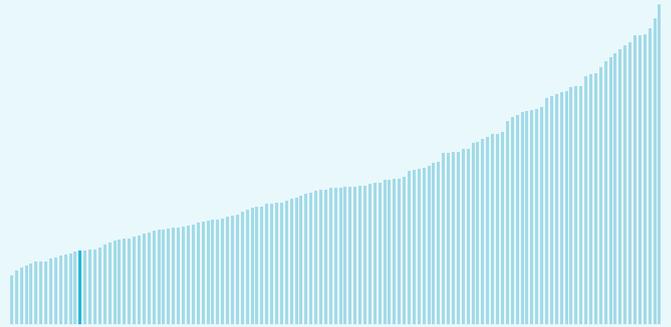


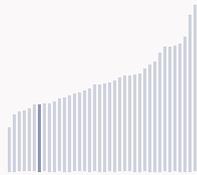
Benin ranking in the Global Innovation Index 2024

Benin ranks **119th** among the 133 economies featured in the GII 2024.

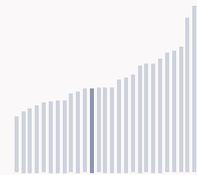
The Global Innovation Index (GII) ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GII aims to capture the multi-dimensional facets of innovation.



Benin ranks **32nd** among the 38 lower-middle-income group economies.



Benin ranks **16th** among the 27 economies in Sub-Saharan Africa.



> Benin GII Ranking (2020-2024)

The table shows the rankings of Benin over the past four years. Data availability and changes to the GII model framework influence year-on-year comparisons of the GII rankings. The statistical confidence interval for the ranking of Benin in the GII 2024 is between ranks 115 and 125.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	126th	116th	131st
2021	128th	113rd	132nd
2022	124th	107th	131st
2023	120th	108th	128th
2024	119th	109th	125th

Benin performs worse in innovation outputs than innovation inputs in 2024.

This year Benin ranks **109th** in innovation inputs. This position is lower than last year.

Benin ranks **125th** in innovation outputs. This position is higher than last year.

Benin has no clusters in the top 100 S&T clusters of the Global Innovation Index.

Global Innovation Index 2024



> Global Innovation Tracker

The Global Innovation Tracker 2024 shows what is the current state of innovation in Benin, how rapidly is technology being embraced and what are the resulting societal impacts.



For Benin, 2 indicators have improved in the short-term and 4 indicators have worsened.

Science and innovation investment

Scientific publications	R&D investments	Venture capital		International patent filings
		Deal numbers	Deal values	
▼ -6.6% 2022 - 2023	n/a	n/a	n/a	▼ -100% 2022 - 2023
▲ 6.5% 2013 - 2023	n/a	n/a	n/a	n/a

Technology adoption

Safe sanitation	Connectivity		Robots	Electric vehicles
	Fixed broadband	5G		
▲ 0.4% 2021 - 2022	▼ -0.9% 2021 - 2022	n/a	n/a	n/a
▲ 3% 2012 - 2022	▼ -9.3% 2012 - 2022	n/a	n/a	n/a
2.7 per 100 inhabitants in 2022	0.2 per 100 inhabitants in 2022	n/a	n/a	n/a

Socioeconomic impact

Labor productivity	Life expectancy	Temperature change
n/a	▲ 0.2% 2021 - 2022	▲ 1.5°C 2023
n/a	▲ 0.2% 2012 - 2022	n/a
	60 years in 2022	

Notes: Not all indicators of the Global Innovation Tracker are used to calculate the Global Innovation Index. Long-term annual growth refers to the compound annual growth rate (CAGR) over the indicated period. For each variable, a one-year growth rate is set for the short run, and ten-year CAGR is set for the long run; time windows might differ when gaps exist in data availability. The end period corresponds to the most recent available observation, which may differ among countries. Temperature change is an exception: it indicates the change in degrees Celsius with respect to the average temperature in the country from 1951–1980. Figures are rounded.



