

Global Innovation Index 2022



ALGERIA

115th Algeria ranks 115th 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 Algeria 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 Algeria in the GII 2022 is between ranks 109 and 117.

Rankings for Algeria (2020–2022)

GIIYR	GII	Innovation inputs	Innovation outputs
2020	121	111	126
2021	120	109	128
2022	115	110	118

- Algeria performs better in innovation inputs than innovation outputs in 2022.
- This year Algeria ranks 110th in innovation inputs, lower than last year but higher than 2020.
- As for innovation outputs, Algeria ranks 118th. This position is higher than both 2021 and 2020.

30th Algeria ranks 30th among the 36 lower-middle-income group economies.

17th Algeria ranks 17th among the 19 economies in Northern Africa and Western Asia.

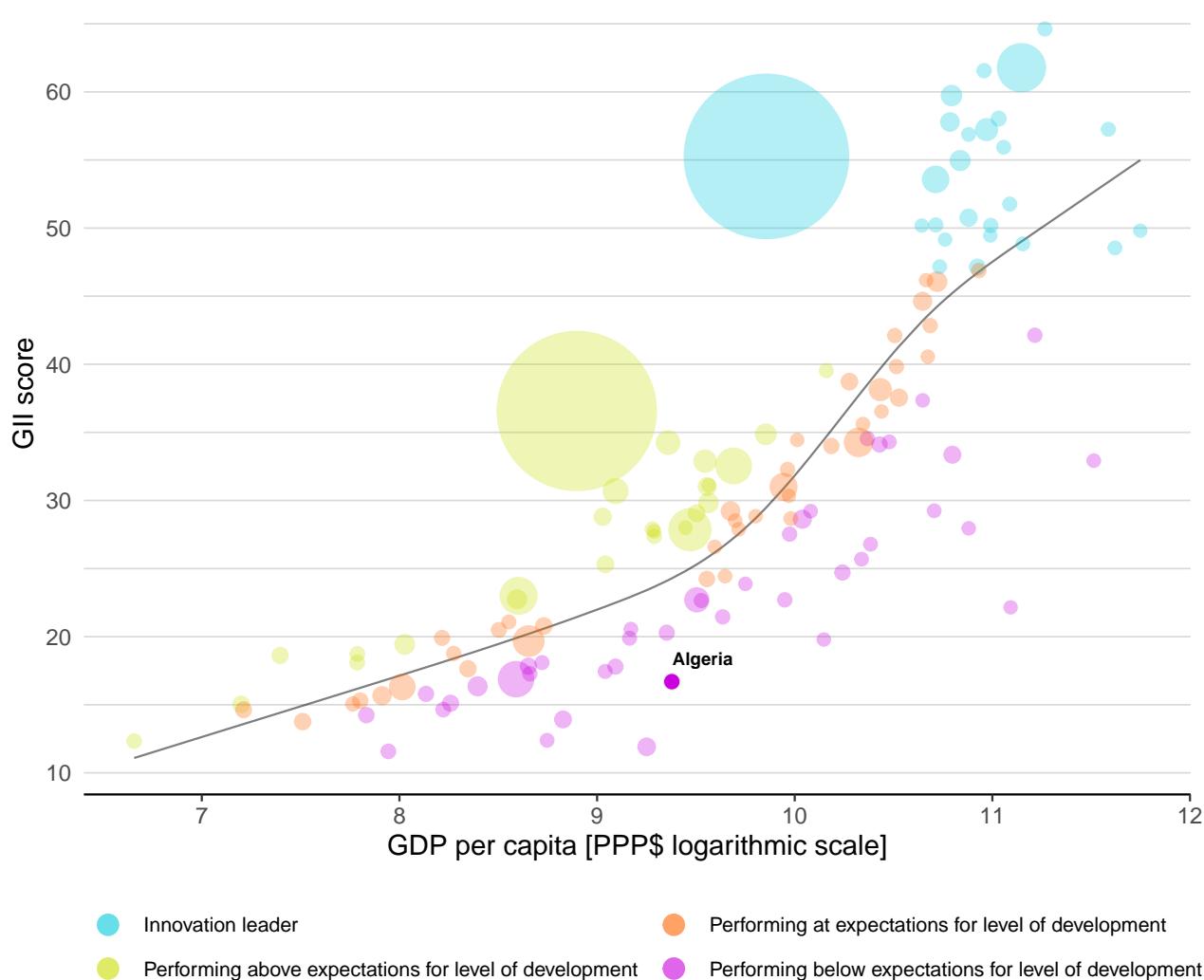


EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

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, Algeria's performance is below expectations for its level of development.

