

Global Innovation Index 2023

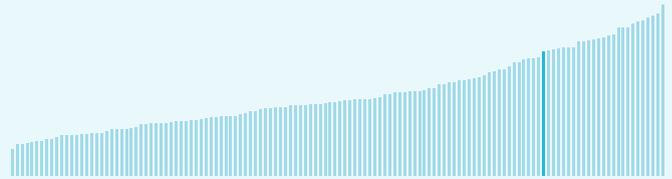


The Global Innovation Index (GII) **ranks world economies according to their innovation capabilities.**

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

Malta ranking in the Global Innovation Index 2023

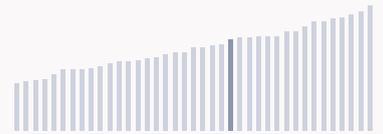
> Malta ranks **25th** among the 132 economies featured in the GII 2023.



> Malta ranks **24th** among the 50 high-income group economies.



> Malta ranks **16th** among the 39 economies in Europe.



> Malta GII Ranking (2020-2023)

The table shows the rankings of Malta 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 Malta in the GII 2023 is between ranks 20 and 26.

	GII Position	Innovation Inputs	Innovation Outputs
2020	27th	31st	21st
2021	27th	29th	22nd
2022	21st	27th	13th
2023	25th	27th	17th

Malta performs better in innovation outputs than innovation inputs in 2023.

This year Malta ranks **27th in innovation inputs**. This position is the same as last year.

Malta ranks **17th in innovation outputs**. This position is lower than last year.

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→ Expected vs. observed innovation performance

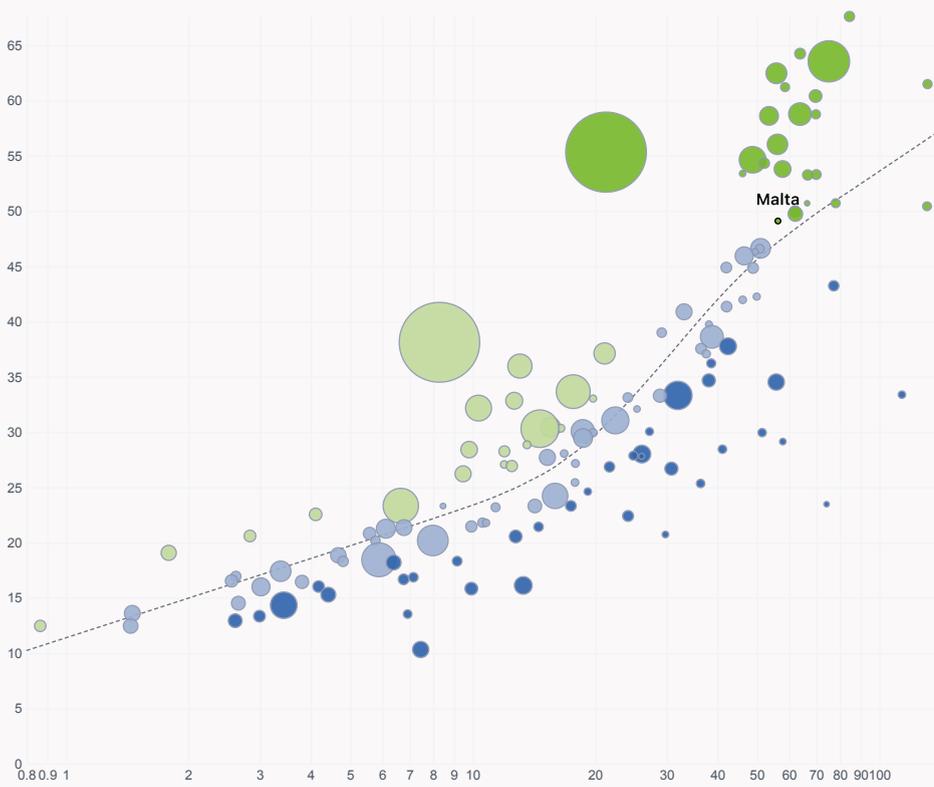
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected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



> Malta is an innovation leader, ranking in the top 25 of the GII.

> 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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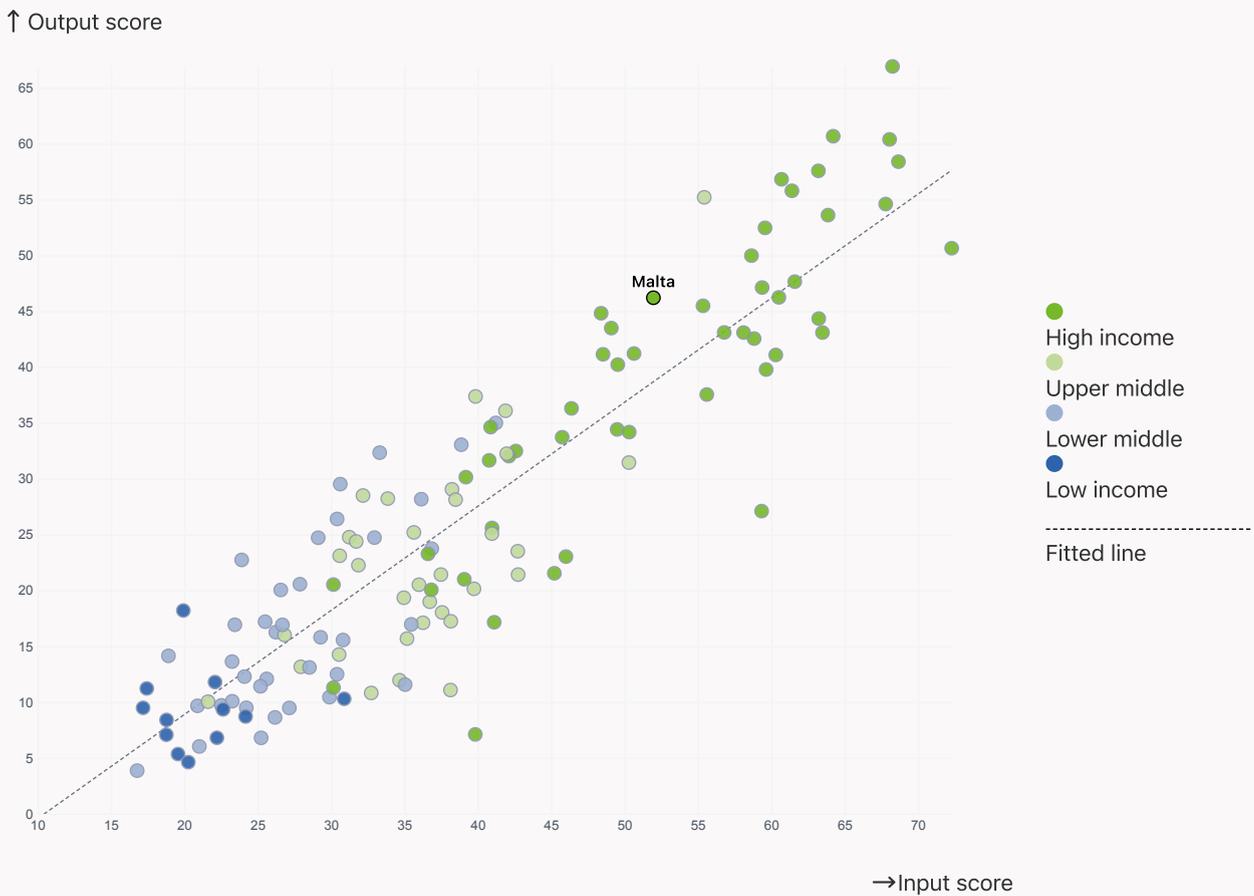
→ Effectively translating innovation investments into innovation outputs

