to reflect such country specificities (see, e.g., Srinivasan's (1994) note on the Human Development Index). A notable advantage of data envelopment analysis (DEA), as applied in real world decision-making contexts, is exactly this feature. It endogenously determines a set of aggregation weights that optimize each economy's overall composite score, given a set of other observations (economies). In the absence of a global consensus or strategy on innovation activity priorities, and with numerous national innovation strategies influenced by diverse country-specific factors, this approach presents a reasonable alternative to using uniform weights across economies.

In this section we relax the assumption of fixed pillar weights common to all economies by allowing economy-specific weights that maximize an economy's global innovation score to be determined endogenously by means of the Benefit-of-the-Doubt (BoD) model, a tailored DEA model that is suitable for the case of composite indicators construction. The original question posed by the DEA literature was how to measure each unit's relative efficiency in production compared to a sample of peers, given observations on input and output quantities and, often, no reliable information on prices (Charnes and Cooper, 1985). A notable difference between the original DEA approach and the one of the BoD model that is used here is that no differentiation between inputs and outputs is made but instead only outputs (indicators) are considered (Cherchye *et al.*, 2008). Thus, along the lines of Cook *et al.*, (2014) the BoD model evaluates countries with respect to a best-practice frontier formed by the countries with the relatively best achievements in the considered pillars, rather than an efficiency frontier formed by the countries that transform inputs to outputs in the most efficient way. One can view this as a special kind of "production" process where each economy employs an apparatus of socioeconomic norms, rules and strategies to steer its innovation performance to the maximum possible (Lovell *et al.,* 1995).

To estimate DEA-BoD-based distance to the best-practice frontier scores, we consider the $m = 7$ pillars in the GII 2026 for $n = 139$ economies, with y_{ij} the value of pillar j in economy i. The objective is to combine the pillar scores per economy into a single number, calculated as the weighted average of the m pillars, where w_j represents the weight of the j-th pillar. In the absence of reliable information about the true weights, the weights that maximize the DEA-BoD-based scores are endogenously determined. This gives the following linear programming problem for each economy i:

$$Y_i = \max_{w_{ij}} \sum_{j=1}^{7} y_{ij} w_{ij}$$

$$s.t \quad \sum_{j=1}^{7} y_{cj} w_{ij} \leq 1, \quad c \in \{dataset\}$$

$$w_{ij} \geq 0$$

where, $j = 1,\ldots, 7$, $i = 1,\ldots, 139$ (*non-negativity constraint*). In this linear programming problem, the weights are non-negative and an economy's score is between 0 (worst) and 1 (best). The programming problem used to calculate the DEA-BoD scores in this audit included also the restrictions: $0.2 \geq (w_{ij}*y_{ij})/\Sigma(w_{ij}*y_{ij}) \geq 0.05$, $j = 1,\ldots, 7$ (*contribution restrictions*).

In theory, each economy is free to decide on the relative *weight* of each innovation pillar, such as to achieve the best possible score, allowing for a better reflection of its unique innovation strategy. In practice, the DEA-BoD method assigns a higher (lower) *weight* to those pillars in which an economy is relatively strong (weak). Reasonable constraints are applied to the weights to preclude the possibility of an economy achieving a perfect score by assigning a zero weight to weak pillars: for each economy, no pillar can contribute less than 5 percent or more than 20 percent to an economy's total score. This is imposed by including the restrictions: $0.2 \geq (w_{ij} * y_{ij}) / \Sigma(w_{ij} * y_{ij}) \geq 0.05$, $j = 1,\ldots, 7$ (*contribution restrictions*) to the above linear program. The DEA-BoD score is then calculated as a weighted average of the seven innovation pillar scores, using the economy-specific weights determined by the DEA-BoD method. This score is compared to the best performance among all other economies using the same weights. The DEA-BoD score can be interpreted as a measure of the "distance to the best-practice frontier."

Appendix II Table 7 presents pie shares, DEA-BoD scores and rankings for the top 25 economies in the GII 2026 alongside their respective GII 2026 rankings. All pie shares are in accordance with the starting point of granting leeway to each economy when assigning shares, while not violating the (relative) upper and lower bounds. Switzerland is the only economy to obtain a perfect DEA-BoD score of 1.00 after the weight restrictions are included – indicating that it defines the best-practice frontier (in past GII versions, other economies were identified as best-practice as well). Sweden (0.99), Singapore (0.98), the United States (0.97), the Republic of Korea (0.96) and Finland (0.94) follow in terms of relative performance. The scores of these countries indicate that they are very close to the best-practice frontier: a proportional improvement of their pillar scores by 1 percent (1/0.99 = 1.01) to 6 percent (1/0.94 = 1.06) would make them frontier economies as well.

The seven pillars contribute differently to the performance scores of the top 25 economies, mirroring the varied priorities in their national innovation strategies. These differences also highlight each economy's strengths in specific GII pillars compared to others, revealing their comparative advantages. For instance, France and Canada obtain the same performance score (0.85) but France relies less on Institutions and more on Creative outputs to do so. In a similar fashion, the United States and the Republic of Korea receive roughly the same score (0.97 and 0.96, respectively), but their pillars contribute differently to it: both countries allocate 20 percent – the maximum possible – of their score to Human capital and research and Business sophistication, in which both are very well-performing. However, the United States allocates another 20 percent on the Market sophistication and Knowledge and technology outputs pillar, while the Republic of Korea allocates more weight on the Infrastructure and Creative outputs pillars. Appendix II Figure 2 shows how close the DEA-BoD scores and the GII 2026 scores are for all the 139 economies (Pearson correlation of 0.994).[10]

10 This closeness between the DEA-BoD and the GII scores is, to some extent, a result of the contribution restrictions introduced into the DEA-BoD model. These restrictions are necessary to avoid countries putting zero weights to certain pillars and to allow for a reasonable leeway for countries to perturb weights around the nominal GII weights. For one country – the Bolivarian Republic of Venezuela – the DEA-BoD score is lower than the (rescaled) GII score because the restrictions appended in the DEA-BoD model to restrict the contribution of each of the seven pillars to no less than 5 percent and no more than 20 percent result in the country selecting a set of aggregation weights that is less favorable compared to the nominal GII weights. This is mostly due to the Institutions and Human capital and research pillars, which make up 1.5 percent and 29.3 percent, respectively, of the country's nominal GII, while in the BoD recalculation their share is respectively 5 percent and 20 percent due to the upper and lower bound restrictions.

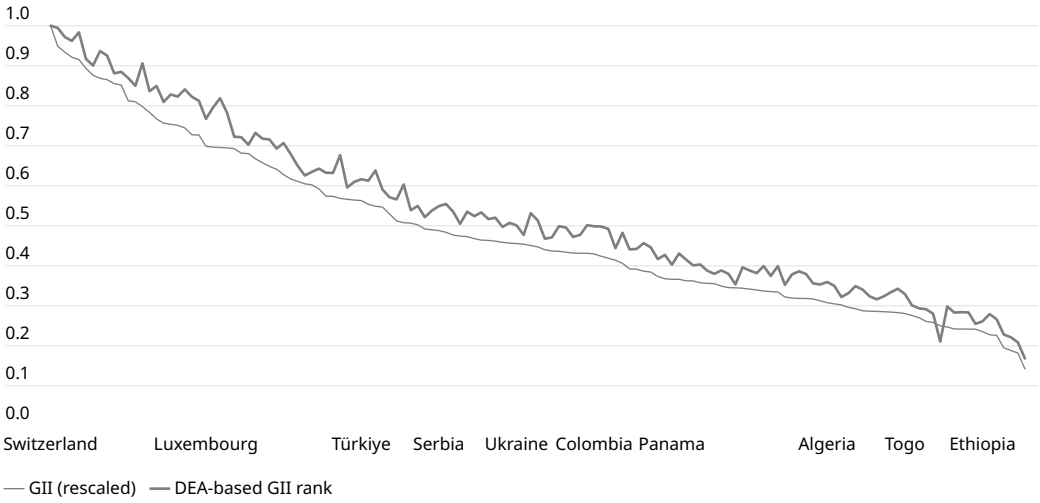
Appendix II Table 7 Pie shares (absolute terms) and efficiency scores for the top 25 GII 2026 economies

	Input pillars					Output pillars					
	Insti-tutions	Human capital and research	Infra-structure	Market sophis-tication	Business sophis-tication	Knowledge and technology outputs	Creative outputs	Best-practice frontier score (DEA)	Best-practice frontier rank (DEA)	GII rank	Difference from GII rank
Switzerland	0.20	0.05	0.20	0.20	0.10	0.05	0.20	1.00	1	1	0
Sweden	0.20	0.20	0.20	0.05	0.20	0.10	0.05	0.99	2	2	0
Singapore	0.20	0.20	0.20	0.10	0.20	0.05	0.05	0.98	3	5	2
United States	0.10	0.20	0.05	0.20	0.20	0.20	0.05	0.97	4	3	-1
Republic of Korea	0.05	0.20	0.20	0.10	0.20	0.05	0.20	0.96	5	4	-1
Finland	0.20	0.20	0.20	0.05	0.10	0.20	0.05	0.94	6	8	2
Denmark	0.20	0.20	0.20	0.10	0.20	0.05	0.05	0.93	7	9	2
United Kingdom	0.05	0.20	0.20	0.20	0.05	0.20	0.10	0.92	8	6	-2
Hong Kong, China SAR	0.20	0.20	0.20	0.20	0.05	0.05	0.10	0.91	9	14	5
Netherlands	0.20	0.20	0.20	0.05	0.20	0.05	0.10	0.90	10	7	-3
Germany	0.20	0.20	0.20	0.05	0.20	0.05	0.10	0.88	11	11	0
China	0.05	0.10	0.20	0.20	0.20	0.20	0.05	0.88	12	10	-2
Japan	0.10	0.20	0.20	0.20	0.20	0.05	0.05	0.87	13	12	-1
France	0.05	0.20	0.20	0.20	0.10	0.05	0.20	0.85	14	13	-1
Canada	0.20	0.20	0.20	0.20	0.10	0.05	0.05	0.85	15	16	1
Australia	0.20	0.20	0.20	0.20	0.10	0.05	0.05	0.84	16	20	4
Israel	0.05	0.20	0.10	0.20	0.20	0.20	0.05	0.84	17	15	-2
Austria	0.20	0.20	0.20	0.10	0.20	0.05	0.05	0.83	18	18	0
Ireland	0.20	0.20	0.20	0.05	0.20	0.10	0.05	0.82	19	19	0
Norway	0.20	0.20	0.20	0.10	0.20	0.05	0.05	0.82	20	21	1
United Arab Emirates	0.20	0.20	0.20	0.20	0.10	0.05	0.05	0.82	21	25	4
Belgium	0.20	0.20	0.20	0.05	0.20	0.10	0.05	0.81	22	22	0
Estonia	0.20	0.10	0.20	0.20	0.05	0.05	0.20	0.81	23	17	-6
New Zealand	0.20	0.20	0.20	0.20	0.10	0.05	0.05	0.80	24	24	0
Iceland	0.20	0.20	0.20	0.10	0.20	0.05	0.05	0.78	25	26	1

Notes: Pie shares are on absolute terms, bound by 0.05 and 0.20 for all seven innovation pillars. In the GII 2026 ranking, however, each of the five input pillars has a fixed weight of 0.10 while each of the two output pillars has a fixed weight of 0.25. Darker colors represent a higher contribution by those pillars to the overall DEA score, because of a country's stronger performance in those pillars, which may help to provide insights for the existence of economy-specific strategies or economy specificities. Countries are ordered according to the DEA-BoD ranking. For countries with a DEA-BoD score equal to 1, there usually exist multiple alternative sets of pillar weights resulting in the same score (i.e., 1). The pillar shares depicted in this table for Switzerland were derived based on one of these alternative sets of weights. Different sets of pillar weights for Switzerland may arise from the use of different software for solving the DEA linear program, all of which, however, correspond to a DEA-BoD efficient frontier score of 1.

Source: European Commission, Joint Research Centre, 2026.

Appendix II Figure 2 GII 2026 scores and DEA "distance to the best-practice frontier" scores



Note: For comparison purposes, the GII scores were rescaled by dividing them by the result of the best performer in the overall GII 2026 (Switzerland).

Source: European Commission, Joint Research Centre, 2026.

Conclusion

The JRC-COIN analysis confirms that the multilevel structure of the GII 2026, encompassing 79 indicators, 21 sub-pillars, seven pillars and two sub-indices, is statistically robust and well-balanced. Each sub-pillar contributes similarly to the variation within its respective pillar, ensuring a framework where conceptual coherence goes hand-in-hand with statistical coherence. The continuous refinements of the conceptual framework by the development team strengthen the GII's statistical integrity, with most indicators effectively distinguishing between economies' performances at the sub-pillar level or lower.

The decision not to impute missing values, which is common in comparable contexts and justified on the grounds of transparency and replicability, can at times have an undesirable impact on some economies' scores, with the additional negative side-effect that it might encourage economies not to report low data values. The GII team's adoption, in 2016, of a more stringent data coverage threshold (at least 66 percent data availability for each of the input- and output-related indicators) has notably improved confidence in the economy ranking for the GII and the two sub-indices. The results of the analysis carried out by JRC-COIN suggest that the developer's decision not to impute missing values has a notable impact on the rankings of only a very small set of countries and only in the case of the Input or the Output Sub-Indices. Notably, only five countries exhibit a change in their rank of more than 20 positions when alternative imputation and aggregation methods are applied to the GII 2026.

Additionally, the GII team's decision, in 2012, to use weights as scaling coefficients during index development constitutes a significant departure from the traditional, yet erroneous, vision of weights as a reflection of indicators' importance in a weighted average. It is hoped that such an approach will be adopted by other developers of composite indicators to avoid situations where bias sneaks in when least expected.

The correlation structure of the GII framework is statistically sound. In fact, most indicators (70 out of the 79) are found to be sufficiently influential – in a statistical sense – in the GII framework. This result shows the efforts made by the GII team over the past two decades to prepare and continuously update the monitoring framework that identifies the multiple determinants of a country's innovation capacity and potential and to use the best available data sources to measure them. The following two points are worth further consideration. First, three of the 79 indicators have a weak statistical relation to the index – this explains less than 9 percent of economies' variation in their respective sub-pillar scores. Second, special attention should be given to indicator 5.1.3 Youth demographic dividend, given the negative correlation with its aggregates (sub-pillar, Sub-Index, and GII). Therefore, the JRC-COIN echoes its previous

(2025) recommendation that it be included as a valuable contextual element rather than core part of the monitoring framework in future index editions. The JRC-COIN analysis also confirms that the strong correlations between GII pillars do not lead to information redundancy. As the results indicate, the GII ranking and the rankings of individual pillars differ by 10 positions or more for a significant portion of the 139 economies included in the GII 2026 (more than 45 percent and up to 72 percent). On the one hand, this demonstrates the added value of the GII in highlighting aspects of innovation that cannot be brought to light by examining individual pillars. On the other hand, it also highlights the importance of examining both the overall ranking and that of the individual pillars, sub-pillars and indicators in order to identify economy-specific strengths and bottlenecks.

