TUNISIA

73rd Tunisia ranks 73rd 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 Tunisia 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 Tunisia in the GII 2022 is between ranks 66 and 81.

Rankings for Tunisia (2020–2022)

GIIYR	GII	Innovation inputs	Innovation outputs
2020	65	78	59
2021	71	78	64
2022	73	89	59

- Tunisia performs better in innovation outputs than innovation inputs in 2022.
- This year Tunisia ranks 89th in innovation inputs, lower than both 2021 and 2020.
- As for innovation outputs, Tunisia ranks 59th. This position is higher than last year but the same as 2020.

8th Tunisia ranks 8th among the 36 lower-middle-income group economies.

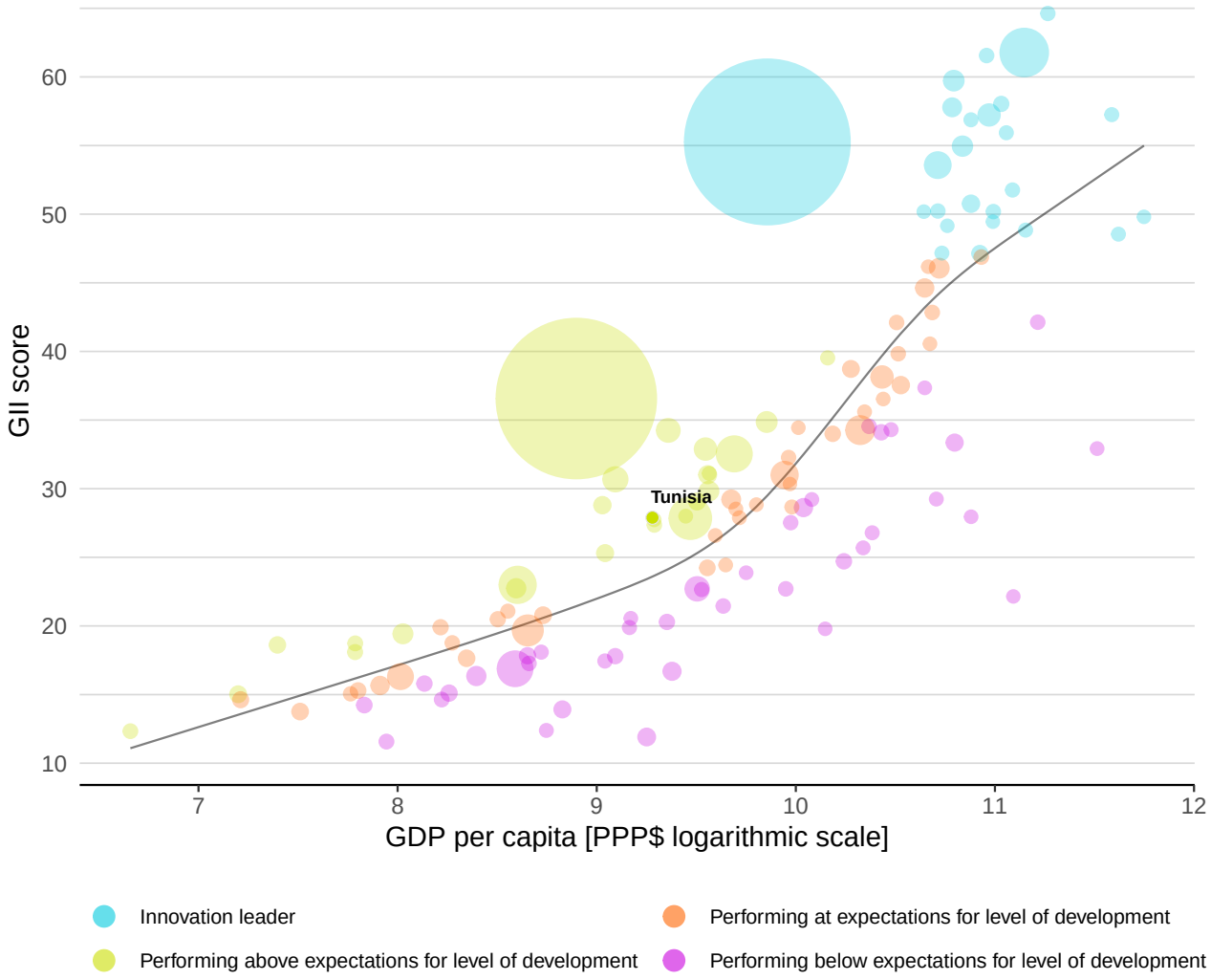
10th Tunisia ranks 10th among the 19 economies in Northern Africa and Western Asia.

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, Tunisia's performance is above expectations for its level of development.