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.

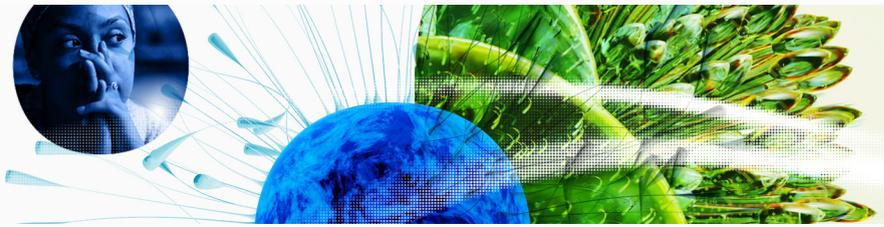


> Malta produces more innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

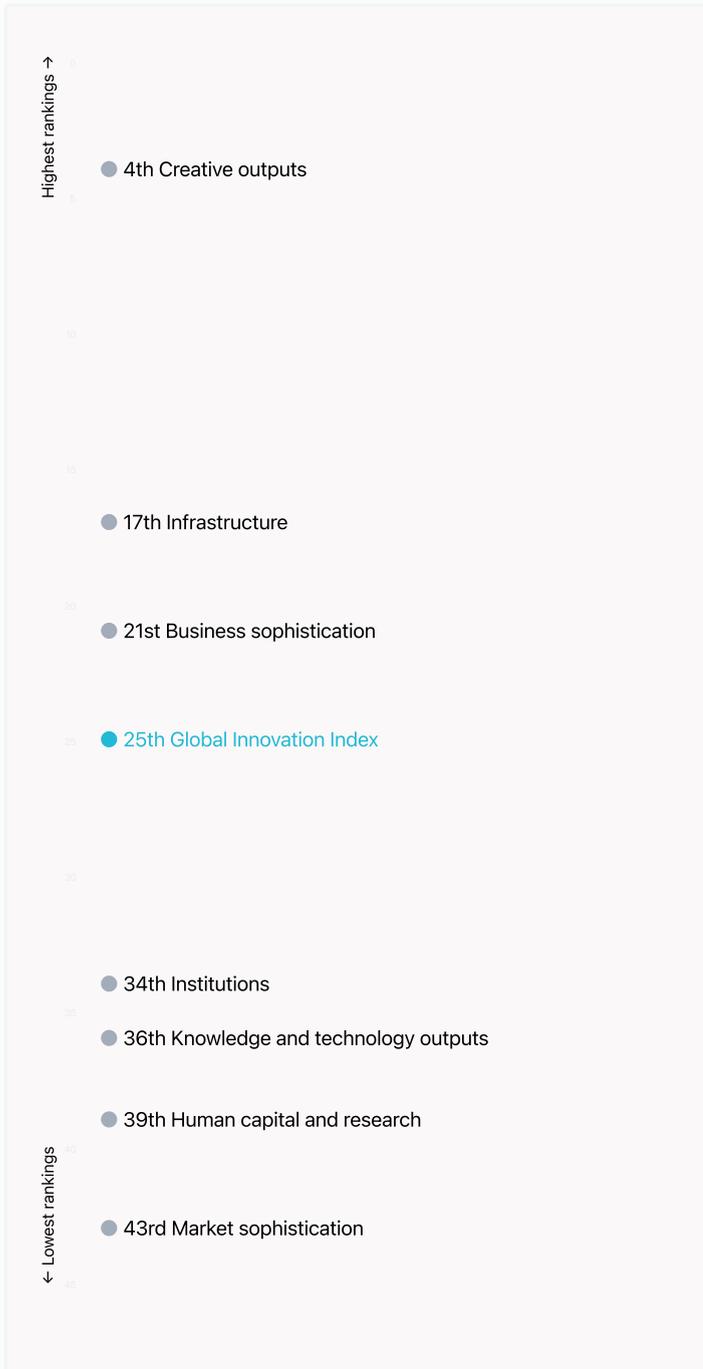


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→ Overview of Malta's rankings in the seven areas of the GII in 2023

The chart shows the ranking for each of the seven areas that the GII comprises. The strongest areas for Malta are those that rank above the GII (shown in blue) and the weakest are those that rank below.



