Global Innovation Index 2025

Romania ranking in the Global Innovation Index 2025

Romania ranks 49th among the 139 economies featured in the GII 2025.

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.

Romania ranks 43rd among the 54 High-income group economies.

Romania ranks 30th among the 39 economies in Europe.

Romania GII Ranking (2020-2025)

The table shows the rankings of Romania over the past six 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 Romania in the GII 2025 is between ranks 47 and 49.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	46th	51st	46th
2021	48th	54th	50th
2022	49th	56th	43rd
2023	47th	55th	47th
2024	48th	57th	45th
2025	49th	57th	48th

Romania performs better in innovation outputs than innovation inputs in 2025.

This year **Romania ranks 57th in innovation inputs.** This position is the same as last year.

Romania ranks 48th in innovation outputs. This position is lower than last year.

Romania has no clusters in the world's top innovation clusters of the Global Innovation Index.

Global Innovation Index 2025

> Global Innovation Tracker

The Global Innovation Tracker 2025 shows what is the current state of innovation in Romania, how rapidly is technology being embraced and what are the resulting societal impacts.

For Romania, 7 indicators have improved in the short-term and 4 indicators have worsened.

Science and innovation investment

	Scientific publications	R&D investments	Venture capital deal numbers	International patent filings
Short term	▼ -3 % 2023 - 2024	▲ 14.3 % 2022 - 2023	▼ -9.8 % 2023 - 2024	▲ 18.6 % 2023 - 2024
Long term (annual growth)	▲ 3.2 % 2014 - 2024	▲ 6.6 % 2013 - 2023	▼ -4.8 % 2020 - 2024	▲ 6.2 % 2014 - 2024

Technology adoption

	Safe sanitation	Connectivity		Robots	Electric vehicles
		Fixed broadband	5G		
Short term	▲ 0.1% 2023 - 2024	▲ 4.1% 2022 - 2023	▲ 0.4% 2022 - 2023	▲ 7.9% 2022 - 2023	n/a
Long term (annual growth)	▲ 2.8% 2014 - 2024	▲ 5.7% 2013 - 2023	n/a	▲ 19% 2013 - 2023	n/a
Penetration	89.8 per 100 inhabitants in 2024	34.7 per 100 inhabitants in 2023	11.8 per 100 inhabitants in 2023	n/a	n/a

Socioeconomic impact

	Labor productivity	Life expectancy	Temperature change
Short term	▼ -1.2 % 2023 - 2024	▲ 0.9 % 2022 - 2023	+ 3.3 °C 2024
Long term (annual growth)	▲ 3.1 % 2014 - 2024	▲ 0.1 % 2013 - 2023	+ 1.5 °C 2014
Level	92,108.7 USD in 2024	75.9 years in 2023	n/a

Notes: Not all indicators of the Global Innovation Tracker are used to calculate the Global Innovation Index. Long-term annual growth refers to the compound annual growth rate (CAGR) over the indicated period. For each variable, a one-year growth rate is set for the short run, and ten-year CAGR is set for the long run; time windows might differ when gaps exist in data availability. The end period corresponds to the most recent available observation, which may differ among countries. Temperature change is an exception: it indicates the change in degrees Celsius with respect to the average temperature in the countries. from 1951–1980. Figures are rounded.

