

# Global Innovation Index 2023

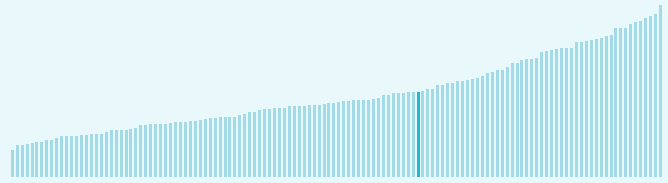


The Global Innovation Index (GII) **ranks world economies according to their innovation capabilities.**

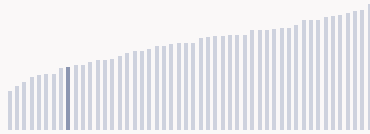
Consisting of **roughly 80 indicators**, grouped into innovation inputs and outputs, the GII **aims to capture the multi-dimensional facets of innovation.**

## Qatar ranking in the Global Innovation Index 2023

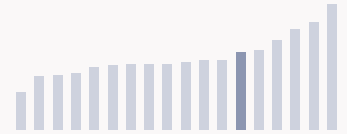
> Qatar ranks **50th** among the 132 economies featured in the GII 2023.



> 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.

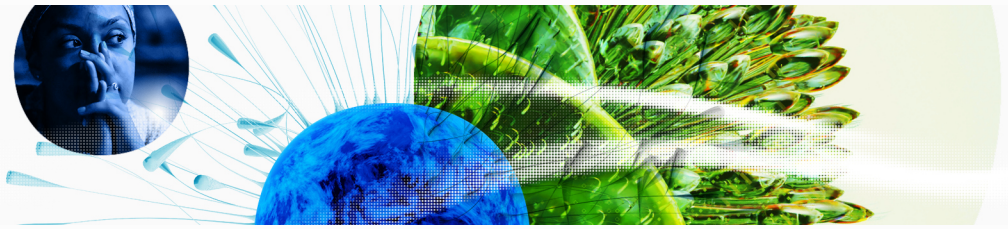
	GII Position	Innovation Inputs	Innovation Outputs
2020	70th	64th	72nd
2021	68th	64th	70th
2022	52nd	38th	67th
2023	50th	39th	70th

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

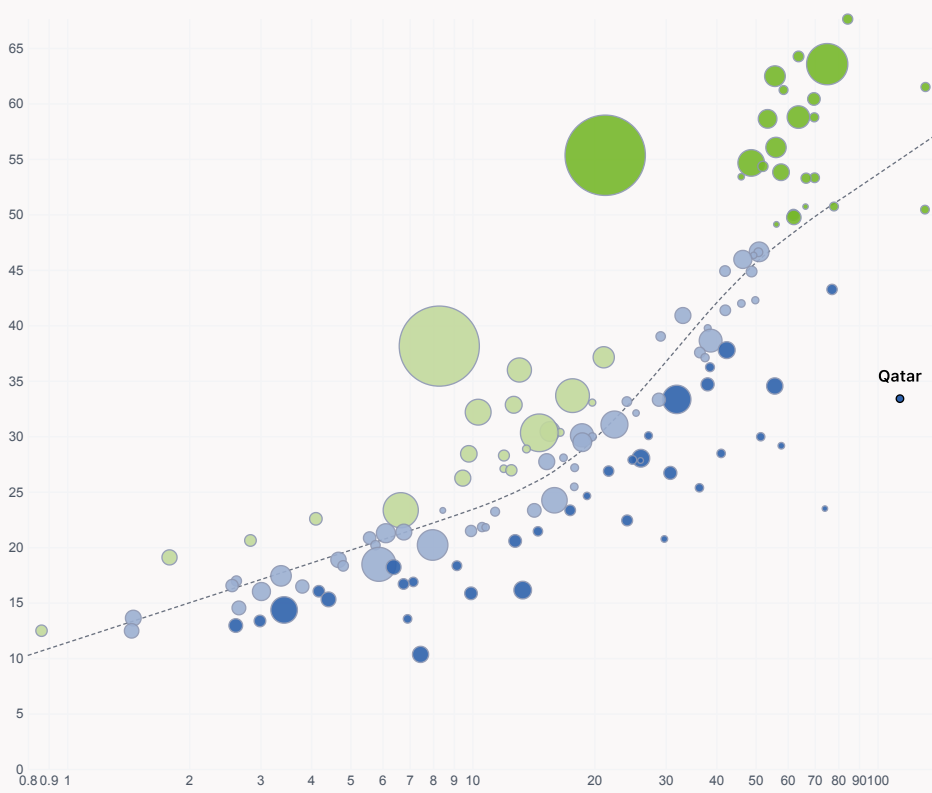
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected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

↑ **GII Score**



- Innovation leader
- Performing above expectations for level of development
- Performing at expectations for level of development
- Performing below expectations for level of development

Size legend (Population)



