

# Global Innovation Index 2023

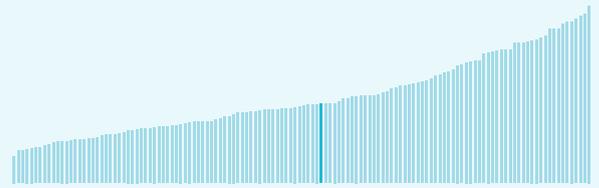


The Global Innovation Index (GII) ranks world economies according to their innovation capabilities.

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

## Iran (Islamic Republic of) ranking in the Global Innovation Index 2023

> Iran (Islamic Republic of) ranks **62nd** among the 132 economies featured in the GII 2023.



> Iran (Islamic Republic of) ranks **6th** among the 37 lower-middle-income economies.



> Iran (Islamic Republic of) ranks **2nd** among the 10 economies in Central and Southern Asia.



### > Iran (Islamic Republic of) GII Ranking (2020-2023)

The table shows the rankings of Iran (Islamic Republic of) 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 Iran (Islamic Republic of) in the GII 2023 is between ranks 57 and 75.

	GII Position	Innovation Inputs	Innovation Outputs
2020	67th	90th	50th
2021	60th	86th	44th
2022	53rd	73rd	38th
2023	62nd	87th	48th

Iran (Islamic Republic of) performs better in innovation outputs than innovation inputs in 2023.

This year Iran (Islamic Republic of) ranks 87th in innovation inputs. This position is lower than last year.

Iran (Islamic Republic of) ranks 48th in innovation outputs. This position is lower than last year.



# Global Innovation Index 2023



## → Effectively translating innovation investments into innovation outputs

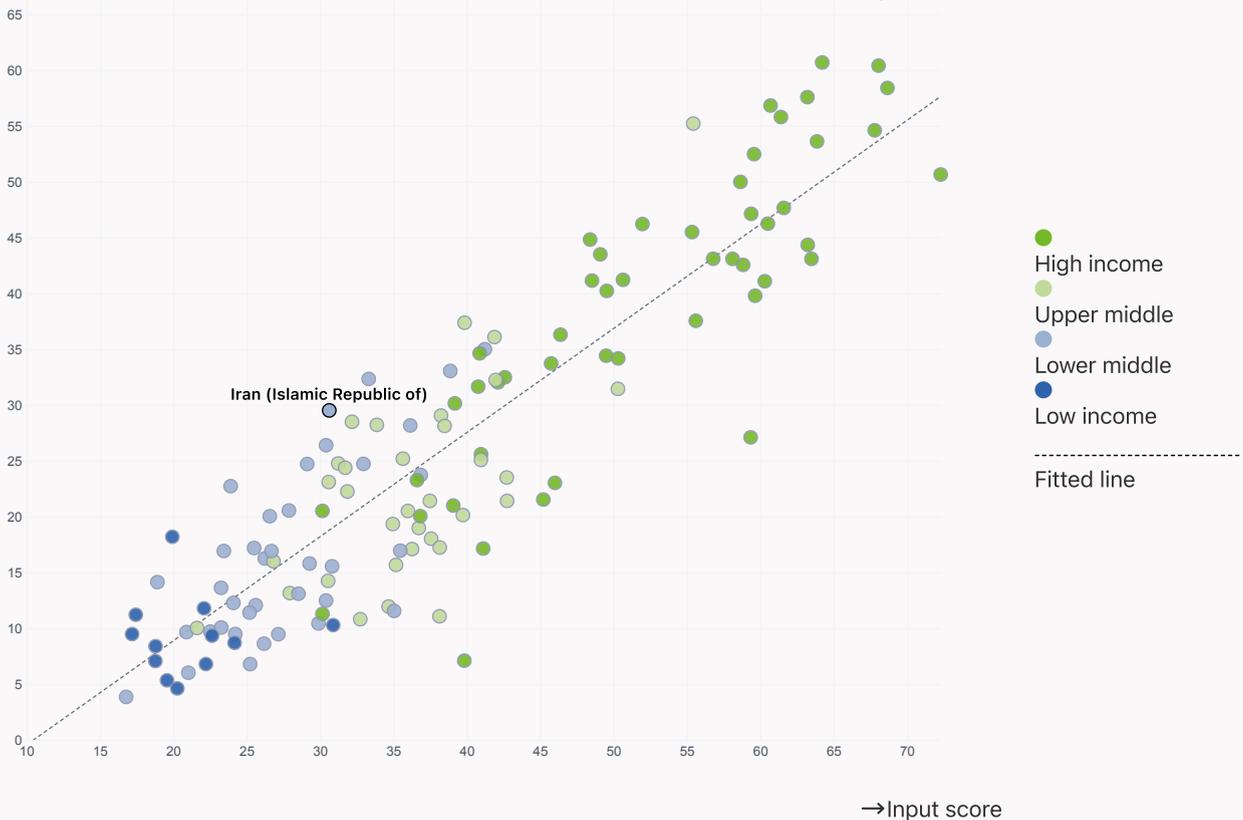
The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.



> Iran (Islamic Republic of) produces more innovation outputs relative to its level of innovation investments.

