NAMIBIA

96th Namibia ranks 96th among the 132 economies featured in the GII 2022.

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.

The following table shows the rankings of Namibia over the past three years, noting that 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 2022 is between ranks 94 and 105.

Rankings for Namibia (2020–2022)

GIIYR	GII	Innovation inputs	Innovation outputs
2020	104	101	104
2021	100	88	110
2022	96	84	113

- Namibia performs better in innovation inputs than innovation outputs in 2022.
- This year Namibia ranks 84th in innovation inputs, higher than both 2021 and 2020.
- As for innovation outputs, Namibia ranks 113th. This position is lower than both 2021 and 2020.

33rd Namibia ranks 33rd among the 36 upper-middle-income group economies.

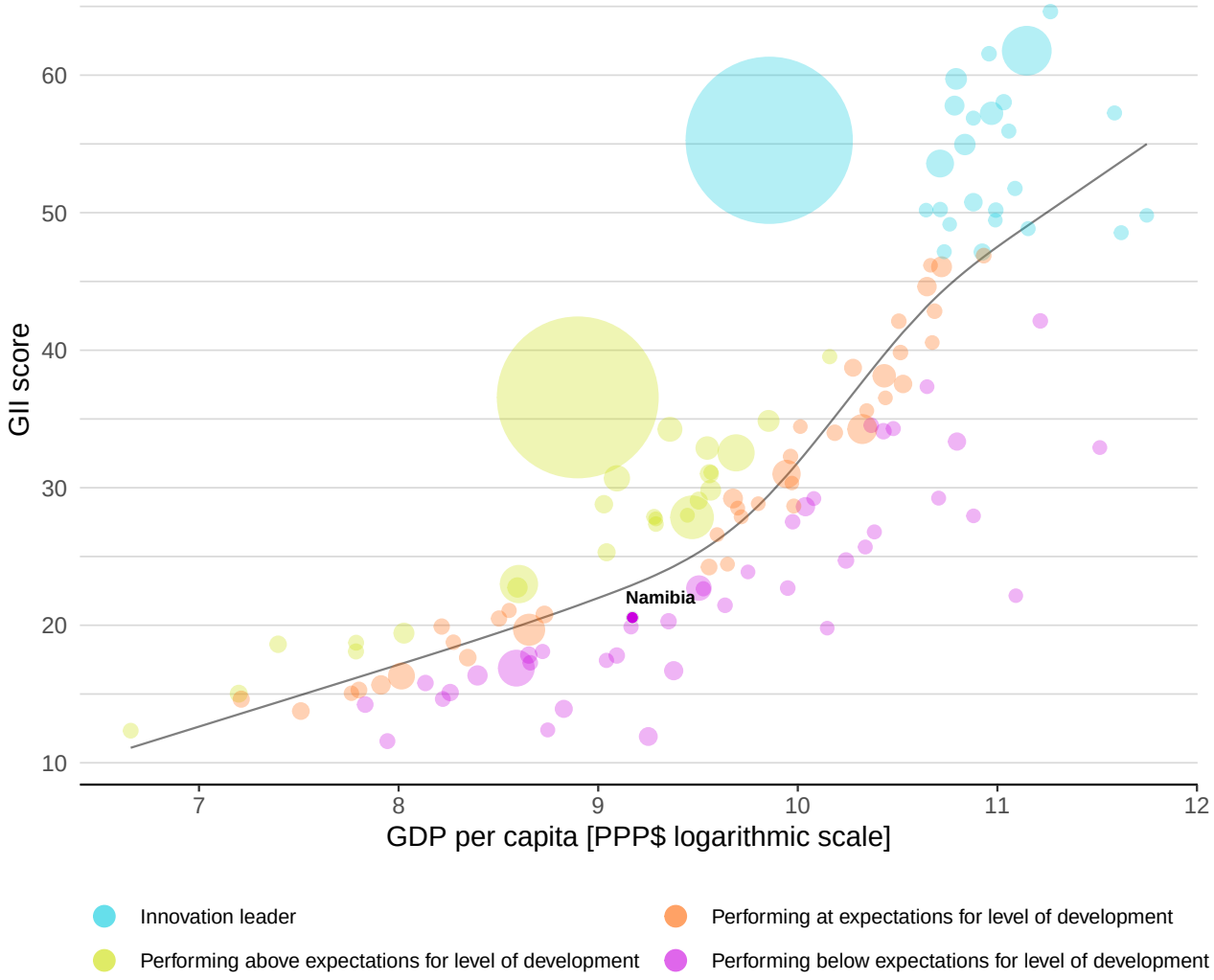
6th Namibia ranks 6th among the 27 economies in Sub-Saharan Africa.

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 below expectations for its level of development.

