

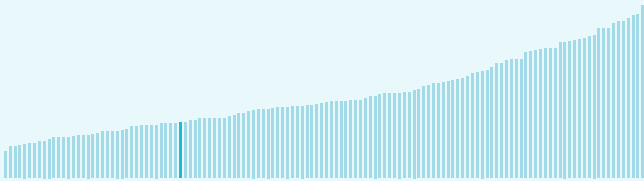
Global Innovation Index 2023



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**.

Namibia ranking in the Global Innovation Index 2023

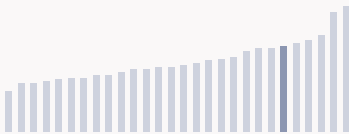
> Namibia ranks **96th** among the 132 economies featured in the GII 2023.



> Namibia ranks **30th** among the 33 upper-middle-income group economies.



> Namibia ranks **6th** among the 28 economies in Sub-Saharan Africa.



> Namibia GII Ranking (2020-2023)

The table shows the rankings of Namibia 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 Namibia in the GII 2023 is between ranks 92 and 104.

	GII Position	Innovation Inputs	Innovation Outputs
2020	104th	101st	104th
2021	100th	88th	110th
2022	96th	84th	113rd
2023	96th	80th	111st

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

This year Namibia ranks 80th in innovation inputs. This position is higher than last year.

Namibia ranks 111st in innovation outputs. This position is higher than last year.

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→ Expected vs. observed innovation performance

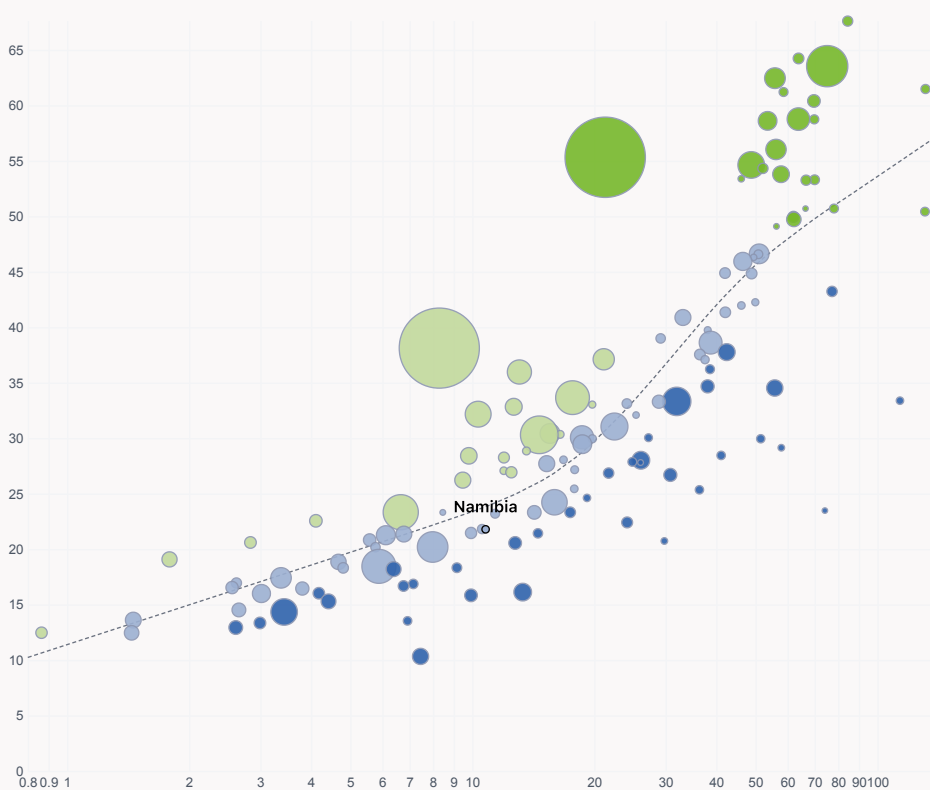
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected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



> Relative to GDP, Namibia'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 \$)