Expected vs. observed innovation performance

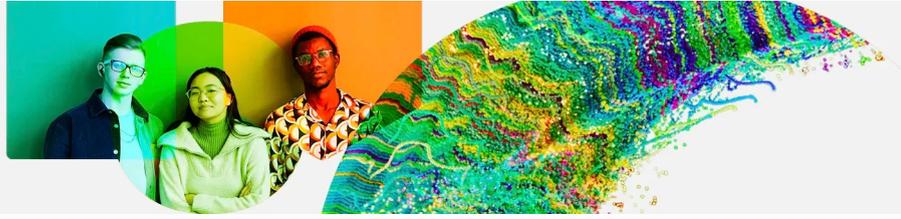
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected and those below are performing below expectations.



Relative to GDP, Benin's performance is below expectations for its level of development.

> Innovation overperformers relative to their economic development





Effectively translating innovation investments into innovation outputs

The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

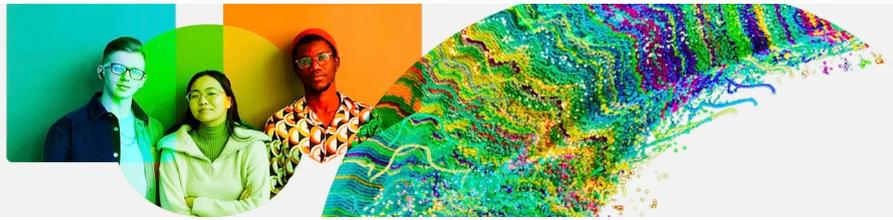


Benin produces less innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs



Global Innovation Index 2024



Overview of Benin's rankings in the seven areas of the GII in 2024

The chart shows the ranking for each of the seven areas that the GII comprises. The strongest areas for Benin are those that rank above the GII (shown in blue) and the weakest are those that rank below.



Highest rankings



Benin ranks highest in Institutions (64th), Business sophistication (108th), Human capital and research (112nd) and Knowledge and technology outputs (117th).

Lowest rankings



Benin ranks lowest in Creative outputs (129th), Market sophistication (123rd) and Infrastructure (118th).

The full WIPO Intellectual Property Statistics profile for Benin can be found on [this link](#).

Global Innovation Index 2024



Benchmark of Benin against other economy groupings for each of the seven areas of the GII Index

The charts show the relative position of Benin (blue bar) against other economy groupings (grey bars), for each of the seven areas of the GII Index.



Lower-Middle-Income economies

Benin performs above the lower-middle-income group average in Institutions.



Sub-Saharan Africa

Benin performs above the regional average in Institutions, Business sophistication.

Institutions

Top 10 | Score: 80.81

Benin | Score: 47.28

Sub-Saharan Africa | Score: 37.83

Lower middle income | Score: 34.0

Human capital and research

Top 10 | Score: 61.30

Lower middle income | Score: 22.1

Sub-Saharan Africa | Score: 17.86

Benin | Score: 16.74

Infrastructure

Top 10 | Score: 58.57

Lower middle income | Score: 29.8

Sub-Saharan Africa | Score: 25.40

Benin | Score: 23.67

Market sophistication

Top 10 | Score: 62.12

Lower middle income | Score: 25.9

Sub-Saharan Africa | Score: 18.79

Benin | Score: 13.69

Business sophistication

Top 10 | Score: 63.64

Lower middle income | Score: 20.8

Benin | Score: 19.15

Sub-Saharan Africa | Score: 18.73

Knowledge and technology outputs

Top 10 | Score: 57.29

Lower middle income | Score: 15.6

Sub-Saharan Africa | Score: 10.99

Benin | Score: 9.73

Creative outputs

Top 10 | Score: 56.54

Lower middle income | Score: 15.7

Sub-Saharan Africa | Score: 10.35

Benin | Score: 3.83



Innovation strengths and weaknesses in Benin

The table below gives an overview of the indicator strengths and weaknesses of Benin in the GII 2024.