## > Relationship between innovation inputs and outputs

↑ Output score

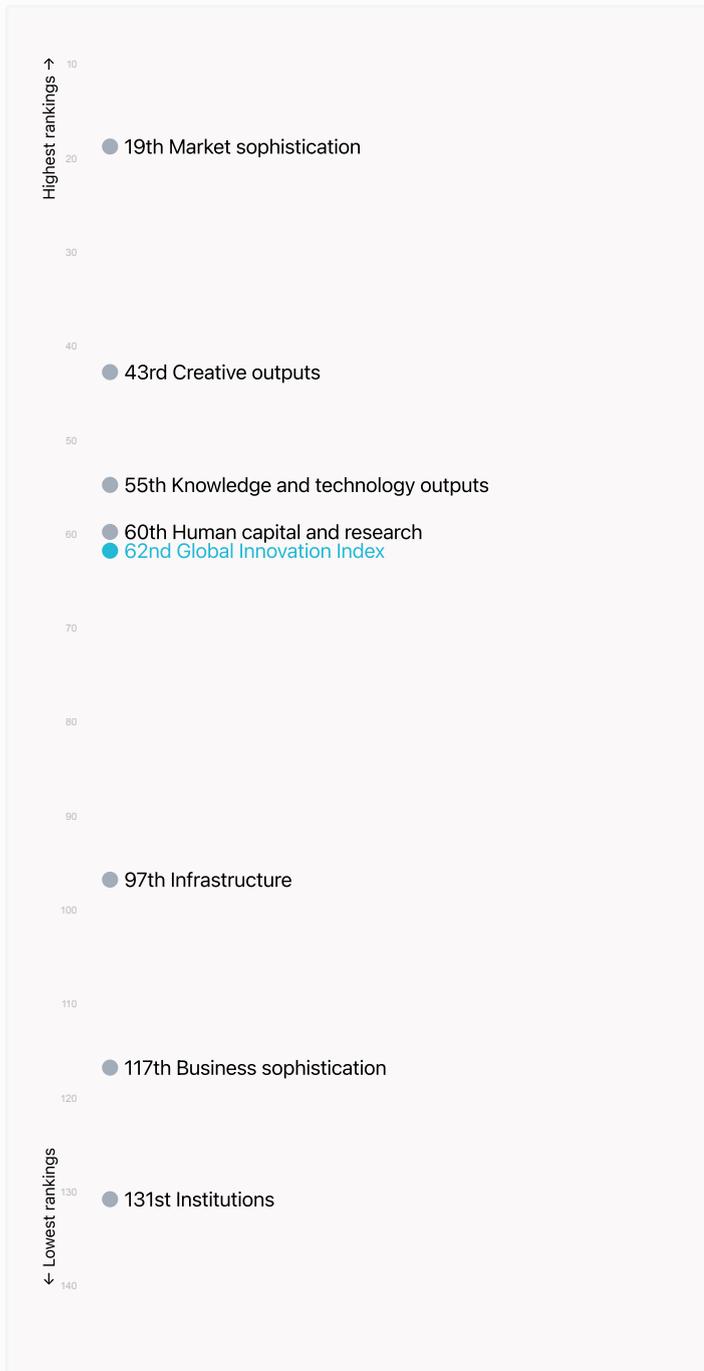


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## → Overview of Iran (Islamic Republic of)'s rankings in the seven areas of the GII in 2023

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



### > Highest rankings

Iran (Islamic Republic of) ranks highest in Market sophistication (19th), Creative outputs (43rd), Knowledge and technology outputs (55th) and Human capital and research (60th).

### > Lowest rankings

Iran (Islamic Republic of) ranks lowest in Institutions (131st), Business sophistication (117th) and Infrastructure (97th).

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

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## → Benchmark of Iran (Islamic Republic of) against other country groupings for each of the seven areas of the GII Index

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

### > Lower-Middle-Income economies

Iran (Islamic Republic of) performs above the lower-middle-income group average in Knowledge and technology outputs, Creative outputs, Market sophistication, Human capital and research, Infrastructure.

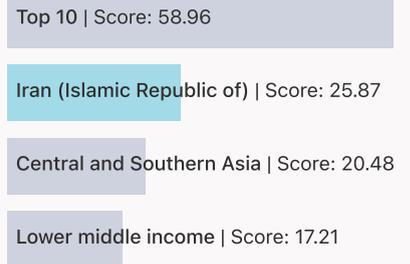


### > Central And Southern Asia

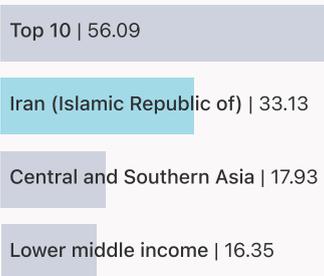
Iran (Islamic Republic of) performs above the regional average in Knowledge and technology outputs, Creative outputs, Market sophistication, Human capital and research.



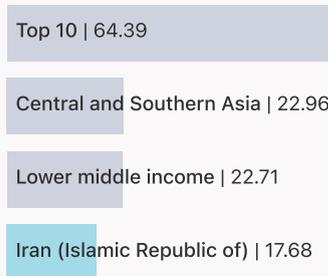
### Knowledge and technology outputs



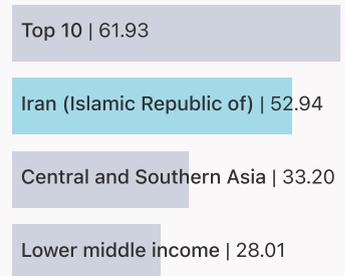
### Creative outputs



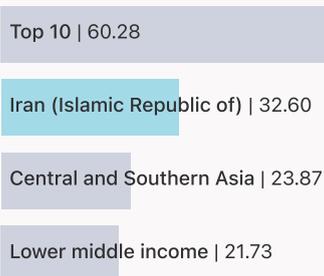
### Business sophistication



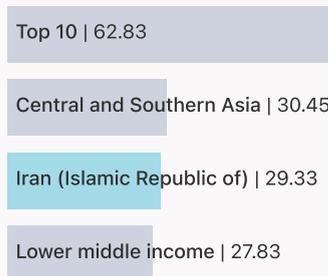
### Market sophistication



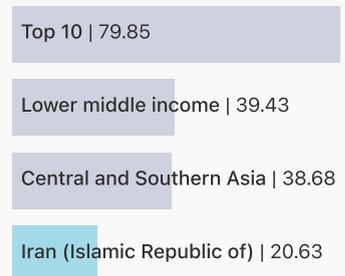
### Human capital and research



### Infrastructure



### Institutions



# Global Innovation Index 2023



## → Innovation strengths and weaknesses in Iran (Islamic Republic of)

The table below gives an overview of the indicator strengths and weaknesses of Iran (Islamic Republic of) in the GII 2023.