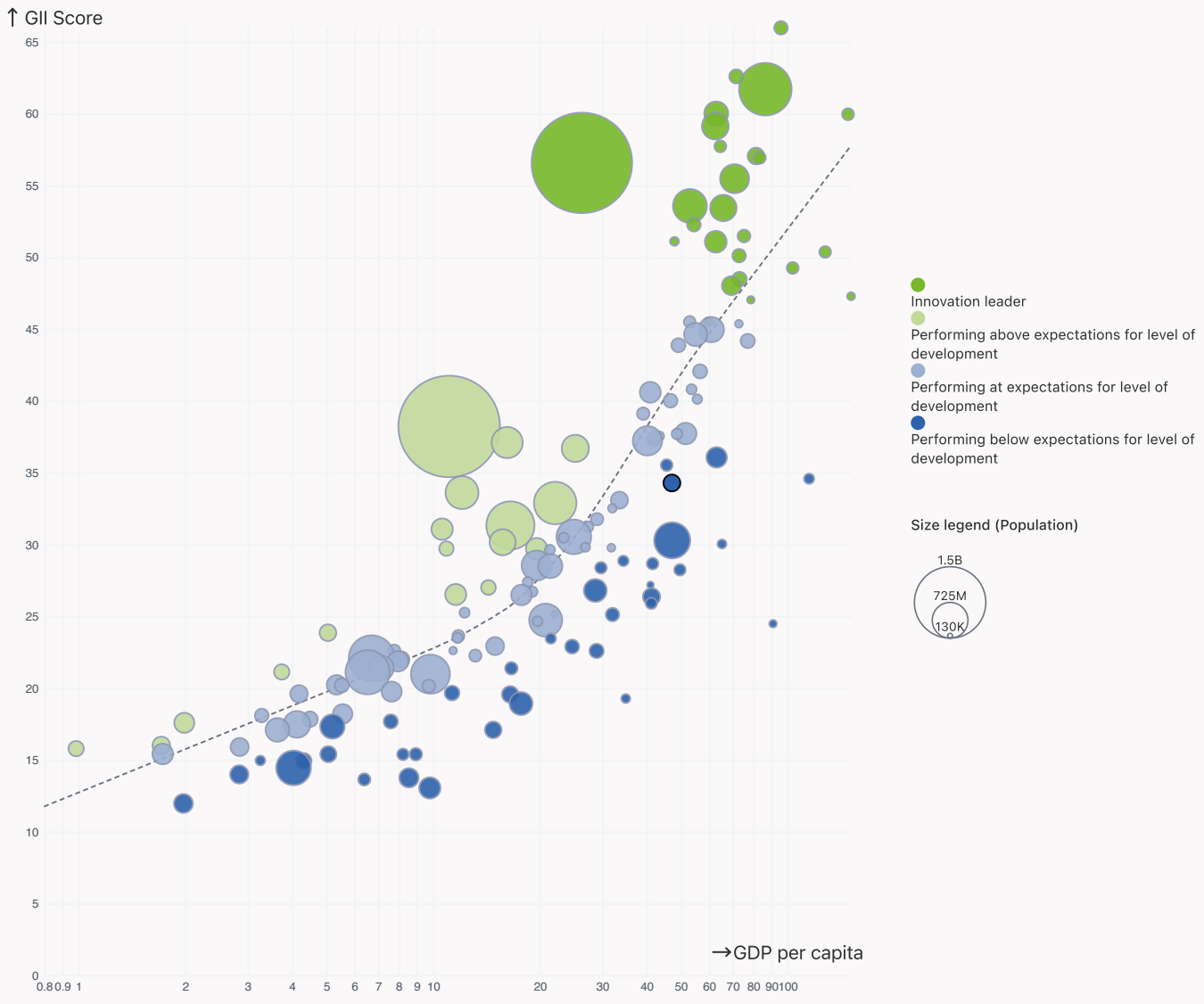
Global Innovation Index 2025

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 Romania performs below expectations for its level of development.

> Innovation overperformers relative to their economic development



Global Innovation Index 2025

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.