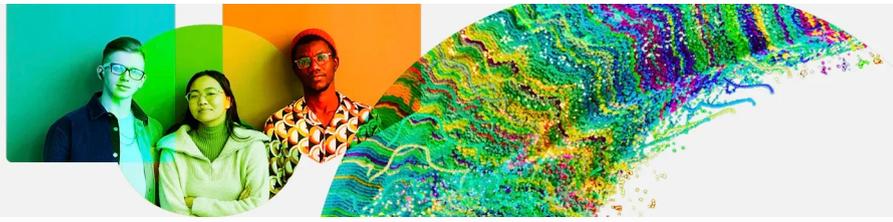


Benin's main innovation strengths are **Labor productivity growth, % (rank 12)**, **ICT services imports, % total trade (rank 15)** and **Gross capital formation, % GDP (rank 16)**.

Strengths

Weaknesses

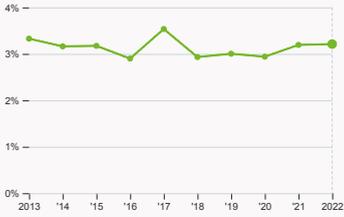
Rank	Code	Indicator name	Rank	Code	Indicator name
12	6.2.1	Labor productivity growth, %	131	5.2.1	Public Research-Industry co-publications, %
15	5.3.3	ICT services imports, % total trade	129	3.3.2	Low-carbon energy use, %
16	3.2.3	Gross capital formation, % GDP	126	7.1.2	Trademarks by origin/bn PPP\$ GDP
18	4.1.3	Loans from microfinance institutions, % GDP	124	3.2.1	Electricity output, GWh/mn pop.
33	1.3.1	Policy stability for doing business [†]	99	6.1.2	PCT patents by origin/bn PPP\$ GDP
64	2.2.3	Tertiary inbound mobility, %	75	7.1.3	Global brand value, top 5,000, % GDP
66	2.2.2	Graduates in science and engineering, %	75	2.3.4	QS university ranking, top 3*
75	5.2.3	State of cluster development [†]	74	6.1.3	Utility models by origin/bn PPP\$ GDP
78	5.2.2	University-industry R&D collaboration [†]	49	6.2.2	Unicorn valuation, % GDP
80	1.1.2	Government effectiveness*	41	2.3.3	Global corporate R&D investors, top 3, mn USD



Benin's innovation system

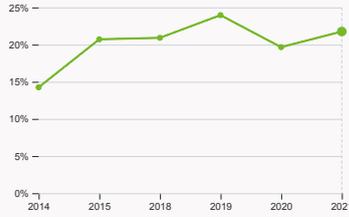
As far as practicable, the plots below present unscaled indicator data.

> Innovation inputs in Benin



2.1.1 Expenditure on education

was equal to 3.21 % GDP in 2022, up by 0.02 percentage points from the year prior – and equivalent to an indicator rank of 101.



2.2.2 Graduates in science and engineering

was equal to 21.76 % of total graduates in 2021, up by 2.1 percentage points from the year prior – and equivalent to an indicator rank of 66.



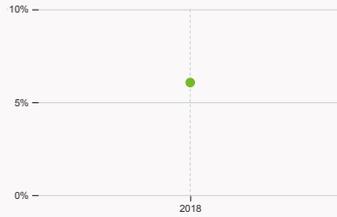
2.3.4 QS university ranking

was equal to an average score of 0 for the top three universities in 2023 with no change from the year prior – and equivalent to an indicator rank of 75.



4.2.4 VC received, value

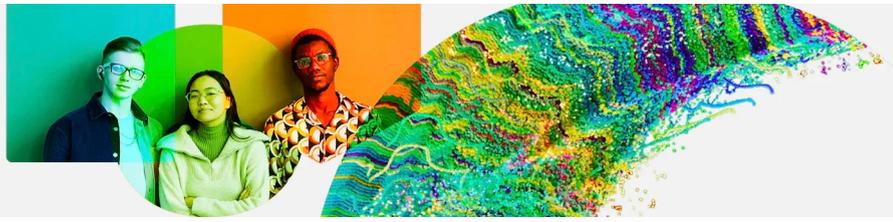
was equal to 0 USD in 2017 – and equivalent to an indicator rank of NA.



