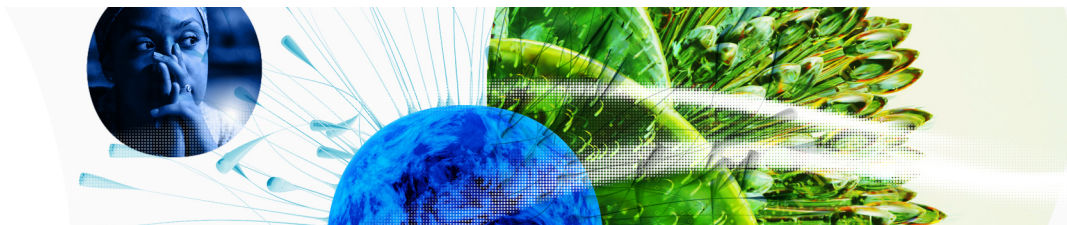


# Global Innovation Index 2023

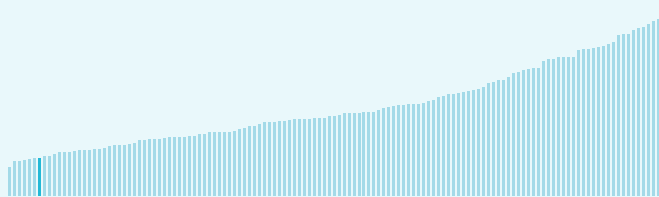


The Global Innovation Index (GII) **ranks world economies according to their innovation capabilities.**

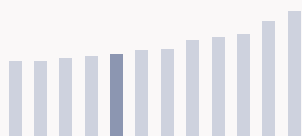
Consisting of **roughly 80 indicators**, grouped into innovation inputs and outputs, the GII **aims to capture the multi-dimensional facets of innovation.**

## Mozambique ranking in the Global Innovation Index 2023

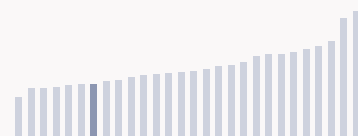
> Mozambique ranks **126th** among the 132 economies featured in the GII 2023.



> Mozambique ranks **8th** among the 12 low-income group economies.



> Mozambique ranks **22nd** among the 28 economies in Sub-Saharan Africa.



### > Mozambique GII Ranking (2020-2023)

The table shows the rankings of Mozambique 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 Mozambique in the GII 2023 is between ranks 123 and 131.

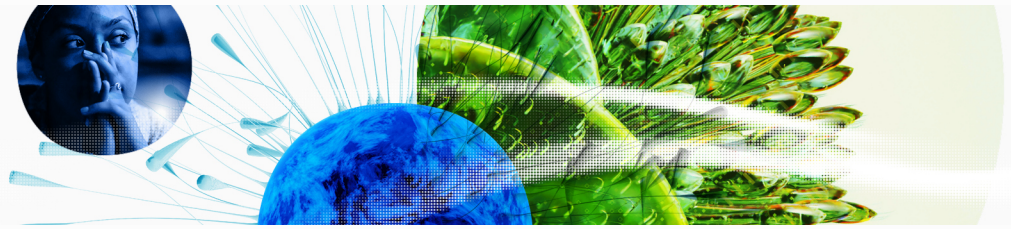
	GII Position	Innovation Inputs	Innovation Outputs
2020	124th	122nd	125th
2021	122nd	122nd	118th
2022	123rd	123rd	119th
2023	126th	128th	124th

Mozambique performs **better in innovation outputs** than innovation inputs in 2023.

This year Mozambique ranks **128th** in innovation inputs. This position is lower than last year.

Mozambique ranks **124th** in innovation outputs. This position is lower than last year.

# Global Innovation Index 2023



## → Expected vs. observed innovation performance

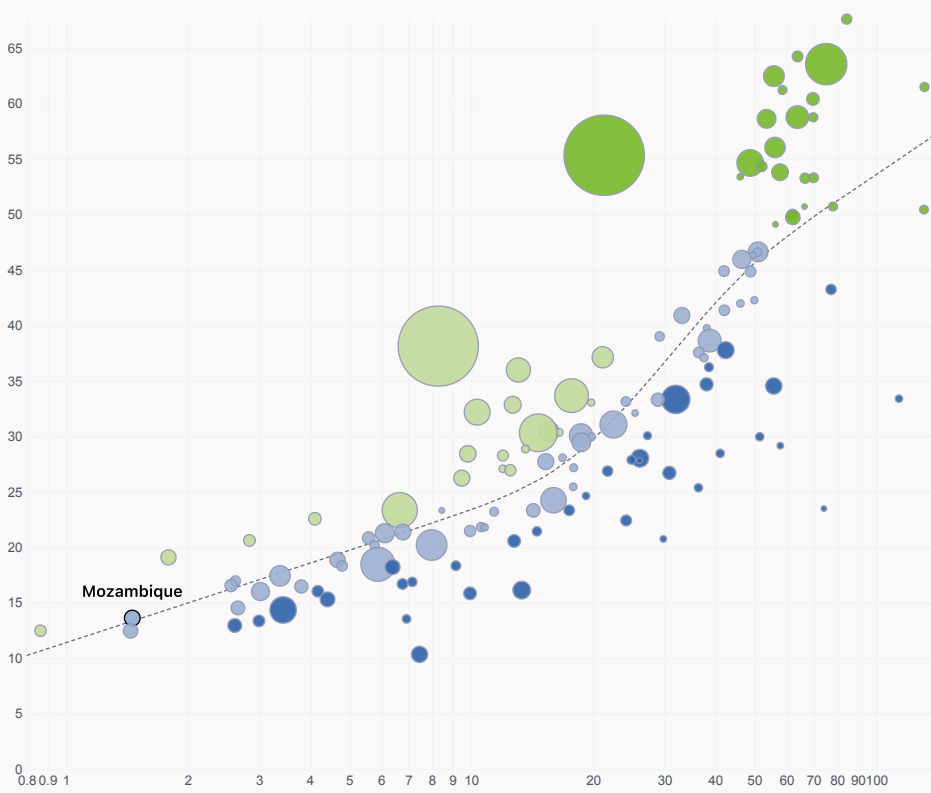
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected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



> Relative to GDP, Mozambique's performance is at 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

