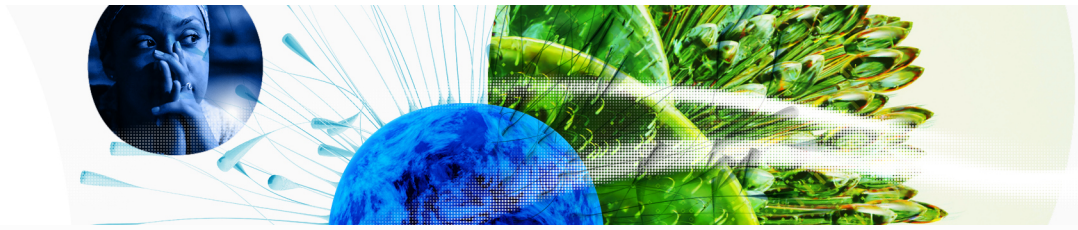
Global Innovation Index 2023



The Global Innovation Index (GII) **ranks world economies according to their innovation capabilities.**

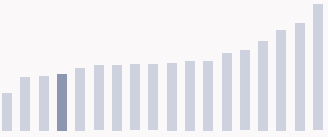
Consisting of **roughly 80 indicators**, grouped into innovation inputs and outputs, the GII **aims to capture the multi-dimensional facets of innovation**.

Egypt ranking in the Global Innovation Index 2023

> Egypt ranks 86th among the 132 economies featured in the GII 2023.

> Egypt ranks 11th among the 37 lower-middle-income group economies.

> Egypt ranks 15th among the 18 economies in Northern Africa and Western Asia.



> Egypt GII Ranking (2020-2023)

The table shows the rankings of Egypt 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 Egypt in the GII 2023 is between ranks 82 and 92.

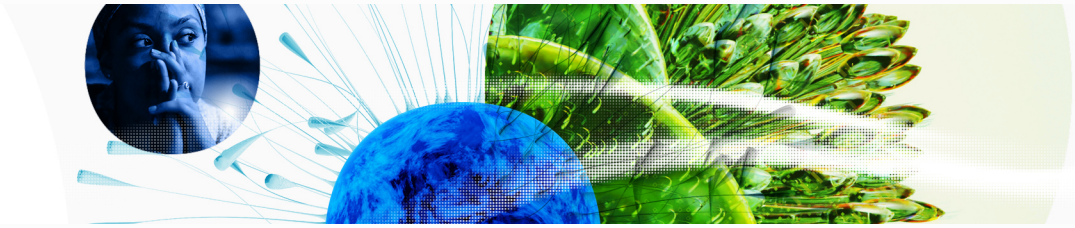
	GII Position	Innovation Inputs	Innovation Outputs
2020	96th	104th	82nd
2021	94th	102nd	86th
2022	89th	97th	83rd
2023	86th	99th	74th

Egypt performs better in innovation outputs than innovation inputs in 2023.

This year **Egypt ranks 99th in innovation inputs.** This position is lower than last year.

Egypt ranks 74th in innovation outputs. This position is higher than last year.

Global Innovation Index 2023



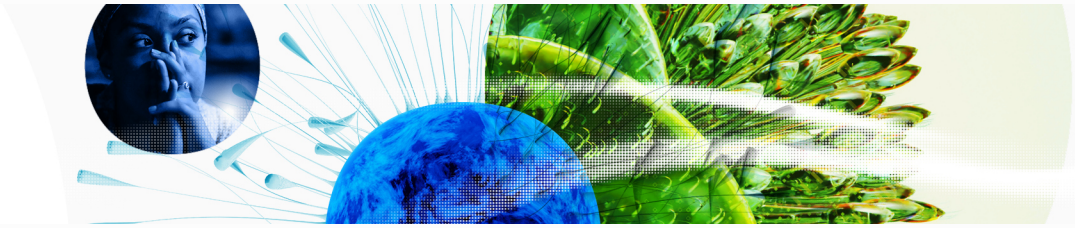
→ Expected vs. observed innovation performance

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 at expectations for its level of development.