→ **GDP per capita, PPP logarithmic scale (thousands of \$)**

# Global Innovation Index 2023



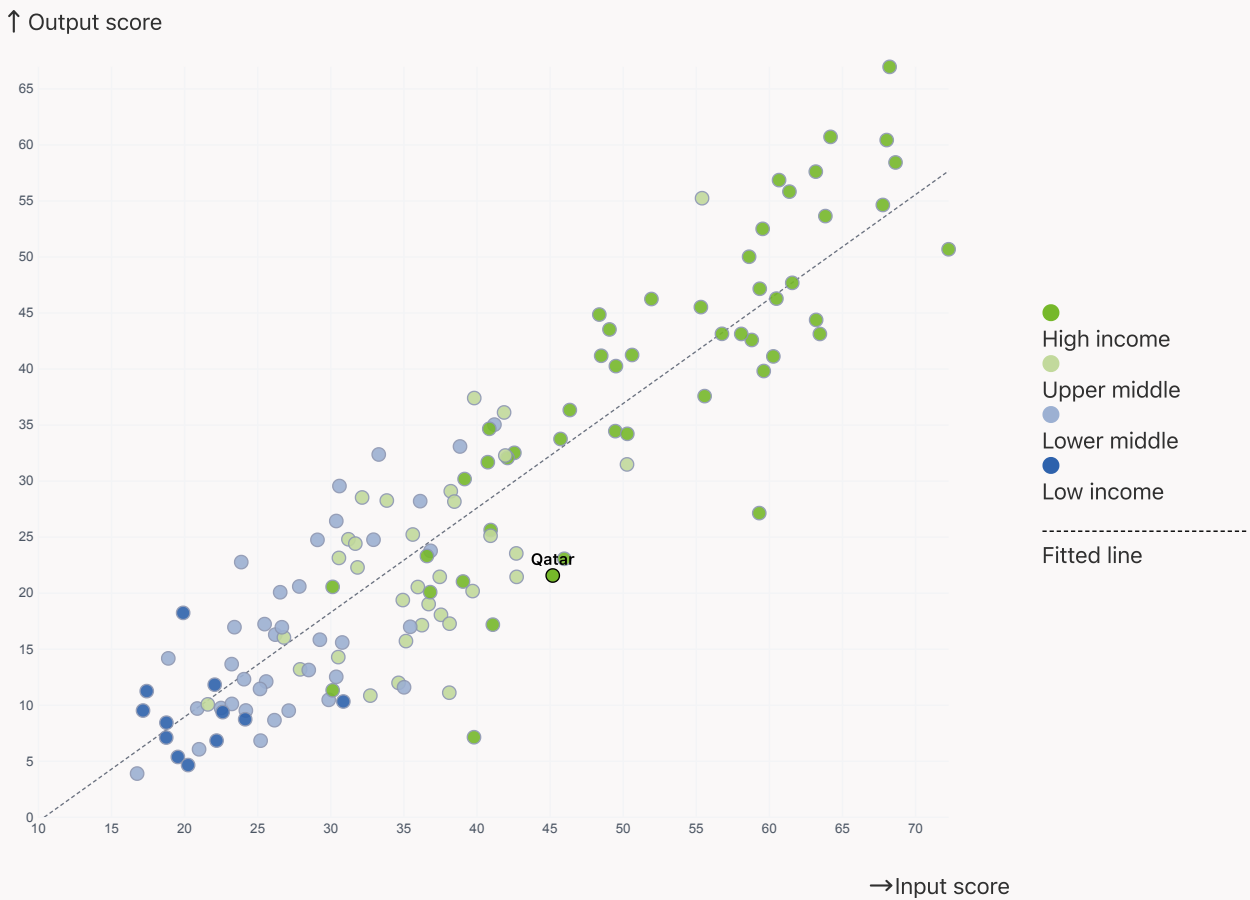
## → Effectively translating innovation investments into innovation outputs

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.

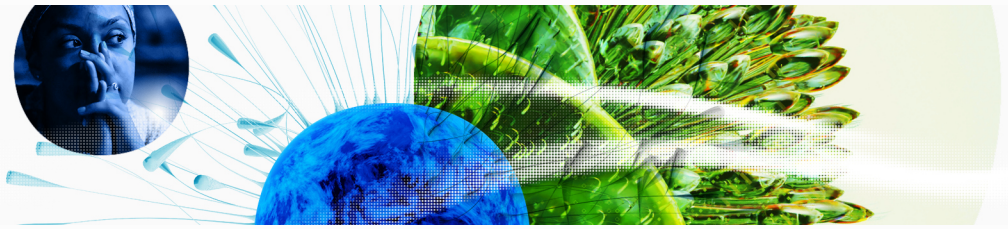


> Qatar produces less innovation outputs relative to its level of innovation investments.

### > Relationship between innovation inputs and outputs

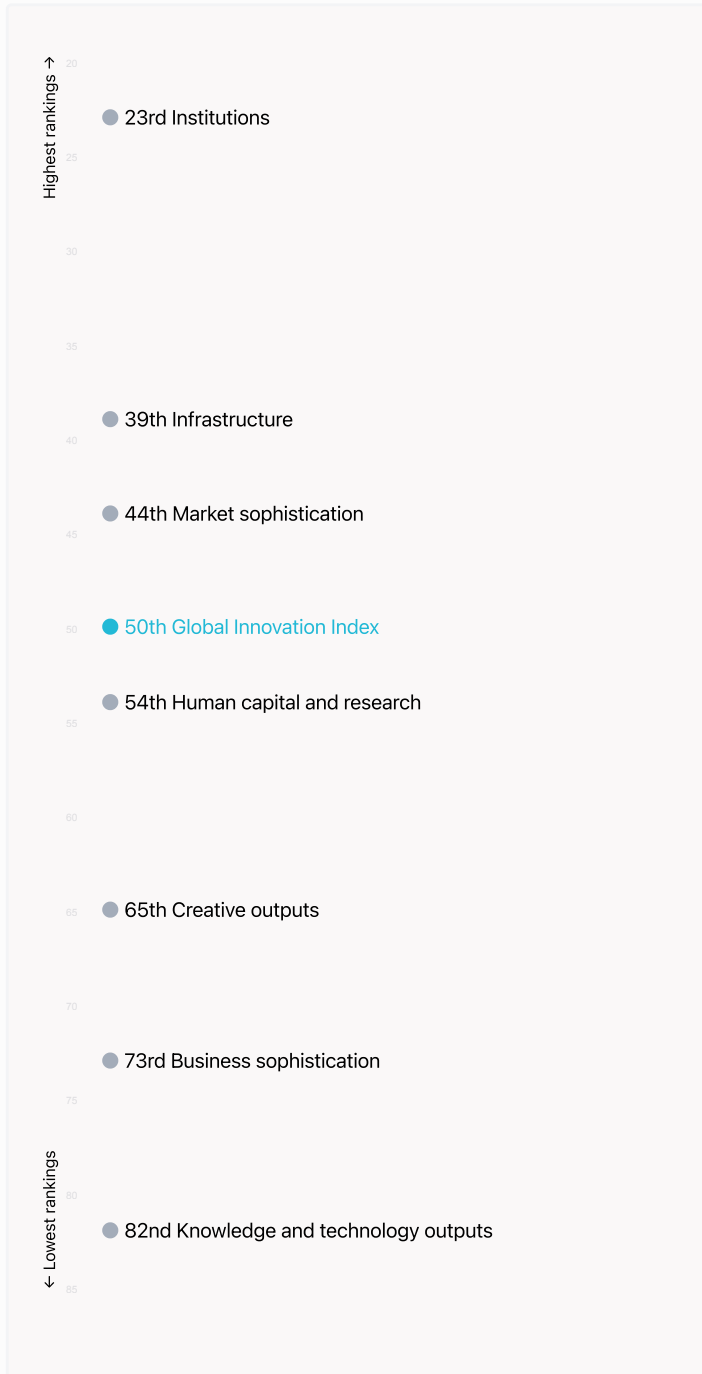


# Global Innovation Index 2023



## → 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 show 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.

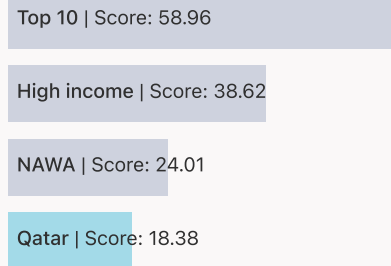


### > Northern Africa And Western Asia

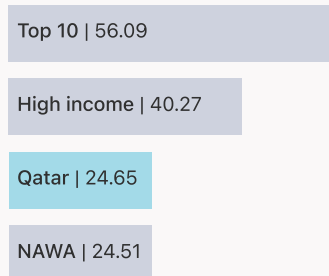
Qatar performs above the regional average in Creative outputs, Market sophistication, Human capital and research, Infrastructure, Institutions.