The JRC-COIN analysis supplements the GII 2026 rankings with simulated 90 percent confidence intervals that take into consideration the unavoidable uncertainties inherent in an estimation of missing data, the weights (fixed vs. simulated) and the aggregation formula allowing various levels of compensability between the arithmetic and the geometric average at the pillar level. For most economies, such intervals are narrow enough for meaningful inferences to be drawn: the intervals comprise 10 or fewer positions for 86 out of the 139 considered economies. The GII rankings of two economies – Brunei Darussalam and Madagascar – should however be interpreted with some caution, as they appear to be very sensitive to the methodological choices made. The Input and Output Sub-Indices have the same modest degree of sensitivity to the methodological choices made relating to the imputation method, weights or aggregation formula. Economy ranks, either in the GII 2026 or in the two sub-indices, can be representative of the many possible scenarios: 69 percent of the economies shift fewer than three positions with respect to the median rank within the GII, 59 percent within the Input Sub-Index and 68 percent within the Output Sub-Index. This suggests a significant robustness of the GII and its sub-indices in effectively discriminating between the economies ranked even when reasonably different methodological choices are considered.

All things considered, the JRC-COIN audit findings confirm that the GII 2026 is a well-maintained 'highway' toward better policymaking in the field of innovation. Its methodological design meets international quality standards for statistical soundness, making it a reliable benchmarking tool for innovation practices globally.

The GII should be viewed as an ongoing effort to capture the complexity of innovation, one that adapts continuously to conceptual and theoretical advances and seeks further improvements in data availability. It represents a transparent and mature attempt to inform and improve innovation policies worldwide over its 19-year history of refinement. While the GII is one of the most recognized and used frameworks for monitoring innovation on a global scale, it should not be viewed as the ultimate and definitive ranking of economies in terms of innovation performance, but rather a dynamic framework constantly evolving to better reflect the richness of innovation. This ongoing process ensures that policymakers have access to the most accurate and actionable information needed to drive evidence-based innovation strategies.

References

Becker, W., M. Saisana, P. Paruolo and I. Vandecasteele (2017). Weights and importance in composite indicators: Closing the gap. *Ecological Indicators*, 80, 12–22.

Charnes, A. and W.W. Cooper (1985). Preface to topics in data envelopment analysis. *Annals of Operations Research*, 2, 59–94.

Cherchye, L., W. Moesen, N. Rogge, T. Van Puyenbroeck, M. Saisana, M. *et al.* (2008). Creating composite indicators with DEA and robustness analysis: The case of the Technology Achievement Index. *Journal of Operational Research Society*, 59(2), 239–251.

Cook, W.D., K. Tone and J. Zhu (2014). Data envelopment analysis: Prior to choosing a model. *Omega*, 44, 1–4.

Groeneveld, R.A. and G. Meeden (1984). Measuring skewness and kurtosis. *The Statistician*, 33(4), 391–399.

Lagüera González, J., Ravanos, P., Saisana, M., Smallenbroek, O., Guidi, A., and Borrega A.C. (2025). Appendix II-Joint Research Centre (JRC) Statistical audit of the 2025 Global Innovation Index. In: World Intellectual Property Organization (WIPO). *Global Innovation Index 2025: Innovation at a Crossroads*, 2025, 245–266. Geneva: WIPO. Available at: https://doi.org/10.34667/tind.58864

Little, R.J.A. and D.B. Rubin (2002). *Statistical Analysis with Missing Data,* 2nd edition. Hoboken, NJ: John Wiley and Sons, Inc.

Lovell, C.A.K., J.T. Pastor and J.A. Turner (1995). Measuring macroeconomic performance in the OECD: A comparison of European and non-European countries. *European Journal of Operational Research*, 87(3), 507–518.

Montalto, V., C.J. Tacao Moura, S. Langedijk and M. Saisana (2019). Culture counts: An empirical approach to measure the cultural and creative vitality of European cities. *Cities*, 89, 167–185.

Munda, G. (2008). *Social Multi-Criteria Evaluation for a Sustainable Economy*. Berlin and Heidelberg: Springer-Verlag.

Nunally, J. (1978). *Psychometric Theory*. New York: McGraw-Hill.

OECD/EC JRC (Organisation for Economic Co-operation and Development/European Commission, Joint Research Centre). (2008). *Handbook on Constructing Composite Indicators: Methodology and User Guide*. Paris: OECD.

Paruolo, P., M. Saisana and A. Saltelli (2013). Ratings and rankings: Voodoo or science? *Journal of the Royal Statistical Society*, A 176(3), 609–634.

Saisana, M., A. Saltelli and S. Tarantola (2005). Uncertainty and sensitivity analysis techniques as tools for the analysis and validation of composite indicators. *Journal of the Royal Statistical Society*, A 168(2), 307–323.

Saisana, M., B. D'Hombres and A. Saltelli (2011). Rickety numbers: Volatility of university rankings and policy implications. *Research Policy*, 40(1), 165–177.

Schneider, T. (2001). Analysis of incomplete climate data: Estimation of mean values and covariance matrices and imputation of missing values. *Journal of Climate*, 14(5), 853–871.

Srinivasan, T.N. (1994). Human development: A new paradigm or reinvention of the wheel? *American Economic Review*, 84, 238–243.

UNDP (United Nations Development Programme) (1997). *Human Development Report 1997*. New York: Oxford University Press.

Vertesy, D. (2016). A Critical Assessment of Quality and Validity of Composite Indicators of Innovation. *Paper presented at the OECD Blue Sky III Forum on Science and Innovation Indicators*. Ghent, 19–21 September 2016.

Vertesy, D. and R. Deiss (2016). *The Innovation Output Indicator 2016: Methodology Update*, EUR 27880. Luxembourg: European Commission, Joint Research Centre.

Appendix III – Sources and definitions

This appendix complements the economy profiles and the online data tables by providing the title, description, definition and source for each of the indicators included in the Global Innovation Index (GII) this year.

For all 139 economies in the GII in 2026, the most recent values, within the period 2016 to 2026, were used for each indicator.

The year provided next to the indicator description (directly below the indicator title) corresponds to the year when data were most frequently available for economies. When more than one year is considered, the period used is indicated at the end of the indicator's source in parentheses.

Of the 79 indicators, 64 variables are hard data, 10 are composite indicators, marked with an asterisk (*), and five are survey questions: two from the Global Entrepreneurship Monitor, and three from the World Economic Forum, Executive Opinion Survey (EOS) – all marked with a dagger (†). In some cases, additional markings are provided at the end of the indicator description. Instances marked with [a] are indicators where higher scores indicate poorer outcomes, commonly known as "bads" and those marked with [b] signal indicators that were assigned half weights. Appendix I presents more details on the computation. Some indicators are scaled during computation to make them comparable across economies. Indicators are scaled either in relation to other comparable indicators or through division by gross domestic product (GDP) in current US dollars, purchasing power parity GDP in international dollars (PPP$ GDP), population, total trade, etc. In all cases, the scaling factor used was the value that corresponded to the same year as the unscaled indicator.

1. Institutions

1.1 Institutional environment

1.1.1 Operational stability for businesses*

Political, legal, operational or security risk index*[a] | 2025

Index that measures the likelihood and severity of political, legal, operational or security risks affecting business operations. Scores are annualized, standardized and aggregated for end Q1, Q2, Q3 and Q4.

Source: S&P Global, Market Intelligence, Country Risk Dataset (https://www.marketplace.spglobal.com/en/datasets/country-risk-(255)). Data year: 2025.

1.1.2 Government effectiveness*

Government effectiveness index* | 2024

Index that reflects perceptions of the quality of public services, the civil service, policy formulation and implementation, and the credibility of a government's decisions.

Source: World Bank, Worldwide Governance Indicators (https://www.govindicators.org). Data year: 2024.

1.2 Regulatory environment

1.2.1 Regulatory quality*

Regulatory quality index*b | 2024

Index that reflects perceptions of the government's ability to design and implement policies and regulations that promote private sector development.

Source: World Bank, Worldwide Governance Indicators (https://www.govindicators.org). Data year: 2024.

1.2.2 Rule of law*

Rule of law index*b | 2024

Index that reflects perceptions of the extent to which agents respect and follow the rules of society, including contract enforcement, property rights, the police, courts, and the likelihood of crime and violence. Scores are standardized.

Source: World Bank, Worldwide Governance Indicators (https://www.govindicators.org). Data year: 2024.

1.3 Business environment

1.3.1 Policy stability for doing business†

The extent to which governments ensure a stable policy environment for doing business† | 2025

Average answer to the survey question: In your country, to what extent does the government ensure a stable policy environment for doing business? [1 = not at all; 7 = to a great extent].

Source: World Economic Forum, Executive Opinion Survey 2025: "Government ensuring policy stability" indicator (EOSQ434) (https://www.weforum.org). Data years: 2017–2025.

1.3.2 Entrepreneurship policies and culture†

Entrepreneurship policies and culture index† | 2025

Average perception scores (five-year average) of experts on entrepreneurial policies and entrepreneurial culture (items B, C, I3, and I4 of the GEM National Expert Survey). Experts in different fields (purposive sampling, minimum 36 experts per year) assess conditions for entrepreneurship in their country via statements (0 = completely false; 10 = completely true). Country participation in GEM varies and therefore the number of experts and years on which this item is based differs according to the country.

Source: Global Entrepreneurship Monitor (GEM), National Expert Survey (NES) (https://www.gemconsortium.org/wiki/1142). Data years: 2016–2025.

2. Human capital and research

2.1 Education

2.1.1 Expenditure on education, % GDP

Government expenditure on education (% of GDP) | 2023

Total general (local, regional and central) government expenditure on education (current, capital and transfers), expressed as a percentage of GDP. It includes expenditure funded by transfers from international sources to government.

Source: UNESCO Institute for Statistics (UIS) online database (http://data.uis.unesco.org). Data years: 2016–2025.

2.1.2 Government funding/pupil, secondary, % GDP/cap

Government funding per secondary pupil (% of GDP per capita) | 2022

Average total (current, capital and transfers) general government expenditure per student, at secondary level, expressed as a percentage of GDP per capita.

Source: UNESCO Institute for Statistics (UIS) online database (http://data.uis.unesco.org). Data years: 2016–2024.

2.1.3 School life expectancy, years

School life expectancy, primary to tertiary education, both sexes (years) | 2024

Total number of years that a person of school entrance age can expect to spend within the primary to tertiary levels of education. For a child of a given age, the school life expectancy is calculated as the sum of the age-specific enrolment rates for primary to tertiary levels of education. The part of the enrolment that is not distributed by age is divided by the school-age population for the primary to tertiary level of education in which they are enrolled and multiplied by the duration of that level of education. The result is then added to the sum of the age-specific enrolment rates. A relatively high value indicates a greater probability of children spending more years in education and a higher overall retention rate within the education system. It must be noted that the expected number of years does not necessarily coincide with the expected number of grades of education completed due to grade repetition.

Source: UNESCO Institute for Statistics (UIS) online database (http://data.uis.unesco.org). Data years: 2016–2025.

2.1.4 PISA scales in reading, maths and science

PISA scales in reading, mathematics and science | 2022

PISA is the OECD's (Organisation for Economic Co-operation and Development) Programme for International Student Assessment. PISA measures 15-year-olds' ability to use their reading, mathematics and science knowledge and skills. Results from PISA indicate the quality and equity of learning outcomes attained around the world. The 2022 PISA survey is the eighth round of the triennial assessment. The indicator is built using the averages of the reading, mathematics and science scores for each country and economy. PISA scores are set in relation to the variation in results observed across all test participants in a country and economy. There is, theoretically, no minimum or maximum score in PISA; rather, the results are scaled to fit approximately normal distributions, with means around 500 score points and standard deviations around 100 score points for OECD countries. China did not participate in the 2022 PISA survey. China's figure is based on the 2018 PISA cycle and represents the participating regions of Beijing, Shanghai, Jiangsu, and Zhejiang. Azerbaijan's 2022 figure represents the participating jurisdiction of Baku.

Source: OECD Programme for International Student Assessment (PISA) (https://www.oecd.org/pisa). Data years: 2018–2022.

2.1.5 Pupil–teacher ratio, secondary

Pupil–teacher ratio, secondary[a] | 2024

The number of pupils enrolled in secondary school divided by the number of secondary school teachers (regardless of their teaching assignment). Where the data are missing for the secondary education level as a whole, the ratios for upper-secondary are reported; if these are also missing, the ratios for lower-secondary are reported instead. A high pupil–teacher ratio suggests that each teacher has to be responsible for a large number of pupils. In other words, the higher the pupil–teacher ratio, the lower the relative access of pupils to teachers

Source: UNESCO Institute for Statistics (UIS) online database (http://data.uis.unesco.org). Data years: 2017–2025.

2.2 Tertiary education

2.2.1 Tertiary enrolment, % gross

School enrolment, tertiary (% gross) | 2024

The ratio of total tertiary enrolment, regardless of age, expressed as a percentage of the population in the 5-year age group immediately following upper secondary education. Tertiary education, whether or not at an advanced research qualification level, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level. The school enrolment ratio can exceed 100 percent due to grade repetition and the inclusion of under-aged and over-aged students, who are early or late entrants.

Source: UNESCO Institute for Statistics (UIS) online database (http://data.uis.unesco.org). Data years: 2017–2025.

2.2.2 Graduates in science and engineering, %

Graduates from science, technology, engineering and mathematics programs (% of total tertiary graduates) | 2024

The share of all tertiary-level graduates in natural sciences, mathematics, statistics, information and technology, manufacturing, engineering and construction as a percentage of all tertiary-level graduates.

Source: UNESCO Institute for Statistics (UIS) online database (http://data.uis.unesco.org); Eurostat database (https://ec.europa.eu/eurostat/data/database); and OECD, Education at a Glance (https://data-explorer.oecd.org). Data years: 2016–2025.

2.2.3 Tertiary inbound mobility, %

Tertiary inbound mobility rate (%) | 2024

The number of students from abroad studying in a given country as a percentage of the total tertiary-level enrolment in that country.

Source: UNESCO Institute for Statistics (UIS) online database (http://data.uis.unesco.org). Data years: 2017–2025.

2.3 Research and development (R&D)

2.3.1 Researchers, FTE/mn pop.

Researchers, full-time equivalent (FTE) (per million population) | 2024

Researchers in R&D are professionals engaged in the conception or creation of new knowledge. They conduct research and improve or develop concepts, theories, models, techniques, instrumentation, software or operational methods.

Source: UNESCO Institute for Statistics (UIS) online database (http://data.uis.unesco.org); Eurostat database (https://ec.europa.eu/eurostat/data/database); OECD, Main Science and Technology Indicators (MSTI) database (https://www.oecd.org/en/data/datasets/main-science-and-technology-indicators.html); and Ibero-American and Inter-American Network of Science and Technology Indicators (RICYT) (http://www.ricyt.org/en). Data years: 2016–2024.

2.3.2 Gross expenditure on R&D, % GDP

Gross expenditure on R&D (% of GDP) | 2024

Gross expenditure on R&D (GERD) is the total domestic intramural expenditure on R&D during a given period as a percentage of GDP. "Intramural R&D expenditure" is all expenditure for R&D performed within a statistical unit or sector of the economy during a specific period, regardless of the source of funding.

Source: UNESCO Institute for Statistics (UIS) online database (http://data.uis.unesco.org); Eurostat database (https://ec.europa.eu/eurostat/data/database); OECD, Main Science and Technology Indicators (MSTI) database (https://www.oecd.org/en/data/datasets/main-science-and-technology-indicators.html); and Ibero-American and Inter-American Network of Science and Technology Indicators (RICYT) (http://www.ricyt.org/en). Data years: 2016–2025.