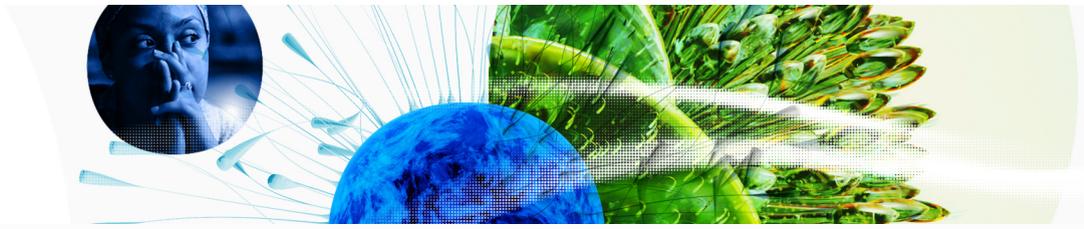
> Iran (Islamic Republic of)'s main innovation strengths are **Trademarks by origin/bn PPP\$ GDP (rank 1)**, **Graduates in science and engineering, % (rank 3)** and **Market capitalization, % GDP (rank 5)**.

### Strengths

### Weaknesses

Rank	Code	Indicator name	Rank	Code	Indicator name
1	7.1.2	Trademarks by origin/bn PPP\$ GDP	132	1.2.1	Regulatory quality
3	2.2.2	Graduates in science and engineering, %	127	3.1.4	E-participation
5	4.2.1	Market capitalization, % GDP	126	5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP
9	3.2.3	Gross capital formation, % GDP	126	1.1.1	Operational stability for businesses
11	7.1.4	Industrial designs by origin/bn PPP\$ GDP	124	5.2.1	University-industry R&D collaboration
13	6.1.1	Patents by origin/bn PPP\$ GDP	124	1.3.1	Policies for doing business
16	6.2.3	Software spending, % GDP	106	3.2.2	Logistics performance
20	4.3.3	Domestic market scale, bn PPP\$	83	1.3.2	Entrepreneurship policies and culture
27	6.1.4	Scientific and technical articles/bn PPP\$ GDP	48	6.2.2	Unicorn valuation, % GDP
40	6.1.5	Citable documents H-index	40	2.3.3	Global corporate R&D investors, top 3, mn US\$

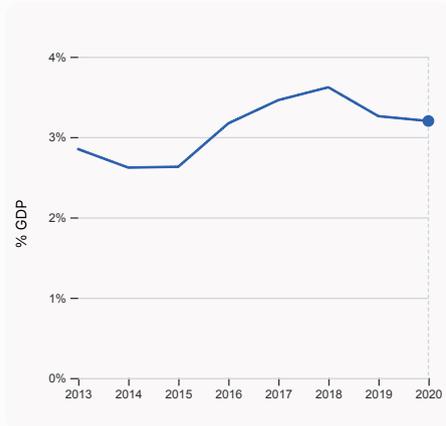
# Global Innovation Index 2023



## → Iran (Islamic Republic of)'s innovation system

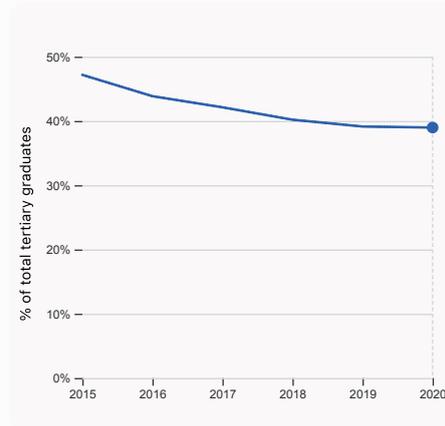
As far as practicable, the plots below present unscaled indicator data.

### > Innovation inputs in Iran (Islamic Republic of)



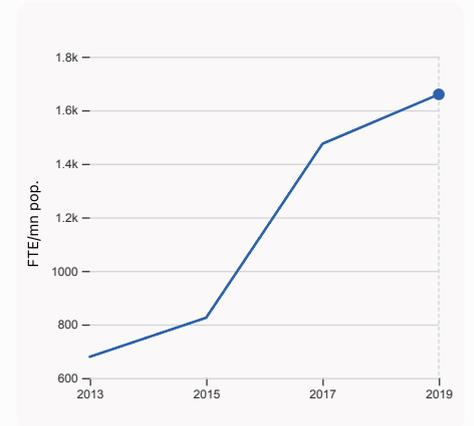
#### 2.1.1 Expenditure on education, % GDP

was equal to 3.2% GDP in 2020, down by 0.06 percentage points from the year prior – and equivalent to an indicator rank of 100.



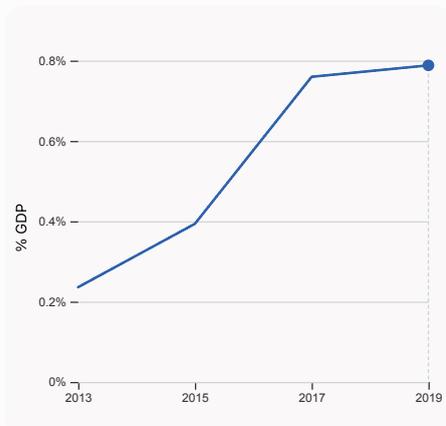
#### 2.2.2 Graduates in science and engineering, %

was equal to 38.98% of total tertiary graduates in 2020, down by 0.16 percentage points from the year prior – and equivalent to an indicator rank of 3.