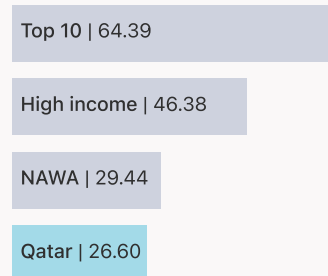
### Knowledge and technology outputs



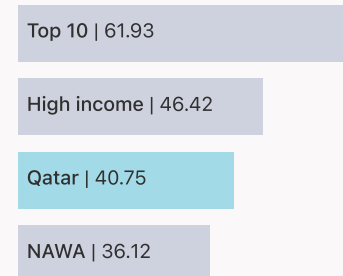
### Creative outputs



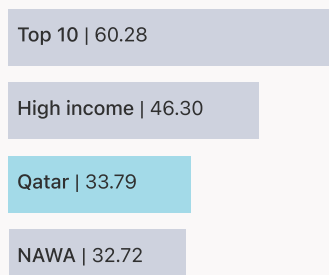
### Business sophistication



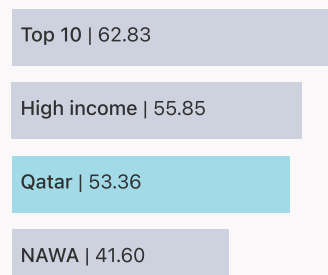
### Market sophistication



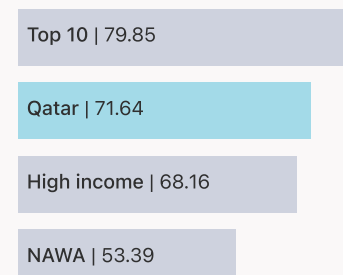
### Human capital and research



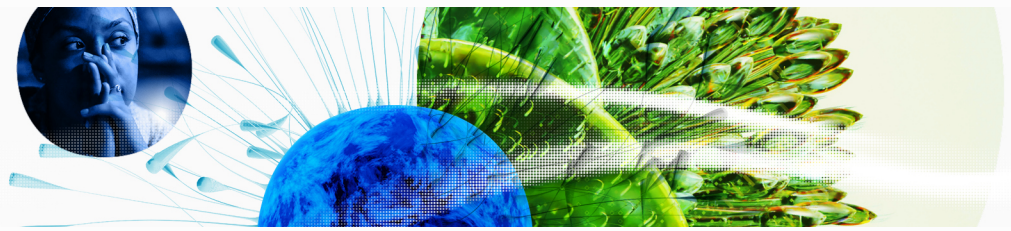
### Infrastructure



### Institutions



# 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.



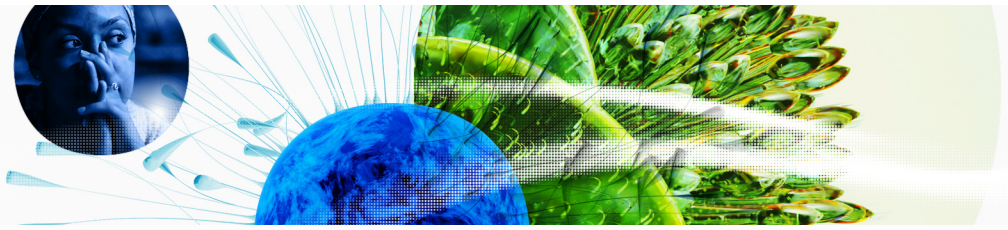
> Qatar's main innovation strengths are **Tertiary inbound mobility, % (rank 1)**, **Electricity output, GWh/mn pop. (rank 5)** and **Entrepreneurship policies and culture (rank 7)**.

### Strengths

### Weaknesses

Rank	Code	Indicator name	Rank	Code	Indicator name
1	2.2.3	Tertiary inbound mobility, %	131	7.2.4	Creative goods exports, % total trade
5	3.2.1	Electricity output, GWh/mn pop.	126	5.3.4	FDI net inflows, % GDP
7	1.3.2	Entrepreneurship policies and culture	119	7.1.2	Trademarks by origin/bn PPP\$ GDP
9	1.3.1	Policies for doing business	100	4.2.4	VC received, value, % GDP
10	5.2.1	University-industry R&D collaboration	99	4.2.3	VC recipients, deals/bn PPP\$ GDP
12	3.1.1	ICT access	90	5.2.3	GERD financed by abroad, % GDP
14	4.1.2	Domestic credit to private sector, % GDP	48	6.2.2	Unicorn valuation, % GDP
16	5.2.2	State of cluster development	40	2.3.3	Global corporate R&D investors, top 3, mn US\$
19	7.1.3	Global brand value, top 5,000			
25	5.3.3	ICT services imports, % total trade			

