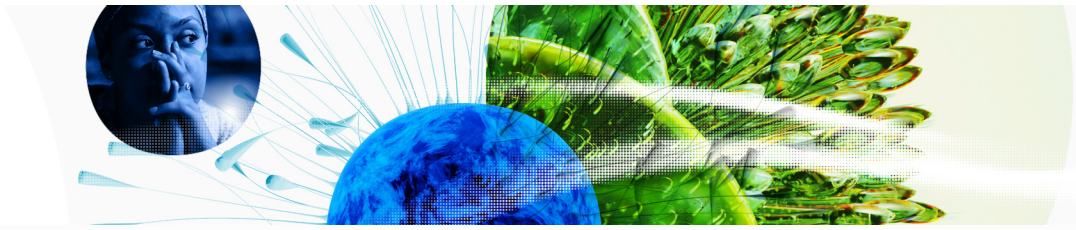
Global Innovation Index 2023



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.

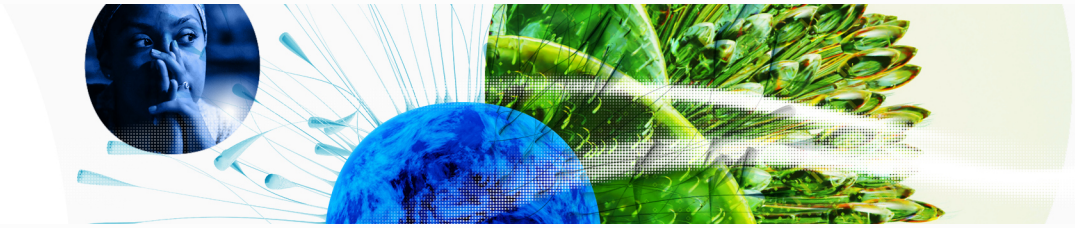
	GII Position	Innovation Inputs	Innovation Outputs
2020	27th	31st	21st
2021	27th	29th	22nd
2022	21st	27th	13th
2023	25th	27th	17th

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.

Global Innovation Index 2023

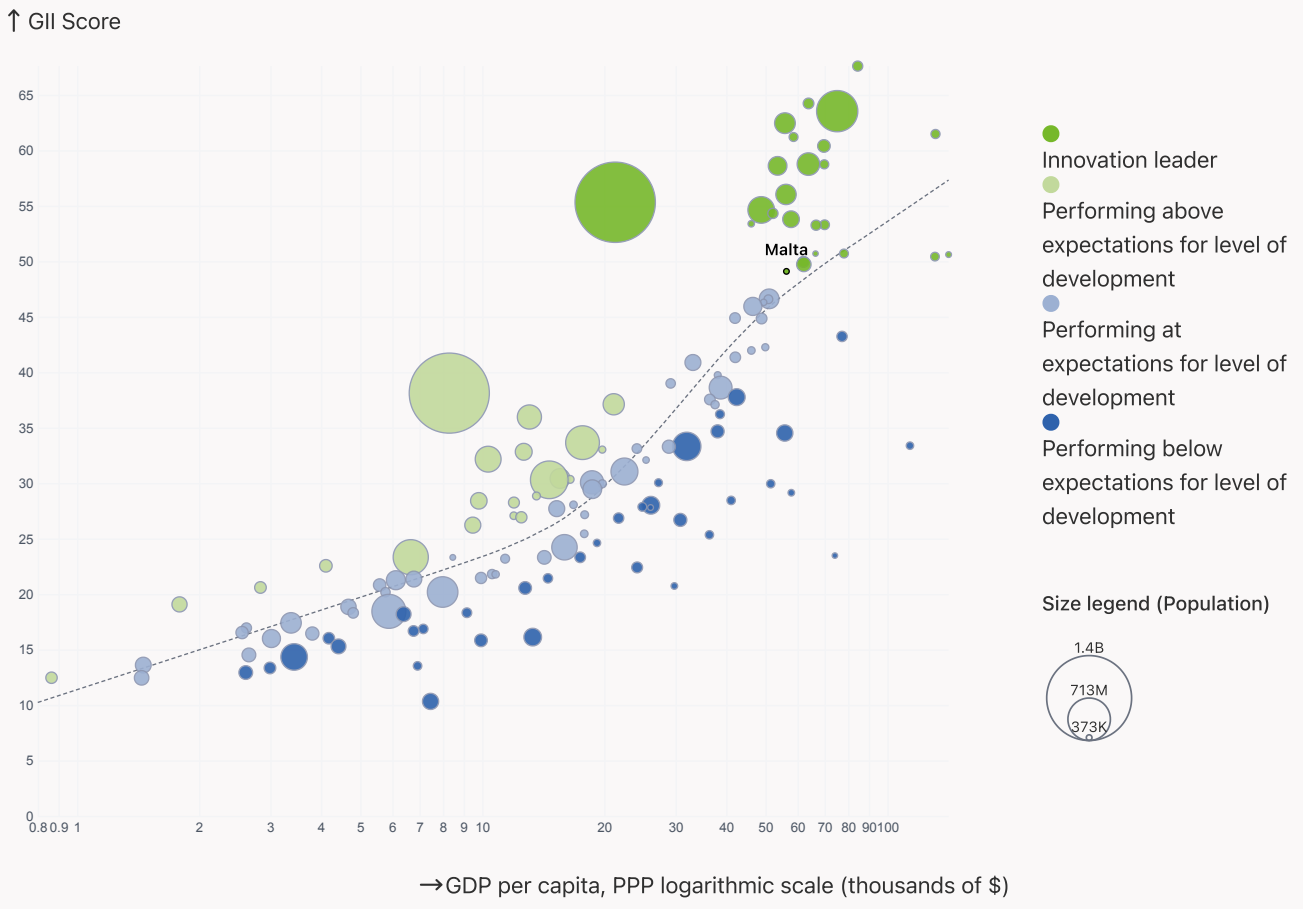


→ Expected vs. observed innovation performance

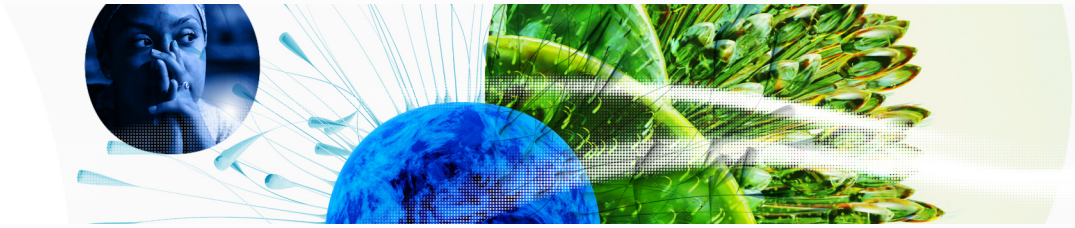
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected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