2.3.3 Global corporate R&D investors, top 3, mn USD

Average expenditure of a country's top three global companies on R&D, million USD | 2025

Average expenditure on R&D of the top three global companies. If a country has fewer than three global companies listed, the figure is either the average of the two companies or the total for a single company. Data are based on the 2025 EU Industrial R&D Investment Scoreboard. For countries not represented in the Scoreboard, companies from Orbis with R&D expenditure above USD 50 million were identified and used to complement the dataset. A score of 0 is given to countries with no listed companies in the Scoreboard and no companies in Orbis meeting the threshold. The data include economies outside the European Union (EU).

Source: The 2025 EU Industrial R&D Investment Scoreboard and Orbis database (https://iri.jrc.ec.europa.eu/scoreboard/2025-eu-industrial-rd-investment-scoreboard); and The 2025 EU Industrial R&D Investment Scoreboard and Orbis database (https://www.moodys.com/web/en/us/capabilities/company-reference-data/orbis.html). Data year: 2025.

2.3.4 QS university ranking, top 3*

Average score of the top three universities according to the QS World University Rankings* | 2025

Average score of the top three universities per country. If fewer than three universities are listed in the QS ranking of the global top 1,000 universities, the sum of the scores of the listed universities is divided by three, thus implying a score of zero for the non-listed universities. The 2026 ranking corresponds to data published in June 2025.

Source: QS Quacquarelli Symonds Ltd, QS World University Rankings, Top Universities (https://www.topuniversities.com/world-university-rankings). Data year: 2025.

3 Infrastructure

3.1 Information and communication technology (ICT)

3.1.1 ICT access*

ICT access index* | 2024

The ICT access index is a composite index that assigns weights to three ICT indicators (33 percent each): (1) Individuals who own a mobile cellular telephone; (2) Households with Internet access at home; and (3) Percentage of the population covered by mobile networks (at least 3G, at least LTE/WiMax, and at least 5G). The ICT indicator (3) Percentage of the population covered by mobile networks (at least 3G, at least LTE/WiMax, and at least 5G) is calculated by assigning a weight of 30 percent to Population covered by at least 3G, a weight of 50 percent to Population covered by at least LTE/WiMax, and a weight of 20 percent to Population covered by at least 5G.

Source: World Intellectual Property Organization (https://www.wipo.int); based on International Telecommunication Union (ITU) DataHub, accessed March 23, 2026 (https://datahub.itu.int). Data year: 2024.

3.1.2 ICT use*

ICT use index* | 2024

The ICT use index is a composite index that assigns weights to five ICT indicators (20 percent each): (1) Fixed-broadband Internet basket (% GNI per capita); (2) Fixed-broadband Internet traffic (GB per subscription); (3) Mobile data and voice high-consumption basket (% GNI per capita); (4) Mobile-broadband Internet traffic within the country (GB per subscription); (5) Active mobile-broadband subscriptions per 100 people.

Source: World Intellectual Property Organization (https://www.wipo.int); based on International Telecommunication Union (ITU) DataHub, accessed April 15, 2026 (https://datahub.itu.int). Data year: 2024.

3.1.3 Government online service*

Government online service index* | 2024

The Online Service Index (OSI) is a component of the E-Government Development Index. The OSI is a composite indicator that assesses how well governments use technology to deliver public services at the national level. It is based on a survey of national websites and e-government policies, with scores normalized to a range of 0 to 1. In the 2024 edition, the OSI is calculated based on five weighted subindices: services provision (45%), technology (5%), institutional framework (10%), content provision (5%), and e-participation (35%), with the overall score calculated from the normalized values of each subindex.

Source: Division for Public Institutions and Digital Government (DPIDG) of the United Nations Department of Economic and Social Affairs (UNDESA), E-Government Survey 2024 (https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2024). Data year: 2024.

3.2 General infrastructure

3.2.1 Electricity output, GWh/mn pop.

Electricity output (GWh per million population) | 2024

Electricity production, measured at the terminals of all alternator sets in a station. In addition to hydropower, coal, oil, gas and nuclear power generation, this indicator covers generation by geothermal, solar, wind, tide and wave energy, as well as that from combustible renewables and

waste. Production includes the output of plants that are designed to produce solely electricity as well as the output of combined heat and power plants. Electricity output in GWh is scaled by population.

Source: International Energy Agency (IEA) World Energy Balances, 2025 edition (https://www.iea.org/reports/world-energy-balances-overview). Data years: 2023–2024.

3.2.2 Aviation import dwell time

Logistic Performance Indicators (LPI) 2.0[a] | 2024

The time elapsed between the moment an air cargo shipment becomes ready to be picked up by the consignee or his agent until the moment the cargo is cleared by customs and leaves the destination airport. More details on the methodology can be found at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099042226142027181.

Source: Logistic Performance Indicators (LPI) 2.0 World Bank Group (https://lpi.worldbank.org/en/indicator/AV_DT); and Cargo iQ (https://www.cargoiq.org). Data years: 2023–2024.

3.2.3 Logistics performance*

Logistics Performance Index* | 2023

A multidimensional assessment of logistics performance, the 2023 Logistics Performance Index (LPI) ranks 139 countries, combining data on six core performance components into a single aggregate measure that includes customs performance, infrastructure quality and timeliness of shipments. The data used in the ranking come from a survey of logistics professionals who are asked questions about the foreign countries in which they operate. The LPI's six components are: (1) Customs: the efficiency of customs and border management clearance; (2) Infrastructure: the quality of trade and transport infrastructure; (3) International shipments: the ease of arranging competitively priced shipments; (4) Services quality: the competence and quality of logistics services; (5) Tracking and tracing: the ability to track and trace consignments; and (6) Timeliness: the frequency with which shipments reach consignees within scheduled or expected delivery times.

Source: World Bank, Logistics Performance Index 2023 (https://lpi.worldbank.org/en/indicators/survey-based-lpi-2007-2023); and World Bank (2023), *Connecting to Compete 2023: Trade Logistics in the Global Economy – The Logistics Performance Index and its Indicators* (https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099042123145531599). Data year: 2023.

3.2.4 Gross capital formation, % GDP

Gross capital formation (% of GDP, three-year average) | 2025

Gross capital formation is expressed as the ratio of total investment in current local currency to GDP in current local currency. Investment or gross capital formation is measured by the total value of the gross fixed capital formation and changes in inventories and acquisitions less disposals of valuables for a unit or sector, on the basis of the System of National Accounts (SNA) 1993.

Source: International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data years: 2017–2025.

3.3 Ecological sustainability

3.3.1 GDP/unit of energy use

GDP per total energy supply (per thousand 2020 PPP$ GDP) | 2023

Purchasing power parity gross domestic product (2020 PPP$ GDP) per total energy supply (TES). TES is made up of production + imports – exports – international marine bunkers – international aviation bunkers +/– stock changes. GDP/TES is an indicator of energy productivity.

Source: International Energy Agency (IEA) World Energy Balances, 2025 edition (https://www.iea.org/reports/world-energy-balances-overview). Data years: 2023–2024.

3.3.2 Low-carbon energy use, %

The share of a country's total energy supply (TES) that is from low-carbon intensive sources | 2024

The low-carbon intensive energy share is calculated based on its share of a country's Total Energy Supply (TES), expressed in petajoules. TES is a measure of the total amount of energy that a country needs to supply to meet its final end-use demand. It reflects the energy that is either produced domestically or imported, minus what is exported or stored. The full energy mix is considered, comprising high-carbon intensive fossil fuel sources (oil, coal, and natural gas) as well as low-carbon intensive sources (hydro, nuclear, wind, biomass, solar, and geothermal). To allow low-carbon intensive energy sources to be compared on a consistent basis with fossil fuels, the Physical Energy Content method is used. For non-combustible renewables such as wind and solar, the primary energy equivalent is measured as the gross amount of electricity generated, with an efficiency assumption of 100%. For non-fossil fuel sources involving a heat input (nuclear, solar, and geothermal), fixed thermal efficiency factors are applied: 33% for nuclear and solar, and 10% for geothermal. For biomass combustion, an efficiency factor of 33% is used.

Source: The Energy Institute Statistical Review of World Energy (https://www.energyinst.org/statistical-review). Data year: 2024.

3.3.3 ISO 14001 environment/bn PPP$ GDP

ISO 14001 Environmental management systems, number of certificates issued (per billion PPP$ GDP) | 2024

ISO 14001 specifies the requirements for an environmental management system that an organization can use to enhance its environmental performance. ISO 14001 is intended for use by an organization that is seeking to manage its environmental responsibilities in a systematic manner that contributes to the environmental pillar of sustainability. ISO 14001 helps an organization to achieve the intended outcomes of its environmental management system, providing value for the environment, the organization itself and interested parties. Consistent with the organization's environmental policy, the intended outcomes of an environmental management system include enhancement of environmental performance, fulfillment of compliance obligations and achievement of environmental objectives. ISO 14001 is applicable to any organization, regardless of size, type or nature, and applies to the environmental aspects of its activities, products and services that the organization determines it can either control or influence from a life cycle perspective. ISO 14001 does not state specific environmental performance criteria. It can be used in whole or in part to systematically improve environmental management. Claims of conformity to ISO 14001, however, are not acceptable unless all its requirements are incorporated into an organization's environmental management system and fulfilled without exclusion. The data are reported per billion PPP$ GDP.

Source: International Organization for Standardization (ISO) and International Accreditation Forum (IAF) CertSearch (https://www.iafcertsearch.org); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data year: 2024.

4. Market sophistication

4.1 Credit

4.1.1 Finance for startups and scaleups†

Finance for startups and scaleups† | 2025

Average perception scores (five-year average) of experts on finance for starting and growing firms (item A1 of the GEM National Expert Survey). Experts in different fields (purposive sampling, minimum 36 experts per year) assess conditions for entrepreneurship in their country via statements (0 = completely false; 10 = completely true). Country participation in GEM varies and therefore the number of experts and years on which this item is based differs according to the country.

Source: Global Entrepreneurship Monitor (GEM), National Expert Survey (NES) (https://www.gemconsortium.org/wiki/1142). Data years: 2016–2025.

4.1.2 Domestic credit to private sector, % GDP

Domestic credit to private sector (% of GDP) | 2024

Domestic credit to private sector refers to financial resources provided to the private sector by financial corporations, such as through loans, purchases of non-equity securities, and trade credits and other accounts receivable, that establish a claim for repayment. For some countries, these claims include credit to public enterprises. The financial corporations include monetary authorities and deposit money banks, as well as other financial corporations where data are available (including corporations that do not allow transferable deposits but do accept such liabilities as time and savings deposits). Examples of other financial corporations are finance and leasing companies, money lenders, insurance corporations, pension funds and foreign exchange companies.

Source: International Monetary Fund, International Financial Statistics database (https://data.imf.org); and Organisation for Economic Co-operation and Development, National Accounts data files; data extracted from the World Bank's World Development Indicators database (https://databank.worldbank.org/source/world-development-indicators). Data years: 2016–2024.

4.1.3 Loans from microfinance institutions, % GDP

Loans from all microfinance institutions (% of GDP) | 2024

Outstanding loans from all microfinance institutions in a country as a percentage of its GDP.

Source: International Monetary Fund, Financial Access Survey (FAS) (https://data.imf.org/en/datasets/IMF.STA:FAS). Data years: 2020–2024.

4.2. Investment

4.2.1 Market capitalization, % GDP

Market capitalization of listed domestic companies (% of GDP, three-year average) | 2024

Market capitalization (also known as "market value") is the share price times the number of shares outstanding (including their several classes) for listed domestic companies. Investment funds, unit trusts and companies whose only business goal is to hold shares of other listed companies are excluded. Data are the average of the end of year values for the last three years.

Source: World Federation of Exchanges database (https://www.world-exchanges.org/our-work/statistics); extracted from the World Bank's World Development Indicators database (https://databank.worldbank.org/source/world-development-indicators). Data years: 2017–2024.

4.2.2 Venture capital (VC) received, deal count/bn PPP$ GDP

Venture capital deals received by enterprises headquartered in a given economy (per billion PPP$ GDP, three-year average) | 2025

Indicator that reflects the total number of VC deals received in a given economy. These are transactions going to a venture or company which has its headquarters in the underlying economy. Investors may originate from any global region. Included investors range from individual angels, angel groups, seed and venture funds, corporate venture capital (CVC) arms, and other corporate entities. Deals associated with accelerator programs are excluded unless the accelerator participates in follow-on rounds, in which case only those subsequent financings are included. All equity transactions and mixed debt-and-equity deals are counted. Pure debt deals are excluded, as they fall under venture debt datasets rather than VC activity datasets. The data corresponds to VC deal counts between January 1, 2023, and December 31, 2025. The data represent the three-year average of 2023–2025 deals and are reported per billion PPP$ GDP.

Source: PitchBook Data, Inc (https://www.pitchbook.com); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data years: 2024–2025.

4.2.3 Late-stage VC deal count, % global VC

Late-stage VC deal counts received by enterprises headquartered in a given economy (% of all VC deal counts worldwide, three-year average) | 2025

Indicator that reflects the total number of VC late-stage deal counts going to a venture or company which has its headquarters in the underlying economy. The transactions encompass both Late Stage and Venture Growth rounds, according to the firm's internal stage classification system. Late-Stage VC is defined as either (1) financings for companies that are five or more years old, regardless of round label, or (2) rounds labelled Series C or later, regardless of company age. Venture Growth typically includes Series E and beyond. In cases where a round label is not available, classification is determined by factors such as company age, number of prior VC rounds, investor type, and company status. Only equity and mixed equity-debt financings are included. Full-debt financings are excluded. The data corresponds to VC deals between January 1, 2023, and December 31, 2025. The data represent the three-year average of 2023–2025 deals and are reported as a percentage of all VC deals worldwide at all investment stages.

Source: PitchBook Data, Inc (https://www.pitchbook.com). Data years: 2024–2025.

4.2.4 VC investors, deal count/bn PPP$ GDP

Venture capital deals completed by investors (per billion PPP$ GDP, three-year average) | 2025

Indicator that captures the number of unique VC deals involving at least one investor headquartered in the underlying economy. To avoid duplication, if multiple investors from the same country participate in a single deal, the deal is counted only once for that country. Deals associated with accelerator programs are excluded unless the accelerator participates in follow-on rounds, in which case only those subsequent financings are included. All equity transactions and mixed debt-and-equity deals are counted. Pure debt deals are excluded, as they fall under venture debt datasets rather than VC activity datasets. The data correspond to VC deals between January 1, 2023, and December 31, 2025. The data represent the three-year average of 2023–2025 deals and are reported per billion PPP$ GDP.

Source: PitchBook Data, Inc. (https://www.pitchbook.com); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data years: 2024–2025.

4.3. Trade, diversification and market scale

4.3.1 Applied tariff rate, weighted avg., %

Tariff rate, applied, weighted average, all products (%)[a] | 2024

The effectively applied tariff is the minimum tariff imposed by one country to another representing the most advantageous tariff, encompassing all preferential trade agreements and most-favored-nation (MFN) tariffs, and weighted by the import values of the product and country of origin pairings. All calculations have been conducted based on imported products at the Harmonized System (HS) subheading level. Tariffs include both ad valorem duties and ad valorem equivalents in the calculations. Any missing tariffs or Ad Valorem equivalents not calculated at the subheading level have been omitted. The European Union (27) is treated as a unified entity, thus intra-EU trade has been disregarded.

Source: WTO Analytical Database (https://www.wto.org/english/tratop_e/tariffs_e/tariffs_e.htm). Data years: 2016–2024.

4.3.2 Domestic industry diversification

Domestic industry diversification (based on manufacturing output)[a] | 2023

The Herfindahl-Hirschman Index (HHI) for the domestic industry is defined as the sum of the squared shares of industries in total manufacturing output.