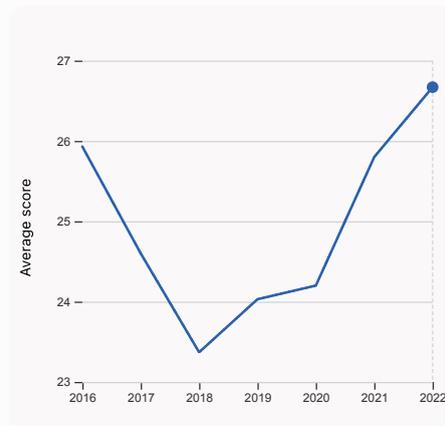
#### 2.3.1 Researchers, FTE/mn pop.

was equal to 1,659.46 FTE/mn pop. in 2019, up by 12.51% from the year prior – and equivalent to an indicator rank of 45.



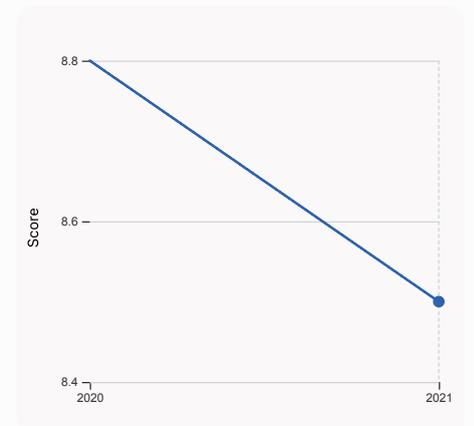
#### 2.3.2 Gross expenditure on R&D, % GDP

was equal to 0.788% GDP in 2019, up by 0.028 percentage points from the year prior – and equivalent to an indicator rank of 46.



#### 2.3.4 QS university ranking, top 3

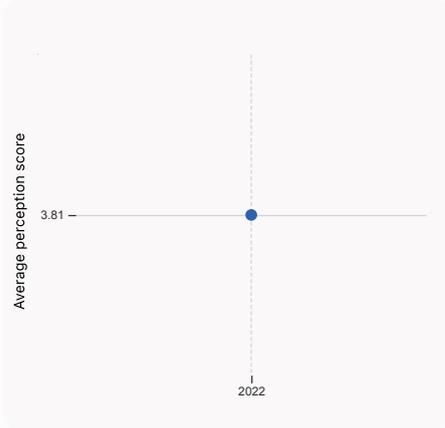
was equal to an average score of 26.67 for the top 3 universities in 2022, up by 3.37% from the year prior – and equivalent to an indicator rank of 44.



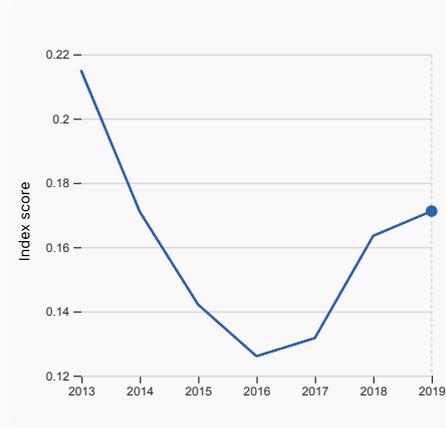
#### 3.1.1 ICT access

was equal to a score of 8.5 in 2021, down by 3.41% from the year prior – and equivalent to an indicator rank of 80.

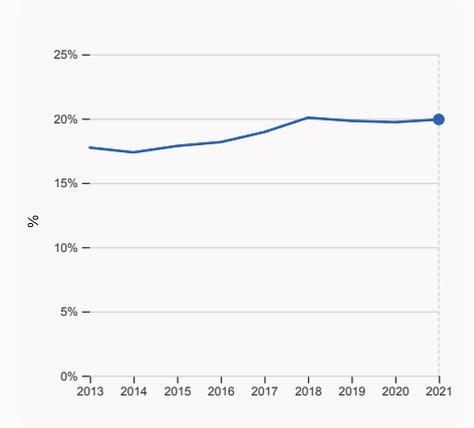
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**4.1.1 Finance for startups and scaleups** was equal to an average perception score of 3.81 in 2022, equivalent to an indicator rank of 61.



**4.3.2 Domestic industry diversification** was equal to an index score of 0.171 in 2019, up by 4.7% from the year prior – and equivalent to an indicator rank of 59.

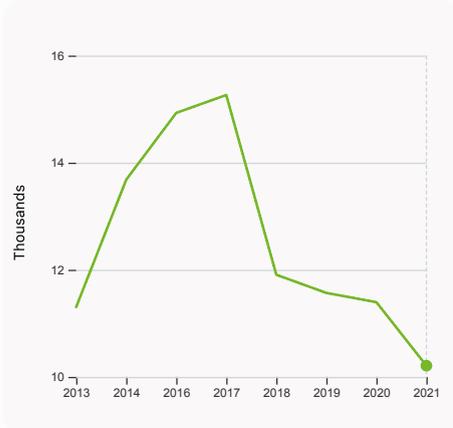


**5.1.1 Knowledge-intensive employment, %** was equal to 19.93% in 2021, up by 0.21 percentage points from the year prior – and equivalent to an indicator rank of 76.