> Innovation overperformers relative to their economic development

Global Innovation Index 2023

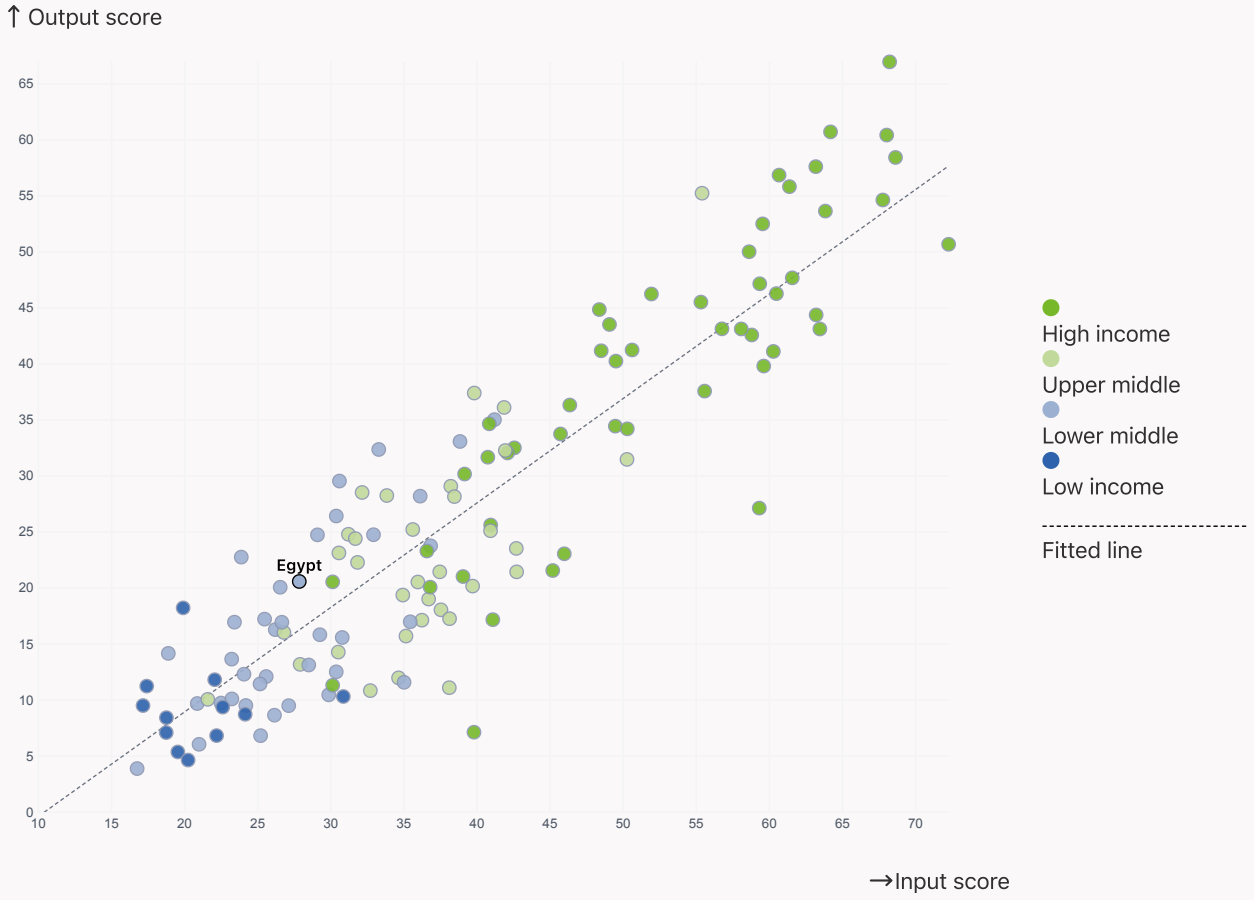


→ Effectively translating innovation investments into innovation outputs

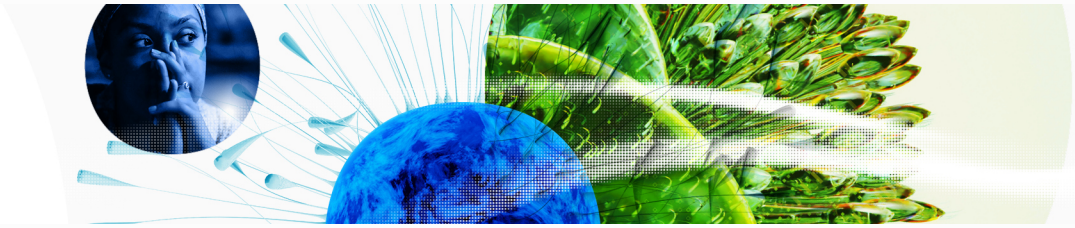
The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

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

> Relationship between innovation inputs and outputs

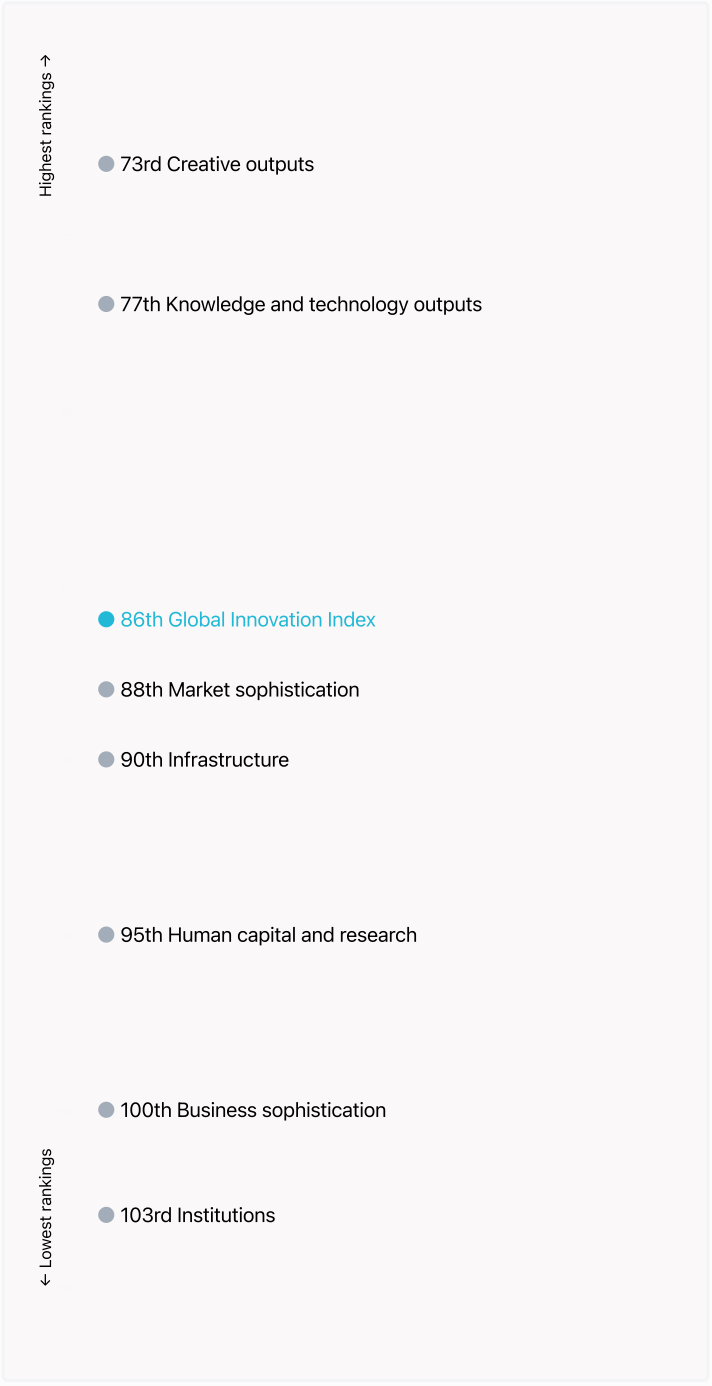


Global Innovation Index 2023



→ Overview of Egypt's rankings in the seven areas of the GII in 2023

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



> Highest rankings

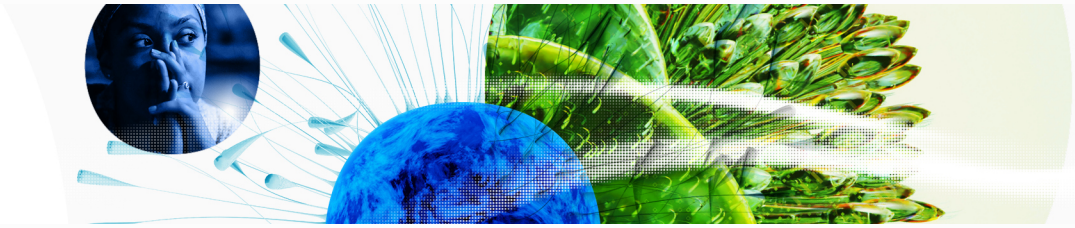
Egypt ranks highest in Creative outputs (73rd) and Knowledge and technology outputs (77th).

> Lowest rankings

Egypt ranks lowest in Institutions (103rd), Business sophistication (100th) and Human capital and research (95th).

The full WIPO Intellectual Property Statistics profile for Egypt can be found on this link.

