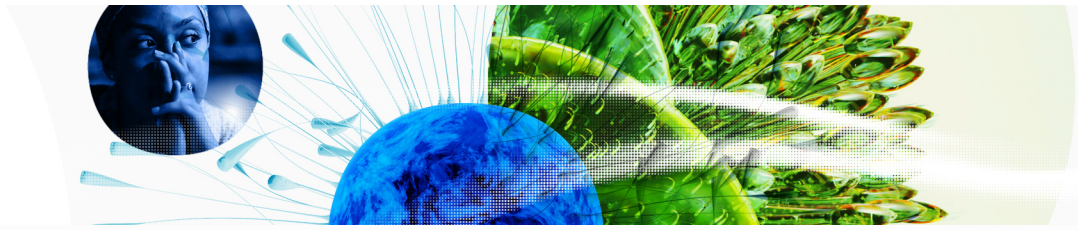
Global Innovation Index 2023



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**.

Republic of Moldova ranking in the Global Innovation Index 2023

> Republic of Moldova ranks 60th among the 132 economies featured in the GII 2023.

> Republic of Moldova ranks 13th among the 33 upper-middle-income group economies.

> Republic of Moldova ranks 35th among the 39 economies in Europe.

> Republic of Moldova GII Ranking (2020-2023)

The table shows the rankings of Republic of Moldova 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 Republic of Moldova in the GII 2023 is between ranks 53 and 65.

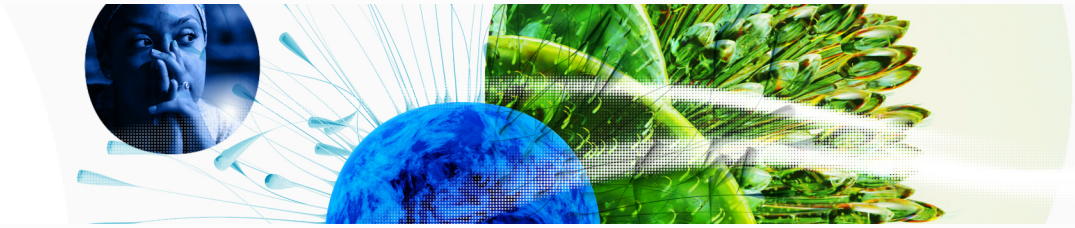
	GII Position	Innovation Inputs	Innovation Outputs
2020	59th	75th	48th
2021	64th	80th	54th
2022	56th	78th	46th
2023	60th	81st	50th

Republic of Moldova performs better in innovation outputs than innovation inputs in 2023.

This year Republic of Moldova ranks 81st in innovation inputs. This position is lower than last year.

Republic of Moldova ranks 50th in innovation outputs. This position is lower than last year.

Global Innovation Index 2023

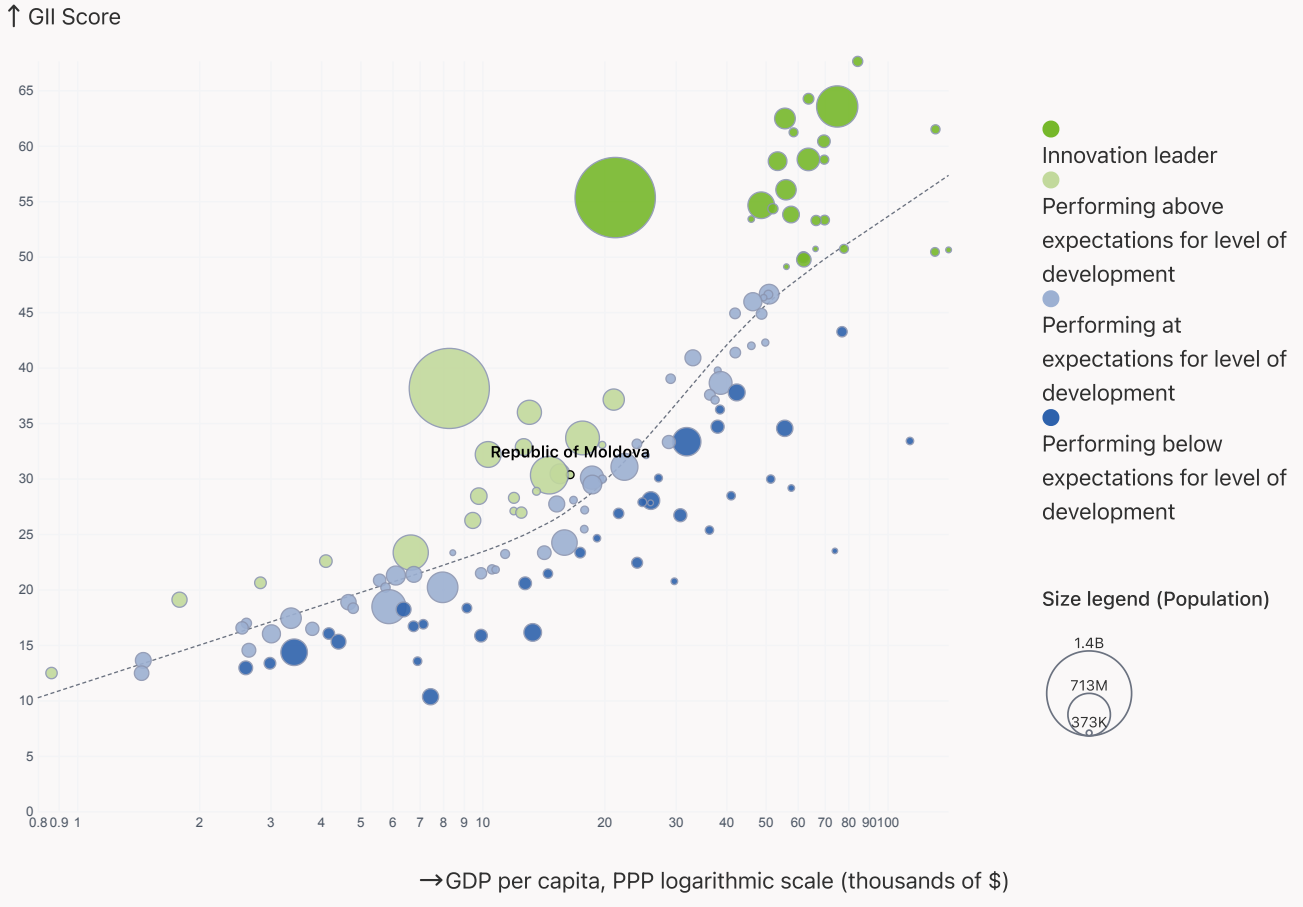


→ Expected vs. observed innovation performance

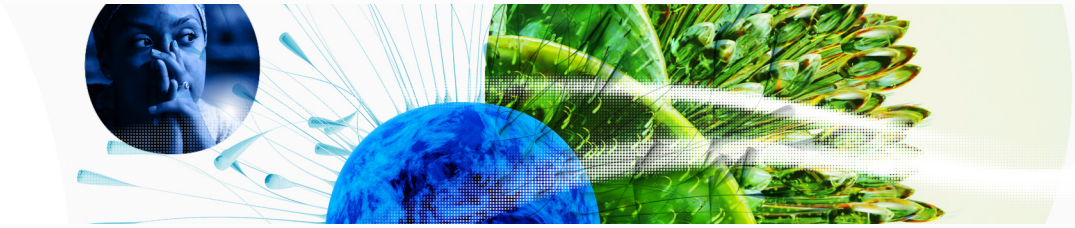
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected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

> Relative to GDP, Republic of Moldova is performing above expectations for its level of development.