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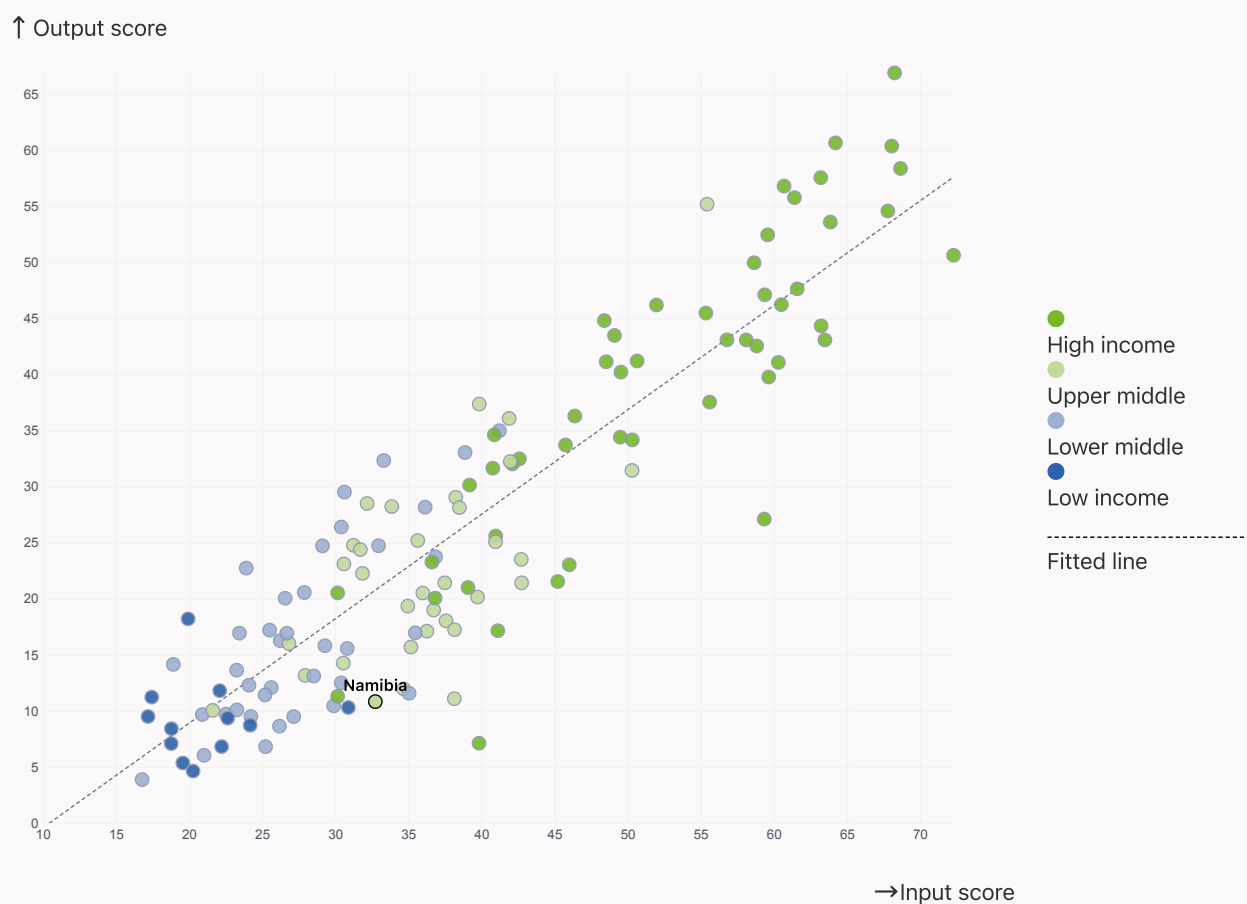
→ Effectively translating innovation investments into innovation outputs

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.



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

> Relationship between innovation inputs and outputs



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

Highest rankings →

● 50th Institutions

● 76th Human capital and research

● 84th Market sophistication

● 96th Global Innovation Index

● 99th Business sophistication
● 100th Infrastructure

● 104th Creative outputs

← Lowest rankings

● 123rd Knowledge and technology outputs

> Highest rankings



Namibia ranks highest in Institutions (50th), Human capital and research (76th) and Market sophistication (84th).

> Lowest rankings



Namibia ranks lowest in Knowledge and technology outputs (123rd), Creative outputs (104th) and Infrastructure (100th).



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

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

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

> Upper-Middle-Income economies

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



> Sub-Saharan Africa

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



Knowledge and technology outputs

Top 10 | Score: 58.96

Upper middle income | Score: 22.36

Sub-Saharan Africa | Score: 12.16

Namibia | Score: 10.14

Creative outputs

Top 10 | 56.09

Upper middle income | 23.16

Namibia | 11.47

Sub-Saharan Africa | 10.36

Business sophistication

Top 10 | 64.39

Upper middle income | 29.27

Namibia | 21.64

Sub-Saharan Africa | 19.85

Market sophistication

Top 10 | 61.93

Upper middle income | 35.45

Namibia | 28.96

Sub-Saharan Africa | 20.00

Human capital and research

Top 10 | 60.28

Upper middle income | 29.68

Namibia | 28.18

Sub-Saharan Africa | 17.80

Infrastructure

Top 10 | 62.83

Upper middle income | 40.40

Namibia | 28.71

Sub-Saharan Africa | 23.36

Institutions

Top 10 | 79.85

Namibia | 56.26

Upper middle income | 47.71

Sub-Saharan Africa | 43.27

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→ Innovation strengths and weaknesses in Namibia

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

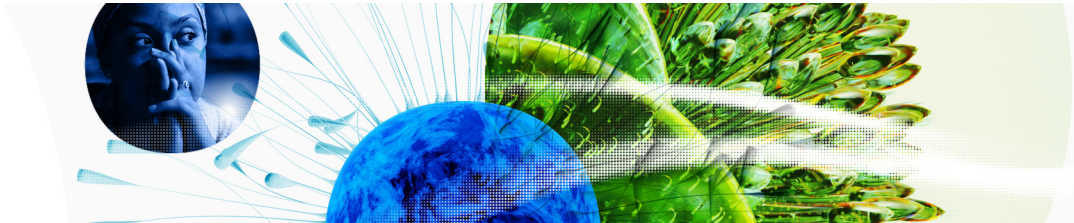


> Namibia's main innovation strengths are **Expenditure on education, % GDP** (rank 1), **Applied tariff rate, weighted avg., %** (rank 14) and **Cost of redundancy dismissal** (rank 28).