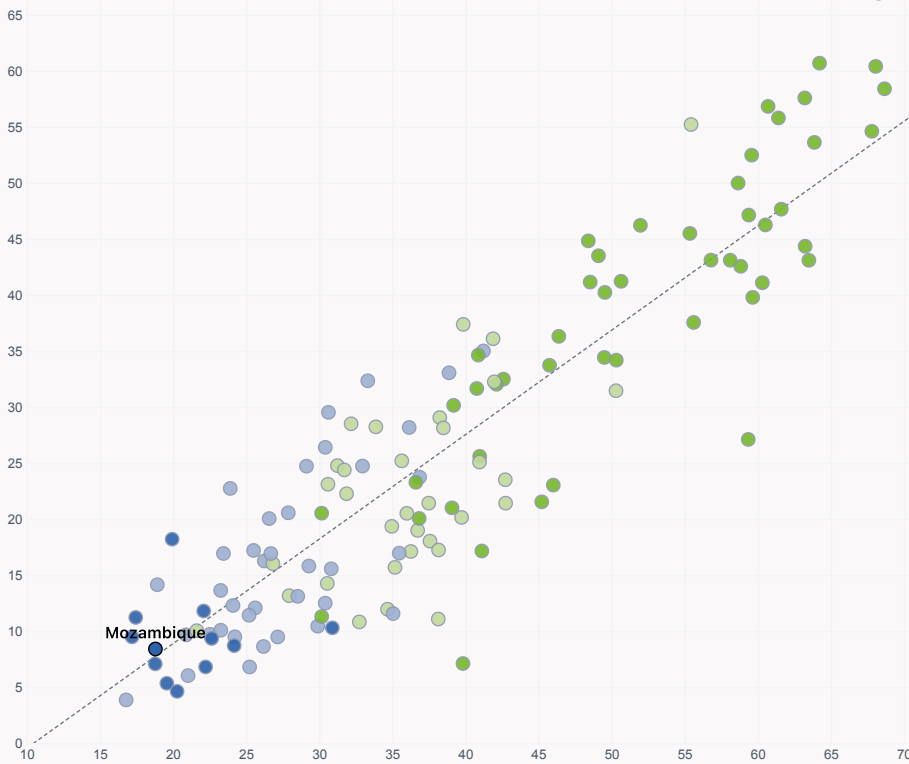
The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.



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

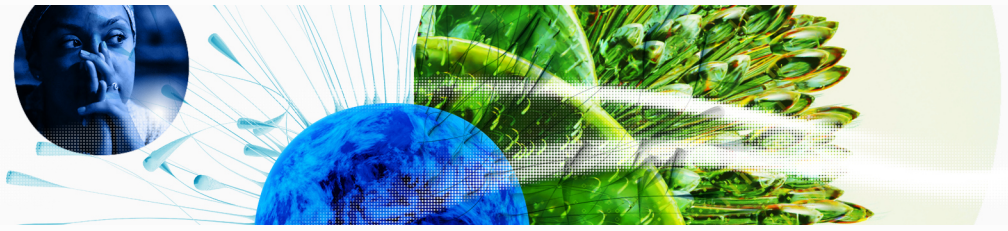
### > Relationship between innovation inputs and outputs

↑ Output score



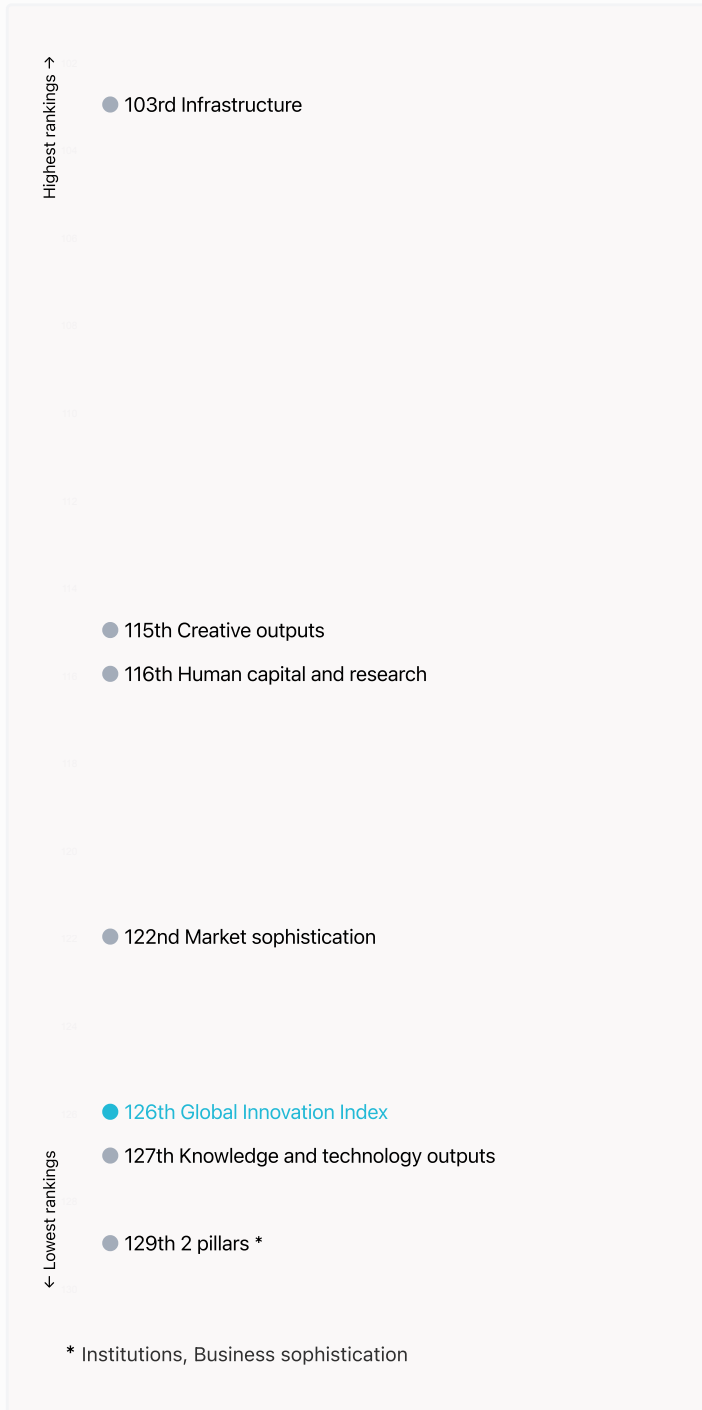
→ Input score

# Global Innovation Index 2023



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



### > Highest rankings



Mozambique ranks highest in Infrastructure (103rd), Creative outputs (115th), Human capital and research (116th) and Market sophistication (122nd).

