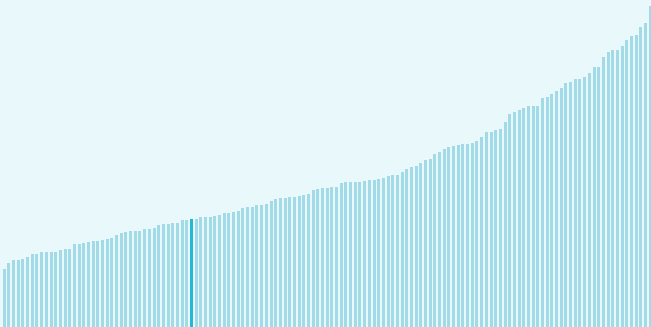




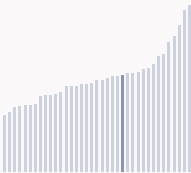
## Pakistan ranking in the Global Innovation Index 2025

Pakistan ranks **99th** among the 139 economies featured in the GII 2025.

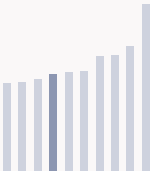
The Global Innovation Index (GII) ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GII aims to capture the multi-dimensional facets of innovation.



Pakistan ranks **14th** among the 37 Lower middle-income group economies.



Pakistan ranks **7th** among the 10 economies in Central and Southern Asia.



### > Pakistan GII Ranking (2020-2025)

The table shows the rankings of Pakistan over the past six 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 Pakistan in the GII 2025 is between ranks 87 and 102.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	107th	118th	88th
2021	99th	117th	77th
2022	87th	111st	69th
2023	88th	113rd	68th
2024	91st	116th	70th
2025	99th	124th	75th

Pakistan performs better in innovation outputs than innovation inputs in 2025.

This year Pakistan ranks **124th** in innovation inputs. This position is lower than last year.

Pakistan ranks **75th** in innovation outputs. This position is lower than last year.

Pakistan has no clusters in the world's top innovation clusters of the Global Innovation Index.

# Global Innovation Index 2025



## > Global Innovation Tracker

The Global Innovation Tracker 2025 shows what is the current state of innovation in Pakistan, how rapidly is technology being embraced and what are the resulting societal impacts.



For Pakistan, 5 indicators have improved in the short-term and 3 indicators have worsened.

### Science and innovation investment

	Scientific publications	R&D investments	Venture capital deal numbers	International patent filings
Short term	▼ -2.3 % 2023 - 2024	▲ 2.2 % 2021 - 2023	▼ -47.1 % 2023 - 2024	n/a
Long term (annual growth)	▲ 12.5 % 2014 - 2024	▼ -1 % 2013 - 2023	▼ -9.9 % 2020 - 2024	n/a

### Technology adoption

	Safe sanitation	Connectivity		Robots	Electric vehicles
		Fixed broadband	5G		
Short term	n/a	▲ 7.3% 2022 - 2023	n/a	▲ 4.1% 2022 - 2023	n/a
Long term (annual growth)	n/a	▲ 7.5% 2013 - 2023	n/a	n/a	n/a
Penetration	n/a	1.4 per 100 inhabitants in 2023	n/a	n/a	n/a

### Socioeconomic impact

	Labor productivity	Life expectancy	Temperature change
Short term	▲ 0.7 % 2023 - 2024	▲ 0.3 % 2022 - 2023	+ 1.5 °C 2024
Long term (annual growth)	▲ 0.8 % 2014 - 2024	▲ 0.4 % 2013 - 2023	+ 0.3 °C 2014
Level	21,389.7 USD in 2024	67.6 years in 2023	n/a

Notes: Not all indicators of the Global Innovation Tracker are used to calculate the Global Innovation Index. Long-term annual growth refers to the compound annual growth rate (CAGR) over the indicated period. For each variable, a one-year growth rate is set for the short run, and ten-year CAGR is set for the long run; time windows might differ when gaps exist in data availability. The end period corresponds to the most recent available observation, which may differ among countries. Temperature change is an exception: it indicates the change in degrees Celsius with respect to the average temperature in the countries. from 1951–1980. Figures are rounded.

# Global Innovation Index 2025



## 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 Pakistan performs at expectations for its level of development.

### > Innovation overperformers relative to their economic development



# Global Innovation Index 2025



## 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.



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

### > Relationship between innovation inputs and outputs



# Global Innovation Index 2025



## Overview of Pakistan's rankings in the seven areas of the GII in 2025

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



### Highest Rankings

Pakistan ranks highest in Knowledge and technology outputs (69th), Creative outputs (80th) and Business sophistication (94th).