> Innovation overperformers relative to their economic development



Global Innovation Index 2023



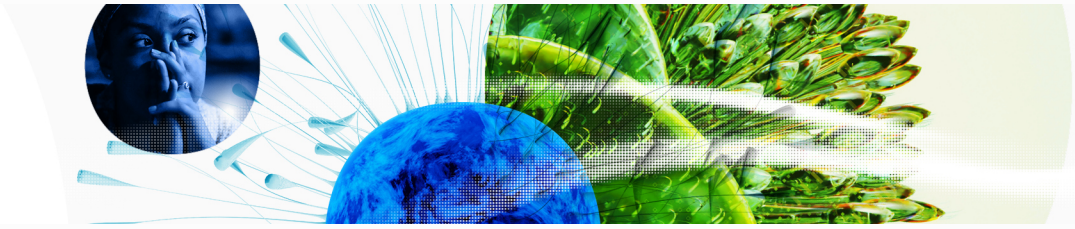
→ Effectively translating innovation investments into innovation outputs

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.

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

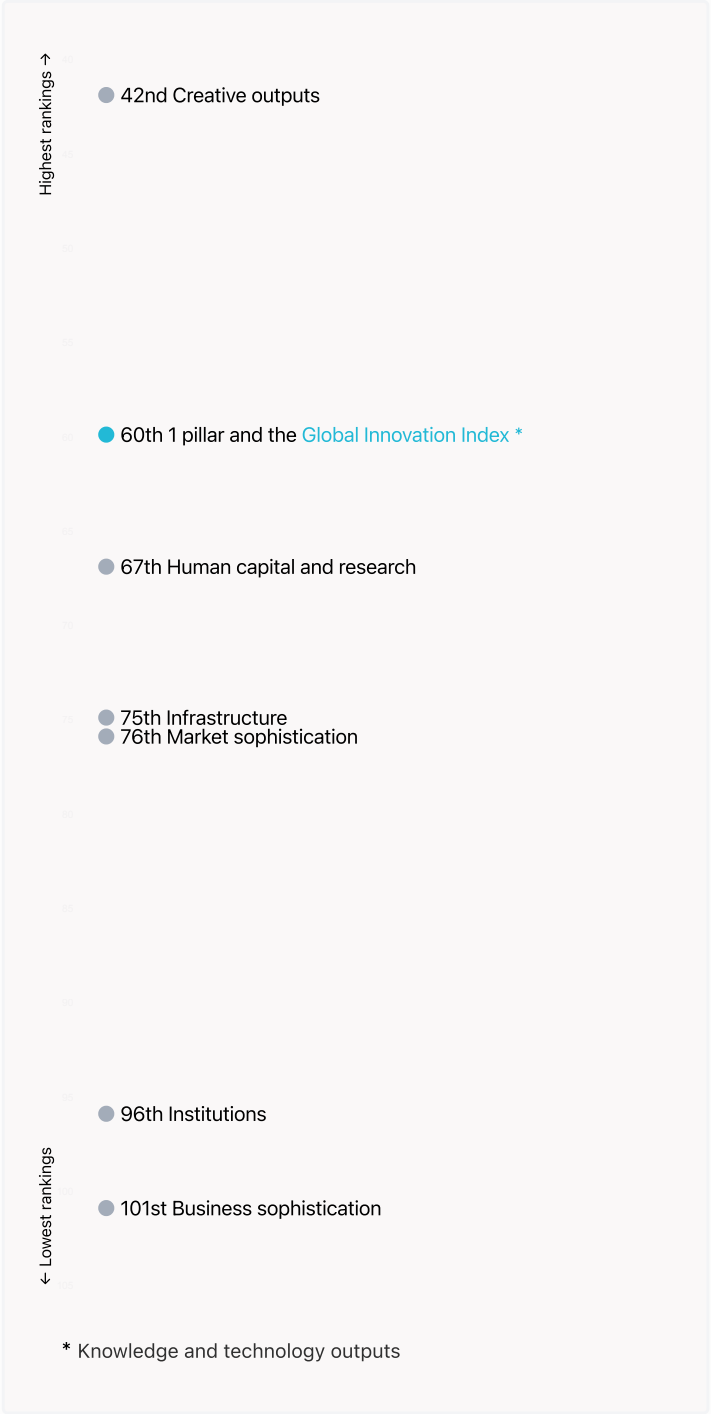
> Relationship between innovation inputs and outputs

Global Innovation Index 2023



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



> Highest rankings

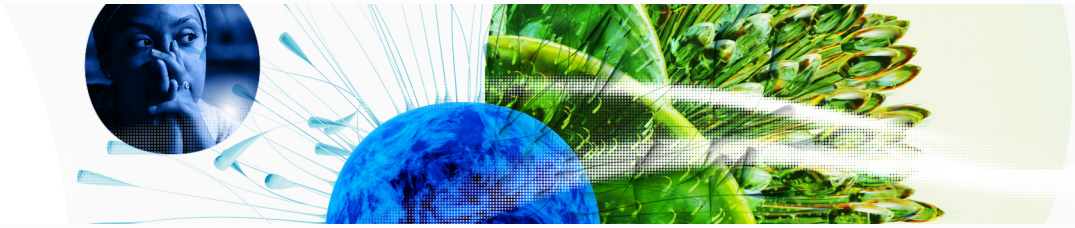
Republic of Moldova ranks highest in Creative outputs (42nd) and Knowledge and technology outputs (60th).

> Lowest rankings

Republic of Moldova ranks lowest in Business sophistication (101st), Institutions (96th) and Market sophistication (76th).

The full WIPO Intellectual Property Statistics profile for Republic of Moldova can be found on this link.