5.1.1 Knowledge-intensive employment

was equal to 6.06 % in 2018 – and equivalent to an indicator rank of 117.

Global Innovation Index 2024



> Innovation outputs in Benin



6.1.1 Patents by origin

was equal to 4 patents in 2022, down by 60% from the year prior – and equivalent to an indicator rank of 112.



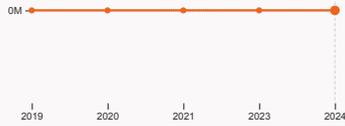
6.2.2 Unicorn valuation

was equal to 0 % GDP in 2024 with no change from the year prior – and equivalent to an indicator rank of 49.



6.3.3 High-tech exports

was equal to 2.41 million USD in 2022, up by 28.88% from the year prior – and equivalent to an indicator rank of 127.



7.1.3 Global brand value

was equal to 0 million USD for the brands in the top 5,000 in 2024 with no change from the year prior – and equivalent to an indicator rank of 75.



7.3.3 Mobile app creation

was equal to 87.44 thousand global downloads of mobile apps in 2023, up by 1133.29% from the year prior – and equivalent to an indicator rank of 122.

Global Innovation Index 2024

Benin

GII 2024 rank

119

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
125	109	Lower middle	SSA	14.1	59.2	4,305.3
			Score / Value Rank			
Institutions			47.3 64 ●◆	Business sophistication 19.2 108		
1.1 Institutional environment			45.8 82	5.1 Knowledge workers 10.7 [118]		
1.1.1 Operational stability for businesses*			52 89	5.1.1 Knowledge-intensive employment, % 6.1 117 ◇		
1.1.2 Government effectiveness*			39.7 80 ●◆	5.1.2 Firms offering formal training, % 20 80		
1.2 Regulatory environment			29.6 95	5.1.3 GERD performed by business, % GDP n/a n/a		
1.2.1 Regulatory quality*			32.7 91	5.1.4 GERD financed by business, % n/a n/a		
1.2.2 Rule of law*			26.6 101	5.1.5 Females employed w/advanced degrees, % 1.2 116		
1.3 Business environment			66.4 [24]	5.2 Innovation linkages 20.9 80 ●◆		
1.3.1 Policy stability for doing business*			66.4 33 ●◆	5.2.1 Public Research-Industry co-publications, % 0.3 131 ○◇		
1.3.2 Entrepreneurship policies and culture*			n/a n/a	5.2.2 University-industry R&D collaboration+ 38.6 78 ●◆		
Human capital and research			16.7 112	5.2.3 State of cluster development+ 42.8 75 ●◆		
2.1 Education			32.5 115	5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP n/a n/a		
2.1.1 Expenditure on education, % GDP 3.2 101				5.2.5 Patent families/bn PPP\$ GDP 0.02 83		
2.1.2 Government funding/pupil, secondary, % GDP/cap 8.2 91				5.3 Knowledge absorption 25.9 68 ●◆		
2.1.3 School life expectancy, years 10.4 101				5.3.1 Intellectual property payments, % total trade 0.004 119 ◇		
2.1.4 PISA scales in reading, maths and science n/a n/a				5.3.2 High-tech imports, % total trade 4.1 121		
2.1.5 Pupil-teacher ratio, secondary 16.2 85				5.3.3 ICT services imports, % total trade 2.9 15 ●◆		
2.2 Tertiary education			17.7 103	5.3.4 FDI net inflows, % GDP 1.5 85		
2.2.1 Tertiary enrolment, % gross 10.2 116 ◇				5.3.5 Research talent, % in businesses n/a n/a		
2.2.2 Graduates in science and engineering, % 21.8 66 ●◆				Knowledge and technology outputs 9.7 117		
2.2.3 Tertiary inbound mobility, % 3.1 64 ●◆				6.1 Knowledge creation 4.5 116		
2.3 Research and development (R&D)			0 [120]	6.1.1 Patents by origin/bn PPP\$ GDP 0.07 112		