### Lowest Rankings

Pakistan ranks lowest in Institutions (127th), Human capital and research, Infrastructure (123rd) and Market sophistication (101st).

\* Human capital and research, Infrastructure



The full WIPO Intellectual Property Statistics profile for Pakistan can be found on <https://www.wipo.int/edocs/statistics-country-profile/en/pk.pdf>

# Global Innovation Index 2025



## Benchmark of Pakistan against other economy groupings for each of the seven areas of the GII Index

The charts show the relative position of Pakistan (blue bar) against other economy groupings (grey bars)



### Lower middle-income economies

Pakistan performs above the Lower middle-income group average in Knowledge and technology outputs, Creative outputs.



### Central and Southern Asia

Pakistan performs above the regional average in Business sophistication, Knowledge and technology outputs, Creative outputs.

#### Institutions

Top 10 | Score: 78.63

Lower middle-income | Score: 37.2

Central and Southern Asia | Score:

Pakistan | Score: 26.11

#### Human capital and research

Top 10 | Score: 59.30

Central and Southern Asia | Score:

Lower middle-income | Score: 20.5

Pakistan | Score: 15.80

#### Infrastructure

Top 10 | Score: 61.36

Central and Southern Asia | Score:

Lower middle-income | Score: 32.1

Pakistan | Score: 26.47

#### Market sophistication

Top 10 | Score: 61.82

Central and Southern Asia | Score:

Lower middle-income | Score: 28.1

Pakistan | Score: 28.11

#### Business sophistication

Top 10 | Score: 59.10

Lower middle-income | Score: 25.3

Pakistan | Score: 25.19

Central and Southern Asia | Score:

#### Knowledge and technology outputs

Top 10 | Score: 54.93

Pakistan | Score: 20.58

Central and Southern Asia | Score:

Lower middle-income | Score: 15.4

#### Creative outputs

Top 10 | Score: 55.98

Pakistan | Score: 19.00

Central and Southern Asia | Score:

Lower middle-income | Score: 13.8

# Global Innovation Index 2025



## Innovation strengths and weaknesses in Pakistan

The table below gives an overview of the indicator strengths and weaknesses of Pakistan in the GII 2025.



Pakistan's best-ranked innovation strengths are **Mobile app creation/bn PPP\$ GDP** (rank 17), **ICT services exports, % total trade** (rank 18) and **Youth demographic dividend, %** (rank 25).

### Strengths

Rank	Code	Indicator name
17	7.3.3	Mobile app creation/bn PPP\$ GDP
18	6.3.4	ICT services exports, % total trade
25	5.1.3	Youth demographic dividend, %
25	4.3.3	Domestic market scale, bn PPP\$
30	6.2.3	Software spending, % GDP
39	5.3.2	High-tech imports, % total trade
42	6.1.5	Citable documents H-index
45	2.3.4	QS university ranking, top 3*
51	6.1.4	Scientific and technical articles/bn PPP\$ GDP
52	2.1.5	Pupil–teacher ratio, secondary

### Weaknesses

Rank	Code	Indicator name
130	2.1.1	Expenditure on education, % GDP
129	4.1.2	Domestic credit to private sector, % GDP
129	3.2.3	Gross capital formation, % GDP
129	1.1.1	Operational stability for businesses*
128	3.1.1	ICT access*
122	2.1.3	School life expectancy, years
92	7.2.2	National feature films/mn pop. 15–69
62	7.2.3	Entertainment and media market/th pop. 15–69
53	6.2.2	Unicorn valuation, % GDP
44	2.3.3	Global corporate R&D investors, top 3, mn USD

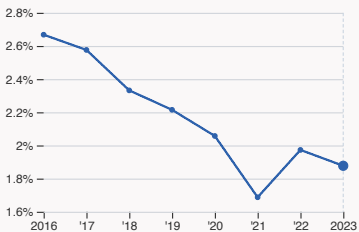
# Global Innovation Index 2025



## Pakistan's innovation system

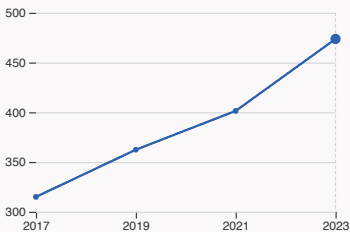
As far as practicable, the plots below present unscaled indicator data.