The positive relationship between innovation and development

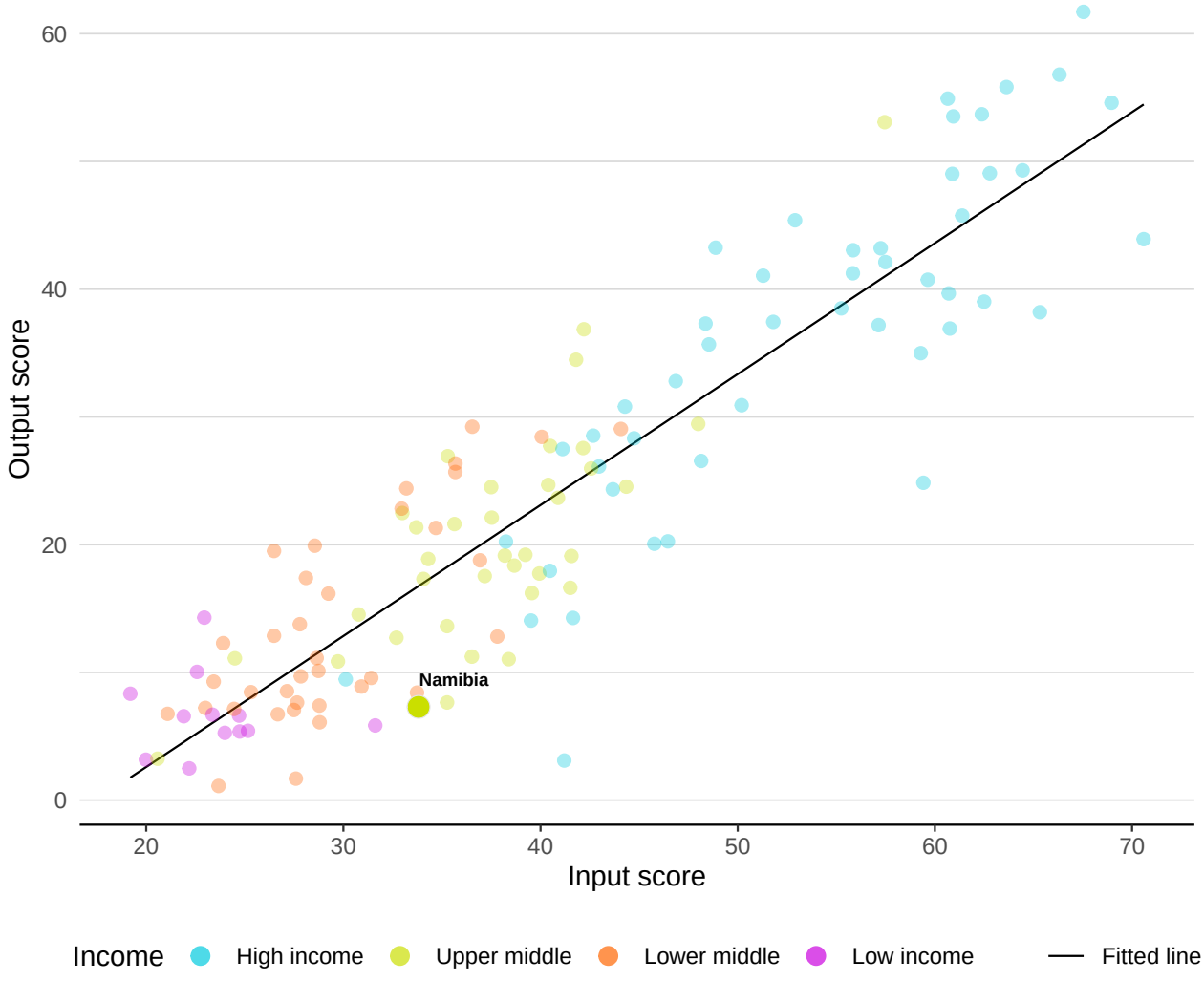


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

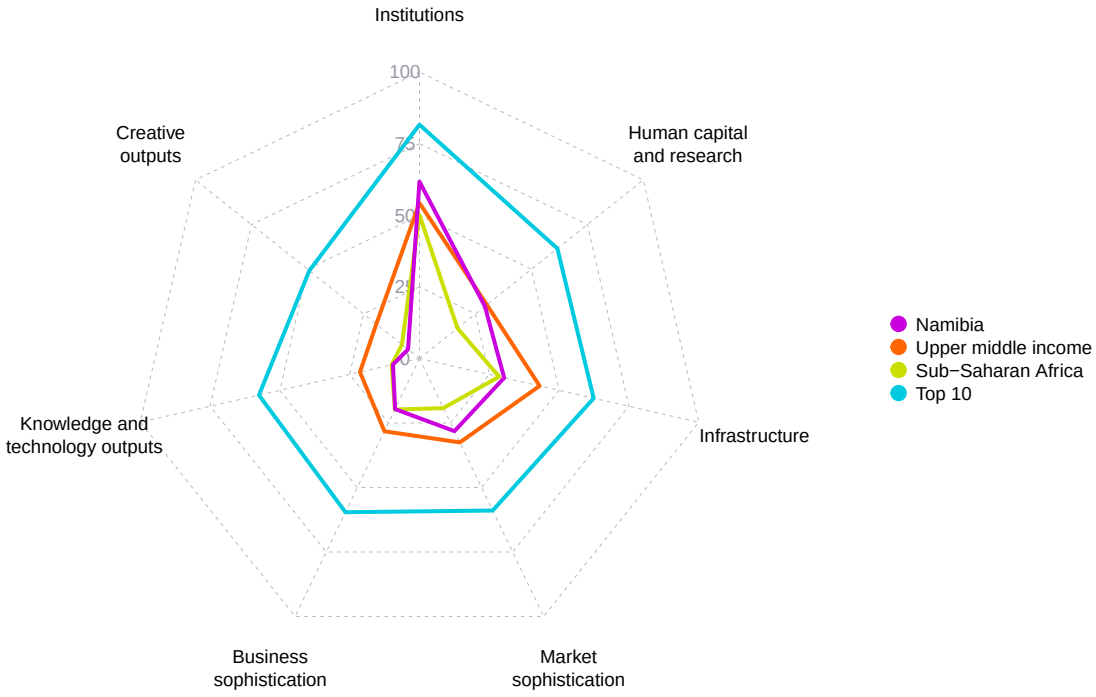
Namibia produces less innovation outputs relative to its level of innovation investments.

Innovation input to output performance



BENCHMARKING AGAINST OTHER UPPER MIDDLE-INCOME GROUP ECONOMIES AND SUB-SAHARAN AFRICA

The seven GII pillar scores for Namibia



Upper-middle-income group economies

Namibia performs above the upper-middle-income group average in Institutions.

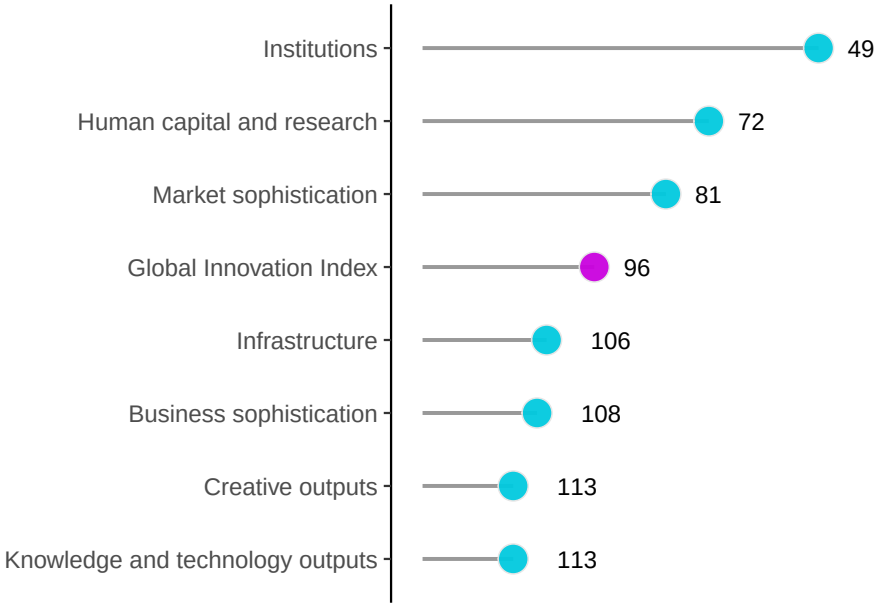
Sub-Saharan Africa

Namibia performs above the regional average in four pillars, namely: Institutions; Human capital and research; Infrastructure; and, Market sophistication.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2022 AREAS

Namibia performs best in Institutions and its weakest performance is in Knowledge and technology outputs and Creative outputs.

The seven GII pillar ranks for Namibia



Note: The highest possible ranking in each pillar is 1.

The full WIPO Intellectual Property Statistics profile for Namibia can be found at:

https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=NA.

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the indicator strengths and weaknesses of Namibia in the GII 2022.

Strengths and weaknesses for Namibia

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
1.2.2	Rule of law	50	2.2.2	Graduates in science and engineering, %	101
1.2.3	Cost of redundancy dismissal	27	2.3.3	Global corporate R&D investors, top 3, mn USD	38
2.1.1	Expenditure on education, % GDP	1	2.3.4	QS university ranking, top 3	72
3.3.2	Environmental performance	37	4.3.3	Domestic market scale, bn PPP$	127
4.1.2	Domestic credit to private sector, % GDP	46	5.2.5	Patent families/bn PPP$ GDP	101
4.3.1	Applied tariff rate, weighted avg., %	14	5.3.4	FDI net inflows, % GDP	122
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	46	6.2.1	Labor productivity growth, %	114
6.1.2	PCT patents by origin/bn PPP$ GDP	35	6.2.5	High-tech manufacturing, %	99
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	43	6.3.4	ICT services exports, % total trade	118
7.3.4	Mobile app creation/bn PPP$ GDP	32	7.1.3	Global brand value, top 5,000, % GDP	77