Global Innovation Index 2023

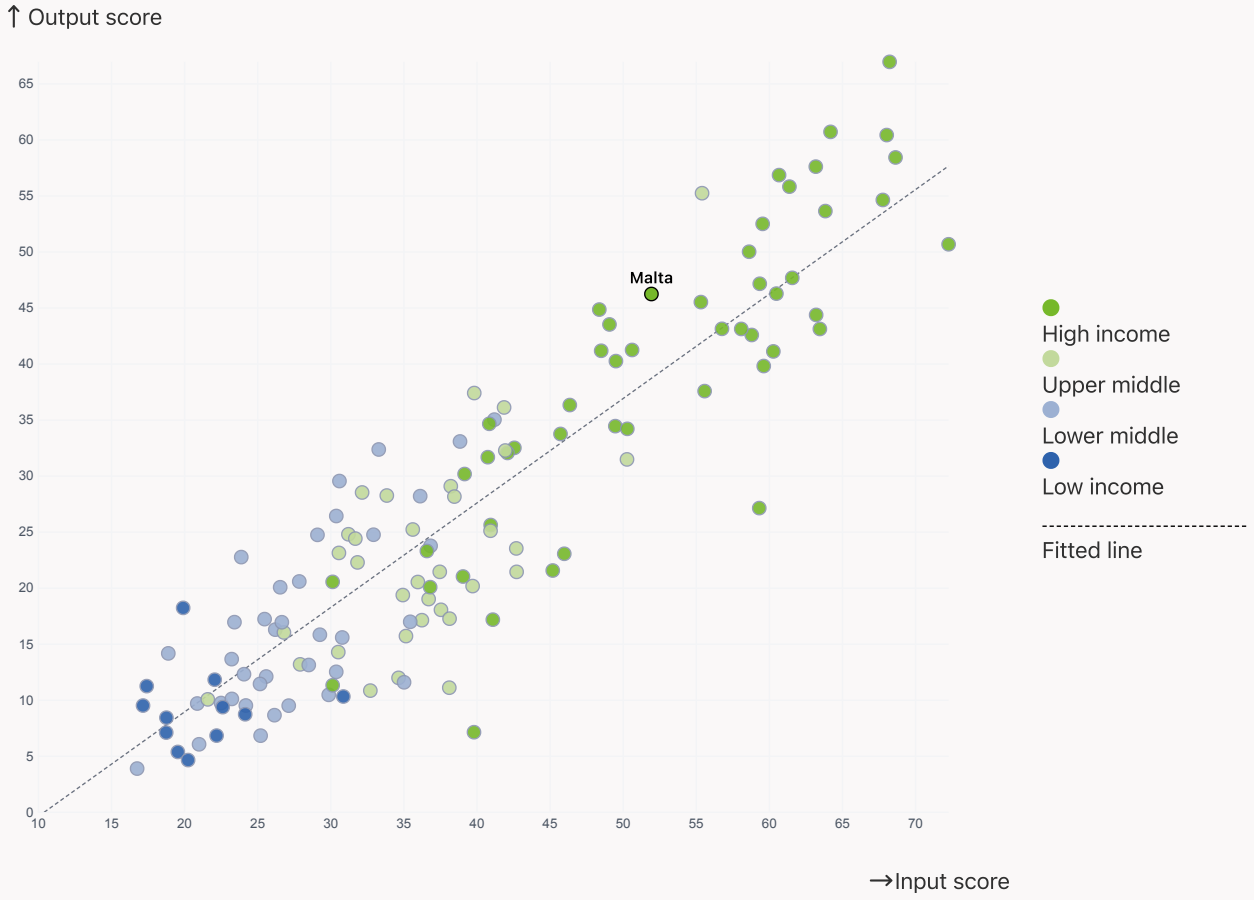


→ Effectively translating innovation investments into innovation outputs

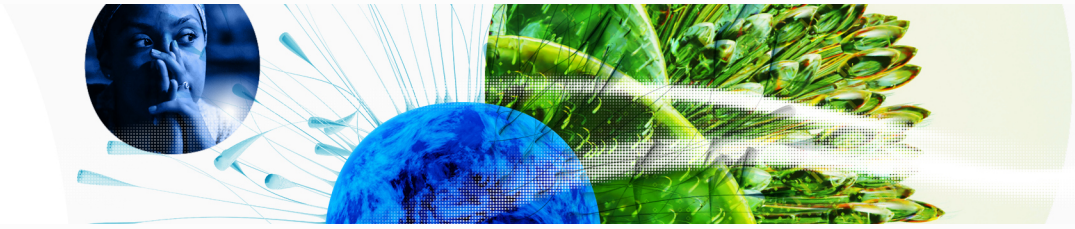
The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