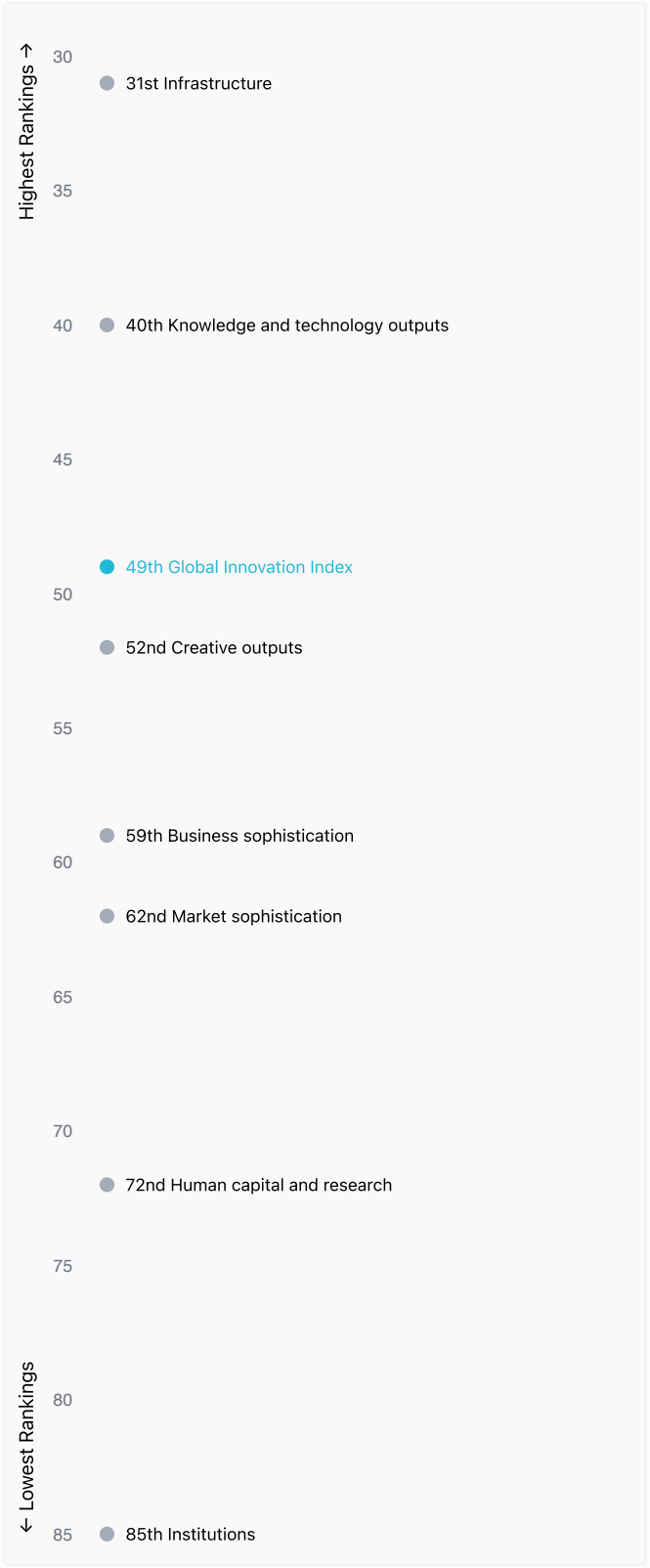
Romania produces more innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

Global Innovation Index 2025

Overview of Romania's rankings in the seven areas of the GII in 2025

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



Highest Rankings

Romania ranks highest in Infrastructure (31st) and Knowledge and technology outputs (40th).

Lowest Rankings

Romania ranks lowest in Institutions (85th), Human capital and research (72nd) and Market sophistication (62nd).

The full WIPO Intellectual Property Statistics profile for Romania can be found on https://www.wipo.int/edocs/statistics-country-profile/en/ro.pdf

Global Innovation Index 2025

Benchmark of Romania against other economy groupings for each of the seven areas of the GII Index

High-income economies

Romania performs above the High-income group average in Infrastructure.

Europe

Romania performs above the regional average in Infrastructure.

Institutions

- Top 10 | Score: 78.63
- High-income | Score: 65.99
- Europe | Score: 59.42
- Romania | Score: 43.43

Human capital and research

- Top 10 | Score: 59.30
- High-income | Score: 45.45
- Europe | Score: 44.67
- Romania | Score: 30.19

Infrastructure

- Top 10 | Score: 61.36
- Romania | Score: 54.38
- High-income | Score: 54.18
- Europe | Score: 54.13

Market sophistication

- Top 10 | Score: 61.82
- High-income | Score: 47.12
- Europe | Score: 44.89
- Romania | Score: 37.86

Business sophistication

- Top 10 | Score: 59.10
- High-income | Score: 42.22
- Europe | Score: 40.79
- Romania | Score: 31.15

Knowledge and technology outputs

- Top 10 | Score: 54.93
- Europe | Score: 34.99
- High-income | Score: 33.94
- Romania | Score: 28.73

Creative outputs

- Top 10 | Score: 55.98
- High-income | Score: 38.68
- Europe | Score: 38.66
- Romania | Score: 29.52

Global Innovation Index 2025

Innovation strengths and weaknesses in Romania

The table below gives an overview of the indicator strengths and weaknesses of Romania in the GII 2025.

Romania's best-ranked innovation strengths are **ISO 14001 environment/bn PPP$ GDP** (rank 4), **ICT services exports, % total trade** (rank 10) and **ISO 9001 quality/bn PPP$ GDP** (rank 10).