> Highest rankings



Malta ranks highest in Creative outputs (4th), Infrastructure (17th) and Business sophistication (21st).

> Lowest rankings



Malta ranks lowest in Market sophistication (43rd), Human capital and research (39th) and Knowledge and technology outputs (36th).

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

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

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

> High-Income economies

Malta performs above the high-income group average in Creative outputs, Business sophistication, Infrastructure.

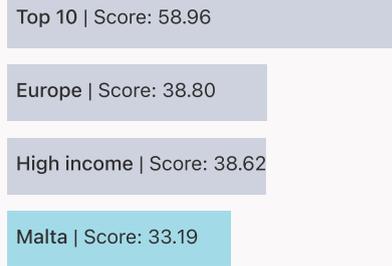


> Europe

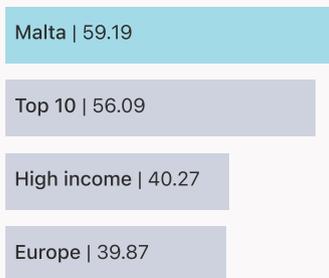
Malta performs above the regional average in Creative outputs, Business sophistication, Infrastructure, Institutions.



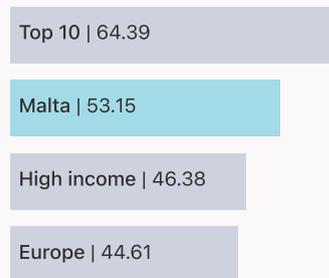
Knowledge and technology outputs



Creative outputs



Business sophistication



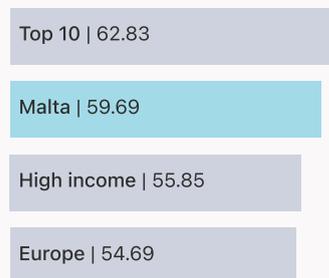
Market sophistication



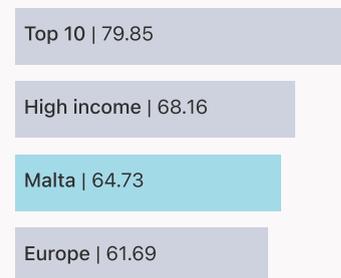
Human capital and research



Infrastructure



Institutions



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→ Innovation strengths and weaknesses in Malta

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



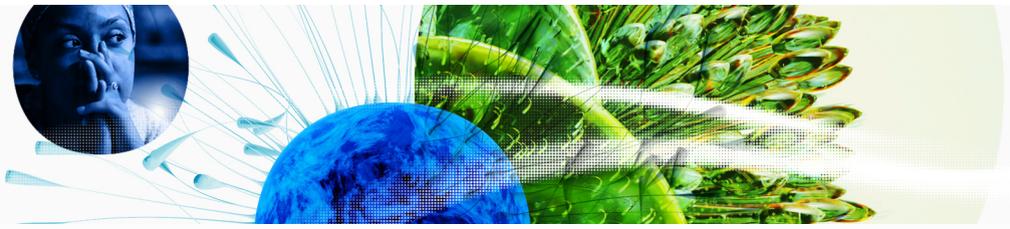
> Malta's main innovation strengths are **Cost of redundancy dismissal (rank 1)**, **Cultural and creative services exports, % total trade (rank 1)** and **Intellectual property payments, % total trade (rank 1)**.

Strengths

Weaknesses

Rank	Code	Indicator name	Rank	Code	Indicator name
1	1.2.3	Cost of redundancy dismissal	126	4.3.3	Domestic market scale, bn PPP\$
1	7.2.1	Cultural and creative services exports, % total trade	103	6.3.4	ICT services exports, % total trade
1	5.3.1	Intellectual property payments, % total trade	101	6.2.1	Labor productivity growth, %
1	6.3.1	Intellectual property receipts, % total trade	92	3.2.3	Gross capital formation, % GDP
1	5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	92	2.2.2	Graduates in science and engineering, %
1	7.1.2	Trademarks by origin/bn PPP\$ GDP	88	6.1.5	Citable documents H-index
2	2.1.5	Pupil-teacher ratio, secondary	84	7.2.4	Creative goods exports, % total trade
3	3.3.1	GDP/unit of energy use	84	5.3.3	ICT services imports, % total trade
4	3.3.2	Environmental performance	71	2.3.4	QS university ranking, top 3
4	5.3.4	FDI net inflows, % GDP	48	6.2.2	Unicorn valuation, % GDP
5	7.1.4	Industrial designs by origin/bn PPP\$ GDP	45	7.2.3	Entertainment and media market/th pop. 15-69
6	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69			

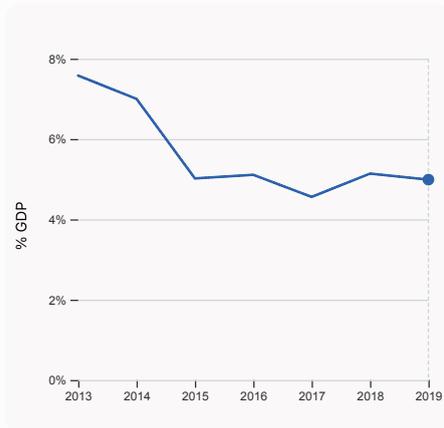
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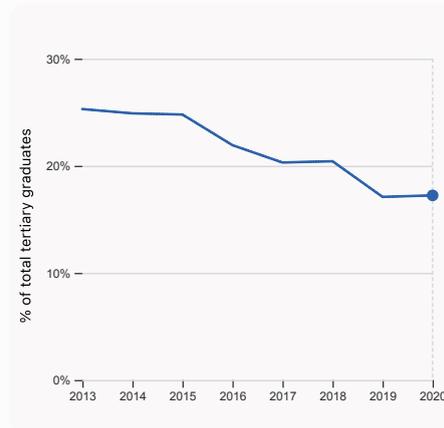
→ Malta's innovation system