The positive relationship between innovation and development



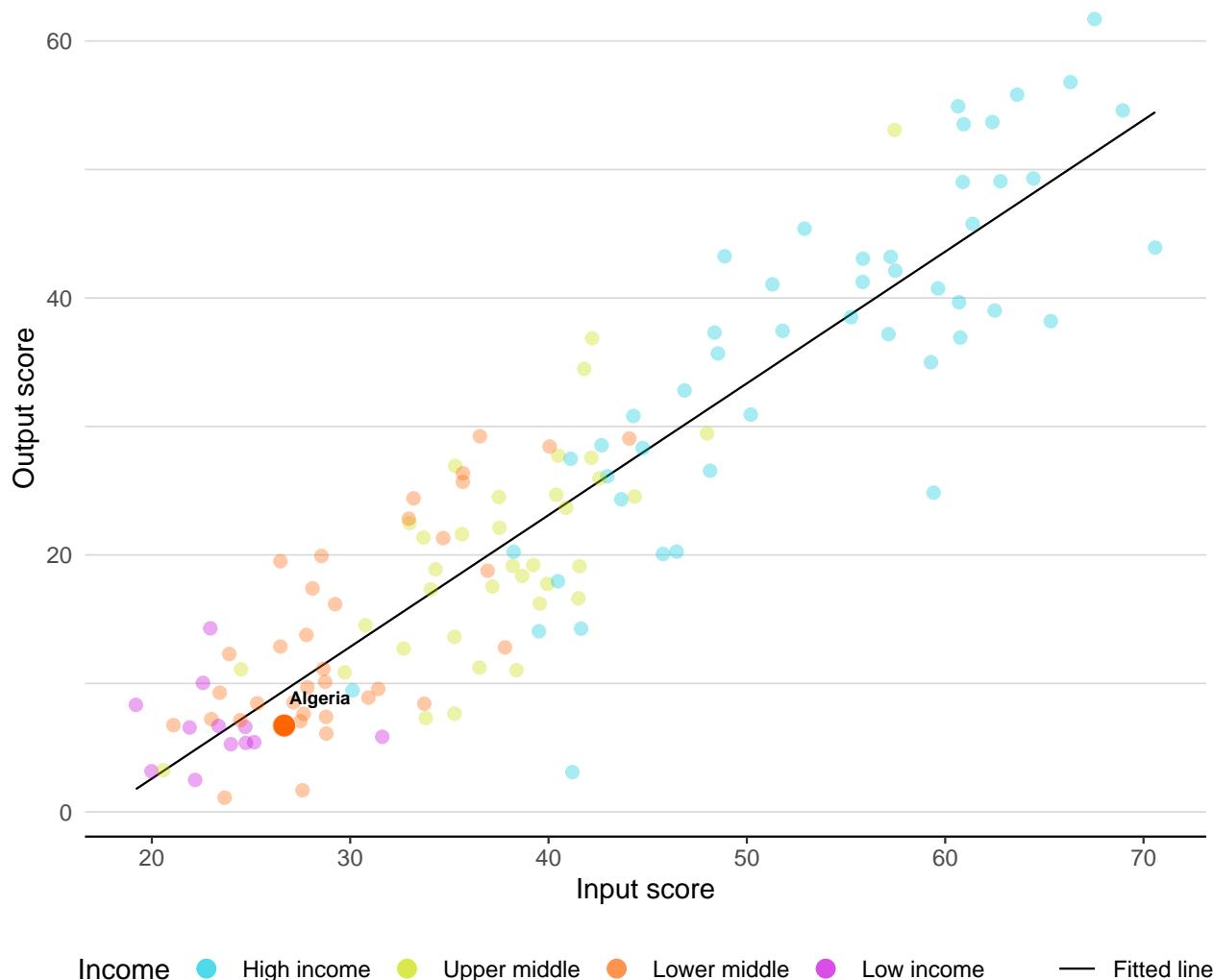


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

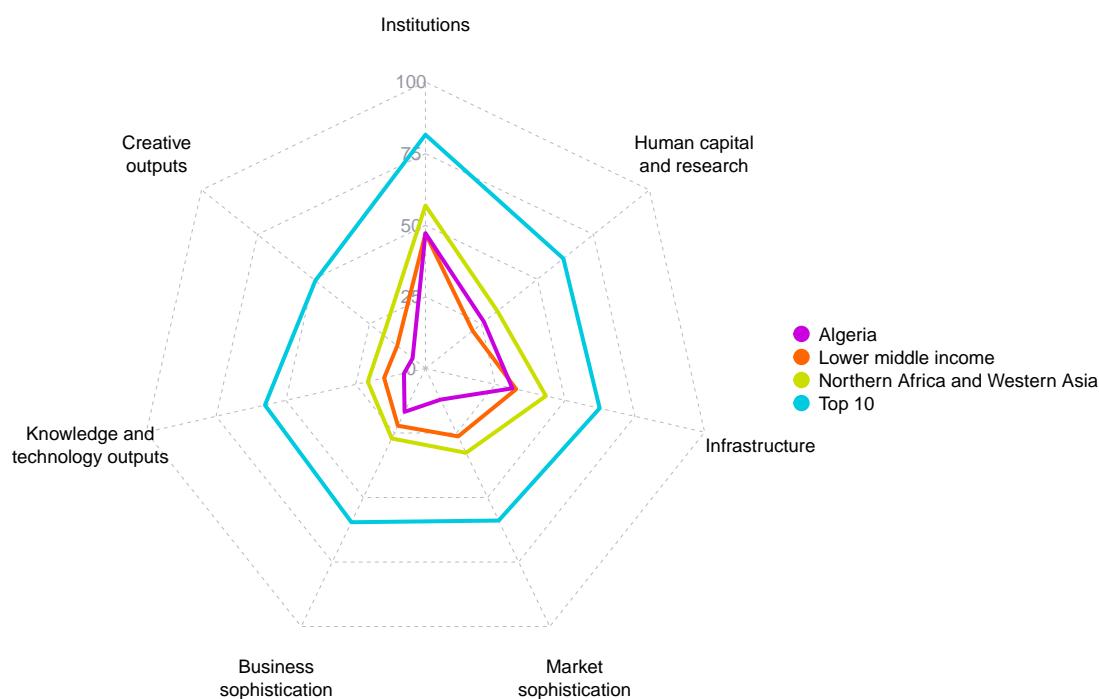
Innovation input to output performance





BENCHMARKING AGAINST OTHER LOWER MIDDLE-INCOME GROUP ECONOMIES AND NORTHERN AFRICA AND WESTERN ASIA