Global Innovation Index 2023



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

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

> Upper-Middle-Income economies

Republic of Moldova performs below the upper-middle-income group average in Business sophistication, Market sophistication, Infrastructure, Institutions.

> Europe

Republic of Moldova performs below the regional average in all the pillars.

Knowledge and technology outputs

- Top 10 | Score: 58.96
- Europe | Score: 38.80
- Republic of Moldova | Score: 23.81
- Upper middle income | Score: 22.36

Creative outputs

- Top 10 | 56.09
- Europe | 39.87
- Republic of Moldova | 33.16
- Upper middle income | 23.16

Business sophistication

- Top 10 | 64.39
- Europe | 44.61
- Upper middle income | 29.27
- Republic of Moldova | 21.25

Market sophistication

- Top 10 | 61.93
- Europe | 43.65
- Upper middle income | 35.45
- Republic of Moldova | 32.44

Human capital and research

- Top 10 | 60.28
- Europe | 44.05
- Republic of Moldova | 30.52
- Upper middle income | 29.68

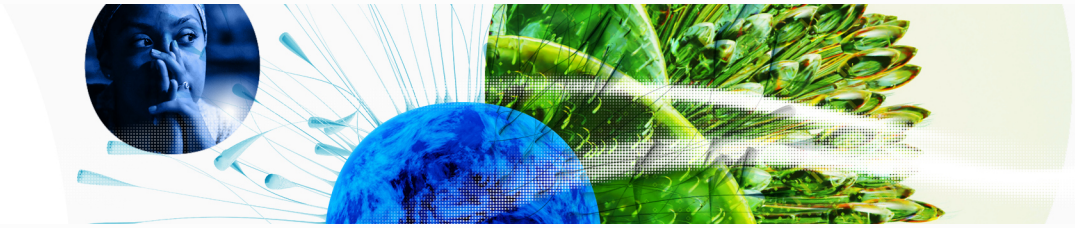
Infrastructure

- Top 10 | 62.83
- Europe | 54.69
- Upper middle income | 40.40
- Republic of Moldova | 37.30

Institutions

- Top 10 | 79.85
- Europe | 61.69
- Upper middle income | 47.71
- Republic of Moldova | 39.42

Global Innovation Index 2023



→ Innovation strengths and weaknesses in Republic of Moldova

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

> Republic of Moldova's main innovation strengths are **Utility models by origin/bn PPP$ GDP** (rank 5), **Industrial designs by origin/bn PPP$ GDP** (rank 6) and **Loans from microfinance institutions, % GDP** (rank 7).

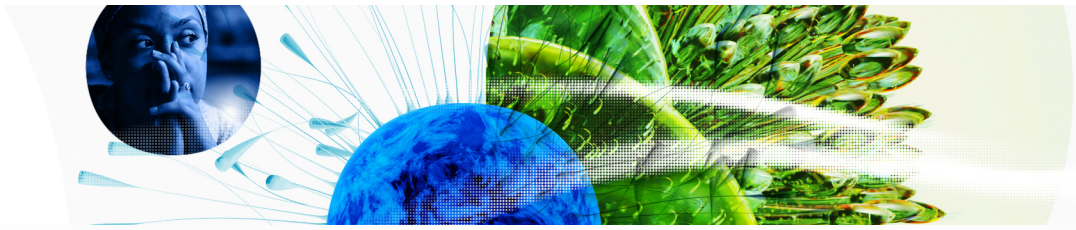
Strengths

Rank	Code	Indicator name
5	6.1.3	Utility models by origin/bn PPP$ GDP
6	7.1.4	Industrial designs by origin/bn PPP$ GDP
7	4.1.3	Loans from microfinance institutions, % GDP
11	7.1.2	Trademarks by origin/bn PPP$ GDP
13	6.3.4	ICT services exports, % total trade
14	7.3.4	Mobile app creation/bn PPP$ GDP
14	4.3.1	Applied tariff rate, weighted avg., %
20	2.1.1	Expenditure on education, % GDP
28	6.2.1	Labor productivity growth, %
30	3.2.3	Gross capital formation, % GDP

Weaknesses

Rank	Code	Indicator name
121	5.2.2	State of cluster development
116	4.3.3	Domestic market scale, bn PPP$
108	1.3.1	Policies for doing business
105	5.2.1	University-industry R&D collaboration
89	3.2.2	Logistics performance
74	7.1.3	Global brand value, top 5,000
74	5.1.3	GERD performed by business, % GDP
71	2.3.4	QS university ranking, top 3
48	6.2.2	Unicorn valuation, % GDP
40	2.3.3	Global corporate R&D investors, top 3, mn US$

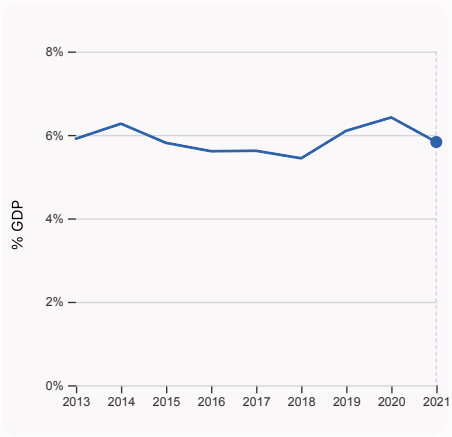
Global Innovation Index 2023



→ Republic of Moldova's innovation system

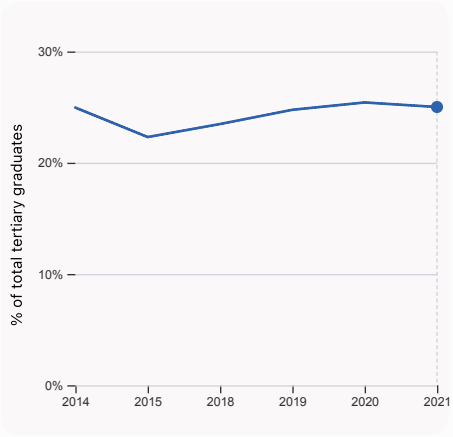
As far as practicable, the plots below present unscaled indicator data.

> Innovation inputs in Republic of Moldova



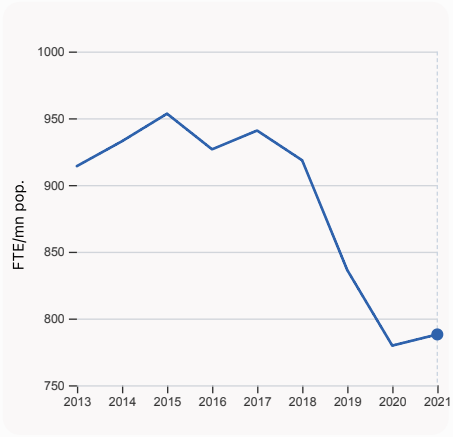
2.1.1 Expenditure on education, % GDP

was equal to 5.83% GDP in 2021, down by 0.59 percentage points from the year prior – and equivalent to an indicator rank of 20.