The positive relationship between innovation and development

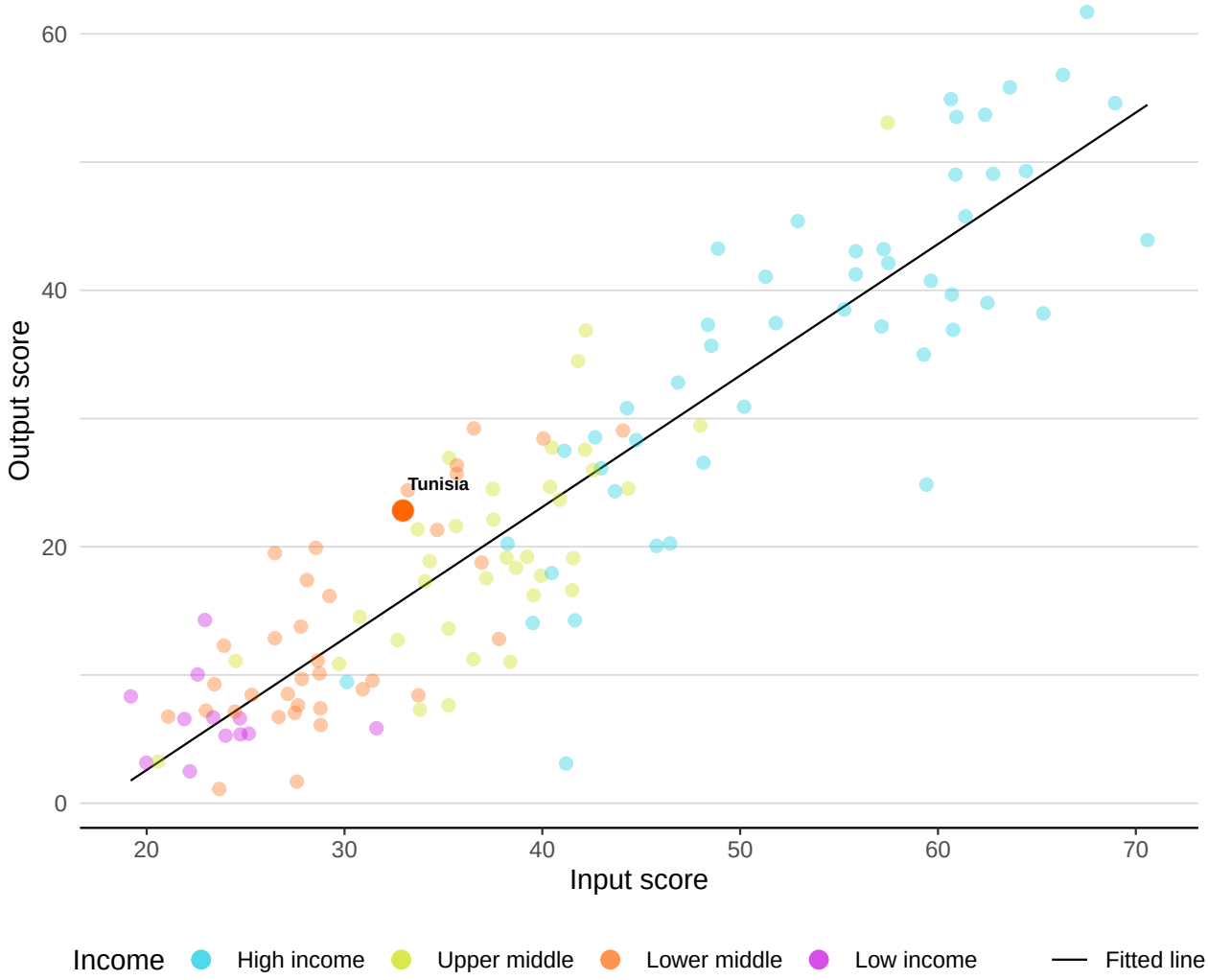


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

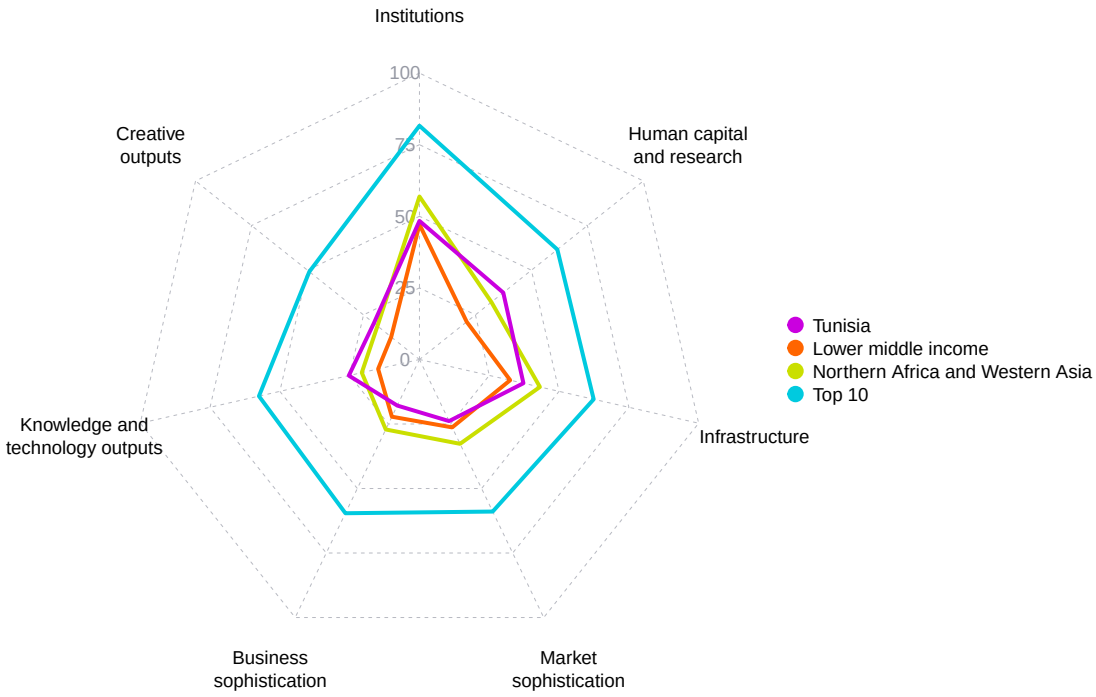
Tunisia produces more innovation outputs relative to its level of innovation investments.

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 Tunisia



Lower-middle-income group economies

Tunisia performs above the lower-middle-income group average in five pillars, namely: Institutions; Human capital and research; Infrastructure; Knowledge and technology outputs; and, Creative outputs.

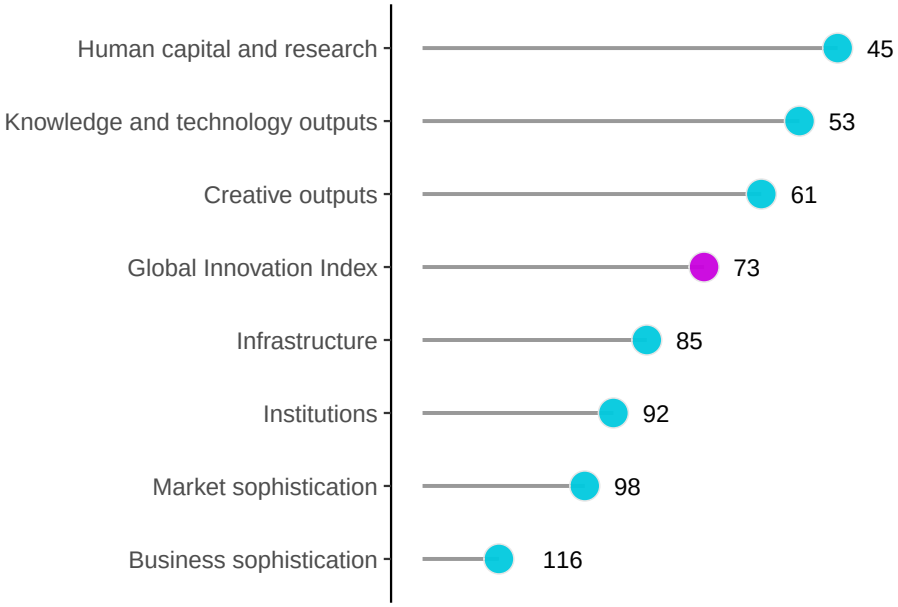
Northern Africa and Western Asia

Tunisia performs above the regional average in three pillars, namely: Human capital and research; Knowledge and technology outputs; and, Creative outputs.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2022 AREAS

Tunisia performs best in Human capital and research and its weakest performance is in Business sophistication.

The seven GII pillar ranks for Tunisia



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

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

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

INNOVATION STRENGTHS AND WEAKNESSES

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

Strengths and weaknesses for Tunisia

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
2.1.1	Expenditure on education, % GDP	7	2.1.4	PISA scales in reading, maths and science	73
2.1.2	Government funding/pupil, secondary, % GDP/cap	1	2.3.3	Global corporate R&D investors, top 3, mn USD	38
2.2.2	Graduates in science and engineering, %	5	2.3.4	QS university ranking, top 3	72
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	36	3.2.3	Gross capital formation, % GDP	123
4.1.2	Domestic credit to private sector, % GDP	41	4.2.4	Venture capital received, value, % GDP	87
6.1.4	Scientific and technical articles/bn PPP$ GDP	12	4.3.1	Applied tariff rate, weighted avg., %	116
6.2.3	Software spending, % GDP	42	5.3.3	ICT services imports, % total trade	115
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	32	7.2.1	Cultural and creative services exports, % total trade	104
6.3.3	High-tech exports, % total trade	43	7.2.2	National feature films/mn pop. 15–69	75
7.2.5	Creative goods exports, % total trade	39	7.2.3	Entertainment and media market/th pop. 15–69	59