Strengths

Weaknesses

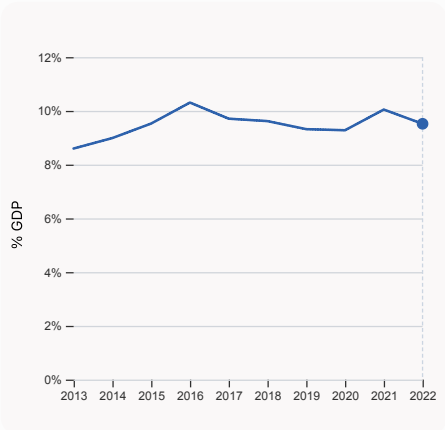
Rank	Code	Indicator name	Rank	Code	Indicator name
1	2.1.1	Expenditure on education, % GDP	127	4.3.3	Domestic market scale, bn PPP\$
14	4.3.1	Applied tariff rate, weighted avg., %	127	6.2.1	Labor productivity growth, %
28	1.2.3	Cost of redundancy dismissal	118	3.2.3	Gross capital formation, % GDP
37	3.3.2	Environmental performance	115	3.1.4	E-participation
39	7.3.4	Mobile app creation/bn PPP\$ GDP	112	2.2.2	Graduates in science and engineering, %
39	5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	74	7.1.3	Global brand value, top 5,000
42	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	71	2.3.4	QS university ranking, top 3
42	5.3.3	ICT services imports, % total trade	48	6.2.2	Unicorn valuation, % GDP
48	1.2.2	Rule of law	40	2.3.3	Global corporate R&D investors, top 3, mn US\$
49	4.1.2	Domestic credit to private sector, % GDP			



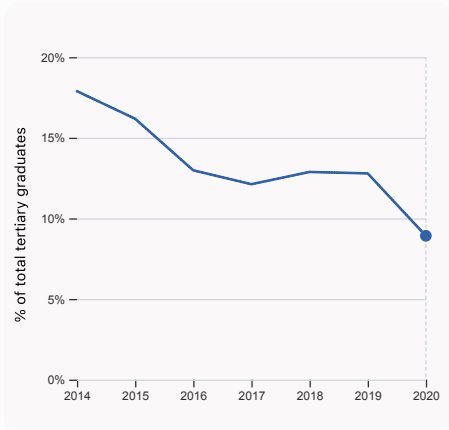
→ Namibia's innovation system

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

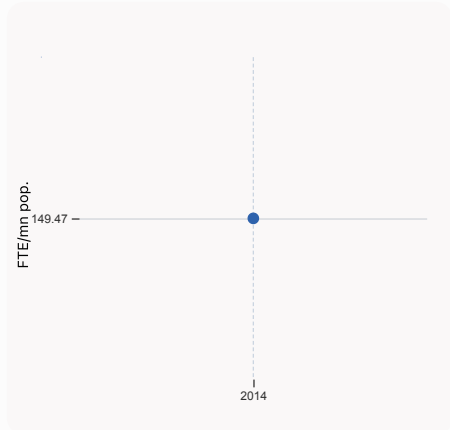
> Innovation inputs in Namibia



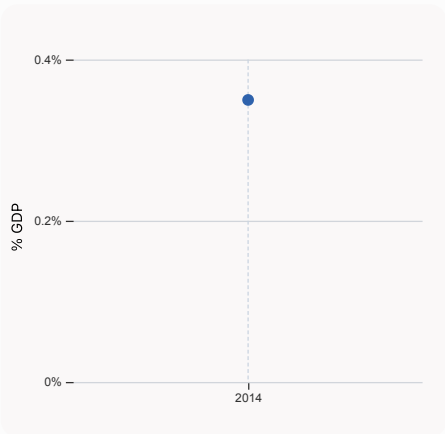
2.1.1 Expenditure on education, % GDP
was equal to 9.52% GDP in 2022, down by 0.53 percentage points from the year prior – and equivalent to an indicator rank of 1.



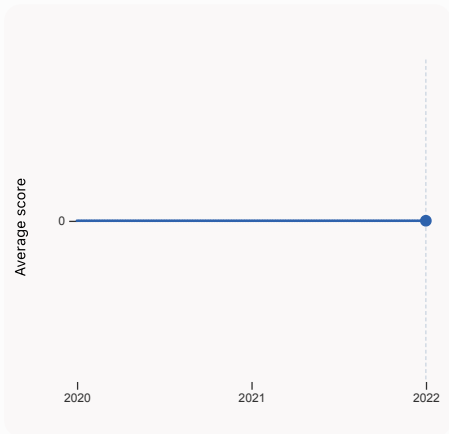
2.2.2 Graduates in science and engineering, %
was equal to 8.92% of total tertiary graduates in 2020, down by 3.87 percentage points from the year prior – and equivalent to an indicator rank of 112.