The seven GII pillar scores for Algeria



Lower-middle-income group economies

Algeria performs above the lower-middle-income group average in two pillars, namely: Institutions; and, Human capital and research.

Northern Africa and Western Asia

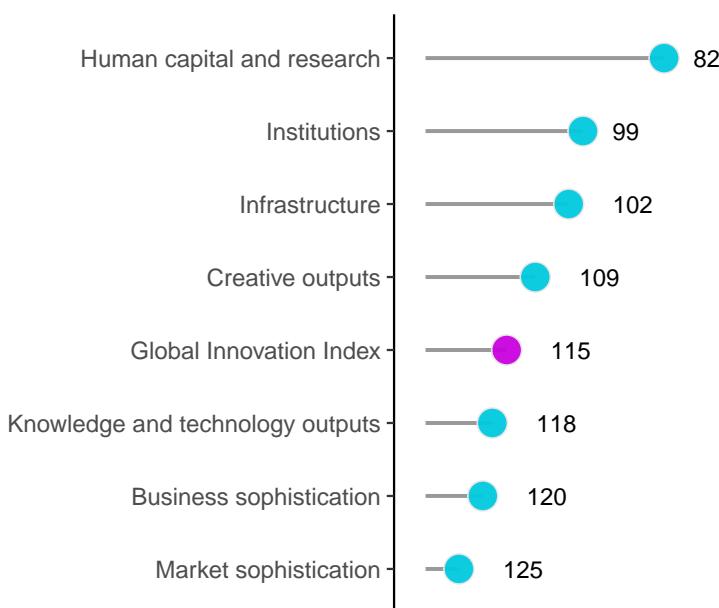
Algeria performs below the regional average in all GII pillars.



