

Global Innovation Index 2023

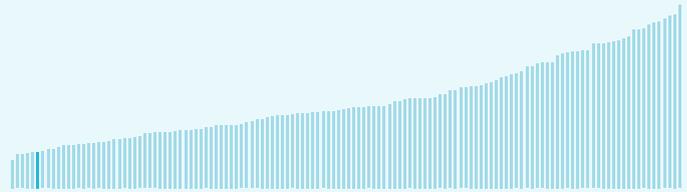


The Global Innovation Index (GII) **ranks world economies according to their innovation capabilities.**

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

Mauritania ranking in the Global Innovation Index 2023

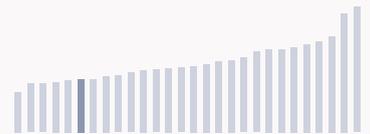
> Mauritania ranks **127th** among the 132 economies featured in the GII 2023.



> Mauritania ranks **36th** among the 37 lower-middle-income group economies.



> Mauritania ranks **23rd** among the 28 economies in Sub-Saharan Africa.



> Mauritania GII Ranking (2020-2023)

The table shows the rankings of Mauritania 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 Mauritania in the GII 2023 is between ranks 124 and 130.

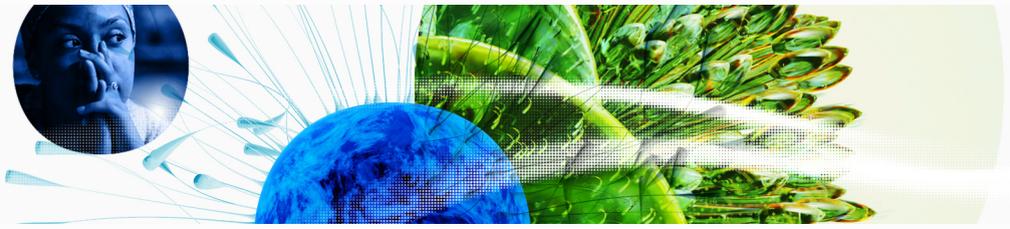
	GII Position	Innovation Inputs	Innovation Outputs
2020	n/a	n/a	n/a
2021	n/a	n/a	n/a
2022	129th	121st	132nd
2023	127th	122nd	129th

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

This year Mauritania ranks 122nd in innovation inputs. This position is lower than last year.

Mauritania ranks 129th in innovation outputs. This position is higher than last year.

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→ Expected vs. observed innovation performance

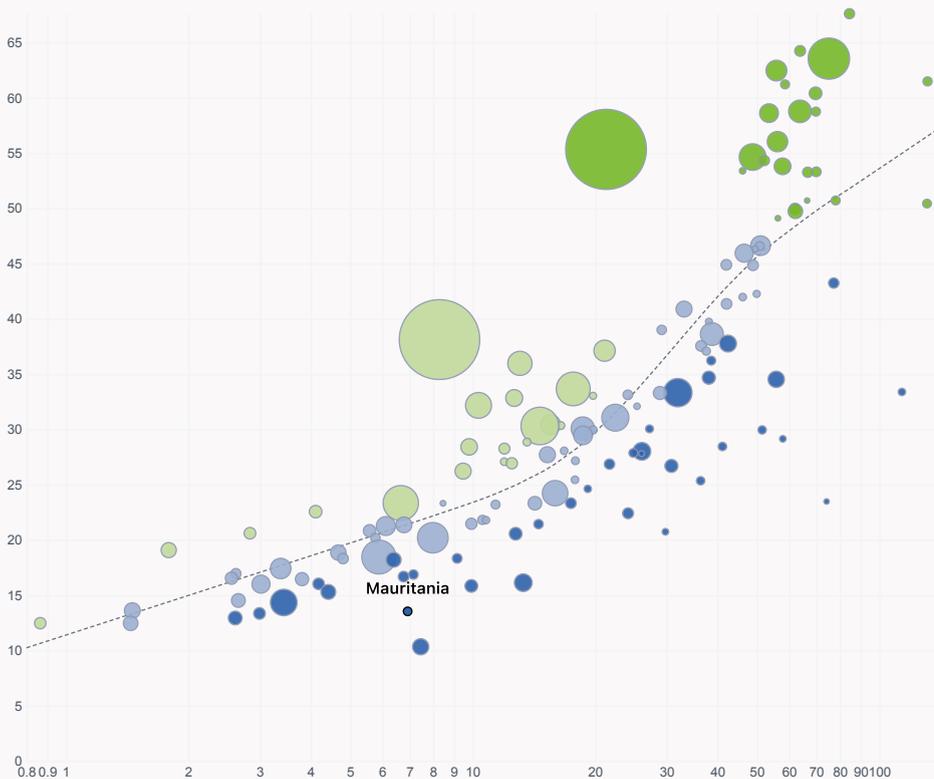
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected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