Global Innovation Index 2023



→ Benchmark of Egypt against other country groupings for each of the seven areas of the GII Index

The charts shows the relative position of Egypt (blue bar) against other country groupings (grey bars), for each of the seven areas of the GII Index.

> Lower-Middle-Income economies

Egypt performs above the lower-middle-income group average in Knowledge and technology outputs, Creative outputs, Human capital and research, Infrastructure.

> Northern Africa And Western Asia

Egypt performs below the regional average in all the pillars.

Knowledge and technology outputs

- Top 10 | Score: 58.96
- NAWA | Score: 24.01
- Egypt | Score: 19.87
- Lower middle income | Score: 17.21

Creative outputs

- Top 10 | 56.09
- NAWA | 24.51
- Egypt | 21.21
- Lower middle income | 16.35

Business sophistication

- Top 10 | 64.39
- NAWA | 29.44
- Lower middle income | 22.71
- Egypt | 21.39

Market sophistication

- Top 10 | 61.93
- NAWA | 36.12
- Lower middle income | 28.01
- Egypt | 27.64

Human capital and research

- Top 10 | 60.28
- NAWA | 32.72
- Egypt | 21.89
- Lower middle income | 21.73

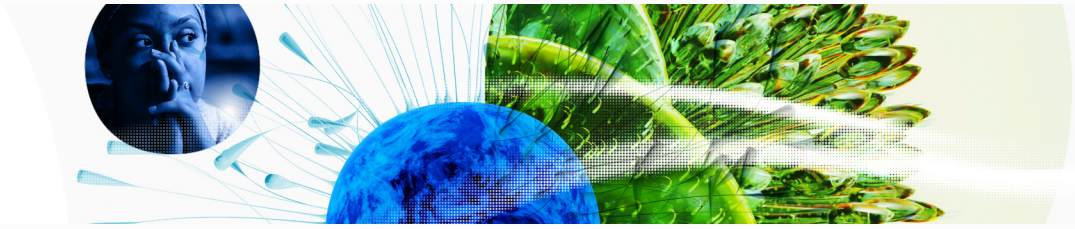
Infrastructure

- Top 10 | 62.83
- NAWA | 41.60
- Egypt | 31.90
- Lower middle income | 27.83

Institutions

- Top 10 | 79.85
- NAWA | 53.39
- Lower middle income | 39.43
- Egypt | 36.63

Global Innovation Index 2023



→ Innovation strengths and weaknesses in Egypt

The table below gives an overview of the indicator strengths and weaknesses of Egypt in the GII 2023.

> Egypt's main innovation strengths are **State of cluster development** (rank 7), **Labor productivity growth, %** (rank 12) and **Domestic market scale, bn PPP$** (rank 18).

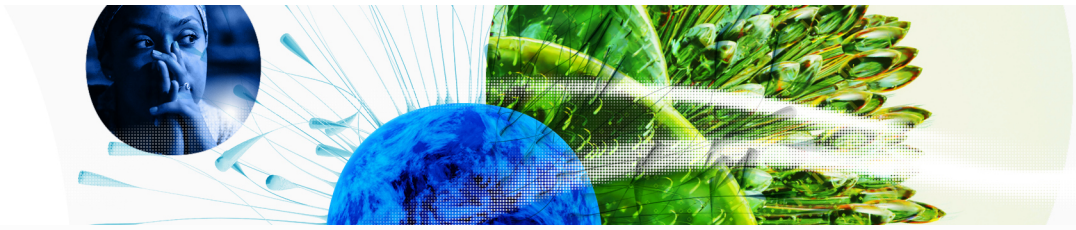
Strengths

Rank	Code	Indicator name
7	5.2.2	State of cluster development
12	6.2.1	Labor productivity growth, %
18	4.3.3	Domestic market scale, bn PPP$
24	3.3.1	GDP/unit of energy use
25	4.3.2	Domestic industry diversification
38	7.2.4	Creative goods exports, % total trade
42	2.3.2	Gross expenditure on R&D, % GDP
45	6.2.2	Unicorn valuation, % GDP
47	6.1.5	Citable documents H-index
47	6.1.4	Scientific and technical articles/bn PPP$ GDP
49	2.3.4	QS university ranking, top 3

Weaknesses

Rank	Code	Indicator name
129	7.3.2	Country-code TLDs/th pop. 15-69
126	3.2.3	Gross capital formation, % GDP
125	1.2.3	Cost of redundancy dismissal
120	4.3.1	Applied tariff rate, weighted avg., %
107	2.2.2	Graduates in science and engineering, %
95	5.1.2	Firms offering formal training, %
74	7.2.2	National feature films/mn pop. 15-69
74	6.1.3	Utility models by origin/bn PPP$ GDP
54	7.2.3	Entertainment and media market/th pop. 15-69
40	2.3.3	Global corporate R&D investors, top 3, mn US$

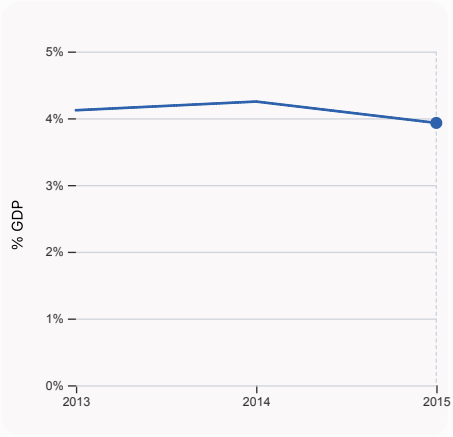
Global Innovation Index 2023



→ Egypt's innovation system

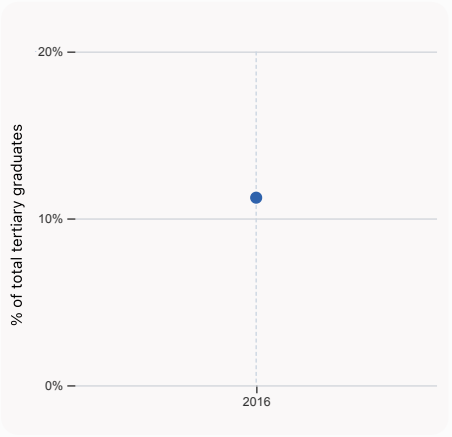
As far as practicable, the plots below present unscaled indicator data.