Source: United Nations Industrial Development Organization (UNIDO), Industrial Statistics Database (INDSTAT), two-digit level of the International Standard Industrial Classification (ISIC) Revision 3 and Revision 4 (https://stat.unido.org). Data years: 2016–2024.

4.3.3 Domestic market scale, bn PPP$

Domestic market scale as measured by GDP, bn PPP$ | 2025

The domestic market size is measured by GDP based on the PPP valuation of country GDP, in current international dollars (billions).

Source: International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data years: 2024–2025.

5. Business sophistication

5.1. Knowledge workers

5.1.1 Knowledge-intensive employment, %

Employment in knowledge-intensive services, % of workforce (15+ years old) | 2025

Sum of people in categories 1 to 3 as a percentage of total people employed, according to the International Standard Classification of Occupations (ISCO). Categories included in ISCO 08 are: 1 Managers; 2 Professionals; 3 Technicians and Associate Professionals. Where ISCO 08 data were not available, ISCO 88 data were used. Categories included in ISCO 88 are: 1 Legislators, senior officials and managers; 2 Professionals; 3 Technicians and associate professionals.

Source: International Labour Organization (ILO), ILOSTAT Database of Labour Statistics (https://ilostat.ilo.org). Data years: 2016–2025.

5.1.2 Females employed w/advanced degrees, %

Females employed with advanced degrees, % total employed (25+ years old) | 2025

The percentage of females employed with advanced degrees out of total employed. The employed comprise all persons of working age who, during a specified brief period, were in one of the following categories: (1) paid employment; or (2) self-employment. Data are disaggregated by level of education, which refers to the highest level of education completed, classified according to the International Standard Classification of Education (ISCE). Data for Canada are based on Table 14-10-0020-01 of the country's Labour Force Survey estimates.

Source: International Labour Organization, ILOSTAT Database of Labour Statistics (https://ilostat.ilo.org); and Statistics Canada, Table 14-10-0020-01 Unemployment rate, participation rate and employment rate by educational attainment, annual (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410002001). Data years: 2016–2025.

5.1.3 Youth demographic dividend, %

Youth demographic dividend (% of total population) | 2026

The Youth demographic dividend refers to the share of the population aged 0–24 years as a percentage of the total population. It reflects the potential economic and innovation-related advantage that a country may derive in the future from a large youth cohort. This demographic structure is referred to as a "dividend" because, if effectively educated and integrated into the labor force, young people can enhance future innovation capacity, sustain long-term economic growth, and mitigate the effects of population aging.

Source: United Nations Department of Economic and Social Affairs, Population Division, World Population Prospects 2024 (https://population.un.org/wpp). Data year: 2026.

5.1.4 GERD performed by business, % GDP

GERD performed by business enterprises (% of GDP) | 2024

Gross expenditure on R&D performed by business enterprise as a percentage of GDP. For the definition of GERD, see indicator 2.3.2.

Source: UNESCO Institute for Statistics (UIS) online database (http://data.uis.unesco.org); Eurostat database (https://ec.europa.eu/eurostat/data/database); OECD, Main Science and Technology Indicators (MSTI) database (https://www.oecd.org/en/data/datasets/main-science-and-technology-indicators.html); and Ibero-American and Inter-American Network of Science and Technology Indicators (RICYT) (http://www.ricyt.org/en). Data years: 2017–2025.

5.1.5 GERD financed by business, %

GERD financed by business enterprises (% of GERD) | 2023

Gross expenditure on R&D financed by business enterprise as a percentage of total gross expenditure on R&D. For the definition of GERD, see indicator 2.3.2.

Source: UNESCO Institute for Statistics (UIS) online database (http://data.uis.unesco.org); Eurostat database (https://ec.europa.eu/eurostat/data/database); OECD, Main Science and Technology Indicators (MSTI) database (https://www.oecd.org/en/data/datasets/main-science-and-technology-indicators.html); and Ibero-American and Inter-American Network of Science and Technology Indicators (RICYT) (http://www.ricyt.org/en). Data years: 2017–2025.

5.2. Innovation linkages

5.2.1 Public research–industry co-publications, %

Public–private co-authored research publications (% of total research publications, five-year average) | 2025

Public–private co-authored research publications as a percentage of all research publications. Research publications are limited to the following four main fields of science: Biomedical and health sciences, Life and earth sciences, Mathematics and computer science, and Physical sciences and engineering. The definition of the "private sector" includes all for-profit business enterprises, covering all manufacturing and services sectors. This includes research institutes and other corporate R&D laboratories that are fully funded or owned by for-profit business enterprises. Organizations in the private education sector and private health care sector organizations (including hospitals and clinics) are not classified as private sector.

Source: Centre for Science and Technology Studies (CWTS), Leiden University, based on Clarivate Web of Science (https://www.cwts.nl). Data year: 2025.

5.2.2 University–industry R&D collaboration†

The extent to which businesses and universities collaborate on R&D† | 2025

Average answer to the survey question: In your country, to what extent do businesses and universities collaborate on research and development (R&D)? [1 = not at all; 7 = to a great extent].

Source: World Economic Forum, Executive Opinion Survey 2025: "University–industry collaboration in R&D" indicator (EOSQ072) (https://www.weforum.org). Data years: 2017–2025.

5.2.3 University industry and international engagement, top 5*

Times Higher Education (THE) ranking, combined Industry and International pillar score, two-year average of up to five universities* | 2023

Average score of up to five universities per country, based on the Times Higher Education World University Rankings (WUR). For each university, the score is calculated as the average of the International and Industry pillar scores. Universities are ranked within each country based on this combined score, and the top five selected (or all universities if fewer than five are available). The country score is calculated as the average of the selected universities' scores. The final score is the average of the country scores for the 2025 and 2026 editions of the WUR, reflecting data from the corresponding academic years. The 2026 ranking corresponds to data from the academic year ended in 2022 and 2023.

Source: Times Higher Education, World University Rankings 2026 (https://www.timeshighereducation.com/world-university-rankings/2026/world-ranking). Data year: 2023.

5.2.4 State of cluster development†

How widespread clusters are† | 2025

Average answer to the survey question: In your country, how widespread are well-developed and deep clusters (geographic concentrations of firms, suppliers, producers of related products and services, and specialized institutions in a particular field)? [1 = nonexistent; 7 = widespread in many fields].

Source: World Economic Forum, Executive Opinion Survey 2025: "State of cluster development" indicator (EOSQ109) (https://www.weforum.org). Data years: 2017–2025.

5.2.5 Patent families/bn PPP$ GDP

Number of patent families filed in at least two offices (per billion PPP$ GDP) | 2022

A patent family is a set of interrelated patent applications filed in one or more countries or jurisdictions to protect the same invention. Patent families containing applications filed in at least two different offices is a subset of patent families where protection of the same invention is sought in at least two different countries. In this report, "patent families data" refers to patent families containing applications filed in at least two intellectual property (IP) offices; the data are scaled by PPP$ GDP (billions). A patent is a set of exclusive rights granted by law to applicants for inventions that are new, non-obvious and industrially applicable. A patent is valid for a limited period of time (generally 20 years) and within a defined territory. The patent system is designed to encourage innovation by providing innovators with time-limited exclusive legal rights, thus enabling them to reap the rewards of their innovative activity.

Source: World Intellectual Property Organization, Intellectual Property Statistics (https://www.wipo.int/ipstats); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data year: 2022.

5.3 Knowledge absorption

5.3.1 Intellectual property payments, % total trade

Charges for use of intellectual property, i.e., payments (% of total trade, three-year average) | 2024

Charges for the use of intellectual property not included elsewhere, i.e., payments (% of total trade), average of three most recent years or most recent year. Value is calculated according to the Extended Balance of Payments Services Classification EBOPS 2010, that is, code SH: Charges for the use of intellectual property not included elsewhere, as a percentage of total trade. Total trade is defined as the sum of total imports of code G goods and code SOX commercial services (excluding government goods and services not included elsewhere) plus total exports of code G goods and code SOX commercial services (excluding government goods and services not included elsewhere), divided by 2. According to the sixth edition of the International Monetary Fund's *Balance of Payments Manual*, the item "Goods" covers general merchandise, net exports of goods under merchanting and non-monetary gold. The "commercial services" category is defined as being equal to "services" minus "government goods and services not included elsewhere." Receipts are between residents and non-residents for the use of proprietary rights (such as patents, trademarks, copyrights, industrial processes and designs, including trade secrets and franchises), and for licenses to reproduce or distribute (or both) intellectual property embodied in produced originals or prototypes (such as copyrights on books and manuscripts, computer software, cinematographic works and sound recordings) and related rights (such as for live performances and television, cable or satellite broadcast).

Source: Trade in Commercial Services database (https://stats.wto.org); and WTO–OECD Balanced Trade in Services (BaTiS) dataset (https://www.wto.org/english/res_e/statis_e/gstdh_batis_e.htm). Data years: 2020–2024.

5.3.2 High-tech imports, % total trade

High-tech imports (% of total trade) | 2024

High-technology imports as a percentage of total trade. High-technology exports and imports contain technical products with a high intensity of R&D, defined by the Eurostat classification, which is based on Standard International Trade Classification (SITC) Revision 4 and the OECD definition. Commodities belong to the following sectors: aerospace; computers and office machines; electronics telecommunications; pharmacy; scientific instruments; electrical machinery; chemistry; non-electrical machinery; and armament. Trade Data Monitor (TDM) data are used to complement Comtrade data and improve data timeliness where necessary.

Source: United Nations Comtrade Database (http://comtrade.un.org); Trade Data Monitor (https://www.tradedatamonitor.com); and World Trade Organization and United Nations Conference on Trade and Development (https://stats.wto.org). Data years: 2018–2024.

5.3.3 ICT services imports, % total trade

Telecommunications, computer and information services imports (% of total trade) | 2024

Telecommunications, computer and information services imports as a percentage of total trade according to the OECD's Extended Balance of Payments Services Classification EBOPS 2010, coded SI: Telecommunications, computer, and information services. Values are based on the classification of the sixth (2009) edition of the International Monetary Fund's *Balance of Payments and International Investment Position Manual* and Balance of Payments database. For the definition of total trade, see indicator 5.3.1.

Source: Trade in Commercial Services database (https://stats.wto.org); and WTO–OECD Balanced Trade in Services (BaTiS) dataset (https://www.wto.org/english/res_e/statis_e/gstdh_batis_e.htm). Data years: 2020–2024.

5.3.4 FDI net inflows, % GDP

Foreign direct investment (FDI) net inflows (% of GDP, three-year average) | 2024

FDI net inflow is the average of the most recent three years of net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This data series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP. Data extracted from the World Bank's World Development Indicators database.

Source: International Monetary Fund, International Financial Statistics and Balance of Payments databases (https://data.imf.org); World Bank, International Debt Statistics (www.worldbank.org/en/programs/debt-statistics); and OECD GDP estimates (https://data.oecd.org); data extracted from the World Bank's World Development Indicators database (https://databank.worldbank.org/source/world-development-indicators). Data years: 2023–2024.

5.3.5 Green-field R&D & high-tech FDI

RCA in green-field FDI announcements, R&D and high-tech projects (counts) | 2025

Revealed Competitive Advantage (RCA) in green-field foreign R&D and high-tech investment (inflows and outflows), project announcements, in counts, 3-year average. fDi Markets classifies green-field FDI as cross-border investment in a new physical project or expansion that creates new jobs and capital investment. It excludes mergers, acquisitions or other equity investments. Green-field investment brings new productive capacity, technology and capability rather than simply a change of ownership, which maps onto innovation better than does total FDI flows. The sector and activity tagging isolates innovation-relevant FDI (R&D, design, ICT, etc.). The RCA is calculated as a given economy's share of world high-tech and R&D FDI projects announcements divided by its share of world Gross Fixed Capital Formation (GFCF).

Source: FT Locations fDi Markets and International Monetary Fund, World Economic Outlook Database, April 2026 (https://www.ftlocations.com/products-and-services/fdi-markets); and International Monetary Fund, World Economic Outlook Database, April 2026 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data years: 2021–2025.

5.3.6 Research talent, % in businesses

Researchers in business enterprise (%) | 2024

Researchers in the business enterprise sector, measured in full-time equivalence (FTE), refers to researchers as professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, as well as in the management of these projects, broken down by the sectors in which they are employed (business enterprise, government, higher education and private non-profit organizations). In the context of R&D statistics, the business enterprise sector includes all firms, organizations and institutions whose primary activity is the market production of goods or services (other than higher education) for sale to the general public at an economically significant price, and the mainly private non-profit institutions serving them; the core of this sector is made up of private enterprises.

Source: UNESCO Institute for Statistics (UIS) online database (http://data.uis.unesco.org); Eurostat database (https://ec.europa.eu/eurostat/data/database); OECD, Main Science and Technology Indicators (MSTI) database (https://data-explorer.oecd.org); and Ibero-American and Inter-American Network of Science and Technology Indicators (RICYT) (http://www.ricyt.org/en). Data years: 2016–2024.

6. Knowledge and technology outputs

6.1 Knowledge creation

6.1.1 Patents by origin/bn PPP$ GDP

Number of resident patent applications filed at a given national or regional patent office (per billion PPP$ GDP) | 2024

The definition of a patent can be found in the description of indicator 5.2.5. A resident patent application refers to an application filed with the intellectual property office for or on behalf of the first-named applicant's country of residence. For example, an application filed with the Japan Patent Office by a resident of Japan is to be considered a resident application for Japan. Similarly, an application filed with the European Patent Office (EPO) by an applicant who resides in any of the EPO member states (for example Germany) is considered to be a resident application for that member state (Germany). Data are scaled by PPP$ GDP (billions).

Source: World Intellectual Property Organization, Intellectual Property Statistics (https://www.wipo.int/ipstats); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data years: 2016–2024.

6.1.2 PCT patents by inventor origin/bn PPP$ GDP

Number of Patent Cooperation Treaty (PCT) applications by inventor origin (fractional counts, per billion PPP$ GDP) | 2025

Indicator that measures the inventive output of economies based on the origin of inventors listed in published international patent applications filed through the WIPO-administered Patent Cooperation Treaty (PCT). Using a fractional counting method, each application is proportionally attributed to the countries of residence of all listed inventors, thereby offering a more accurate view of inventive activity. The data cover only published PCT applications and are limited to PCT Contracting States (158 to date). Data are scaled by PPP$ GDP (billions).

Source: World Intellectual Property Organization, Intellectual Property Statistics (https://www.wipo.int/ipstats); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data year: 2025.

6.1.3 Utility models by origin/bn PPP$ GDP

Number of resident utility model applications filed at the national patent office (per billion PPP$ GDP) | 2024

A utility model (UM) is a special form of patent right. The terms and conditions for granting a UM are slightly different from those for patents and include a shorter term of protection and less stringent patentability requirements. A resident UM application refers to an application filed with an intellectual property (IP) office for or on behalf of the first-named applicant's country of residence. For example, an application filed with the IP office of Germany by a resident of Germany is considered a resident application for Germany. Data are scaled by PPP$ GDP (billions).

Source: World Intellectual Property Organization, Intellectual Property Statistics (https://www.wipo.int/ipstats); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data years: 2019–2024.