> Relative to GDP, Mauritania's performance is below 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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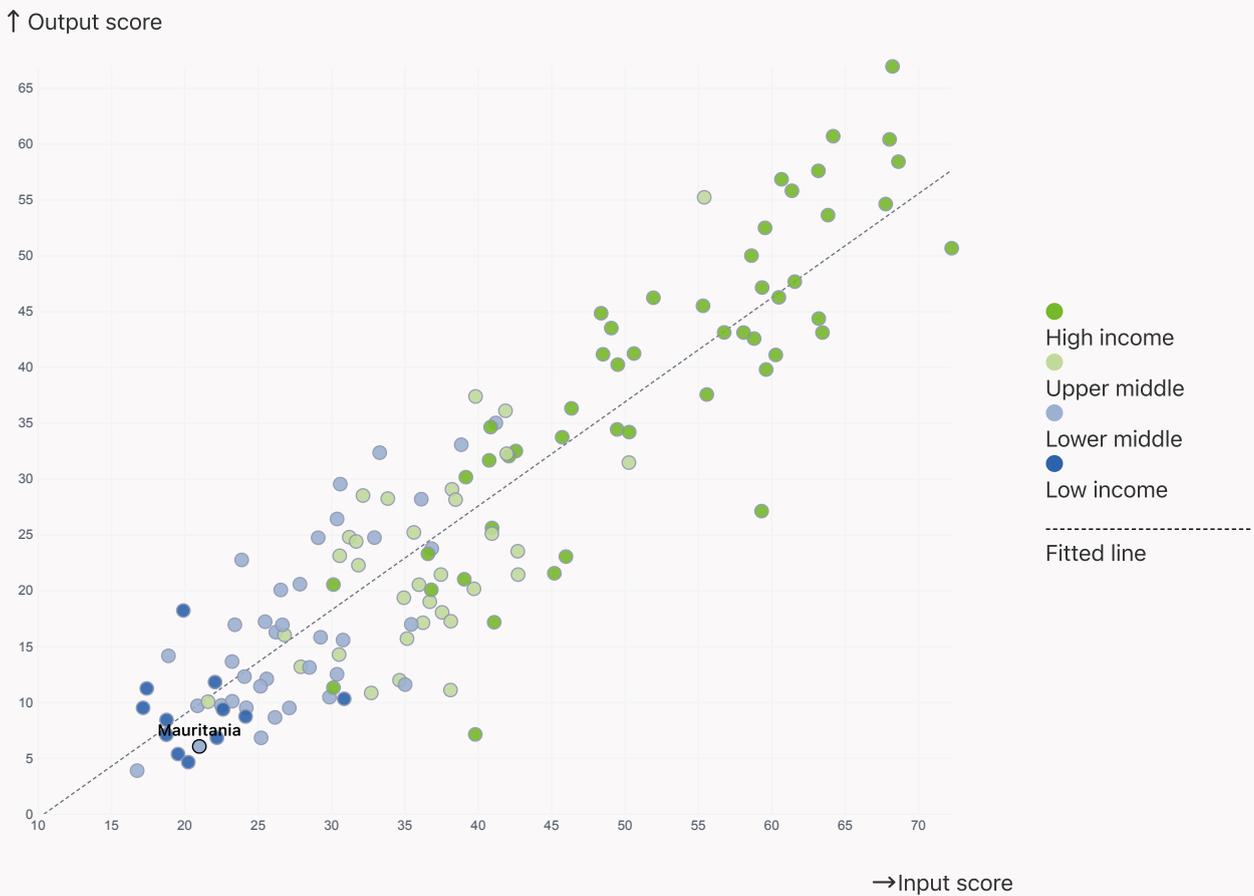
→ Effectively translating innovation investments into innovation outputs

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.



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

> Relationship between innovation inputs and outputs



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



> Highest rankings

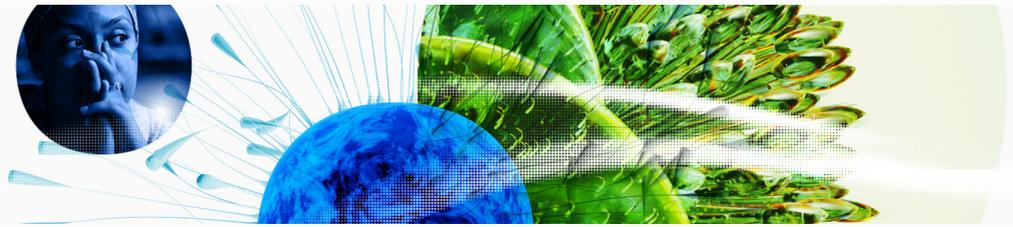
Mauritania ranks highest in Institutions (89th), Business sophistication (108th), Knowledge and technology outputs (115th), Human capital and research (119th) and Infrastructure (124th).

> Lowest rankings

Mauritania ranks lowest in Creative outputs (131st), Market sophistication (130th) and Infrastructure (124th).