> Innovation inputs in Egypt



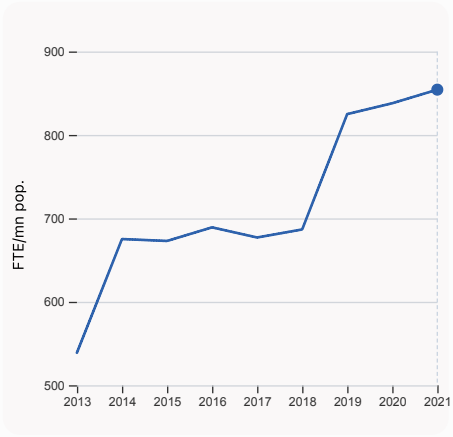
2.1.1 Expenditure on education, % GDP

was equal to 3.93% GDP in 2015, down by 0.32 percentage points from the year prior – and equivalent to an indicator rank of 75.



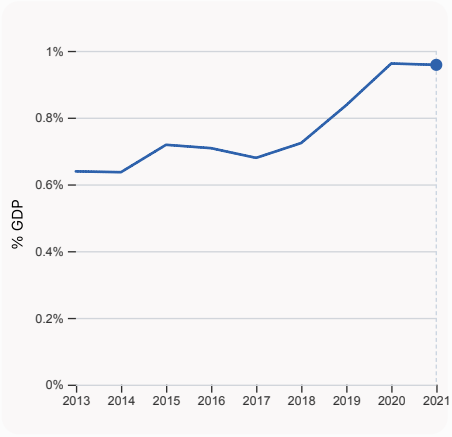
2.2.2 Graduates in science and engineering, %

was equal to 11.24 % of total tertiary graduates in 2016, equivalent to an indicator rank of 107.



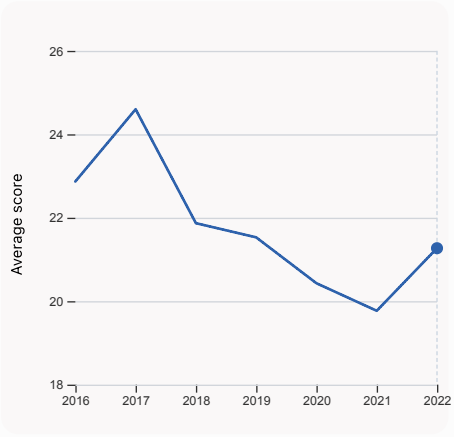
2.3.1 Researchers, FTE/mn pop.

was equal to 854.28 FTE/mn pop. in 2021, up by 1.95% from the year prior – and equivalent to an indicator rank of 55.



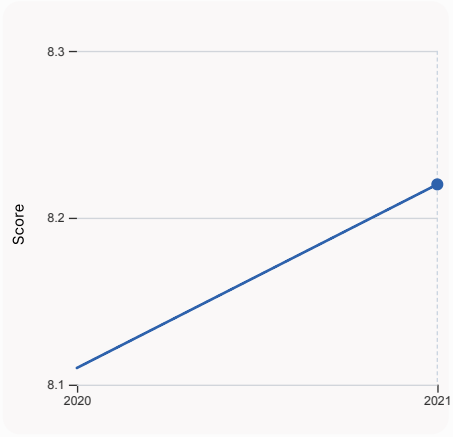
2.3.2 Gross expenditure on R&D, % GDP

was equal to 0.958% GDP in 2021, down by 0.0041 percentage points from the year prior – and equivalent to an indicator rank of 42.



2.3.4 QS university ranking, top 3

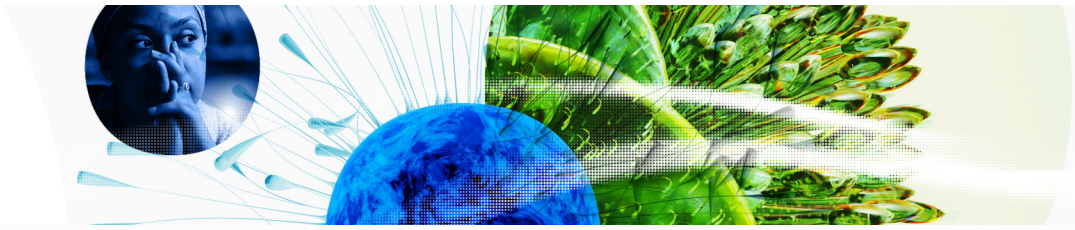
was equal to an average score of 21.27 for the top 3 universities in 2022, up by 7.59% from the year prior – and equivalent to an indicator rank of 49.

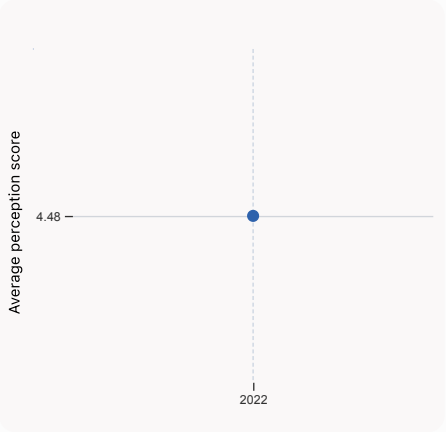


3.1.1 ICT access

was equal to a score of 8.22 in 2021, up by 1.36% from the year prior – and equivalent to an indicator rank of 83.

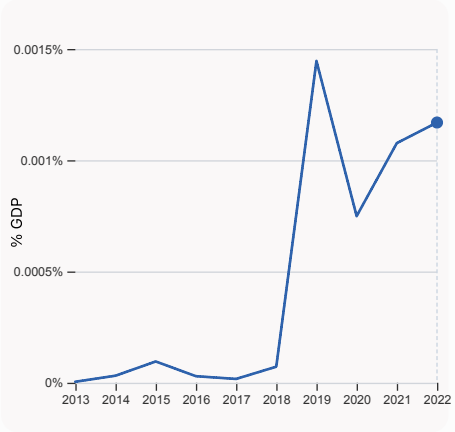
Global Innovation Index 2023





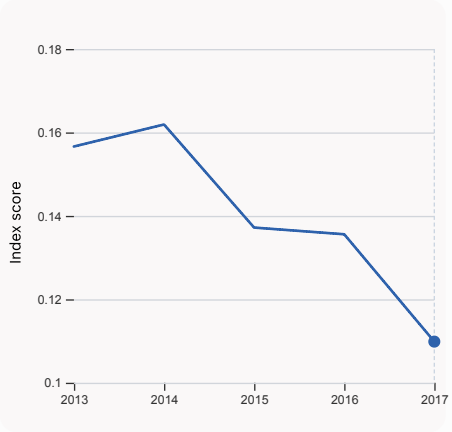
4.1.1 Finance for startups and scaleups

was equal to an average perception score of 4.48 in 2022, equivalent to an indicator rank of 50.