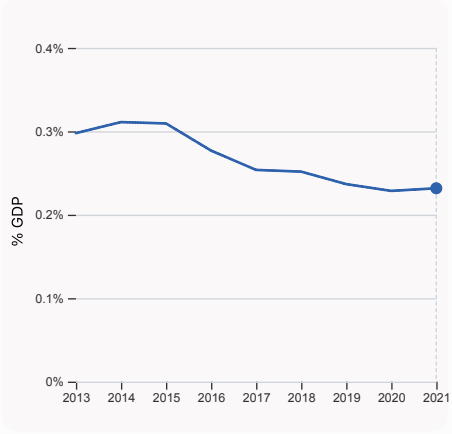
2.2.2 Graduates in science and engineering, %

was equal to 25.01% of total tertiary graduates in 2021, down by 0.41 percentage points from the year prior – and equivalent to an indicator rank of 45.



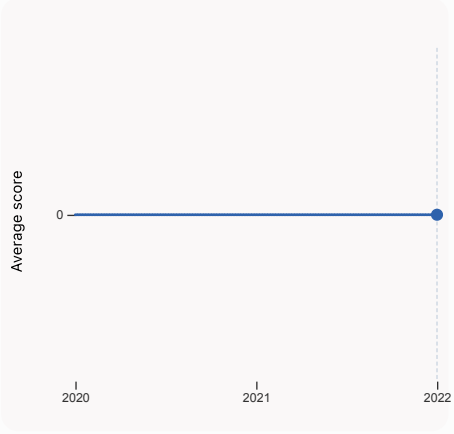
2.3.1 Researchers, FTE/mn pop.

was equal to 788.08 FTE/mn pop. in 2021, up by 1.072% from the year prior – and equivalent to an indicator rank of 58.



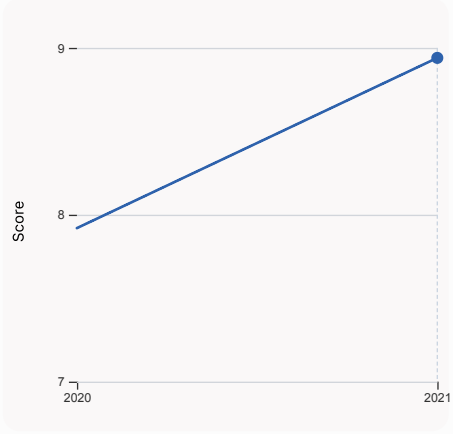
2.3.2 Gross expenditure on R&D, % GDP

was equal to 0.232% GDP in 2021, up by 0.0032 percentage points from the year prior – and equivalent to an indicator rank of 85.



2.3.4 QS university ranking, top 3

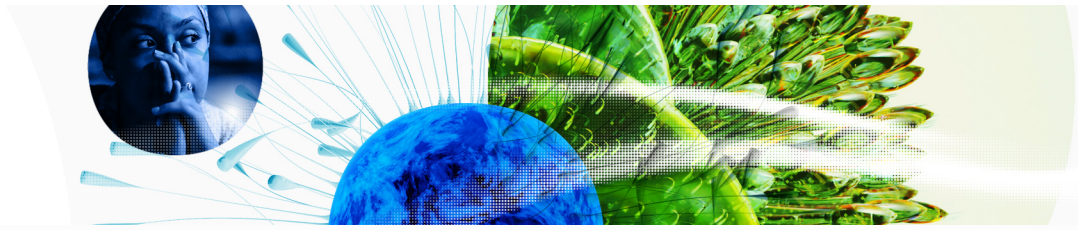
was equal to an average score of 0 for the top 3 universities in 2022, equivalent to an indicator rank of 71.

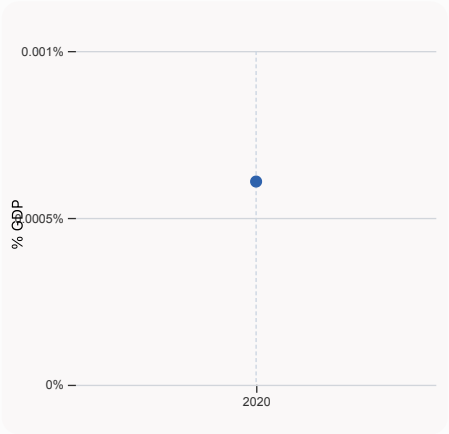


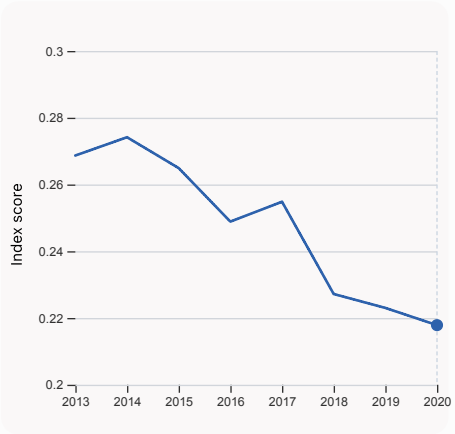
3.1.1 ICT access

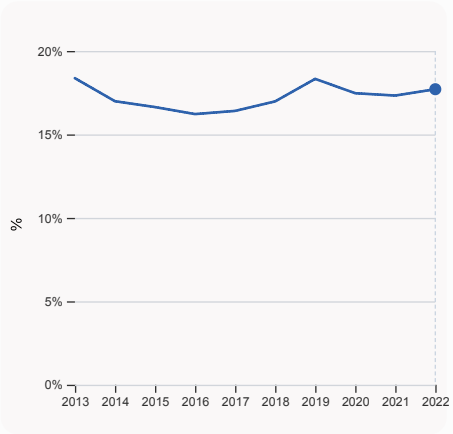
was equal to a score of 8.94 in 2021, up by 12.88% from the year prior – and equivalent to an indicator rank of 57.

Global Innovation Index 2023









4.2.4 VC received, value, % GDP

was equal to 0.00061 % GDP in 2020, equivalent to an indicator rank of 60.