GII 2022 rank

Namibia

96

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
113	84	Upper middle	SSA	2.6	25.0	9,616

		Score/ Value	Rank
Institutions		**61.7**	**49** ●
1.1	**Political environment**	60.8	62
1.1.1	Political and operational stability*	70.9	53
1.1.2	Government effectiveness*	50.8	66
1.2	**Regulatory environment**	72.4	42 ●
1.2.1	Regulatory quality*	42.2	79
1.2.2	Rule of law*	53.8	50 ● ◆
1.2.3	Cost of redundancy dismissal	9.7	27 ●
1.3	**Business environment**	52.0	[53]
1.3.1	Policies for doing business†	52.0	57
1.3.2	Entrepreneurship policies and culture*	n/a	n/a
Human capital and research		**29.2**	**72**
2.1	**Education**	73.7	[2]
2.1.1	Expenditure on education, % GDP	9.6	1 ● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a
2.1.3	School life expectancy, years	n/a	n/a
2.1.4	PISA scales in reading, maths and science	n/a	n/a
2.1.5	Pupil-teacher ratio, secondary	25.9	107 ◇
2.2	**Tertiary education**	12.6	106 ◇
2.2.1	Tertiary enrolment, % gross	24.1	91 ◇
2.2.2	Graduates in science and engineering, %	12.9	101 ○ ◇
2.2.3	Tertiary inbound mobility, %	4.8	52
2.3	**Research and development (R&D)**	1.3	92
2.3.1	Researchers, FTE/mn pop.	149.5	86 ◇
2.3.2	Gross expenditure on R&D, % GDP	0.3	73
2.3.3	Global corporate R&D investors, top 3, mn USD	0.0	38 ○ ◇
2.3.4	QS university ranking, top 3*	0.0	72 ○ ◇
Infrastructure		**30.3**	**106** ◇
3.1	**Information and communication technologies (ICTs)**	51.4	101 ◇
3.1.1	ICT access*	64.7	106 ◇
3.1.2	ICT use*	38.4	103 ◇
3.1.3	Government's online service*	52.3	99 ◇
3.1.4	E-participation*	50.0	103 ◇
3.2	**General infrastructure**	10.7	129 ○ ◇
3.2.1	Electricity output, GWh/mn pop.	420.0	113 ◇
3.2.2	Logistics performance*	n/a	n/a
3.2.3	Gross capital formation, % GDP	17.0	111 ◇
3.3	**Ecological sustainability**	28.9	55
3.3.1	GDP/unit of energy use	11.8	52
3.3.2	Environmental performance*	50.9	37 ● ◆
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	0.7	76
Market sophistication		**28.2**	**[81]**
4.1	**Credit**	26.5	[67]
4.1.1	Finance for startups and scaleups*	n/a	n/a
4.1.2	Domestic credit to private sector, % GDP	72.5	46 ●
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a
4.2	**Investment**	7.0	[65]
4.2.1	Market capitalization, % GDP	18.8	61
4.2.2	Venture capital investors, deals/bn PPP$ GDP	n/a	n/a
4.2.3	Venture capital recipients, deals/bn PPP$ GDP	n/a	n/a
4.2.4	Venture capital received, value, % GDP	n/a	n/a
4.3	**Trade, diversification, and market scale**	51.0	79
4.3.1	Applied tariff rate, weighted avg., %	1.3	14 ●
4.3.2	Domestic industry diversification	60.9	96
4.3.3	Domestic market scale, bn PPP$	25.0	127 ○