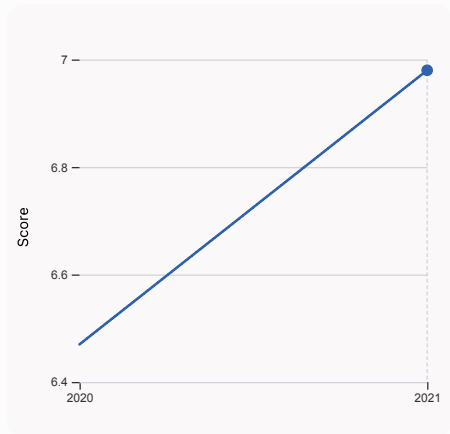
2.3.1 Researchers, FTE/mn pop.
was equal to 149.47 FTE/mn pop. in 2014, equivalent to an indicator rank of 86.



2.3.2 Gross expenditure on R&D, % GDP
was equal to 0.35 % GDP in 2014, equivalent to an indicator rank of 71.

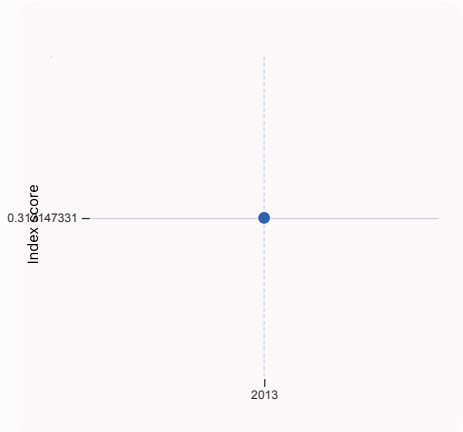


2.3.4 QS university ranking, top 3
was equal to an average score of 0 for the top 3 universities in 2022, equivalent to an indicator rank of 71.

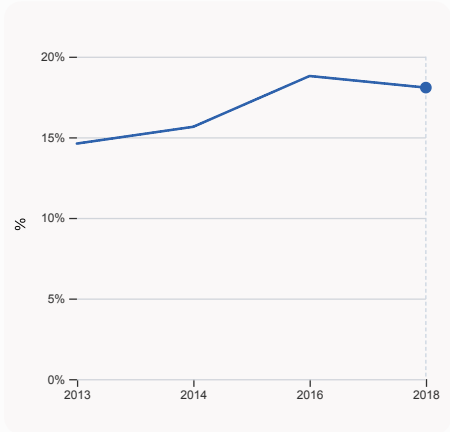


3.1.1 ICT access
was equal to a score of 6.98 in 2021, up by 7.88% from the year prior – and equivalent to an indicator rank of 102.

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4.3.2 Domestic industry diversification was equal to an index score of 0.313 in 2013, equivalent to an indicator rank of 97.

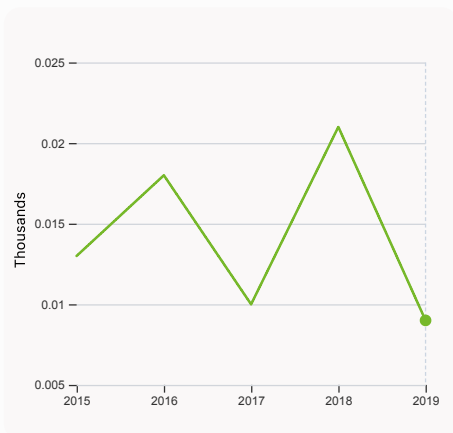


5.1.1 Knowledge-intensive employment, % was equal to 18.08% in 2018, down by 0.72 percentage points from the year prior – and equivalent to an indicator rank of 79.

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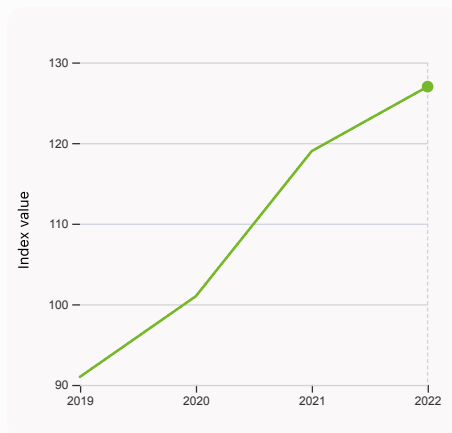


> Innovation outputs in Namibia



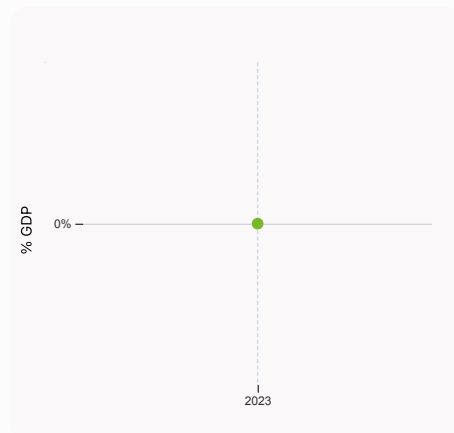
6.1.1 Patents by origin

was equal to 0.009 Thousands in 2019, down by 57.14% from the year prior – and equivalent to an indicator rank of 88.