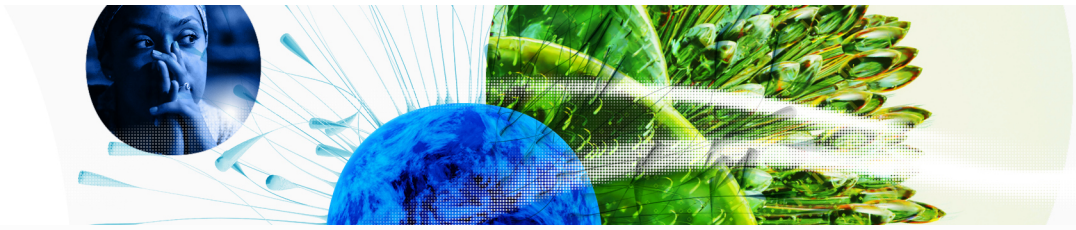
4.3.2 Domestic industry diversification

was equal to an index score of 0.218 in 2020, down by 2.31% from the year prior – and equivalent to an indicator rank of 71.

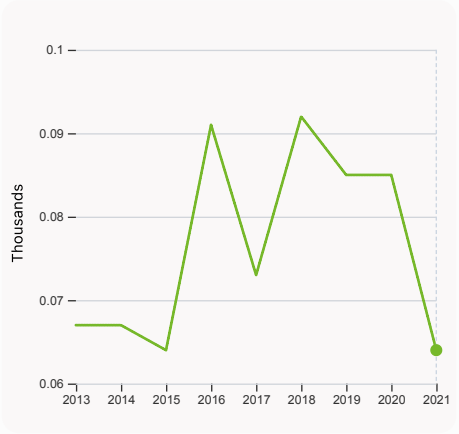
5.1.1 Knowledge-intensive employment, %

was equal to 17.71% in 2022, up by 0.38 percentage points from the year prior – and equivalent to an indicator rank of 82.

Global Innovation Index 2023

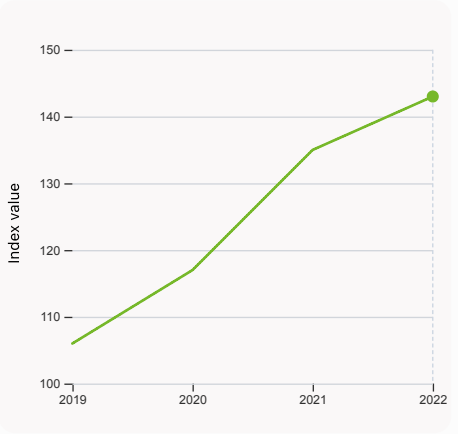


> Innovation outputs in Republic of Moldova



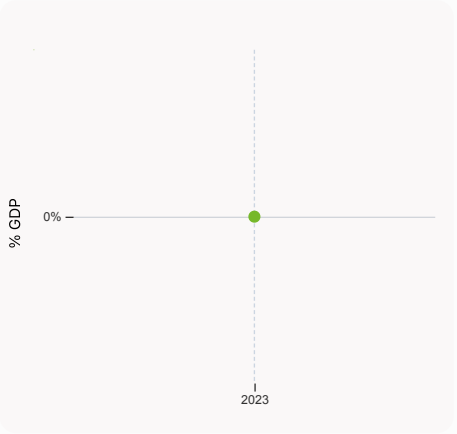
6.1.1 Patents by origin

was equal to 0.064 Thousands in 2021, down by 24.71% from the year prior – and equivalent to an indicator rank of 43.



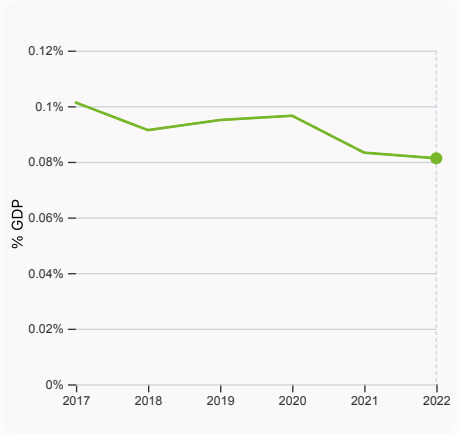
6.1.5 Citable documents H-index

was equal to an index value of 143 in 2022, up by 5.93% from the year prior – and equivalent to an indicator rank of 96.



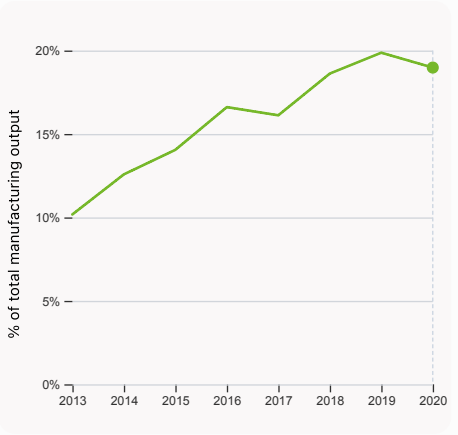
6.2.2 Unicorn valuation, % GDP

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



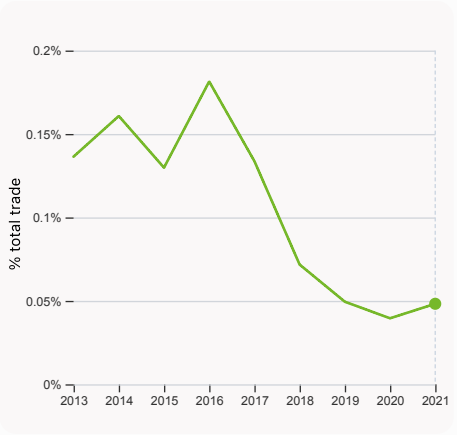
6.2.3 Software spending, % GDP

was equal to 0.081% GDP in 2022, down by 0.002 percentage points from the year prior – and equivalent to an indicator rank of 93.



6.2.4 High-tech manufacturing, %

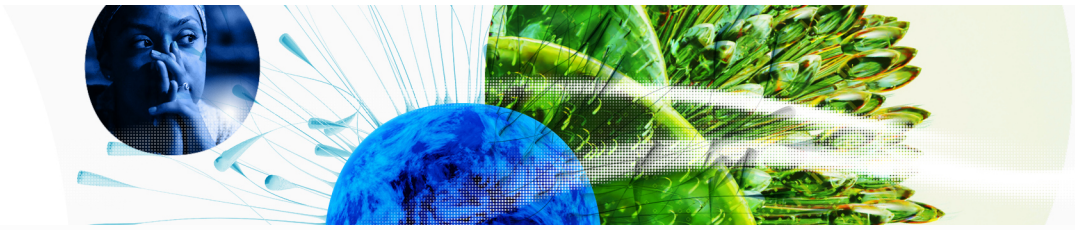
was equal to 18.98% of total manufacturing output in 2020, down by 0.89 percentage points from the year prior – and equivalent to an indicator rank of 64.

