Global Innovation Index 2025

Bulgaria ranking in the Global Innovation Index 2025

Bulgaria ranks 37th 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.

Bulgaria ranks 35th among the 54 High-income group economies.

Bulgaria ranks 24th among the 39 economies in Europe.

Bulgaria GII Ranking (2020-2025)

The table shows the rankings of Bulgaria 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 Bulgaria in the GII 2025 is between ranks 35 and 38.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	37th	45th	30th
2021	35th	46th	27th
2022	35th	47th	30th
2023	38th	45th	34th
2024	38th	50th	32nd
2025	37th	44th	31st

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

This year **Bulgaria ranks 44th in innovation inputs.** This position is higher than last year.

Bulgaria ranks 31st in innovation outputs. This position is higher than last year.

Bulgaria 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 Bulgaria, how rapidly is technology being embraced and what are the resulting societal impacts.

For Bulgaria, 8 indicators have improved in the short-term and 3 indicators have worsened.

Science and innovation investment

	Scientific publications	R&D investments	Venture capital deal numbers	International patent filings
Short term	▲ 4.5 % 2023 - 2024	▲ 7.4 % 2022 - 2023	▼ -64.1 % 2023 - 2024	▼ -13.3 % 2023 - 2024
Long term (annual growth)	▲ 3.5 % 2014 - 2024	▲ 5 % 2013 - 2023	▲ 0.7 % 2020 - 2024	▼ -2.8 % 2014 - 2024

Technology adoption

	Safe sanitation	Connectivity		Robots	Electric vehicles
		Fixed broadband	5G		
Short term	▲ 1.4% 2023 - 2024	▲ 5.4% 2022 - 2023	▲ 0.7% 2022 - 2023	▲ 22.5% 2022 - 2023	n/a
Long term (annual growth)	▲ 1.6% 2014 - 2024	▲ 5.9% 2013 - 2023	n/a	▲ 22.4% 2013 - 2023	n/a
Penetration	75.7 per 100 inhabitants in 2024	37 per 100 inhabitants in 2023	86.3 per 100 inhabitants in 2023	n/a	n/a

Socioeconomic impact

	Labor productivity	Life expectancy	Temperature change
Short term	▲ 3.9 % 2023 - 2024	▲ 2.2 % 2022 - 2023	+ 3.1 °C 2024
Long term (annual growth)	▲ 2.7 % 2014 - 2024	▲ 0.1 % 2013 - 2023	+ 1.2 °C 2014
Level	65,394.7 USD in 2024	75.6 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.