# Global Innovation Index 2023

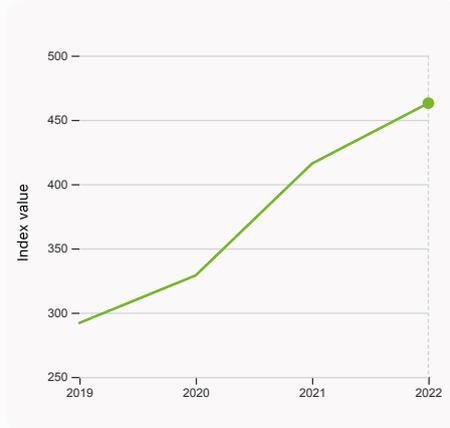


## > Innovation outputs in Iran (Islamic Republic of)



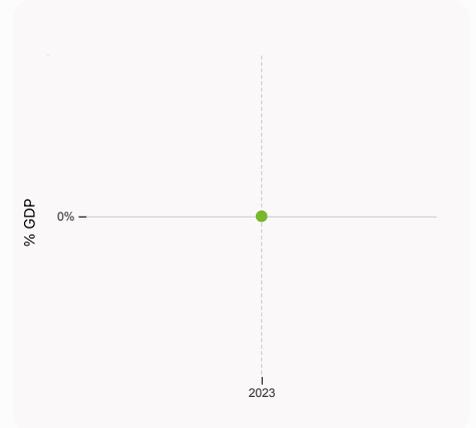
**6.1.1 Patents by origin**

was equal to 10.21 Thousands in 2021, down by 10.41% from the year prior – and equivalent to an indicator rank of 13.



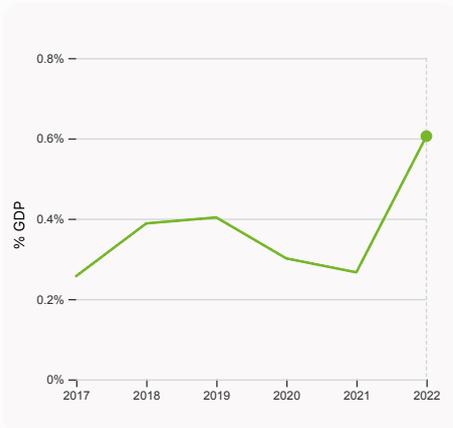
**6.1.5 Citable documents H-index**

was equal to an index value of 463 in 2022, up by 11.3% from the year prior – and equivalent to an indicator rank of 40.



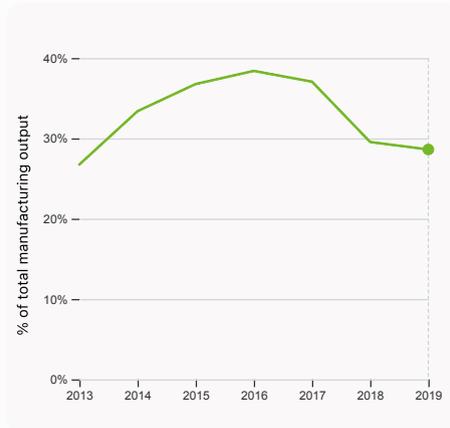
**6.2.2 Unicorn valuation, % GDP**

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



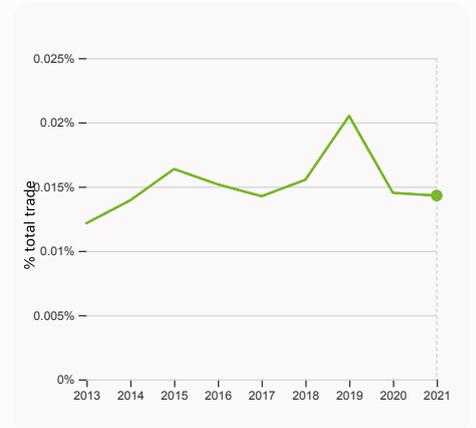
**6.2.3 Software spending, % GDP**

was equal to 0.606% GDP in 2022, up by 0.34 percentage points from the year prior – and equivalent to an indicator rank of 16.



**6.2.4 High-tech manufacturing, %**

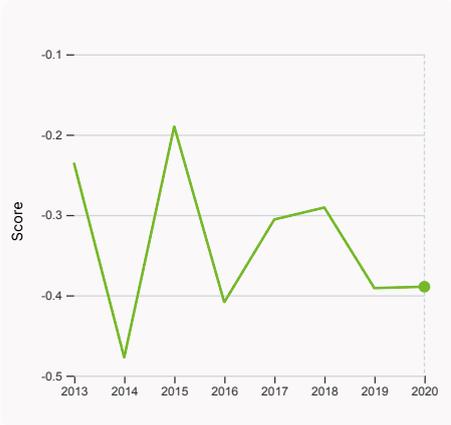
was equal to 28.62% of total manufacturing output in 2019, down by 0.93 percentage points from the year prior – and equivalent to an indicator rank of 44.



**6.3.1 Intellectual property receipts, % total trade**

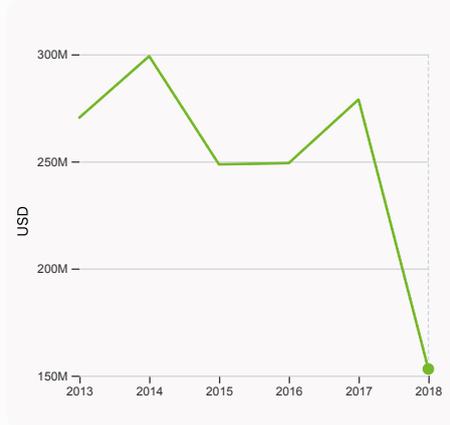
was equal to 0.014% total trade in 2021, down by 0.00021 percentage points from the year prior – and equivalent to an indicator rank of 88.