6.1.4 Scientific and technical articles/bn PPP$ GDP

Number of scientific and technical journal articles (per billion PPP$ GDP) | 2025

The number of articles published in the fields of science and technology. This encompasses 182 different research categories belonging to research areas including agriculture, biochemistry, cell biology, chemistry, computer science, engineering, environmental sciences, mathematics, molecular biology, oncology, physics and many more. Article counts are taken from a set of journals covered by the Science Citation Index Expanded (SCIE) and the Social Sciences Citation Index (SSCI). Articles are classified by year of publication and assigned to each economy on the basis of the institutional address(es) listed in the article.

Articles are counted on a count basis (rather than a fractional basis) – that is, for articles with collaborating institutions from multiple economies, each economy receives credit on the basis of its participating institutions. Data are reported per billion PPP$ GDP.

Source: Clarivate, Web of Science, May 2026 (https://clarivate.com/webofsciencegroup/solutions/web-of-science); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data year: 2025.

6.1.5 Citable documents H-index

The H-index is an economy’s number of published articles (H) that have received at least H citations | 2025

The H-index expresses the journal's number of articles (H) that have received at least H citations. It quantifies both journal scientific productivity and scientific impact, and is also applicable to scientists, journals, and so on. The H-index is tabulated from the number of citations received in subsequent years by articles published in a given year, divided by the number of articles published that year.

Source: SCImago, SJR SCImago Journal & Country Rank, retrieved April 2026 (https://www.scimagojr.com). Data year: 2025.

6.2 Knowledge impact

6.2.1 Labor productivity growth, %

Growth rate of GDP per person employed (%, five-year average) | 2025

Growth rate of real GDP per person employed, average of five most recent available years (2021–2025). Growth of GDP per person engaged provides a measure of labor productivity (defined as output per unit of labor input). GDP per person employed is GDP divided by total employment in the economy.

Source: The Conference Board Total Economy Database, April 2026 (https://www.conference-board.org/data/economydatabase). Data year: 2025.

6.2.2 Unicorn valuation, % GDP

Combined valuation of a country's unicorns (% of GDP) | 2026

Total valuation of all unicorns in a country as a percentage of GDP. A unicorn company is a private company with a valuation over USD 1 billion. The indicator is based on unicorns as of January 2026, covering nearly 2,000 companies worldwide. For African countries, the dataset is supplemented with data from Africa: The Big Deal. PitchBook data is used as a complementary source to enrich data coverage, with duplicates removed.

Source: CBInsights, Tracker – The Complete list of Unicorn Companies (https://www.cbinsights.com/research-unicorn-companies); Africa: The Big Deal (https://thebigdeal.substack.com/p/unicorns); Pitchbook Unicorns Company Tracker (https://www.pitchbook.com); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data year: 2026.

6.2.3 Software spending, % GDP

Total computer software spending (% of GDP) | 2025

Computer software spending includes the total value of purchased or leased packaged software, such as operating systems, database systems, programming tools, utilities and applications. It excludes expenditures for internal software development. The data are estimated based on software and services industry sales data. For countries where industry sales data are unavailable, the data are estimated using macro level variable and trade data. Data are reported as a percentage of GDP.

Source: S&P Global, Market Intelligence (https://www.marketplace.spglobal.com/en/datasets). Data year: 2025.

6.2.4 High-tech manufacturing, %

High-tech and medium-high-tech manufacturing (% of total manufacturing output) | 2023

High technology and medium-high technology (MHT) output as a percentage of total manufacturing output, on the basis of the OECD classification of Technology Intensity Definition, itself based on International Standard Industrial Classification (ISIC) Rev.3 and Rev.4.

Source: United Nations Industrial Development Organization (UNIDO), Industrial Statistics Database (INDSTAT), two-digit level of the International Standard Industrial Classification (ISIC) Revision 3 and Revision 4 (https://stat.unido.org). Data years: 2016–2024.

6.3. Knowledge diffusion

6.3.1 Intellectual property receipts, % total trade

Charges for use of intellectual property, i.e., receipts (% total trade, three-year average) | 2024

Charges for the use of intellectual property not included elsewhere, i.e., receipts (% of total trade), average of three most recent years or most recent year. Value is calculated according to the Extended Balance of Payments Services Classification EBOPS 2010, that is, code SH: Charges for the use of intellectual property not included elsewhere, as a percentage of total trade. Receipts are between residents and non-residents for the use of proprietary rights (such as patents, trademarks, copyrights, industrial processes and designs, including trade secrets and franchises), and for licenses to reproduce or distribute (or both) intellectual property embodied in produced originals or prototypes (such as copyright on books and manuscripts, computer software, cinematographic works and sound recordings) and related rights (such as for live performances and television, cable, or satellite broadcast). Values are based on the classification of the sixth (2009) edition of the International Monetary Fund's *Balance of Payments and*

International Investment Position Manual and Balance of Payments database. For the definition of total trade, see indicator 5.3.1.

Source: Trade in Commercial Services database (https://stats.wto.org); and WTO–OECD Balanced Trade in Services (BaTiS) dataset (https://www.wto.org/english/res_e/statis_e/gstdh_batis_e.htm). Data years: 2016–2024.

6.3.2 Production and export complexity

The Economic Complexity Index | 2024

The Economic Complexity Index is a ranking of countries based on the diversity and complexity of their export basket. High-complexity countries are home to a range of sophisticated, specialized capabilities and are therefore able to produce a highly diversified set of complex products. Determining the economic complexity of a country is not solely dependent on a country's productive knowledge. Information about how many capabilities a country has is contained not only in the absolute number of products that it makes, but also in the ubiquity of those products (the number of countries that import those products) and in the sophistication and diversity of the products that those other countries make. Economic complexity expresses the diversity and sophistication of the productive capabilities embedded in the exports of each country.

Source: The Atlas of Economic Complexity, Growth Lab at Harvard University (https://atlas.hks.harvard.edu). Data year: 2024.

6.3.3 High-tech exports, % total trade

High-tech exports (% of total trade) | 2024

High-technology exports as a percentage of total trade. See indicator 5.3.2 for details. Data for Hong Kong, China are corrected for re-exports using data from the Trade Data Monitor (TDM). TDM data are used to complement Comtrade data and improve data timeliness where necessary.

Source: United Nations Comtrade Database (http://comtrade.un.org); Trade Data Monitor (https://www.tradedatamonitor.com); and World Trade Organization and United Nations Conference on Trade and Development (https://stats.wto.org). Data years: 2018–2024.

6.3.4 ICT services exports, % total trade

Telecommunications, computer and information services exports (% of total trade) | 2024

Telecommunications, computer and information services exports as a percentage of total trade according to the Extended Balance of Payments Services Classification EBOPS 2010, coded SI: Telecommunications, computer, and information services. Values are based on the classification of the sixth (2009) edition of the International Monetary Fund's *Balance of Payments and International Investment Position Manual* and Balance of Payments database. For the definition of total trade, see indicator 5.3.1.

Source: Trade in Commercial Services database (https://stats.wto.org); and WTO–OECD Balanced Trade in Services (BaTiS) dataset (https://www.wto.org/english/res_e/statis_e/gstdh_batis_e.htm). Data years: 2020–2024.

6.3.5 ISO 9001 quality/bn PPP$ GDP

ISO 9001 Quality management systems, number of certificates issued (per billion PPP$ GDP) | 2024

ISO 9001 specifies requirements for a quality management system when an organization needs to demonstrate its ability to provide products and services that meet both customer and

applicable statutory and regulatory requirements. It aims to enhance customer satisfaction through the effective application of the system, including processes for improving the system and ensuring conformity to customer and applicable statutory and regulatory requirements. All the requirements of ISO 9001 are generic and intended to be applicable to any organization, regardless of its type or size, or the products and services it provides. The data are reported per billion PPP$ GDP.

Source: International Organization for Standardization (ISO) and International Accreditation Forum (IAF) CertSearch (https://www.iafcertsearch.org); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data year: 2024.

7. Creative outputs

7.1 Intangible assets

7.1.1 Intangible asset intensity, top 15, %

Intangible asset value as a percentage of a firm's total value, average of the top 15 firms | 2025

The data cover a global list of firms for which intangible asset value and total firm value are observed. Only the top 15 firms of each economy are considered, ranked by intangible assets in absolute terms (in USD). Countries with fewer than 15 firms are not considered. For each firm, the intangible asset value is divided by the firm's total value before the arithmetic mean across the top 15 firms for each economy is computed.

Source: Brand Finance Global Intangible Finance Tracker (https://brandirectory.com/reports/global-intangible-finance-tracker-gift/2025). Data years: 2022–2025.

7.1.2 Trademarks by origin/bn PPP$ GDP

Number of classes in resident trademark applications issued at a given national or regional office (per billion PPP$ GDP) | 2024

A trademark is a sign used by the owner of certain products or the provider of certain services to distinguish them from the products or services of other companies. A trademark can consist of words or a combination of words and other elements, such as slogans, names, logos, figures and images, letters, numbers, sounds and moving images. The procedures for registering trademarks are governed by the legislation and procedures of national and regional intellectual property (IP) offices. Trademark rights are limited to the jurisdiction of the IP office that registers the trademark. Trademarks can be registered by filing an application at the relevant national or regional office(s) or by filing an international application through the Madrid System. A resident trademark application refers to an application filed with an IP office for or on behalf of the first-named applicant's country of residence. For example, an application filed with the Japan Patent Office by a resident of Japan is considered to be a resident application for Japan. Similarly, an application filed with the European Intellectual Property Office by an applicant who resides in any of the EU member states, such as France, is considered to be a resident application for that member state (France). This indicator is based on class count – the total number of goods and services classes specified in resident trademark applications. Data are scaled by PPP$ GDP (billions).

Source: World Intellectual Property Organization, Intellectual Property Statistics (https://www.wipo.int/ipstats); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data years: 2017–2024.

7.1.3 Global brand value, top 5,000, % GDP

Global brand value of the top 5,000 brands (% of GDP) | 2026

Sum of global brand values, top 5,000 as a percentage of GDP. Brand Finance calculates brand value using the royalty relief methodology, which determines the value that a company would be willing to pay to license its brand if it did not own it. The methodology is compliant with industry standards set in ISO 10668. This approach involves estimating the future revenue attributable to a brand and calculating a royalty rate that would be charged for the use of that brand. Brand Finance's study is based on publicly available information on the largest brands in the world. This indicator assesses the economy's brands in the top 5,000 global brand database and produces the sum of the brand values corresponding to that economy. This sum is then scaled by GDP. A score of 0 is assigned where there are no brands in the country that make the top 5,000 ranking. A score of "n/a" is assigned where Brand Finance has been unable to determine if there are brands from the country that would rank within the top 5,000 due to data availability limitations.

Source: Brand Finance database (https://brandirectory.com); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data year: 2026.

7.1.4 Industrial designs by origin/bn PPP$ GDP

Number of designs contained in resident industrial design applications filed at a given national or regional office (per billion PPP$ GDP) | 2024

An industrial design is a set of exclusive rights granted by law to applicants to protect the ornamental or aesthetic aspect of their products. An industrial design is valid for a limited period of time and within a defined territory. A resident industrial design application refers to an application filed with an intellectual property office for or on behalf of the applicant's country of residence. For example, an application filed with the Japan Patent Office by a resident of Japan is considered to be a resident application for Japan. Similarly, an application filed with the European Intellectual Property Office (EUIPO) by an applicant who resides in any of the EUIPO member states, such as Italy, is considered to be a resident application for that member state (Italy). This indicator is based on design count – the total number of designs contained in resident industrial design applications. Data are scaled by PPP$ GDP (billions).

Source: World Intellectual Property Organization, Intellectual Property Statistics (https://www.wipo.int/ipstats); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data years: 2017–2024.

7.2 Creative goods and services

7.2.1 Cultural and creative services exports, % total trade

Cultural and creative services exports (% of total trade) | 2024

Creative services exports as a percentage of total exports according to the Extended Balance of Payments Services Classification EBOPS 2010 – that is, EBOPS code SI3: Information services; code SJ22: Advertising, market research, and public opinion polling services; code SK1: Audio-visual and related services; and code SK23: Heritage and recreational services as a percentage of total trade. Values are based on the classification of the sixth (2009) edition of the International Monetary Fund's *Balance of Payments and International Investment Position Manual* and Balance of Payments database. See indicator 5.3.1 for the full definition of total trade.

Source: Trade in Commercial Services database (https://stats.wto.org); and WTO–OECD Balanced Trade in Services (BaTiS) dataset (https://www.wto.org/english/res_e/statis_e/gstdh_batis_e.htm). Data years: 2023–2024.

7.2.2 National feature films/mn pop. 15–69

Number of national feature films produced (per million population, 15–69 years old) | 2024

A feature film is defined as a film with a running time of 60 minutes or longer. It includes works of fiction, animation and documentaries. It is intended for commercial exhibition in cinemas. Feature films produced exclusively for television broadcasting, as well as newsreels and advertising films, are excluded. Data are reported per million population aged 15–69 years old.

Source: OMDIA (https://omdia.tech.informa.com/products/cinema-and-movies-intelligence-service); and United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects 2024 (https://population.un.org/wpp). Data years: 2019–2024.

7.2.3 Entertainment and media market/th pop. 15–69

Global telecom and entertainment & media outlook (per thousand population, 15–69 years old) | 2025

The Global Telecom and Entertainment & Media Outlook is a comprehensive source of global analyses and five-year forecasts of consumer and advertising spending across different territories and entertainment and media segments. The figures for Algeria, Bahrain, the Islamic Republic of Iran, Jordan, Kuwait, Lebanon, Malta, Morocco, Oman, Qatar, Tunisia and Yemen were estimated from a total corresponding to Middle East and North Africa (MENA) countries, while the figures for Australia and New Zealand were estimated from a total corresponding to Oceania countries. In both cases, a breakdown of total GDP (current USD) for the above-mentioned countries was used to define referential percentages.

Source: PwC, Global Telecom and Entertainment & Media Outlook, 2025–2029 (https://www.pwc.com/gx/en/industries/tmt/media/outlook.html); United Nations Department of Economic and Social Affairs, Population Division, World Population Prospects 2024 (https://population.un.org/wpp); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data years: 2024–2025.

7.2.4 Creative goods exports, % total trade

Creative goods exports (% of total trade) | 2024

Total value of creative goods exports (current USD) over total trade. Creative goods exports based on the 2009 UNESCO Framework for Cultural Statistics, Table 3, International trade of cultural goods and services defined with the Harmonized System (HS) 2007 codes; World Trade Organization and United Nations Conference on Trade and Development, Trade in Commercial Services database, itself based on the sixth (2009) edition of the International Monetary Fund's *Balance of Payments and International Investment Position Manual* and Balance of Payments database. For the definition of total trade, see indicator 5.3.1. Trade Data Monitor (TDM) data are used to complement Comtrade data and improve data timeliness where necessary.

Source: United Nations Comtrade Database (http://comtrade.un.org); Trade Data Monitor (https://www.tradedatamonitor.com); and World Trade Organization and United Nations Conference on Trade and Development (https://stats.wto.org). Data years: 2018–2024.

7.3 Online creativity

7.3.1 Top-level domains (TLDs)/th pop. 15–69

Generic top-level domains (TLDs) and country-code TLDs (per thousand population, 15–69 years old) | 2025

The sum of Generic top-level domains (TLDs) and country-code TLDs as a proportion of thousand population, 15–69 years old. A top-level domain (TLD) encompasses various categories maintained by the Internet Assigned Numbers Authority (IANA) for internet use.