		Score/ Value	Rank
Business sophistication		**19.6**	**108** ◇
5.1	**Knowledge workers**	18.2	104 ◇
5.1.1	Knowledge-intensive employment, %	18.1	82
5.1.2	Firms offering formal training, %	25.4	64
5.1.3	GERD performed by business, % GDP	0.0	75
5.1.4	GERD financed by business, %	11.1	73
5.1.5	Females employed w/advanced degrees, %	7.4	84 ◇
5.2	**Innovation linkages**	20.6	89
5.2.1	University-industry R&D collaboration†	39.5	83
5.2.2	State of cluster development and depth†	42.5	90
5.2.3	GERD financed by abroad, % GDP	0.1	44
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	46 ●
5.2.5	Patent families/bn PPP$ GDP	0.0	101 ○ ◇
5.3	**Knowledge absorption**	20.0	110 ◇
5.3.1	Intellectual property payments, % total trade	0.0	111 ◇
5.3.2	High-tech imports, % total trade	7.4	85
5.3.3	ICT services imports, % total trade	1.5	64
5.3.4	FDI net inflows, % GDP	−0.4	122 ○ ◇
5.3.5	Research talent, % in businesses	6.9	65
Knowledge and technology outputs		**9.5**	**113** ◇
6.1	**Knowledge creation**	7.7	86
6.1.1	Patents by origin/bn PPP$ GDP	0.4	83
6.1.2	PCT patents by origin/bn PPP$ GDP	0.4	35 ●
6.1.3	Utility models by origin/bn PPP$ GDP	0.2	50
6.1.4	Scientific and technical articles/bn PPP$ GDP	13.8	71
6.1.5	Citable documents H-index	4.2	104
6.2	**Knowledge impact**	7.5	120 ○ ◇
6.2.1	Labor productivity growth, %	−3.7	114 ○ ◇
6.2.2	New businesses/th pop. 15–64	0.6	93
6.2.3	Software spending, % GDP	0.1	82
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	1.7	87
6.2.5	High-tech manufacturing, %	4.7	99 ○ ◇
6.3	**Knowledge diffusion**	13.3	93
6.3.1	Intellectual property receipts, % total trade	0.0	80
6.3.2	Production and export complexity	36.4	70
6.3.3	High-tech exports, % total trade	0.7	83
6.3.4	ICT services exports, % total trade	0.3	118 ○
Creative outputs		**5.1**	**113** ◇
7.1	**Intangible assets**	5.8	114 ◇
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
7.1.2	Trademarks by origin/bn PPP$ GDP	14.3	99 ◇
7.1.3	Global brand value, top 5,000, % GDP	0.0	77 ○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.4	55
7.2	**Creative goods and services**	1.6	[118]
7.2.1	Cultural and creative services exports, % total trade	0.0	95
7.2.2	National feature films/mn pop. 15–69	n/a	n/a
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a
7.2.4	Printing and other media, % manufacturing	n/a	n/a
7.2.5	Creative goods exports, % total trade	0.2	75
7.3	**Online creativity**	7.2	52
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	8.6	43 ●
7.3.2	Country-code TLDs/th pop. 15–69	0.8	91
7.3.3	GitHub commit pushes received/mn pop. 15–69	n/a	n/a
7.3.4	Mobile app creation/bn PPP$ GDP	12.2	32 ●

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/global_innovation_index/en/2022. 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.

Missing data for Namibia

Code	Indicator name	Economy year	Model year	Source
1.3.2	Entrepreneurship policies and culture	n/a	2021	Global Entrepreneurship Monitor
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2018	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	n/a	2019	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
3.2.2	Logistics performance	n/a	2018	Logistics Performance Index, World Bank
4.1.1	Finance for startups and scaleups	n/a	2021	Global Entrepreneurship Monitor
4.1.3	Loans from microfinance institutions, % GDP	n/a	2020	International Monetary Fund, Financial Access Survey (FAS)
4.2.2	Venture capital investors, deals/bn PPP$ GDP	n/a	2021	Refinitiv
4.2.3	Venture capital recipients, deals/bn PPP$ GDP	n/a	2021	Refinitiv
4.2.4	Venture capital received, value, % GDP	n/a	2021	Refinitiv
7.1.1	Intangible asset intensity, top 15, %	n/a	2021	Brand Finance
7.2.2	National feature films/mn pop. 15–69	n/a	2019	OMDIA
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2021	PwC, GEMO
7.2.4	Printing and other media, % manufacturing	n/a	2019	United Nations Industrial Development Organization
7.3.3	GitHub commit pushes received/mn pop. 15–69	n/a	2021	GitHub

Outdated data for Namibia

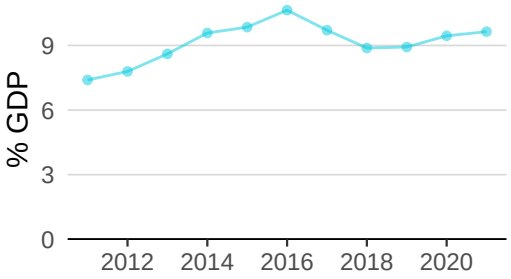
Code	Indicator name	Economy year	Model year	Source
2.1.5	Pupil-teacher ratio, secondary	2017	2019	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2018	2019	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2018	2020	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	2018	2019	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2014	2020	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	2014	2020	UNESCO Institute for Statistics
3.2.1	Electricity output, GWh/mn pop.	2019	2020	International Energy Agency

Code	Indicator name	Economy year	Model year	Source
4.3.2	Domestic industry diversification	2013	2019	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	2018	2021	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	2020	UNESCO Institute for Statistics
5.1.4	GERD financed by business, %	2014	2019	UNESCO Institute for Statistics
5.1.5	Females employed w/advanced degrees, %	2018	2021	International Labour Organization
5.2.3	GERD financed by abroad, % GDP	2014	2019	UNESCO Institute for Statistics
5.3.5	Research talent, % in businesses	2014	2020	UNESCO Institute for Statistics
6.1.1	Patents by origin/bn PPP$ GDP	2019	2020	World Intellectual Property Organization
6.2.5	High-tech manufacturing, %	2013	2019	United Nations Industrial Development Organization
7.2.5	Creative goods exports, % total trade	2019	2020	United Nations Comtrade Database