### > Lowest rankings

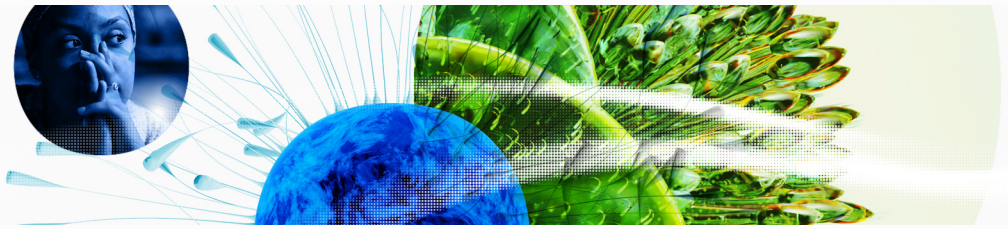


Mozambique ranks lowest in Institutions, Business sophistication (129th), Knowledge and technology outputs (127th) and Market sophistication (122nd).



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

# Global Innovation Index 2023



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

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

### > Low-Income economies

Mozambique performs below the low-income group average in Knowledge and technology outputs, Creative outputs, Business sophistication, Market sophistication, Human capital and research, Institutions.

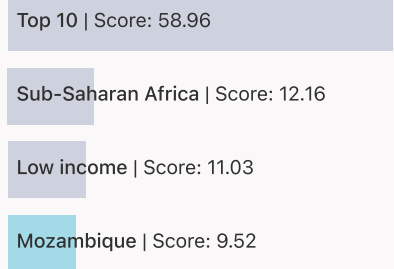


### > Sub-Saharan Africa

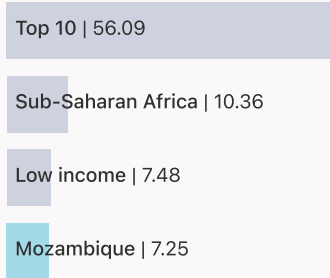
Mozambique performs below the regional average in Knowledge and technology outputs, Creative outputs, Business sophistication, Market sophistication, Human capital and research, Institutions.



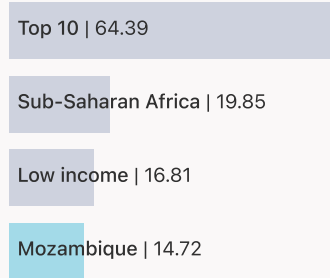
### Knowledge and technology outputs



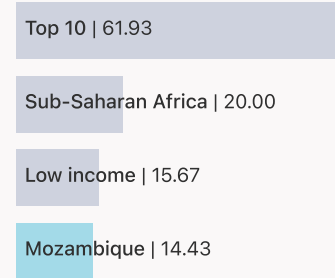
### Creative outputs



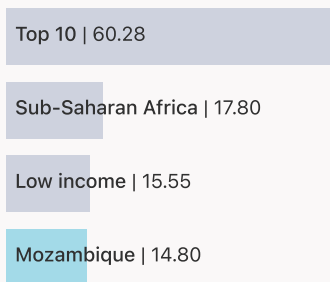
### Business sophistication



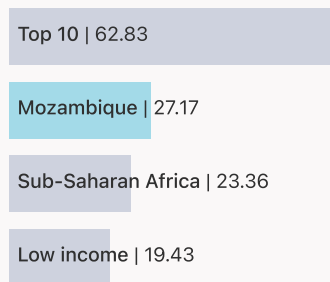
### Market sophistication



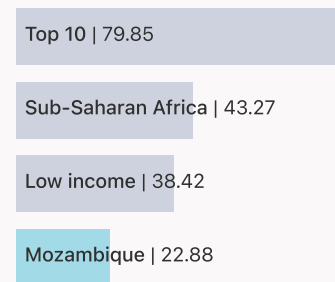
### Human capital and research



### Infrastructure



### Institutions



# Global Innovation Index 2023



## → Innovation strengths and weaknesses in Mozambique

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



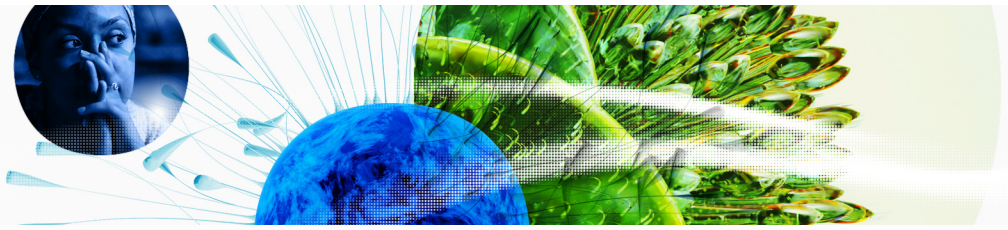
> Mozambique's main innovation strengths are **Gross capital formation, % GDP (rank 1)**, **FDI net inflows, % GDP (rank 5)** and **Expenditure on education, % GDP (rank 8)**.

### Strengths

### Weaknesses

Rank	Code	Indicator name	Rank	Code	Indicator name
1	3.2.3	Gross capital formation, % GDP	125	2.1.5	Pupil-teacher ratio, secondary
5	5.3.4	FDI net inflows, % GDP	118	5.3.1	Intellectual property payments, % total trade
8	2.1.1	Expenditure on education, % GDP	114	6.3.1	Intellectual property receipts, % total trade
32	5.2.3	GERD financed by abroad, % GDP	101	6.1.2	PCT patents by origin/bn PPP\$ GDP
54	5.3.3	ICT services imports, % total trade	95	5.2.5	Patent families/bn PPP\$ GDP
56	5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	85	1.3.2	Entrepreneurship policies and culture
67	7.1.2	Trademarks by origin/bn PPP\$ GDP	85	4.1.1	Finance for startups and scaleups
70	6.1.1	Patents by origin/bn PPP\$ GDP	74	7.1.3	Global brand value, top 5,000
71	7.1.4	Industrial designs by origin/bn PPP\$ GDP	71	2.3.4	QS university ranking, top 3
			48	6.2.2	Unicorn valuation, % GDP
			40	2.3.3	Global corporate R&D investors, top 3, mn US\$