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

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

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

> Lower-Middle-Income economies

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



> Sub-Saharan Africa

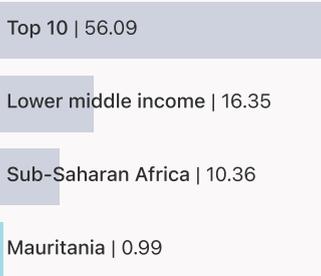
Mauritania performs below the regional average in Knowledge and technology outputs, Creative outputs, Market sophistication, Human capital and research, Infrastructure.



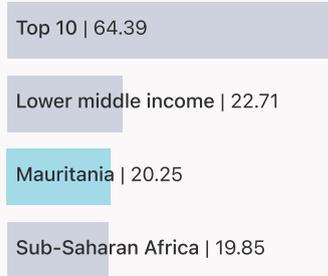
Knowledge and technology outputs



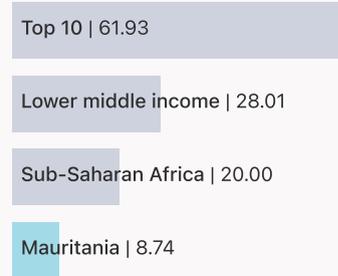
Creative outputs



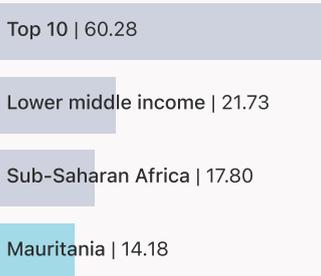
Business sophistication



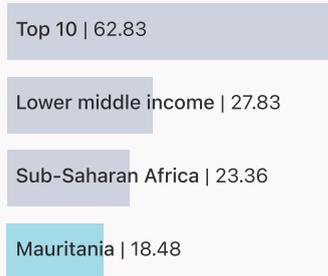
Market sophistication



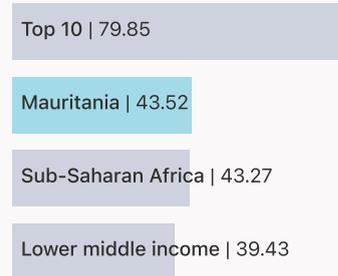
Human capital and research



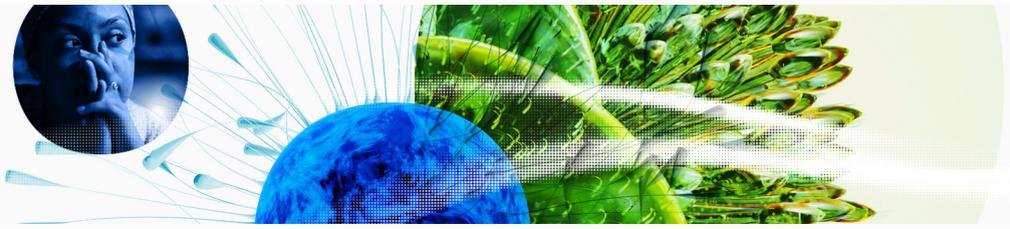
Infrastructure



Institutions



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→ Innovation strengths and weaknesses in Mauritania

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



> Mauritania's main innovation strengths are **Gross capital formation, % GDP** (rank 7), **Graduates in science and engineering, %** (rank 10) and **Firms offering formal training, %** (rank 18).

Strengths

Weaknesses

Rank	Code	Indicator name	Rank	Code	Indicator name
7	3.2.3	Gross capital formation, % GDP	132	7.2.4	Creative goods exports, % total trade
10	2.2.2	Graduates in science and engineering, %	131	3.1.4	E-participation
18	5.1.2	Firms offering formal training, %	131	3.1.3	Government's online service
33	6.2.3	Software spending, % GDP	120	7.1.4	Industrial designs by origin/bn PPP\$ GDP
33	1.2.3	Cost of redundancy dismissal	113	2.3.2	Gross expenditure on R&D, % GDP
38	5.3.4	FDI net inflows, % GDP	101	6.1.2	PCT patents by origin/bn PPP\$ GDP
48	5.2.1	University-industry R&D collaboration	98	5.1.4	GERD financed by business, %
74	1.3.1	Policies for doing business	96	5.2.3	GERD financed by abroad, % GDP
79	5.3.2	High-tech imports, % total trade	95	5.2.5	Patent families/bn PPP\$ GDP
85	6.2.1	Labor productivity growth, %	75	6.1.3	Utility models 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\$