OVERVIEW OF RANKINGS IN THE SEVEN GII 2022 AREAS

Algeria performs best in Human capital and research and its weakest performance is in Market sophistication.

The seven GII pillar ranks for Algeria



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

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

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



INNOVATION STRENGTHS AND WEAKNESSES

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

Strengths and weaknesses for Algeria

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
2.1.1	Expenditure on education, % GDP	19	1.2.1	Regulatory quality	128
2.2.1	Tertiary enrolment, % gross	61	2.1.4	PISA scales in reading, maths and science	76
2.2.2	Graduates in science and engineering, %	20	2.3.3	Global corporate R&D investors, top 3, mn USD	38
2.3.1	Researchers, FTE/mn pop.	56	2.3.4	QS university ranking, top 3	72
2.3.2	Gross expenditure on R&D, % GDP	58	3.1.4	E-participation	130
3.2.3	Gross capital formation, % GDP	5	4.2.1	Market capitalization, % GDP	81
4.3.3	Domestic market scale, bn PPP\$	42	4.2.3	Venture capital recipients, deals/bn PPP\$ GDP	103
5.2.2	State of cluster development and depth	66	6.2.3	Software spending, % GDP	122
5.3.2	High-tech imports, % total trade	55	6.3.3	High-tech exports, % total trade	130
7.1.4	Industrial designs by origin/bn PPP\$ GDP	43	7.1.3	Global brand value, top 5,000, % GDP	77