2.3.1 Researchers, FTE/mn pop. n/a n/a				6.1.2 PCT patents by origin/bn PPP\$ GDP 0 99 ○◇		
2.3.2 Gross expenditure on R&D, % GDP n/a n/a				6.1.3 Utility models by origin/bn PPP\$ GDP 0 74 ○◇		
2.3.3 Global corporate R&D investors, top 3, mn USD 0 41 ○◇				6.1.4 Scientific and technical articles/bn PPP\$ GDP 8.4 80		
2.3.4 QS university ranking, top 3* 0 75 ○◇				6.1.5 Citable documents H-index 4.1 113		
Infrastructure			23.7 118	6.2 Knowledge impact 23.7 72 ●◆		
3.1 Information and communication technologies (ICTs)			33.9 117 ◇	6.2.1 Labor productivity growth, % 2.8 12 ●◆		
3.1.1 ICT access* 33.4 121 ◇				6.2.2 Unicorn valuation, % GDP 0 49 ○◇		
3.1.2 ICT use* 22.2 118 ◇				6.2.3 Software spending, % GDP 0.05 109		
3.1.3 Government's online service* 47.4 97				6.2.4 High-tech manufacturing, % n/a n/a		
3.1.4 E-participation* 32.6 101				6.3 Knowledge diffusion 1 133 ○◇		
3.2 General infrastructure			31.3 65 ●◆	6.3.1 Intellectual property receipts, % total trade 0.02 93		
3.2.1 Electricity output, GWh/mn pop. 84.6 124 ○◇				6.3.2 Production and export complexity n/a n/a		
3.2.2 Logistics performance* 36.4 65				6.3.3 High-tech exports, % total trade 0.05 127		
3.2.3 Gross capital formation, % GDP 32.4 16 ●◆				6.3.4 ICT services exports, % total trade 0.2 119		
3.3 Ecological sustainability			5.9 127 ◇	6.3.5 ISO 9001 quality/bn PPP\$ GDP 0.8 118		
3.3.1 GDP/unit of energy use 8.6 86				Creative outputs 3.8 129 ○◇		
3.3.2 Low-carbon energy use, % 0.06 129 ○◇				7.1 Intangible assets 0.6 130 ○◇		
3.3.3 ISO 14001 environment/bn PPP\$ GDP 0.2 118				7.1.1 Intangible asset intensity, top 15, % n/a n/a		
Market sophistication			13.7 123 ◇	7.1.2 Trademarks by origin/bn PPP\$ GDP 2.9 126 ○		
4.1 Credit			14.7 97	7.1.3 Global brand value, top 5,000, % GDP 0 75 ○◇		
4.1.1 Finance for startups and scaleups+ n/a n/a				7.1.4 Industrial designs by origin/bn PPP\$ GDP 0.06 117		
4.1.2 Domestic credit to private sector, % GDP 17.1 118				7.2 Creative goods and services 1.6 [114]		
4.1.3 Loans from microfinance institutions, % GDP 2.4 18 ●◆				7.2.1 Cultural and creative services exports, % total trade 0.1 89		
4.2 Investment			n/a [n/a]	7.2.2 National feature films/mn pop. 15-69 n/a n/a		
4.2.1 Market capitalization, % GDP n/a n/a				7.2.3 Entertainment and media market/th pop. 15-69 n/a n/a		
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP n/a n/a				7.2.4 Creative goods exports, % total trade 0.008 128		
4.2.3 VC recipients, deals/bn PPP\$ GDP n/a n/a				7.3 Online creativity 12.5 122		
4.2.4 VC received, value, % GDP n/a n/a				7.3.1 Top-level domains (TLDs)/th pop. 15-69 0.3 116		
4.3 Trade, diversification and market scale			12.7 128 ◇	7.3.2 GitHub commits/mn pop. 15-69 0.8 118		
4.3.1 Applied tariff rate, weighted avg., % 9.6 125 ◇				7.3.3 Mobile app creation/bn PPP\$ GDP 36.5 122 ◇		
4.3.2 Domestic industry diversification n/a n/a						
4.3.3 Domestic market scale, bn PPP\$ 59.2 105						

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; + a survey question, ● that the economy's data is outdated. Square brackets [] indicate 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.