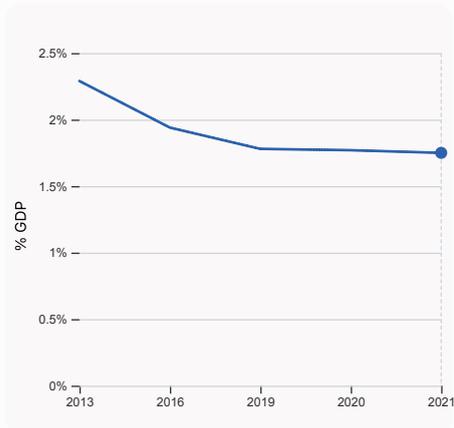
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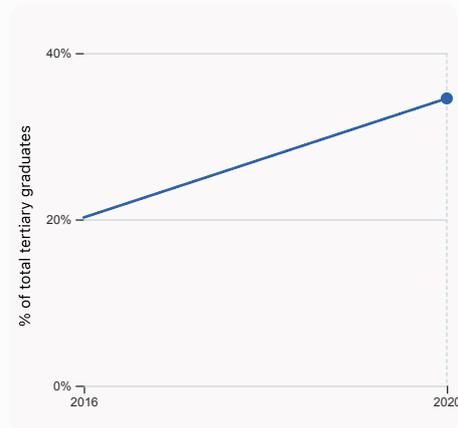
→ Mauritania's innovation system

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

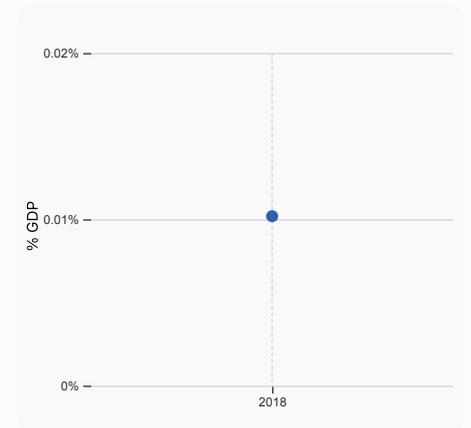
> Innovation inputs in Mauritania



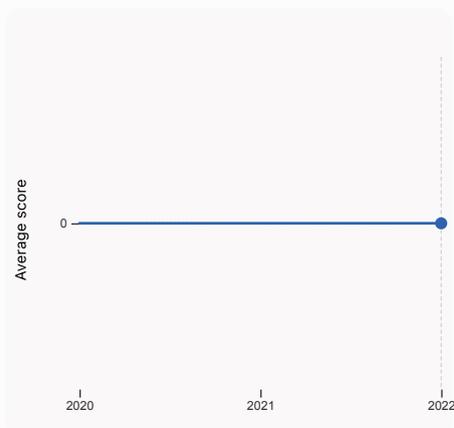
2.1.1 Expenditure on education, % GDP was equal to 1.75% GDP in 2021, down by 0.02 percentage points from the year prior – and equivalent to an indicator rank of 123.



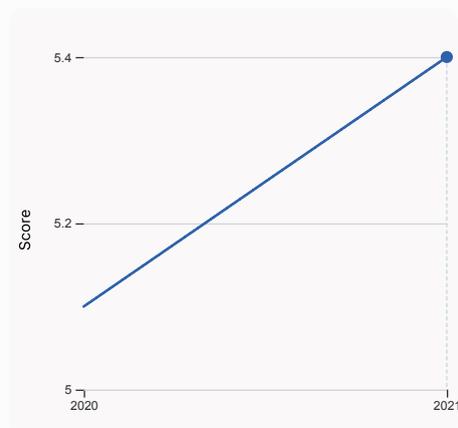
2.2.2 Graduates in science and engineering, % was equal to 34.55% of total tertiary graduates in 2020, up by 14.32 percentage points from the year prior – and equivalent to an indicator rank of 10.



2.3.2 Gross expenditure on R&D, % GDP was equal to 0.01 % GDP in 2018, equivalent to an indicator rank of 113.



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.

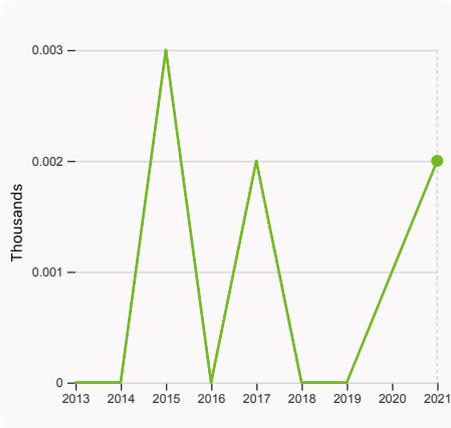


3.1.1 ICT access was equal to a score of 5.4 in 2021, up by 5.88% from the year prior – and equivalent to an indicator rank of 122.