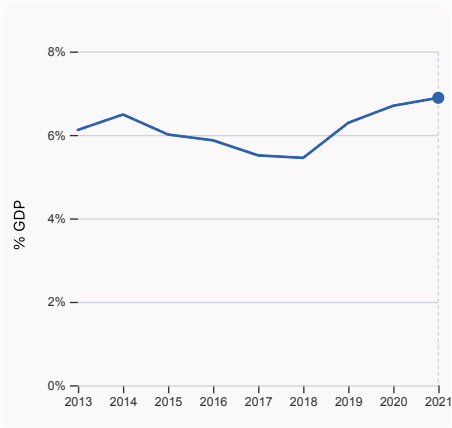
# Global Innovation Index 2023



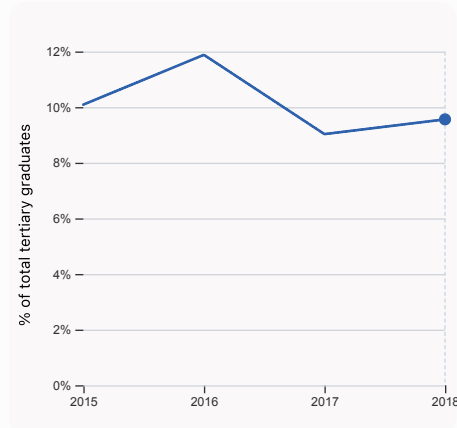
## → Mozambique's innovation system

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

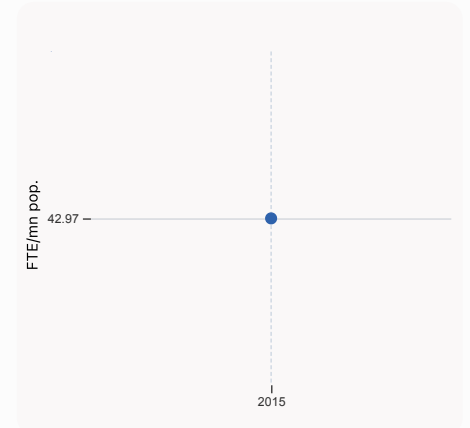
### > Innovation inputs in Mozambique



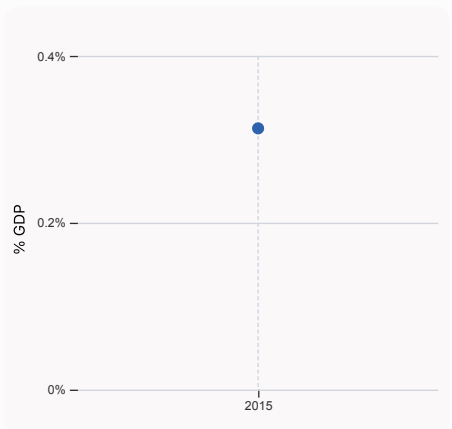
**2.1.1 Expenditure on education, % GDP** was equal to 6.89% GDP in 2021, up by 0.19 percentage points from the year prior – and equivalent to an indicator rank of 8.



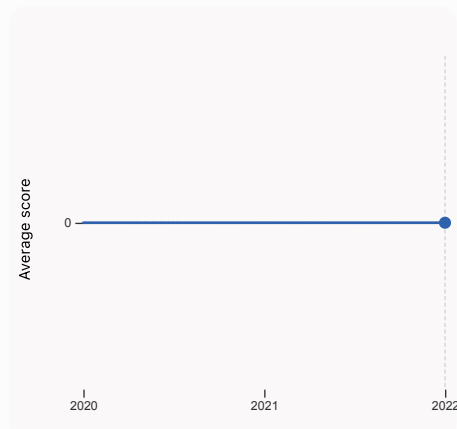
**2.2.2 Graduates in science and engineering, %** was equal to 9.56% of total tertiary graduates in 2018, up by 0.53 percentage points from the year prior – and equivalent to an indicator rank of 110.



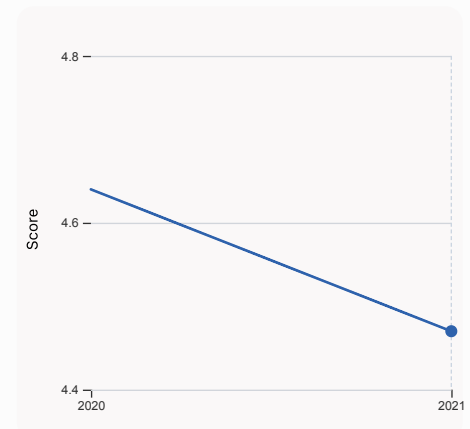
**2.3.1 Researchers, FTE/mn pop.** was equal to 42.97 FTE/mn pop. in 2015, equivalent to an indicator rank of 96.



**2.3.2 Gross expenditure on R&D, % GDP** was equal to 0.313 % GDP in 2015, equivalent to an indicator rank of 74.

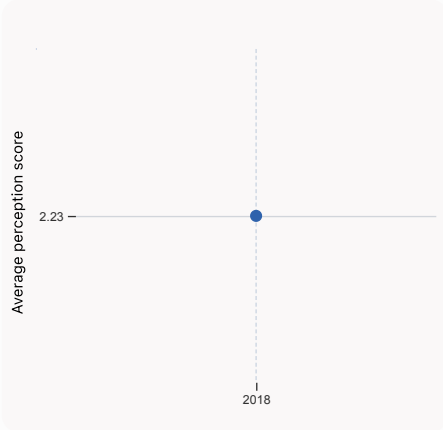
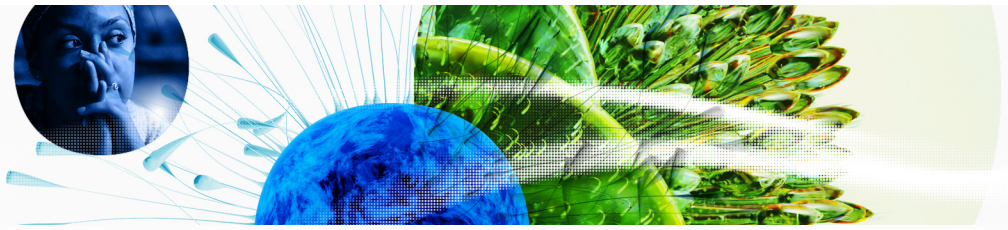


**2.3.4 QS university ranking, top 3** was equal to an average score of 0 for the top 3 universities in 2022, equivalent to an indicator rank of 71.

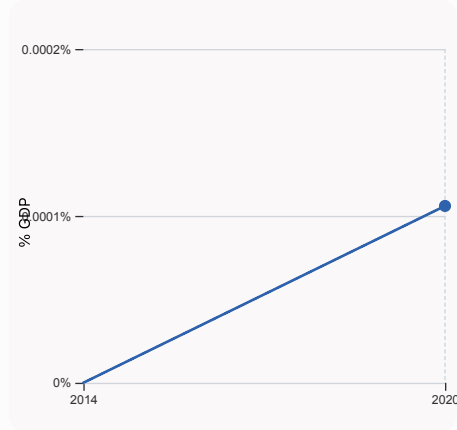


**3.1.1 ICT access** was equal to a score of 4.47 in 2021, down by 3.66% from the year prior – and equivalent to an indicator rank of 126.