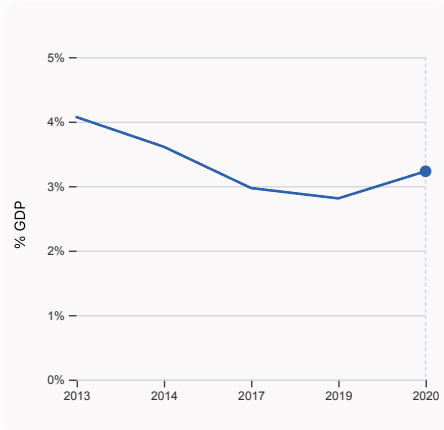
# Global Innovation Index 2023



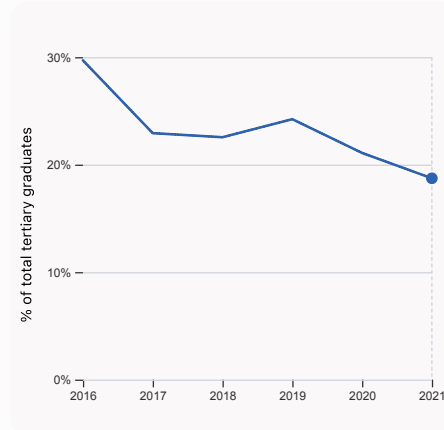
## → Qatar's innovation system

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

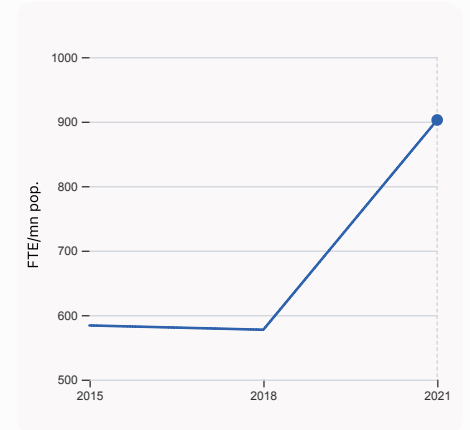
### > Innovation inputs in Qatar



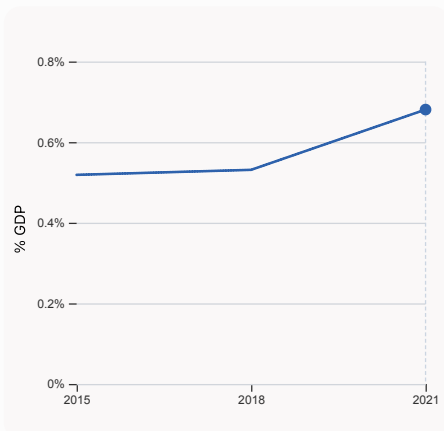
**2.1.1 Expenditure on education, % GDP** was equal to 3.23% GDP in 2020, up by 0.42 percentage points from the year prior – and equivalent to an indicator rank of 99.



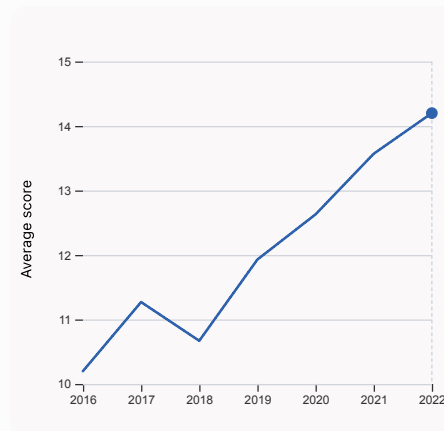
**2.2.2 Graduates in science and engineering, %** was equal to 18.73% of total tertiary graduates in 2021, down by 2.36 percentage points from the year prior – and equivalent to an indicator rank of 83.



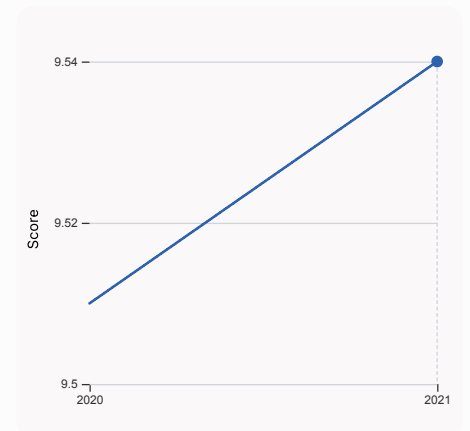
**2.3.1 Researchers, FTE/mn pop.** was equal to 902.58 FTE/mn pop. in 2021, up by 56.33% from the year prior – and equivalent to an indicator rank of 53.



**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.

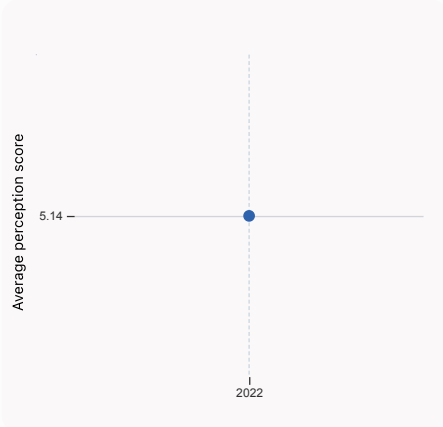
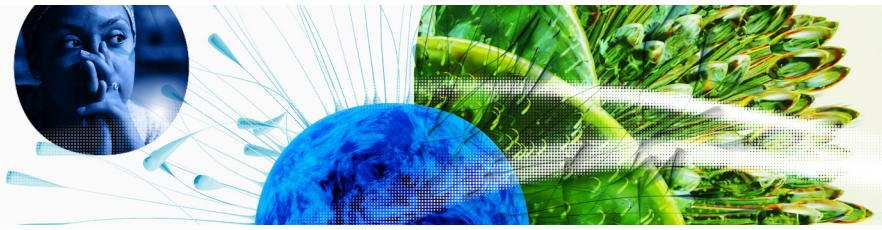


**2.3.4 QS university ranking, top 3** was equal to an average score of 14.2 for the top 3 universities in 2022, up by 4.64% from the year prior – and equivalent to an indicator rank of 60.

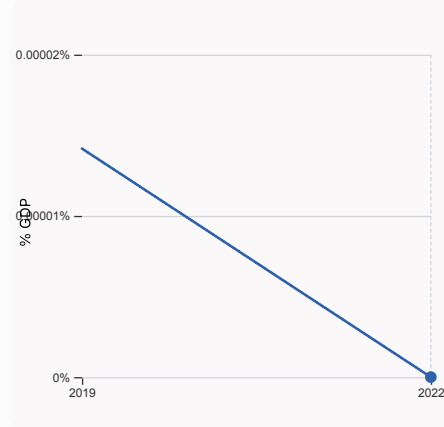


**3.1.1 ICT access** was equal to a score of 9.54 in 2021, up by 0.32% from the year prior – and equivalent to an indicator rank of 12.

