Global Innovation Index 2021

EGYPT

94th Egypt ranks 94th among the 132 economies featured in the GII 2021.

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.

The following table shows the rankings of Egypt over the past three years, noting that 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 Egypt in the GII 2021 is between ranks 85 and 96.

Rankings for Egypt (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	94	102	86
2020	96	104	82
2019	92	106	74

- Egypt performs better in innovation outputs than innovation inputs in 2021.
- This year Egypt ranks 102nd in innovation inputs, higher than both 2020 and 2019.
- As for innovation outputs, Egypt ranks 86th. This position is lower than both 2020 and 2019.

13th Egypt ranks 13th among the 34 lower middle-income group economies.

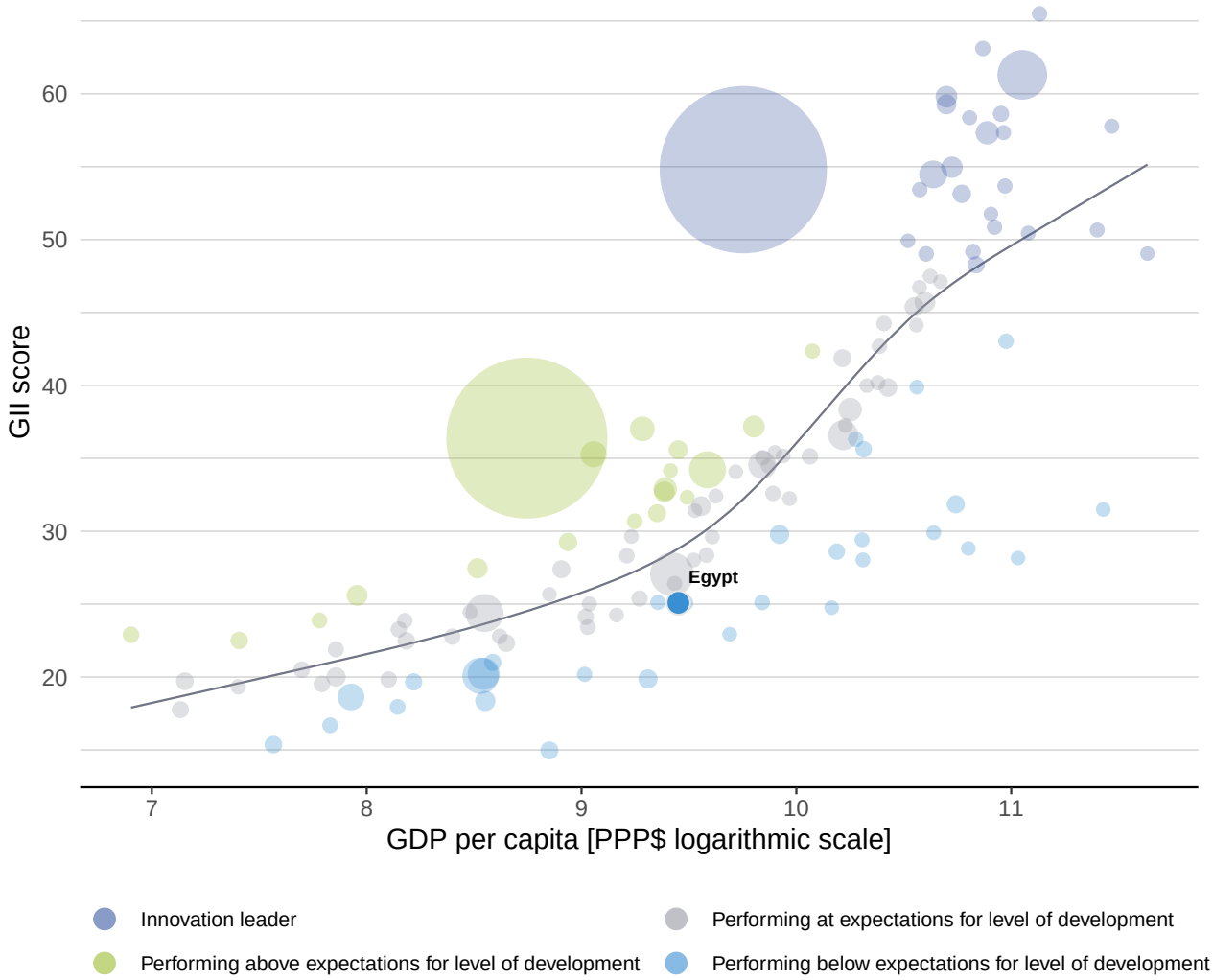
17th Egypt ranks 17th among the 19 economies in Northern Africa and Western Asia.