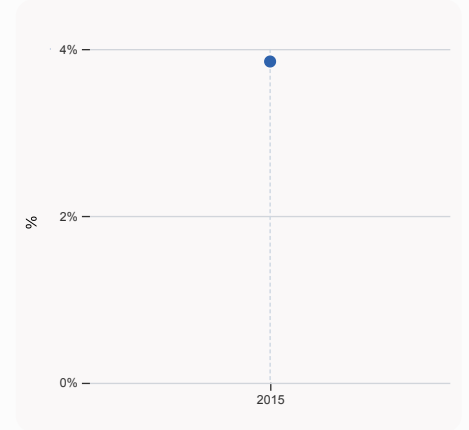
# Global Innovation Index 2023



**4.1.1 Finance for startups and scaleups** was equal to an average perception score of 2.23 in 2018, equivalent to an indicator rank of 85.

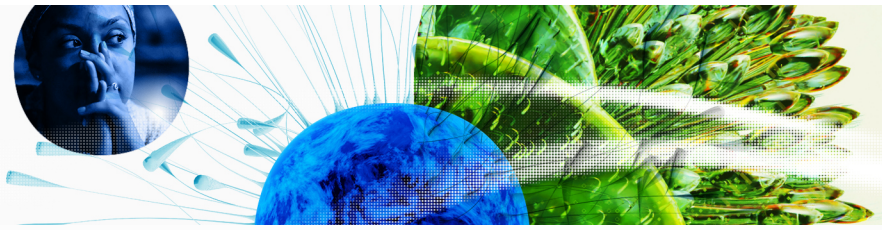


**4.2.4 VC received, value, % GDP** was equal to 0.00011 % GDP in 2020, equivalent to an indicator rank of 81.

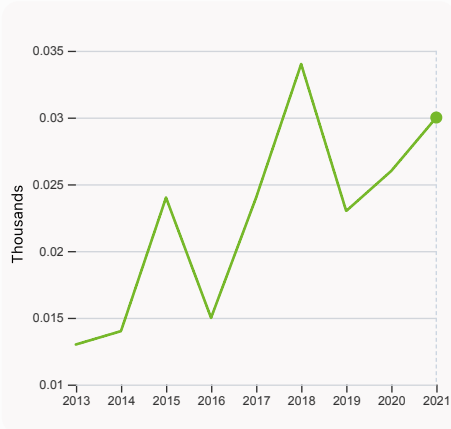


**5.1.1 Knowledge-intensive employment, %** was equal to 3.85 % in 2015, equivalent to an indicator rank of 122.

# Global Innovation Index 2023

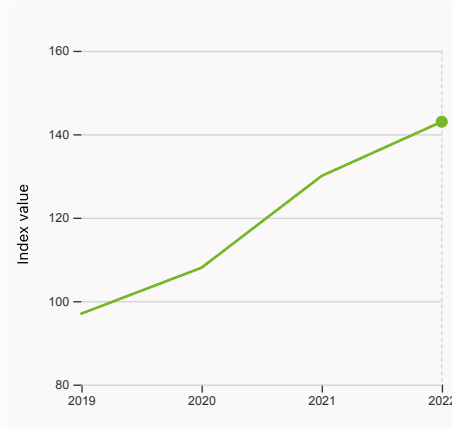


## > Innovation outputs in Mozambique



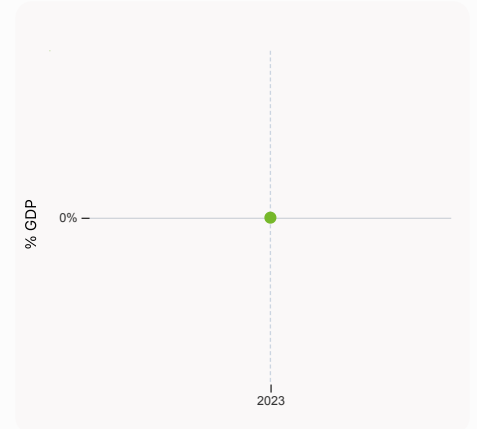
**6.1.1 Patents by origin**

was equal to 0.03 Thousands in 2021, up by 15.38% from the year prior – and equivalent to an indicator rank of 70.



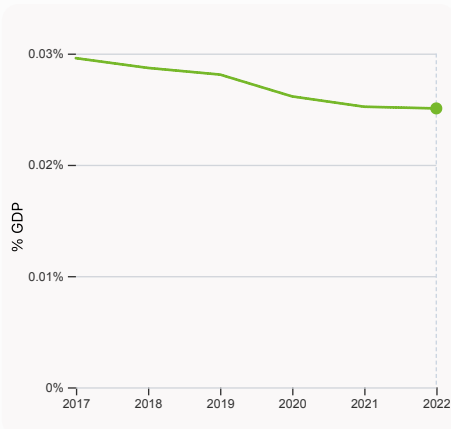
**6.1.5 Citable documents H-index**

was equal to an index value of 143 in 2022, up by 10% from the year prior – and equivalent to an indicator rank of 96.



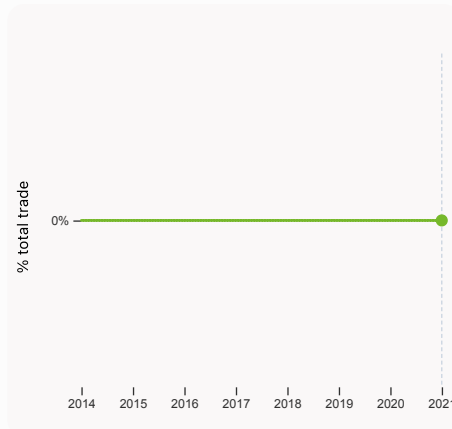
**6.2.2 Unicorn valuation, % GDP**

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



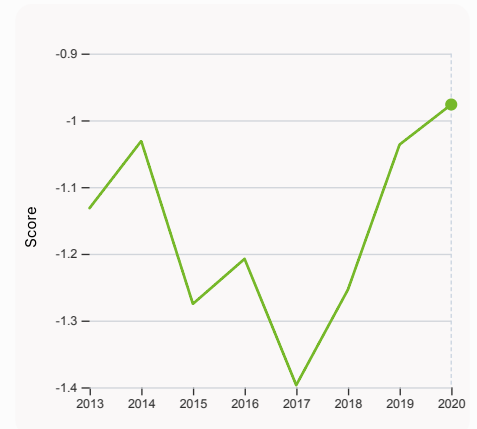
**6.2.3 Software spending, % GDP**

was equal to 0.025% GDP in 2022, down by 0.00015 percentage points from the year prior – and equivalent to an indicator rank of 117.