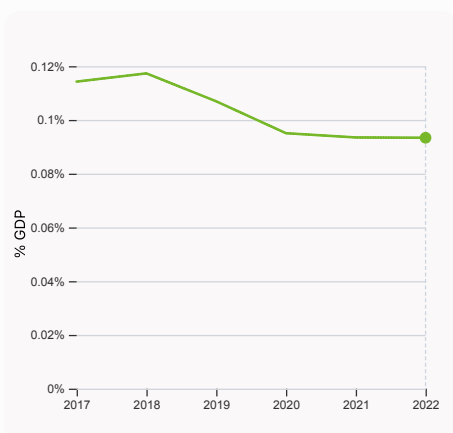
6.1.5 Citable documents H-index

was equal to an index value of 127 in 2022, up by 6.72% from the year prior – and equivalent to an indicator rank of 106.



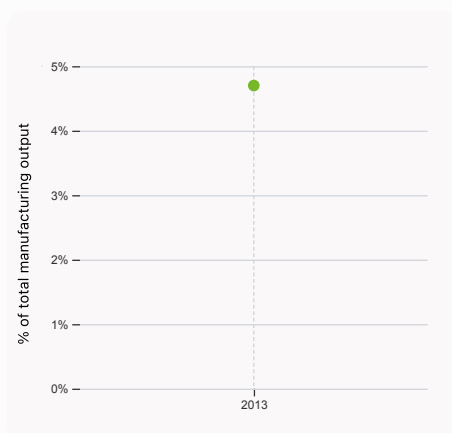
6.2.2 Unicorn valuation, % GDP

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



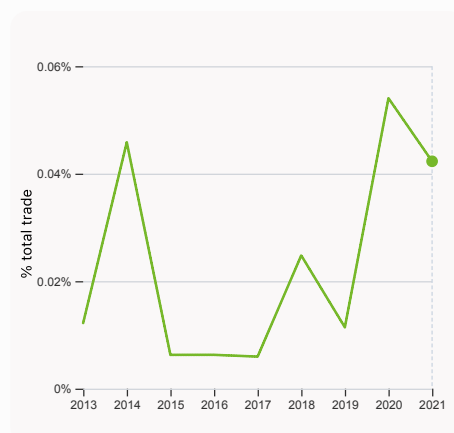
6.2.3 Software spending, % GDP

was equal to 0.093% GDP in 2022, down by 0.00012 percentage points from the year prior – and equivalent to an indicator rank of 92.



6.2.4 High-tech manufacturing, %

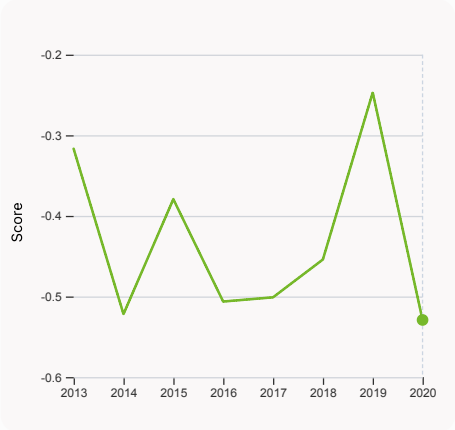
was equal to 4.7 % of total manufacturing output in 2013 – and equivalent to an indicator rank of 102.



6.3.1 Intellectual property receipts, % total trade

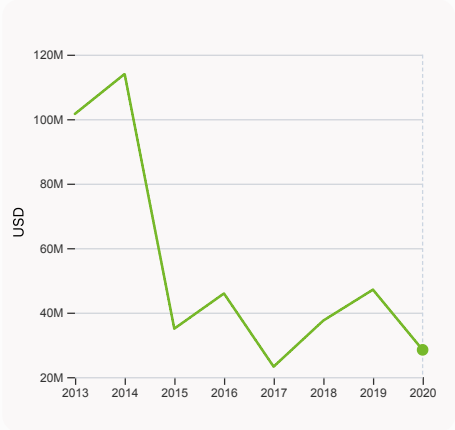
was equal to 0.042% total trade in 2021, down by 0.012 percentage points from the year prior – and equivalent to an indicator rank of 77.

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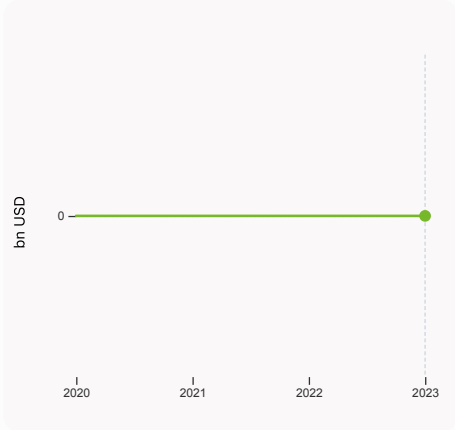
6.3.2 Production and export complexity

was equal to a score of -0.529 in 2020, down by 114.21% from the year prior – and equivalent to an indicator rank of 91.