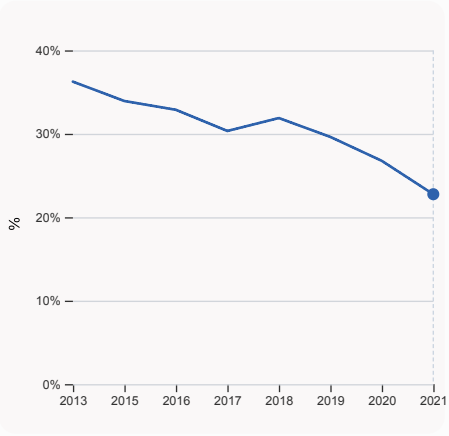
4.2.4 VC received, value, % GDP

was equal to 0.00117% GDP in 2022, up by 0.000092 percentage points from the year prior – and equivalent to an indicator rank of 50.



4.3.2 Domestic industry diversification

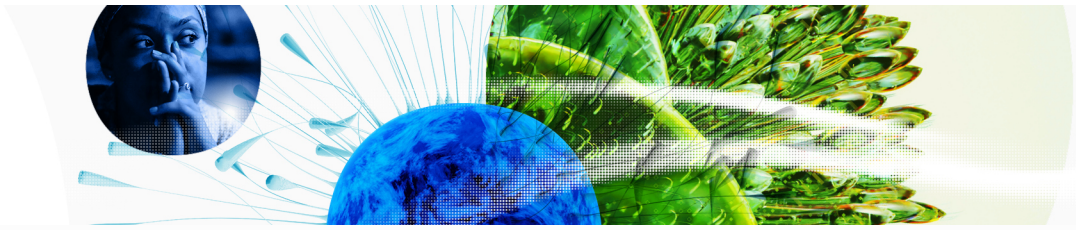
was equal to an index score of 0.11 in 2017, down by 18.98% from the year prior – and equivalent to an indicator rank of 25.



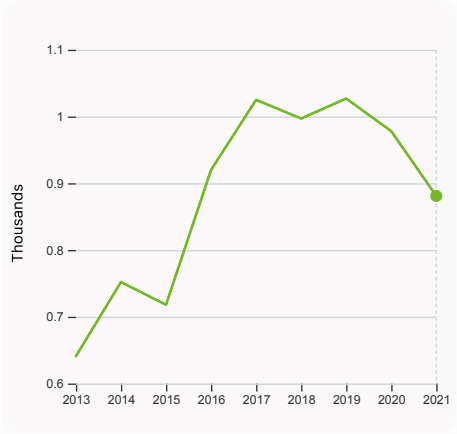
5.1.1 Knowledge-intensive employment, %

was equal to 22.76% in 2021, down by 4 percentage points from the year prior – and equivalent to an indicator rank of 65.

Global Innovation Index 2023

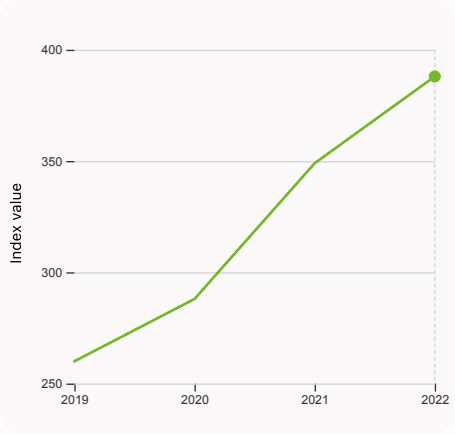


> Innovation outputs in Egypt



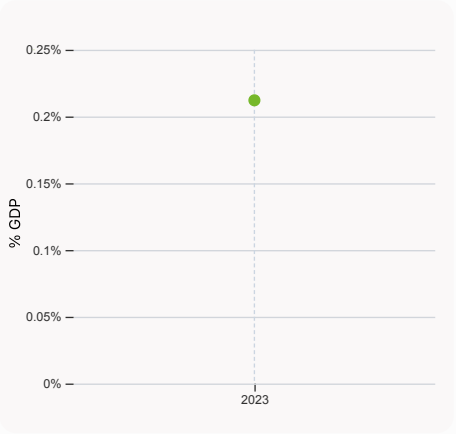
6.1.1 Patents by origin

was equal to 0.88 Thousands in 2021, down by 9.92% from the year prior – and equivalent to an indicator rank of 73.



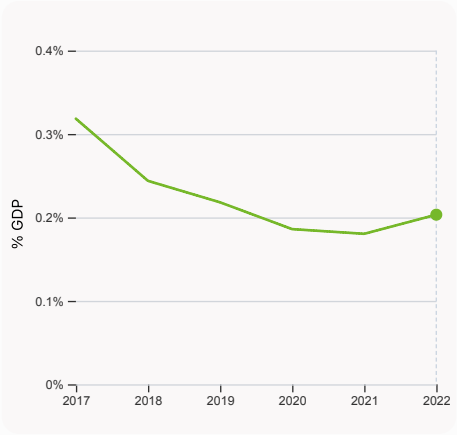
6.1.5 Citable documents H-index

was equal to an index value of 388 in 2022, up by 11.17% from the year prior – and equivalent to an indicator rank of 47.



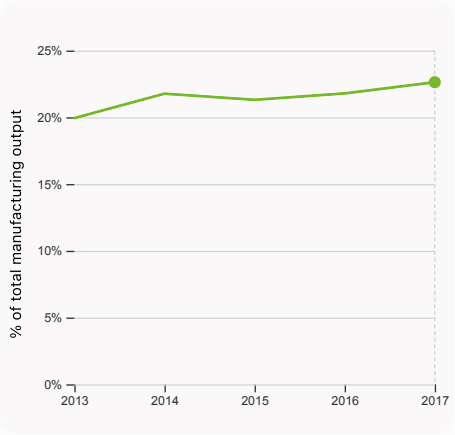
6.2.2 Unicorn valuation, % GDP

was equal to 0.212 % GDP in 2023 – and equivalent to an indicator rank of 45.



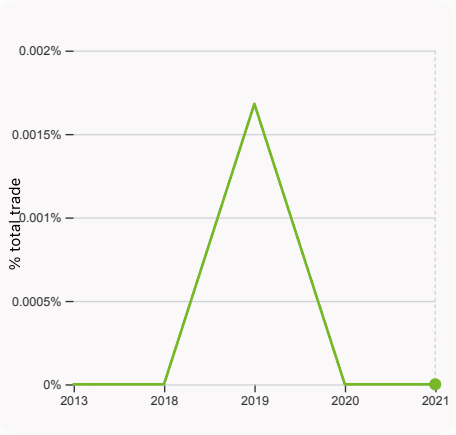
6.2.3 Software spending, % GDP

was equal to 0.203% GDP in 2022, up by 0.023 percentage points from the year prior – and equivalent to an indicator rank of 72.