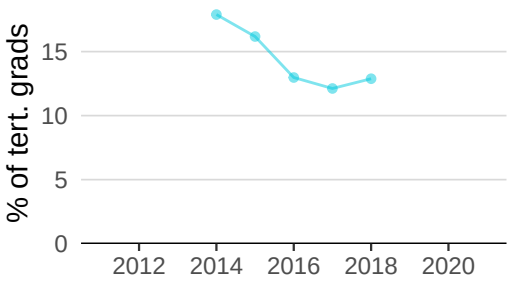
NAMIBIA'S INNOVATION SYSTEM

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

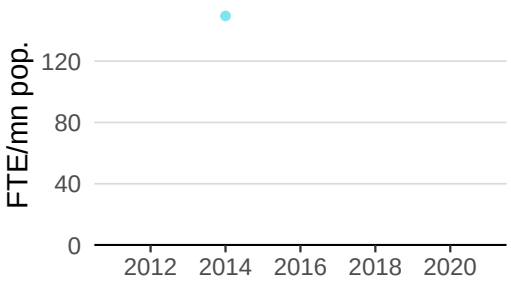
Innovation inputs



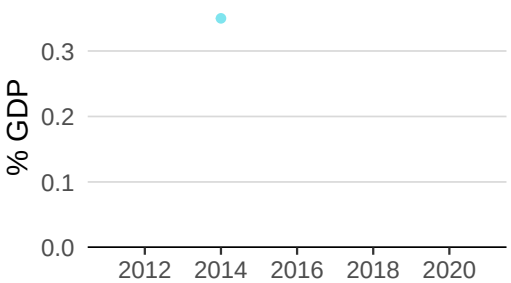
2.1.1 Expenditure on education was equal to 9.6% GDP in 2021–up by 2 percentage points from the year prior–and equivalent to an indicator rank of 1.



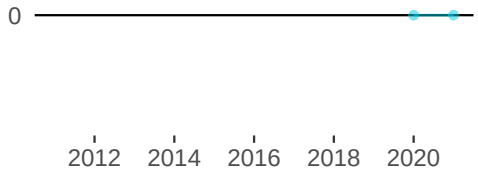
2.2.2 Graduates in science and engineering was equal to 12.9% of tert. grads in 2018–up by 6 percentage points from the year prior–and equivalent to an indicator rank of 101.



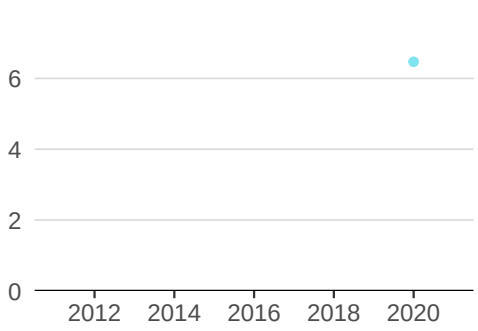
2.3.1 Researchers was equal to 149.5 FTE/mn pop. in 2014 and equivalent to an indicator rank of 86.



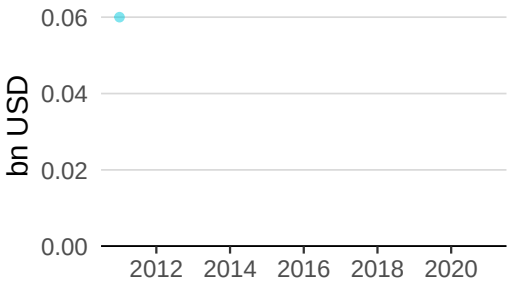
2.3.2 Gross expenditure on R&D was equal to 0.3% GDP in 2014 and equivalent to an indicator rank of 73.



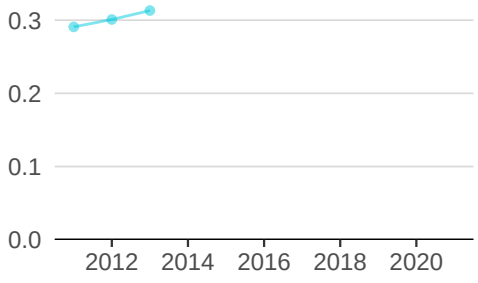
2.3.4 QS university ranking was equal to 0.0 in 2021–effectively unchanged from the year prior–and equivalent to an indicator rank of 72.