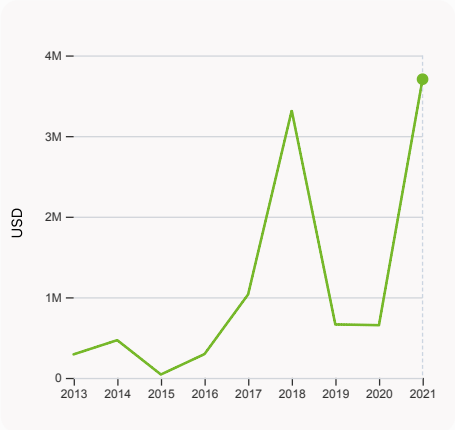
6.3.3 High-tech exports

was equal to 28,456,108 USD in 2020, down by 39.61% from the year prior – and equivalent to an indicator rank of 80.



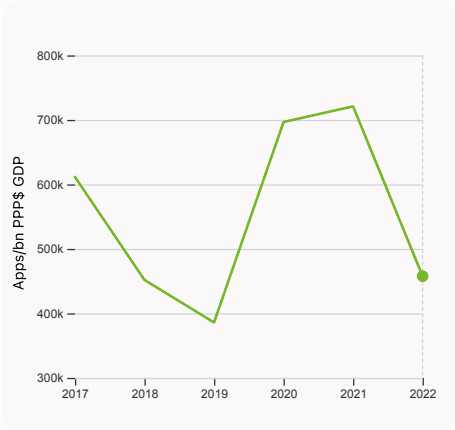
7.1.3 Global brand value, top 5,000

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



7.2.1 Cultural and creative services exports

was equal to 3,705,000 USD in 2021, up by 466.51% from the year prior – and equivalent to an indicator rank of 91.



7.3.4 Mobile app creation/bn PPP\$ GDP

was equal to 457,632.81 Apps/bn PPP\$ GDP in 2022, down by 36.53% from the year prior – and equivalent to an indicator rank of 39.

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GII 2023 rank

96

Namibia

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
111	80	Upper middle	SSA	2.6	28.0	10,790.6

Score / Value Rank

Score / Value Rank

Institutions			Business sophistication		
56.3 50			21.6 99		
1.1 Institutional environment			5.1 Knowledge workers		
47.0 60			18.0 106		
1.1.1 Operational stability for businesses*			5.1.1 Knowledge-intensive employment, %		
55.6 56			18.1 79		
1.1.2 Government effectiveness*			5.1.2 Firms offering formal training, %		
38.4 64			25.4 65		
1.2 Regulatory environment			5.1.3 GERD performed by business, % GDP		
71.4 41			0.0 75		
1.2.1 Regulatory quality*			5.1.4 GERD financed by business, %		
42.0 73			11.1 73		
1.2.2 Rule of law*			5.1.5 Females employed w/advanced degrees, %		
50.3 48			7.4 88		
1.2.3 Cost of redundancy dismissal			5.2 Innovation linkages		
9.7 28			21.9 65		
1.3 Business environment			5.2.1 University-industry R&D collaboration†		
50.4 53			47.8 54		
1.3.1 Policies for doing business†			5.2.2 State of cluster development†		
50.4 60			38.0 77		
1.3.2 Entrepreneurship policies and culture†			5.2.3 GERD financed by abroad, % GDP		
n/a n/a			0.1 46		
Human capital and research			5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP		
28.2 76			0.0 39		
2.1 Education			5.2.5 Patent families/bn PPP\$ GDP		
74.7 2			0.1 54		
2.1.1 Expenditure on education, % GDP			5.3 Knowledge absorption		
9.5 1			25.1 103		
2.1.2 Government funding/pupil, secondary, % GDP/cap			5.3.1 Intellectual property payments, % total trade		
n/a n/a			0.0 110		
2.1.3 School life expectancy, years			5.3.2 High-tech imports, % total trade		
n/a n/a			7.3 81		
2.1.4 PISA scales in reading, maths and science			5.3.3 ICT services imports, % total trade		
n/a n/a			1.8 42		
2.1.5 Pupil-teacher ratio, secondary			5.3.4 FDI net inflows, % GDP		
25.9 112			0.8 102		
2.2 Tertiary education			5.3.5 Research talent, % in businesses		
8.0 115			6.9 65		
2.2.1 Tertiary enrolment, % gross			Knowledge and technology outputs		
27.3 89			10.1 123		
2.2.2 Graduates in science and engineering, %			6.1 Knowledge creation		
8.9 112			8.2 91		
2.2.3 Tertiary inbound mobility, %			6.1.1 Patents by origin/bn PPP\$ GDP		
3.2 62			0.4 88		
2.3 Research and development (R&D)			6.1.2 PCT patents by origin/bn PPP\$ GDP		
1.9 91			0.1 52		
2.3.1 Researchers, FTE/mn pop.			6.1.3 Utility models by origin/bn PPP\$ GDP		
149.5 86			0.2 41		
2.3.2 Gross expenditure on R&D, % GDP			6.1.4 Scientific and technical articles/bn PPP\$ GDP		
0.3 71			n/a n/a		
2.3.3 Global corporate R&D investors, top 3, mn US\$			6.1.5 Citable documents H-index		
0.0 40			4.7 106		
2.3.4 QS university ranking, top 3*			6.2 Knowledge impact		
0.0 71			9.4 128		
Infrastructure			6.2.1 Labor productivity growth, %		
28.7 100			-2.1 127		
3.1 Information and communication technologies (ICTs)			6.2.2 Unicorn valuation, % GDP		
41.6 108			0.0 48		
3.1.1 ICT access*			6.2.3 Software spending, % GDP		
54.4 102			0.1 92		
3.1.2 ICT use*			6.2.4 High-tech manufacturing, %		
51.3 102			4.7 102		
3.1.3 Government's online service*			6.3 Knowledge diffusion		
37.2 113			12.8 95		
3.1.4 E-participation*			6.3.1 Intellectual property receipts, % total trade		
23.3 115			0.0 77		
3.2 General infrastructure			6.3.2 Production and export complexity		
15.2 106			41.4 91		
3.2.1 Electricity output, GWh/mn pop.			6.3.3 High-tech exports, % total trade		
771.3 103			0.7 80		
3.2.2 Logistics performance*			6.3.4 ICT services exports, % total trade		
36.4 65			0.4 105		
3.2.3 Gross capital formation, % GDP			6.3.5 ISO 9001 quality/bn PPP\$ GDP		
15.1 118			1.9 89		
3.3 Ecological sustainability			Creative outputs		
29.4 56			11.5 104		
3.3.1 GDP/unit of energy use			7.1 Intangible assets		
11.8 49			11.2 105		
3.3.2 Environmental performance*			7.1.1 Intangible asset intensity, top 15, %		
54.2 37			n/a n/a		
3.3.3 ISO 14001 environment/bn PPP\$ GDP			7.1.2 Trademarks by origin/bn PPP\$ GDP		
0.8 72			14.4 101		
Market sophistication			7.1.3 Global brand value, top 5,000		
29.0 84			1.4 55		
4.1 Credit			7.1.4 Industrial designs by origin/bn PPP\$ GDP		
26.6 74			1.9 105		
4.1.1 Finance for startups and scaleups†			7.2 Creative goods and services		
n/a n/a			7.2.1 Cultural and creative services exports, % total trade		
4.1.2 Domestic credit to private sector, % GDP			0.1 91		
72.8 49			7.2.2 National feature films/mn pop. 15-69		
4.1.3 Loans from microfinance institutions, % GDP			n/a n/a		
n/a n/a			7.2.3 Entertainment and media market/th pop. 15-69		
4.2 Investment			n/a n/a		
7.0 66			7.2.4 Creative goods exports, % total trade		
4.2.1 Market capitalization, % GDP			0.2 78		
18.8 60			7.3 Online creativity		
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP			21.5 61		
n/a n/a			7.3.1 Generic top-level domains (TLDs)/th pop. 15-69		
4.2.3 VC recipients, deals/bn PPP\$ GDP			10.0 42		
n/a n/a			7.3.2 Country-code TLDs/th pop. 15-69		
4.2.4 VC received, value, % GDP			0.9 94		
n/a n/a			7.3.3 GitHub commits/mn pop. 15-69		
4.3 Trade, diversification, and market scale			2.0 100		
53.3 80			7.3.4 Mobile app creation/bn PPP\$ GDP		
4.3.1 Applied tariff rate, weighted avg., %			73.2 39		
1.3 14					
4.3.2 Domestic industry diversification					
67.5 97					
4.3.3 Domestic market scale, bn PPP\$					
28.0 127					