Generic TLDs cover five generic domains (.biz, .info, .org, .net, and .com), excluding sponsored domains such as .name or .pro, and all new generic TLDs. Country-code TLDs are assigned to specific economies, countries, or territories and represent total domain registrations within each country-code TLD, with exceptions for ccTLDs licensed for global commercial use. For confidentiality reasons, only normalized values are reported; while relative positions are preserved, magnitudes are not.

Source: ZookNIC Inc (https://www.zooknic.com); and United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects 2024 (https://population.un.org/wpp). Data year: 2025.

7.3.2 GitHub commits/mn pop. 15–69

GitHub commits pushes received and sent (per million population, 15–69 years old) | 2025

GitHub is the world's largest host of source code, and a commit is the term used for a change on this platform. One or more commits can be saved (or pushed) to projects (or repositories). Thus, "GitHub commit pushes received and sent" refers to the sum of the number of batched changes received and sent by publicly-available projects on GitHub within a specific economy. Automated activity resulting in non-productive commits is excluded.

Source: GitHub (https://github.com); and United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects 2024 (https://population.un.org/wpp). Data year: 2025.

7.3.3 Mobile app creation/bn PPP$ GDP

Global downloads of mobile apps (per billion PPP$ GDP, two-year average) | 2025

Global downloads of mobile apps, by origin of the headquarters of the developer/firm, scaled by PPP$ GDP (billions). Global downloads are compiled by Sensor Tower, public data sources and the company's proprietary forecast model based on data from Google Play Store and iOS App Store in each country. Since data for China are not available for Google Play Store and only for iOS App Store, data from China are treated as missing.

Source: Sensor Tower App Performance Insights (https://sensortower.com); and International Monetary Fund, World Economic Outlook Database, October 2025 (https://data.imf.org/en/datasets/IMF.RES:WEO). Data year: 2025.

Appendix IV – Global Innovation Index innovation cluster methodology

Since 2016, the Global Innovation Index (GII) has sought to identify innovation clusters using a bottom-up approach (Bergquist and Fink, 2020). This approach disregards administrative or political borders and instead pinpoints those geographical areas that show a high density of inventors, scientific authors and venture capital deal activity. The resulting clusters often encompass several municipal districts, sub-federal states and sometimes even two or more countries.

Three innovation metrics are employed in the compilation of the top 100 GII innovation clusters worldwide: the location of inventors listed in published patent applications; the location of authors listed in published scientific articles; and the location of firms in receipt of venture capital (VC) investment.

For patents, this method relies on applications under WIPO's Patent Cooperation Treaty (PCT). PCT patents offer a useful basis for analyzing patents globally. The PCT system applies a single set of procedural rules and collects information based on uniform filing standards. This reduces any potential biases that could arise from using data collected from multiple national sources. The patents selected were published between 2021 and 2025, the most recent five-year period available. This is to minimize the volatility that can occur between given years.

As a second step, scientific publications from the Web of Science's Science Citation Index Expanded (SCIE) were incorporated. The SCIE provides detailed coverage of the world's most impactful academic journals. For the purposes of the analysis, science and technology fields were the focus, whereas articles from the fields of social sciences and humanities were disregarded. In addition, scientific publications were limited solely to articles of original research. This is to exclude other published items, such as meeting abstracts, conference summaries or paper briefs. As with PCT filings, the most recent five-year period according to data availability was used for the SCIE – publication years 2020 to 2024.

For a second consecutive year, VC deal data were incorporated in order to further enrich the understanding of innovation activity at the cluster level. By integrating information on firms that have been in receipt of VC funding, the analysis is able to capture entrepreneurial and early-stage innovation activity, reflecting not only scientific and inventive outputs, but also innovation finance and startup dynamics.

For VC data, PitchBook's Venture Capital Database was utilized. The database offers detailed deal-level VC count and value information, and is used to identify the precise geographic location of firms receiving VC investments. As we wanted to capture VC activity, the total number of deals was counted, regardless of the total value. A VC deal is defined as any firm-funding event. Thus a firm that had multiple funding events may appear multiple times in the deal counts. VC data were sourced for the same five-year period as were scientific articles, that is 2020–2024, based on the year the funding event took place.

The WIPO PCT patent data set consists of approximately 1.3 million patent applications published between 2021 and 2025, containing 4.4 million inventor addresses. For the SCIE, the data set comprises 8.6 million articles published between 2020 and 2024, containing 30.4 million

listed author addresses. For PitchBook's Venture Capital Database, the data set consists of 51,576 locations between 2020 and 2024, containing 244,128 deals.

The geocoding process for addresses used in this report is as follows. PCT inventor addresses were geocoded using the Environmental Systems Research Institute (ESRI) ArcGIS World Geocoder service. In cases where the ESRI results were ambiguous or insufficiently accurate, the city name was extracted from the address string and matched against entries in a dataset derived from the GeoNames Gazetteer database[i]—a global dataset of approximately 766,000 geocoded city names. If the extracted city did not match any record in GeoNames, an attempt was made to geocode the city name directly using the World Geocoder service.

This same city-matching approach was applied to SCIE author addresses and VC deal locations. In both datasets, the addresses were provided in a pre-parsed format, which significantly improved the ability to match them using the GeoNames database. For SCIE and VC city names that could not be matched using GeoNames, again an attempt was made to geocode the city name using ESRI's World Geocoder.

Overall, 98.5 percent of inventor addresses were geocoded either at the city level or a more accurate level, while 99.7 percent of scientific author addresses were geocoded at the city level. For VC data, 99.4 percent of VC deals were geocoded at the city level or better. Appendix IV Table 1 provides a summary of the geocoding results for the top 20 countries, which together account for the majority of inventor, scientific author and VC deals addresses. As shown in the table, the coverage of geocoded PCT inventor addresses across all 20 countries was above 97 percent. Similarly, coverage of scientific author addresses and VC deal addresses was high at above 96 percent.

Addresses were clustered by applying the density-based spatial clustering of applications with the noise (DBSCAN) algorithm. This algorithm requires predefined radius and density parameters. As in previous years, a radius of 15 km and a density of 4,500 listed inventors/authors were applied. Equal weight was given to inventors and authors by expressing data points as a share of total inventor and author addresses, respectively. Given that the number of scientific articles far exceeds that of patents, cluster identification based on the raw data points would have resulted in clusters shaped predominantly by the scientific author landscape.

The location of VC-backed firms was excluded from the initial cluster formation process, because of the relatively high degree of geographic dispersion compared to PCT inventors and scientific article authors. The sparser distribution of VC data points risked introducing noise and distorting cluster boundaries if it had been included during the DBSCAN algorithm execution. To address this limitation, VC locations were assigned to clusters *post hoc* using a modified nearest-neighbor approach. Specifically, the DBSCAN prediction function was adapted so as to assign each VC point to a cluster if it fell within 15 km of any core point within that cluster. Critically, we restricted distance calculations to core points only, excluding boundary points from consideration. This approach ensures that VC firms are only assigned to clusters having a sufficiently dense level of entrepreneurial activity within their immediate vicinity, thereby remaining consistent with the density-based clustering logic, while at the same time accommodating the distinctive spatial distribution of VC investments.

The clustering step resulted in an initial list of 244 clusters. After review, neighboring clusters were merged if the edge of one cluster was within 3–5 km of another and where the co-author/co-inventor relationships were higher than for any other relationship with any other cluster or non-cluster points. A total of 18 clusters met these criteria, with mergers reducing the overall number of clusters identified to 235.

The remaining 235 clusters were then ranked by counting the number of patents, scientific articles and VC deals within a given cluster. Numbers were aggregated using fractional counting, in which counts reflect the share of a patent's inventors and an article's authors present within a given cluster. In addition, mirroring the equal weighting approach described above, fractional counts are relative to the total numbers of patents, scientific articles and VC deals (Appendix IV Table 2).

To produce an intensity ranking, the European Commission's Global Human Settlement Layer (GHSL) population distribution data (Schiavina *et al.,* 2023) were matched geographically to the top 100 clusters identified in the overall ranking (Appendix IV Table 3). Just as with inventor/author geocoded locations, these population data allowed the total population of a cluster to be defined using a bottom-up approach. We chose to define a cluster's area as being all the space within 0.05 degrees of each inventor/author location. Overlaying the resultant cluster polygons on top of the population data and aggregating all points that lay within each polygon gave a total population estimate for each cluster. Clusters were then ranked by dividing the total innovation share by population. The GHSL estimated population for 2025 was utilized for this year (2026).

Appendix IV Table 1 Summary of geocoding results, 2026

	Scientific publications			PCT applications			Venture Capital deals		
Country	Number of addresses	City-level address accuracy (%)	Publications covered (%)	Number of addresses	City-level address accuracy (%)	Applications covered (%)	Number of addresses	City-level address accuracy (%)	Deals covered (%)
China	7,712,104	100.0	100.0	1,267,052	99.9	99.9	3,756	98.4	99.7
United States of America	4,879,281	100.0	100.0	969,360	100.0	100.0	11,120	99.0	99.4
Germany	1,223,706	99.9	100.0	260,211	99.7	99.8	1,506	98.6	99.7
Japan	1,103,031	99.4	99.8	619,850	99.8	99.9	1,685	98.2	99.6
United Kingdom	1,068,254	99.4	99.6	92,170	99.9	99.9	7,377	97.2	98.6
Italy	1,026,791	99.9	100.0	48,862	99.6	99.7	679	98.4	99.5
India	964,513	99.3	99.6	70,473	99.7	99.7	1,461	99.3	99.9
France	847,856	99.3	99.6	111,112	99.3	99.5	1,596	96.9	99.4
Republic of Korea	826,066	99.3	99.6	355,872	99.9	99.9	1,609	98.5	99.8
Spain	800,852	99.6	99.8	28,777	99.8	99.8	882	98.0	99.6
Canada	714,052	100.0	100.0	52,330	100.0	99.9	3,079	98.1	99.3
Australia	683,017	99.9	99.9	21,601	99.9	99.9	871	97.1	99.2
Brazil	636,355	99.8	99.8	10,615	99.7	99.8	1,445	99.1	99.6
Türkiye	434,587	98.7	98.5	20,848	97.5	98.3	235	99.6	100.0
Netherlands (Kingdom of the)	412,518	99.8	99.9	55,878	99.8	99.7	1,516	99.3	99.7
Russian Federation	387,411	99.8	99.8	14,407	99.6	99.7	256	99.6	99.8
Switzerland	289,478	99.9	99.9	46,692	99.9	99.9	465	97.6	99.7
Sweden	267,542	99.9	100.0	46,053	99.4	99.4	1,108	98.9	99.4
Israel	145,726	98.6	99.5	31,878	98.0	98.6	1,187	98.2	99.1
Singapore	130,844	99.8	99.8	19,110	99.9	99.9	926	98.3	99.6
World total	**30,471,156**	**99.7**	**99.9**	**4,382,857**	**98.5**	**98.5**	**51,576**	**98.0**	**99.3**

Notes: This list comprises the top 20 countries in order of the highest combined share of patents and scientific articles. PCT inventor addresses were geocoded to the highest level of detail. Due to the much larger volume, scientific author addresses were geocoded only to the city level. Venture capital data were also geocoded only to the city level due to data availability.

Source: WIPO Statistics Database, June 2026.

Appendix IV Table 2 Top innovation clusters, 2026

Rank	Cluster name	Economy	PCT applications	Scientific publications	Venture capital deals	Share of global PCT fillings	Share of global scientific publications	Share of global venture capital deals	Total	Previous rank	Rank change
1	Shenzhen–Hong Kong–Guangzhou	CN / HK	120,095	215,866	7,328	9.2%	2.5%	3.0%	14.7%	1	0
2	Tokyo–Yokohama	JP	132,669	115,303	5,248	10.1%	1.3%	2.2%	13.6%	2	0
3	San Jose–San Francisco	US	50,255	55,788	16,659	3.8%	0.7%	6.9%	11.4%	3	0
4	Beijing	CN	54,298	360,830	6,018	4.1%	4.2%	2.5%	10.8%	4	0
5	Seoul	KR	73,770	144,898	7,566	5.6%	1.7%	3.1%	10.4%	5	0
6	Shanghai–Suzhou	CN	45,295	227,284	9,451	3.5%	2.7%	3.9%	10.0%	6	0
7	New York City	US	13,355	74,460	11,230	1.0%	0.9%	4.6%	6.5%	7	0
8	London	GB	7,360	55,931	10,157	0.6%	0.7%	4.2%	5.4%	8	0
9	Boston–Cambridge	US	19,326	74,838	4,553	1.5%	0.9%	1.9%	4.2%	9	0
10	Osaka–Kobe–Kyoto	JP	36,830	51,853	543	2.8%	0.6%	0.2%	3.6%	11	1
11	Paris	FR	16,654	60,375	4,010	1.3%	0.7%	1.7%	3.6%	12	1
12	Los Angeles	US	11,266	42,716	5,105	0.9%	0.5%	2.1%	3.5%	10	-2
13	Hangzhou	CN	11,309	92,832	3,047	0.9%	1.1%	1.3%	3.2%	13	0
14	San Diego	US	27,742	19,518	1,566	2.1%	0.2%	0.6%	3.0%	14	0
15	Nanjing	CN	7,882	149,715	1,440	0.6%	1.7%	0.6%	2.9%	15	0
16	Singapore	SG / MY	5,708	34,412	4,131	0.4%	0.4%	1.7%	2.5%	16	0
17	Wuhan	CN	7,049	122,556	730	0.5%	1.4%	0.3%	2.3%	18	1
18	Washington, DC–Baltimore	US	6,659	70,263	2,120	0.5%	0.8%	0.9%	2.2%	17	-1
19	Tel Aviv–Jerusalem	IL	6,605	25,114	2,872	0.5%	0.3%	1.2%	2.0%	19	0
20	Chengdu	CN	2,989	98,652	1,241	0.2%	1.2%	0.5%	1.9%	24	4
21	Philadelphia	US	5,875	32,444	2,556	0.4%	0.4%	1.1%	1.9%	23	2
22	Daejeon	KR	16,501	30,209	620	1.3%	0.4%	0.3%	1.9%	25	3
23	Xi'an	CN	2,459	121,543	573	0.2%	1.4%	0.2%	1.8%	29	6
24	Seattle	US	9,643	19,243	2,047	0.7%	0.2%	0.8%	1.8%	20	-4
25	Bengaluru	IN	5,262	17,277	2,898	0.4%	0.2%	1.2%	1.8%	21	-4
26	Amsterdam–Rotterdam	NL	4,542	51,371	2,011	0.3%	0.6%	0.8%	1.8%	22	-4
27	Delhi	IN	1,212	37,365	2,644	0.1%	0.4%	1.1%	1.6%	26	-1
28	Munich	DE	10,646	26,956	996	0.8%	0.3%	0.4%	1.5%	27	-1
29	Nagoya	JP	16,083	20,660	122	1.2%	0.2%	0.1%	1.5%	28	-1
30	Stockholm	SE	5,614	19,018	2,023	0.4%	0.2%	0.8%	1.5%	32	2
31	Berlin	DE	3,008	24,377	2,245	0.2%	0.3%	0.9%	1.4%	30	-1
32	Hefei	CN	4,979	55,257	961	0.4%	0.6%	0.4%	1.4%	39	7
33	Qingdao	CN	7,480	59,781	326	0.6%	0.7%	0.1%	1.4%	34	1
34	Chicago	US	3,898	28,880	1,736	0.3%	0.3%	0.7%	1.4%	31	-3
35	Denver	US	3,559	21,239	1,971	0.3%	0.2%	0.8%	1.3%	35	0
36	Toronto	CA	2,679	28,050	1,872	0.2%	0.3%	0.8%	1.3%	33	-3
37	Austin	US	2,721	9,444	2,252	0.2%	0.1%	0.9%	1.2%	37	0
38	Sydney	AU	2,681	33,903	1,516	0.2%	0.4%	0.6%	1.2%	36	-2
39	Houston	US	7,650	23,072	901	0.6%	0.3%	0.4%	1.2%	38	-1
40	Zürich	CH	4,031	23,705	1,491	0.3%	0.3%	0.6%	1.2%	40	0
41	Changsha	CN	1,550	74,255	441	0.1%	0.9%	0.2%	1.2%	44	3
42	Taipei–Hsinchu	TW*	3,831	56,526	434	0.3%	0.7%	0.2%	1.1%	41	-1
43	Mumbai	IN	2,275	16,717	1,717	0.2%	0.2%	0.7%	1.1%	46	3
44	Tianjin	CN	1,320	69,976	359	0.1%	0.8%	0.1%	1.1%	50	6
45	Barcelona	ES	2,070	30,533	1,314	0.2%	0.4%	0.5%	1.1%	45	0
46	Cologne	DE	6,224	32,909	470	0.5%	0.4%	0.2%	1.1%	43	-3
47	Copenhagen	DK	3,124	24,131	1,284	0.2%	0.3%	0.5%	1.0%	42	-5
48	Madrid	ES	1,622	40,065	1,009	0.1%	0.5%	0.4%	1.0%	47	-1
49	São Paulo	BR	675	23,754	1,595	0.1%	0.3%	0.7%	1.0%	49	0
50	Moscow	RU	1,764	61,352	317	0.1%	0.7%	0.1%	1.0%	48	-2
51	Minneapolis	US	6,581	13,990	755	0.5%	0.2%	0.3%	1.0%	51	0

Appendix IV Table 2 Top innovation clusters, 2026 (cont.)