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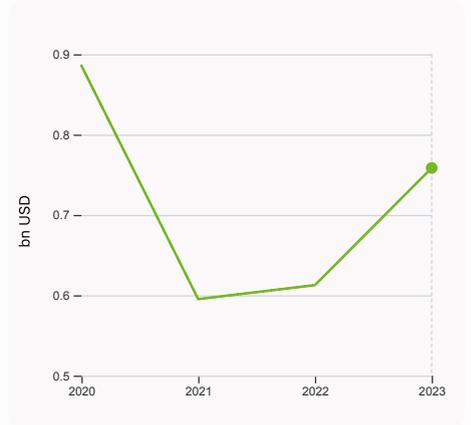
### 6.3.2 Production and export complexity

was equal to a score of -0.389 in 2020, up by 0.44% from the year prior – and equivalent to an indicator rank of 84.



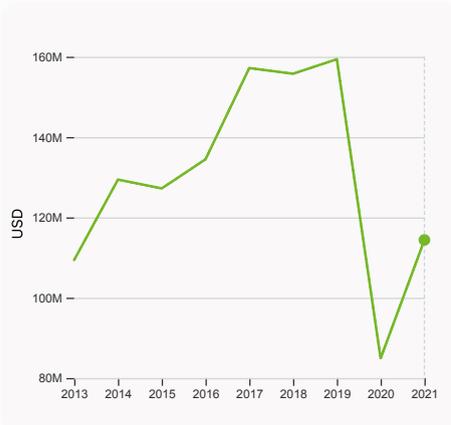
### 6.3.3 High-tech exports

was equal to 153,101,895 USD in 2018, down by 45.11% from the year prior – and equivalent to an indicator rank of 109.



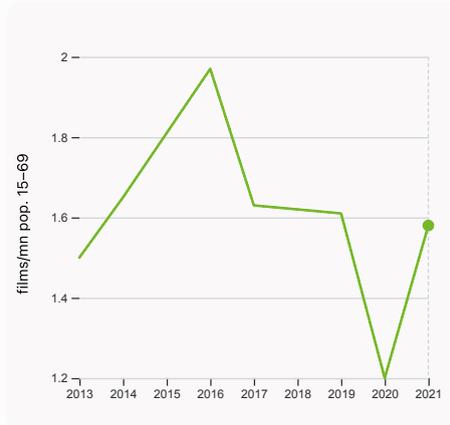
### 7.1.3 Global brand value, top 5,000

was equal to 0.759 bn USD in 2023, up by 23.81% from the year prior – and equivalent to an indicator rank of 73.



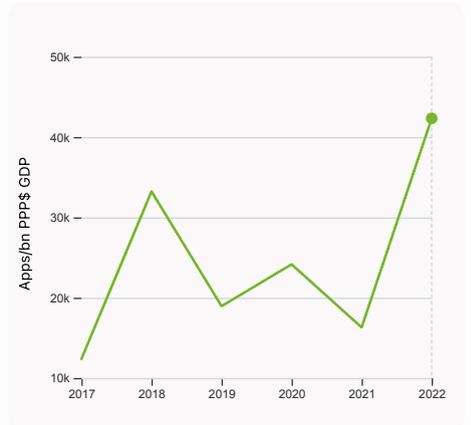
### 7.2.1 Cultural and creative services exports

was equal to 114,393,000 USD in 2021, up by 34.74% from the year prior – and equivalent to an indicator rank of 74.



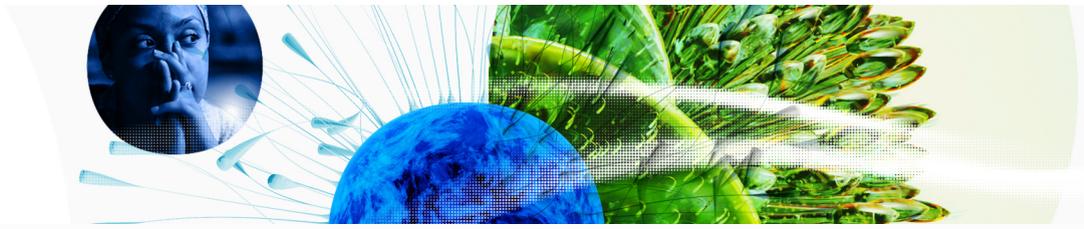
### 7.2.2 National feature films/mn pop. 15-69

was equal to 1.58 films/mn pop. 15-69 in 2021, up by 31.67% from the year prior – and equivalent to an indicator rank of 52.



### 7.3.4 Mobile app creation/bn PPP\$ GDP

was equal to 42,338.44 Apps/bn PPP\$ GDP in 2022, up by 159.65% from the year prior – and equivalent to an indicator rank of 91.



## → Iran (Islamic Republic of)'s innovation top performers

### > 2.3.4 QS university ranking of Iran (Islamic Republic of)'s top universities

Rank	University	Score
380	SHARIF UNIVERSITY OF TECHNOLOGY	29.60
443	AMIRKABIR UNIVERSITY OF TECHNOLOGY	26.30
501-510	UNIVERSITY OF TEHRAN	24.10

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".

### > 7.1.3 Top 5,000 companies in Iran (Islamic Republic of) with highest global brand value

Rank	Brand	Industry	Brand Value, mn USD
1	BANK PASARGAD	Banking	758.6

Source: Brand Finance (<https://brandirectory.com>).

Note: Rank corresponds to within economy ranks.

