



Global Innovation Index 2017: Switzerland, Sweden, Netherlands, USA, UK top annual ranking

In its tenth edition, the GII 2017 notes a continued gap in innovative capacity between developed and developing nations and lackluster growth rates for research and development activities, both at the government and corporate levels.

Switzerland, Sweden, the Netherlands, the USA and the UK are the world's most-innovative countries, while a group of nations including India, Kenya, and Viet Nam are outperforming their development-level peers, according to the **Global Innovation Index 2017** co-authored by **INSEAD, Cornell University** and the **World Intellectual Property Organisation (WIPO)**.

Key findings show the rise of India as an emerging innovation centre in Asia, high innovation performance in Sub-Saharan Africa relative to development and an opportunity to improve innovation capacity in Latin America and the Caribbean.

Each year, the GII surveys some 130 economies using dozens of metrics, from patent filings to education spending providing decision makers a high-level look at the innovative activity that increasingly drives economic and social growth. In a new feature for the GII, a special section looks at "invention hotspots" around the globe that show the highest density of inventors listed in international patent applications.

Now in its tenth edition, the GII 2017 notes a continued gap in innovative capacity between developed and developing nations and lackluster growth rates for research and development (R&D) activities, both at the government and corporate levels.

"Innovation is the engine of economic growth in an increasingly knowledge-based global economy, but more investment is needed to help boost human creativity and economic output," said **WIPO Director General Francis Gurry**. *"Innovation can help transform the current economic upswing into longer-term growth."*

Global Rankings

1 Switzerland (No. 1 in 2016) 14 Japan (16)

2 Sweden (2)	15 France (18)
3 Netherlands (9)	16 Hong Kong (China) (14)
4 United States of America (4)	17 Israel (21)
5 United Kingdom (3)	18 Canada (15)
6 Denmark (8)	19 Norway (22)
7 Singapore (6)	20 Austria (20)
8 Finland (5)	21 New Zealand (17)
9 Germany (10)	22 China (25)
10 Ireland (7)	23 Australia (19)
11 Republic of Korea (11)	24 Czech Republic (27)
12 Luxembourg (12)	25 Estonia (24)
13 Iceland (13)	

In 2017, Switzerland leads the rankings for the seventh consecutive year, with high-income economies taking 24 of the top 25 spots – China is the exception at 22. In 2016, China became the first-ever middle income economy in the top 25.

“Efforts to bridge the innovation divide have to start with helping emerging economies understand their innovation strengths and weaknesses and create appropriate policies and metrics,” said **Soumitra Dutta, Dean, Cornell SC Johnson College of Business, Cornell University.** *“This has been the GII’s purpose for more than ten years now.”*

A group of middle and lower-income economies perform significantly better on innovation than their current level of development would predict: A total of 17 economies comprise these ‘innovation achievers’ this year, a slight increase from 2016. In total, nine come from the Sub-Saharan Africa region, including Kenya and Rwanda, and three economies come from Eastern Europe.

Next to innovation powerhouses such as China, Japan, and the Republic of Korea, a group of Asian economies including Indonesia, Malaysia, Singapore, Thailand, the Philippines and Viet Nam are actively working to improve their innovation ecosystems and rank high in a number of important indicators related to education, R&D, productivity growth, high-tech exports, among others.



Bruno Lanvin, INSEAD Executive Director for Global Indices, comments on the results of the GII 2017 in an interview with INSEAD Knowledge.

GII 2017 Theme: “Innovation Feeding the World”

The theme of the GII 2017, “Innovation Feeding the World,” looks at innovation carried out in agriculture and food systems. Over the next decades, the agriculture and food sector will face an enormous rise in global demand and increased competition for limited natural resources. In addition, it will need to adapt to and help mitigate climate change. Innovation is key to sustaining the productivity growth required to meet this rising demand and to helping enhance the networks that integrate the sustainable food production, processing, distribution, consumption, and waste management known as food systems.

*“We are already witnessing the rapid, worldwide emergence of ‘digital agriculture,’ which includes drones, satellite-based sensors and field robotics,” said **Bruno Lanvin, INSEAD Executive Director for Global Indices.** “Now there is an urgent need for ‘smart agriculture’ to optimise supply and distribution chains and foster creative new business models that minimise pressure on land, energy and other natural resources - while addressing the needs of the world’s poorest.”*

*“By 2050, the world’s population is estimated to reach 9.7 billion. This presents the global agricultural sector with a daunting challenge. The stage has been set for a potential global food crisis if policy makers and other stakeholders fail to implement agricultural innovation that significantly boosts productivity,” said **Barry Jaruzelski,***

Principal at Strategy&, PwC's strategy consulting business.