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

> Relationship between innovation inputs and outputs

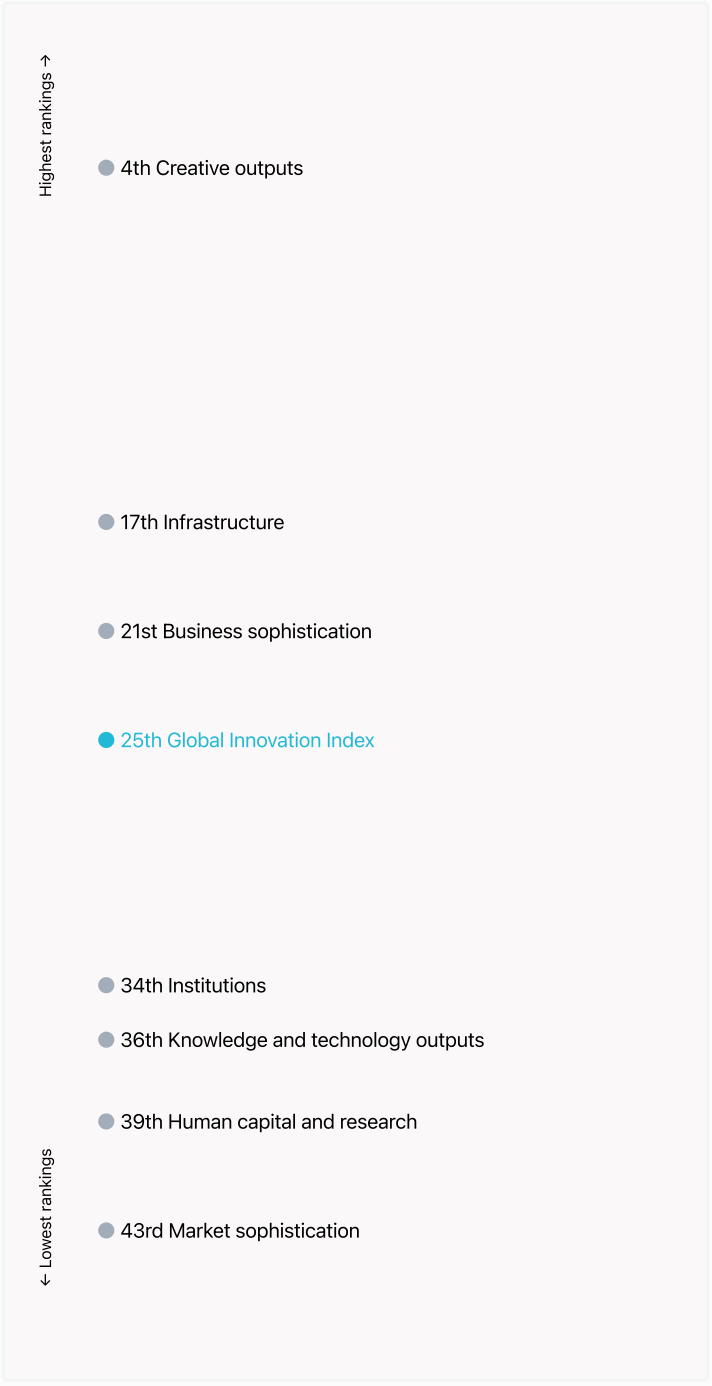


Global Innovation Index 2023



→ 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

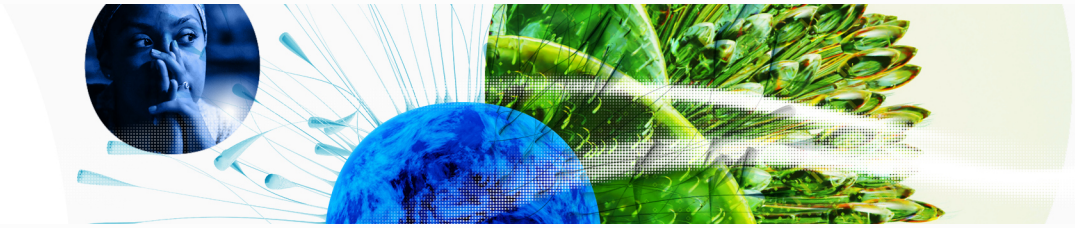
Malta ranks highest in Creative outputs (4th), Infrastructure (17th) and Business sophistication (21st).

> 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.

Global Innovation Index 2023



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

The charts shows 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

- Top 10 | Score: 58.96
- Europe | Score: 38.80
- High income | Score: 38.62
- Malta | Score: 33.19

Creative outputs

- Malta | 59.19
- Top 10 | 56.09
- High income | 40.27
- Europe | 39.87

Business sophistication

- Top 10 | 64.39
- Malta | 53.15
- High income | 46.38
- Europe | 44.61

Market sophistication

- Top 10 | 61.93
- High income | 46.42
- Europe | 43.65
- Malta | 42.74

Human capital and research

- Top 10 | 60.28
- High income | 46.30
- Europe | 44.05
- Malta | 39.57

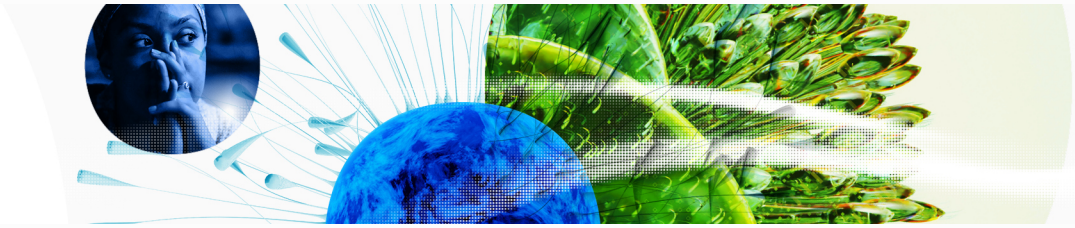
Infrastructure

- Top 10 | 62.83
- Malta | 59.69
- High income | 55.85
- Europe | 54.69

Institutions

- Top 10 | 79.85
- High income | 68.16
- Malta | 64.73
- Europe | 61.69

Global Innovation Index 2023



→ 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).

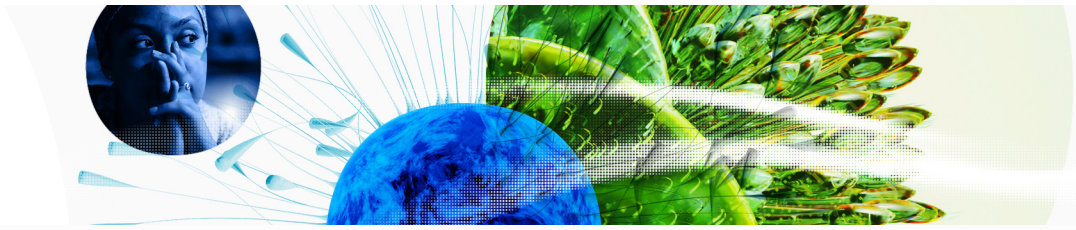
Strengths

Rank	Code	Indicator name
1	1.2.3	Cost of redundancy dismissal
1	7.2.1	Cultural and creative services exports, % total trade
1	5.3.1	Intellectual property payments, % total trade
1	6.3.1	Intellectual property receipts, % total trade
1	5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP
1	7.1.2	Trademarks by origin/bn PPP$ GDP
2	2.1.5	Pupil-teacher ratio, secondary
3	3.3.1	GDP/unit of energy use
4	3.3.2	Environmental performance
4	5.3.4	FDI net inflows, % GDP
5	7.1.4	Industrial designs by origin/bn PPP$ GDP
6	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69