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GII 2023 rank

62

## Iran (Islamic Republic of)

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
48	87	Lower middle	CSA	88.6	1,599.3	18,663.2

Score / Value Rank

Score / Value Rank

Institutions		20.6	131	Business sophistication		17.7	117
<b>1.1 Institutional environment</b>		15.2	127	<b>5.1 Knowledge workers</b>		18.8	[102]
1.1.1	Operational stability for businesses*	17.4	126	5.1.1	Knowledge-intensive employment, %	19.9	76
1.1.2	Government effectiveness*	13.1	121	5.1.2	Firms offering formal training, %	n/a	n/a
<b>1.2 Regulatory environment</b>		38.0	121	5.1.3	GERD performed by business, % GDP	0.2	53
1.2.1	Regulatory quality*	0.0	132	5.1.4	GERD financed by business, %	n/a	n/a
1.2.2	Rule of law*	12.0	118	5.1.5	Females employed w/advanced degrees, %	7.6	85
1.2.3	Cost of redundancy dismissal	23.1	100	<b>5.2 Innovation linkages</b>		11.4	113
<b>1.3 Business environment</b>		8.7	128	5.2.1	University-industry R&D collaboration†	12.2	124
1.3.1	Policies for doing business†	13.7	124	5.2.2	State of cluster development†	33.1	87
1.3.2	Entrepreneurship policies and culture†	3.6	83	5.2.3	GERD financed by abroad, % GDP	n/a	n/a
<b>Human capital and research</b>		32.6	60	5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	0.0	126
<b>2.1 Education</b>		41.5	96	5.2.5	Patent families/bn PPP\$ GDP	0.0	85
2.1.1	Expenditure on education, % GDP	3.2	100	<b>5.3 Knowledge absorption</b>		22.9	116
2.1.2	Government funding/pupil, secondary, % GDP/cap	16.0	72	5.3.1	Intellectual property payments, % total trade	0.2	89
2.1.3	School life expectancy, years	14.6	64	5.3.2	High-tech imports, % total trade	5.1	114
2.1.4	PISA scales in reading, maths and science	n/a	n/a	5.3.3	ICT services imports, % total trade	0.7	96
2.1.5	Pupil-teacher ratio, secondary	19.0	96	5.3.4	FDI net inflows, % GDP	0.5	112
<b>2.2 Tertiary education</b>		41.8	31	5.3.5	Research talent, % in businesses	19.2	54
2.2.1	Tertiary enrolment, % gross	58.2	55	<b>Knowledge and technology outputs</b>		25.9	55
2.2.2	Graduates in science and engineering, %	39.0	3	<b>6.1 Knowledge creation</b>		32.0	29
2.2.3	Tertiary inbound mobility, %	0.8	96	6.1.1	Patents by origin/bn PPP\$ GDP	7.0	13
<b>2.3 Research and development (R&amp;D)</b>		14.5	49	6.1.2	PCT patents by origin/bn PPP\$ GDP	0.2	41
2.3.1	Researchers, FTE/mn pop.	1,659.5	45	6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP	0.8	46	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	23.4	40
2.3.4	QS university ranking, top 3*	27.0	44	<b>6.2 Knowledge impact</b>		35.2	40
<b>Infrastructure</b>		29.3	97	6.2.1	Labor productivity growth, %	0.4	82
<b>3.1 Information and communication technologies (ICTs)</b>		51.2	97	6.2.2	Unicorn valuation, % GDP	0.0	48
3.1.1	ICT access*	77.5	80	6.2.3	Software spending, % GDP	0.6	16
3.1.2	ICT use*	75.3	61	6.2.4	High-tech manufacturing, %	28.6	44
3.1.3	Government's online service*	35.9	115	<b>6.3 Knowledge diffusion</b>		10.5	107
3.1.4	E-participation*	16.3	127	6.3.1	Intellectual property receipts, % total trade	0.0	88
<b>3.2 General infrastructure</b>		25.0	74	6.3.2	Production and export complexity	44.4	84
3.2.1	Electricity output, GWh/mn pop.	3,867.6	58	6.3.3	High-tech exports, % total trade	0.2	109
3.2.2	Logistics performance*	9.1	106	6.3.4	ICT services exports, % total trade	0.2	122
3.2.3	Gross capital formation, % GDP	40.1	9	6.3.5	ISO 9001 quality/bn PPP\$ GDP	1.0	108
<b>3.3 Ecological sustainability</b>		11.8	120	<b>Creative outputs</b>		33.1	43
3.3.1	GDP/unit of energy use	4.7	118	<b>7.1 Intangible assets</b>		55.7	13
3.3.2	Environmental performance*	26.4	95	7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
3.3.3	ISO 14001 environment/bn PPP\$ GDP	0.2	108	7.1.2	Trademarks by origin/bn PPP\$ GDP	349.8	1
<b>Market sophistication</b>		52.9	19	7.1.3	Global brand value, top 5,000	0.0	73
<b>4.1 Credit</b>		27.7	70	7.1.4	Industrial designs by origin/bn PPP\$ GDP	9.6	11
4.1.1	Finance for startups and scaleups†	33.8	61	<b>7.2 Creative goods and services</b>		4.3	90
4.1.2	Domestic credit to private sector, % GDP	60.3	59	7.2.1	Cultural and creative services exports, % total trade	0.2	74
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	7.2.2	National feature films/mn pop. 15-69	1.6	52
<b>4.2 Investment</b>		83.3	[3]	7.2.3	Entertainment and media market/th pop. 15-69	2.8	51
4.2.1	Market capitalization, % GDP	221.5	5	7.2.4	Creative goods exports, % total trade	0.1	96
4.2.2	Venture capital (VC) investors, deals/bn PPP\$ GDP	n/a	n/a	<b>7.3 Online creativity</b>		16.8	86
4.2.3	VC recipients, deals/bn PPP\$ GDP	n/a	n/a	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	2.0	85
4.2.4	VC received, value, % GDP	n/a	n/a	7.3.2	Country-code TLDs/th pop. 15-69	6.9	47
<b>4.3 Trade, diversification, and market scale</b>		47.8	90	7.3.3	GitHub commits/mn pop. 15-69	1.6	105
4.3.1	Applied tariff rate, weighted avg., %	12.1	126	7.3.4	Mobile app creation/bn PPP\$ GDP	56.6	91
4.3.2	Domestic industry diversification	87.3	59				
4.3.3	Domestic market scale, bn PPP\$	1,599.3	20				

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 Iran (Islamic Republic of).



