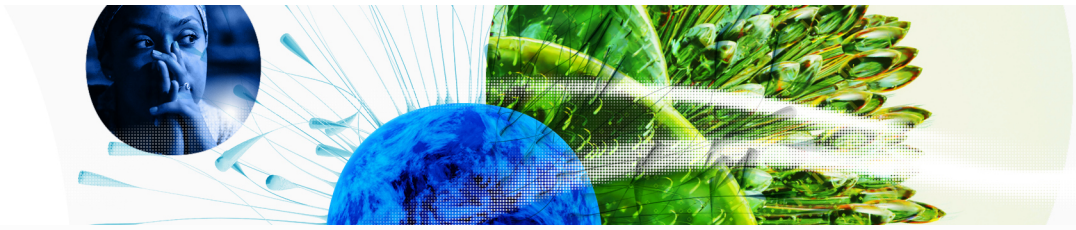
Global Innovation Index 2023



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

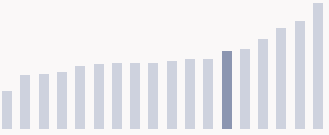
Consisting of **roughly 80 indicators**, grouped into innovation inputs and outputs, the GII **aims to capture the multi-dimensional facets of innovation**.

Qatar ranking in the Global Innovation Index 2023

> Qatar ranks 50th among the 132 economies featured in the GII 2023.

> Qatar ranks 42nd among the 50 high-income group economies.

> Qatar ranks 6th among the 18 economies in Northern Africa and Western Asia.



> Qatar GII Ranking (2020-2023)

The table shows the rankings of Qatar 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 Qatar in the GII 2023 is between ranks 49 and 65.

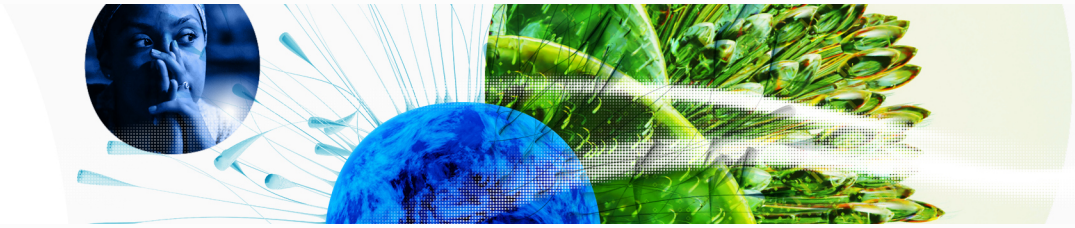
	GII Position	Innovation Inputs	Innovation Outputs
2020	70th	64th	72nd
2021	68th	64th	70th
2022	52nd	38th	67th
2023	50th	39th	70th

Qatar performs worse in innovation outputs than innovation inputs in 2023.

This year Qatar ranks 39th in innovation inputs. This position is lower than last year.

Qatar ranks 70th in innovation outputs. This position is lower than last year.