GII 2022 rank

Tunisia

73

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
59	89	Lower middle	NAWA	11.9	128.8	10,720

		Score/ Value	Rank	
Institutions		**48.4**	**92**	
1.1	**Political environment**	52.7	93	
1.1.1	Political and operational stability*	60.0	97	
1.1.2	Government effectiveness*	45.3	82	
1.2	**Regulatory environment**	57.9	87	
1.2.1	Regulatory quality*	35.8	93	
1.2.2	Rule of law*	49.6	56	◆
1.2.3	Cost of redundancy dismissal	21.6	93	
1.3	**Business environment**	34.6	[96]	
1.3.1	Policies for doing business†	34.6	106	
1.3.2	Entrepreneurship policies and culture*	n/a	n/a	
Human capital and research		**37.4**	**45**	◆
2.1	**Education**	65.0	14	● ◆
2.1.1	Expenditure on education, % GDP	7.3	7	● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	49.4	1	● ◆
2.1.3	School life expectancy, years	15.1	49	◆
2.1.4	PISA scales in reading, maths and science	371.4	73	○
2.1.5	Pupil-teacher ratio, secondary	14.4	66	
2.2	**Tertiary education**	41.8	32	● ◆
2.2.1	Tertiary enrolment, % gross	32.8	82	
2.2.2	Graduates in science and engineering, %	38.3	5	● ◆
2.2.3	Tertiary inbound mobility, %	3.1	67	
2.3	**Research and development (R&D)**	5.4	70	
2.3.1	Researchers, FTE/mn pop.	1,659.9	46	◆
2.3.2	Gross expenditure on R&D, % GDP	0.7	49	◆
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		**37.2**	**85**	
3.1	**Information and communication technologies (ICTs)**	68.4	80	◆
3.1.1	ICT access*	83.5	73	◆
3.1.2	ICT use*	58.6	76	◆
3.1.3	Government's online service*	62.4	83	
3.1.4	E-participation*	69.0	73	
3.2	**General infrastructure**	15.2	121	○ ◇
3.2.1	Electricity output, GWh/mn pop.	1,887.2	85	
3.2.2	Logistics performance*	24.2	97	
3.2.3	Gross capital formation, % GDP	13.1	123	○ ◇
3.3	**Ecological sustainability**	28.1	56	◆
3.3.1	GDP/unit of energy use	10.8	62	
3.3.2	Environmental performance*	40.7	71	◆
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	2.5	36	● ◆
Market sophistication		**23.9**	**98**	
4.1	**Credit**	23.7	75	
4.1.1	Finance for startups and scaleups*	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	81.7	41	● ◆
4.1.3	Loans from microfinance institutions, % GDP	1.2	24	
4.2	**Investment**	5.2	74	
4.2.1	Market capitalization, % GDP	20.2	60	
4.2.2	Venture capital investors, deals/bn PPP$ GDP	0.0	52	
4.2.3	Venture capital recipients, deals/bn PPP$ GDP	0.0	54	
4.2.4	Venture capital received, value, % GDP	0.0	87	○
4.3	**Trade, diversification, and market scale**	42.7	95	
4.3.1	Applied tariff rate, weighted avg., %	9.3	116	○
4.3.2	Domestic industry diversification	86.0	56	
4.3.3	Domestic market scale, bn PPP$	128.8	79	