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, Egypt's performance is below expectations for its level of development.

The positive relationship between innovation and development

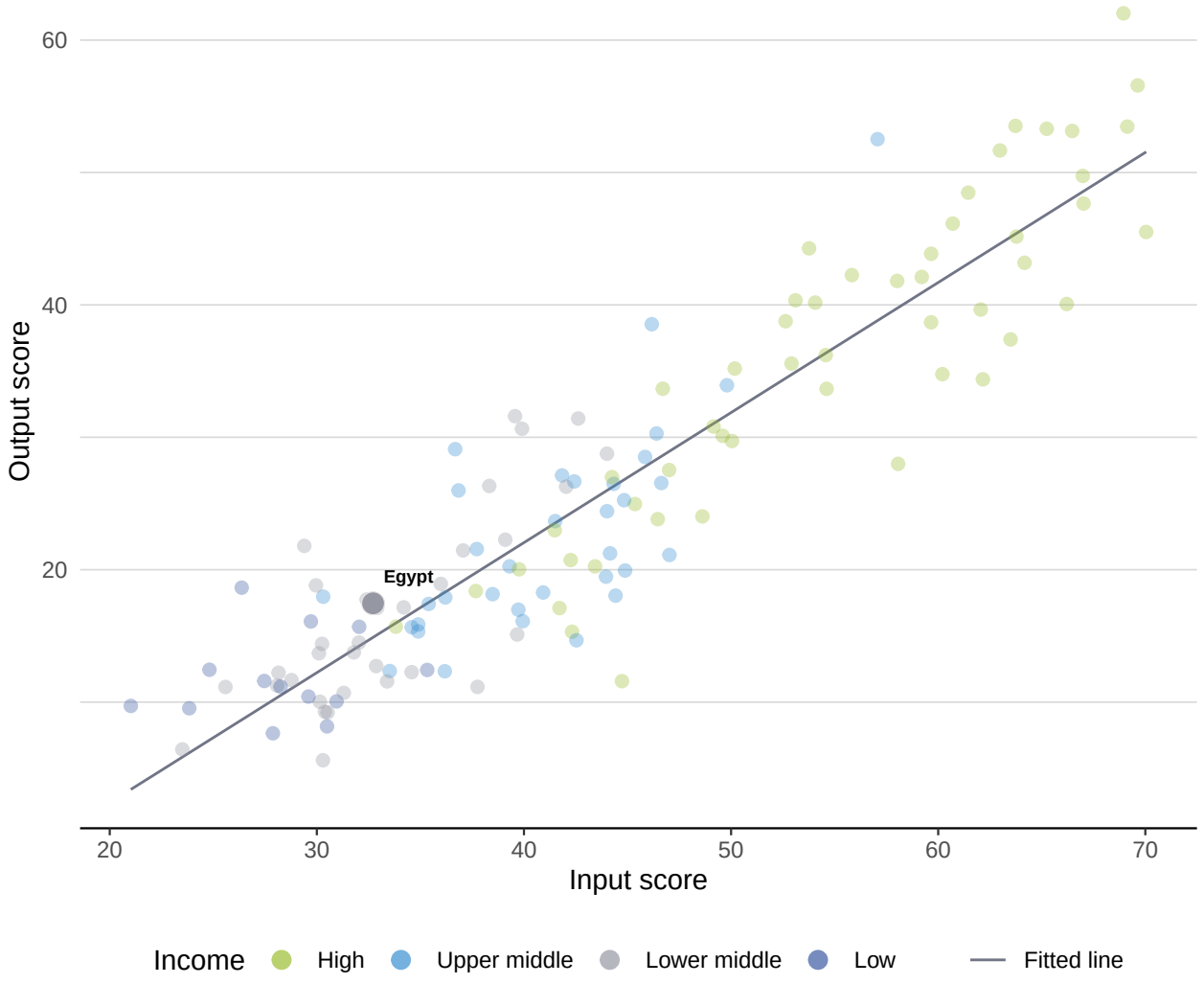


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

Egypt produces more innovation outputs relative to its level of innovation investments.

Innovation input to output performance



BENCHMARKING AGAINST OTHER LOWER MIDDLE-INCOME GROUP ECONOMIES AND NORTHERN AFRICA AND WESTERN ASIA

The seven GII pillar scores for Egypt

Lower middle-income group economies