Global Innovation Index 2023

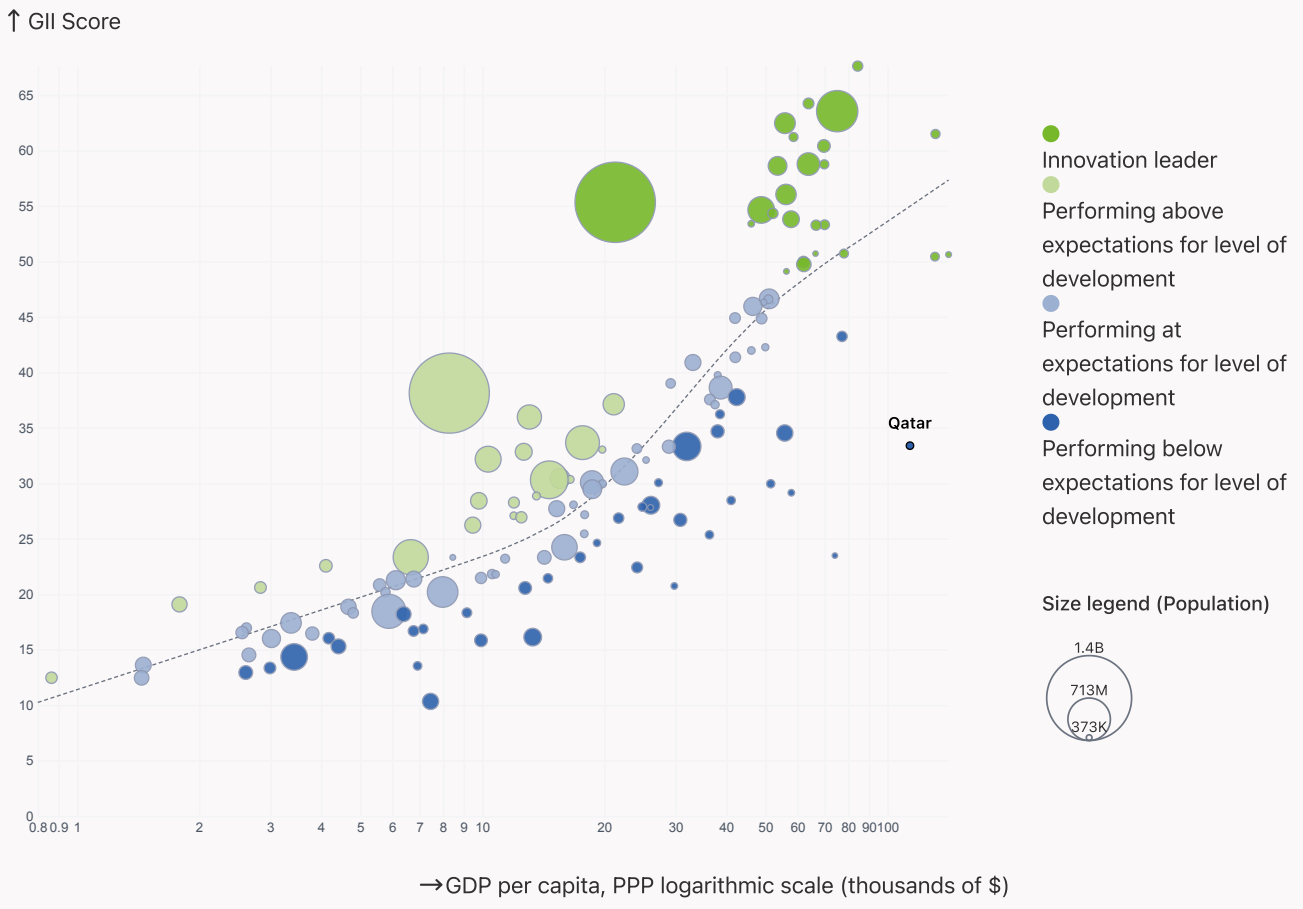


→ Expected vs. observed innovation performance

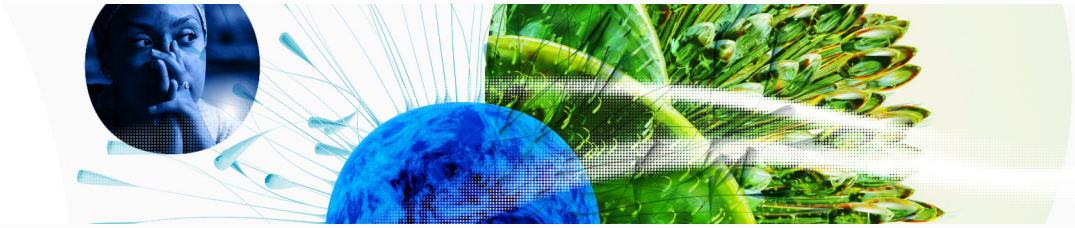
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected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

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

> Innovation overperformers relative to their economic development



Global Innovation Index 2023

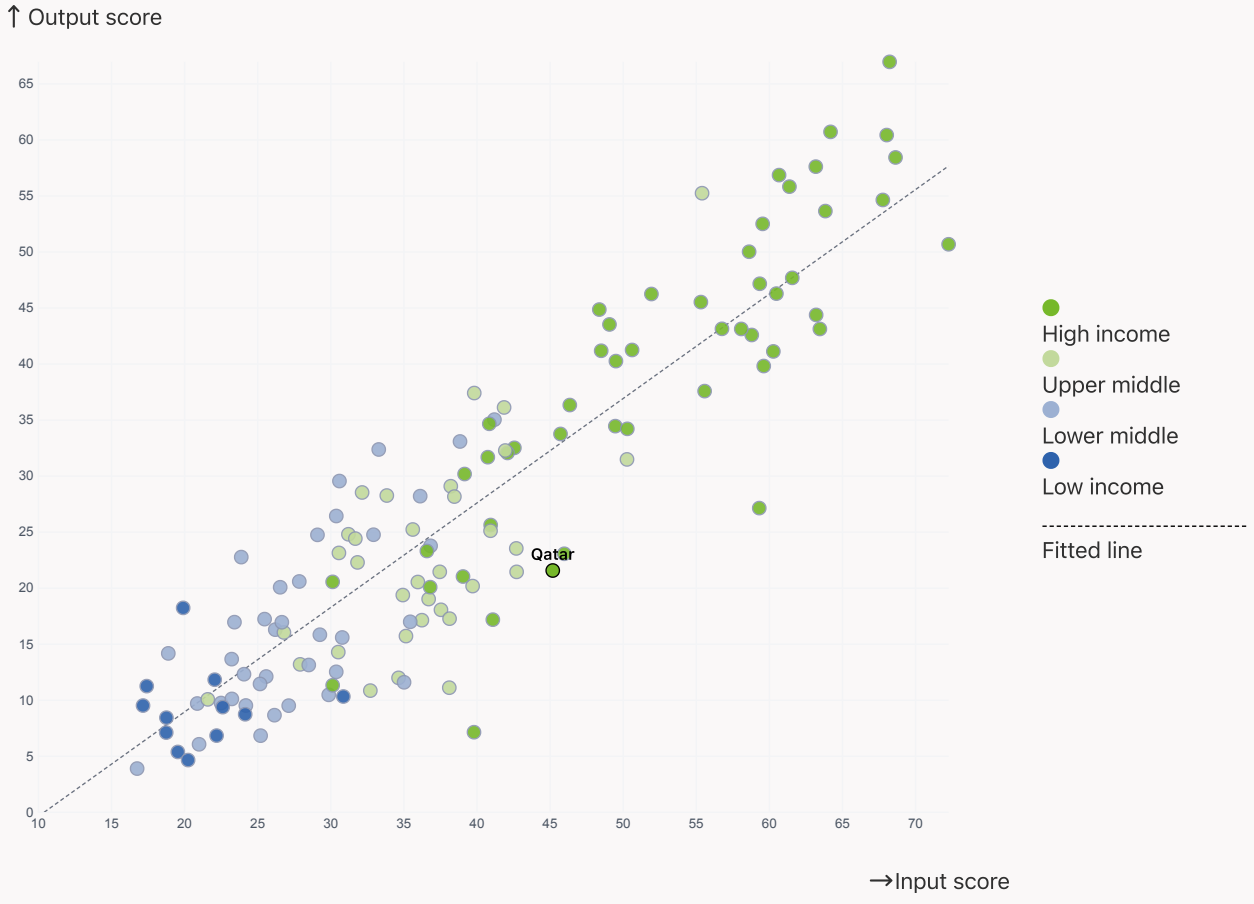


→ Effectively translating innovation investments into innovation outputs

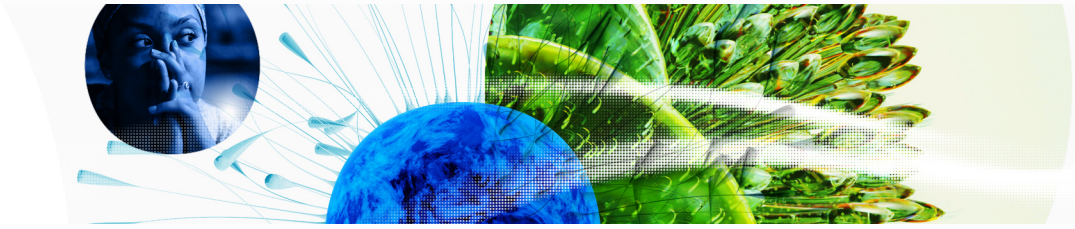
The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

> Qatar produces less innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs



Global Innovation Index 2023



→ Overview of Qatar'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 Qatar are those that rank above the GII (shown in blue) and the weakest are those that rank below.

> Highest rankings

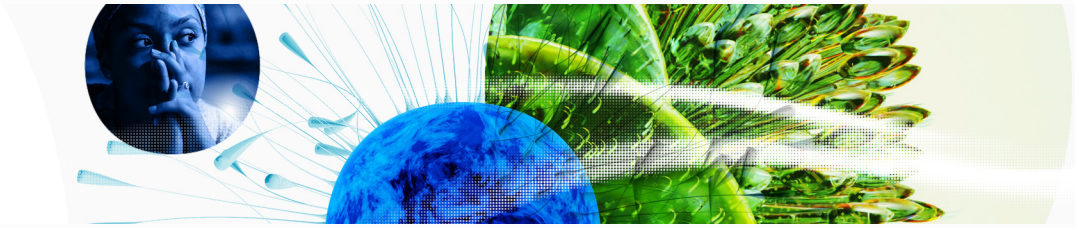
Qatar ranks highest in Institutions (23rd), Infrastructure (39th) and Market sophistication (44th).