6.2.4 High-tech manufacturing, %

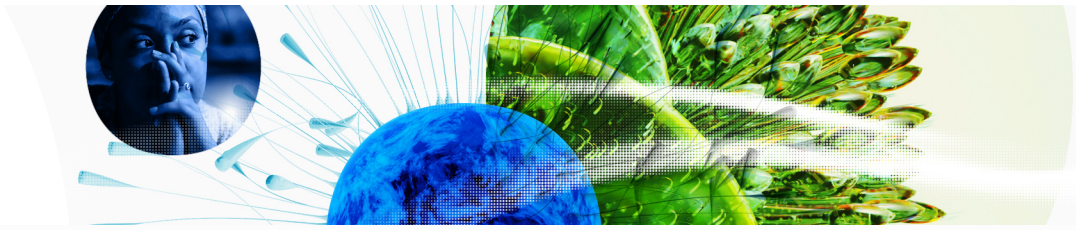
was equal to 22.63% of total manufacturing output in 2017, up by 0.84 percentage points from the year prior – and equivalent to an indicator rank of 57.



6.3.1 Intellectual property receipts, % total trade

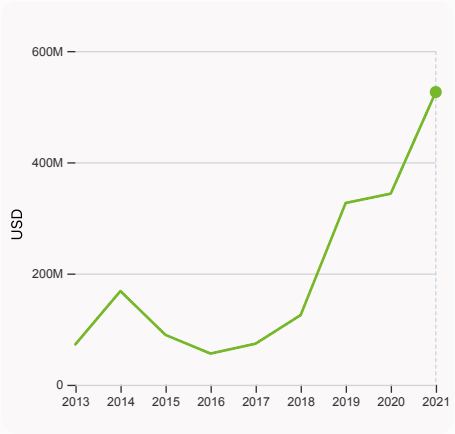
was equal to 0% total trade in 2021 – and equivalent to an indicator rank of 106.

Global Innovation Index 2023



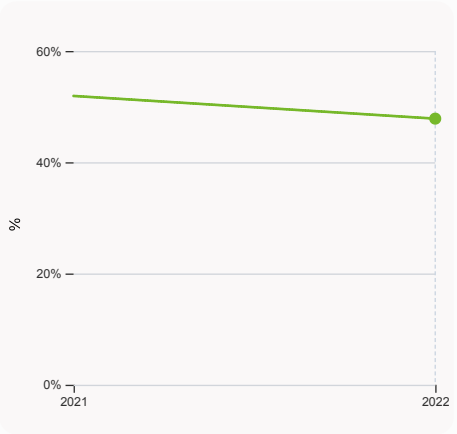
6.3.2 Production and export complexity

was equal to a score of -0.089 in 2020, up by 39.23% from the year prior – and equivalent to an indicator rank of 68.



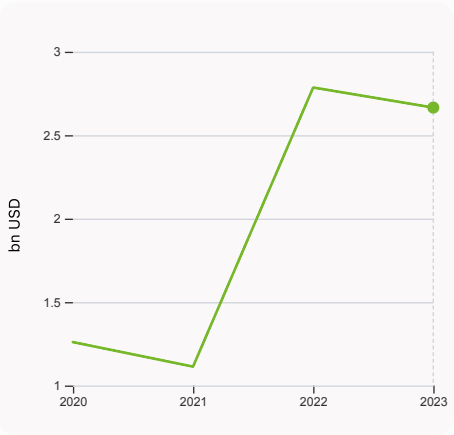
6.3.3 High-tech exports

was equal to 526,183,160 USD in 2021, up by 53.15% from the year prior – and equivalent to an indicator rank of 81.



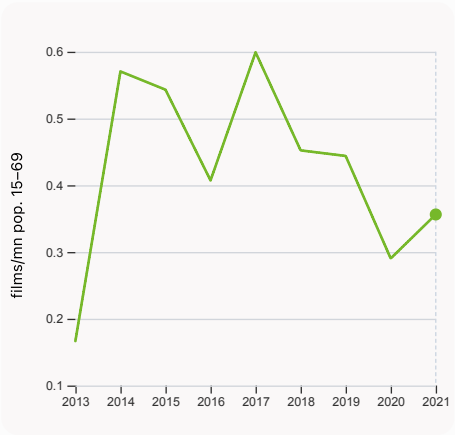
7.1.1 Intangible asset intensity, top 15, %

was equal to 47.84% in 2022, down by 4.08 percentage points from the year prior – and equivalent to an indicator rank of 51.



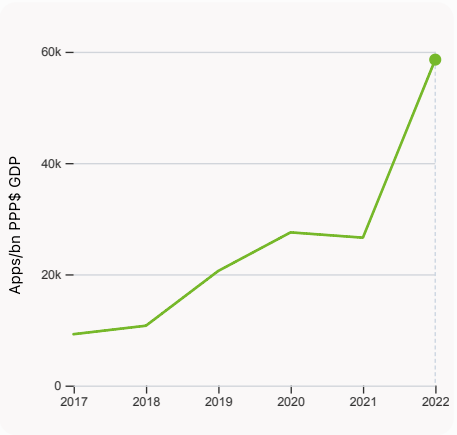
7.1.3 Global brand value, top 5,000

was equal to 2.665 bn USD in 2023, down by 4.32% from the year prior – and equivalent to an indicator rank of 61.



7.2.2 National feature films/mn pop. 15-69

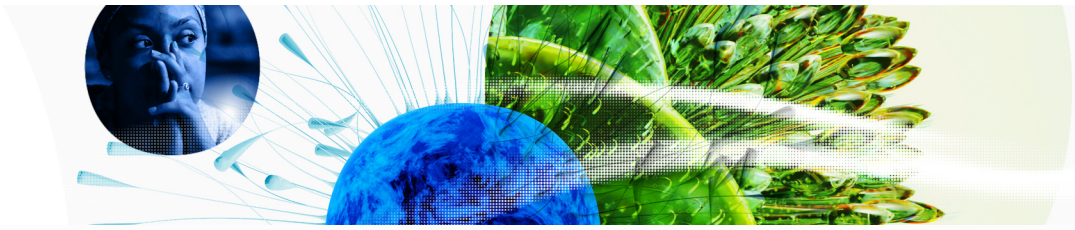
was equal to 0.356 films/mn pop. 15–69 in 2021, up by 22.68% from the year prior – and equivalent to an indicator rank of 74.



7.3.4 Mobile app creation/bn PPP$ GDP

was equal to 58,584.28 Apps/bn PPP$ GDP in 2022, up by 120.41% from the year prior – and equivalent to an indicator rank of 87.