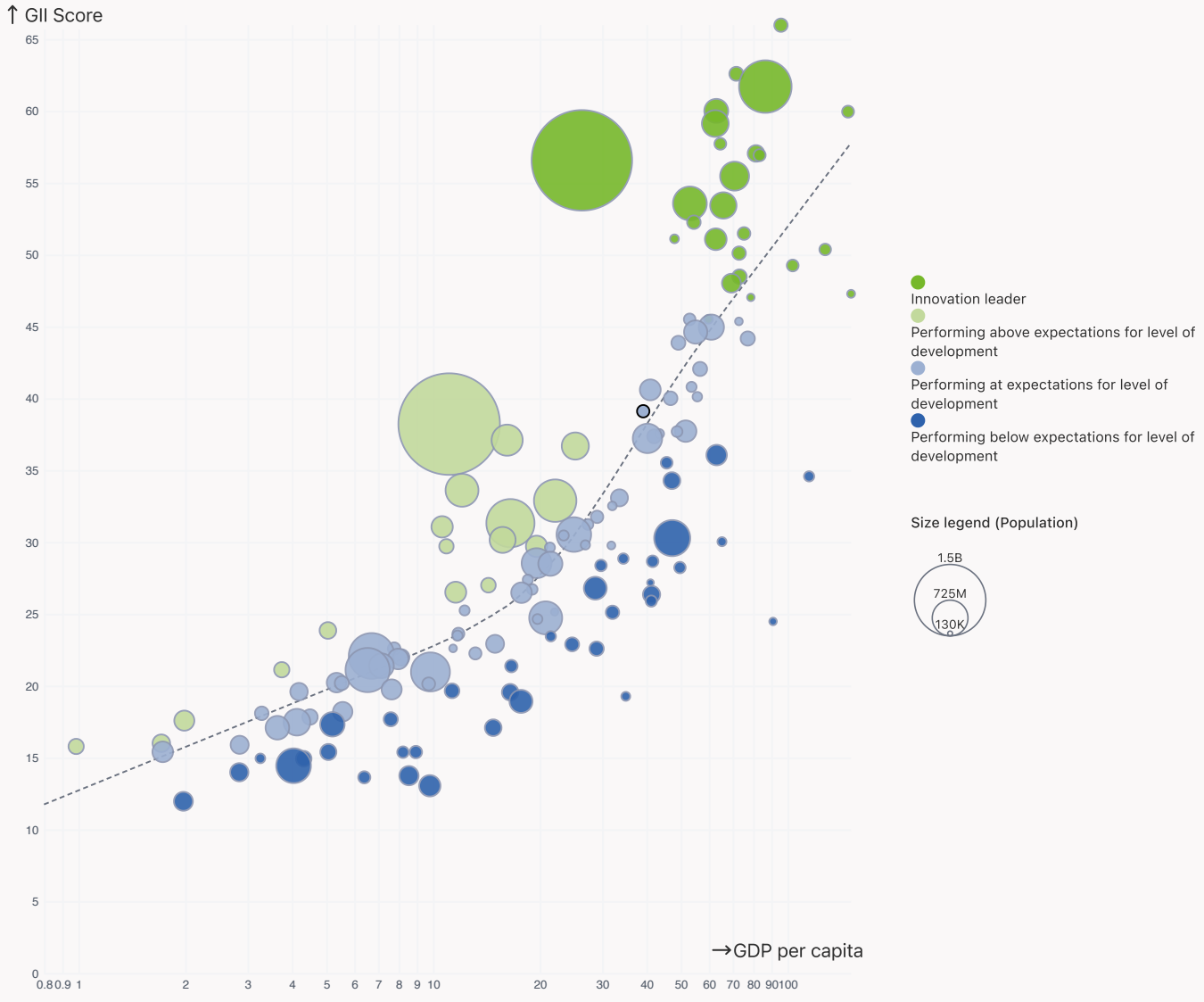
Global Innovation Index 2025

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 Bulgaria performs at 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.

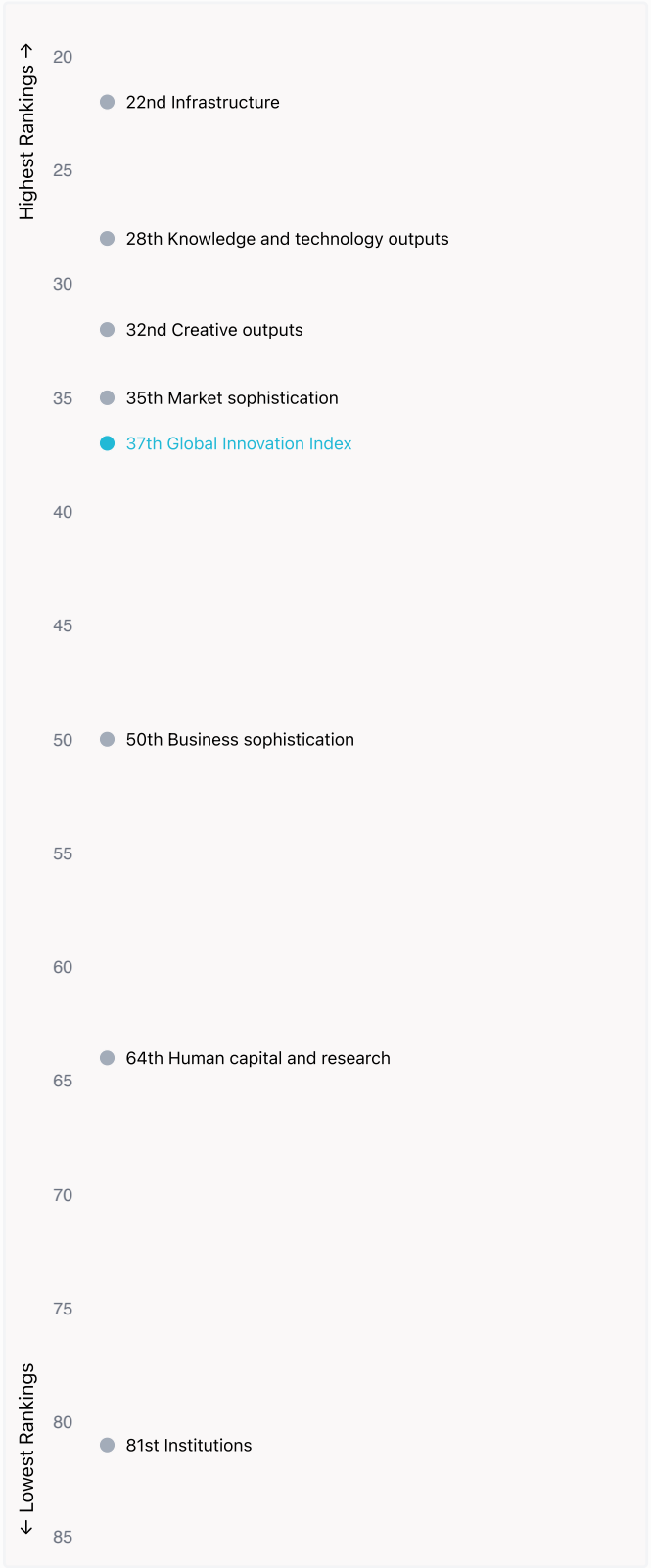
Bulgaria produces more innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