> Lowest rankings

Qatar ranks lowest in Knowledge and technology outputs (82nd), Business sophistication (73rd) and Creative outputs (65th).

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

Global Innovation Index 2023



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

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

> High-Income economies

Qatar performs below the high-income group average in Knowledge and technology outputs, Creative outputs, Business sophistication, Market sophistication, Human capital and research, Infrastructure.

> Northern Africa And Western Asia

Qatar performs above the regional average in Creative outputs, Market sophistication, Human capital and research, Infrastructure, Institutions.

Knowledge and technology outputs

- Top 10 | Score: 58.96
- High income | Score: 38.62
- NAWA | Score: 24.01
- Qatar | Score: 18.38

Creative outputs

- Top 10 | 56.09
- High income | 40.27
- Qatar | 24.65
- NAWA | 24.51

Business sophistication

- Top 10 | 64.39
- High income | 46.38
- NAWA | 29.44
- Qatar | 26.60

Market sophistication

- Top 10 | 61.93
- High income | 46.42
- Qatar | 40.75
- NAWA | 36.12

Human capital and research

- Top 10 | 60.28
- High income | 46.30
- Qatar | 33.79
- NAWA | 32.72

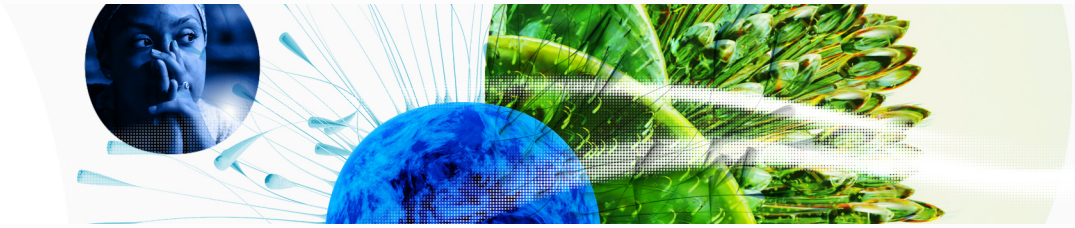
Infrastructure

- Top 10 | 62.83
- High income | 55.85
- Qatar | 53.36
- NAWA | 41.60

Institutions

- Top 10 | 79.85
- Qatar | 71.64
- High income | 68.16
- NAWA | 53.39

Global Innovation Index 2023



→ Innovation strengths and weaknesses in Qatar

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

> Qatar's main innovation strengths are **Tertiary inbound mobility, %** (rank 1), **Electricity output, GWh/mn pop.** (rank 5) and **Entrepreneurship policies and culture** (rank 7).

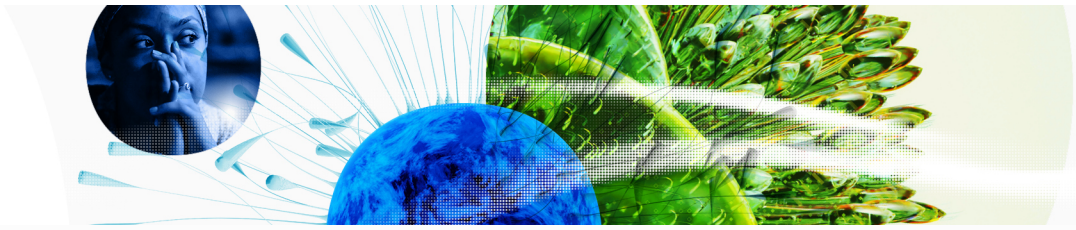
Strengths

Rank	Code	Indicator name
1	2.2.3	Tertiary inbound mobility, %
5	3.2.1	Electricity output, GWh/mn pop.
7	1.3.2	Entrepreneurship policies and culture
9	1.3.1	Policies for doing business
10	5.2.1	University-industry R&D collaboration
12	3.1.1	ICT access
14	4.1.2	Domestic credit to private sector, % GDP
16	5.2.2	State of cluster development
19	7.1.3	Global brand value, top 5,000
25	5.3.3	ICT services imports, % total trade

Weaknesses

Rank	Code	Indicator name
131	7.2.4	Creative goods exports, % total trade
126	5.3.4	FDI net inflows, % GDP
119	7.1.2	Trademarks by origin/bn PPP$ GDP
100	4.2.4	VC received, value, % GDP
99	4.2.3	VC recipients, deals/bn PPP$ GDP
90	5.2.3	GERD financed by abroad, % GDP
48	6.2.2	Unicorn valuation, % GDP
40	2.3.3	Global corporate R&D investors, top 3, mn US$

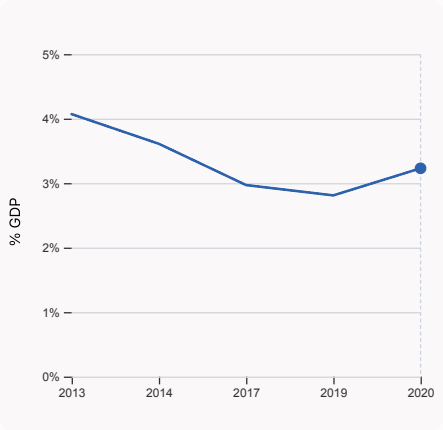
Global Innovation Index 2023



→ Qatar's innovation system

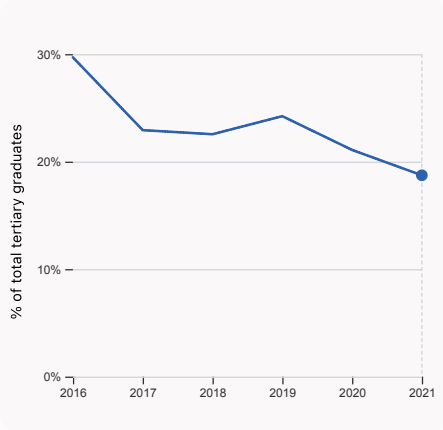
As far as practicable, the plots below present unscaled indicator data.

> Innovation inputs in Qatar



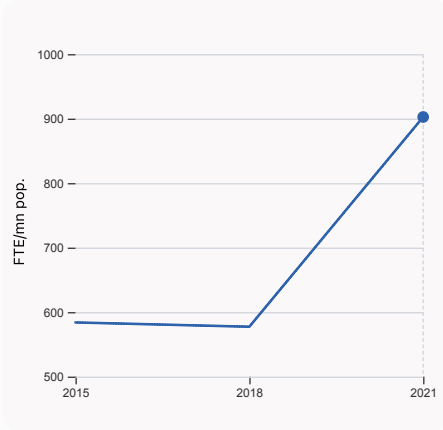
2.1.1 Expenditure on education, % GDP

was equal to 3.23% GDP in 2020, up by 0.42 percentage points from the year prior – and equivalent to an indicator rank of 99.