Data availability

The following tables list indicators that are either missing or outdated for Benin.



Benin has missing data for nineteen indicators and outdated data for eight indicators.

Missing data for Benin

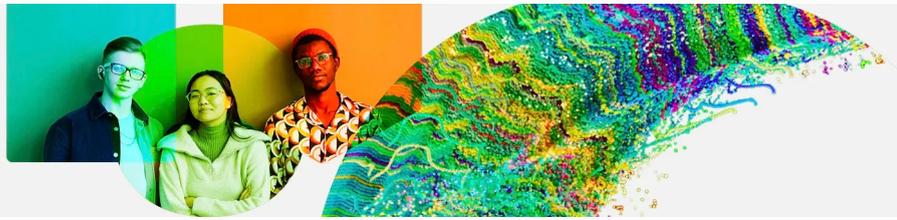
Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture [†]	n/a	2023	Global Entrepreneurship Monitor
2.1.4	PISA scales in reading, maths and science	n/a	2022	OECD, PISA
2.3.1	Researchers, FTE/mn pop.	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
4.1.1	Finance for startups and scaleups [†]	n/a	2023	Global Entrepreneurship Monitor
4.2.1	Market capitalization, % GDP	n/a	2022	World Federation of Exchanges; World Bank
4.2.2	Venture capital (VC) investors, deals/bn PPP\$ GDP	n/a	2023	LSEG Data & Analytics; International Monetary Fund
4.2.3	VC recipients, deals/bn PPP\$ GDP	n/a	2023	LSEG Data & Analytics; International Monetary Fund
4.2.4	VC received, value, % GDP	n/a	2023	LSEG Data & Analytics; International Monetary Fund
4.3.2	Domestic industry diversification	n/a	2021	United Nations Industrial Development Organization (UNIDO), Industrial Statistics Database (INDSTAT) Rev.3 and 4
5.1.3	GERD performed by business, % GDP	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	n/a	2023	LSEG Data & Analytics; International Monetary Fund
5.3.5	Research talent, % in businesses	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.2.4	High-tech manufacturing, %	n/a	2021	United Nations Industrial Development Organization
6.3.2	Production and export complexity	n/a	2021	Harvard University, Growth Lab
7.1.1	Intangible asset intensity, top 15, %	n/a	2023	Brand Finance
7.2.2	National feature films/mn pop. 15–69	n/a	2022	OMDIA; United Nations, World Population Prospects
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2023	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund



Outdated data for Benin

Code	Indicator name	Economy Year	Model Year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	2015	2020	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2021	2022	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2021	2022	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	2021	2022	UNESCO Institute for Statistics
5.1.1	Knowledge-intensive employment, %	2018	2022	International Labour Organization
5.1.2	Firms offering formal training, %	2016	2023	World Bank Enterprise Surveys
5.1.5	Females employed w/advanced degrees, %	2018	2023	International Labour Organization
6.1.3	Utility models by origin/bn PPP\$ GDP	2021	2022	World Intellectual Property Organization; International Monetary Fund

Global Innovation Index 2024



About the Global Innovation Index

- The Global Innovation Index (GII) is published by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations.
- Recognizing that innovation is a key driver of economic development, the GII aims to provide an innovation ranking and rich analysis referencing around 130 economies. Over the last decade, the GII has established itself as both a leading reference on innovation and a “tool for action” for economies that incorporate the GII into their innovation agendas.



The Index is a ranking of the innovation capabilities and results of world economies. It measures innovation based on criteria that include institutions, human capital and research, infrastructure, credit, investment, linkages; the creation, absorption and diffusion of knowledge; and creative outputs.

The GII has two sub-indices: the Innovation Input Sub-Index and the Innovation Output Sub-Index, and seven pillars, each consisting of three sub-pillars.