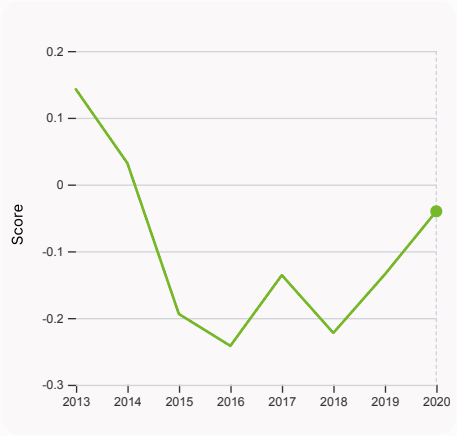


6.3.1 Intellectual property receipts, % total trade

was equal to 0.048% total trade in 2021, up by 0.0087 percentage points from the year prior – and equivalent to an indicator rank of 72.

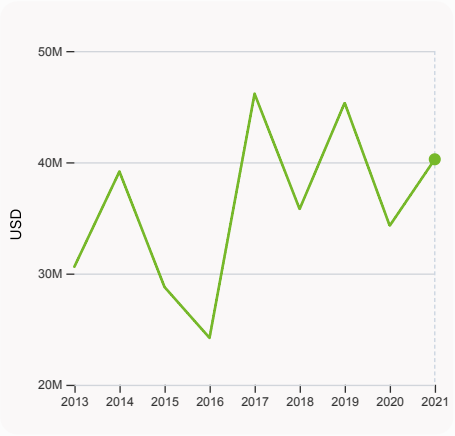
Global Innovation Index 2023





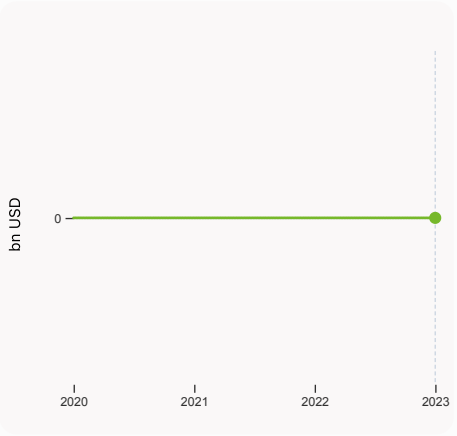
6.3.2 **Production and export complexity**

was equal to a score of -0.04 in 2020, up by 70.2% from the year prior – and equivalent to an indicator rank of 62.



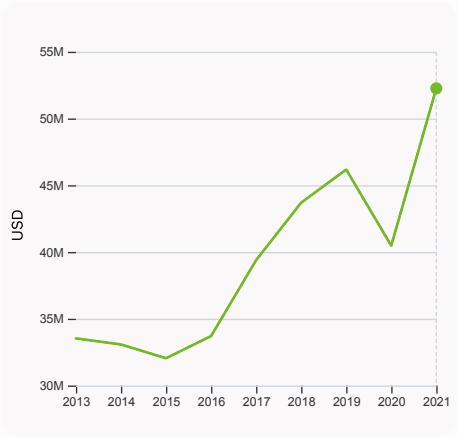
6.3.3 **High-tech exports**

was equal to 40,265,485 USD in 2021, up by 17.41% from the year prior – and equivalent to an indicator rank of 83.



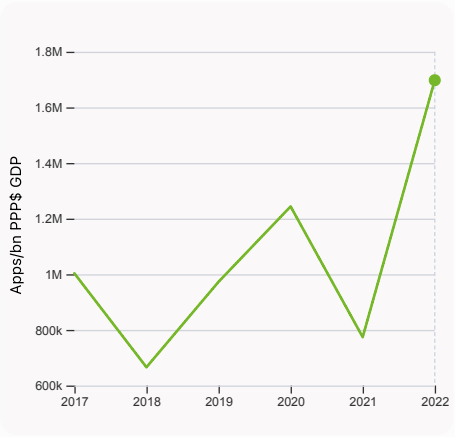
7.1.3 **Global brand value, top 5,000**

was equal to 0 bn USD in 2023 – and equivalent to an indicator rank of 74.



7.2.1 **Cultural and creative services exports**

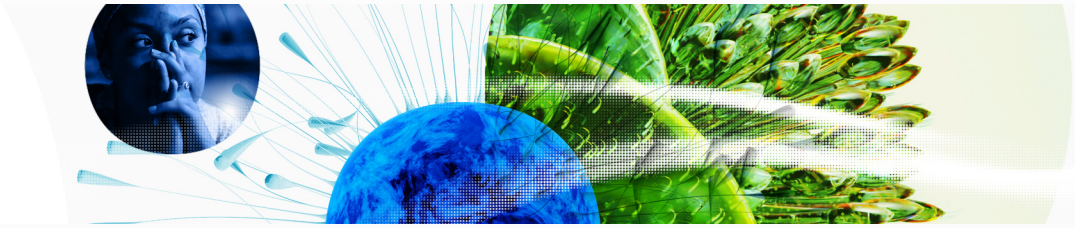
was equal to 52,258,000 USD in 2021, up by 29.11% from the year prior – and equivalent to an indicator rank of 38.



7.3.4 **Mobile app creation/bn PPP$ GDP**

was equal to 1,697,689.63 Apps/bn PPP$ GDP in 2022, up by 119.3% from the year prior – and equivalent to an indicator rank of 14.

Global Innovation Index 2023



Republic of Moldova

GII 2023 rank **60**

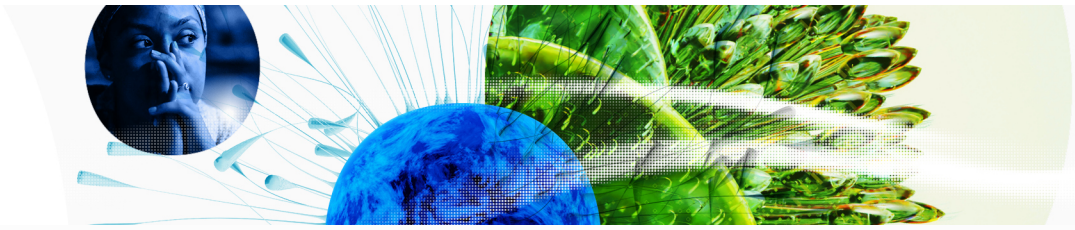
Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
50	81	Upper middle	EUR	3.3	41.9	16,482.6