Algeria

115

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
118	110	Lower middle	NAWA	44.6	532.6	11,829
Score/ Value Rank						
Institutions		47.2	99	Business sophistication		16.8 120 ◇
1.1 Political environment		47.4	103	5.1 Knowledge workers		15.2 111
1.1.1 Political and operational stability*		56.4	108	5.1.1 Knowledge-intensive employment, %	⊖	17.9 85
1.1.2 Government effectiveness*		38.4	99	5.1.2 Firms offering formal training, %	n/a	n/a
1.2 Regulatory environment		50.4	105	5.1.3 GERD performed by business, % GDP	⊖	0.0 76
1.2.1 Regulatory quality*		12.7	128 ◇	5.1.4 GERD financed by business, %	⊖	6.7 81
1.2.2 Rule of law*		25.8	110	5.1.5 Females employed w/advanced degrees, %	⊖	8.1 81
1.2.3 Cost of redundancy dismissal		17.3	71	5.2 Innovation linkages		17.4 111
1.3 Business environment		43.9 [77]		5.2.1 University-industry R&D collaboration†	⊖	37.1 96
1.3.1 Policies for doing business†	⊖	43.9	83	5.2.2 State of cluster development and depth†	⊖	48.3 66 ●
1.3.2 Entrepreneurship policies and culture*		n/a	n/a	5.2.3 GERD financed by abroad, % GDP	⊖	0.0 95
Human capital and research		26.1	82	5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP	0.0	124
2.1 Education		40.9 [94]		5.2.5 Patent families/bn PPP\$ GDP	0.0	97
2.1.1 Expenditure on education, % GDP	⊖	6.1	19 ● ◆	5.3 Knowledge absorption		17.8 125
2.1.2 Government funding/pupil, secondary, % GDP/cap		n/a	n/a	5.3.1 Intellectual property payments, % total trade	0.4	77
2.1.3 School life expectancy, years	⊖	14.3	67 ◆	5.3.2 High-tech imports, % total trade	⊖	8.9 55 ●
2.1.4 PISA scales in reading, maths and science	⊖	361.7	76 ◇	5.3.3 ICT services imports, % total trade	0.5	112
2.1.5 Pupil-teacher ratio, secondary		n/a	n/a	5.3.4 FDI inflows, % GDP	0.8	107
2.2 Tertiary education		34.3	51 ● ◆	5.3.5 Research talent, % in businesses	⊖	0.5 81 ◇
2.2.1 Tertiary enrolment, % gross		52.5	61 ● ◆	Knowledge and technology outputs		7.7 118
2.2.2 Graduates in science and engineering, %		29.6	20 ●	6.1 Knowledge creation		6.8 94
2.2.3 Tertiary inbound mobility, %		0.6	98	6.1.1 Patents by origin/bn PPP\$ GDP	0.3	86
2.3 Research and development (R&D)		3.2	79	6.1.2 PCT patents by origin/bn PPP\$ GDP	0.0	93
2.3.1 Researchers, FTE/mn pop.	⊖	819.3	56 ●	6.1.3 Utility models by origin/bn PPP\$ GDP	n/a	n/a
2.3.2 Gross expenditure on R&D, % GDP	⊖	0.5	58 ●	6.1.4 Scientific and technical articles/bn PPP\$ GDP	10.6	82
2.3.3 Global corporate R&D investors, top 3, mn USD		0.0	38 ◇	6.1.5 Citable documents H-index	9.8	75
2.3.4 QS university ranking, top 3*		0.0	72 ◇	6.2 Knowledge impact		11.5 116
Infrastructure		31.1	102	6.2.1 Labor productivity growth, %	0.4	80
3.1 Information and communication technologies (ICTs)		45.1	115	6.2.2 New businesses/th pop. 15–64	⊖	0.4 104
3.1.1 ICT access*		80.4	84	6.2.3 Software spending, % GDP	0.0	122 ◇
3.1.2 ICT use*		57.0	82	6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP	1.0	107
3.1.3 Government's online service*		27.7	126 ◇	6.2.5 High-tech manufacturing, %	⊖	4.1 101 ◇
3.1.4 E-participation*		15.5	130 ◇	6.3 Knowledge diffusion		4.8 122
3.2 General infrastructure		31.1	61 ● ◆	6.3.1 Intellectual property receipts, % total trade	0.0	103
3.2.1 Electricity output, GWh/mn pop.	⊖	1,893.8	83	6.3.2 Production and export complexity	17.5	110
3.2.2 Logistics performance*		18.6	107	6.3.3 High-tech exports, % total trade	⊖	0.0 130 ◇
3.2.3 Gross capital formation, % GDP		41.4	5 ● ◆	6.3.4 ICT services exports, % total trade	0.2	124
3.3 Ecological sustainability		17.2	110	Creative outputs		5.7 109
3.3.1 GDP/unit of energy use		8.1	90	7.1 Intangible assets		10.5 98
3.3.2 Environmental performance*		29.6	110	7.1.1 Intangible asset intensity, top 15, %	n/a	n/a
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP		0.4	91	7.1.2 Trademarks by origin/bn PPP\$ GDP	24.8	86
Market sophistication		12.1	125 ◇	7.1.3 Global brand value, top 5,000, % GDP	0.0	77 ◇
4.1 Credit		9.5 [113]		7.1.4 Industrial designs by origin/bn PPP\$ GDP	2.4	43 ●
4.1.1 Finance for startups and scaleups*		n/a	n/a	7.2 Creative goods and services		1.3 120
4.1.2 Domestic credit to private sector, % GDP		29.7	94	7.2.1 Cultural and creative services exports, % total trade	0.0	101
4.1.3 Loans from microfinance institutions, % GDP		n/a	n/a	7.2.2 National feature films/mn pop. 15–69	0.4	72
4.2 Investment		0.7	110 ◇	7.2.3 Entertainment and media market/th pop. 15–69	0.8	58
4.2.1 Market capitalization, % GDP	⊖	0.2	81 ◇	7.2.4 Printing and other media, % manufacturing	⊖	0.3 94
4.2.2 Venture capital investors, deals/bn PPP\$ GDP		n/a	n/a	7.2.5 Creative goods exports, % total trade	⊖	0.0 121
4.2.3 Venture capital recipients, deals/bn PPP\$ GDP		0.0	103 ◇	7.3 Online creativity		0.7 106
4.2.4 Venture capital received, value, % GDP		0.0	72	7.3.1 Generic top-level domains (TLDs)/th pop. 15–69	0.5	108
4.3 Trade, diversification, and market scale		26.0	120	7.3.2 Country-code TLDs/th pop. 15–69	0.1	114
4.3.1 Applied tariff rate, weighted avg, %		10.2	118	7.3.3 GitHub commit pushes received/mn pop. 15–69	2.2	83
4.3.2 Domestic industry diversification	⊖	31.9	107 ◇	7.3.4 Mobile app creation/bn PPP\$ GDP	0.0	103
4.3.3 Domestic market scale, bn PPP\$		532.6	42 ●			

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 Algeria.