Weaknesses

Rank	Code	Indicator name
126	4.3.3	Domestic market scale, bn PPP$
103	6.3.4	ICT services exports, % total trade
101	6.2.1	Labor productivity growth, %
92	3.2.3	Gross capital formation, % GDP
92	2.2.2	Graduates in science and engineering, %
88	6.1.5	Citable documents H-index
84	7.2.4	Creative goods exports, % total trade
84	5.3.3	ICT services imports, % total trade
71	2.3.4	QS university ranking, top 3
48	6.2.2	Unicorn valuation, % GDP
45	7.2.3	Entertainment and media market/th pop. 15-69

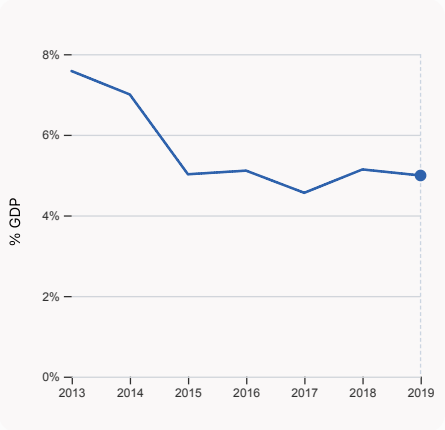
Global Innovation Index 2023



→ Malta's innovation system

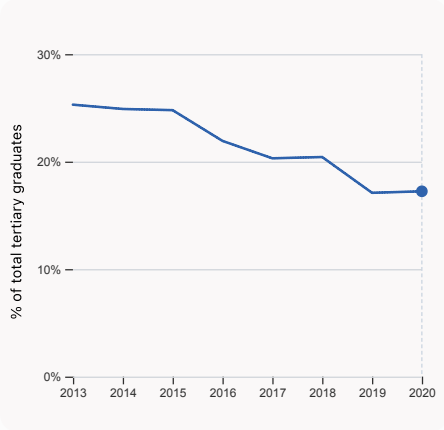
As far as practicable, the plots below present unscaled indicator data.

> Innovation inputs in Malta



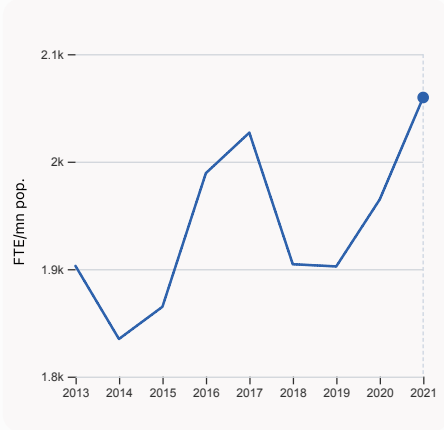
2.1.1 Expenditure on education, % GDP

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.



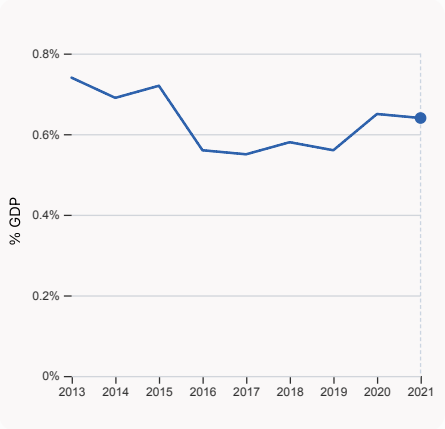
2.2.2 Graduates in science and engineering, %

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.



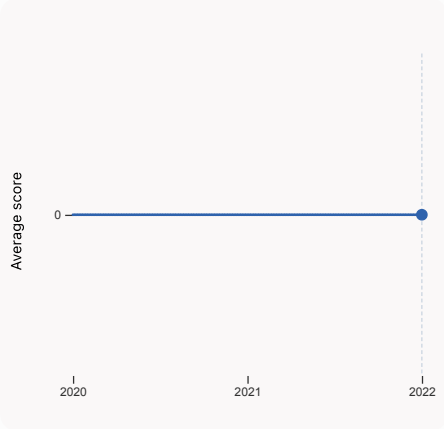
2.3.1 Researchers, FTE/mn pop.

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.



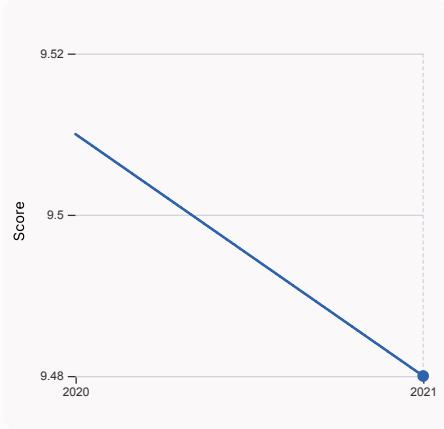
2.3.2 Gross expenditure on R&D, % GDP

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

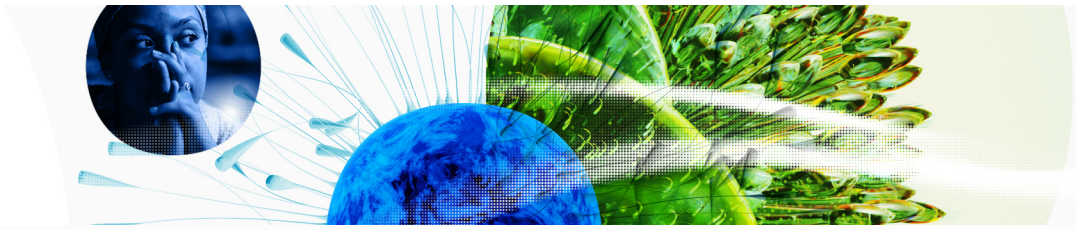
was equal to an average score of 0 for the top 3 universities in 2022, equivalent to an indicator rank of 71.