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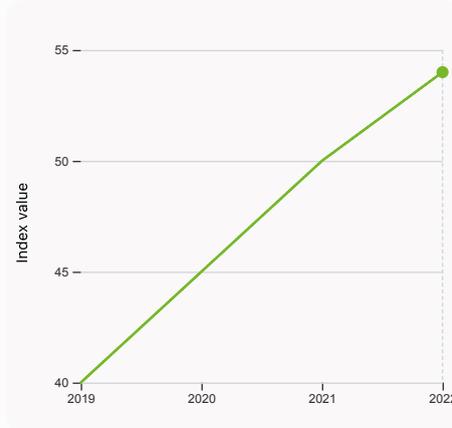


> Innovation outputs in Mauritania



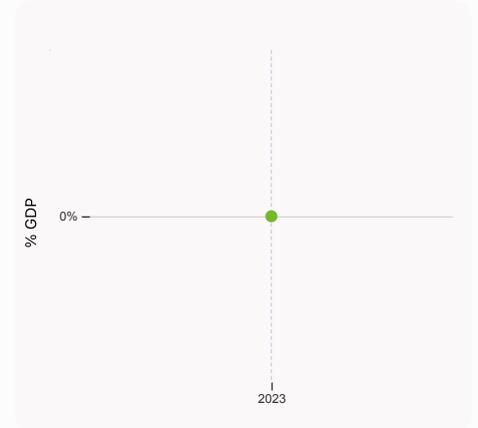
6.1.1 Patents by origin

was equal to 0.002 Thousands in 2021, up by 100% from the year prior – and equivalent to an indicator rank of 115.



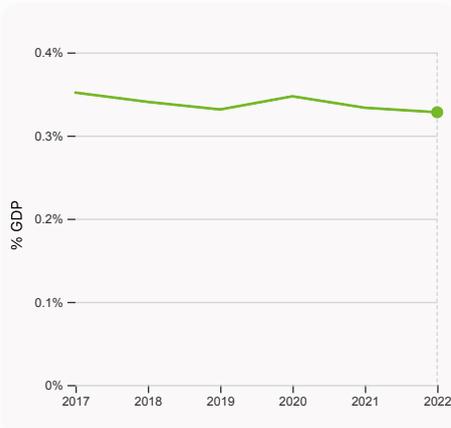
6.1.5 Citable documents H-index

was equal to an index value of 54 in 2022, up by 8% from the year prior – and equivalent to an indicator rank of 131.



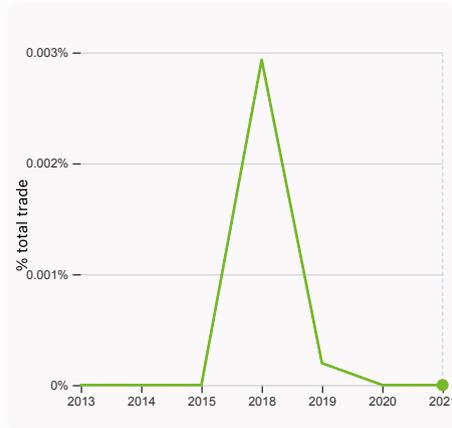
6.2.2 Unicorn valuation, % GDP

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



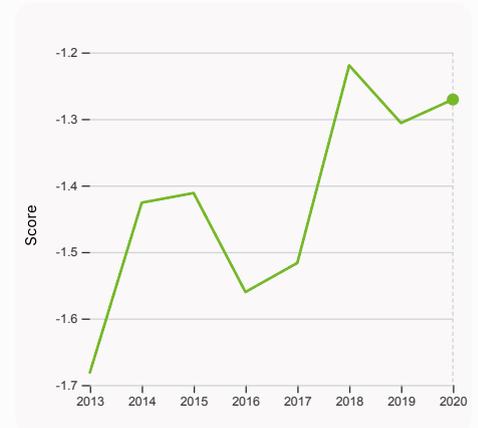
6.2.3 Software spending, % GDP

was equal to 0.328% GDP in 2022, down by 0.0054 percentage points from the year prior – and equivalent to an indicator rank of 33.



6.3.1 Intellectual property receipts, % total trade

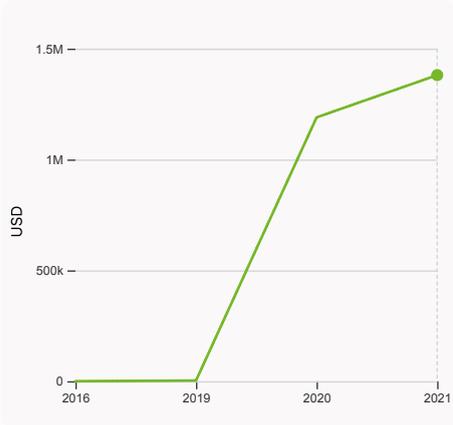
was equal to 0% total trade in 2021 – and equivalent to an indicator rank of 111.



6.3.2 Production and export complexity

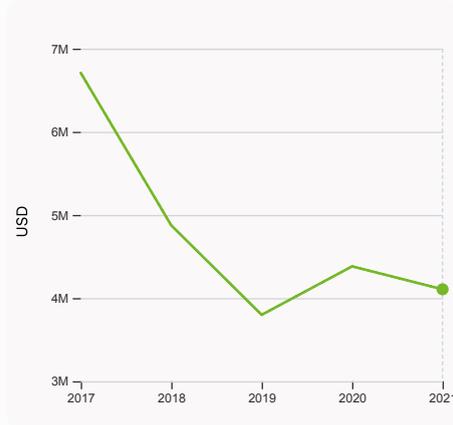
was equal to a score of -1.271 in 2020, up by 2.71% from the year prior – and equivalent to an indicator rank of 115.