Regional Innovation Leaders

Region / Rank	Country	GII 2017 Global Rank
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Northern America

1	United States of America	4
2	Canada	18

Sub-Saharan Africa

1	South Africa	57
2	Mauritius	64
3	Kenya	80

Latin America and the Caribbean

1	Chile	46
2	Costa Rica	53
3	Mexico	58

Central and Southern Asia

1	India	60
2	Iran, Islamic Republic of	75

Region / Rank	Country	GII 2017 Global Rank
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3	Kazakhstan	78
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Northern Africa and Western Asia

1	Israel	17
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2	Cyprus	30
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3	United Arab Emirates	35
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South East Asia, East Asia, and Oceania

1	Singapore	7
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2	Republic of Korea	11
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3	Japan	14
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Europe

1	Switzerland	1
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2	Sweden	2
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3	The Netherlands	3
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Northern America

Two Northern American countries – USA (4th overall) and Canada (18th globally) – show particularly sophisticated financial markets and intensity of venture capital activity, which help stimulate private-sector economic activity.

The U.S. strengths also include the presence of high-quality universities and firms conducting global R&D, quality of scientific publications, software spending, and the state of its innovation clusters.

Canada excels in ease of starting a business and quality of scientific publications, while its political, regulatory and business environment draw top marks. Canada has logged improvement in its education system.

Europe

In this year's edition of the GII, 15 of the top 25 global economies are in Europe. Europe is particularly strong in human capital and research, infrastructure, business sophistication.

European economies rank first in almost half the indicators composing the GII, and include knowledge-intensive employment, university/industry research collaboration, patent applications, scientific and technical articles, and quality of scientific publications.

South East Asia, East Asia, and Oceania

The Republic of Korea maintains its top overall rankings in patenting and other IP-related indicators, while ranking second in human capital and research, with its business sector contributing significantly to R&D efforts.

Japan, ranked third in the region, is in the top 10 global economies for research and development, information and communication technologies, trade, competition, market scale, knowledge absorption, creation, and diffusion.

China continues moving ahead in the overall GII ranking (22nd overall this year), reflecting high scores in business sophistication and knowledge and technology outputs. China this year displays a strong performance in several indicators, including the presence of global R&D companies, research talent in business enterprise, patent applications and other IP-related variables.

Within the Association of East Asian Nations (ASEAN) grouping, Singapore is the top performer in most of the indicators, with a few notable exceptions: ICT services

exports, where the Philippines leads, and expenditure on education, where Viet Nam leads.

Thailand's strengths include creative goods exports and gross domestic expenditure on R&D (GERD) financed by business, where it places 5th and 6th globally.

Viet Nam shows the second best rank of the region in expenditure on education and also performs well in labor productivity growth, economy-wide investment, and foreign direct investment net inflows.

Malaysia ranks well in high-tech imports and exports, university/industry research collaboration, and graduates in science and engineering.

Central and Southern Asia

India, 60th globally, is the top-ranked economy in Central and Southern Asia and has now outperformed on innovation relative to its GDP per capita for seven years in a row. India has shown improvement in most areas, including in infrastructure, business sophistication, knowledge and technology and creative outputs.

India ranks 14th overall in the presence of global R&D companies, considerably better than comparable groups of lower- and upper-middle-income economies. India also surpasses most other middle-income economies in science and engineering graduates, gross capital formation, GERD performed by business, research talent, on the input side; quality of scientific publications, growth rate of GDP per worker, high-tech and ICT services exports, creative goods exports, high-tech manufactures, and IP receipts on the output side.

“Public policy plays a pivotal role in creating an enabling environment conducive to innovation. In the last two years, we have seen important activities around the GII in India like the formation of India’s high-level Task Force on Innovation and consultative exercises on both innovation policy and better innovation metrics,” said **Chandrajit Banerjee, Director General, Confederation of Indian Industry.**

The Islamic Republic of Iran (75th overall) excels in tertiary education, ranking second in the world in number of graduates in science and engineering. Tajikistan (94th) is first in the world in microfinance loans, while Kazakhstan (78th) ranks first globally in pupil-teacher ratio and third in ease of protecting minority investors.