		Score/ Value	Rank	
Business sophistication		**17.9**	**116**	○
5.1	**Knowledge workers**	19.0	99	
5.1.1	Knowledge-intensive employment, %	15.9	87	
5.1.2	Firms offering formal training, %	19.1	81	
5.1.3	GERD performed by business, % GDP	0.1	59	
5.1.4	GERD financed by business, %	18.9	67	
5.1.5	Females employed w/advanced degrees, %	8.8	78	
5.2	**Innovation linkages**	16.5	115	○
5.2.1	University-industry R&D collaboration†	33.8	105	
5.2.2	State of cluster development and depth†	39.5	107	
5.2.3	GERD financed by abroad, % GDP	0.0	58	
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	88	
5.2.5	Patent families/bn PPP$ GDP	0.0	85	
5.3	**Knowledge absorption**	18.1	122	○
5.3.1	Intellectual property payments, % total trade	0.1	103	
5.3.2	High-tech imports, % total trade	9.3	49	
5.3.3	ICT services imports, % total trade	0.4	115	○
5.3.4	FDI net inflows, % GDP	1.9	78	
5.3.5	Research talent, % in businesses	5.2	69	
Knowledge and technology outputs		**25.3**	**53**	◆
6.1	**Knowledge creation**	23.2	39	● ◆
6.1.1	Patents by origin/bn PPP$ GDP	1.4	53	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.1	61	
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific and technical articles/bn PPP$ GDP	48.2	12	● ◆
6.1.5	Citable documents H-index	11.2	67	
6.2	**Knowledge impact**	26.6	68	
6.2.1	Labor productivity growth, %	−0.2	94	
6.2.2	New businesses/th pop. 15–64	2.0	59	
6.2.3	Software spending, % GDP	0.3	42	●
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	9.0	32	● ◆
6.2.5	High-tech manufacturing, %	24.3	52	
6.3	**Knowledge diffusion**	26.1	55	
6.3.1	Intellectual property receipts, % total trade	0.1	56	
6.3.2	Production and export complexity	50.0	45	◆
6.3.3	High-tech exports, % total trade	4.0	43	● ◆
6.3.4	ICT services exports, % total trade	1.3	79	
Creative outputs		**20.3**	**61**	
7.1	**Intangible assets**	37.5	[43]	
7.1.1	Intangible asset intensity, top 15, %	44.9	57	
7.1.2	Trademarks by origin/bn PPP$ GDP	n/a	n/a	
7.1.3	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4	Industrial designs by origin/bn PPP$ GDP	1.7	51	
7.2	**Creative goods and services**	4.0	103	
7.2.1	Cultural and creative services exports, % total trade	0.0	104	○
7.2.2	National feature films/mn pop. 15–69	0.2	75	○
7.2.3	Entertainment and media market/th pop. 15–69	0.7	59	○
7.2.4	Printing and other media, % manufacturing	n/a	n/a	
7.2.5	Creative goods exports, % total trade	1.2	39	●
7.3	**Online creativity**	2.4	80	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	2.7	67	◆
7.3.2	Country-code TLDs/th pop. 15–69	1.7	72	
7.3.3	GitHub commit pushes received/mn pop. 15–69	4.6	61	
7.3.4	Mobile app creation/bn PPP$ GDP	0.4	86	

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 Tunisia.

Missing data for Tunisia

Code	Indicator name	Economy year	Model year	Source
1.3.2	Entrepreneurship policies and culture	n/a	2021	Global Entrepreneurship Monitor
4.1.1	Finance for startups and scaleups	n/a	2021	Global Entrepreneurship Monitor
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2020	World Intellectual Property Organization
7.1.2	Trademarks by origin/bn PPP$ GDP	n/a	2020	World Intellectual Property Organization
7.1.3	Global brand value, top 5,000, % GDP	n/a	2021	Brand Finance
7.2.4	Printing and other media, % manufacturing	n/a	2019	United Nations Industrial Development Organization

Outdated data for Tunisia

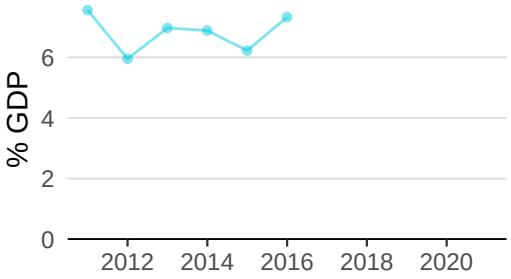
Code	Indicator name	Economy year	Model year	Source
2.1.1	Expenditure on education, % GDP	2016	2020	UNESCO Institute for Statistics
2.1.2	Government funding/pupil, secondary, % GDP/cap	2015	2018	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2016	2019	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	2015	2018	OECD, PISA
2.3.2	Gross expenditure on R&D, % GDP	2019	2020	UNESCO Institute for Statistics
3.2.1	Electricity output, GWh/mn pop.	2019	2020	International Energy Agency
4.1.2	Domestic credit to private sector, % GDP	2017	2020	International Monetary Fund
4.3.1	Applied tariff rate, weighted avg., %	2016	2020	World Bank
4.3.2	Domestic industry diversification	2018	2019	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	2014	2021	International Labour Organization
5.1.3	GERD performed by business, % GDP	2014	2020	UNESCO Institute for Statistics
5.1.4	GERD financed by business, %	2015	2019	UNESCO Institute for Statistics
5.1.5	Females employed w/advanced degrees, %	2017	2021	International Labour Organization
5.2.3	GERD financed by abroad, % GDP	2015	2019	UNESCO Institute for Statistics
5.3.1	Intellectual property payments, % total trade	2019	2020	World Trade Organization and United Nations Conference on Trade and Development
5.3.2	High-tech imports, % total trade	2019	2020	United Nations Comtrade Database

Code	Indicator name	Economy year	Model year	Source
5.3.3	ICT services imports, % total trade	2019	2020	World Trade Organization and United Nations Conference on Trade and Development
5.3.5	Research talent, % in businesses	2018	2020	UNESCO Institute for Statistics
6.1.1	Patents by origin/bn PPP$ GDP	2018	2020	World Intellectual Property Organization
6.2.2	New businesses/th pop. 15–64	2019	2020	World Bank, Enterpreneurship Database
6.2.5	High-tech manufacturing, %	2018	2019	United Nations Industrial Development Organization
6.3.1	Intellectual property receipts, % total trade	2019	2020	World Trade Organization and United Nations Conference on Trade and Development
6.3.3	High-tech exports, % total trade	2019	2020	United Nations Comtrade Database
6.3.4	ICT services exports, % total trade	2019	2020	World Trade Organization and United Nations Conference on Trade and Development
7.1.4	Industrial designs by origin/bn PPP$ GDP	2019	2020	World Intellectual Property Organization
7.2.5	Creative goods exports, % total trade	2019	2020	United Nations Comtrade Database