> Iran (Islamic Republic of) has missing data for ten indicators and outdated data for eighteen indicators.

## > Missing data for Iran (Islamic Republic of)

Code	Indicator name	Economy Year	Model Year	Source
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
4.1.3	Loans from microfinance institutions, % GDP	n/a	2021	International Monetary Fund, Financial Access Survey (FAS)
4.2.2	Venture capital (VC) investors, deals/bn PPP\$ GDP	n/a	2022	Refinitiv; International Monetary Fund
4.2.3	VC recipients, deals/bn PPP\$ GDP	n/a	2022	Refinitiv; International Monetary Fund
4.2.4	VC received, value, % GDP	n/a	2022	Refinitiv; International Monetary Fund
5.1.2	Firms offering formal training, %	n/a	2019	World Bank Enterprise Surveys
5.1.4	GERD financed by business, %	n/a	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.2.3	GERD financed by abroad, % GDP	n/a	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2021	World Intellectual Property Organization; International Monetary Fund
7.1.1	Intangible asset intensity, top 15, %	n/a	2022	Brand Finance

## > Outdated data for Iran (Islamic Republic of)

Code	Indicator name	Economy Year	Model Year	Source
1.3.1	Policies for doing business	2021	2022	World Economic Forum, Executive Opinion Survey (EOS)
2.1.1	Expenditure on education, % GDP	2020	2021	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2017	2020	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2019	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT

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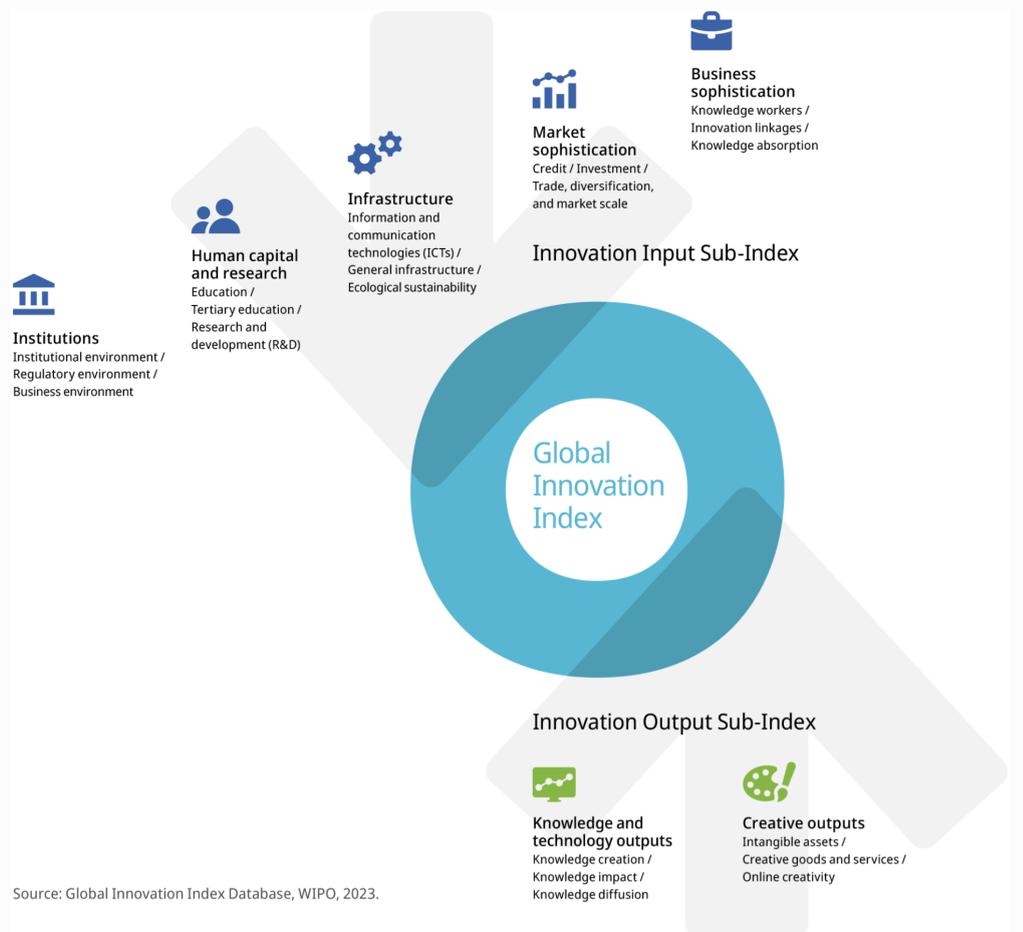
Code	Indicator name	Economy Year	Model Year	Source
2.3.2	Gross expenditure on R&D, % GDP	2019	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.1	Electricity output, GWh/mn pop.	2020	2021	International Energy Agency
4.1.2	Domestic credit to private sector, % GDP	2016	2020	International Monetary Fund; World Bank and OECD GDP estimates.
4.3.2	Domestic industry diversification	2019	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	2017	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	Females employed w/advanced degrees, %	2021	2022	International Labour Organization
5.2.1	University-industry R&D collaboration	2021	2022	World Economic Forum, Executive Opinion Survey (EOS)
5.2.2	State of cluster development	2021	2022	World Economic Forum, Executive Opinion Survey (EOS)
5.3.2	High-tech imports, % total trade	2018	2021	United Nations Comtrade Database; World Trade Organization and United Nations Conference on Trade and Development
5.3.5	Research talent, % in businesses	2017	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.2.4	High-tech manufacturing, %	2019	2020	United Nations Industrial Development Organization
6.3.3	High-tech exports, % total trade	2018	2021	United Nations Comtrade Database; World Trade Organization and United Nations Conference on Trade and Development; Trade Data Monitor.
7.2.4	Creative goods exports, % total trade	2018	2021	United Nations Comtrade Database; 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.