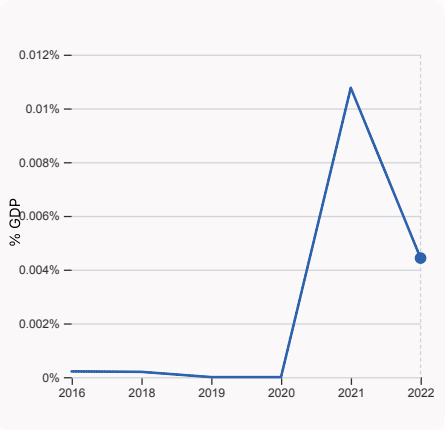


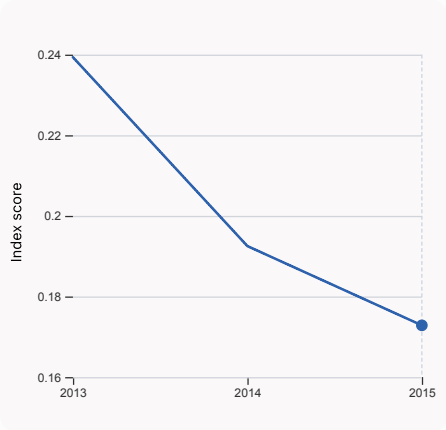
3.1.1 ICT access

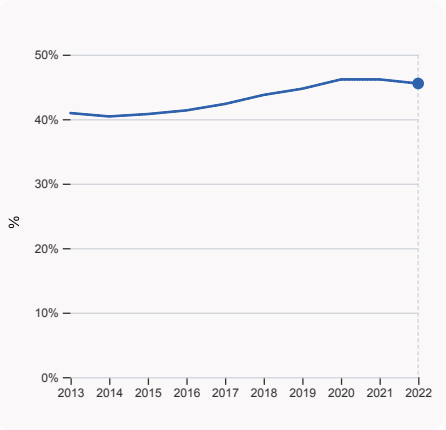
was equal to a score of 9.48 in 2021, down by 0.32% from the year prior – and equivalent to an indicator rank of 15.

Global Innovation Index 2023









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.

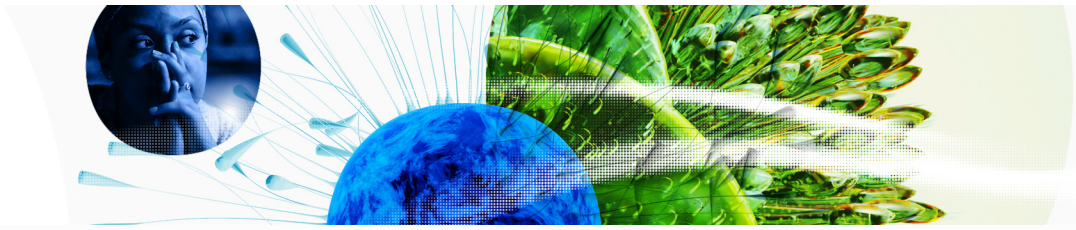
4.3.2 Domestic industry diversification

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.

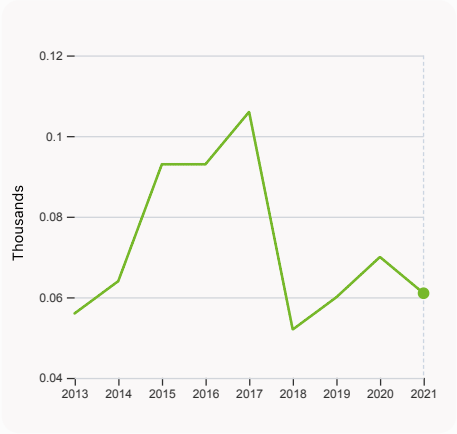
5.1.1 Knowledge-intensive employment, %

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.

Global Innovation Index 2023

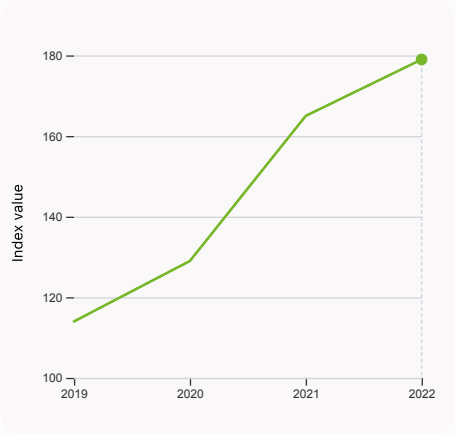


> Innovation outputs in Malta



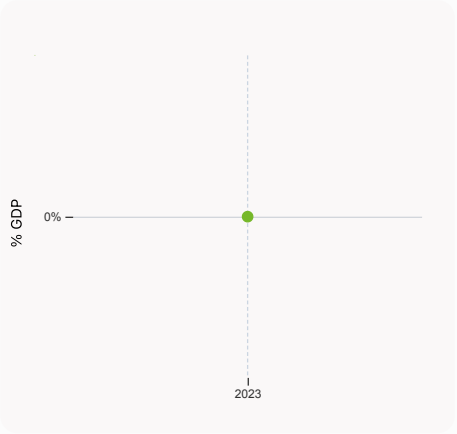
6.1.1 Patents by origin

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



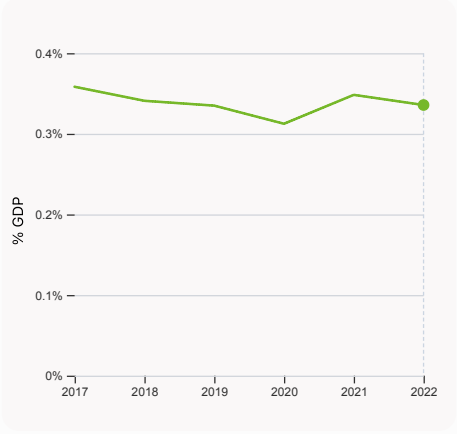
6.1.5 Citable documents H-index

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.