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 Namibia.



> Namibia has missing data for twelve indicators and outdated data for twenty indicators.

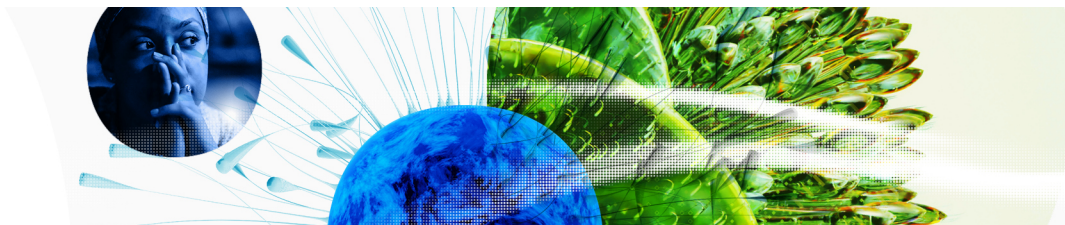
> Missing data for Namibia

Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture	n/a	2022	Global Entrepreneurship Monitor
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2019	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	n/a	2020	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
4.1.1	Finance for startups and scaleups	n/a	2022	Global Entrepreneurship Monitor
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
7.1.1	Intangible asset intensity, top 15, %	n/a	2022	Brand Finance
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 Namibia

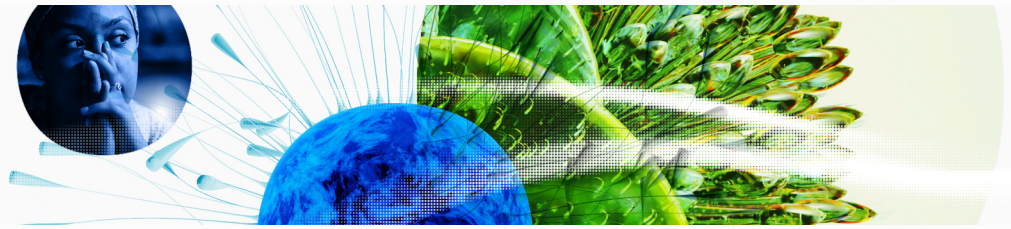
Code	Indicator name	Economy Year	Model Year	Source
2.1.5	Pupil-teacher ratio, secondary	2017	2020	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2014	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	2014	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT