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

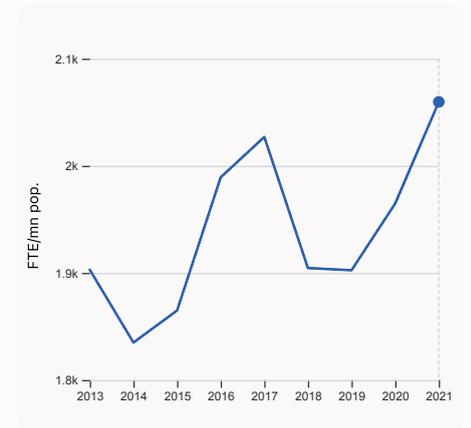
> Innovation inputs in Malta



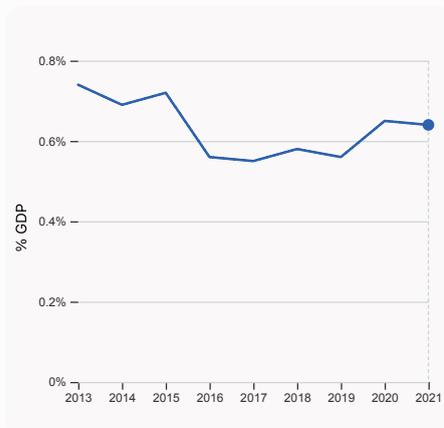
2.1.1 Expenditure on education, % GDP was equal to 4.99% GDP in 2019, down by 0.15 percentage points from the year prior – and equivalent to an indicator rank of 42.



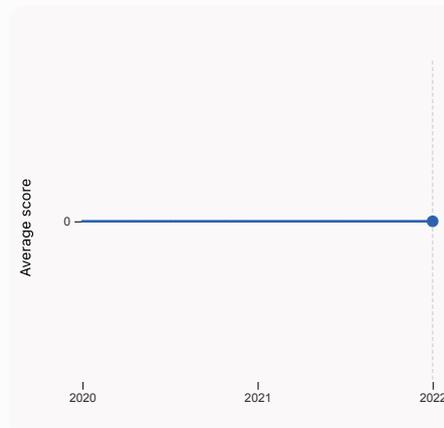
2.2.2 Graduates in science and engineering, % was equal to 17.24% of total tertiary graduates in 2020, up by 0.14 percentage points from the year prior – and equivalent to an indicator rank of 92.



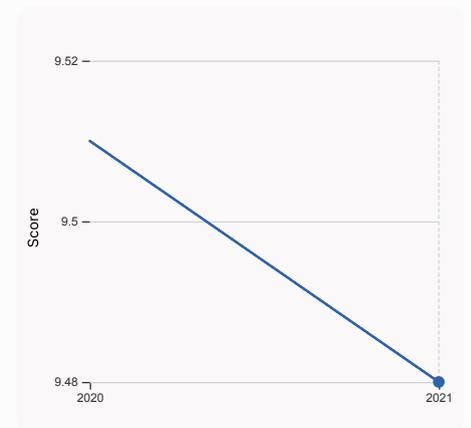
2.3.1 Researchers, FTE/mn pop. was equal to 2,059.68 FTE/mn pop. in 2021, up by 4.83% from the year prior – and equivalent to an indicator rank of 41.



2.3.2 Gross expenditure on R&D, % GDP was equal to 0.64% GDP in 2021, down by 0.01 percentage points from the year prior – and equivalent to an indicator rank of 55.

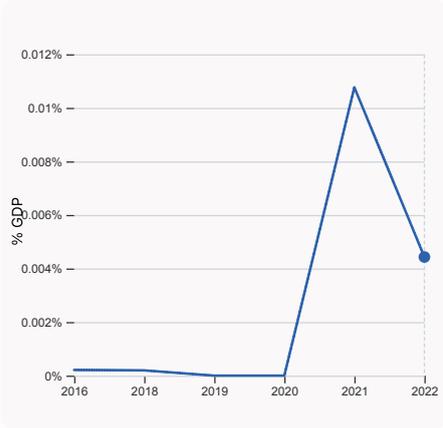


2.3.4 QS university ranking, top 3 was equal to an average score of 0 for the top 3 universities in 2022, equivalent to an indicator rank of 71.



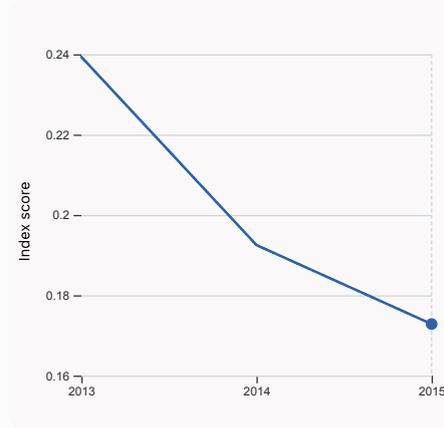
3.1.1 ICT access was equal to a score of 9.48 in 2021, down by 0.32% from the year prior – and equivalent to an indicator rank of 15.

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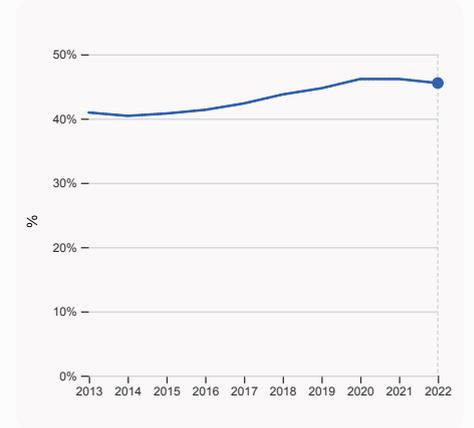
4.2.4 VC received, value, % GDP

was equal to 0.00443% GDP in 2022, down by 0.0063 percentage points from the year prior – and equivalent to an indicator rank of 13.



4.3.2 Domestic industry diversification

was equal to an index score of 0.173 in 2015, down by 10.22% from the year prior – and equivalent to an indicator rank of 61.