### ➤ Innovation inputs in Pakistan



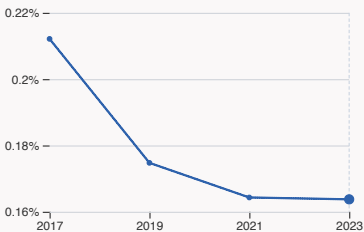
#### 2.1.1 Expenditure on education

was equal to 1.88 % GDP in 2023, down by 0.1 percentage points from the year prior – and equivalent to an indicator rank of 130.



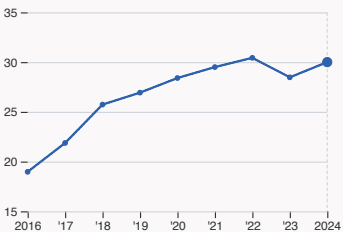
#### 2.3.1 Researchers

was equal to 473.72 FTE per million population in 2023, up by 18.02% from the year prior – and equivalent to an indicator rank of 75.



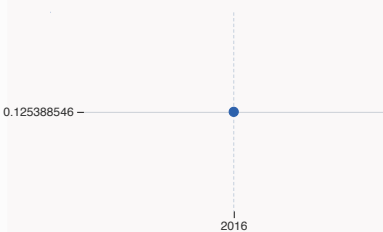
#### 2.3.2 Gross expenditure on R&D

was equal to 0.16 % GDP in 2023, down by 0.001 percentage points from the year prior – and equivalent to an indicator rank of 92.



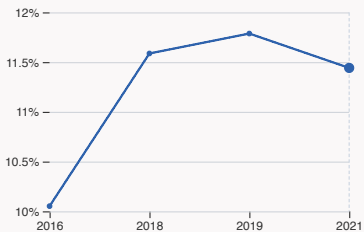
#### 2.3.4 QS university ranking

was equal to an average score of 30 for the top three universities in 2024, up by 5.37% from the year prior – and equivalent to an indicator rank of 45.



#### 4.3.2 Domestic industry diversification

was equal to an index score of 0.13 in 2016 – and equivalent to an indicator rank of 45.



#### 5.1.1 Knowledge-intensive employment

was equal to 11.44 % in 2021, down by 0.35 percentage points from the year prior – and equivalent to an indicator rank of 97.



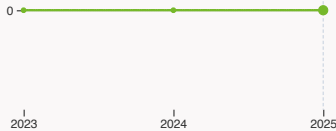
# Global Innovation Index 2025

## > Innovation outputs in Pakistan



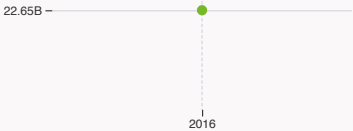
### 6.1.1 Patents by origin

was equal to 459 patents in 2023, up by 23.72% from the year prior – and equivalent to an indicator rank of 90.



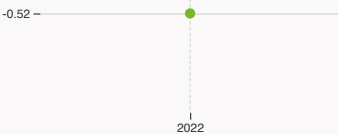
### 6.2.2 Unicorn valuation

The country does not have unicorns in 2025.



### 6.2.4 High-tech manufacturing

was equal to 22.65 high-tech manufacturing output in billion USD in 2016 – and equivalent to an indicator rank of 59.



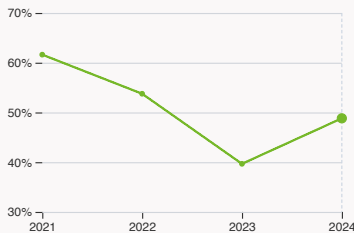
### 6.3.2 Production and export complexity

was equal to a score of -0.52 in 2022 – and equivalent to an indicator rank of 91.



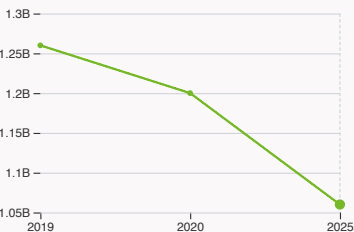
### 6.3.3 High-tech exports

was equal to 456.68 million USD in 2023, up by 23.61% from the year prior – and equivalent to an indicator rank of 77.



### 7.1.1 Intangible asset intensity, top 15

was equal to 48.82 % for the top 15 companies in 2024, up by 9.15 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 1.06 billion USD for the brands in the top 5,000 in 2025, down by 11.67% from the year prior – and equivalent to an indicator rank of 74.



### 7.2.2 National feature films

was equal to 18 films in 2023, down by 30.77% from the year prior – and equivalent to an indicator rank of 92.