Strengths

Rank	Code	Indicator name
4	3.3.3	ISO 14001 environment/bn PPP$ GDP
10	6.3.4	ICT services exports, % total trade
10	6.3.5	ISO 9001 quality/bn PPP$ GDP
13	4.1.3	Loans from microfinance institutions, % GDP
15	7.2.1	Cultural and creative services exports, % total trade
15	3.3.1	GDP/unit of energy use
17	4.3.2	Domestic industry diversification
19	6.3.2	Production and export complexity
19	5.1.5	GERD financed by business, %
20	5.3.3	ICT services imports, % total trade
27	5.3.2	High-tech imports, % total trade

Weaknesses

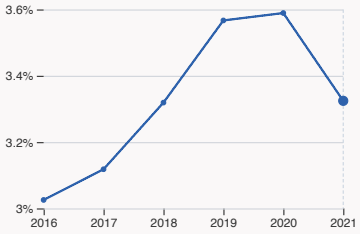
Rank	Code	Indicator name
113	1.3.1	Policy stability for doing business†
112	4.1.2	Domestic credit to private sector, % GDP
108	5.1.3	Youth demographic dividend, %
98	2.1.1	Expenditure on education, % GDP
76	1.3.2	Entrepreneurship policies and culture†
75	5.2.3	University industry & international engagement, top 5*
74	4.2.1	Market capitalization, % GDP
60	6.1.3	Utility models by origin/bn PPP$ GDP
53	6.2.2	Unicorn valuation, % GDP
44	2.3.3	Global corporate R&D investors, top 3, mn USD

Global Innovation Index 2025

Romania's innovation system

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

Innovation inputs in Romania



2.1.1 Expenditure on education

was equal to 3.32 % GDP in 2021, down by 0.26 percentage points from the year prior – and equivalent to an indicator rank of 98.

2.2.2 Graduates in science and engineering

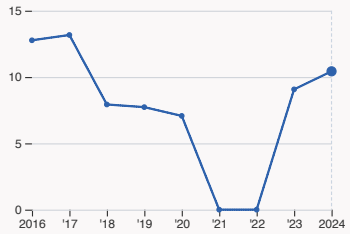
was equal to 28.36 % of total graduates in 2022, down by 0.91 percentage points from the year prior – and equivalent to an indicator rank of 29.

2.3.1 Researchers

was equal to 1088.61 FTE per million population in 2023, up by 8.31% from the year prior – and equivalent to an indicator rank of 51.

2.3.2 Gross expenditure on R&D

was equal to 0.52 % GDP in 2023, up by 0.05 percentage points from the year prior – and equivalent to an indicator rank of 64.

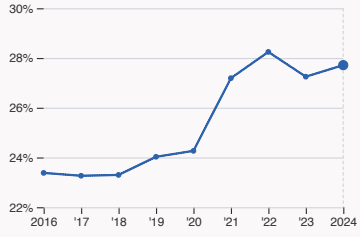


2.3.4 QS university ranking

was equal to an average score of 10.43 for the top three universities in 2024, up by 14.99% from the year prior – and equivalent to an indicator rank of 70.

4.3.2 Domestic industry diversification

was equal to an index score of 0.089 in 2022, down by 0.25% from the year prior – and equivalent to an indicator rank of 17.



5.1.1 Knowledge-intensive employment

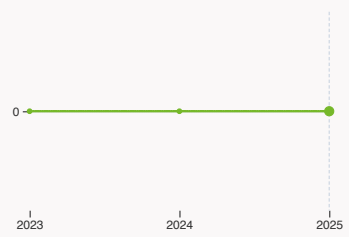
was equal to 27.71 % of total workforce in 2024, up by 0.46 percentage points from the year prior – and equivalent to an indicator rank of 52.

Global Innovation Index 2025

Innovation outputs in Romania

6.1.1 Patents by origin

was equal to 859 patents in 2023, up by 0.82% from the year prior – and equivalent to an indicator rank of 56.

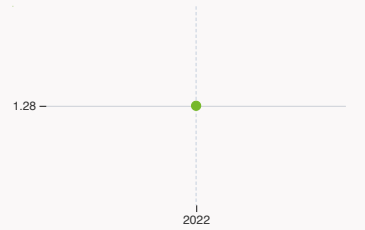


6.2.2 Unicorn valuation

The country does not have unicorns in 2025.