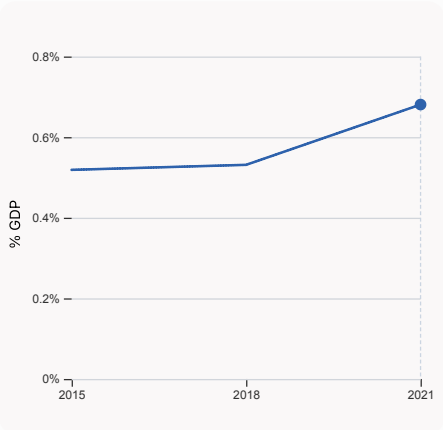
2.2.2 Graduates in science and engineering, %

was equal to 18.73% of total tertiary graduates in 2021, down by 2.36 percentage points from the year prior – and equivalent to an indicator rank of 83.



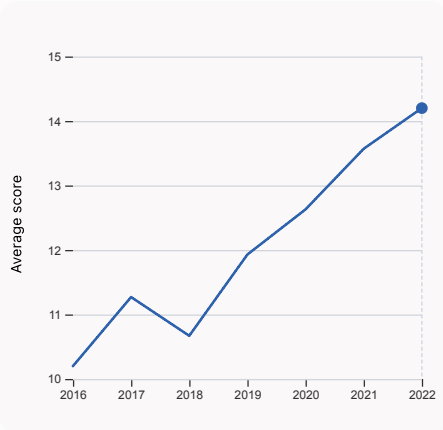
2.3.1 Researchers, FTE/mn pop.

was equal to 902.58 FTE/mn pop. in 2021, up by 56.33% from the year prior – and equivalent to an indicator rank of 53.



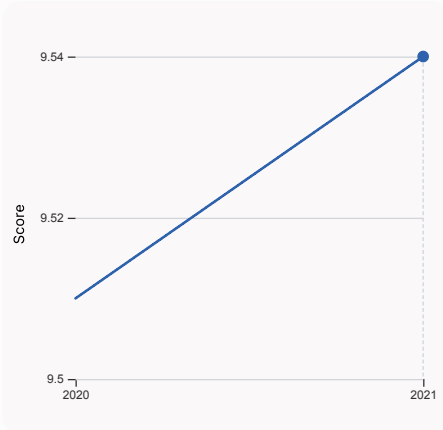
2.3.2 Gross expenditure on R&D, % GDP

was equal to 0.681% GDP in 2021, up by 0.15 percentage points from the year prior – and equivalent to an indicator rank of 52.



2.3.4 QS university ranking, top 3

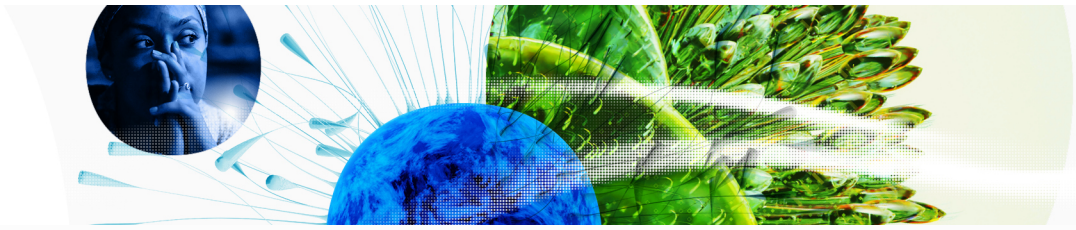
was equal to an average score of 14.2 for the top 3 universities in 2022, up by 4.64% from the year prior – and equivalent to an indicator rank of 60.

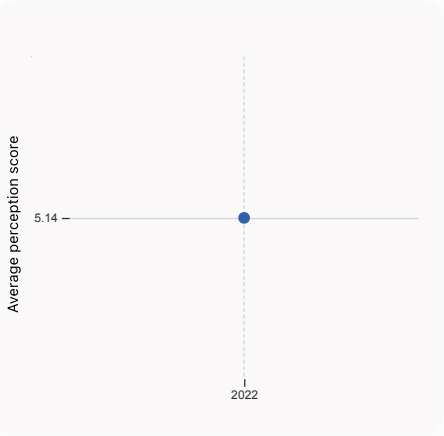


3.1.1 ICT access

was equal to a score of 9.54 in 2021, up by 0.32% from the year prior – and equivalent to an indicator rank of 12.

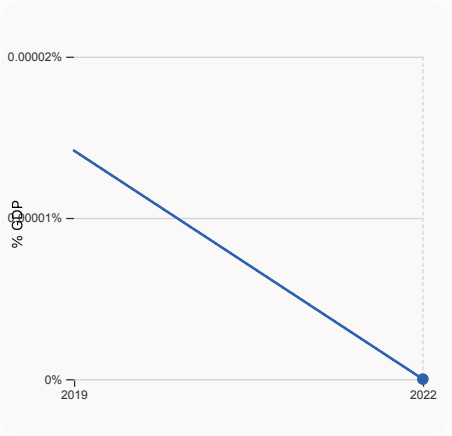
Global Innovation Index 2023





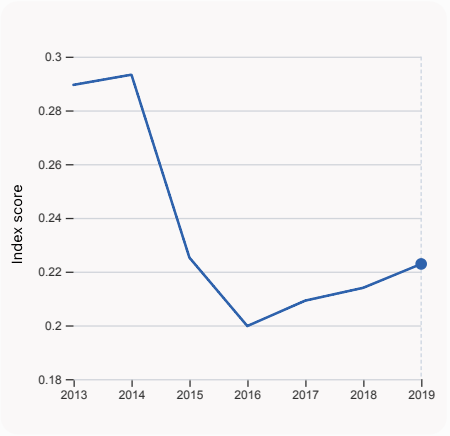
4.1.1 Finance for startups and scaleups

was equal to an average perception score of 5.14 in 2022, equivalent to an indicator rank of 28.



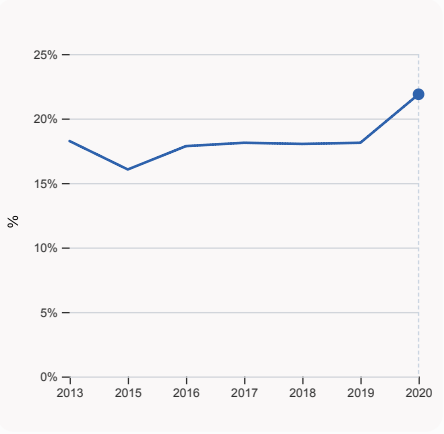
4.2.4 VC received, value, % GDP

was equal to 0% GDP in 2022, down by 0.000014 percentage points from the year prior – and equivalent to an indicator rank of 100.