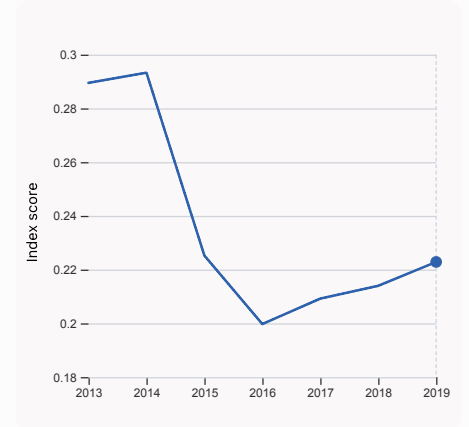
# Global Innovation Index 2023



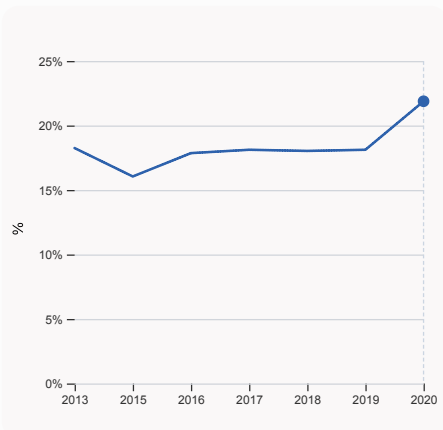
**4.1.1 Finance for startups and scaleups** was equal to an average perception score of 5.14 in 2022, equivalent to an indicator rank of 28.



**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.

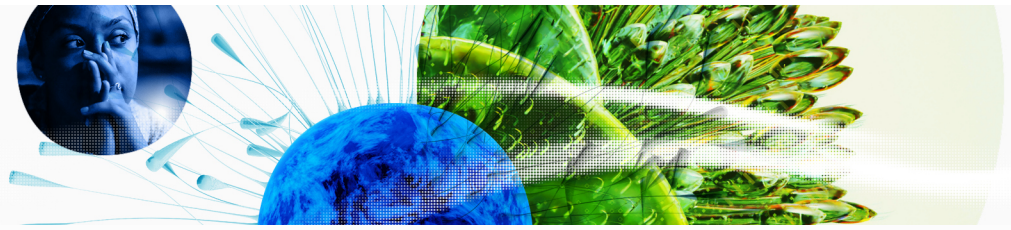


**4.3.2 Domestic industry diversification** was equal to an index score of 0.223 in 2019, up by 4.15% from the year prior – and equivalent to an indicator rank of 76.

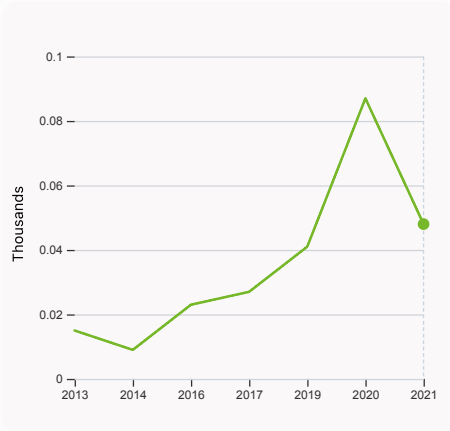


**5.1.1 Knowledge-intensive employment, %** was equal to 21.88% in 2020, up by 3.76 percentage points from the year prior – and equivalent to an indicator rank of 69.

# Global Innovation Index 2023

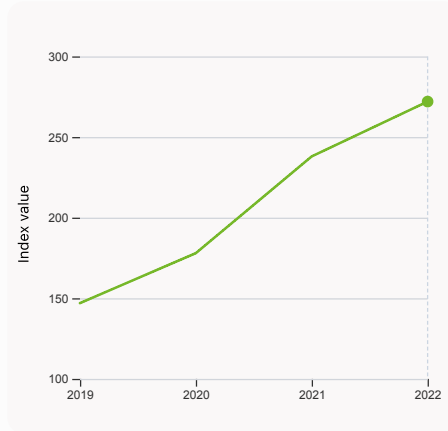


## > Innovation outputs in Qatar



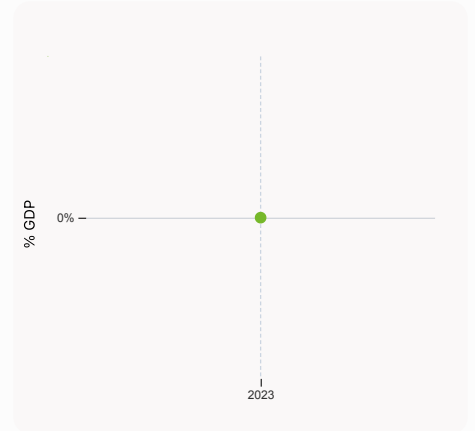
6.1.1 Patents by origin

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



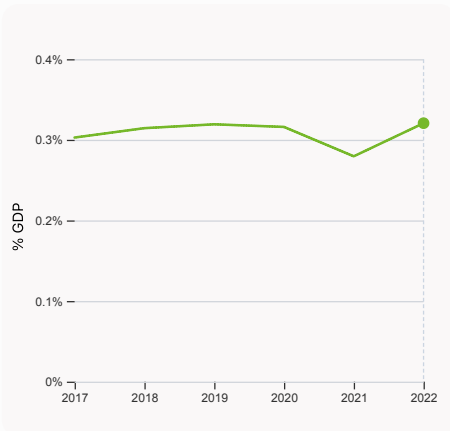
6.1.5 Citable documents H-index

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.



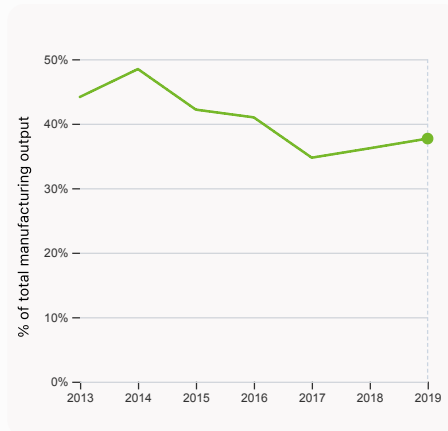
6.2.2 Unicorn valuation, % GDP

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



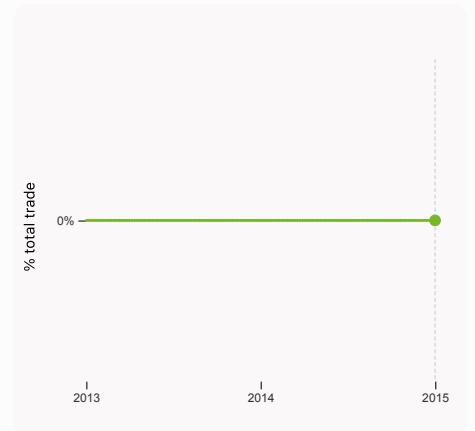
6.2.3 Software spending, % GDP

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, %

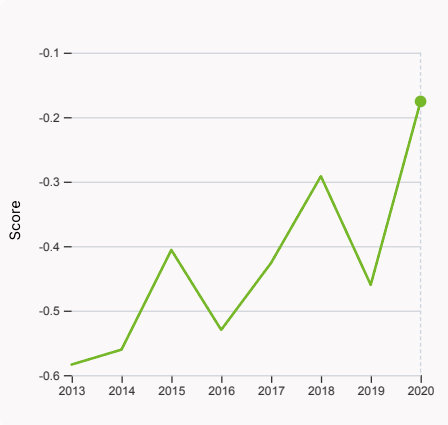
was equal to 37.69% of total manufacturing output in 2019, up by 1.5 percentage points from the year prior – and equivalent to an indicator rank of 30.