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6.3.3 High-tech exports

was equal to 1,380,710 USD in 2021, up by 16.0054% from the year prior – and equivalent to an indicator rank of 126.



7.2.1 Cultural and creative services exports

was equal to 4,106,000 USD in 2021, down by 6.3% from the year prior – and equivalent to an indicator rank of 80.

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GII 2023 rank

127

Mauritania

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
129	122	Lower middle	SSA	4.7	30.0	6,924.9
Score / Value Rank				Score / Value Rank		
Institutions				43.5	89	
1.1 Institutional environment				29.1	102	
1.1.1 Operational stability for businesses*				41.7	87	
1.1.2 Government effectiveness*				16.5	114	
1.2 Regulatory environment				56.3	85	◆◆
1.2.1 Regulatory quality*				14.7	127	◇
1.2.2 Rule of law*				20.1	108	
1.2.3 Cost of redundancy dismissal				10.5	33	◆◆
1.3 Business environment				45.2	[69]	
1.3.1 Policies for doing business†				● 45.2	74	◆◆
1.3.2 Entrepreneurship policies and culture†				n/a	n/a	
Human capital and research				14.2	119	
2.1 Education				16.3	131	◇
2.1.1 Expenditure on education, % GDP				1.7	123	◇
2.1.2 Government funding/pupil, secondary, % GDP/cap				8.6	93	
2.1.3 School life expectancy, years				8.7	111	◇
2.1.4 PISA scales in reading, maths and science				n/a	n/a	
2.1.5 Pupil-teacher ratio, secondary				● 28.8	118	◇
2.2 Tertiary education				26.2	77	◆◆
2.2.1 Tertiary enrolment, % gross				5.9	123	◇
2.2.2 Graduates in science and engineering, %				34.6	10	◆◆
2.2.3 Tertiary inbound mobility, %				1.4	82	
2.3 Research and development (R&D)				0.0	119	◇◇
2.3.1 Researchers, FTE/mn pop.				n/a	n/a	
2.3.2 Gross expenditure on R&D, % GDP				● 0.0	113	◇◇
2.3.3 Global corporate R&D investors, top 3, mn US\$				0.0	40	◇◇
2.3.4 QS university ranking, top 3*				0.0	71	◇◇
Infrastructure				18.5	124	◇
3.1 Information and communication technologies (ICTs)				19.2	129	◇
3.1.1 ICT access*				30.4	122	◇
3.1.2 ICT use*				46.5	107	
3.1.3 Government's online service*				0.0	131	◇◇
3.1.4 E-participation*				0.0	131	◇◇
3.2 General infrastructure				28.1	61	◆◆
3.2.1 Electricity output, GWh/mn pop.				n/a	n/a	
3.2.2 Logistics performance*				9.1	106	
3.2.3 Gross capital formation, % GDP				40.6	7	◆◆
3.3 Ecological sustainability				8.1	131	◇
3.3.1 GDP/unit of energy use				n/a	n/a	
3.3.2 Environmental performance*				15.6	123	
3.3.3 ISO 14001 environment/bn PPP\$ GDP				0.1	121	
Market sophistication				8.7	[130]	
4.1 Credit				6.6	[122]	
4.1.1 Finance for startups and scaleups†				n/a	n/a	
4.1.2 Domestic credit to private sector, % GDP				● 22.2	113	
4.1.3 Loans from microfinance institutions, % GDP				n/a	n/a	
4.2 Investment				n/a	[n/a]	
4.2.1 Market capitalization, % GDP				n/a	n/a	
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP				n/a	n/a	
4.2.3 VC recipients, deals/bn PPP\$ GDP				n/a	n/a	
4.2.4 VC received, value, % GDP				n/a	n/a	
4.3 Trade, diversification, and market scale				10.8	130	◇
4.3.1 Applied tariff rate, weighted avg., %				12.2	129	◇
4.3.2 Domestic industry diversification				n/a	n/a	
4.3.3 Domestic market scale, bn PPP\$				30.0	125	
Business sophistication				20.2	108	
5.1 Knowledge workers				23.3	[88]	
5.1.1 Knowledge-intensive employment, %				n/a	n/a	
5.1.2 Firms offering formal training, %				● 52.7	18	◆◆
5.1.3 GERD performed by business, % GDP				n/a	n/a	
5.1.4 GERD financed by business, %				● 0.0	98	◇◇
5.1.5 Females employed w/advanced degrees, %				● 0.7	124	
5.2 Innovation linkages				14.0	103	
5.2.1 University-industry R&D collaboration†				● 53.1	48	◆◆
5.2.2 State of cluster development†				● 12.7	124	◇
5.2.3 GERD financed by abroad, % GDP				● 0.0	96	◇◇
5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP				0.0	85	
5.2.5 Patent families/bn PPP\$ GDP				0.0	95	◇◇
5.3 Knowledge absorption				23.5	112	
5.3.1 Intellectual property payments, % total trade				0.0	108	
5.3.2 High-tech imports, % total trade				7.4	79	◆◆
5.3.3 ICT services imports, % total trade				0.4	113	
5.3.4 FDI net inflows, % GDP				3.6	38	◆◆
5.3.5 Research talent, % in businesses				n/a	n/a	
Knowledge and technology outputs				11.0	115	
6.1 Knowledge creation				0.8	131	◇
6.1.1 Patents by origin/bn PPP\$ GDP				0.1	115	
6.1.2 PCT patents by origin/bn PPP\$ GDP				0.0	101	◇◇
6.1.3 Utility models by origin/bn PPP\$ GDP				0.0	75	◇◇
6.1.4 Scientific and technical articles/bn PPP\$ GDP				n/a	n/a	
6.1.5 Citable documents H-index				0.6	131	◇
6.2 Knowledge impact				26.3	67	◆◆
6.2.1 Labor productivity growth, %				0.4	85	◆◆
6.2.2 Unicorn valuation, % GDP				0.0	48	◇◇
6.2.3 Software spending, % GDP				0.3	33	◆◆
6.2.4 High-tech manufacturing, %				n/a	n/a	
6.3 Knowledge diffusion				6.0	123	
6.3.1 Intellectual property receipts, % total trade				0.0	111	
6.3.2 Production and export complexity				25.9	115	◇
6.3.3 High-tech exports, % total trade				0.0	126	
6.3.4 ICT services exports, % total trade				0.4	107	
6.3.5 ISO 9001 quality/bn PPP\$ GDP				0.3	127	
Creative outputs				1.0	[131]	
7.1 Intangible assets				1.3	[130]	
7.1.1 Intangible asset intensity, top 15, %				n/a	n/a	
7.1.2 Trademarks by origin/bn PPP\$ GDP				5.2	121	
7.1.3 Global brand value, top 5,000				n/a	n/a	
7.1.4 Industrial designs by origin/bn PPP\$ GDP				0.0	120	◇◇
7.2 Creative goods and services				1.2	[113]	
7.2.1 Cultural and creative services exports, % total trade				0.1	80	
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 Creative goods exports, % total trade				0.0	132	◇◇
7.3 Online creativity				0.2	131	◇
7.3.1 Generic top-level domains (TLDs)/th pop. 15-69				0.2	119	
7.3.2 Country-code TLDs/th pop. 15-69				0.1	121	
7.3.3 GitHub commits/mn pop. 15-69				0.2	127	
7.3.4 Mobile app creation/bn PPP\$ GDP				n/a	n/a	