Global Innovation Index 2023



→ Egypt's innovation top performers

> 2.3.4 QS university ranking of Egypt's top universities

Rank	University	Score
416	THE AMERICAN UNIVERSITY IN CAIRO	27.50
551-560	CAIRO UNIVERSITY	22.30
801-1000	AIN SHAMS UNIVERSITY	14.00

Source: QS Quacquarelli Symonds Ltd (https://www.topuniversities.com/university-rankings/world-university-rankings/2023).
Note: QS Quacquarelli Symonds Ltd annually assesses over 1,200 universities across the globe and scores them between [0,100]. Ranks can represent a single value "x", a tie "x=" or a range "x-y".

> 6.2.2 Top Unicorn Companies in Egypt

Rank	Unicorn Company	Industry	City	Valuation, bn USD
1	MNT-HALAN	Fintech	Cairo	1

Source: CBInsights, Tracker – The Complete List of Unicorn Companies: https://www.cbinsights.com/research-unicorn-companies

> 7.1.1 Top 15 intangible-asset intensive companies in Egypt

Rank	Firm	Intensity, %
1	E-FINANCE FOR DIGITAL & FINANCIAL INVESTMENTS	70.80
2	EGYPT KUWAIT HOLDING CO SAE	42.44
3	FAWRY FOR BANKING & PAYMENT TECHNOLOGY SERVICES SAE	81.69

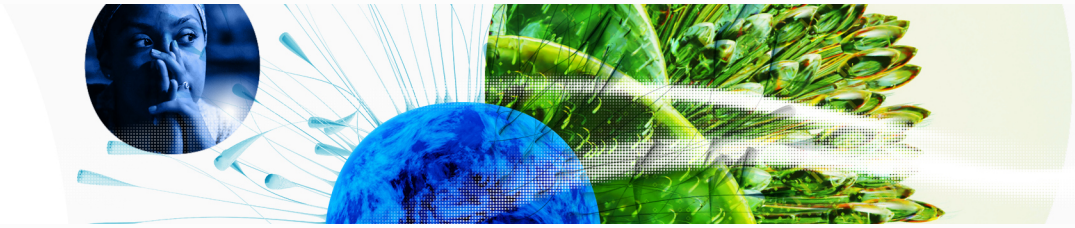
Source: Brand Finance (https://brandirectory.com/reports/gift-2022).
Note: Brand Finance only provides within economy ranks.

> 7.1.3 Top 5,000 companies in Egypt with highest global brand value

Rank	Brand	Industry	Brand Value, mn USD
1	NATIONAL BANK OF EGYPT	Banking	477.7
2	ORASCOM CONSTRUCTION	Engineering & Construction	451.9
3	BANQUE MISR	Banking	416.8

Source: Brand Finance (https://brandirectory.com).
Note: Rank corresponds to within economy ranks.

Global Innovation Index 2023



Egypt

GII 2023 rank **86**

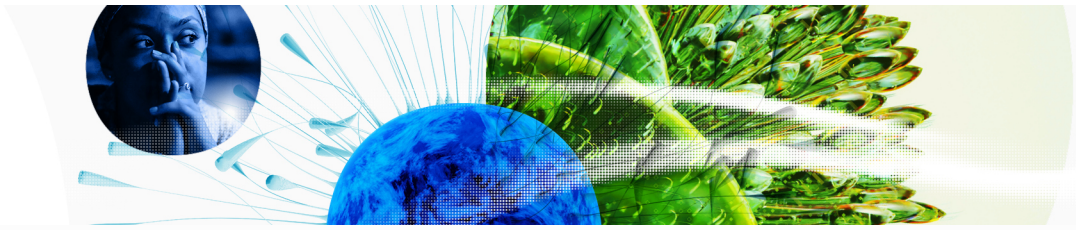
Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
74	99	Lower middle	NAWA	111.0	1,662.0	15,958.5

	Score / Value	Rank
Institutions	**36.6**	**103**
1.1 Institutional environment	**31.9**	**98**
1.1.1 Operational stability for businesses*	38.9	96
1.1.2 Government effectiveness*	24.8	97
1.2 Regulatory environment	**36.8**	**124**
1.2.1 Regulatory quality*	29.0	99
1.2.2 Rule of law*	32.5	76
1.2.3 Cost of redundancy dismissal	36.8	125 ○ ◇
1.3 Business environment	**41.2**	**81**
1.3.1 Policies for doing business†	53.7	53
1.3.2 Entrepreneurship policies and culture†	28.7	62
Human capital and research	**21.9**	**95**
2.1 Education	**42.1**	**91**
2.1.1 Expenditure on education, % GDP	3.9	75
2.1.2 Government funding/pupil, secondary, % GDP/cap	12.5	86
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	81
2.2 Tertiary education	**11.7**	**109**
2.2.1 Tertiary enrolment, % gross	42.7	76
2.2.2 Graduates in science and engineering, %	11.2	107 ○ ◇
2.2.3 Tertiary inbound mobility, %	0.9	90
2.3 Research and development (R&D)	**11.8**	**55**
2.3.1 Researchers, FTE/mn pop.	854.3	55
2.3.2 Gross expenditure on R&D, % GDP	1.0	42 ●
2.3.3 Global corporate R&D investors, top 3, mn US$	0.0	40 ○ ◇
2.3.4 QS university ranking, top 3*	21.5	49 ●
Infrastructure	**31.9**	**90**
3.1 Information and communication technologies (ICTs)	**53.7**	**92**
3.1.1 ICT access*	73.3	83
3.1.2 ICT use*	55.1	99
3.1.3 Government's online service*	52.8	87
3.1.4 E-participation*	33.7	97
3.2 General infrastructure	**18.3**	**98**
3.2.1 Electricity output, GWh/mn pop.	1,875.3	84
3.2.2 Logistics performance*	45.5	56
3.2.3 Gross capital formation, % GDP	11.8	126 ○ ◇
3.3 Ecological sustainability	**23.7**	**66**
3.3.1 GDP/unit of energy use	15.2	24 ●
3.3.2 Environmental performance*	28.1	91
3.3.3 ISO 14001 environment/bn PPP$ GDP	0.7	76
Market sophistication	**27.6**	**88**
4.1 Credit	**20.6**	**91**
4.1.1 Finance for startups and scaleups†	48.1	50
4.1.2 Domestic credit to private sector, % GDP	27.1	104
4.1.3 Loans from microfinance institutions, % GDP	0.4	39
4.2 Investment	**7.7**	**59**
4.2.1 Market capitalization, % GDP	14.2	66
4.2.2 Venture capital (VC) investors, deals/bn PPP$ GDP	0.0	68
4.2.3 VC recipients, deals/bn PPP$ GDP	0.0	45
4.2.4 VC received, value, % GDP	0.0	50
4.3 Trade, diversification, and market scale	**54.7**	**76**
4.3.1 Applied tariff rate, weighted avg., %	10.4	120 ○
4.3.2 Domestic industry diversification	95.8	25 ●
4.3.3 Domestic market scale, bn PPP$	1,662.0	18 ●