Global Innovation Index 2025

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



Highest Rankings

Bulgaria ranks highest in Infrastructure (22nd), Knowledge and technology outputs (28th), Creative outputs (32nd) and Market sophistication (35th).

Lowest Rankings

Bulgaria ranks lowest in Institutions (81st), Human capital and research (64th) and Business sophistication (50th).

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

Global Innovation Index 2025

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

High-income economies

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

Europe

Bulgaria performs above the regional average in Infrastructure, Market sophistication.

Institutions

- Top 10 | Score: 78.63
- High-income | Score: 65.99
- Europe | Score: 59.42
- Bulgaria | Score: 46.03

Human capital and research

- Top 10 | Score: 59.30
- High-income | Score: 45.45
- Europe | Score: 44.67
- Bulgaria | Score: 32.66

Infrastructure

- Top 10 | Score: 61.36
- Bulgaria | Score: 57.08
- High-income | Score: 54.18
- Europe | Score: 54.13

Market sophistication

- Top 10 | Score: 61.82
- High-income | Score: 47.12
- Bulgaria | Score: 45.65
- Europe | Score: 44.89

Business sophistication

- Top 10 | Score: 59.10
- High-income | Score: 42.22
- Europe | Score: 40.79
- Bulgaria | Score: 32.69

Knowledge and technology outputs

- Top 10 | Score: 54.93
- Europe | Score: 34.99
- High-income | Score: 33.94
- Bulgaria | Score: 33.22

Creative outputs

- Top 10 | Score: 55.98
- High-income | Score: 38.68
- Europe | Score: 38.66
- Bulgaria | Score: 37.51

Global Innovation Index 2025

Innovation strengths and weaknesses in Bulgaria

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

Bulgaria's best-ranked innovation strengths are **ISO 14001 environment/bn PPP$ GDP** (rank 1), **ISO 9001 quality/bn PPP$ GDP** (rank 1) and **Domestic industry diversification** (rank 10).

Strengths

Rank	Code	Indicator name
1	3.3.3	ISO 14001 environment/bn PPP$ GDP
1	6.3.5	ISO 9001 quality/bn PPP$ GDP
10	4.3.2	Domestic industry diversification
10	6.1.3	Utility models by origin/bn PPP$ GDP
11	7.2.1	Cultural and creative services exports, % total trade
12	2.1.2	Government funding/pupil, secondary, % GDP/cap
15	6.3.4	ICT services exports, % total trade
19	4.2.5	VC investor co-participation/bn PPP$ GDP
20	6.2.1	Labor productivity growth, %
21	7.1.4	Industrial designs by origin/bn PPP$ GDP

Weaknesses

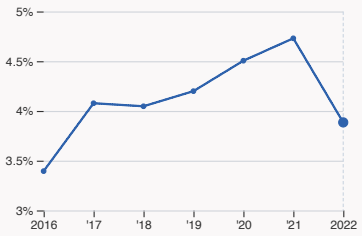
Rank	Code	Indicator name
127	5.1.3	Youth demographic dividend, %
105	3.2.3	Gross capital formation, % GDP
105	1.3.1	Policy stability for doing business†
95	5.2.3	University industry & international engagement, top 5*
81	7.1.3	Global brand value, top 5,000, % GDP
76	2.2.2	Graduates in science and engineering, %
64	1.3.2	Entrepreneurship policies and culture†
61	4.2.1	Market capitalization, % 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

Bulgaria's innovation system

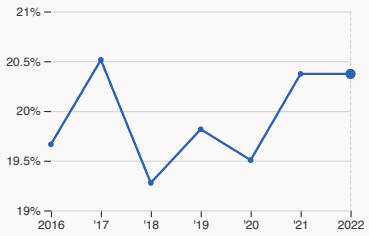
As far as practicable, the plots below present unscaled indicator data.