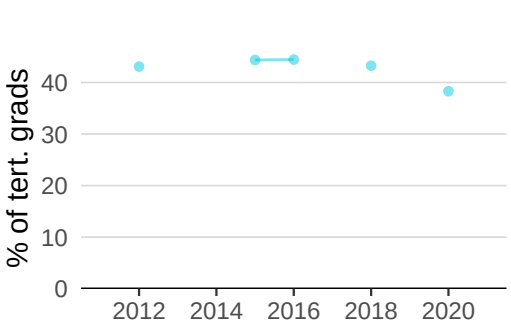
TUNISIA'S INNOVATION SYSTEM

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

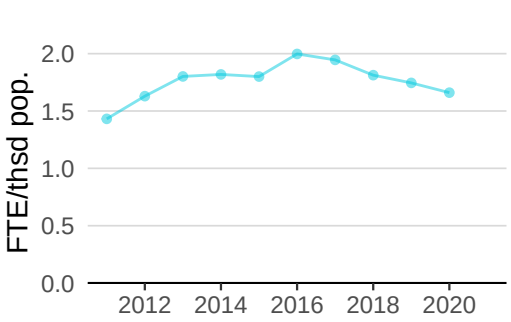
Innovation inputs



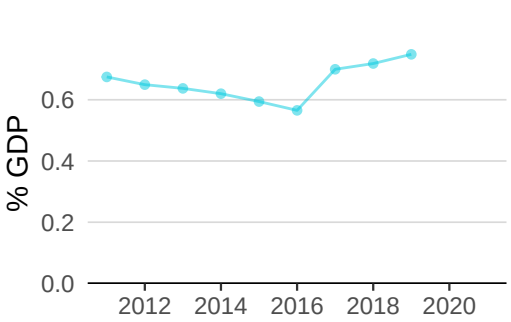
2.1.1 Expenditure on education was equal to 7.3% GDP in 2016–up by 18 percentage points from the year prior–and equivalent to an indicator rank of 7.



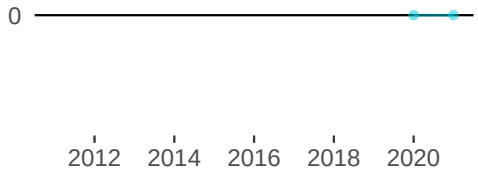
2.2.2 Graduates in science and engineering was equal to 38.3% of tert. grads in 2020 and equivalent to an indicator rank of 5.



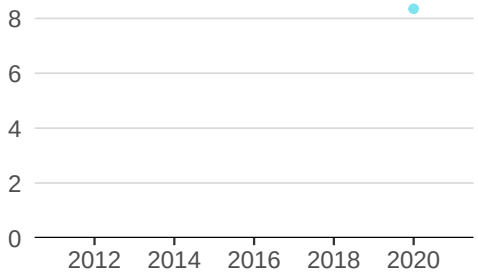
2.3.1 Researchers was equal to 1.7 FTE/thsd pop. in 2020–down by 5 percentage points from the year prior–and equivalent to an indicator rank of 46.



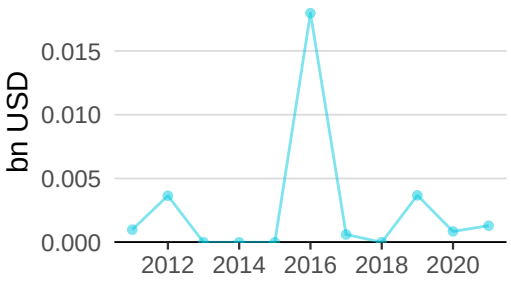
2.3.2 Gross expenditure on R&D was equal to 0.7% GDP in 2019–up by 4 percentage points from the year prior–and equivalent to an indicator rank of 49.



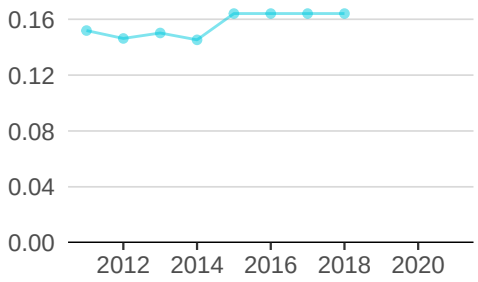
2.3.4 QS university ranking was equal to 0.0 in 2021–effectively unchanged from the year prior–and equivalent to an indicator rank of 72.