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

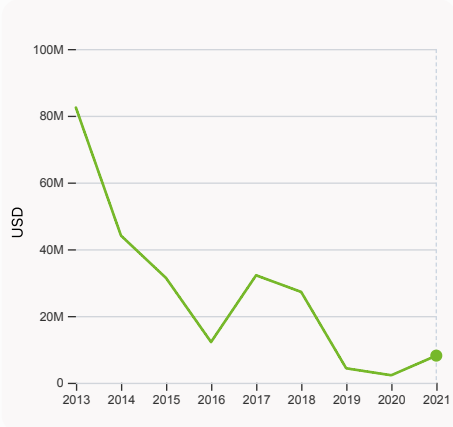
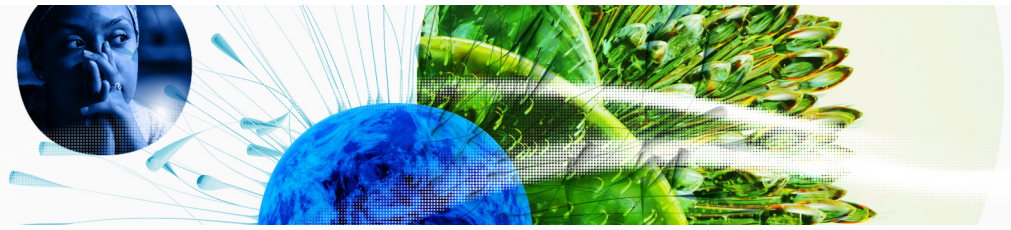
was equal to 0% total trade in 2021 – and equivalent to an indicator rank of 114.



**6.3.2 Production and export complexity**

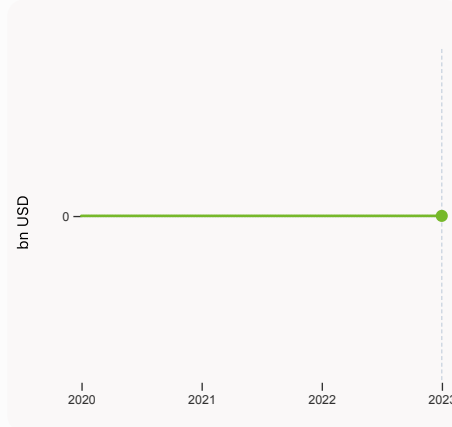
was equal to a score of -0.976 in 2020, up by 5.79% from the year prior – and equivalent to an indicator rank of 110.

# Global Innovation Index 2023



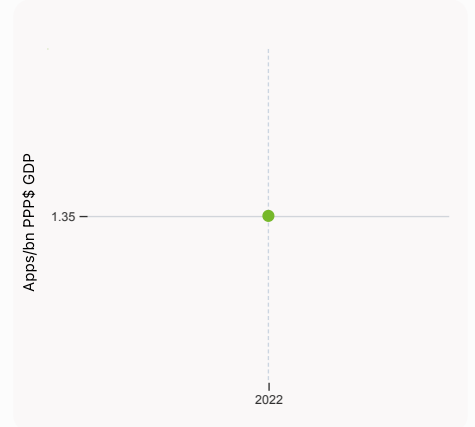
### 6.3.3 High-tech exports

was equal to 8,132,855 USD in 2021, up by 261.41% from the year prior – and equivalent to an indicator rank of 120.



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

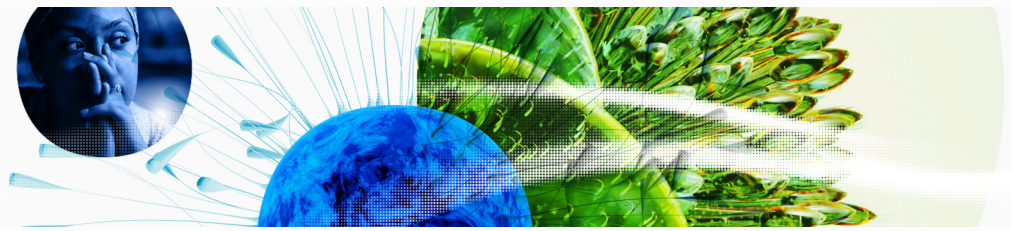
was equal to 0 bn USD in 2023 – and equivalent to an indicator rank of 74.



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

was equal to 1.35 Apps/bn PPP\$ GDP in 2022 – and equivalent to an indicator rank of 123.

# Global Innovation Index 2023



GII 2023 rank

126

## Mozambique

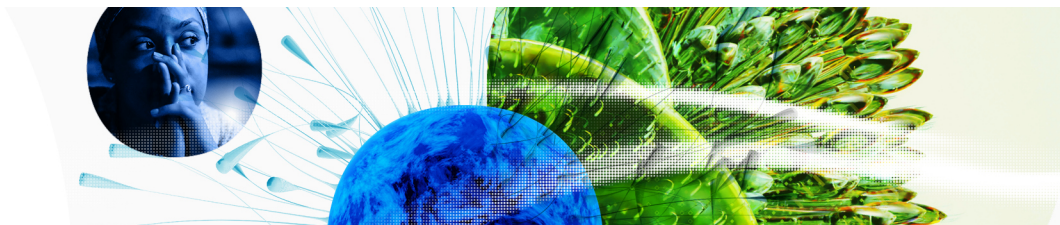
Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
124	128	Low	SSA	33.0	48.0	1,457.1