Egypt performs above the lower middle-income group average in two pillars, namely: Infrastructure; and, Knowledge and technology outputs.

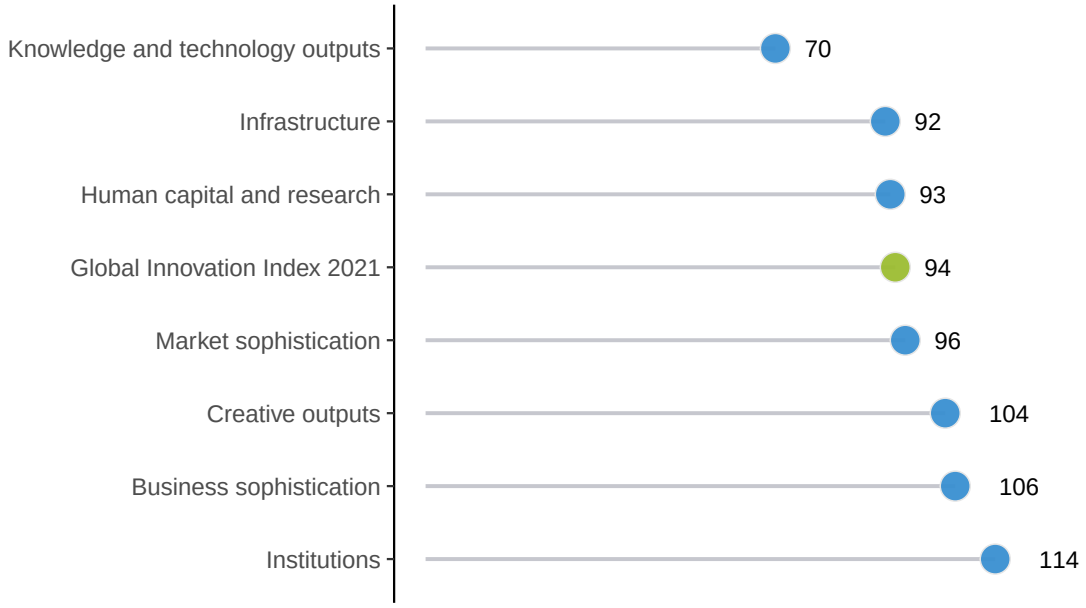
Northern Africa and Western Asia

Egypt performs below the regional average in all GII pillars.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Egypt performs best in Knowledge and technology outputs and its weakest performance is in Institutions.

The seven GII pillar ranks for Egypt



Note: The highest possible ranking in each pillar is one.

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Egypt in the GII 2021.