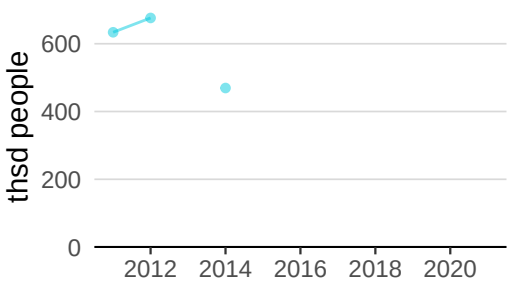
3.1.1 ICT access was equal to 8.3 in 2020 and equivalent to an indicator rank of 73.



4.2.4 Venture capital received was equal to 0.0 bn USD in 2021–up by 53 percentage points from the year prior–and equivalent to an indicator rank of 87.

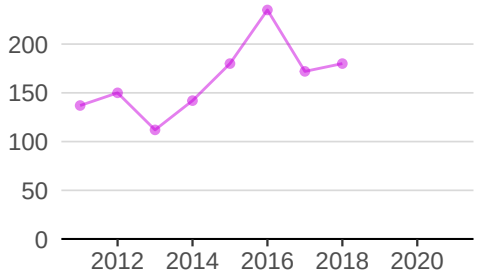


4.3.2 Domestic industry diversification was equal to 0.2 in 2018–effectively unchanged from the year prior–and equivalent to an indicator rank of 56.

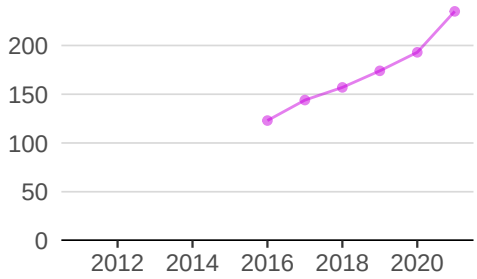


5.1.1 Knowledge-intensive employment was equal to 469.3 thsd people in 2014 and equivalent to an indicator rank of 87.

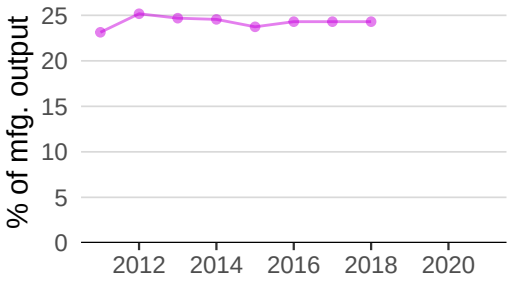
Innovation outputs



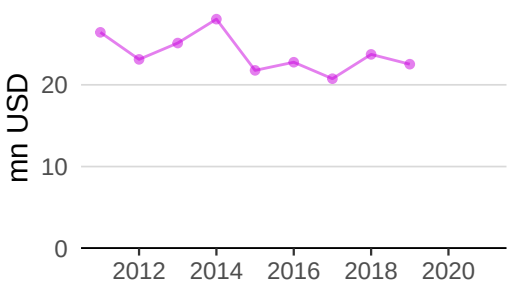
6.1.1 Patents by origin was equal to 180.0 in 2018–up by 5 percentage points from the year prior–and equivalent to an indicator rank of 53.



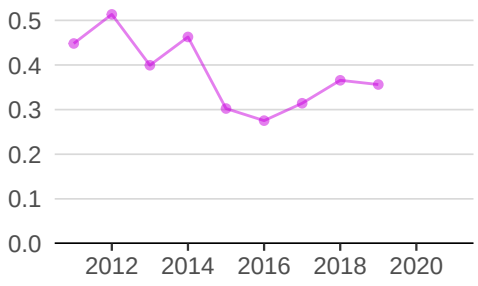
6.1.5 Citable documents H-index was equal to 235.0 in 2021–up by 22 percentage points from the year prior–and equivalent to an indicator rank of 67.



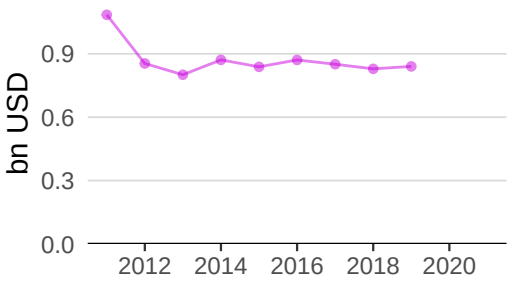
6.2.5 High-tech manufacturing was equal to 24.3% of mfg. output in 2018–effectively unchanged from the year prior–and equivalent to an indicator rank of 52.



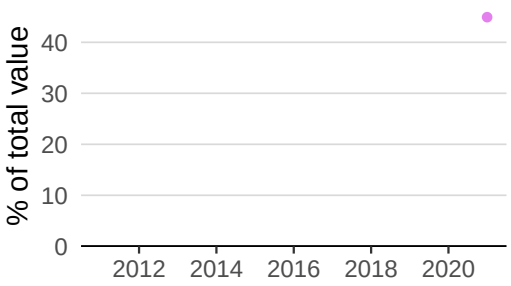
6.3.1 Intellectual property receipts was equal to 22.5 mn USD in 2019–down by 5 percentage points from the year prior–and equivalent to an indicator rank of 56.