6.3.1 Intellectual property receipts, % total trade

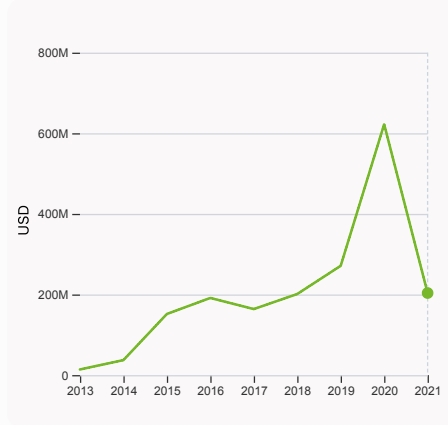
was equal to 0% total trade in 2015 – and equivalent to an indicator rank of 114.

# Global Innovation Index 2023



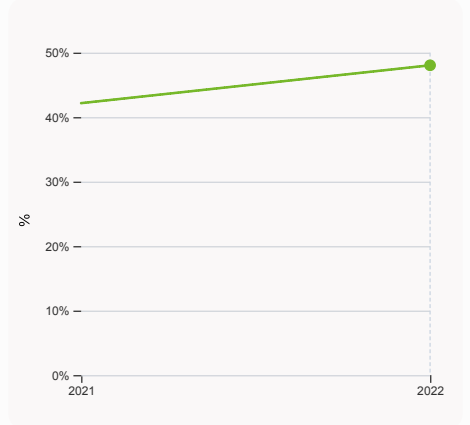
### 6.3.2 Production and export complexity

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.



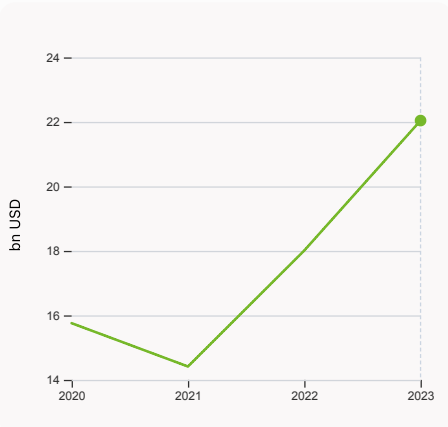
### 6.3.3 High-tech exports

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.



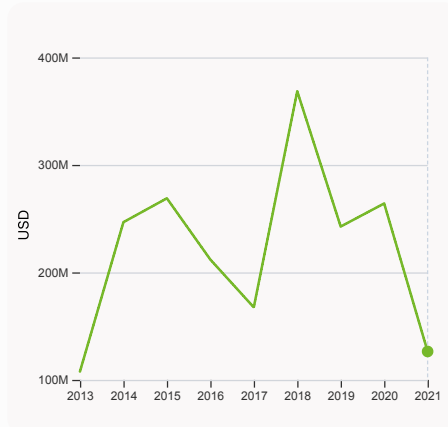
### 7.1.1 Intangible asset intensity, top 15, %

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.



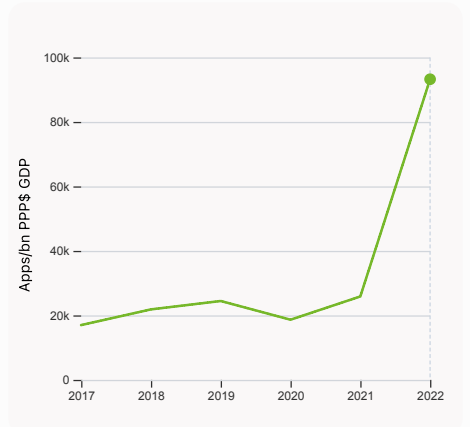
### 7.1.3 Global brand value, top 5,000

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.



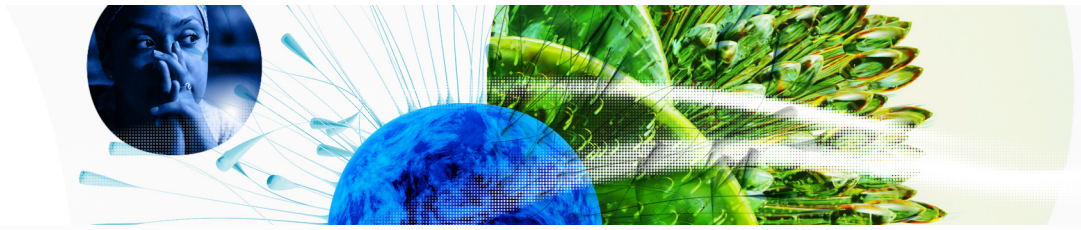
### 7.2.1 Cultural and creative services exports

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.