Northern Africa and Western Asia

Israel (17th overall) and Cyprus (30th overall) achieve the top two spots in the region for the fifth consecutive year. Israel has shown improvement in gross expenditure on R&D and ICT services exports, while keeping its top spots worldwide in researchers, venture capital deals, GERD performed by business, and research talent in business

enterprise.

Third in the region is the United Arab Emirates (35th globally), which benefits from increased data availability and shows strengths in tertiary inbound mobility, innovation clusters and ICT-driven business model innovation. Sixteen of the 19 economies in the Northern Africa and Western Asia region are in the top 100 globally, including Turkey (43rd), Qatar (49th), Saudi Arabia (55th), Kuwait (56th), Armenia (59th), Bahrain (66th), Georgia (68th), Morocco (72nd), Tunisia (74th), Oman (77th), Lebanon (81st), Azerbaijan (82nd), and Jordan (83rd).

Latin America and the Caribbean

The largest economies in Latin America and the Caribbean (Chile, Mexico, Brazil, and Argentina) show particular strengths in institutions, infrastructure, and business sophistication. Chile, Mexico, Brazil, and Argentina perform well in areas of human capital and research such as the quality of universities, tertiary education enrollment, and presence of global R&D companies, as well as in information and communications technology, thanks to their high scores in government's online services and online participation.

The region's GII rankings have not significantly improved relative to other regions in recent years, and no country in Latin America and the Caribbean currently shows any innovation outperformance relative to its level of development.

"As Latin America, especially Brazil, is returning to positive growth rates, it is crucial to establish the foundations for innovation-driven development, which is the main goal of the Business Mobilization for Innovation (MEI)," said **Robson Andrade, president of CNI and Heloisa Menezes, Technical Director of Sebrae.**

Sub-Saharan Africa

Sub-Saharan Africa draws its highest scores in institutions and market sophistication, where economies such as Mauritius, Botswana, South Africa, Namibia, Rwanda, and Burkina Faso perform on par or better than some of their development-level peers in Europe and South East Asia, East Asia and Oceania.

Since 2012, Sub-Saharan Africa has counted more "innovation achiever" countries than any other region. Kenya, Rwanda, Mozambique, Uganda, Malawi, Madagascar and Senegal stand out for being innovation achievers this year, and several times in the previous years. Burundi and the United Republic of Tanzania become innovation achievers this year. Preserving and building upon this innovation momentum in Sub-Saharan Africa is now key.

About the Global Innovation Index

The [Global Innovation Index 2017](#) (GII), in its 10th edition this year, is co-published by INSEAD, Cornell University and the World Intellectual Property Organisation (WIPO, a specialised agency of the United Nations).

Published annually since 2007, the GII is now a leading benchmarking tool for business executives, policy makers and others seeking insight into the state of innovation around the world. Policymakers, business leaders and other stakeholders use the GII to evaluate progress on a continual basis. This year's study benefits from the experience of its Knowledge Partners, Confederation of Indian Industry, PwC's Strategy&, and the National Confederation of Industry (CNI) and Brazilian Micro and Small Business Support Service (Sebrae), as well as of an Advisory Board of international experts.

The core of the GII Report consists of a ranking of world economies' innovation capabilities and results. Recognizing the key role of innovation as a driver of economic growth and prosperity, and the need for a broad horizontal vision of innovation applicable to developed and emerging economies, the GII includes indicators that go beyond the traditional measures of innovation such as the level of research and development.

To support the global innovation debate, to guide policies and to highlight good practices, metrics are required to assess innovation and related policy performance. The GII creates an environment in which innovation factors are under continual evaluation, including the following features:

- 127 country/economy profiles, including data, ranks, and strengths and weaknesses
- 81 data tables for indicators from over 30 international public and private sources, of which 57 are hard data, 19 composite indicators, and 5 survey questions
- A transparent and replicable computation methodology including 90% confidence intervals for each index ranking (GII, output and input sub-indices) and an analysis of factors affecting year-on-year changes in rankings

The GII 2017 is calculated as the average of two sub-indices. The Innovation Input Sub-Index gauges elements of the national economy which embody innovative activities grouped in five pillars: (1) Institutions, (2) Human capital and research, (3) Infrastructure, (4) Market sophistication, and (5) Business sophistication. The Innovation Output Sub-Index captures actual evidence of innovation results, divided into two pillars: (6) Knowledge and technology outputs and (7) Creative outputs.

The index is submitted to an independent statistical audit by the Joint Research Centre of the European Commission. To download the full report visit:

www.globalinnovationindex.org.

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