4.3.2 Domestic industry diversification

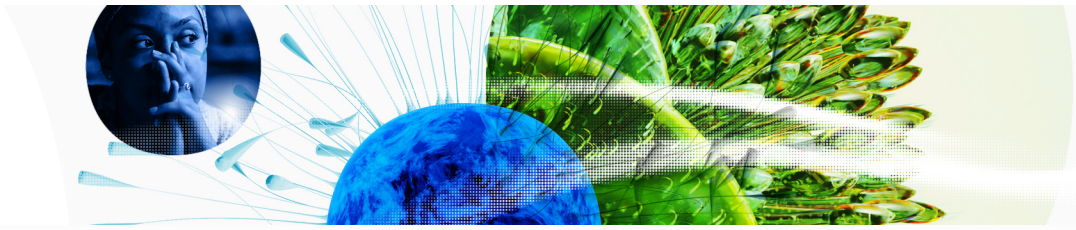
was equal to an index score of 0.223 in 2019, up by 4.15% from the year prior – and equivalent to an indicator rank of 76.



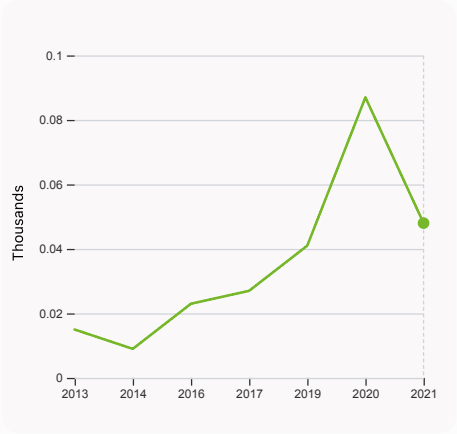
5.1.1 Knowledge-intensive employment, %

was equal to 21.88% in 2020, up by 3.76 percentage points from the year prior – and equivalent to an indicator rank of 69.

Global Innovation Index 2023

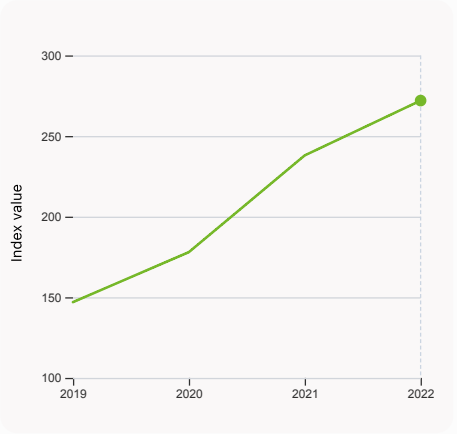


> Innovation outputs in Qatar



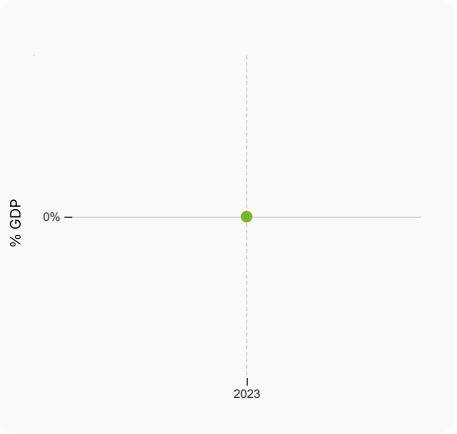
6.1.1 Patents by origin

was equal to 0.048 Thousands in 2021, down by 44.83% from the year prior – and equivalent to an indicator rank of 103.



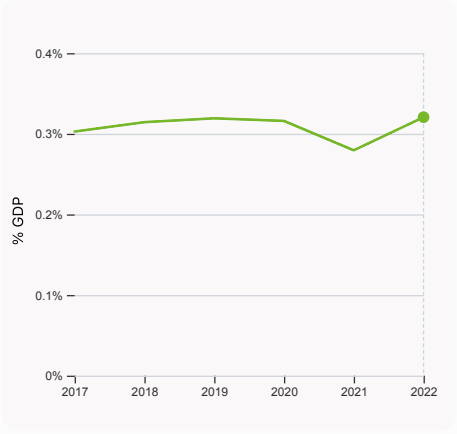
6.1.5 Citable documents H-index

was equal to an index value of 272 in 2022, up by 14.29% from the year prior – and equivalent to an indicator rank of 65.



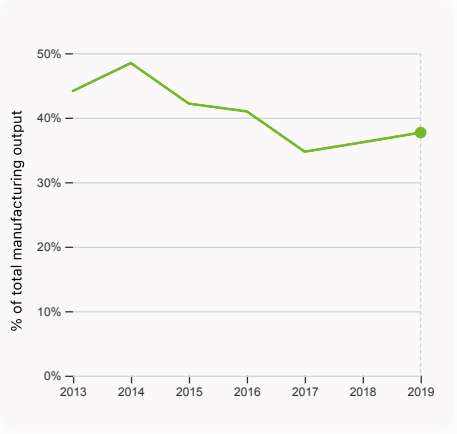
6.2.2 Unicorn valuation, % GDP

was equal to 0 % GDP in 2023 – and equivalent to an indicator rank of 48.



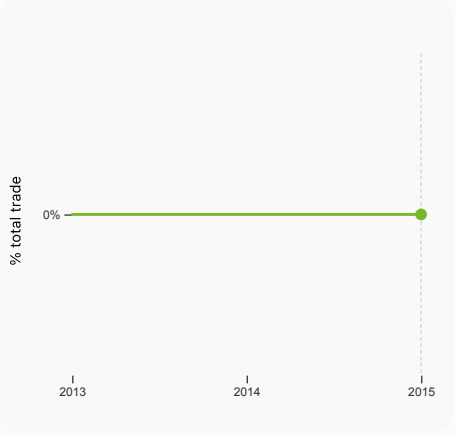
6.2.3 Software spending, % GDP

was equal to 0.321% GDP in 2022, up by 0.041 percentage points from the year prior – and equivalent to an indicator rank of 37.