### 7.3.3 Mobile app creation

was equal to 1.42 billion global downloads of mobile apps in 2024, down by 29% from the year prior – and equivalent to an indicator rank of 17.



Pakistan's innovation top performers

Data not available for 2.3.3 Global corporate R&D investors and 6.2.2 Top Unicorn Companies.

Disclaimer: This section contains only the top performers per country. For the complete list, please visit the GII Innovation Ecosystems and Data Explorer website.

2.3.4 QS university ranking of Pakistan’s top universities

Rank	University	Score
315	QUAID-I-AZAM UNIVERSITY	34.80
353	NATIONAL UNIVERSITY OF SCIENCES AND TECHNOLOGY (NUST) ISLAMABAD	32.30
535	LAHORE UNIVERSITY OF MANAGEMENT SCIENCES (LUMS)	22.90

Source: QS Quacquarelli Symonds Ltd (<https://www.topuniversities.com/university-rankings/world-university-rankings/2024>).  
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'.

5.2.3 University industry and international engagement, top 5 universities

Rank	University	Score
1	NATIONAL UNIVERSITY OF SCIENCES AND TECHNOLOGY	57.65
2	UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES, LAHORE	49.85
3	LAHORE UNIVERSITY OF MANAGEMENT SCIENCES	45.10

Source: Times Higher Education (THE), World University Rankings 2025.  
Note: Rank corresponds to within economy ranks. The score is calculated as the average of the International Outlook score (encompassing international staff, students, and co-authorship) and the industry score (reflecting industry income and patent citations). The 2025 ranking corresponds to data from the academic year that ended in 2022.

7.1.1 Top 15 intangible-asset intensive companies in Pakistan

Rank	Firm	Intensity, %
1	MEEZAN BANK LIMITED	48.24
2	MILLAT TRACTORS LIMITED	86.64
3	SYSTEMS LIMITED	77.76

Source: Brand Finance (<https://brandirectory.com/reports/gift-2024>).  
Note: Brand Finance only provides within economy ranks.








# Global Innovation Index 2025



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

Rank	Brand	Industry	Brand Value, mn USD
1	HBL	Banking	359.5
2	JAZZ	Telecoms	305
3	MEEZAN BANK	Banking	231.7