Missing data for Algeria

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
2.1.5	Pupil-teacher ratio, secondary	n/a	2019	UNESCO Institute for Statistics
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
5.1.2	Firms offering formal training, %	n/a	2019	World Bank Enterprise Surveys
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2020	World Intellectual Property Organization
7.1.1	Intangible asset intensity, top 15, %	n/a	2021	Brand Finance

Outdated data for Algeria

Code	Indicator name	Economy year	Model year	Source
1.3.1	Policies for doing business	2019	2021	World Economic Forum, Executive Opinion Survey (EOS)
2.1.1	Expenditure on education, % GDP	2019	2020	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2011	2019	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	2015	2018	OECD, PISA
2.3.1	Researchers, FTE/mn pop.	2017	2020	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	2017	2020	UNESCO Institute for Statistics
3.2.1	Electricity output, GWh/mn pop.	2019	2020	International Energy Agency
4.2.1	Market capitalization, % GDP	2018	2020	World Federation of Exchanges
4.3.2	Domestic industry diversification	2015	2019	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	2017	2021	International Labour Organization
5.1.3	GERD performed by business, % GDP	2017	2020	UNESCO Institute for Statistics
5.1.4	GERD financed by business, %	2017	2019	UNESCO Institute for Statistics
5.1.5	Females employed w/advanced degrees, %	2017	2021	International Labour Organization



Code	Indicator name	Economy year	Model year	Source
5.2.1	University-industry R&D collaboration	2019	2021	World Economic Forum, Executive Opinion Survey (EOS)
5.2.2	State of cluster development and depth	2019	2021	World Economic Forum, Executive Opinion Survey (EOS)
5.2.3	GERD financed by abroad, % GDP	2017	2019	UNESCO Institute for Statistics
5.3.2	High-tech imports, % total trade	2017	2020	United Nations Comtrade Database
5.3.5	Research talent, % in businesses	2017	2020	UNESCO Institute for Statistics
6.2.2	New businesses/th pop. 15–64	2018	2020	World Bank, Entrepreneurship Database
6.2.5	High-tech manufacturing, %	2015	2019	United Nations Industrial Development Organization
6.3.3	High-tech exports, % total trade	2017	2020	United Nations Comtrade Database
7.2.4	Printing and other media, % manufacturing	2015	2019	United Nations Industrial Development Organization
7.2.5	Creative goods exports, % total trade	2017	2020	United Nations Comtrade Database



ALGERIA'S INNOVATION SYSTEM

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

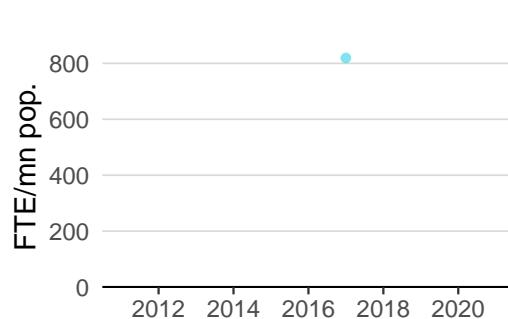
Innovation inputs



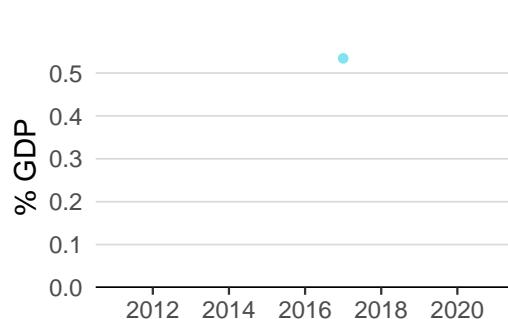
2.1.1 Expenditure on education was equal to 6.1% GDP in 2019—up by 4 percentage points from the year prior—and equivalent to an indicator rank of 19.



2.2.2 Graduates in science and engineering was equal to 29.6% of tert. grads in 2020—down by 9 percentage points from the year prior—and equivalent to an indicator rank of 20.