Rank	Cluster name	Economy	PCT applications	Scientific publications	Venture capital deals	Share of global PCT fillings	Share of global scientific publications	Share of global venture capital deals	Total	Previous rank	Rank change
52	Chongqing	CN	1,401	60,161	367	0.1%	0.7%	0.2%	1.0%	57	5
53	Melbourne	AU	1,828	37,596	873	0.1%	0.4%	0.4%	0.9%	52	-1
54	Stuttgart	DE	9,216	14,064	147	0.7%	0.2%	0.1%	0.9%	54	0
55	Raleigh	US	2,976	28,051	868	0.2%	0.3%	0.4%	0.9%	53	-2
56	Istanbul	TR	2,478	31,785	796	0.2%	0.4%	0.3%	0.9%	58	2
57	Milan	IT	2,592	33,045	715	0.2%	0.4%	0.3%	0.9%	56	-1
58	Brussels–Antwerp	BE	2,822	27,487	800	0.2%	0.3%	0.3%	0.9%	55	-3
59	Helsinki	FI	3,263	13,160	1,059	0.2%	0.2%	0.4%	0.8%	60	1
60	Atlanta	US	1,883	21,822	1,052	0.1%	0.3%	0.4%	0.8%	59	-1
61	Miami	US	943	8,436	1,545	0.1%	0.1%	0.6%	0.8%	67	6
62	Montréal	CA	2,823	24,294	737	0.2%	0.3%	0.3%	0.8%	62	0
63	Dallas	US	3,201	9,802	1,018	0.2%	0.1%	0.4%	0.8%	61	-2
64	Jinan	CN	1,705	46,618	227	0.1%	0.5%	0.1%	0.8%	68	4
65	Tehran	IR	405	58,732	107	0.0%	0.7%	0.0%	0.8%	63	-2
66	Eindhoven	NL	7,924	5,337	193	0.6%	0.1%	0.1%	0.7%	65	-1
67	Frankfurt am Main	DE	5,372	17,559	298	0.4%	0.2%	0.1%	0.7%	64	-3
68	Vancouver	CA	1,715	15,171	1,035	0.1%	0.2%	0.4%	0.7%	66	-2
69	Changchun	CN	1,778	45,552	89	0.1%	0.5%	0.0%	0.7%	72	3
70	Harbin	CN	385	56,296	42	0.0%	0.7%	0.0%	0.7%	70	0
71	Cambridge	GB	3,189	16,092	633	0.2%	0.2%	0.3%	0.7%	69	-2
72	Dublin	IE	969	10,582	1,107	0.1%	0.1%	0.5%	0.7%	71	-1
73	Zhengzhou	CN	683	41,911	151	0.1%	0.5%	0.1%	0.6%	80	7
74	Shenyang	CN	599	43,730	108	0.0%	0.5%	0.0%	0.6%	75	1
75	Ningde	CN	7,693	389	6	0.6%	0.0%	0.0%	0.6%	99	24
76	Vienna	AT	1,627	20,072	517	0.1%	0.2%	0.2%	0.6%	74	-2
77	Portland	US	2,616	6,266	709	0.2%	0.1%	0.3%	0.6%	73	-4
78	Xiamen	CN	2,296	21,694	323	0.2%	0.3%	0.1%	0.6%	81	3
79	Chennai	IN	1,555	23,307	395	0.1%	0.3%	0.2%	0.6%	84	5
80	Phoenix	US	2,026	8,925	700	0.2%	0.1%	0.3%	0.5%	78	-2
81	Rome	IT	964	31,754	229	0.1%	0.4%	0.1%	0.5%	82	1
82	Mexico City	MX	236	20,363	657	0.0%	0.2%	0.3%	0.5%	79	-3
83	Dalian	CN	746	36,997	88	0.1%	0.4%	0.0%	0.5%	88	5
84	Pittsburgh	US	1,833	15,776	485	0.1%	0.2%	0.2%	0.5%	76	-8
85	Oxford	GB	1,632	17,659	465	0.1%	0.2%	0.2%	0.5%	77	-8
86	Cairo	EG	179	26,673	469	0.0%	0.3%	0.2%	0.5%	83	-3
87	Ningbo	CN	1,204	17,622	525	0.1%	0.2%	0.2%	0.5%	93	6
88	Heidelberg–Mannheim	DE	4,125	12,845	114	0.3%	0.2%	0.0%	0.5%	87	-1
89	Oslo	NO	790	12,536	686	0.1%	0.1%	0.3%	0.5%	85	-4
90	Kuala Lumpur	MY	520	20,569	505	0.0%	0.2%	0.2%	0.5%	86	-4
91	Warsaw	PL	510	23,045	427	0.0%	0.3%	0.2%	0.5%	89	-2
92	Riyadh	SA	162	25,033	419	0.0%	0.3%	0.2%	0.5%	101	9
93	Hamburg	DE	1,603	11,515	508	0.1%	0.1%	0.2%	0.5%	91	-2
94	Zhenjiang	CN	1,118	28,336	120	0.1%	0.3%	0.0%	0.5%	100	6
95	Lyon	FR	2,030	11,663	402	0.2%	0.1%	0.2%	0.5%	90	-5
96	Fuzhou	CN	560	29,846	153	0.0%	0.3%	0.1%	0.5%	104	8
97	Manchester	GB	935	11,486	590	0.1%	0.1%	0.2%	0.4%	94	-3
98	Busan	KR	2,215	14,318	262	0.2%	0.2%	0.1%	0.4%	95	-3
99	Macau–Zhuhai	CN	2,801	6,862	361	0.2%	0.1%	0.1%	0.4%	98	-1
100	Göteborg	SE	2,057	9,849	410	0.2%	0.1%	0.2%	0.4%	97	-3

Note: Economy codes are based on WIPO Standard ST.3 two-letter codes for the representation of states, other entities and organizations. TW* refers to Taiwan Province of China.

Source: WIPO Statistics Database, June 2026.z

Appendix IV Table 3 Innovation intensity ranking, 2026

Rank per-capita	Cluster name	Economy	Estimated cluster population	PCT applications per capita (a)	Scientific publications per capita (a)	Venture Capital deals per capita (a)	Total innovation intensity share per capita (a)	Rank change
1	San Jose–San Francisco	US	6,284,006	7,997	8,878	2,651	1.836	0
2	Cambridge	GB	499,014	6,390	32,247	1,269	1.401	0
3	Ningde	CN	473,714	16,239	821	13	1.254	1
4	Boston–Cambridge	US	4,290,782	4,504	17,442	1,067	0.999	−1
5	Oxford	GB	554,126	2,945	31,868	839	0.952	0
6	San Diego	US	4,028,320	6,887	4,845	389	0.747	1
7	Seattle	US	2,615,232	3,687	7,358	783	0.699	−1
8	Helsinki	FI	1,245,701	2,619	10,564	850	0.683	1
9	Eindhoven	NL	1,105,340	7,169	4,829	175	0.677	1
10	Daejeon	KR	2,832,924	5,825	10,663	219	0.662	5
11	Stockholm	SE	2,304,754	2,436	8,252	878	0.654	0
12	Copenhagen	DK	1,748,406	1,787	13,802	734	0.608	0
13	Zürich	CH	2,030,138	1,985	11,676	734	0.599	1
14	Austin	US	2,164,768	1,257	4,362	1,040	0.587	−1
15	Munich	DE	2,834,500	3,756	9,510	351	0.546	1
16	Raleigh	US	1,737,415	1,713	16,145	500	0.531	1
17	Göteborg	SE	877,616	2,344	11,222	467	0.508	3
18	London	GB	10,876,880	677	5,142	934	0.507	1
19	Beijing	CN	20,191,125	2,689	17,871	151	0.478	−1
20	Hangzhou	CN	7,166,556	1,578	12,954	425	0.452	5
21	Oslo	NO	1,110,016	711	11,294	618	0.448	0
22	Denver	US	3,166,889	1,124	6,707	622	0.428	0
23	Dublin	IE	1,573,379	616	6,726	704	0.423	0
24	New York City	US	16,142,782	827	4,613	696	0.411	0
25	Seoul	KR	26,712,809	2,762	5,424	283	0.394	3
26	Pittsburgh	US	1,353,872	1,354	11,653	358	0.391	0
27	Tokyo–Yokohama	JP	35,967,564	3,689	3,206	146	0.381	2
28	Philadelphia	US	5,181,493	1,134	6,261	496	0.370	4
29	Vancouver	CA	2,036,765	842	7,449	508	0.366	−2
30	Minneapolis	US	2,793,466	2,356	5,008	270	0.353	0
31	Berlin	DE	4,201,674	716	5,802	534	0.349	0
32	Singapore	SG / MY	7,962,035	717	4,322	519	0.325	1
33	Paris	FR	11,392,578	1,462	5,300	352	0.322	1
34	Changsha	CN	3,805,736	407	19,511	116	0.308	14
35	Washington DC–Baltimore	US	7,411,167	899	9,481	286	0.301	4
36	Qingdao	CN	4,735,093	1,580	12,625	69	0.297	8
37	Nanjing	CN	9,246,666	852	16,191	98	0.296	−1
38	Sydney	AU	4,279,378	626	7,923	354	0.290	0
39	Stuttgart	DE	3,229,165	2,854	4,355	46	0.288	4
40	Los Angeles	US	12,321,030	914	3,467	414	0.286	−3
41	Toronto	CA	4,648,547	576	6,034	403	0.285	−1
42	Xi'an	CN	6,532,790	376	18,605	88	0.283	15
43	Atlanta	US	2,982,064	631	7,318	353	0.283	−2
44	Shenzhen–Hong Kong–Guangzhou	CN / HK	53,163,094	2,259	4,060	138	0.278	1
45	Chicago	US	5,161,269	755	5,596	336	0.265	1
46	Chengdu	CN	7,233,559	413	13,638	172	0.263	13
47	Heidelberg–Mannheim	DE	1,998,592	2,064	6,427	57	0.257	5
48	Wuhan	CN	8,935,230	789	13,716	82	0.255	1
49	Tel Aviv–Jerusalem	IL	7,916,330	834	3,172	363	0.254	−7
50	Miami	US	3,278,699	288	2,573	471	0.251	5
51	Portland	US	2,300,655	1,137	2,723	308	0.249	−4
52	Amsterdam–Rotterdam	NL	7,259,856	626	7,076	278	0.248	−2

Appendix IV Table 3 Innovation intensity ranking, 2026 (cont.)

Rank per-capita	Cluster name	Economy	Estimated cluster population	PCT applications per capita (a)	Scientific publications per capita (a)	Venture Capital deals per capita (a)	Total innovation intensity share per capita (a)	Rank change
53	Lyon	FR	1,890,595	1,074	6,169	213	0.244	−2
54	Osaka–Kobe–Kyoto	JP	15,064,665	2,445	3,442	36	0.242	0
55	Hefei	CN	6,144,217	810	8,993	156	0.233	3
56	Vienna	AT	2,482,579	655	8,085	208	0.233	−3
57	Montréal	CA	3,601,300	784	6,746	205	0.225	−1
58	Barcelona	ES	5,186,198	399	5,887	253	0.206	4
59	Melbourne	AU	4,612,887	396	8,150	189	0.206	2
60	Brussels–Antwerp	BE	4,280,756	659	6,421	187	0.204	0
61	Changchun	CN	3,598,378	494	12,659	25	0.196	10
62	Milan	IT	4,533,097	572	7,290	158	0.196	4
63	Frankfurt am Main	DE	3,822,101	1,405	4,594	78	0.194	2
64	Hamburg	DE	2,449,199	654	4,701	207	0.193	5
65	Shanghai–Suzhou	CN	47,978,460	944	4,737	145	0.189	−2
66	Houston	US	6,541,974	1,169	3,527	138	0.189	−2
67	Jinan	CN	4,172,898	409	11,172	54	0.185	6
68	Dallas	US	4,393,733	728	2,231	232	0.180	−1
69	Warsaw	PL	2,729,838	187	8,442	156	0.179	−1
70	Nagoya	JP	9,012,207	1,785	2,292	14	0.169	2
71	Phoenix	US	3,321,985	610	2,687	211	0.167	−1
72	Xiamen	CN	3,422,342	671	6,339	94	0.165	5
73	Zhenjiang	CN	2,847,239	393	9,952	42	0.164	6
74	Rome	IT	3,513,531	274	9,037	65	0.154	2
75	Manchester	GB	2,963,664	316	3,876	199	0.154	0
76	Madrid	ES	6,688,899	242	5,990	151	0.152	−2
77	Harbin	CN	4,715,168	82	11,939	9	0.149	1
78	Dalian	CN	3,650,949	204	10,134	24	0.144	2
79	Tianjin	CN	8,309,384	159	8,421	43	0.129	3
80	Macau–Zhuhai	CN	3,566,054	785	1,924	101	0.125	1
81	Fuzhou	CN	3,796,807	148	7,861	40	0.120	n.a.
82	Ningbo	CN	4,504,119	267	3,913	117	0.115	5
83	Bengaluru	IN	16,651,165	316	1,038	174	0.110	0
84	Cologne	DE	9,664,718	644	3,405	49	0.109	0
85	Busan	KR	4,091,691	541	3,499	64	0.109	1
86	Zhengzhou	CN	5,614,897	122	7,464	27	0.108	4
87	Chongqing	CN	9,701,978	144	6,201	38	0.099	1
88	Tehran	IR	7,852,773	52	7,479	14	0.097	−3
89	Taipei–Hsinchu	TW*	11,764,671	326	4,805	37	0.097	0
90	Shenyang	CN	6,366,632	94	6,869	17	0.095	1
91	Moscow	RU	14,259,861	124	4,302	22	0.069	1
92	Riyadh	SA	7,717,605	21	3,244	54	0.062	n.a.
93	Istanbul	TR	12,565,101	197	2,530	38	0.061	0
94	Kuala Lumpur	MY	9,164,217	57	2,245	55	0.054	0
95	São Paulo	BR	18,737,034	36	1,268	85	0.054	1
96	Delhi	IN	31,258,382	39	1,195	85	0.053	−1
97	Chennai	IN	11,702,174	133	1,992	34	0.048	1
98	Mumbai	IN	24,905,119	91	671	69	0.044	−1
99	Mexico City	MX	16,887,198	14	1,206	39	0.032	0
100	Cairo	EG	23,856,295	7	1,118	20	0.022	0

Note: Economy codes are based on WIPO Standard ST.3 two-letter codes for the representation of states, other entities and organizations. TW* refers to Taiwan Province of China.