Innovation inputs in Bulgaria



2.1.1 Expenditure on education

was equal to 3.88 % GDP in 2022, down by 0.85 percentage points from the year prior – and equivalent to an indicator rank of 85.

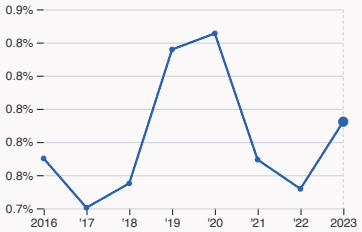


2.2.2 Graduates in science and engineering

was equal to 20.37 % of total graduates in 2022 with no change from the year prior – and equivalent to an indicator rank of 76.

2.3.1 Researchers

was equal to 2537.15 FTE per million population in 2023, down by 6.2% from the year prior – and equivalent to an indicator rank of 37.



2.3.2 Gross expenditure on R&D

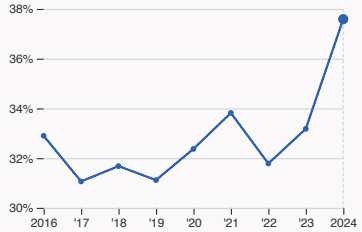
was equal to 0.79 % GDP in 2023, up by 0.04 percentage points from the year prior – and equivalent to an indicator rank of 48.

2.3.4 QS university ranking

was equal to an average score of 6.33 for the top three universities in 2024, up by 20.11% from the year prior – and equivalent to an indicator rank of 76.

4.3.2 Domestic industry diversification

was equal to an index score of 0.086 in 2022, down by 0.65% from the year prior – and equivalent to an indicator rank of 10.



5.1.1 Knowledge-intensive employment

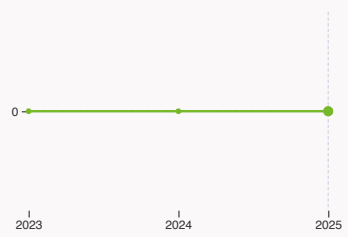
was equal to 37.59 % of total workforce in 2024, up by 4.41 percentage points from the year prior – and equivalent to an indicator rank of 39.

Global Innovation Index 2025

Innovation outputs in Bulgaria

6.1.1 Patents by origin

was equal to 226 patents in 2023, up by 6.6% from the year prior – and equivalent to an indicator rank of 58.

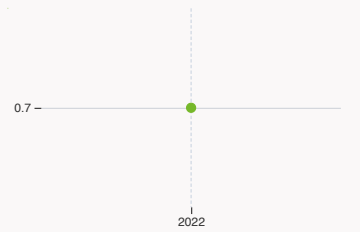


6.2.2 Unicorn valuation

The country does not have unicorns in 2025.

6.2.4 High-tech manufacturing

was equal to 14.51 high-tech manufacturing output in billion USD in 2022, up by 14.79% from the year prior – and equivalent to an indicator rank of 42.

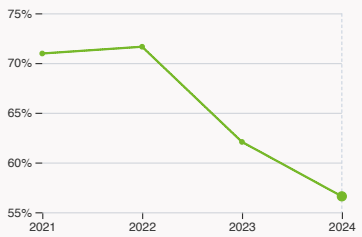


6.3.2 Production and export complexity

was equal to a score of 0.7 in 2022 – and equivalent to an indicator rank of 37.

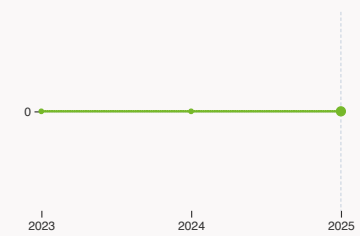
6.3.3 High-tech exports

was equal to 3.22 billion USD in 2023, up by 16.67% from the year prior – and equivalent to an indicator rank of 40.



7.1.1 Intangible asset intensity, top 15

was equal to 56.6 % for the top 15 companies in 2024, down by 5.47 percentage points from the year prior – and equivalent to an indicator rank of 41.