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

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
75	124	Lower middle	Central and Southern Asia	251.3	1,584.5	6,715.3
Score / Value Rank				Score / Value Rank		
 <b>Institutions</b>				 <b>Business sophistication</b>		
<b>1.1 Institutional environment</b>				<b>5.1 Knowledge workers</b>		
1.1.1 Operational stability for businesses*				5.1.1 Knowledge-intensive employment, %		
1.1.2 Government effectiveness*				5.1.2 Females employed w/advanced degrees, %		
<b>1.2 Regulatory environment</b>				5.1.3 Youth demographic dividend, %		
1.2.1 Regulatory quality*				5.1.4 GERD performed by business, % GDP		
1.2.2 Rule of law*				5.1.5 GERD financed by business, %		
<b>1.3 Business environment</b>				<b>5.2 Innovation linkages</b>		
1.3.1 Policy stability for doing business <sup>†</sup>				5.2.1 Public research–industry co-publications, %		
1.3.2 Entrepreneurship policies and culture <sup>†</sup>				5.2.2 University–industry R&D collaboration <sup>†</sup>		
 <b>Human capital and research</b>				5.2.3 University industry & international engagement, top 5*		
<b>2.1 Education</b>				5.2.4 State of cluster development <sup>†</sup>		
2.1.1 Expenditure on education, % GDP				5.2.5 Patent families/bn PPP\$ GDP		
2.1.2 Government funding/pupil, secondary, % GDP/cap				<b>5.3 Knowledge absorption</b>		
2.1.3 School life expectancy, years				5.3.1 Intellectual property payments, % total trade		
2.1.4 PISA scales in reading, maths and science				5.3.2 High-tech imports, % total trade		
2.1.5 Pupil–teacher ratio, secondary				5.3.3 ICT services imports, % total trade		
<b>2.2 Tertiary education</b>				5.3.4 FDI net inflows, % GDP		
2.2.1 Tertiary enrolment, % gross				5.3.5 Research talent, % in businesses		
2.2.2 Graduates in science and engineering, %				 <b>Knowledge and technology outputs</b>		
2.2.3 Tertiary inbound mobility, %				<b>6.1 Knowledge creation</b>		
<b>2.3 Research and development (R&amp;D)</b>				6.1.1 Patents by origin/bn PPP\$ GDP		
2.3.1 Researchers, FTE/mn pop.				6.1.2 PCT patents by inventor origin/bn PPP\$ GDP		
2.3.2 Gross expenditure on R&D, % GDP				6.1.3 Utility models by origin/bn PPP\$ GDP		
2.3.3 Global corporate R&D investors, top 3, mn USD				6.1.4 Scientific and technical articles/bn PPP\$ GDP		
2.3.4 QS university ranking, top 3*				6.1.5 Citable documents H-index		
 <b>Infrastructure</b>				<b>6.2 Knowledge impact</b>		
<b>3.1 Information and communication technologies (ICTs)</b>				6.2.1 Labor productivity growth, %		
3.1.1 ICT access*				6.2.2 Unicorn valuation, % GDP		
3.1.2 ICT use*				6.2.3 Software spending, % GDP		
3.1.3 Government's online service*				6.2.4 High-tech manufacturing		
<b>3.2 General infrastructure</b>				<b>6.3 Knowledge diffusion</b>		
3.2.1 Electricity output, GWh/mn pop.				6.3.1 Intellectual property receipts, % total trade		
3.2.2 Logistics performance*				6.3.2 Production and export complexity		
3.2.3 Gross capital formation, % GDP				6.3.3 High-tech exports, % total trade		
<b>3.3 Ecological sustainability</b>				6.3.4 ICT services exports, % total trade		
3.3.1 GDP/unit of energy use				6.3.5 ISO 9001 quality/bn PPP\$ GDP		
3.3.2 Low-carbon energy use, %				 <b>Creative outputs</b>		
3.3.3 ISO 14001 environment/bn PPP\$ GDP				<b>7.1 Intangible assets</b>		
 <b>Market sophistication</b>				7.1.1 Intangible asset intensity, top 15, %		
<b>4.1 Credit</b>				7.1.2 Trademarks by origin/bn PPP\$ GDP		
4.1.1 Finance for startups and scaleups <sup>†</sup>				7.1.3 Global brand value, top 5,000, % GDP		
4.1.2 Domestic credit to private sector, % GDP				7.1.4 Industrial designs by origin/bn PPP\$ GDP		
4.1.3 Loans from microfinance institutions, % GDP				<b>7.2 Creative goods and services</b>		
<b>4.2 Investment</b>				7.2.1 Cultural and creative services exports, % total trade		
4.2.1 Market capitalization, % GDP				7.2.2 National feature films/mn pop. 15–69		
4.2.2 Venture capital (VC) received, deal count/bn PPP\$ GDP				7.2.3 Entertainment and media market/th pop. 15–69		
4.2.3 Late-stage VC deal count, % global VC				7.2.4 Creative goods exports, % total trade		
4.2.4 VC investors, deal count/bn PPP\$ GDP				<b>7.3 Online creativity</b>		
4.2.5 VC investor co-participation/bn PPP\$ GDP				7.3.1 Top-level domains (TLDs)/th pop. 15–69		
<b>4.3 Trade, diversification and market scale</b>				7.3.2 GitHub commits/mn pop. 15–69		
4.3.1 Applied tariff rate, weighted avg., %				7.3.3 Mobile app creation/bn PPP\$ GDP		
4.3.2 Domestic industry diversification						
4.3.3 Domestic market scale, bn PPP\$						

NOTES: ● indicates a strength ○ a weakness ♦ an income group strength ◇ an income group weakness \* an index † a survey question ● that the economy's data is outdated. Square brackets [ ] indicate the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level, n/a represents missing values, a dash - indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.

# Global Innovation Index 2025



## Data Availability

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



Pakistan has missing data for nine indicators and outdated data for ten indicators.

## Missing data for Pakistan

Code	Indicator name	Economy year	Model year	Source
2.1.4	PISA scales in reading, maths and science	n/a	2022	OECD, PISA
2.2.2	Graduates in science and engineering, %	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD
2.2.3	Tertiary inbound mobility, %	n/a	2023	UNESCO Institute for Statistics
3.2.2	Logistics performance*	n/a	2023	World Bank, Logistics Performance Index 2023
5.1.4	GERD performed by business, % GDP	n/a	2023	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	GERD financed by business, %	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.5	Research talent, % in businesses	n/a	2023	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.1.2	PCT patents by inventor origin/bn PPP\$ GDP	n/a	2024	World Intellectual Property Organization; International Monetary Fund
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2023	World Intellectual Property Organization; International Monetary Fund