6.2.4 High-tech manufacturing

was equal to 50.81 high-tech manufacturing output in billion USD in 2022, up by 3.97% from the year prior – and equivalent to an indicator rank of 28.

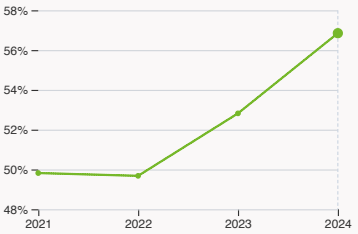


6.3.2 Production and export complexity

was equal to a score of 1.28 in 2022 – and equivalent to an indicator rank of 19.

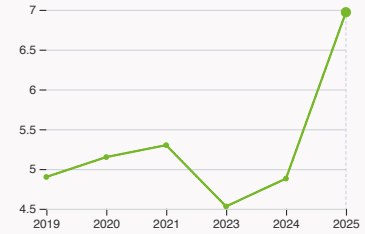
6.3.3 High-tech exports

was equal to 10.05 billion USD in 2023, up by 13.05% from the year prior – and equivalent to an indicator rank of 34.



7.1.1 Intangible asset intensity, top 15

was equal to 56.85 % for the top 15 companies in 2024, up by 4.03 percentage points from the year prior – and equivalent to an indicator rank of 40.



7.1.3 Global brand value, top 5,000

was equal to 6.97 billion USD in 2025, up by 42.83% from the year prior – and equivalent to an indicator rank of 49.

7.2.2 National feature films

was equal to 36 films in 2023, up by 28.57% from the year prior – and equivalent to an indicator rank of 48.

7.3.3 Mobile app creation

was equal to 266.76 million global downloads of mobile apps in 2024, down by 10.29% from the year prior – and equivalent to an indicator rank of 53.

Global Innovation Index 2025

Romania's innovation top performers

Data not available for 2.3.3 Global corporate R&D investors and 6.2.2 Top Unicorn Companies.

Disclaimer: This section contains only the top performers per country. For the complete list, please visit the GII Innovation Ecosystems and Data Explorer website.

2.3.4 QS university ranking of Romania's top universities

Rank	University	Score
781-790	BABES-BOLYAI UNIVERSITY	15.80
801-850	UNIVERSITY OF BUCHAREST	15.50
1201-1400	ALEXANDRU IOAN CUZA UNIVERSITY	7.30

Source: QS Quacquarelli Symonds Ltd (https://www.topuniversities.com/university-rankings/world-university-rankings/2024).
Note: QS Quacquarelli Symonds Ltd annually assesses over 1,200 universities across the globe and scores them between [0,100]. Ranks can represent a single value 'x', a tie 'x=' or a range 'x-y'.

5.2.3 University industry and international engagement, top 5 universities

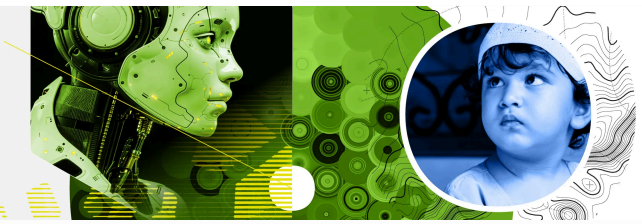
Rank	University	Score
1	POLYTECHNIC UNIVERSITY OF BUCHAREST	41.70
2	ALEXANDRU IOAN CUZA UNIVERSITY	39.10
3	IULIU HATIEGANU UNIVERSITY OF MEDICINE AND PHARMACY CLUJ-NAPOCA	38.90

Source: Times Higher Education (THE), World University Rankings 2025.
Note: Rank corresponds to within economy ranks. The score is calculated as the average of the International Outlook score (encompassing international staff, students, and co-authorship) and the industry score (reflecting industry income and patent citations). The 2025 ranking corresponds to data from the academic year that ended in 2022.

7.1.1 Top 15 intangible-asset intensive companies in Romania

Rank	Firm	Intensity, %
1	S.P.E.E.H. HIDROELECTRICA S.A.	51.37
2	SNGN ROMGAZ SA	64.28
3	BANCA TRANSILVANIA S.A.	41.32

Source: Brand Finance (https://brandirectory.com/reports/gift-2024).
Note: Brand Finance only provides within economy ranks.