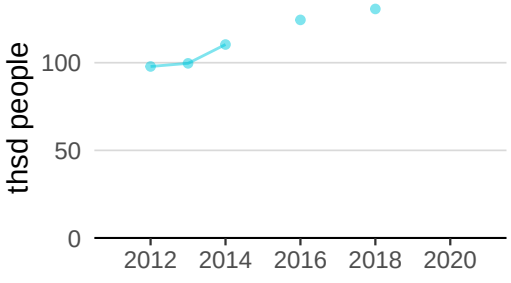
3.1.1 ICT access was equal to 6.5 in 2020 and equivalent to an indicator rank of 106.



4.2.4 Venture capital received was equal to 0.1 bn USD in 2011 .

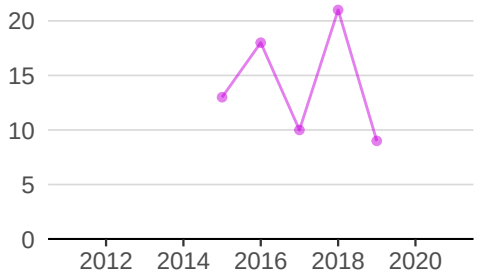


4.3.2 Domestic industry diversification was equal to 0.3 in 2013–up by 4 percentage points from the year prior–and equivalent to an indicator rank of 96.

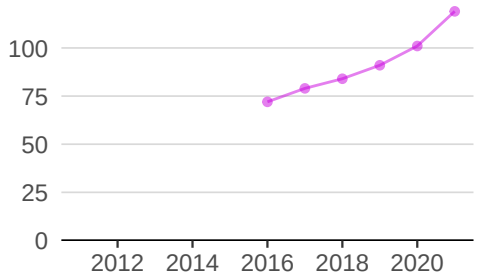


5.1.1 Knowledge-intensive employment was equal to 130.6 thsd people in 2018 and equivalent to an indicator rank of 82.

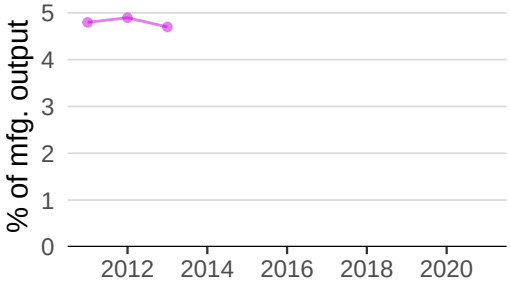
Innovation outputs



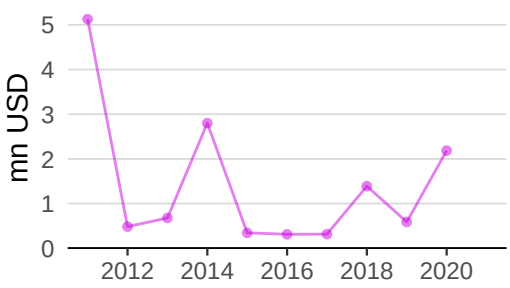
6.1.1 Patents by origin was equal to 9.0 in 2019–down by 57 percentage points from the year prior–and equivalent to an indicator rank of 83.



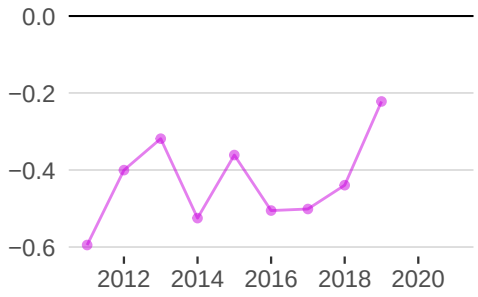
6.1.5 Citable documents H-index was equal to 119.0 in 2021–up by 18 percentage points from the year prior–and equivalent to an indicator rank of 104.



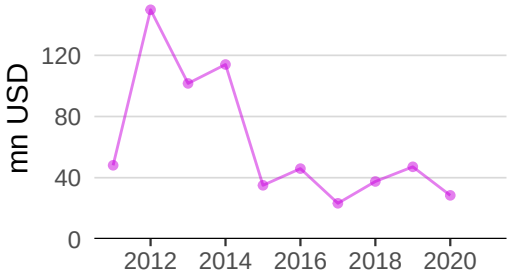
6.2.5 High-tech manufacturing was equal to 4.7% of mfg. output in 2013–down by 4 percentage points from the year prior–and equivalent to an indicator rank of 99.



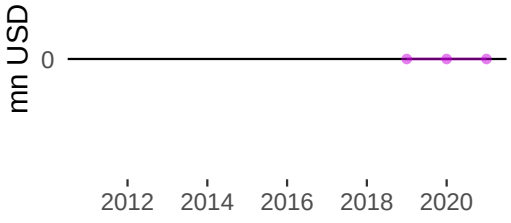
6.3.1 Intellectual property receipts was equal to 2.2 mn USD in 2020–up by 272 percentage points from the year prior–and equivalent to an indicator rank of 80.