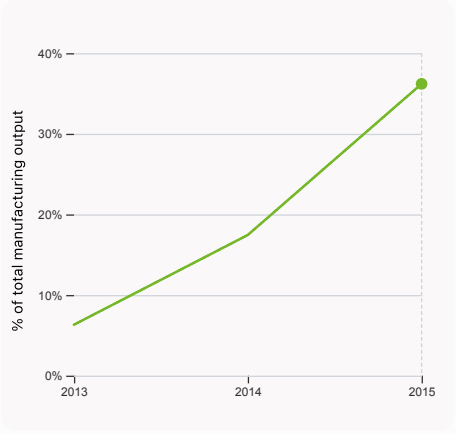
6.2.2 Unicorn valuation, % GDP

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



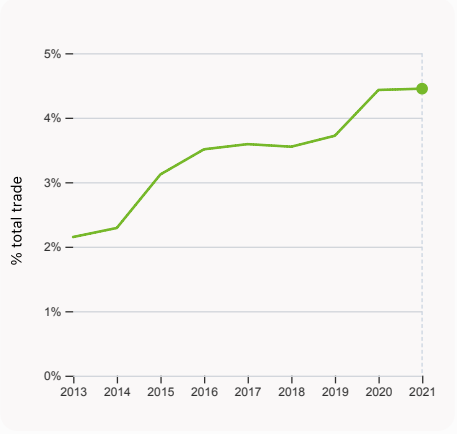
6.2.3 Software spending, % GDP

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, %

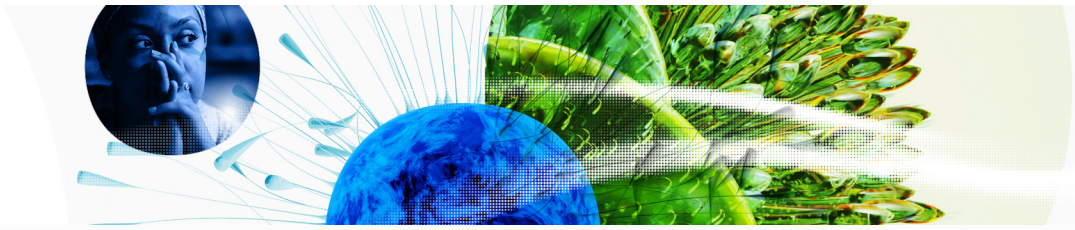
was equal to 36.2% of total manufacturing output in 2015, up by 18.75 percentage points from the year prior – and equivalent to an indicator rank of 32.



6.3.1 Intellectual property receipts, % total trade

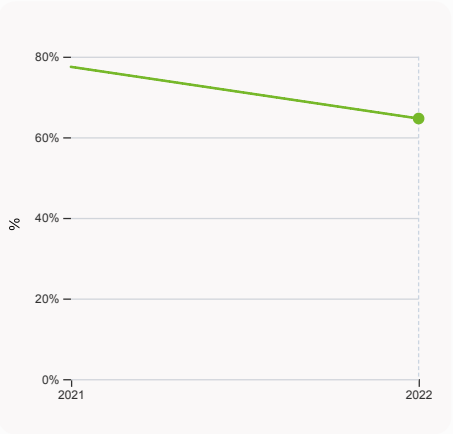
was equal to 4.45% total trade in 2021, up by 0.02 percentage points from the year prior – and equivalent to an indicator rank of 1.

Global Innovation Index 2023



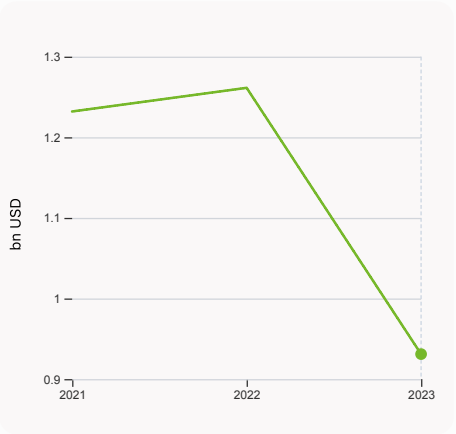
6.3.3 High-tech exports

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.



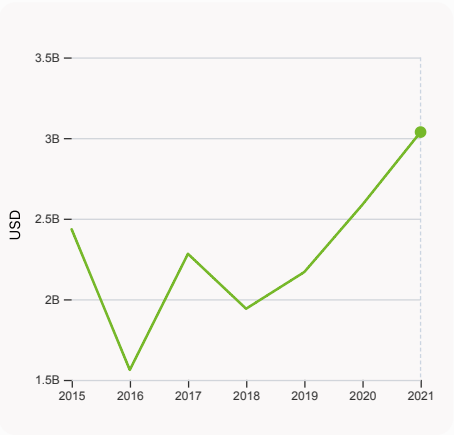
7.1.1 Intangible asset intensity, top 15, %

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.



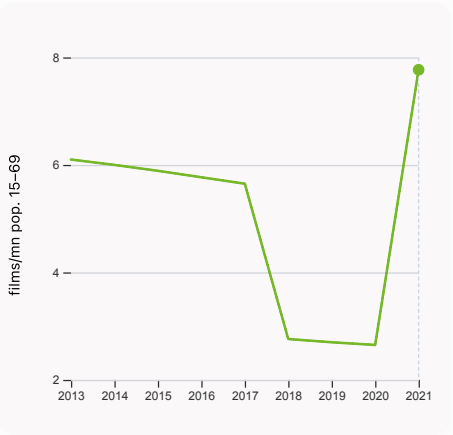
7.1.3 Global brand value, top 5,000

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.



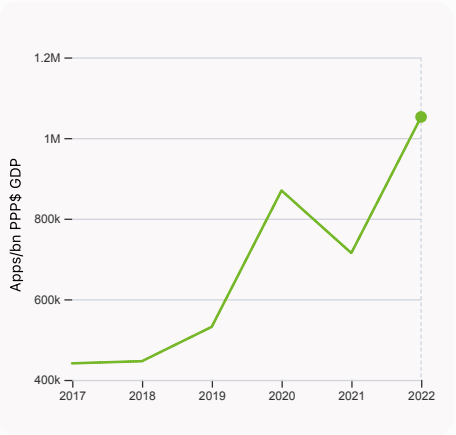
7.2.1 Cultural and creative services exports

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.



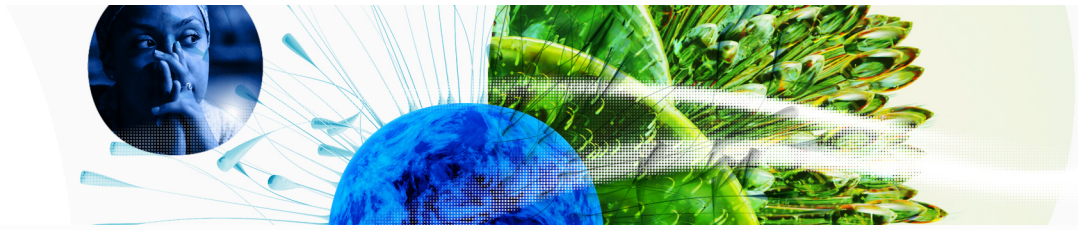
7.2.2 National feature films/mn pop. 15-69

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

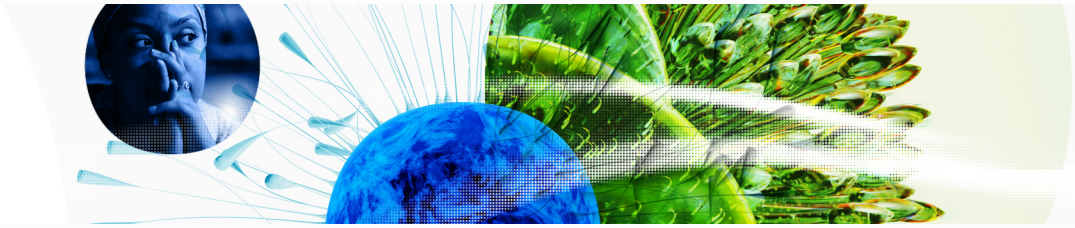
Source: Brand Finance (https://brandirectory.com/reports/gift-2022).
Note: Brand Finance only provides within economy ranks.