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 Mauritania.

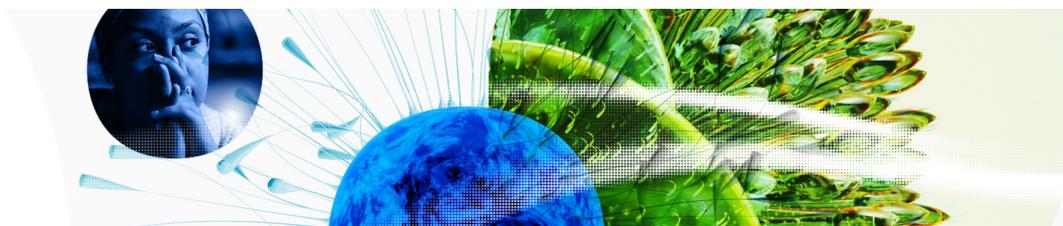


> Mauritania has missing data for twenty one indicators and outdated data for ten indicators.

> Missing data for Mauritania

Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture	n/a	2022	Global Entrepreneurship Monitor
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
2.3.1	Researchers, FTE/mn pop.	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.1	Electricity output, GWh/mn pop.	n/a	2021	International Energy Agency
3.3.1	GDP/unit of energy use	n/a	2020	International Energy Agency
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)
4.2.1	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
4.2.3	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
4.3.2	Domestic industry diversification	n/a	2020	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	n/a	2022	International Labour Organization
5.1.3	GERD performed by business, % GDP	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.5	Research talent, % in businesses	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
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
7.1.3	Global brand value, top 5,000	n/a	2023	Brand Finance; International Monetary Fund