6.2.4 High-tech manufacturing, %

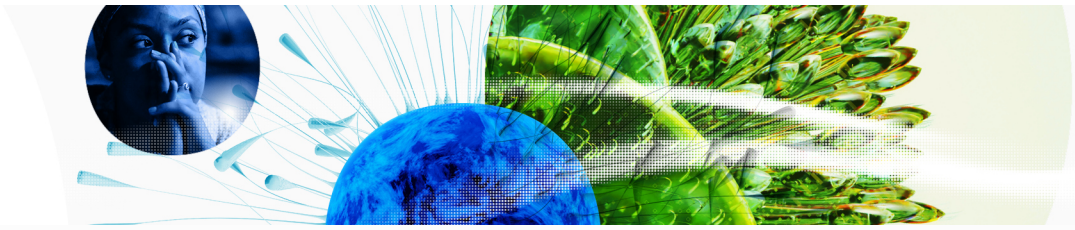
was equal to 37.69% of total manufacturing output in 2019, up by 1.5 percentage points from the year prior – and equivalent to an indicator rank of 30.

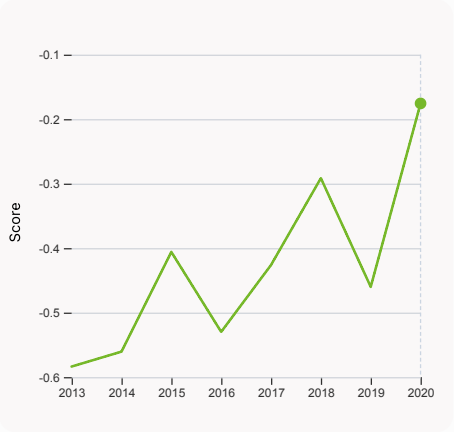


6.3.1 Intellectual property receipts, % total trade

was equal to 0% total trade in 2015 – and equivalent to an indicator rank of 114.

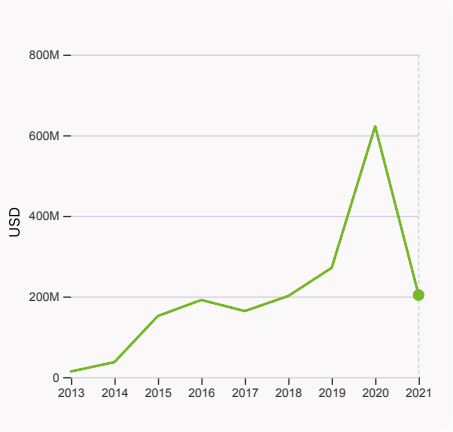
Global Innovation Index 2023





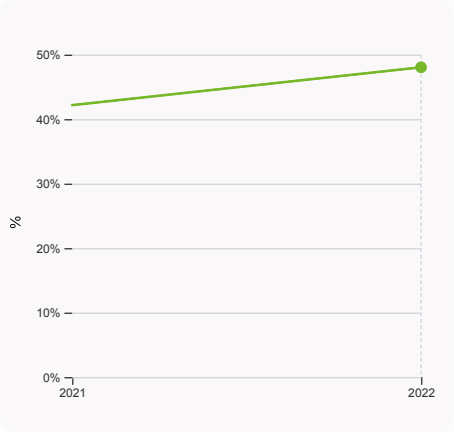
6.3.2 Production and export complexity

was equal to a score of -0.176 in 2020, up by 61.82% from the year prior – and equivalent to an indicator rank of 70.



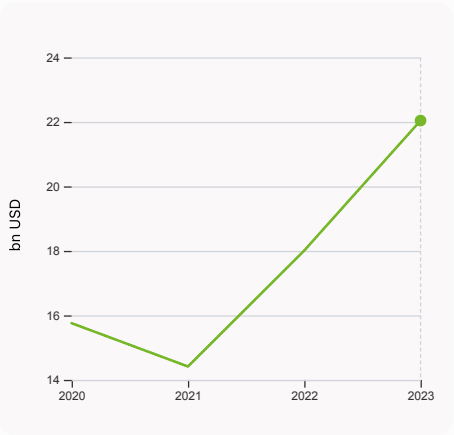
6.3.3 High-tech exports

was equal to 203,672,435 USD in 2021, down by 67.27% from the year prior – and equivalent to an indicator rank of 103.



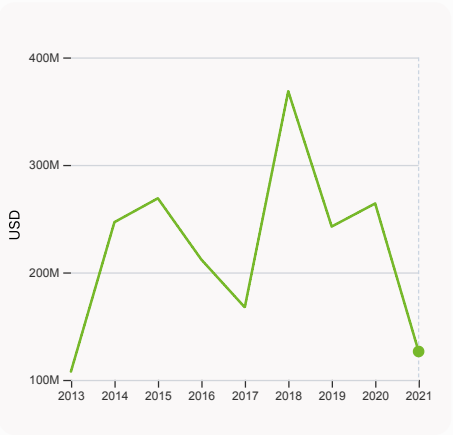
7.1.1 Intangible asset intensity, top 15, %

was equal to 48.04% in 2022, up by 5.87 percentage points from the year prior – and equivalent to an indicator rank of 50.



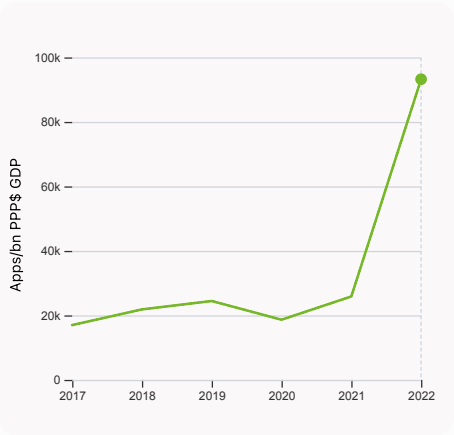
7.1.3 Global brand value, top 5,000

was equal to 22.042 bn USD in 2023, up by 22.38% from the year prior – and equivalent to an indicator rank of 19.



7.2.1 Cultural and creative services exports

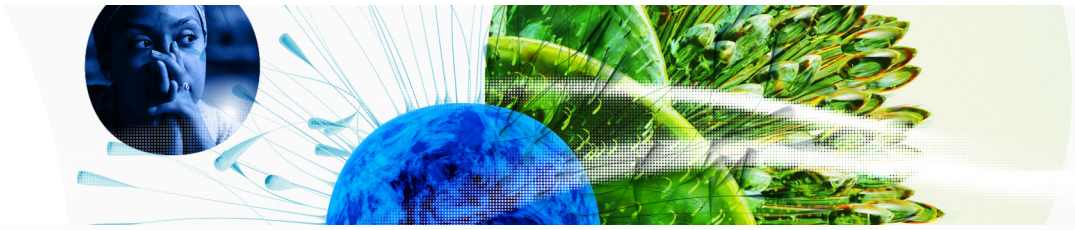
was equal to 126,441,000 USD in 2021, down by 52.13% from the year prior – and equivalent to an indicator rank of 75.