## → 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.

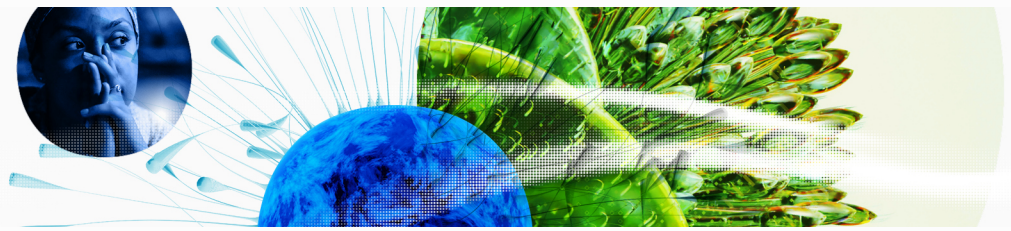
### > 7.1.3 Top 5,000 companies in Qatar with highest global brand value

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



GII 2023 rank

# 50

## Qatar

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

Score / Value Rank

<b>Institutions</b>			71.6	23	◆◆	<b>Business sophistication</b>			26.6	73	◇
<b>1.1 Institutional environment</b>			67.4	31		<b>5.1 Knowledge workers</b>			15.2	112	◇
1.1.1 Operational stability for businesses*			67.4	35		5.1.1 Knowledge-intensive employment, %			21.9	69	◇
1.1.2 Government effectiveness*			67.5	28		5.1.2 Firms offering formal training, %			n/a	n/a	
<b>1.2 Regulatory environment</b>			67.8	50		5.1.3 GERD performed by business, % GDP			0.1	67	◇
1.2.1 Regulatory quality*			64.5	34		5.1.4 GERD financed by business, %			9.3	75	◇
1.2.2 Rule of law*			66.9	30		5.1.5 Females employed w/advanced degrees, %			5.3	93	◇
1.2.3 Cost of redundancy dismissal			23.2	101	◇	<b>5.2 Innovation linkages</b>			35.6	33	
<b>1.3 Business environment</b>			79.7	6	◆◆	5.2.1 University-industry R&D collaboration <sup>+</sup>			82.8	10	◆◆
1.3.1 Policies for doing business <sup>+</sup>			79.4	9	◆◆	5.2.2 State of cluster development <sup>+</sup>			76.8	16	◆◆
1.3.2 Entrepreneurship policies and culture <sup>+</sup>			80.0	7	◆◆	5.2.3 GERD financed by abroad, % GDP			0.0	90	◇
<b>Human capital and research</b>			33.8	54	◇	5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP			0.0	29	
<b>2.1 Education</b>			45.0	82	◇	5.2.5 Patent families/bn PPP\$ GDP			0.0	72	
2.1.1 Expenditure on education, % GDP			3.2	99	◇	<b>5.3 Knowledge absorption</b>			29.1	82	◇
2.1.2 Government funding/pupil, secondary, % GDP/cap			n/a	n/a		5.3.1 Intellectual property payments, % total trade			0.0	118	◇
2.1.3 School life expectancy, years			12.8	85	◇	5.3.2 High-tech imports, % total trade			6.0	102	
2.1.4 PISA scales in reading, maths and science			413.5	60	◇	5.3.3 ICT services imports, % total trade			2.7	25	◆◆
2.1.5 Pupil-teacher ratio, secondary			12.5	57		5.3.4 FDI net inflows, % GDP			-1.3	126	◇
<b>2.2 Tertiary education</b>			47.5	14	◆◆	5.3.5 Research talent, % in businesses			16.1	55	◇
2.2.1 Tertiary enrolment, % gross			25.0	93	◇	<b>Knowledge and technology outputs</b>			18.4	82	◇
2.2.2 Graduates in science and engineering, %			18.7	83		<b>6.1 Knowledge creation</b>			9.4	83	◇
2.2.3 Tertiary inbound mobility, %			37.6	1	◆◆	6.1.1 Patents by origin/bn PPP\$ GDP			0.2	103	◇
<b>2.3 Research and development (R&amp;D)</b>			8.9	64	◇	6.1.2 PCT patents by origin/bn PPP\$ GDP			0.1	61	
2.3.1 Researchers, FTE/mn pop.			902.6	53	◇	6.1.3 Utility models by origin/bn PPP\$ GDP			n/a	n/a	
2.3.2 Gross expenditure on R&D, % GDP			0.7	52		6.1.4 Scientific and technical articles/bn PPP\$ GDP			n/a	n/a	
2.3.3 Global corporate R&D investors, top 3, mn US\$			0.0	40	◇	6.1.5 Citable documents H-index			12.7	65	
2.3.4 QS university ranking, top 3*			14.4	60		<b>6.2 Knowledge impact</b>			31.1	52	
<b>Infrastructure</b>			53.4	39		6.2.1 Labor productivity growth, %			0.3	87	
<b>3.1 Information and communication technologies (ICTs)</b>			67.2	72	◇	6.2.2 Unicorn valuation, % GDP			0.0	48	◇
3.1.1 ICT access*			93.2	12	◆◆	6.2.3 Software spending, % GDP			0.3	37	
3.1.2 ICT use*			82.5	52		6.2.4 High-tech manufacturing, %			37.7	30	◇
3.1.3 Government's online service*			56.8	83	◇	<b>6.3 Knowledge diffusion</b>			14.6	92	◇
3.1.4 E-participation*			36.0	93	◇	6.3.1 Intellectual property receipts, % total trade			0.0	114	◇
<b>3.2 General infrastructure</b>			75.4	1	◆◆	6.3.2 Production and export complexity			48.8	70	◇
3.2.1 Electricity output, GWh/mn pop.			17,098.2	5	◆◆	6.3.3 High-tech exports, % total trade			0.2	103	◇
3.2.2 Logistics performance*			63.6	33		6.3.4 ICT services exports, % total trade			1.1	84	
3.2.3 Gross capital formation, % GDP			n/a	n/a		6.3.5 ISO 9001 quality/bn PPP\$ GDP			3.9	63	
<b>3.3 Ecological sustainability</b>			17.5	94	◇	<b>Creative outputs</b>			24.7	65	◇
3.3.1 GDP/unit of energy use			5.7	111	◇	<b>7.1 Intangible assets</b>			38.3	49	
3.3.2 Environmental performance*			23.9	99	◇	7.1.1 Intangible asset intensity, top 15, %			48.0	50	
3.3.3 ISO 14001 environment/bn PPP\$ GDP			2.4	36		7.1.2 Trademarks by origin/bn PPP\$ GDP			5.6	119	◇
<b>Market sophistication</b>			40.7	44		7.1.3 Global brand value, top 5,000			9.4	19	◆◆
<b>4.1 Credit</b>			57.5	20	◆◆	7.1.4 Industrial designs by origin/bn PPP\$ GDP			n/a	n/a	
4.1.1 Finance for startups and scaleups <sup>+</sup>			62.3	28		<b>7.2 Creative goods and services</b>			4.3	89	◇
4.1.2 Domestic credit to private sector, % GDP			138.9	14	◆◆	7.2.1 Cultural and creative services exports, % total trade			0.2	75	
4.1.3 Loans from microfinance institutions, % GDP			n/a	n/a		7.2.2 National feature films/mn pop. 15-69			n/a	n/a	
<b>4.2 Investment</b>			10.3	55		7.2.3 Entertainment and media market/th pop. 15-69			9.9	34	◇
4.2.1 Market capitalization, % GDP			98.2	16		7.2.4 Creative goods exports, % total trade			0.0	131	◇
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP			0.1	50		<b>7.3 Online creativity</b>			17.8	81	◇
4.2.3 VC recipients, deals/bn PPP\$ GDP			0.0	99	◇	7.3.1 Generic top-level domains (TLDs)/th pop. 15-69			4.2	60	◇
4.2.4 VC received, value, % GDP			0.0	100	◇	7.3.2 Country-code TLDs/th pop. 15-69			2.8	66	◇
<b>4.3 Trade, diversification, and market scale</b>			54.5	77		7.3.3 GitHub commits/mn pop. 15-69			3.4	85	◇
4.3.1 Applied tariff rate, weighted avg., %			3.5	78	◇	7.3.4 Mobile app creation/bn PPP\$ GDP			60.5	80	◇
4.3.2 Domestic industry diversification			80.1	76	◇						
4.3.3 Domestic market scale, bn PPP\$			303.6	60							