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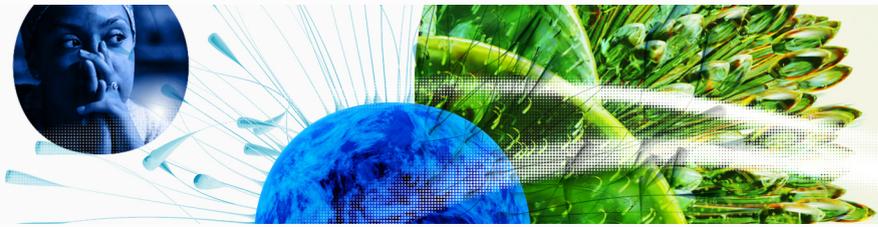


Code	Indicator name	Economy Year	Model Year	Source
7.2.2	National feature films/mn pop. 15-69	n/a	2021	OMDIA; United Nations, World Population Prospects
7.2.3	Entertainment and media market/th pop. 15-69	n/a	2022	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund
7.3.4	Mobile app creation/bn PPP\$ GDP	n/a	2022	data.ia; International Monetary Fund

> Outdated data for Mauritania

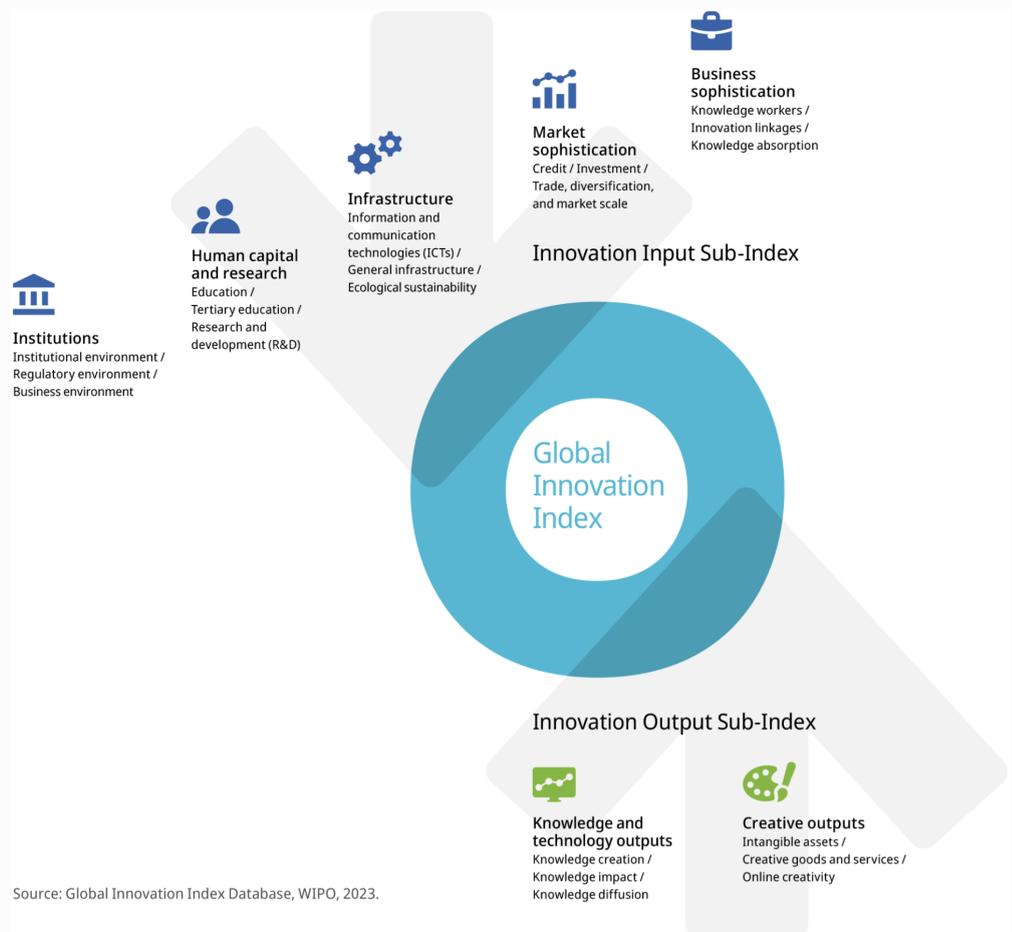
Code	Indicator name	Economy Year	Model Year	Source
1.3.1	Policies for doing business	2020	2022	World Economic Forum, Executive Opinion Survey (EOS)
2.1.5	Pupil-teacher ratio, secondary	2019	2020	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	2018	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
4.1.2	Domestic credit to private sector, % GDP	2019	2020	International Monetary Fund; World Bank and OECD GDP estimates.
5.1.2	Firms offering formal training, %	2014	2019	World Bank Enterprise Surveys
5.1.4	GERD financed by business, %	2018	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	Females employed w/advanced degrees, %	2019	2022	International Labour Organization
5.2.1	University-industry R&D collaboration	2020	2022	World Economic Forum, Executive Opinion Survey (EOS)
5.2.2	State of cluster development	2020	2022	World Economic Forum, Executive Opinion Survey (EOS)
5.2.3	GERD financed by abroad, % GDP	2018	2020	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.