## Outdated data for Pakistan

Code	Indicator name	Economy year	Model year	Source
1.3.2	Entrepreneurship policies and culture <sup>+</sup>	2019	2024	Global Entrepreneurship Monitor
2.1.2	Government funding/pupil, secondary, % GDP/cap	2015	2021	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2022	2023	UNESCO Institute for Statistics
2.1.5	Pupil–teacher ratio, secondary	2022	2023	UNESCO Institute for Statistics
3.2.1	Electricity output, GWh/mn pop.	2022	2023	International Energy Agency
4.1.1	Finance for startups and scaleups <sup>+</sup>	2019	2024	Global Entrepreneurship Monitor
4.3.2	Domestic industry diversification	2016	2022	United Nations Industrial Development Organization (UNIDO)

# Global Innovation Index 2025



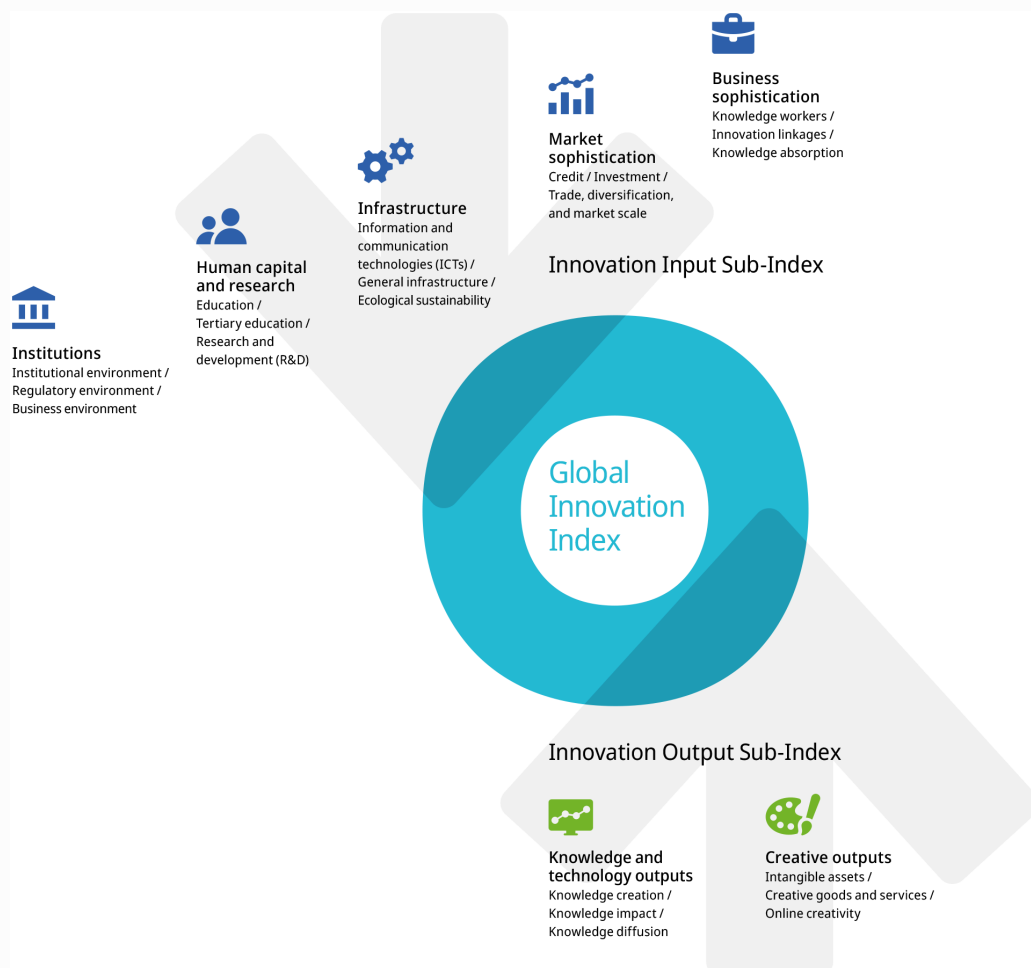
Code	Indicator name	Economy year	Model year	Source
5.1.1	Knowledge-intensive employment, %	2021	2024	International Labour Organization
5.1.2	Females employed w/advanced degrees, %	2021	2024	International Labour Organization
6.2.4	High-tech manufacturing	2016	2022	United Nations Industrial Development Organization (UNIDO)

# Global Innovation Index 2025



## 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 140 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.