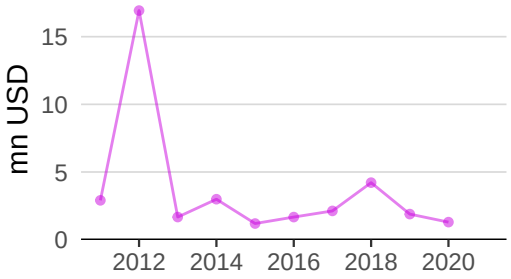
6.3.2 Production and export complexity was equal to -0.2 in 2019–up by 49 percentage points from the year prior–and equivalent to an indicator rank of 70.



6.3.3 High-tech exports was equal to 28.5 mn USD in 2020–down by 40 percentage points from the year prior–and equivalent to an indicator rank of 83.



7.1.3 Global brand value was equal to 0.0 mn USD in 2021–effectively unchanged from the year prior–and equivalent to an indicator rank of 77.



7.2.1 Cultural and creative services exports was equal to 1.3 mn USD in 2020–down by 31 percentage points from the year prior–and equivalent to an indicator rank of 95.

NAMIBIA'S INNOVATION TOP PERFORMERS

2.3.3 Global corporate R&D investors

Firm	Industry	R&D	R&D Growth	R&D Intensity	Rank

No observations

Source: European Commission's Joint Research Centre (https://iri.jrc.ec.europa.eu/scoreboard/2021-eu-industrial-rd-investment-scoreboard).

2.3.4 QS university ranking

University	Score	Rank

No observations

Source: QS Quacquarelli Symonds Ltd (https://www.topuniversities.com/university-rankings/world-university-rankings/2022).

7.1.1 Intangible asset intensity, top 15

Firm	Rank

No observations

Source: Brand Finance (https://brandirectory.com/reports/gift-2021).

7.1.3 Global brand value, top 5,000

Brand	Industry	Rank

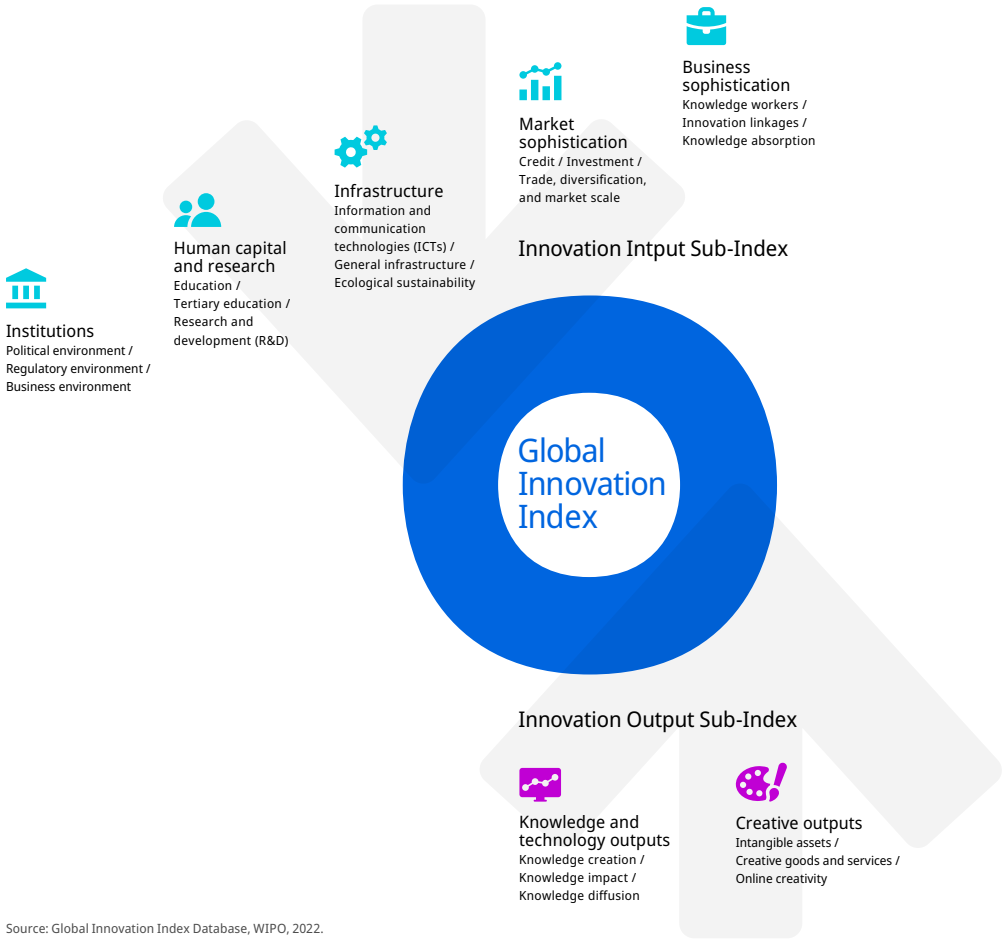
No observations

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

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.



Source: Global Innovation Index Database, WIPO, 2022.

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.