> 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.

Global Innovation Index 2023



Malta

GII 2023 rank **25**

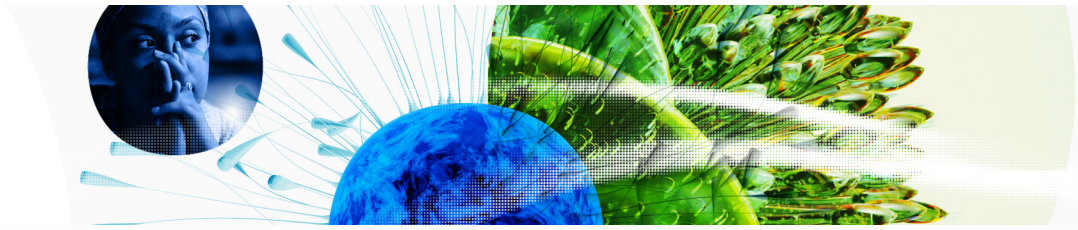
Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
17	27	High	EUR	0.5	29.4	56,337.7

	Score / Value	Rank	
Institutions	**64.7**	**34**	◇
1.1 Institutional environment	**65.4**	**35**	◇
1.1.1 Operational stability for businesses*	69.4	29	
1.1.2 Government effectiveness*	61.4	34	◇
1.2 Regulatory environment	**82.1**	**24**	
1.2.1 Regulatory quality*	63.2	39	◇
1.2.2 Rule of law*	65.0	35	◇
1.2.3 Cost of redundancy dismissal	8.0	1	●
1.3 Business environment	**46.7**	**62**	
1.3.1 Policies for doing business†	46.7	66	◇
1.3.2 Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research	**39.6**	**39**	◇
2.1 Education	**64.2**	**16**	
2.1.1 Expenditure on education, % GDP	5.0	42	
2.1.2 Government funding/pupil, secondary, % GDP/cap	31.1	8	
2.1.3 School life expectancy, years	17.2	17	
2.1.4 PISA scales in reading, maths and science	458.8	42	◇
2.1.5 Pupil-teacher ratio, secondary	6.8	2	●
2.2 Tertiary education	**35.8**	**44**	
2.2.1 Tertiary enrolment, % gross	71.5	31	
2.2.2 Graduates in science and engineering, %	17.2	92	○ ◇
2.2.3 Tertiary inbound mobility, %	14.2	14	
2.3 Research and development (R&D)	**18.7**	**46**	◇
2.3.1 Researchers, FTE/mn pop.	2,059.7	41	◇
2.3.2 Gross expenditure on R&D, % GDP	0.6	55	◇
2.3.3 Global corporate R&D investors, top 3, mn US$	42.2	39	◇
2.3.4 QS university ranking, top 3*	0.0	71	○ ◇
Infrastructure	**59.7**	**17**	
3.1 Information and communication technologies (ICTs)	**85.5**	**19**	
3.1.1 ICT access*	92.3	15	
3.1.2 ICT use*	86.8	30	◇
3.1.3 Government's online service*	87.3	18	
3.1.4 E-participation*	75.6	22	
3.2 General infrastructure	**30.3**	**53**	◇
3.2.1 Electricity output, GWh/mn pop.	4,274.7	53	◇
3.2.2 Logistics performance*	54.5	42	◇
3.2.3 Gross capital formation, % GDP	20.8	92	○
3.3 Ecological sustainability	**63.3**	**1**	
3.3.1 GDP/unit of energy use	28.6	3	●
3.3.2 Environmental performance*	95.4	4	●
3.3.3 ISO 14001 environment/bn PPP$ GDP	2.2	39	
Market sophistication	**42.7**	**43**	◇
4.1 Credit	**30.2**	**65**	
4.1.1 Finance for startups and scaleups†	n/a	n/a	
4.1.2 Domestic credit to private sector, % GDP	82.0	41	
4.1.3 Loans from microfinance institutions, % GDP	n/a	n/a	
4.2 Investment	**38.7**	**16**	
4.2.1 Market capitalization, % GDP	33.6	44	◇
4.2.2 Venture capital (VC) investors, deals/bn PPP$ GDP	1.1	7	
4.2.3 VC recipients, deals/bn PPP$ GDP	0.1	32	
4.2.4 VC received, value, % GDP	0.0	13	
4.3 Trade, diversification, and market scale	**59.3**	**59**	
4.3.1 Applied tariff rate, weighted avg., %	1.5	20	
4.3.2 Domestic industry diversification	87.1	61	
4.3.3 Domestic market scale, bn PPP$	29.4	126	○