	Score / Value	Rank
Institutions	**39.4**	**96**
1.1 Institutional environment	**36.4**	**87**
1.1.1 Operational stability for businesses*	47.2	75
1.1.2 Government effectiveness*	25.6	94
1.2 Regulatory environment	**52.6**	**92**
1.2.1 Regulatory quality*	42.5	72
1.2.2 Rule of law*	30.0	82
1.2.3 Cost of redundancy dismissal	23.7	102
1.3 Business environment	**29.3**	**102**
1.3.1 Policies for doing business†	29.3	108 ○
1.3.2 Entrepreneurship policies and culture†	n/a	n/a
Human capital and research	**30.5**	**67**
2.1 Education	**54.1**	**57**
2.1.1 Expenditure on education, % GDP	5.8	20 ●
2.1.2 Government funding/pupil, secondary, % GDP/cap	21.6	43
2.1.3 School life expectancy, years	14.8	57
2.1.4 PISA scales in reading, maths and science	424.4	51
2.1.5 Pupil-teacher ratio, secondary	10.9	40
2.2 Tertiary education	**34.4**	**51**
2.2.1 Tertiary enrolment, % gross	62.7	51
2.2.2 Graduates in science and engineering, %	25.0	45
2.2.3 Tertiary inbound mobility, %	6.5	39
2.3 Research and development (R&D)	**3.0**	**87**
2.3.1 Researchers, FTE/mn pop.	788.1	58
2.3.2 Gross expenditure on R&D, % GDP	0.2	85
2.3.3 Global corporate R&D investors, top 3, mn US$	0.0	40 ○ ◇
2.3.4 QS university ranking, top 3*	0.0	71 ○ ◇
Infrastructure	**37.3**	**75**
3.1 Information and communication technologies (ICTs)	**73.4**	**55**
3.1.1 ICT access*	84.2	57
3.1.2 ICT use*	70.7	68
3.1.3 Government's online service*	71.0	60
3.1.4 E-participation*	67.4	47
3.2 General infrastructure	**19.5**	**91**
3.2.1 Electricity output, GWh/mn pop.	2,587.4	71
3.2.2 Logistics performance*	18.2	89 ○ ◇
3.2.3 Gross capital formation, % GDP	28.4	30 ●
3.3 Ecological sustainability	**19.1**	**83**
3.3.1 GDP/unit of energy use	7.3	94
3.3.2 Environmental performance*	40.3	62
3.3.3 ISO 14001 environment/bn PPP$ GDP	0.3	101
Market sophistication	**32.4**	**76**
4.1 Credit	**32.2**	**60**
4.1.1 Finance for startups and scaleups†	n/a	n/a
4.1.2 Domestic credit to private sector, % GDP	27.9	102
4.1.3 Loans from microfinance institutions, % GDP	4.7	7 ●
4.2 Investment	**7.3**	**63**
4.2.1 Market capitalization, % GDP	n/a	n/a
4.2.2 Venture capital (VC) investors, deals/bn PPP$ GDP	n/a	n/a
4.2.3 VC recipients, deals/bn PPP$ GDP	0.0	62
4.2.4 VC received, value, % GDP	0.0	60
4.3 Trade, diversification, and market scale	**57.8**	**67**
4.3.1 Applied tariff rate, weighted avg., %	1.3	14 ●
4.3.2 Domestic industry diversification	80.8	71
4.3.3 Domestic market scale, bn PPP$	41.9	116 ○

	Score / Value	Rank
Business sophistication	**21.3**	**101** ◇
5.1 Knowledge workers	**25.1**	**77**
5.1.1 Knowledge-intensive employment, %	17.7	82
5.1.2 Firms offering formal training, %	38.1	38
5.1.3 GERD performed by business, % GDP	0.0	74 ○
5.1.4 GERD financed by business, %	15.5	72
5.1.5 Females employed w/advanced degrees, %	10.9	70
5.2 Innovation linkages	**10.7**	**116** ◇
5.2.1 University-industry R&D collaboration†	25.9	105 ○
5.2.2 State of cluster development†	14.4	121 ○ ◇
5.2.3 GERD financed by abroad, % GDP	0.0	72
5.2.4 Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	55
5.2.5 Patent families/bn PPP$ GDP	0.1	51
5.3 Knowledge absorption	**27.9**	**89**
5.3.1 Intellectual property payments, % total trade	0.7	57
5.3.2 High-tech imports, % total trade	8.4	61
5.3.3 ICT services imports, % total trade	1.4	62
5.3.4 FDI net inflows, % GDP	2.8	54
5.3.5 Research talent, % in businesses	6.2	67
Knowledge and technology outputs	**23.8**	**60**
6.1 Knowledge creation	**23.1**	**46**
6.1.1 Patents by origin/bn PPP$ GDP	1.6	43
6.1.2 PCT patents by origin/bn PPP$ GDP	0.1	62
6.1.3 Utility models by origin/bn PPP$ GDP	2.9	5 ●
6.1.4 Scientific and technical articles/bn PPP$ GDP	n/a	n/a
6.1.5 Citable documents H-index	5.6	96
6.2 Knowledge impact	**23.7**	**86**
6.2.1 Labor productivity growth, %	2.2	28 ●
6.2.2 Unicorn valuation, % GDP	0.0	48 ○ ◇
6.2.3 Software spending, % GDP	0.1	93
6.2.4 High-tech manufacturing, %	19.0	64
6.3 Knowledge diffusion	**24.7**	**58**
6.3.1 Intellectual property receipts, % total trade	0.0	72
6.3.2 Production and export complexity	51.7	62
6.3.3 High-tech exports, % total trade	0.7	83
6.3.4 ICT services exports, % total trade	6.6	13 ●
6.3.5 ISO 9001 quality/bn PPP$ GDP	2.5	80
Creative outputs	**33.2**	**42**
7.1 Intangible assets	**49.8**	**27**
7.1.1 Intangible asset intensity, top 15, %	n/a	n/a
7.1.2 Trademarks by origin/bn PPP$ GDP	101.6	11 ●
7.1.3 Global brand value, top 5,000	0.0	74 ○ ◇
7.1.4 Industrial designs by origin/bn PPP$ GDP	16.7	6 ●
7.2 Creative goods and services	**9.3**	**70**
7.2.1 Cultural and creative services exports, % total trade	0.9	38
7.2.2 National feature films/mn pop. 15-69	n/a	n/a
7.2.3 Entertainment and media market/th pop. 15-69	n/a	n/a
7.2.4 Creative goods exports, % total trade	0.1	102
7.3 Online creativity	**23.8**	**55**
7.3.1 Generic top-level domains (TLDs)/th pop. 15-69	3.0	71
7.3.2 Country-code TLDs/th pop. 15-69	3.9	60
7.3.3 GitHub commits/mn pop. 15-69	10.9	54
7.3.4 Mobile app creation/bn PPP$ GDP	77.2	14 ●

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 Republic of Moldova.

> Republic of Moldova has missing data for seven indicators and outdated data for nine indicators.