7.1.3 Global brand value, top 5,000

The country does not have any brands that make the top 5,000 ranking in 2025.

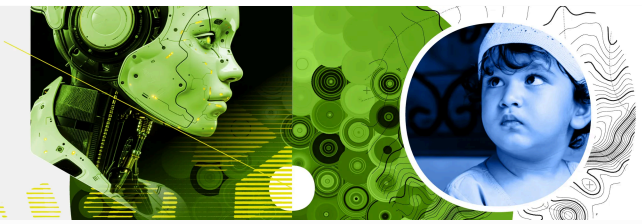
7.2.2 National feature films

was equal to 31 films in 2023, up by 24% from the year prior – and equivalent to an indicator rank of 26.

7.3.3 Mobile app creation

was equal to 71.59 million global downloads of mobile apps in 2024, down by 28.24% from the year prior – and equivalent to an indicator rank of 49.

Global Innovation Index 2025



Bulgaria's innovation top performers

Data not available for 2.3.3 Global corporate R&D investors, 6.2.2 Top Unicorn Companies and 7.1.3 Global brand value, top 5,000.

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 Bulgaria's top universities

Rank	University	Score
661-670	SOFIA UNIVERSITY "ST. KLIMENT OHRIDSKI"	19.00

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	MEDICAL UNIVERSITY OF SOFIA	49.45
2	SOFIA UNIVERSITY	32.95
3	TECHNICAL UNIVERSITY OF SOFIA	29.30

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 Bulgaria

Rank	Firm	Intensity, %
1	SHELLY GROUP AD	90.82
2	SOPHARMA AD	27.05
3	VELGRAF ASSET MANAGEMENT AD	57.56

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

Bulgaria

GII 2025 rank **37**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
31	44	High	Europe	6.8	248.9	39,185.3

	Score / Value	Rank	
Institutions	**46**	**81**	◇
1.1 Institutional environment	**54.8**	**66**	◇
1.1.1 Operational stability for businesses*	65.3	58	
1.1.2 Government effectiveness*	44.2	69	◇
1.2 Regulatory environment	**54.1**	**60**	◇
1.2.1 Regulatory quality*	56.2	53	◇
1.2.2 Rule of law*	52.1	63	◇
1.3 Business environment	**29.2**	**101**	◇
1.3.1 Policy stability for doing business†	29.4	105	○ ◇
1.3.2 Entrepreneurship policies and culture†	29	64	○
Human capital and research	**32.7**	**64**	◇
2.1 Education	**52.9**	**62**	
2.1.1 Expenditure on education, % GDP	3.9	85	
2.1.2 Government funding/pupil, secondary, % GDP/cap	27.3	12	●
2.1.3 School life expectancy, years	15.1	50	
2.1.4 PISA scales in reading, maths and science	414.2	52	◇
2.1.5 Pupil–teacher ratio, secondary	11.6	49	
2.2 Tertiary education	**34.3**	**53**	
2.2.1 Tertiary enrolment, % gross	79.9	24	
2.2.2 Graduates in science and engineering, %	20.4	76	○
2.2.3 Tertiary inbound mobility, %	8.7	36	
2.3 Research and development (R&D)	**10.8**	**61**	◇
2.3.1 Researchers, FTE/mn pop.	2,537.2	37	
2.3.2 Gross expenditure on R&D, % GDP	0.8	48	
2.3.3 Global corporate R&D investors, top 3, mn USD	0	44	○ ◇
2.3.4 QS university ranking, top 3*	6.5	76	◇
Infrastructure	**57.1**	**22**	
3.1 Information and communication technologies (ICTs)	**84.5**	**46**	
3.1.1 ICT access*	95.1	44	
3.1.2 ICT use*	85.8	32	
3.1.3 Government's online service*	72.7	57	
3.2 General infrastructure	**33.3**	**68**	
3.2.1 Electricity output, GWh/mn pop.	6,248.8	32	
3.2.2 Logistics performance*	50	50	
3.2.3 Gross capital formation, % GDP	19.6	105	○
3.3 Ecological sustainability	**53.4**	**2**	◆
3.3.1 GDP/unit of energy use	9.5	81	
3.3.2 Low-carbon energy use, %	34.2	30	
3.3.3 ISO 14001 environment/bn PPP$ GDP	11.9	1	● ◆
Market sophistication	**45.6**	**35**	
4.1 Credit	**39.5**	**38**	
4.1.1 Finance for startups and scaleups†	63.7	25	
4.1.2 Domestic credit to private sector, % GDP	45.2	75	
4.1.3 Loans from microfinance institutions, % GDP	n/a	n/a	
4.2 Investment	**18.1**	**34**	
4.2.1 Market capitalization, % GDP	20.8	61	○
4.2.2 Venture capital (VC) received, deal count/bn PPP$ GDP	0.3	22	
4.2.3 Late-stage VC deal count, % global VC	0.04	47	
4.2.4 VC investors, deal count/bn PPP$ GDP	0.5	26	
4.2.5 VC investor co-participation/bn PPP$ GDP	0.4	19	●
4.3 Trade, diversification and market scale	**79.3**	**31**	
4.3.1 Applied tariff rate, weighted avg., %	1.3	24	
4.3.2 Domestic industry diversification	96.1	10	●
4.3.3 Domestic market scale, bn PPP$	248.9	72	