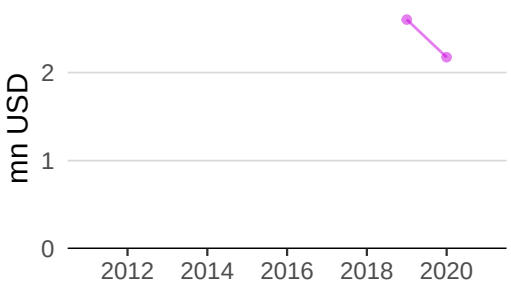
6.3.2 Production and export complexity was equal to 0.4 in 2019–down by 3 percentage points from the year prior–and equivalent to an indicator rank of 45.



6.3.3 High-tech exports was equal to 0.8 bn USD in 2019–up by 1 percentage point from the year prior–and equivalent to an indicator rank of 43.



7.1.1 Intangible asset intensity was equal to 44.9% of total value in 2021 and equivalent to an indicator rank of 57.



7.2.1 Cultural and creative services exports was equal to 2.2 mn USD in 2020–down by 16 percentage points from the year prior–and equivalent to an indicator rank of 104.

TUNISIA'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
POULINA GROUP	1
BANQUE DE TUNISIE	2
SOCIETE D'ARTICLES HYGIENIQUE	3

Source: Brand Finance (https://brandirectory.com/reports/gift-2021).
Note: Brand Finance only provides within economy ranks.

7.1.3 Global brand value, top 5,000

Brand	Industry	Rank

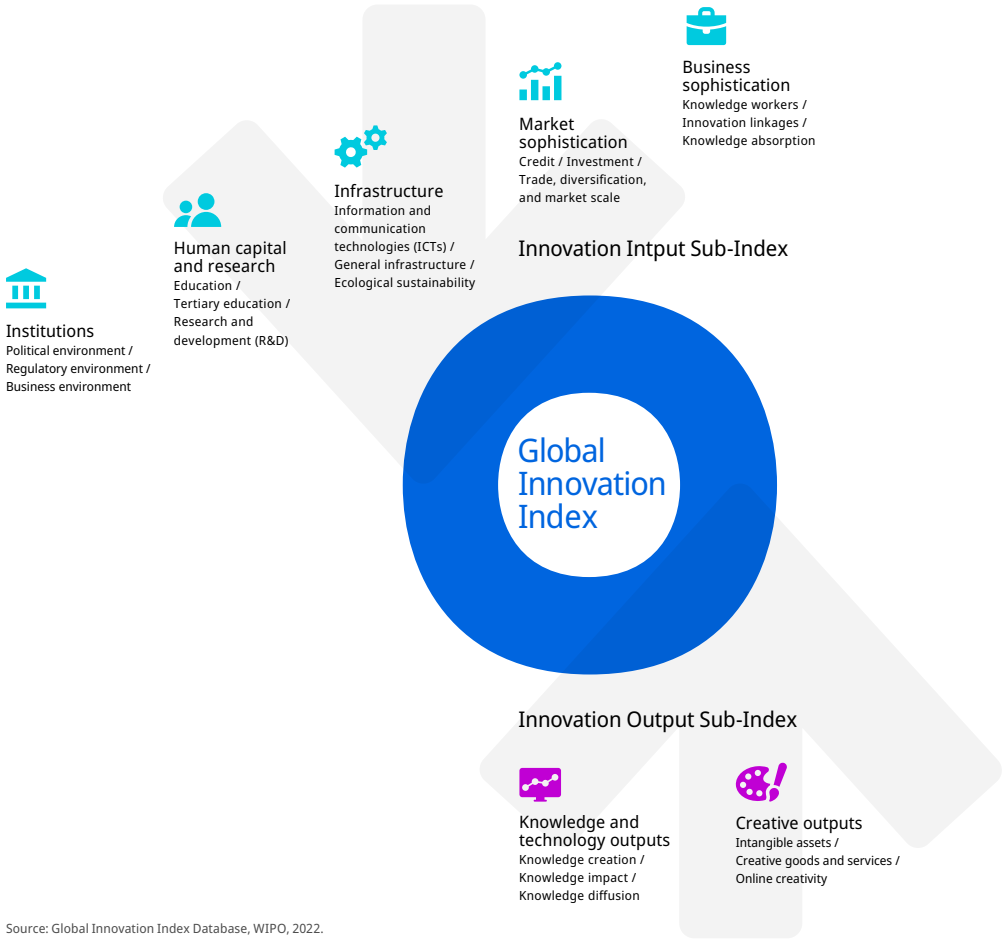
No observations

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.