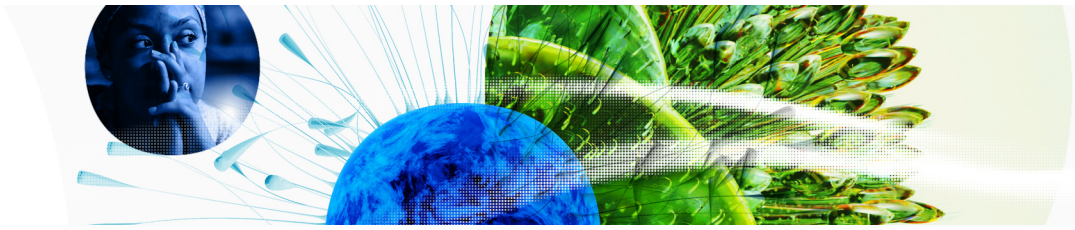
> Missing data for Republic of Moldova

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
4.2.1	Market capitalization, % GDP	n/a	2020	World Federation of Exchanges; World Bank
4.2.2	Venture capital (VC) investors, deals/bn PPP$ GDP	n/a	2022	Refinitiv; International Monetary Fund
7.1.1	Intangible asset intensity, top 15, %	n/a	2022	Brand Finance
7.2.2	National feature films/mn pop. 15-69	n/a	2021	OMDIA; United Nations, World Population Prospects
7.2.3	Entertainment and media market/th pop. 15-69	n/a	2022	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund

> Outdated data for Republic of Moldova

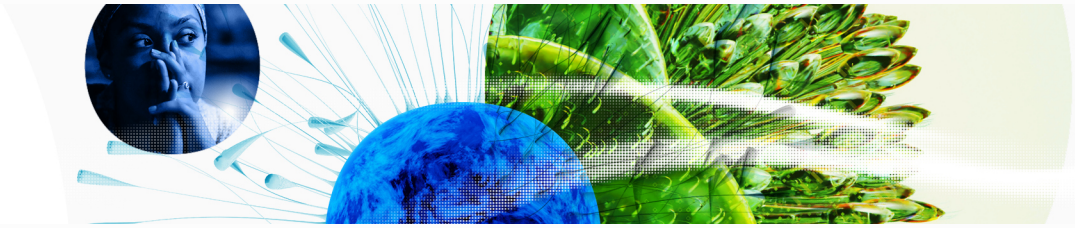
Code	Indicator name	Economy Year	Model Year	Source
1.3.1	Policies for doing business	2021	2022	World Economic Forum, Executive Opinion Survey (EOS)
4.2.3	VC recipients, deals/bn PPP$ GDP	2020	2022	Refinitiv; International Monetary Fund
4.2.4	VC received, value, % GDP	2020	2022	Refinitiv; International Monetary Fund
5.1.3	GERD performed by business, % GDP	2018	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	2018	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.2.1	University-industry R&D collaboration	2021	2022	World Economic Forum, Executive Opinion Survey (EOS)
5.2.2	State of cluster development	2021	2022	World Economic Forum, Executive Opinion Survey

Global Innovation Index 2023



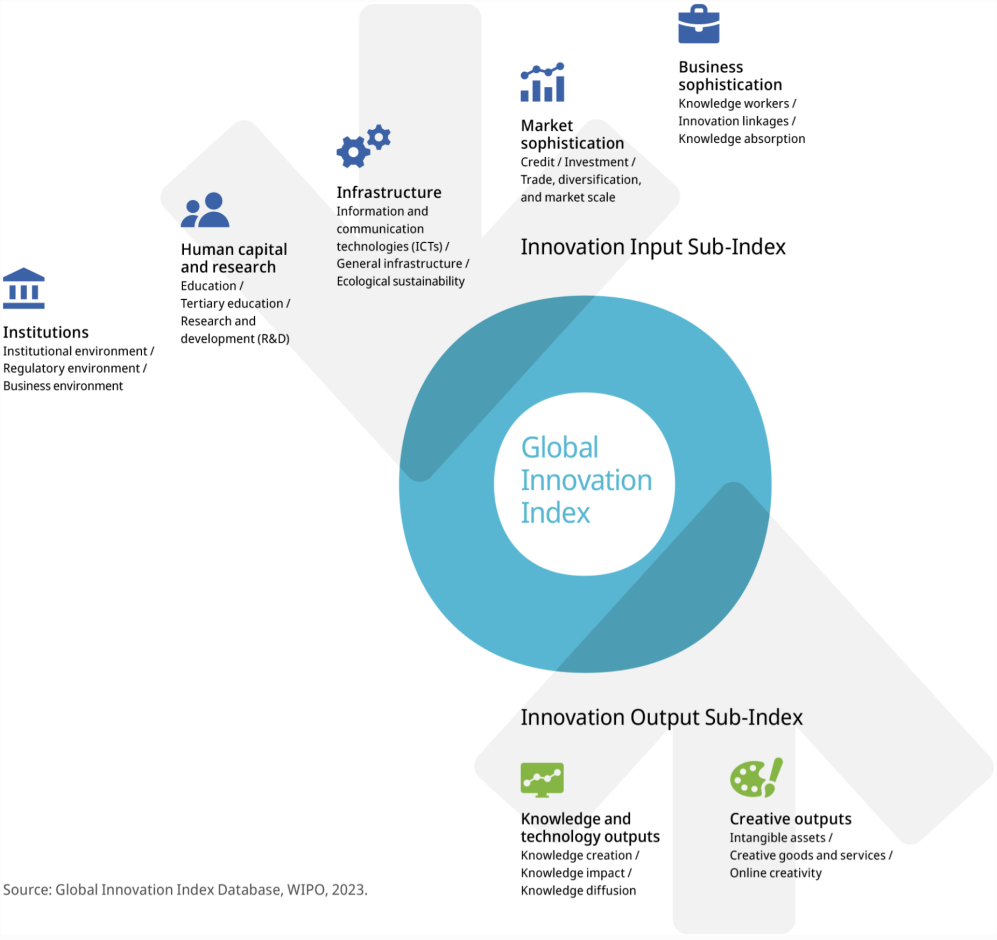
Code	Indicator name	Economy Year	Model Year	Source
				(EOS)
5.2.3	GERD financed by abroad, % GDP	2018	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.5	Research talent, % in businesses	2018	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT

Global Innovation Index 2023



About the Global Innovation Index

- The Global Innovation Index (GII) is published by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations.
- Recognizing that innovation is a key driver of economic development, the GII aims to provide an innovation ranking and rich analysis referencing around 130 economies. Over the last decade, the GII has established itself as both a leading reference on innovation and a "tool for action" for economies that incorporate the GII into their innovation agendas.



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.