Strengths and weaknesses for Egypt

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
2.3.4	QS university ranking, top 3	52	1.2	Regulatory environment	124
3.3.1	GDP/unit of energy use	48	1.2.1	Regulatory quality	121
4.3	Trade, diversification, and market scale	49	1.2.3	Cost of redudancy dismissal	125
4.3.2	Domestic industry diversification	45	2.2.2	Graduates in science and engineering, %	105
4.3.3	Domestic market scale, bn PPP$	19	2.3.3	Global corporate R&D investors, top 3, mn US$	41
5.2.2	State of cluster development and depth	12	4.2	Investment	117
5.3.2	High-tech imports, % total trade	40	4.3.1	Applied tariff rate, weighted avg., %	119
5.3.4	FDI net inflows, % GDP	44	5.1.2	Firms offering formal training, %	96
6.1.5	Citable documents H-index	46	5.1.3	GERD performed by business, % GDP	79
6.2	Knowledge impact	53	7.2.2	National feature films/mn pop. 15–69	94
6.2.1	Labor productivity growth, %	9	7.2.3	Entertainment and media market/th pop. 15–69	61
7.2.5	Creative goods exports, % total trade	40	7.3.2	Country-code TLDs/th pop. 15–69	123

Egypt

GII 2021 rank
94

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$	GII 2020 rank
86	102	Lower middle	NAWA	102.3	1,292.5	12,719	96

		Score/ Value	Rank	
Institutions		**49.3**	**114**	
1.1	**Political environment**	**47.1**	**99**	
1.1.1	Political and operational stability*	58.9	100	
1.1.2	Government effectiveness*	41.2	95	
1.2	**Regulatory environment**	**35.8**	**124**	○ ◇
1.2.1	Regulatory quality*	21.9	121	○
1.2.2	Rule of law*	35.6	87	
1.2.3	Cost of redundancy dismissal	36.8	125	○ ◇
1.3	**Business environment**	**65.0**	**84**	
1.3.1	Ease of starting a business*	87.8	72	
1.3.2	Ease of resolving insolvency*	42.2	93	
Human capital and research		**21.8**	**93**	
2.1	**Education**	**40.7**	**[93]**	
2.1.1	Expenditure on education, % GDP	n/a	n/a	
2.1.2	Government funding/pupil, secondary, % GDP/cap	11.8	85	
2.1.3	School life expectancy, years	13.6	75	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil-teacher ratio, secondary	15.8	78	
2.2	**Tertiary education**	**13.9**	**105**	
2.2.1	Tertiary enrolment, % gross	38.9	76	
2.2.2	Graduates in science and engineering, %	11.2	105	○ ◇
2.2.3	Tertiary inbound mobility, %	1.8	78	
2.3	**Research and development (R&D)**	**10.7**	**55**	◆
2.3.1	Researchers, FTE/mn pop.	686.7	60	
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	41	○ ◇
2.3.4	QS university ranking, top 3*	20.4	52	● ◆
Infrastructure		**33.5**	**92**	
3.1	**Information and communication technologies (ICTs)**	**52.5**	**92**	
3.1.1	ICT access*	58.8	78	◆
3.1.2	ICT use*	43.1	95	
3.1.3	Government's online service*	57.1	94	
3.1.4	E-participation*	51.2	99	
3.2	**General infrastructure**	**21.4**	**102**	
3.2.1	Electricity output, GWh/mn pop.	1,971.8	81	
3.2.2	Logistics performance*	36.1	66	
3.2.3	Gross capital formation, % GDP	19.0	96	
3.3	**Ecological sustainability**	**26.7**	**76**	◆
3.3.1	GDP/unit of energy use	12.1	48	●
3.3.2	Environmental performance*	43.3	81	◆
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	0.8	73	
Market sophistication		**40.9**	**96**	
4.1	**Credit**	**29.5**	**108**	
4.1.1	Ease of getting credit*	65.0	61	
4.1.2	Domestic credit to private sector, % GDP	24.0	109	
4.1.3	Microfinance gross loans, % GDP	0.1	62	
4.2	**Investment**	**19.6**	**117**	○
4.2.1	Ease of protecting minority investors*	64.0	56	
4.2.2	Market capitalization, % GDP	17.0	62	
4.2.3	Venture capital investors, deals/bn PPP$ GDP	0.0	67	
4.2.4	Venture capital recipients, deals/bn PPP$ GDP	0.0	60	
4.3	**Trade, diversification, and market scale**	**73.6**	**49**	●
4.3.1	Applied tariff rate, weighted avg., %	10.4	119	○
4.3.2	Domestic industry diversification	92.2	45	●
4.3.3	Domestic market scale, bn PPP$	1,292.5	19	● ◆