7.3.4 Mobile app creation/bn PPP$ GDP

was equal to 93,234.79 Apps/bn PPP$ GDP in 2022, up by 260.44% from the year prior – and equivalent to an indicator rank of 80.

Global Innovation Index 2023



→ Qatar's innovation top performers

> 2.3.4 QS university ranking of Qatar's top universities

Rank	University	Score
208	QATAR UNIVERSITY	42.60

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".

> 7.1.1 Top 15 intangible-asset intensive companies in Qatar

Rank	Firm	Intensity, %
1	QATAR NATIONAL BANK QPSC	49.96
2	INDUSTRIES QATAR QSC	42.92
3	QATAR ISLAMIC BANK SAQ	55.62

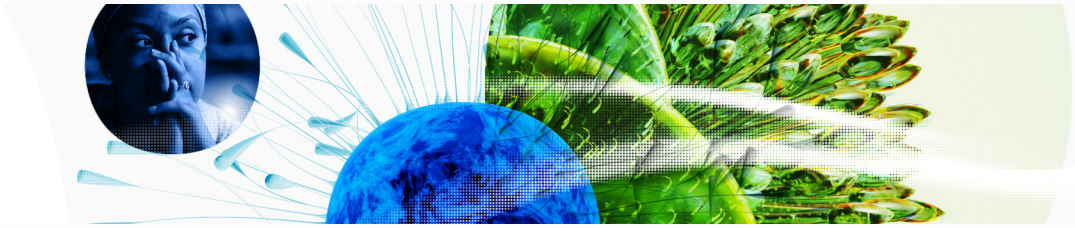
Source: Brand Finance (https://brandirectory.com/reports/gift-2022).
Note: Brand Finance only provides within economy ranks.

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

Rank	Brand	Industry	Brand Value, mn USD
1	QNB	Banking	7,666.1
2	OOREDOO	Telecoms	3,143.0
3	QATARGAS	Oil & Gas	3,104.7

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

Global Innovation Index 2023



Qatar

GII 2023 rank

50

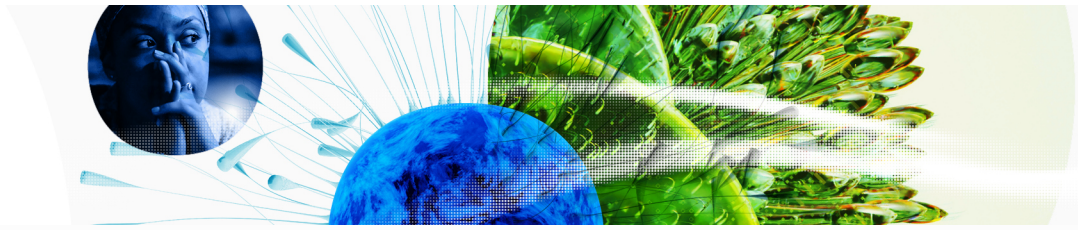
Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
70	39	High	NAWA	2.7	303.6	113,674.6

	Score / Value	Rank	
Institutions	**71.6**	**23**	
1.1 Institutional environment	**67.4**	**31**	
1.1.1 Operational stability for businesses*	67.4	35	
1.1.2 Government effectiveness*	67.5	28	
1.2 Regulatory environment	**67.8**	**50**	
1.2.1 Regulatory quality*	64.5	34	
1.2.2 Rule of law*	66.9	30	
1.2.3 Cost of redundancy dismissal	23.2	101	◇
1.3 Business environment	**79.7**	**6**	
1.3.1 Policies for doing business†	79.4	9	●
1.3.2 Entrepreneurship policies and culture†	80.0	7	●
Human capital and research	**33.8**	**54**	◇
2.1 Education	**45.0**	**82**	◇
2.1.1 Expenditure on education, % GDP	3.2	99	◇
2.1.2 Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3 School life expectancy, years	12.8	85	◇
2.1.4 PISA scales in reading, maths and science	413.5	60	◇
2.1.5 Pupil-teacher ratio, secondary	12.5	57	
2.2 Tertiary education	**47.5**	**14**	
2.2.1 Tertiary enrolment, % gross	25.0	93	◇
2.2.2 Graduates in science and engineering, %	18.7	83	
2.2.3 Tertiary inbound mobility, %	37.6	1	●
2.3 Research and development (R&D)	**8.9**	**64**	◇
2.3.1 Researchers, FTE/mn pop.	902.6	53	◇
2.3.2 Gross expenditure on R&D, % GDP	0.7	52	
2.3.3 Global corporate R&D investors, top 3, mn US$	0.0	40	○ ◇
2.3.4 QS university ranking, top 3*	14.4	60	
Infrastructure	**53.4**	**39**	
3.1 Information and communication technologies (ICTs)	**67.2**	**72**	◇
3.1.1 ICT access*	93.2	12	●
3.1.2 ICT use*	82.5	52	
3.1.3 Government's online service*	56.8	83	◇
3.1.4 E-participation*	36.0	93	◇
3.2 General infrastructure	**75.4**	**1**	
3.2.1 Electricity output, GWh/mn pop.	17,098.2	5	●
3.2.2 Logistics performance*	63.6	33	
3.2.3 Gross capital formation, % GDP	n/a	n/a	
3.3 Ecological sustainability	**17.5**	**94**	◇
3.3.1 GDP/unit of energy use	5.7	111	◇
3.3.2 Environmental performance*	23.9	99	◇
3.3.3 ISO 14001 environment/bn PPP$ GDP	2.4	36	
Market sophistication	**40.7**	**44**	
4.1 Credit	**57.5**	**20**	
4.1.1 Finance for startups and scaleups†	62.3	28	
4.1.2 Domestic credit to private sector, % GDP	138.9	14	●
4.1.3 Loans from microfinance institutions, % GDP	n/a	n/a	
4.2 Investment	**10.3**	**55**	
4.2.1 Market capitalization, % GDP	98.2	16	
4.2.2 Venture capital (VC) investors, deals/bn PPP$ GDP	0.1	50	
4.2.3 VC recipients, deals/bn PPP$ GDP	0.0	99	○ ◇
4.2.4 VC received, value, % GDP	0.0	100	○ ◇
4.3 Trade, diversification, and market scale	**54.5**	**77**	
4.3.1 Applied tariff rate, weighted avg., %	3.5	78	◇
4.3.2 Domestic industry diversification	80.1	76	
4.3.3 Domestic market scale, bn PPP$	303.6	60	