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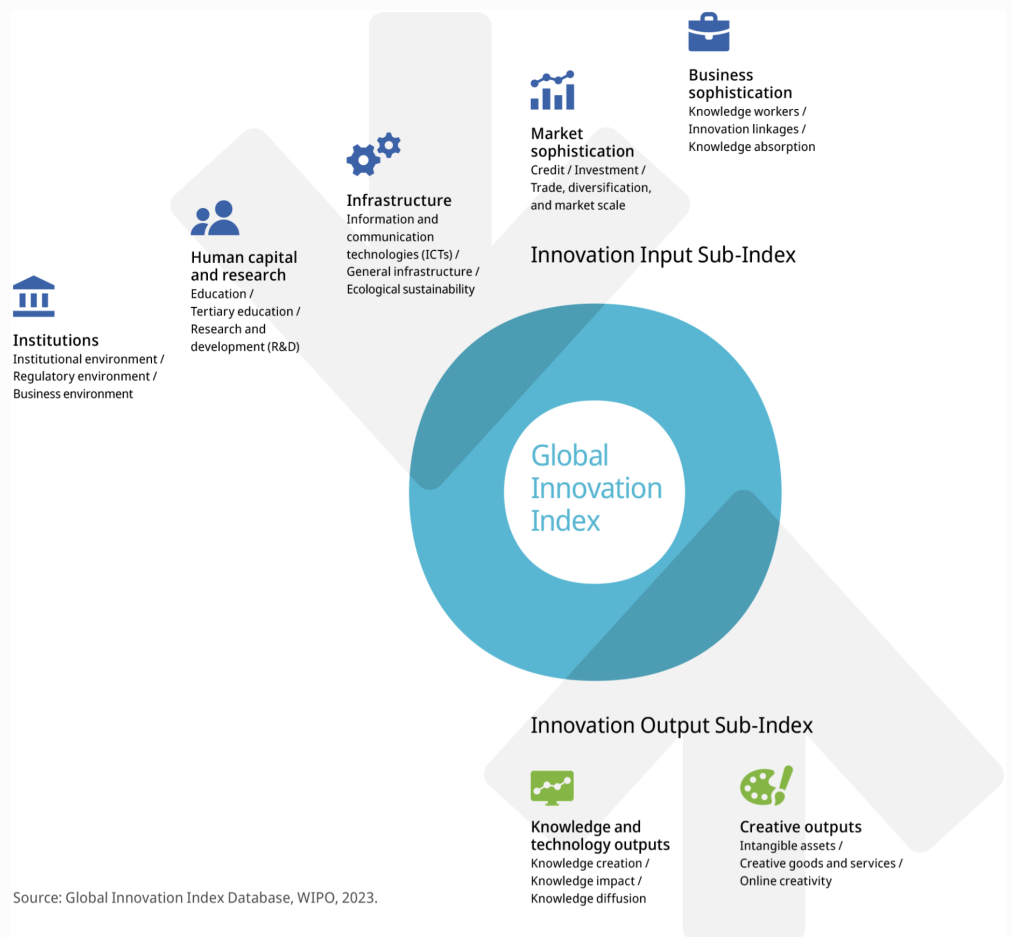
Code	Indicator name	Economy Year	Model Year	Source
3.2.1	Electricity output, GWh/mn pop.	2020	2021	International Energy Agency
4.3.2	Domestic industry diversification	2013	2020	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	2018	2022	International Labour Organization
5.1.2	Firms offering formal training, %	2014	2019	World Bank Enterprise Surveys
5.1.3	GERD performed by business, % GDP	2014	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	2014	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	Females employed w/advanced degrees, %	2018	2022	International Labour Organization
5.2.3	GERD financed by abroad, % GDP	2014	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.2	High-tech imports, % total trade	2020	2021	United Nations Comtrade Database; World Trade Organization and United Nations Conference on Trade and Development
5.3.5	Research talent, % in businesses	2014	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.1.1	Patents by origin/bn PPP\$ GDP	2019	2021	World Intellectual Property Organization; International Monetary Fund
6.1.3	Utility models by origin/bn PPP\$ GDP	2020	2021	World Intellectual Property Organization; International Monetary Fund
6.2.4	High-tech manufacturing, %	2013	2020	United Nations Industrial Development Organization
6.3.3	High-tech exports, % total trade	2020	2021	United Nations Comtrade Database; World Trade Organization and United Nations Conference on Trade and Development; Trade Data Monitor.
7.1.2	Trademarks by origin/bn PPP\$ GDP	2020	2021	World Intellectual Property Organization; International Monetary Fund
7.1.4	Industrial designs by origin/bn PPP\$ GDP	2020	2021	World Intellectual Property Organization; International Monetary Fund
7.2.4	Creative goods exports, % total trade	2020	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.