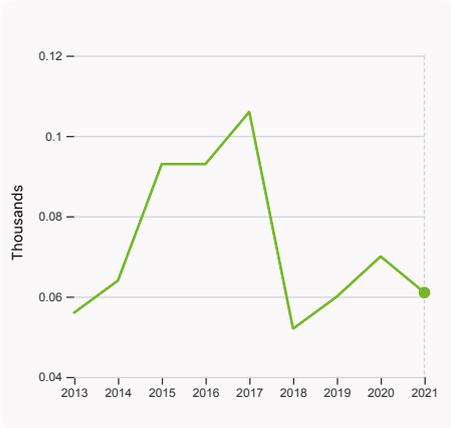
5.1.1 Knowledge-intensive employment, %

was equal to 45.53% in 2022, down by 0.63 percentage points from the year prior – and equivalent to an indicator rank of 21.

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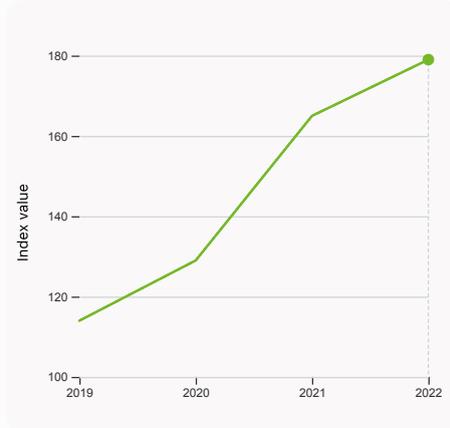


> Innovation outputs in Malta



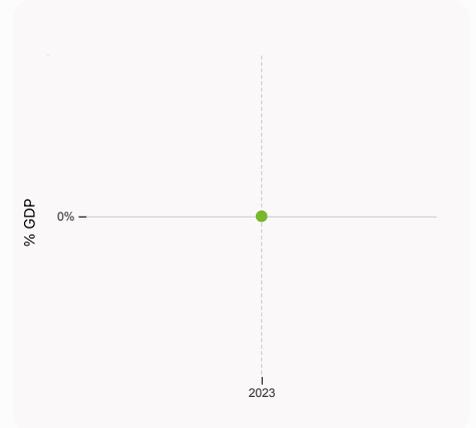
6.1.1 Patents by origin

was equal to 0.061 Thousands in 2021, down by 12.86% from the year prior – and equivalent to an indicator rank of 31.



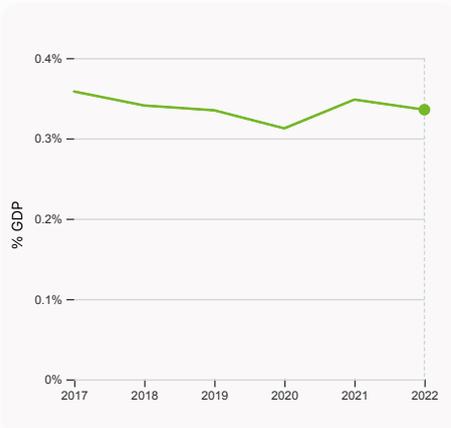
6.1.5 Citable documents H-index

was equal to an index value of 179 in 2022, up by 8.48% from the year prior – and equivalent to an indicator rank of 88.



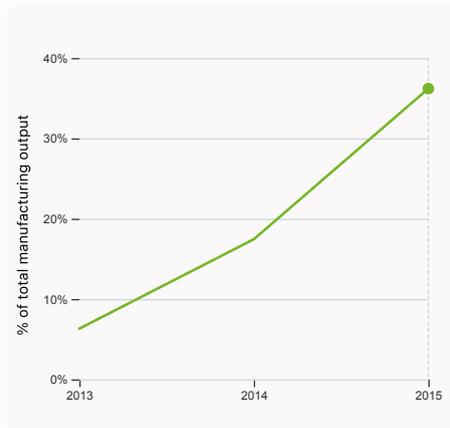
6.2.2 Unicorn valuation, % GDP

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



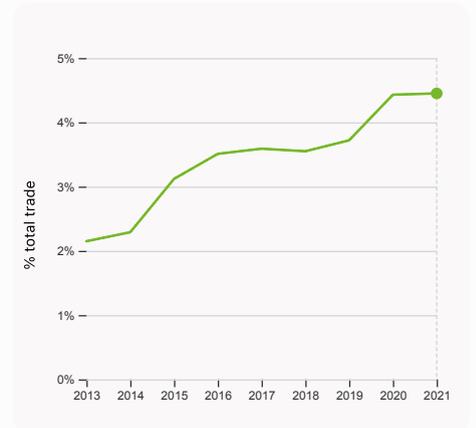
6.2.3 Software spending, % GDP

was equal to 0.336% GDP in 2022, down by 0.013 percentage points from the year prior – and equivalent to an indicator rank of 30.



6.2.4 High-tech manufacturing, %

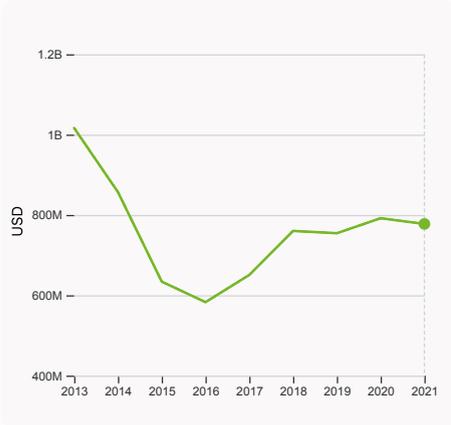
was equal to 36.2% of total manufacturing output in 2015, up by 18.75 percentage points from the year prior – and equivalent to an indicator rank of 32.