		Score/ Value	Rank	
Business sophistication		**18.0**	**106**	
5.1	**Knowledge workers**	**13.9**	**113**	
5.1.1	Knowledge-intensive employment, %	29.6	50	◆
5.1.2	Firms offering formal training, %	7.9	96	○ ◇
5.1.3	GERD performed by business, % GDP	0.0	79	○
5.1.4	GERD financed by business, %	3.9	86	
5.1.5	Females employed w/advanced degrees, %	5.8	92	
5.2	**Innovation linkages**	**20.7**	**65**	
5.2.1	University-industry R&D collaboration†	44.3	56	
5.2.2	State of cluster development and depth†	67.2	12	● ◆
5.2.3	GERD financed by abroad, % GDP	0.0	87	
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	101	
5.2.5	Patent families/bn PPP$ GDP	0.0	95	
5.3	**Knowledge absorption**	**19.6**	**96**	
5.3.1	Intellectual property payments, % total trade	0.3	80	
5.3.2	High-tech imports, % total trade	9.3	40	●
5.3.3	ICT services imports, % total trade	1.0	80	
5.3.4	FDI net inflows, % GDP	3.1	44	●
5.3.5	Research talent, % in businesses	6.3	68	
Knowledge and technology outputs		**19.4**	**70**	
6.1	**Knowledge creation**	**13.8**	**68**	
6.1.1	Patents by origin/bn PPP$ GDP	0.8	69	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.0	77	
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific and technical articles/bn PPP$ GDP	15.9	54	
6.1.5	Citable documents H-index	17.7	46	● ◆
6.2	**Knowledge impact**	**33.0**	**53**	● ◆
6.2.1	Labor productivity growth, %	4.5	9	●
6.2.2	New businesses/th pop. 15–64	n/a	n/a	
6.2.3	Software spending, % GDP	0.2	72	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	1.9	90	
6.2.5	High-tech manufacturing, %	21.8	58	
6.3	**Knowledge diffusion**	**11.3**	**90**	
6.3.1	Intellectual property receipts, % total trade	0.0	99	
6.3.2	Production and export complexity	42.5	66	
6.3.3	High-tech exports, % total trade	0.5	90	
6.3.4	ICT services exports, % total trade	1.2	73	
Creative outputs		**15.5**	**104**	
7.1	**Intangible assets**	**21.3**	**95**	
7.1.1	Trademarks by origin/bn PPP$ GDP	18.7	95	
7.1.2	Global brand value, top 5,000, % GDP	3.1	75	
7.1.3	Industrial designs by origin/bn PPP$ GDP	1.4	58	
7.1.4	ICTs and organizational model creation†	56.0	57	
7.2	**Creative goods and services**	**8.2**	**87**	
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a	
7.2.2	National feature films/mn pop. 15–69	0.6	94	○
7.2.3	Entertainment and media market/th pop. 15–69	0.8	61	○
7.2.4	Printing and other media, % manufacturing	0.5	84	
7.2.5	Creative goods exports, % total trade	1.3	40	●
7.3	**Online creativity**	**11.4**	**87**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	1.2	92	
7.3.2	Country-code TLDs/th pop. 15–69	0.0	123	○
7.3.3	Wikipedia edits/mn pop. 15–69	45.1	76	◆
7.3.4	Mobile app creation/bn PPP$ GDP	0.2	85	

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question. ◴ indicates that the economy's data are older than the base year; see Appendix IV for details, including the year of the data, at http://globalinnovationindex.org. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level.