Score / Value Rank

Score / Value Rank

Institutions		22.9	129	◇	Business sophistication		14.7	129
<b>1.1 Institutional environment</b>		21.7	121		<b>5.1 Knowledge workers</b>		4.8	130
1.1.1 Operational stability for businesses*		27.8	120		5.1.1 Knowledge-intensive employment, %		3.9	122
1.1.2 Government effectiveness*		15.6	116		5.1.2 Firms offering formal training, %		20.7	79
<b>1.2 Regulatory environment</b>		28.6	127	◇	5.1.3 GERD performed by business, % GDP		0.0	91
1.2.1 Regulatory quality*		21.9	115		5.1.4 GERD financed by business, %		0.5	95
1.2.2 Rule of law*		9.4	120		5.1.5 Females employed w/advanced degrees, %		0.7	121
1.2.3 Cost of redundancy dismissal		37.5	126	◇	<b>5.2 Innovation linkages</b>		13.1	107
<b>1.3 Business environment</b>		18.3	122	◇	5.2.1 University-industry R&D collaboration†		23.5	107
1.3.1 Policies for doing business†		36.6	96	●	5.2.2 State of cluster development†		13.3	123
1.3.2 Entrepreneurship policies and culture†		0.0	85	○◇	5.2.3 GERD financed by abroad, % GDP		0.1	32
<b>Human capital and research</b>		14.8	116		5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP		0.0	56
<b>2.1 Education</b>		41.5	97		5.2.5 Patent families/bn PPP\$ GDP		0.0	95
2.1.1 Expenditure on education, % GDP		6.9	8	◆	<b>5.3 Knowledge absorption</b>		26.3	99
2.1.2 Government funding/pupil, secondary, % GDP/cap		39.6	2	●	5.3.1 Intellectual property payments, % total trade		0.0	118
2.1.3 School life expectancy, years		10.0	105	●	5.3.2 High-tech imports, % total trade		5.6	107
2.1.4 PISA scales in reading, maths and science		n/a	n/a		5.3.3 ICT services imports, % total trade		1.6	54
2.1.5 Pupil-teacher ratio, secondary		45.2	125	○◇	5.3.4 FDI net inflows, % GDP		26.1	5
<b>2.2 Tertiary education</b>		1.5	127		5.3.5 Research talent, % in businesses		0.3	84
2.2.1 Tertiary enrolment, % gross		7.3	119	●	<b>Knowledge and technology outputs</b>		9.5	127
2.2.2 Graduates in science and engineering, %		9.6	110	◇	<b>6.1 Knowledge creation</b>		7.6	94
2.2.3 Tertiary inbound mobility, %		0.4	104	◇	6.1.1 Patents by origin/bn PPP\$ GDP		0.7	70
<b>2.3 Research and development (R&amp;D)</b>		1.4	95		6.1.2 PCT patents by origin/bn PPP\$ GDP		0.0	101
2.3.1 Researchers, FTE/mn pop.		43.0	96	●	6.1.3 Utility models by origin/bn PPP\$ GDP		0.1	59
2.3.2 Gross expenditure on R&D, % GDP		0.3	74	●	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		5.6	96
2.3.4 QS university ranking, top 3*		0.0	71	○◇	<b>6.2 Knowledge impact</b>		13.1	123
<b>Infrastructure</b>		27.2	103	◆	6.2.1 Labor productivity growth, %		-0.8	114
<b>3.1 Information and communication technologies (ICTs)</b>		20.1	128		6.2.2 Unicorn valuation, % GDP		0.0	48
3.1.1 ICT access*		16.3	126		6.2.3 Software spending, % GDP		0.0	117
3.1.2 ICT use*		17.9	126		6.2.4 High-tech manufacturing, %		n/a	n/a
3.1.3 Government's online service*		28.9	125		<b>6.3 Knowledge diffusion</b>		7.9	119
3.1.4 E-participation*		17.4	125	◇	6.3.1 Intellectual property receipts, % total trade		0.0	114
<b>3.2 General infrastructure</b>		51.5	15	◆	6.3.2 Production and export complexity		32.1	110
3.2.1 Electricity output, GWh/mn pop.		608.9	106	●	6.3.3 High-tech exports, % total trade		0.1	120
3.2.2 Logistics performance*		n/a	n/a		6.3.4 ICT services exports, % total trade		0.2	119
3.2.3 Gross capital formation, % GDP		73.1	1	◆	6.3.5 ISO 9001 quality/bn PPP\$ GDP		1.5	95
<b>3.3 Ecological sustainability</b>		9.9	127		<b>Creative outputs</b>		7.2	115
3.3.1 GDP/unit of energy use		3.6	123	◇	<b>7.1 Intangible assets</b>		13.6	101
3.3.2 Environmental performance*		21.7	104		7.1.1 Intangible asset intensity, top 15, %		n/a	n/a
3.3.3 ISO 14001 environment/bn PPP\$ GDP		0.5	81	◆	7.1.2 Trademarks by origin/bn PPP\$ GDP		34.7	67
<b>Market sophistication</b>		14.4	122		7.1.3 Global brand value, top 5,000		0.0	74
<b>4.1 Credit</b>		2.5	129		7.1.4 Industrial designs by origin/bn PPP\$ GDP		0.9	71
4.1.1 Finance for startups and scaleups†		0.0	85	○◇	<b>7.2 Creative goods and services</b>		0.5	[124]
4.1.2 Domestic credit to private sector, % GDP		24.2	111		7.2.1 Cultural and creative services exports, % total trade		n/a	n/a
4.1.3 Loans from microfinance institutions, % GDP		0.0	57		7.2.2 National feature films/mn pop. 15-69		n/a	n/a
<b>4.2 Investment</b>		3.7	[88]		7.2.3 Entertainment and media market/th pop. 15-69		n/a	n/a
4.2.1 Market capitalization, % GDP		n/a	n/a		7.2.4 Creative goods exports, % total trade		0.0	112
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP		n/a	n/a		<b>7.3 Online creativity</b>		1.3	127
4.2.3 VC recipients, deals/bn PPP\$ GDP		0.0	72	●	7.3.1 Generic top-level domains (TLDs)/th pop. 15-69		0.0	129
4.2.4 VC received, value, % GDP		0.0	81	●	7.3.2 Country-code TLDs/th pop. 15-69		0.2	112
<b>4.3 Trade, diversification, and market scale</b>		37.1	110		7.3.3 GitHub commits/mn pop. 15-69		0.2	125
4.3.1 Applied tariff rate, weighted avg., %		4.1	86	◆	7.3.4 Mobile app creation/bn PPP\$ GDP		4.6	123
4.3.2 Domestic industry diversification		n/a	n/a					
4.3.3 Domestic market scale, bn PPP\$		48.0	108					

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 Mozambique.



> Mozambique has missing data for ten indicators and outdated data for twenty two indicators.