	Score / Value	Rank
Business sophistication	**21.4**	**100**
5.1 Knowledge workers	**11.3**	**120** ◇
5.1.1 Knowledge-intensive employment, %	22.8	65
5.1.2 Firms offering formal training, %	7.9	95 ○ ◇
5.1.3 GERD performed by business, % GDP	0.0	77
5.1.4 GERD financed by business, %	3.9	84 ◇
5.1.5 Females employed w/advanced degrees, %	5.7	92
5.2 Innovation linkages	**27.6**	**47**
5.2.1 University-industry R&D collaboration†	50.7	50
5.2.2 State of cluster development†	83.5	7 ●
5.2.3 GERD financed by abroad, % GDP	0.0	85
5.2.4 Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	99
5.2.5 Patent families/bn PPP$ GDP	0.0	90
5.3 Knowledge absorption	**25.3**	**101**
5.3.1 Intellectual property payments, % total trade	0.5	73
5.3.2 High-tech imports, % total trade	7.4	75
5.3.3 ICT services imports, % total trade	1.2	72
5.3.4 FDI net inflows, % GDP	1.9	73
5.3.5 Research talent, % in businesses	6.3	66
Knowledge and technology outputs	**19.9**	**77**
6.1 Knowledge creation	**12.2**	**73**
6.1.1 Patents by origin/bn PPP$ GDP	0.6	73
6.1.2 PCT patents by origin/bn PPP$ GDP	0.0	79
6.1.3 Utility models by origin/bn PPP$ GDP	0.0	74 ○
6.1.4 Scientific and technical articles/bn PPP$ GDP	n/a	n/a
6.1.5 Citable documents H-index	19.2	47 ●
6.2 Knowledge impact	**31.1**	**53**
6.2.1 Labor productivity growth, %	3.3	12 ●
6.2.2 Unicorn valuation, % GDP	0.2	45 ●
6.2.3 Software spending, % GDP	0.2	72
6.2.4 High-tech manufacturing, %	22.6	57
6.3 Knowledge diffusion	**16.2**	**90**
6.3.1 Intellectual property receipts, % total trade	0.0	106
6.3.2 Production and export complexity	50.6	68
6.3.3 High-tech exports, % total trade	0.7	81
6.3.4 ICT services exports, % total trade	1.7	65
6.3.5 ISO 9001 quality/bn PPP$ GDP	1.6	92
Creative outputs	**21.2**	**73**
7.1 Intangible assets	**31.3**	**66**
7.1.1 Intangible asset intensity, top 15, %	47.8	51
7.1.2 Trademarks by origin/bn PPP$ GDP	29.7	77
7.1.3 Global brand value, top 5,000	0.6	61
7.1.4 Industrial designs by origin/bn PPP$ GDP	1.5	51
7.2 Creative goods and services	**6.7**	**78**
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	74 ○
7.2.3 Entertainment and media market/th pop. 15-69	1.2	54 ○
7.2.4 Creative goods exports, % total trade	1.4	38 ●
7.3 Online creativity	**15.6**	**93**
7.3.1 Generic top-level domains (TLDs)/th pop. 15-69	1.2	94
7.3.2 Country-code TLDs/th pop. 15-69	0.0	129 ○
7.3.3 GitHub commits/mn pop. 15-69	2.5	95
7.3.4 Mobile app creation/bn PPP$ GDP	58.7	87

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 appendices for details, including the year of the data, at https://www.wipo.int/gii-ranking. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level.

Global Innovation Index 2023



→ Data availability

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

> Egypt has missing data for two indicators and outdated data for fourteen indicators.

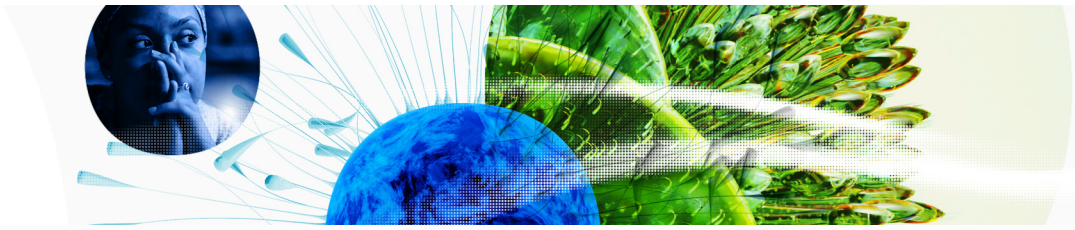
> Missing data for Egypt

Code	Indicator name	Economy Year	Model Year	Source
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
7.2.1	Cultural and creative services exports, % total trade	n/a	2021	World Trade Organization and United Nations Conference on Trade and Development

> Outdated data for Egypt

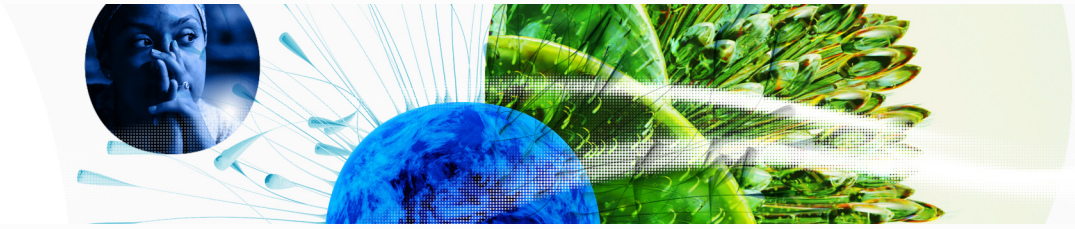
Code	Indicator name	Economy Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2015	2021	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2018	2020	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2019	2020	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2016	2020	UNESCO Institute for Statistics; Eurostat; OECD
3.2.1	Electricity output, GWh/mn pop.	2020	2021	International Energy Agency
4.3.1	Applied tariff rate, weighted avg., %	2019	2020	World Bank
4.3.2	Domestic industry diversification	2017	2020	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	2021	2022	International Labour Organization
5.1.3	GERD performed by business, % GDP	2018	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	2018	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	Females employed w/advanced degrees, %	2021	2022	International Labour Organization
5.2.3	GERD financed by abroad, % GDP	2018	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT

Global Innovation Index 2023



Code	Indicator name	Economy Year	Model Year	Source
5.3.5	Research talent, % in businesses	2018	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.2.4	High-tech manufacturing, %	2017	2020	United Nations Industrial Development Organization

Global Innovation Index 2023



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 Database, WIPO, 2023.

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.