DATA AVAILABILITY

The following tables list data that are either missing or outdated for Egypt.

Missing data for Egypt

Code	Indicator name	Economy year	Model year	Source
2.1.1	Expenditure on education, % GDP	n/a	2017	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD Programme for International Student Assessment (PISA)
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2019	World Intellectual Property Organization
6.2.2	New businesses/th pop. 15–64	n/a	2018	World Bank
7.2.1	Cultural and creative services exports, % total trade	n/a	2019	World Trade Organization

Outdated data for Egypt

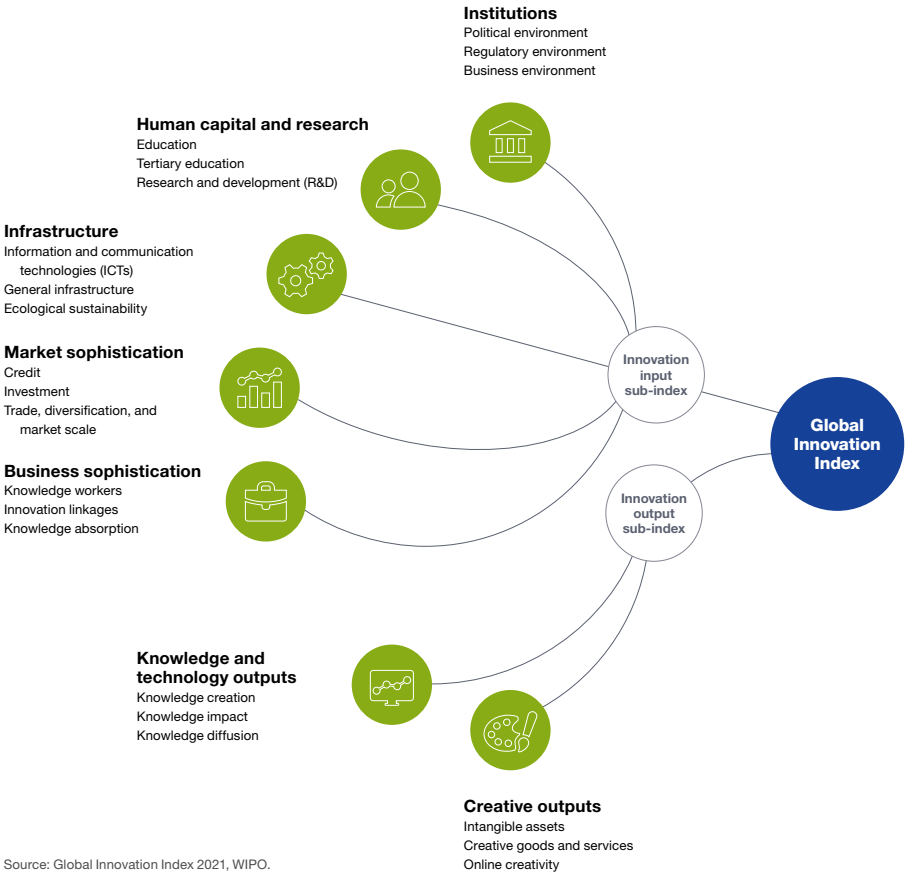
Code	Indicator name	Economy year	Model year	Source
2.2.2	Graduates in science and engineering, %	2016	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.2.3	Tertiary inbound mobility, %	2016	2018	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.3	GERD performed by business, % GDP	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.5	Females employed w/advanced degrees, %	2018	2019	International Labour Organization
5.3.5	Research talent, % in businesses	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators

Code	Indicator name	Economy year	Model year	Source
7.2.2	National feature films/mn pop. 15–69	2016	2017	UNESCO Institute for Statistics
7.2.4	Printing and other media, % manufacturing	2016	2018	United Nations Industrial Development Organization

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.



Source: Global Innovation Index 2021, WIPO.

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.