	Score / Value	Rank	
Business sophistication	**26.6**	**73**	◇
5.1 Knowledge workers	**15.2**	**112**	◇
5.1.1 Knowledge-intensive employment, %	21.9	69	◇
5.1.2 Firms offering formal training, %	n/a	n/a	
5.1.3 GERD performed by business, % GDP	0.1	67	◇
5.1.4 GERD financed by business, %	9.3	75	◇
5.1.5 Females employed w/advanced degrees, %	5.3	93	◇
5.2 Innovation linkages	**35.6**	**33**	
5.2.1 University-industry R&D collaboration†	82.8	10	●
5.2.2 State of cluster development†	76.8	16	●
5.2.3 GERD financed by abroad, % GDP	0.0	90	○ ◇
5.2.4 Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	29	
5.2.5 Patent families/bn PPP$ GDP	0.0	72	
5.3 Knowledge absorption	**29.1**	**82**	◇
5.3.1 Intellectual property payments, % total trade	0.0	118	
5.3.2 High-tech imports, % total trade	6.0	102	
5.3.3 ICT services imports, % total trade	2.7	25	●
5.3.4 FDI net inflows, % GDP	-1.3	126	○
5.3.5 Research talent, % in businesses	16.1	55	◇
Knowledge and technology outputs	**18.4**	**82**	◇
6.1 Knowledge creation	**9.4**	**83**	◇
6.1.1 Patents by origin/bn PPP$ GDP	0.2	103	◇
6.1.2 PCT patents by origin/bn PPP$ GDP	0.1	61	
6.1.3 Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4 Scientific and technical articles/bn PPP$ GDP	n/a	n/a	
6.1.5 Citable documents H-index	12.7	65	
6.2 Knowledge impact	**31.1**	**52**	
6.2.1 Labor productivity growth, %	0.3	87	
6.2.2 Unicorn valuation, % GDP	0.0	48	○ ◇
6.2.3 Software spending, % GDP	0.3	37	
6.2.4 High-tech manufacturing, %	37.7	30	
6.3 Knowledge diffusion	**14.6**	**92**	◇
6.3.1 Intellectual property receipts, % total trade	0.0	114	
6.3.2 Production and export complexity	48.8	70	◇
6.3.3 High-tech exports, % total trade	0.2	103	◇
6.3.4 ICT services exports, % total trade	1.1	84	
6.3.5 ISO 9001 quality/bn PPP$ GDP	3.9	63	
Creative outputs	**24.7**	**65**	◇
7.1 Intangible assets	**38.3**	**49**	
7.1.1 Intangible asset intensity, top 15, %	48.0	50	
7.1.2 Trademarks by origin/bn PPP$ GDP	5.6	119	○ ◇
7.1.3 Global brand value, top 5,000	9.4	19	●
7.1.4 Industrial designs by origin/bn PPP$ GDP	n/a	n/a	
7.2 Creative goods and services	**4.3**	**89**	◇
7.2.1 Cultural and creative services exports, % total trade	0.2	75	
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	9.9	34	◇
7.2.4 Creative goods exports, % total trade	0.0	131	○
7.3 Online creativity	**17.8**	**81**	◇
7.3.1 Generic top-level domains (TLDs)/th pop. 15-69	4.2	60	◇
7.3.2 Country-code TLDs/th pop. 15-69	2.8	66	◇
7.3.3 GitHub commits/mn pop. 15-69	3.4	85	◇
7.3.4 Mobile app creation/bn PPP$ GDP	60.5	80	◇

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 Qatar.

> Qatar has missing data for seven indicators and outdated data for twelve indicators.

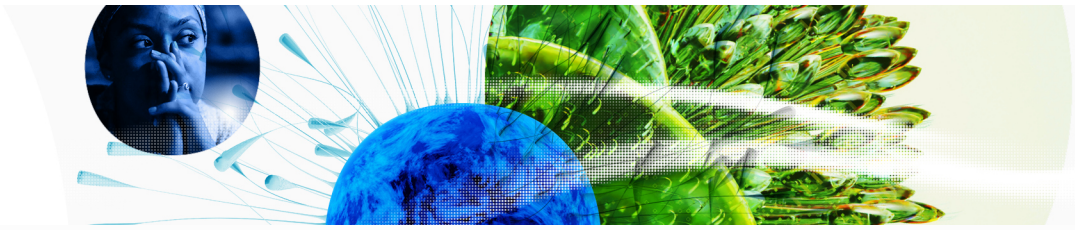
> Missing data for Qatar

Code	Indicator name	Economy Year	Model Year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2019	UNESCO Institute for Statistics
3.2.3	Gross capital formation, % GDP	n/a	2022	International Monetary Fund
4.1.3	Loans from microfinance institutions, % GDP	n/a	2021	International Monetary Fund, Financial Access Survey (FAS)
5.1.2	Firms offering formal training, %	n/a	2019	World Bank Enterprise Surveys
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2021	World Intellectual Property Organization; International Monetary Fund
7.1.4	Industrial designs by origin/bn PPP$ GDP	n/a	2021	World Intellectual Property Organization; International Monetary Fund
7.2.2	National feature films/mn pop. 15-69	n/a	2021	OMDIA; United Nations, World Population Prospects

> Outdated data for Qatar

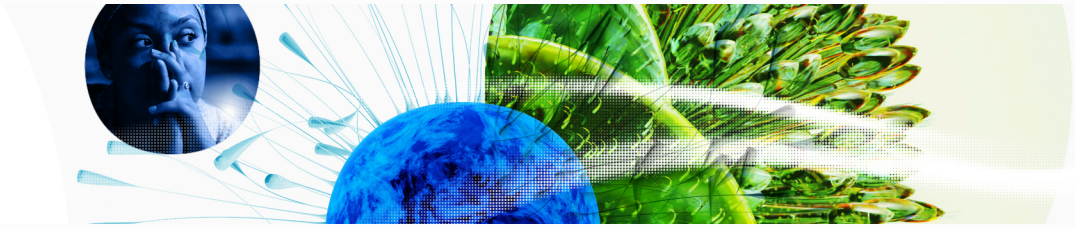
Code	Indicator name	Economy Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2020	2021	UNESCO Institute for Statistics
3.2.1	Electricity output, GWh/mn pop.	2020	2021	International Energy Agency
4.3.2	Domestic industry diversification	2019	2020	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	2020	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, %	2020	2022	International Labour Organization

Global Innovation Index 2023



Code	Indicator name	Economy Year	Model Year	Source
5.2.3	GERD financed by abroad, % GDP	2018	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.1	Intellectual property payments, % total trade	2015	2021	World Trade Organization and United Nations Conference on Trade and Development
5.3.5	Research talent, % in businesses	2018	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.2.4	High-tech manufacturing, %	2019	2020	United Nations Industrial Development Organization
6.3.1	Intellectual property receipts, % total trade	2015	2021	World Trade Organization and United Nations Conference on Trade and Development

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.