6.3.1 Intellectual property receipts, % total trade

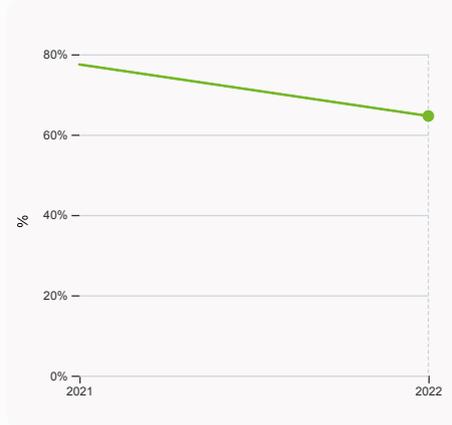
was equal to 4.45% total trade in 2021, up by 0.02 percentage points from the year prior – and equivalent to an indicator rank of 1.

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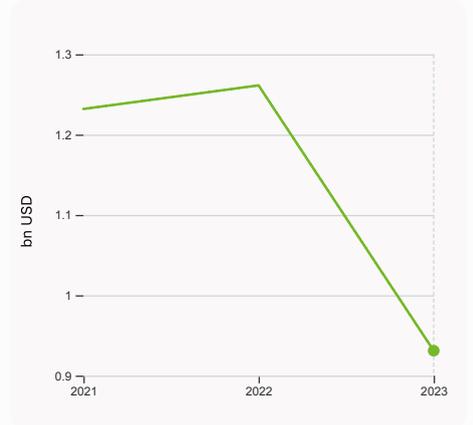
6.3.3 High-tech exports

was equal to 777,664,237 USD in 2021, down by 1.81% from the year prior – and equivalent to an indicator rank of 43.



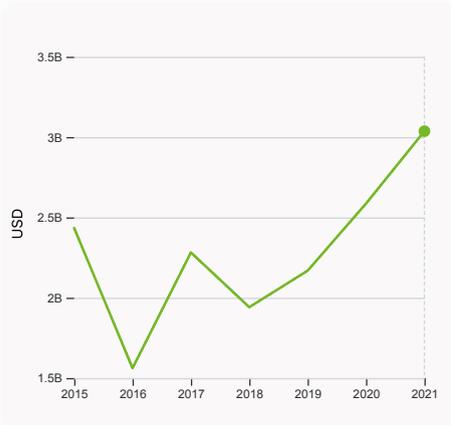
7.1.1 Intangible asset intensity, top 15, %

was equal to 64.65% in 2022, down by 12.82 percentage points from the year prior – and equivalent to an indicator rank of 28.



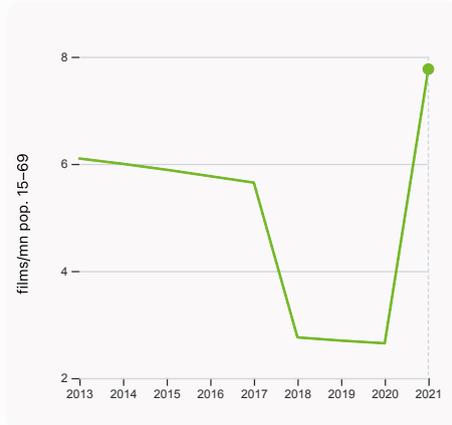
7.1.3 Global brand value, top 5,000

was equal to 0.931 bn USD in 2023, down by 26.19% from the year prior – and equivalent to an indicator rank of 32.



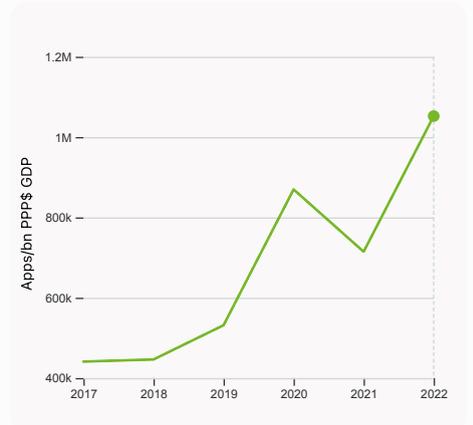
7.2.1 Cultural and creative services exports

was equal to 3,036,939,000 USD in 2021, up by 17.41% from the year prior – and equivalent to an indicator rank of 1.



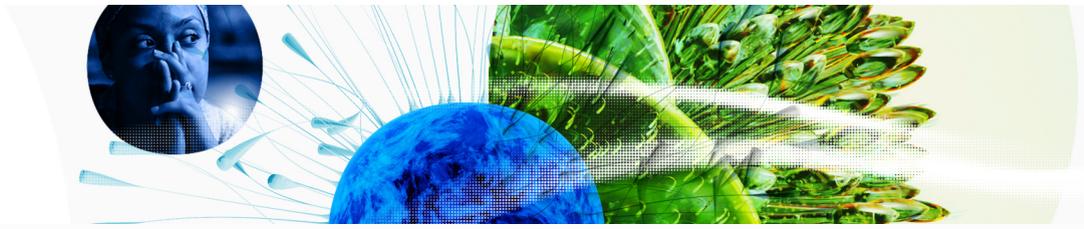
7.2.2 National feature films/mn pop. 15-69

was equal to 7.77 films/mn pop. 15-69 in 2021, up by 193.21% from the year prior – and equivalent to an indicator rank of 10.



7.3.4 Mobile app creation/bn PPP\$ GDP

was equal to 1,052,335.38 Apps/bn PPP\$ GDP in 2022, up by 47.25% from the year prior – and equivalent to an indicator rank of 23.



→ Malta's innovation top performers

> 7.1.1 Top 15 intangible-asset intensive companies in Malta

Rank	Firm	Intensity, %
1	KINDRED GROUP PLC	106.77
2	MGI MEDIA AND GAMES INVEST SE	146.24
3	KAMBI GROUP PLC	79.33

Source: Brand Finance (<https://brandirectory.com/reports/gift-2022>).
Note: Brand Finance only provides within economy ranks.

> 7.1.3 Top 5,000 companies in Malta with highest global brand value

Rank	Brand	Industry	Brand Value, mn USD
1	KINDRED	Leisure & Tourism	931.0

Source: Brand Finance (<https://brandirectory.com>).
Note: Rank corresponds to within economy ranks.