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

Rank	Brand	Industry	Brand Value, mn USD
1	DACIA	Automobiles	1,247.1
2	EMAG	Retail	995.7
3	BANCA TRANSILVANIA	Banking	954.9

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

Romania

GII 2025 rank **49**

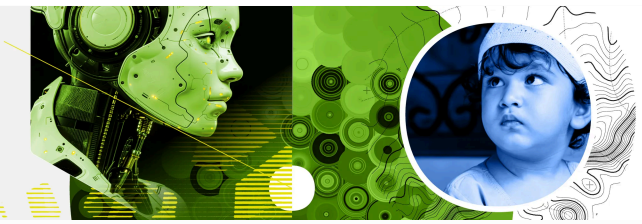
Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
48	57	High	Europe	19.0	894.2	47,203.7

	Score / Value	Rank	
Institutions	**43.4**	**85**	◇
1.1 Institutional environment	**49.1**	**80**	◇
1.1.1 Operational stability for businesses*	57.3	79	◇
1.1.2 Government effectiveness*	40.8	80	◇
1.2 Regulatory environment	**58.5**	**52**	
1.2.1 Regulatory quality*	54.1	56	◇
1.2.2 Rule of law*	62.9	45	
1.3 Business environment	**22.8**	**118**	◇
1.3.1 Policy stability for doing business†	26.1	113	○ ◇
1.3.2 Entrepreneurship policies and culture†	19.4	76	○ ◇
Human capital and research	**30.2**	**72**	◇
2.1 Education	**47.2**	**80**	◇
2.1.1 Expenditure on education, % GDP	3.3	98	○ ◇
2.1.2 Government funding/pupil, secondary, % GDP/cap	18.5	50	
2.1.3 School life expectancy, years	13.8	72	◇
2.1.4 PISA scales in reading, maths and science	427.9	47	◇
2.1.5 Pupil–teacher ratio, secondary	11.4	46	
2.2 Tertiary education	**36.1**	**44**	
2.2.1 Tertiary enrolment, % gross	55.2	64	
2.2.2 Graduates in science and engineering, %	28.4	29	
2.2.3 Tertiary inbound mobility, %	6.7	45	
2.3 Research and development (R&D)	**7.3**	**70**	◇
2.3.1 Researchers, FTE/mn pop.	1,088.6	51	◇
2.3.2 Gross expenditure on R&D, % GDP	0.5	64	
2.3.3 Global corporate R&D investors, top 3, mn USD	0	44	○ ◇
2.3.4 QS university ranking, top 3*	10.7	70	◇
Infrastructure	**54.4**	**31**	
3.1 Information and communication technologies (ICTs)	**76.6**	**67**	◇
3.1.1 ICT access*	90.6	54	◇
3.1.2 ICT use*	80.6	55	
3.1.3 Government's online service*	58.5	81	◇
3.2 General infrastructure	**34.8**	**62**	
3.2.1 Electricity output, GWh/mn pop.	3,061.2	67	
3.2.2 Logistics performance*	50	50	
3.2.3 Gross capital formation, % GDP	25.4	45	
3.3 Ecological sustainability	**51.7**	**4**	◆
3.3.1 GDP/unit of energy use	19.1	15	●
3.3.2 Low-carbon energy use, %	28.5	41	
3.3.3 ISO 14001 environment/bn PPP$ GDP	9.2	4	● ◆
Market sophistication	**37.9**	**62**	
4.1 Credit	**27.4**	**73**	
4.1.1 Finance for startups and scaleups†	42.5	59	◇
4.1.2 Domestic credit to private sector, % GDP	23.1	112	○ ◇
4.1.3 Loans from microfinance institutions, % GDP	3.2	13	●
4.2 Investment	**3**	**86**	◇
4.2.1 Market capitalization, % GDP	10.4	74	○ ◇
4.2.2 Venture capital (VC) received, deal count/bn PPP$ GDP	0.06	76	◇
4.2.3 Late-stage VC deal count, % global VC	0.04	48	
4.2.4 VC investors, deal count/bn PPP$ GDP	0.08	74	
4.2.5 VC investor co-participation/bn PPP$ GDP	0.04	72	◇
4.3 Trade, diversification and market scale	**83.2**	**18**	
4.3.1 Applied tariff rate, weighted avg., %	1.3	24	
4.3.2 Domestic industry diversification	95.5	17	●
4.3.3 Domestic market scale, bn PPP$	894.2	33	