## > Missing data for Mozambique

Code	Indicator name	Economy Year	Model Year	Source
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
3.2.2	Logistics performance	n/a	2023	World Bank, Logistics Performance Index 2023 ( <a href="https://lpi.worldbank.org/">https://lpi.worldbank.org/</a> ); and World Bank 2023, Connecting to Compete 2023: Trade Logistics in the Global Economy ÔÇô The Logistics Performance Index and its Indicators.
4.2.1	Market capitalization, % GDP	n/a	2020	World Federation of Exchanges; World Bank
4.2.2	Venture capital (VC) investors, deals/bn PPP\$ GDP	n/a	2022	Refinitiv; International Monetary Fund
4.3.2	Domestic industry diversification	n/a	2020	United Nations Industrial Development Organization
6.2.4	High-tech manufacturing, %	n/a	2020	United Nations Industrial Development Organization
7.1.1	Intangible asset intensity, top 15, %	n/a	2022	Brand Finance
7.2.1	Cultural and creative services exports, % total trade	n/a	2021	World Trade Organization and United Nations Conference on Trade and Development
7.2.2	National feature films/mn pop. 15-69	n/a	2021	OMDIA; United Nations, World Population Prospects
7.2.3	Entertainment and media market/th pop. 15-69	n/a	2022	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund

## > Outdated data for Mozambique

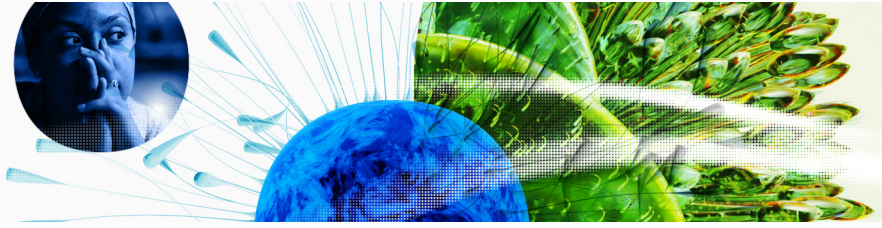
Code	Indicator name	Economy Year	Model Year	Source
1.3.1	Policies for doing business	2019	2022	World Economic Forum, Executive Opinion Survey (EOS)
1.3.2	Entrepreneurship policies and culture	2018	2022	Global Entrepreneurship Monitor

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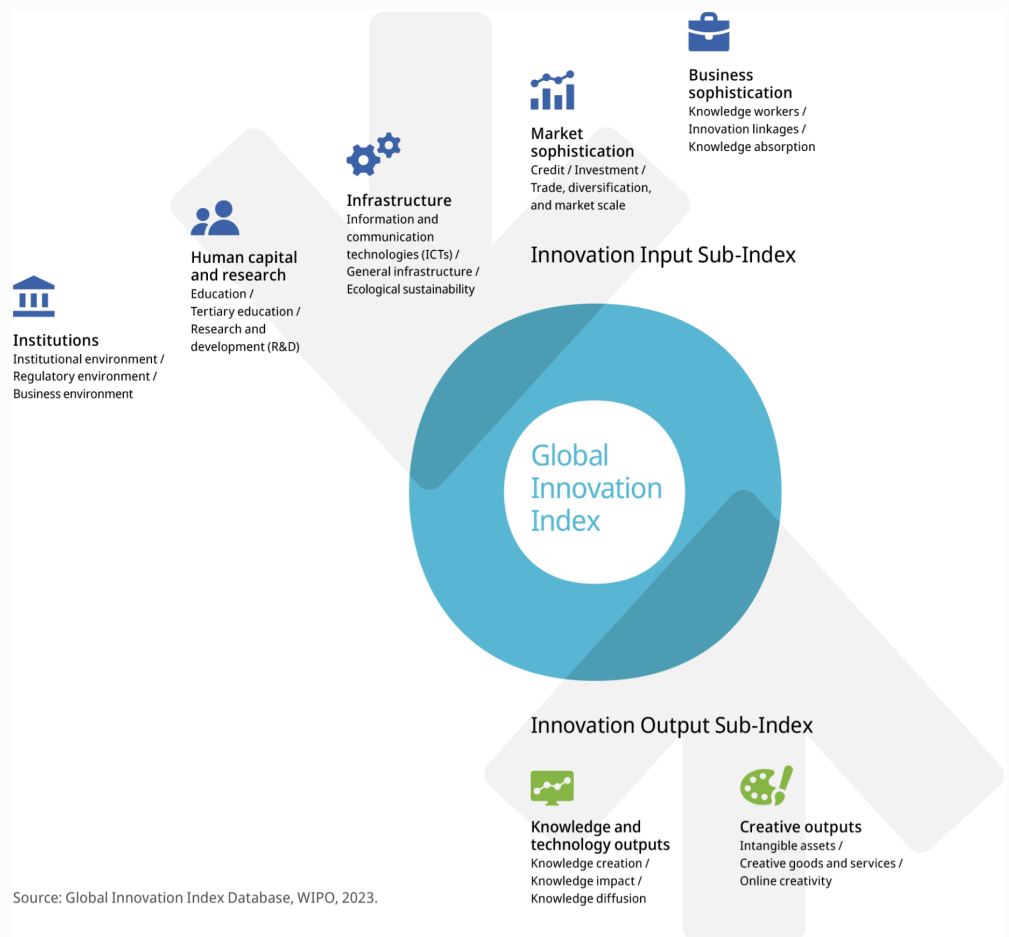
Code	Indicator name	Economy Year	Model Year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	2013	2019	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2017	2020	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2018	2020	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2018	2020	UNESCO Institute for Statistics; Eurostat; OECD
2.2.3	Tertiary inbound mobility, %	2018	2020	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2015	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	2015	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.1	Electricity output, GWh/mn pop.	2020	2021	International Energy Agency
4.1.1	Finance for startups and scaleups	2018	2022	Global Entrepreneurship Monitor
4.2.3	VC recipients, deals/bn PPP\$ GDP	2020	2022	Refinitiv; International Monetary Fund
4.2.4	VC received, value, % GDP	2020	2022	Refinitiv; International Monetary Fund
5.1.1	Knowledge-intensive employment, %	2015	2022	International Labour Organization
5.1.2	Firms offering formal training, %	2018	2019	World Bank Enterprise Surveys
5.1.3	GERD performed by business, % GDP	2015	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	2015	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	Females employed w/advanced degrees, %	2015	2022	International Labour Organization
5.2.1	University-industry R&D collaboration	2019	2022	World Economic Forum, Executive Opinion Survey (EOS)
5.2.2	State of cluster development	2019	2022	World Economic Forum, Executive Opinion Survey (EOS)
5.2.3	GERD financed by abroad, % GDP	2015	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.5	Research talent, % in businesses	2015	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT

# 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.