2.3.1 Researchers was equal to 819.3 FTE/mn pop. in 2017 and equivalent to an indicator rank of 56.



2.3.2 Gross expenditure on R&D was equal to 0.5% GDP in 2017 and equivalent to an indicator rank of 58.



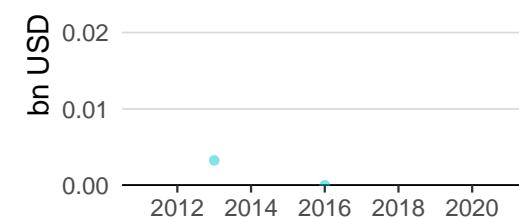
2.3.4 QS university ranking was equal to 0.0 in 2021—effectively unchanged from the year prior—and equivalent to an indicator rank of 72.



3.1.1 ICT access was equal to 8.0 in 2020 and equivalent to an indicator rank of 84.



4.2.4 Venture capital received was equal to 0.0 bn USD in 2021 and equivalent to an indicator rank of 72.



4.3.2 Domestic industry diversification was equal to 0.5 in 2015—down by 15 percentage points from the year prior—and equivalent to an indicator rank of 107.

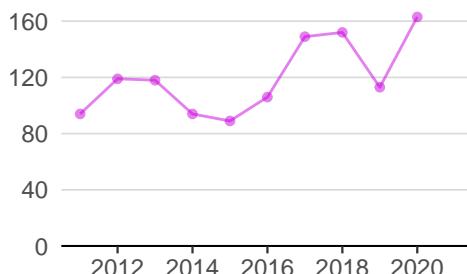


5.1.1 Knowledge-intensive employment was equal to 1.9 mn people in 2017 and equivalent to an indicator rank of 85.

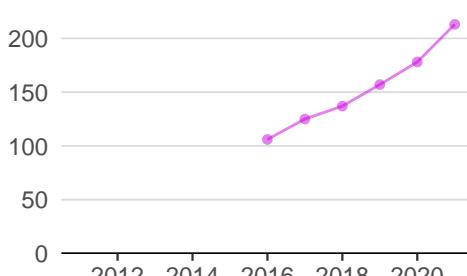




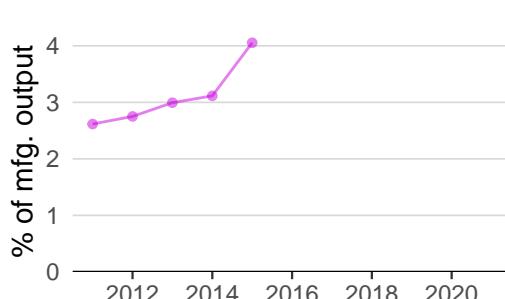
Innovation outputs



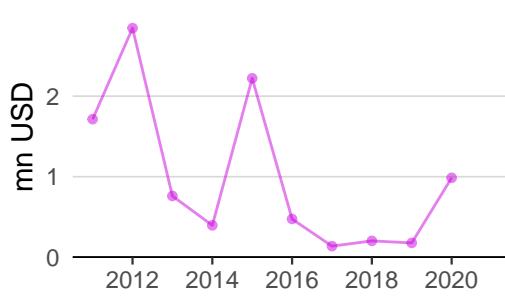
6.1.1 Patents by origin was equal to 163.0 in 2020—up by 44 percentage points from the year prior—and equivalent to an indicator rank of 86.



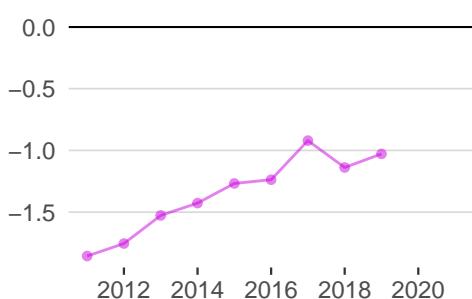
6.1.5 Citable documents H-index was equal to 213.0 in 2021—up by 20 percentage points from the year prior—and equivalent to an indicator rank of 75.



6.2.5 High-tech manufacturing was equal to 4.1% of mfg. output in 2015—up by 30 percentage points from the year prior—and equivalent to an indicator rank of 101.



6.3.1 Intellectual property receipts was equal to 1.0 mn USD in 2020—up by 454 percentage points from the year prior—and equivalent to an indicator rank of 103.