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GII 2023 rank

25

Malta

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
17	27	High	EUR	0.5	29.4	56,337.7
Score / Value Rank				Score / Value Rank		
Institutions 64.7 34 ◇				Business sophistication 53.1 21		
1.1 Institutional environment 65.4 35 ◇				5.1 Knowledge workers 54.3 24 ◇		
1.1.1 Operational stability for businesses* 69.4 29				5.1.1 Knowledge-intensive employment, % 45.5 21		
1.1.2 Government effectiveness* 61.4 34 ◇				5.1.2 Firms offering formal training, % 49.9 20		
1.2 Regulatory environment 82.1 24				5.1.3 GERD performed by business, % GDP 0.4 45 ◇		
1.2.1 Regulatory quality* 63.2 39 ◇				5.1.4 GERD financed by business, % 60.2 14		
1.2.2 Rule of law* 65.0 35 ◇				5.1.5 Females employed w/advanced degrees, % 17.2 42 ◇		
1.2.3 Cost of redundancy dismissal 8.0 1 ●◆				5.2 Innovation linkages 48.1 22		
1.3 Business environment 46.7 [62]				5.2.1 University-industry R&D collaboration+ 40.2 72 ◇		
1.3.1 Policies for doing business* 46.7 66 ◇				5.2.2 State of cluster development+ 42.5 61 ◇		
1.3.2 Entrepreneurship policies and culture* n/a n/a				5.2.3 GERD financed by abroad, % GDP 0.1 47		
Human capital and research 39.6 39 ◇				5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP 0.3 1 ●◆		
2.1 Education 64.2 16				5.2.5 Patent families/bn PPP\$ GDP 2.5 16		
2.1.1 Expenditure on education, % GDP ● 5.0 42				5.3 Knowledge absorption 57.0 6 ●◆		
2.1.2 Government funding/pupil, secondary, % GDP/cap 31.1 8 ◆				5.3.1 Intellectual property payments, % total trade 6.5 1 ●◆		
2.1.3 School life expectancy, years 17.2 17				5.3.2 High-tech imports, % total trade 7.9 72		
2.1.4 PISA scales in reading, maths and science 458.8 42 ◇				5.3.3 ICT services imports, % total trade 1.1 84 ○◇		
2.1.5 Pupil-teacher ratio, secondary 6.8 2 ●◆				5.3.4 FDI net inflows, % GDP 26.8 4 ●◆		
2.2 Tertiary education 35.8 44				5.3.5 Research talent, % in businesses 47.7 28		
2.2.1 Tertiary enrolment, % gross 71.5 31				Knowledge and technology outputs 33.2 36 ◇		
2.2.2 Graduates in science and engineering, % 17.2 92 ○◇				6.1 Knowledge creation 27.7 35 ◇		
2.2.3 Tertiary inbound mobility, % 14.2 14				6.1.1 Patents by origin/bn PPP\$ GDP 2.4 31		
2.3 Research and development (R&D) 18.7 46 ◇				6.1.2 PCT patents by origin/bn PPP\$ GDP 1.6 19		
2.3.1 Researchers, FTE/mn pop. 2,059.7 41 ◇				6.1.3 Utility models by origin/bn PPP\$ GDP n/a n/a		
2.3.2 Gross expenditure on R&D, % GDP 0.6 55 ◇				6.1.4 Scientific and technical articles/bn PPP\$ GDP n/a n/a		
2.3.3 Global corporate R&D investors, top 3, mn US\$ 42.2 39 ◇				6.1.5 Citable documents H-index 7.6 88 ○◇		
2.3.4 QS university ranking, top 3* 0.0 71 ○◇				6.2 Knowledge impact 30.1 56 ◇		
Infrastructure 59.7 17				6.2.1 Labor productivity growth, % -0.1 101 ○		
3.1 Information and communication technologies (ICTs) 85.5 19				6.2.2 Unicorn valuation, % GDP 0.0 48 ○◇		
3.1.1 ICT access* 92.3 15				6.2.3 Software spending, % GDP 0.3 30		
3.1.2 ICT use* 86.8 30 ◇				6.2.4 High-tech manufacturing, % ● 36.2 32		
3.1.3 Government's online service* 87.3 18				6.3 Knowledge diffusion 41.8 31		
3.1.4 E-participation* 75.6 22				6.3.1 Intellectual property receipts, % total trade 4.2 1 ●◆		
3.2 General infrastructure 30.3 53 ◇				6.3.2 Production and export complexity n/a n/a		
3.2.1 Electricity output, GWh/mn pop. 4,274.7 53 ◇				6.3.3 High-tech exports, % total trade 3.7 43		
3.2.2 Logistics performance* 54.5 42 ◇				6.3.4 ICT services exports, % total trade 0.5 103 ○		
3.2.3 Gross capital formation, % GDP 20.8 92 ○				6.3.5 ISO 9001 quality/bn PPP\$ GDP 8.9 31		
3.3 Ecological sustainability 63.3 1 ●◆				Creative outputs 59.2 4 ●◆		
3.3.1 GDP/unit of energy use 28.6 3 ●◆				7.1 Intangible assets 72.2 4 ●◆		
3.3.2 Environmental performance* 95.4 4 ●◆				7.1.1 Intangible asset intensity, top 15, % 64.6 28		
3.3.3 ISO 14001 environment/bn PPP\$ GDP 2.2 39				7.1.2 Trademarks by origin/bn PPP\$ GDP 149.6 1 ●◆		
Market sophistication 42.7 43 ◇				7.1.3 Global brand value, top 5,000 5.2 32		
4.1 Credit 30.2 [65]				7.1.4 Industrial designs by origin/bn PPP\$ GDP 18.1 5 ●◆		
4.1.1 Finance for startups and scaleups+ n/a n/a				7.2 Creative goods and services 39.0 12		
4.1.2 Domestic credit to private sector, % GDP 82.0 41				7.2.1 Cultural and creative services exports, % total trade 14.3 1 ●◆		
4.1.3 Loans from microfinance institutions, % GDP n/a n/a				7.2.2 National feature films/mn pop. 15-69 7.8 10		
4.2 Investment 38.7 16				7.2.3 Entertainment and media market/th pop. 15-69 4.1 45 ○◇		
4.2.1 Market capitalization, % GDP 33.6 44 ◇				7.2.4 Creative goods exports, % total trade 0.2 84 ○		
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP 1.1 7 ◆				7.3 Online creativity 53.3 19		
4.2.3 VC recipients, deals/bn PPP\$ GDP 0.1 32				7.3.1 Generic top-level domains (TLDs)/th pop. 15-69 88.1 6 ●◆		
4.2.4 VC received, value, % GDP 0.0 13				7.3.2 Country-code TLDs/th pop. 15-69 14.0 34 ◇		
4.3 Trade, diversification, and market scale 59.3 59				7.3.3 GitHub commits/mn pop. 15-69 35.7 30 ◇		
4.3.1 Applied tariff rate, weighted avg., % 1.5 20				7.3.4 Mobile app creation/bn PPP\$ GDP 75.4 23		
4.3.2 Domestic industry diversification ● 87.1 61						
4.3.3 Domestic market scale, bn PPP\$ 29.4 126 ○						