	Score / Value	Rank	
Business sophistication	**53.1**	**21**	
5.1 Knowledge workers	**54.3**	**24**	◇
5.1.1 Knowledge-intensive employment, %	45.5	21	
5.1.2 Firms offering formal training, %	49.9	20	
5.1.3 GERD performed by business, % GDP	0.4	45	◇
5.1.4 GERD financed by business, %	60.2	14	
5.1.5 Females employed w/advanced degrees, %	17.2	42	◇
5.2 Innovation linkages	**48.1**	**22**	
5.2.1 University-industry R&D collaboration†	40.2	72	◇
5.2.2 State of cluster development†	42.5	61	◇
5.2.3 GERD financed by abroad, % GDP	0.1	47	
5.2.4 Joint venture/strategic alliance deals/bn PPP$ GDP	0.3	1	●
5.2.5 Patent families/bn PPP$ GDP	2.5	16	
5.3 Knowledge absorption	**57.0**	**6**	
5.3.1 Intellectual property payments, % total trade	6.5	1	●
5.3.2 High-tech imports, % total trade	7.9	72	
5.3.3 ICT services imports, % total trade	1.1	84	○ ◇
5.3.4 FDI net inflows, % GDP	26.8	4	●
5.3.5 Research talent, % in businesses	47.7	28	
Knowledge and technology outputs	**33.2**	**36**	◇
6.1 Knowledge creation	**27.7**	**35**	◇
6.1.1 Patents by origin/bn PPP$ GDP	2.4	31	
6.1.2 PCT patents by origin/bn PPP$ GDP	1.6	19	
6.1.3 Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4 Scientific and technical articles/bn PPP$ GDP	n/a	n/a	
6.1.5 Citable documents H-index	7.6	88	○ ◇
6.2 Knowledge impact	**30.1**	**56**	◇
6.2.1 Labor productivity growth, %	-0.1	101	○
6.2.2 Unicorn valuation, % GDP	0.0	48	○ ◇
6.2.3 Software spending, % GDP	0.3	30	
6.2.4 High-tech manufacturing, %	36.2	32	
6.3 Knowledge diffusion	**41.8**	**31**	
6.3.1 Intellectual property receipts, % total trade	4.2	1	●
6.3.2 Production and export complexity	n/a	n/a	
6.3.3 High-tech exports, % total trade	3.7	43	
6.3.4 ICT services exports, % total trade	0.5	103	○
6.3.5 ISO 9001 quality/bn PPP$ GDP	8.9	31	
Creative outputs	**59.2**	**4**	
7.1 Intangible assets	**72.2**	**4**	
7.1.1 Intangible asset intensity, top 15, %	64.6	28	
7.1.2 Trademarks by origin/bn PPP$ GDP	149.6	1	●
7.1.3 Global brand value, top 5,000	5.2	32	
7.1.4 Industrial designs by origin/bn PPP$ GDP	18.1	5	●
7.2 Creative goods and services	**39.0**	**12**	
7.2.1 Cultural and creative services exports, % total trade	14.3	1	●
7.2.2 National feature films/mn pop. 15-69	7.8	10	
7.2.3 Entertainment and media market/th pop. 15-69	4.1	45	○ ◇
7.2.4 Creative goods exports, % total trade	0.2	84	○
7.3 Online creativity	**53.3**	**19**	
7.3.1 Generic top-level domains (TLDs)/th pop. 15-69	88.1	6	●
7.3.2 Country-code TLDs/th pop. 15-69	14.0	34	◇
7.3.3 GitHub commits/mn pop. 15-69	35.7	30	◇
7.3.4 Mobile app creation/bn PPP$ GDP	75.4	23	

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.

Global Innovation Index 2023



→ 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.

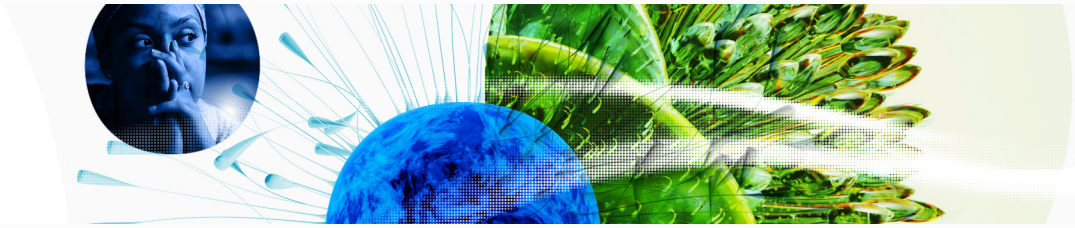
> Missing data for Malta

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

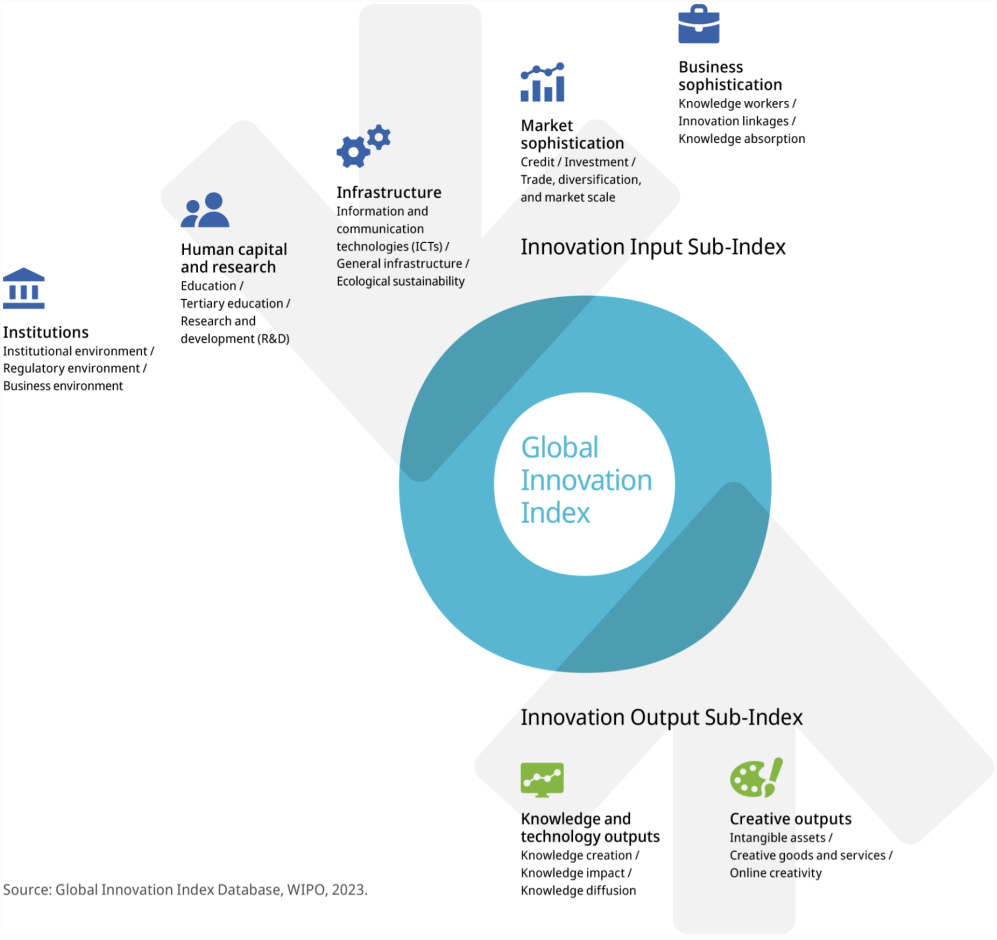
Code	Indicator name	Economy Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2019	2021	UNESCO Institute for Statistics
4.3.2	Domestic industry diversification	2015	2020	United Nations Industrial Development Organization
6.2.4	High-tech manufacturing, %	2015	2020	United Nations Industrial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



Source: Global Innovation Index Database, WIPO, 2023.

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.