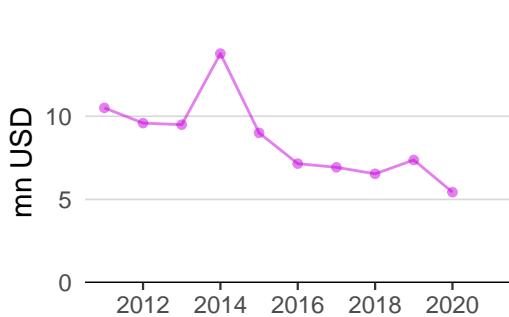
6.3.2 Production and export complexity was equal to -1.0 in 2019—up by 10 percentage points from the year prior—and equivalent to an indicator rank of 110.



6.3.3 High-tech exports was equal to 9.0 mn USD in 2017—up by 86 percentage points from the year prior—and equivalent to an indicator rank of 130.



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 5.4 mn USD in 2020—down by 26 percentage points from the year prior—and equivalent to an indicator rank of 101.



ALGERIA'S INNOVATION TOP PERFORMERS

2.3.3 Global corporate R&D investors

Firm	Industry	R&D	R&D Growth	R&D Intensity	Rank
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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
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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
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No observations

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

7.1.3 Global brand value, top 5,000

Brand	Industry	Rank
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No observations

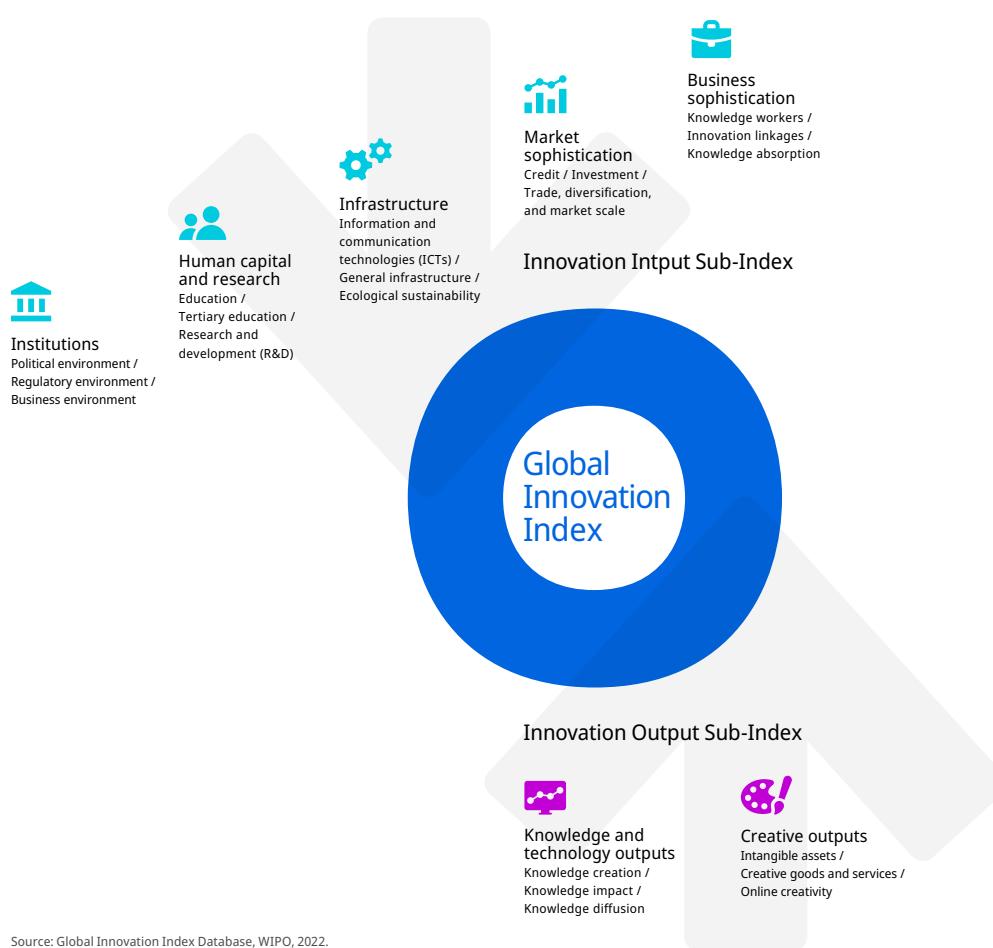
Source: Brand Finance (<https://brandirectory.com>).



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.