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 Malta.



> Malta has missing data for five indicators and outdated data for three indicators.

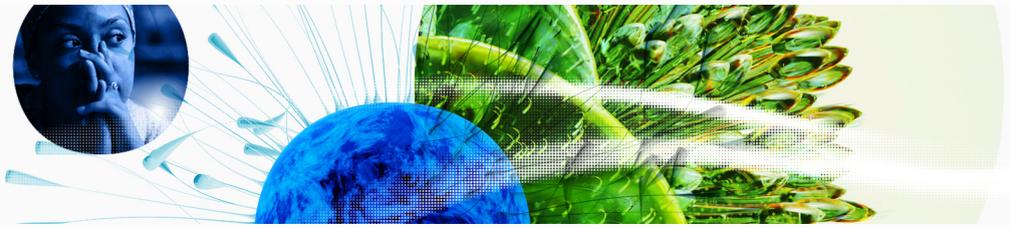
> Missing data for Malta

Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture	n/a	2022	Global Entrepreneurship Monitor
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)
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2021	World Intellectual Property Organization; International Monetary Fund
6.3.2	Production and export complexity	n/a	2020	Harvard University, Growth Lab

> Outdated data for Malta

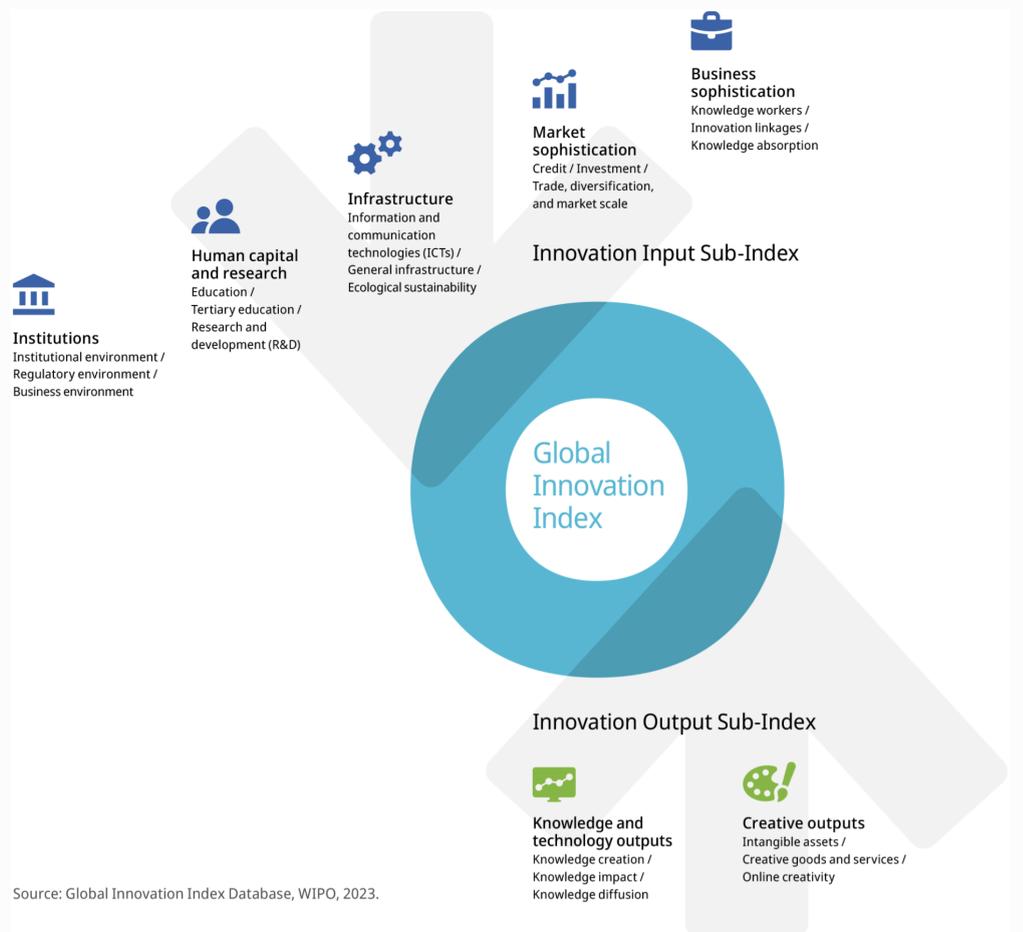
Code	Indicator name	Economy Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2019	2021	UNESCO Institute for Statistics
4.3.2	Domestic industry diversification	2015	2020	United Nations Industrial Development Organization
6.2.4	High-tech manufacturing, %	2015	2020	United Nations Industrial Development Organization

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.