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.



## → 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.

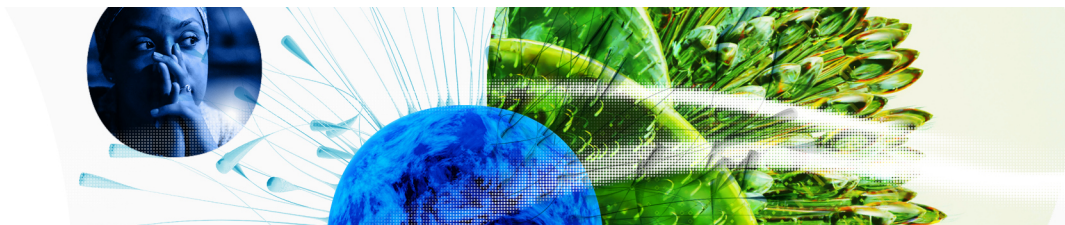
## > Missing data for Qatar

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

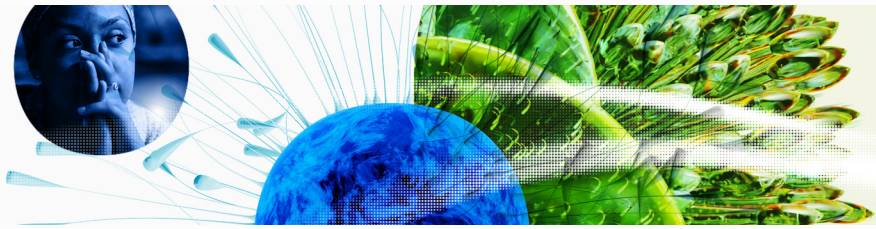
Code	Indicator name	Economy Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2020	2021	UNESCO Institute for Statistics
3.2.1	Electricity output, GWh/mn pop.	2020	2021	International Energy Agency
4.3.2	Domestic industry diversification	2019	2020	United Nations Industrial Development Organization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

# Global Innovation Index 2023



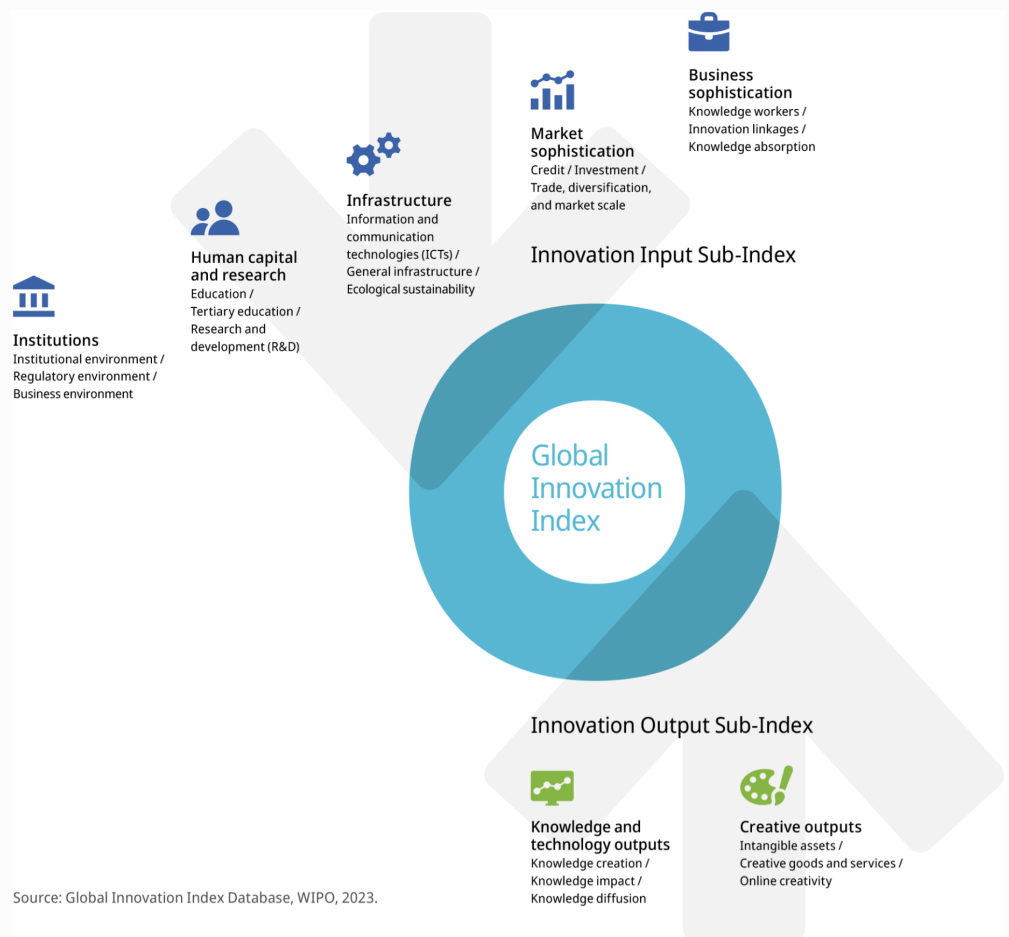
Code	Indicator name	Economy Year	Model Year	Source
5.1.5	Females employed w/advanced degrees, %	2020	2022	International Labour Organization
5.2.3	GERD financed by abroad, % GDP	2018	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.1	Intellectual property payments, % total trade	2015	2021	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.



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.