Source: WIPO Statistics Database, June 2026.z

References

Bergquist, K. and C. Fink (2020). The top 100 science and technology clusters. In Dutta, S., B. Lanvin and S. Wunsch-Vincent (eds), *The Global Innovation Index 2020: Who Will Finance Innovation?* Ithaca, NY, Fontainebleau and Geneva: Cornell University, INSEAD and World Intellectual Property Organization. Available at: www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2020.pdf.

PitchBook (2024). Global VC Ecosystem Rankings: An update on our location-based VC Ecosystem Rankings. September 23, 2024. Available at: https://pitchbook.com/news/reports/q3-2024-pitchbook-analyst-note-global-vc-ecosystem-rankings.

Schiavina, M., S. Freire, A. Carioli and K. MacManus (2023). GHS-POP R2023A – GHS population grid multitemporal (1975–2030). Brussels: European Commission, Joint Research Centre (JRC). Available at: http://data.europa.eu/89h/2ff68a52-5b5b-4a22-8f40-c41da8332cfe.

Appendix V – Methodology of the Special theme

This appendix documents the data sources, definitions, sample-construction rules and limitations behind two empirical pillars of the Special theme. The first section describes the Dealroom–WIPO Deep Science Startup Tracker, the basis of Special theme section How large and important is deep science entrepreneurship?. The second section describes the procedure used to match the resulting universe of firms to global patent data, the evidence base for Special theme section What role does intellectual property play in deep science entrepreneurship? and for the *SPARK: Patenting in Deep Science Startups and Spinouts (Global Innovation Index 2026 Special)* (WIPO, 2026).

1 The Dealroom–WIPO Deep Science Startup Tracker

1.1 Purpose and scope

The Dealroom–WIPO Deep Science Startup Tracker measures the extent and distribution of deep science entrepreneurship across economies and sectors. It is the empirical basis of Special theme section How large and important is deep science entrepreneurship? and is searchable through the publicly available Dealroom–WIPO Deep Science Startup Tracker released alongside this GII edition. The tracker covers startups and spinouts founded from the year 2000 onward. This window is long enough to capture firms that take a decade or more to validate their technology, while still reflecting recent innovation activity.

1.2 Underlying data

The tracker draws on Dealroom's proprietary database. Dealroom aggregates company-level information from four sources: public information; contributions from more than 120 partner tech ecosystems and over 10,000 individual contributors (local accelerators and incubators, venture capital funds with in-depth ecosystem knowledge, angel associations); user-submitted records subsequently verified by Dealroom; and data engineering on regulatory filings and other structured sources. All records are verified and curated through an extensive manual process. Underlying data are accessible at app.dealroom.co.

1.3 Defining deep science startups and spinouts

In this chapter, deep science startups and spinouts are companies built on tangible engineering innovation or scientific discovery applied for the first time as a commercial product. They are typically capital-intensive, time-intensive and R&D-intensive. A firm qualifies under two primary criteria:

- **Technology complexity and time to market.** The underlying technology requires extended development before market-ready maturity. Firms typically employ a high share of researchers and engineers from inception and often create proprietary hardware or other novel intellectual property.
- **Capital requirement.** Research, development, testing and scaling require substantial up-front investment, well beyond the working-capital needs of typical software firms.

A secondary criterion – holding significant IP or being directly spun out of a research institution – raises the probability that a firm is classified as deep science but is not required for inclusion.

The scope used here covers nine fields in which firms act on the physical world: Life Sciences; Medical Devices and Digital Health; Food and Agritech; Semiconductors; Robotics and Autonomous Systems; Space; Energy; Transportation; and Advanced Materials and Manufacturing. The scope deliberately excludes digital-first deep tech such as large language model developers, blockchain infrastructure, novel cybersecurity protocols and other foundational software. Software firms qualify only when their primary application is on the physical world and they meet the complexity and capital criteria above. Examples of qualifying firms include AI drug discovery, autonomous driving and digital therapeutics.

Some sectors are nearly always classified as deep science (Robotics, Semiconductors, Space), with rare exceptions such as marketplaces for semiconductor IP. Others (Energy, Transportation, Food and Agritech) include both deep science segments and segments that are not. A biotechnology firm developing crop protection qualifies; a food-delivery firm or a standard farm-management platform does not. Final classification is made firm by firm, applying the criteria above to documented company information. To allow consistent historical comparison, firms remain classified as deep science even after the underlying technology becomes mainstream.

1.4 Sample construction

For the analyses presented in Special theme Section 3, the scope is further restricted by three filters applied jointly:

1. **VC-backed financing.** Firms have raised at least one venture capital round (Pre-Seed, Seed, Series A, B or C+). Venture funding excludes debt, non-equity grants and other lending capital. Exits (M&A and IPO transactions) are analyzed separately.
2. **Sector.** Firms operate in one of the nine deep science fields listed above.
3. **Technology risk and capital intensiveness.** Firms meet the firm-level criteria for complexity, time to market and capital requirements set out in Section 1.3.

The VC-backed filter trades coverage for comparability. Theoretical definitions of startups based on firm age, headcount or growth rate are difficult to apply consistently to private firms across economies, and fit deep science ventures particularly poorly (long development phases, lumpy growth, late commercial revenue). Conditioning on at least one VC round is observable and comparable across geographies, and captures the great majority of successful deep science ventures.

1.5 Identifying spinouts

The tracker treats spinouts as a subset of deep science startups: firms originating from research carried out in a university or research center. Equity ownership by the parent institution is not required. Non-equity arrangements (royalty-only agreements, professor-privilege regimes such as Sweden's) and informal but foundational links to an institute's research are sufficient. Firms that received support, acceleration or peripheral licenses from a university but were not founded on its research are not classified as spinouts.

Spinout identification follows two complementary procedures:

- **Data-driven detection.** Deep science VC-backed firms in the database are processed through automated review of company websites, press coverage and founder backgrounds, followed by human validation. Public information from university websites and national registers (for example, the HESA spinout register in the United Kingdom) feeds this process.
- **Ecosystem network collaboration.** Technology transfer offices, valorization teams, national TTO associations, governmental institutions and spinout-focused funds supply firm identifiers and parent-institution links. Submissions are validated by Dealroom, which retains final responsibility for classification.

Firms emerging from joint research at two or more institutes are classified as spinouts of each institute. In economy- or city-level analyses, each firm is counted once per economy, though it may still appear in two distinct geographies. The spinout is counted in the economy of the institute of origin, not its current headquarters. A Brazilian spinout that was established in or relocated to the United States is shown as Brazilian in the spinout-specific statistics. When a spinout is acquired, the acquirer is not retroactively classified as a spinout, even if the parent institution retains equity in the acquirer.

Applying these rules, university spinouts represent over 30 percent of the deep science startup universe.

1.6 Data limitations

The data are global in scope, but several limitations should be borne in mind when interpreting the results.

Deep science firms without VC funding. A small share of deep science ventures achieve scale without raising venture capital, financed instead by grants, founder equity, family offices or early revenue. These firms fall outside the tracker by construction. Coverage of VC-backed status is also uneven across regions: emerging ecosystems with limited regulatory transparency and thinner press coverage are harder to track. Dealroom mitigates this through its global network of 120 ecosystem partners and bilateral data exchanges with regional providers.

Firm-level classification. Whether a firm meets the deep science criteria is determined by Dealroom's curation team from gathered company information. The assessment is comparable across geographies, but very early-stage or stealth firms that disclose little about their technology are harder to classify with confidence.

Spinout transparency. Tracking of spinout creation by universities, research centers and public funders remains uneven. Some institutions publish complete lists; some maintain private lists shared on request; others do not track spinouts systematically. Transparency varies by region for structural and cultural reasons, and smaller institutions often lack tracking capacity. Data-driven detection is also weaker where founder profiles and company-founding histories are less documented online.

Failed ventures and the most recent year. Removing every failed deep science venture from the database, and capturing every firm founded in the most recent year (in this edition, 2025), is not feasible. Counts and trends in the most recent year should be read as provisional.

Country coverage. Coverage in low-income and certain middle-income economies is solid but perfectible. China is a particular case. Transparency on startup creation is limited, especially in sectors with national-security implications; many firms have no presence on global platforms or search engines; and venture financing involves direct participation by government and local development agencies in ways that do not map cleanly onto standard round labels (DeepTech Asia, 2026).

To address these gaps over time, a notification system has been introduced as of the GII 2026 launch in September 2026. WIPO Member States, deep science firms and their representatives can flag omissions through the dedicated portal; submissions are reviewed by Dealroom and integrated into subsequent updates, with the aim of improving global coverage over future editions.

2 Matching deep science startups to global patent data

2.1 Rationale

Patenting patterns across deep science ventures have until now been studied mostly at the national or regional level (Royal Academy of Engineering and Beauhurst, 2024 for the United Kingdom; EUIPO and EPO, 2024 for the European Union). To produce comparable evidence on a global scale, WIPO matched every firm in the Dealroom–WIPO Deep Science Startup

Tracker to global patent data, enabling the first comparison of patenting activity across deep science startup types, geographies, sectors and growth stages. Full results are reported in the *SPARK: Patenting in Deep Science Startups and Spinouts (Global Innovation Index 2026 Special)* (WIPO, 2026).

2.2 Source data

Two underlying datasets are matched:

- the Dealroom–WIPO Deep Science Startup Tracker described in Section 1, with firm-level identifiers including legal name, country of headquarters, founding year, founder names and parent institution where applicable; and
- Patsnap's global patent database (data extracted in March 2026), which integrates application and grant records from over 100 national and regional patent offices, including Patent Cooperation Treaty (PCT) applications. Records include applicant names, applicant addresses, inventor names, filing and publication dates, IPC and CPC classifications, and family-level identifiers.

2.3 Matching procedure

Matching proceeds in three stages. First, applicant names from the Patsnap patent database are harmonized through standard cleaning: removal of legal-form suffixes (Inc., Ltd., GmbH, KK, AG, SA), case and punctuation normalization, and enumeration of all possible name variants (including former names, operating names, registered names, etc.).

Second, each firm in the tracker is searched against the Patsnap patent database: all identified name variants of each firm are used as search queries, and all retrieved patent records are aggregated to form a comprehensive set of potentially relevant patents associated with that firm. The search covers both the original assignee name field and the current assignee name field, as the current assignee of a patent may differ from the original assignee due to corporate name changes, mergers, acquisitions or patent assignments. This captures all relevant patents, including those filed under a former name, acquired through corporate transactions or subsequently transferred to another entity.

Third, candidate matches are reviewed against firm metadata. Country of headquarters, founding year and business information of each firm are cross-checked against applicant addresses, the earliest priority date of the candidate's patent portfolio and the technical information contained in patent abstracts. Matches that pass all three checks are accepted. For acquired firms, patent portfolios are attributed to the deep science startup up to the date of acquisition; subsequent filings under the acquirer's name are not added to the startup's count.

For comparisons against non-deep science VC-backed startups, a sampling approach is used given the size of the comparator universe. Sample sizes are set to yield a margin of error of approximately ±1 percent at the 95 percent confidence level for the overall non-deep science comparator, with wider margins at the income-group level (high income: ±1.1 percent; upper-middle income: ±2.3 percent; lower-middle income: ±2.9 percent; low income: ±5.3 percent).

2.4 Coverage

Matching covers the full universe of VC-backed deep science startups and spinouts in the tracker. Across this scale range, almost half of deep science startups (47 percent) are matched to at least one published patent family, against 16 percent for non-deep science VC-backed startups in the comparator sample. Coverage by sector, economy and stage is reported in full in the corresponding WIPO Technology SPARK report. Patent activity is most prevalent in Medical Devices and Digital Health, Life Sciences, Semiconductors and Advanced Materials and Manufacturing, and lower in segments where firms may rely more heavily on trade secrets and copyright.

2.5 Limitations

Filing lags. Patent applications are published 18 months after the priority filing date. Firm-level patent counts therefore understate filings made in the most recent 18 to 24 months, and trends in 2024 and 2025 should be read as provisional.

Naming inconsistencies. Earlier-stage firms occasionally file under founder names, holding companies or special-purpose vehicles whose link to the operating company is not always documented in public sources. Manual review recovers most of these cases, but residual under-counting cannot be ruled out, particularly in economies with less complete patent-applicant records.

Non-patent protection. Patent counts capture only one form of intellectual property. In several deep science segments, notably software-rich life sciences and AI drug discovery, firms may also rely on trade secrets, copyright over code and exclusive rights over training data. The absence of patents in these segments should not be read as the absence of IP.

Sampling for the comparator. The non-deep science comparator is sampled rather than enumerated, with the margins of error reported in Section 2.3.

2.6 Related work

The matching procedure builds on a small set of recent national exercises. The Royal Academy of Engineering and Beauhurst (2024) matched UK deep tech ventures to UK and European patent records and found that about 70 percent hold patents. EUIPO and EPO (2024) matched VC-funded European startups to EPO and EUIPO records and showed that patent-holding startups are up to 10 times more likely to secure funding, with patent usage rising from 10 percent at the seed stage to 44 percent at the late stage. The present exercise extends these efforts to the global level by combining a single harmonized firm universe with a global patent database.

References

DeepTech Asia (2026). 2025: Renaissance of China's deep tech VC. *DeepTech Asia*, January 7.

EUIPO and EPO (2024). *Patents, Trade Marks and Startup Finance*. Alicante and Munich: European Union Intellectual Property Office and European Patent Office.

Patsnap (2026). Patsnap global patent database. Data extraction, March 2026. Singapore: Patsnap.

Royal Academy of Engineering and Beauhurst (2024). *Spotlight on Spinouts: UK Deep Tech Report*. London: Royal Academy of Engineering.

WIPO (2026). *Technology SPARK Report: Patenting in Deep Science Startups and Spinouts (Global Innovation Index 2026 Special)*. Geneva: WIPO, November.

Every year, the Global Innovation Index (GII) takes the pulse of innovation, offering a unique lens through which to examine how economic, technological, and regulatory forces are influencing global innovation and national innovation performance.

The GII ranks the innovation performance of close to 140 economies, showcasing their innovation strengths and weaknesses and identifies the list of the top 100 world's top innovation clusters.

The thematic focus of the GII 2026, "Powering Entrepreneurs at the Frontier of Science", explores how to build ecosystems that translate scientific breakthroughs into deep science startups and spinouts that scale real-world solutions, in particular in fields such as advanced materials, life sciences, quantum computing, space and transportation.

For many years, the United Nations General Assembly has referenced the GII in its Resolutions on Science, Technology and Innovation for Sustainable Development to support evidence-based innovation policymaking.

More information on the GII is available at https://www.wipo.int/gii and the GII economy profiles can be accessed at www.wipo.int/gii-ranking.