	Score / Value	Rank	
Business sophistication	**31.2**	**59**	
5.1 Knowledge workers	**35.3**	**71**	
5.1.1 Knowledge-intensive employment, %	27.7	52	◇
5.1.2 Females employed w/advanced degrees, %	13.1	62	◇
5.1.3 Youth demographic dividend, %	26.7	108	○
5.1.4 GERD performed by business, % GDP	0.3	47	
5.1.5 GERD financed by business, %	56.2	19	●
5.2 Innovation linkages	**21.5**	**84**	◇
5.2.1 Public research–industry co-publications, %	2.1	42	
5.2.2 University–industry R&D collaboration†	31.4	77	◇
5.2.3 University industry & international engagement, top 5*	16.6	75	○ ◇
5.2.4 State of cluster development†	37.4	90	◇
5.2.5 Patent families/bn PPP$ GDP	0.03	71	
5.3 Knowledge absorption	**36.6**	**34**	
5.3.1 Intellectual property payments, % total trade	0.8	52	
5.3.2 High-tech imports, % total trade	11.7	27	●
5.3.3 ICT services imports, % total trade	3.1	20	●
5.3.4 FDI net inflows, % GDP	3.5	50	
5.3.5 Research talent, % in businesses	34.4	38	
Knowledge and technology outputs	**28.7**	**40**	
6.1 Knowledge creation	**12.6**	**73**	◇
6.1.1 Patents by origin/bn PPP$ GDP	1	56	
6.1.2 PCT patents by inventor origin/bn PPP$ GDP	0.08	62	◇
6.1.3 Utility models by origin/bn PPP$ GDP	0.05	60	○
6.1.4 Scientific and technical articles/bn PPP$ GDP	10.5	63	◇
6.1.5 Citable documents H-index	20.1	43	
6.2 Knowledge impact	**30.6**	**49**	
6.2.1 Labor productivity growth, %	1.8	34	◆
6.2.2 Unicorn valuation, % GDP	0	53	○ ◇
6.2.3 Software spending, % GDP	0.2	64	
6.2.4 High-tech manufacturing, %	37.1	28	
6.3 Knowledge diffusion	**43**	**23**	
6.3.1 Intellectual property receipts, % total trade	0.07	71	
6.3.2 Production and export complexity	77.5	19	●
6.3.3 High-tech exports, % total trade	6.9	34	
6.3.4 ICT services exports, % total trade	7.6	10	● ◆
6.3.5 ISO 9001 quality/bn PPP$ GDP	16.3	10	● ◆
Creative outputs	**29.5**	**52**	
7.1 Intangible assets	**33.5**	**52**	
7.1.1 Intangible asset intensity, top 15, %	56.8	40	
7.1.2 Trademarks by origin/bn PPP$ GDP	45.9	39	
7.1.3 Global brand value, top 5,000, % GDP	1.7	49	
7.1.4 Industrial designs by origin/bn PPP$ GDP	1.3	50	
7.2 Creative goods and services	**18.4**	**56**	
7.2.1 Cultural and creative services exports, % total trade	2	15	●
7.2.2 National feature films/mn pop. 15–69	2.7	48	
7.2.3 Entertainment and media market/th pop. 15–69	7.5	40	◇
7.2.4 Creative goods exports, % total trade	0.8	50	
7.3 Online creativity	**32.7**	**50**	
7.3.1 Top-level domains (TLDs)/th pop. 15–69	9.7	46	
7.3.2 GitHub commits/mn pop. 15–69	19.6	46	
7.3.3 Mobile app creation/bn PPP$ GDP	68.9	53	

NOTES: ● indicates a strength ○ a weakness ◆ an income group strength ◇ an income group weakness * an index † a survey question 🕓 that the economy's data is outdated. Square brackets [ ] indicate the the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level, n/a represents missing values, a dash - indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.

Global Innovation Index 2025



Data Availability

The following tables list indicators that are either missing or outdated for Romania.

Romania has missing data for zero indicators and outdated data for one indicator.

Outdated data for Romania

Code	Indicator name	Economy year	Model year*	Source
2.1.1	Expenditure on education, % GDP	2021	2023	UNESCO Institute for Statistics

*Model year corresponds to the most frequent data year (the year that appears most often across all economies in the GII).

Global Innovation Index 2025

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 140 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.