	Score / Value	Rank	
Business sophistication	**32.7**	**50**	
5.1 Knowledge workers	**39.1**	**57**	
5.1.1 Knowledge-intensive employment, %	37.6	39	
5.1.2 Females employed w/advanced degrees, %	22.5	26	
5.1.3 Youth demographic dividend, %	24.3	127	○
5.1.4 GERD performed by business, % GDP	0.5	38	
5.1.5 GERD financed by business, %	34.7	55	
5.2 Innovation linkages	**25.3**	**66**	◇
5.2.1 Public research–industry co-publications, %	1.9	47	
5.2.2 University–industry R&D collaboration†	40.2	51	
5.2.3 University industry & international engagement, top 5*	9.8	95	○ ◇
5.2.4 State of cluster development†	54	53	
5.2.5 Patent families/bn PPP$ GDP	0.1	49	
5.3 Knowledge absorption	**33.7**	**41**	
5.3.1 Intellectual property payments, % total trade	0.5	71	
5.3.2 High-tech imports, % total trade	9.3	50	
5.3.3 ICT services imports, % total trade	1.4	70	
5.3.4 FDI net inflows, % GDP	4.1	38	
5.3.5 Research talent, % in businesses	49.3	25	
Knowledge and technology outputs	**33.2**	**28**	
6.1 Knowledge creation	**21.2**	**50**	
6.1.1 Patents by origin/bn PPP$ GDP	1	58	
6.1.2 PCT patents by inventor origin/bn PPP$ GDP	0.2	47	
6.1.3 Utility models by origin/bn PPP$ GDP	1.4	10	● ◆
6.1.4 Scientific and technical articles/bn PPP$ GDP	12.2	56	
6.1.5 Citable documents H-index	16	53	
6.2 Knowledge impact	**28.9**	**55**	
6.2.1 Labor productivity growth, %	2.3	20	● ◆
6.2.2 Unicorn valuation, % GDP	0	53	○ ◇
6.2.3 Software spending, % GDP	0.2	72	
6.2.4 High-tech manufacturing, %	29.7	42	
6.3 Knowledge diffusion	**49.6**	**15**	
6.3.1 Intellectual property receipts, % total trade	0.5	31	
6.3.2 Production and export complexity	64.5	37	
6.3.3 High-tech exports, % total trade	5.3	40	
6.3.4 ICT services exports, % total trade	6.2	15	●
6.3.5 ISO 9001 quality/bn PPP$ GDP	29.9	1	● ◆
Creative outputs	**37.5**	**32**	
7.1 Intangible assets	**38.8**	**38**	
7.1.1 Intangible asset intensity, top 15, %	56.6	41	
7.1.2 Trademarks by origin/bn PPP$ GDP	61.2	23	
7.1.3 Global brand value, top 5,000, % GDP	0	81	○ ◇
7.1.4 Industrial designs by origin/bn PPP$ GDP	3.7	21	●
7.2 Creative goods and services	**31.9**	**27**	
7.2.1 Cultural and creative services exports, % total trade	2.5	11	●
7.2.2 National feature films/mn pop. 15–69	6.5	26	
7.2.3 Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4 Creative goods exports, % total trade	0.8	49	
7.3 Online creativity	**40.5**	**36**	
7.3.1 Top-level domains (TLDs)/th pop. 15–69	15.8	40	
7.3.2 GitHub commits/mn pop. 15–69	36.3	31	
7.3.3 Mobile app creation/bn PPP$ GDP	69.4	49	

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.

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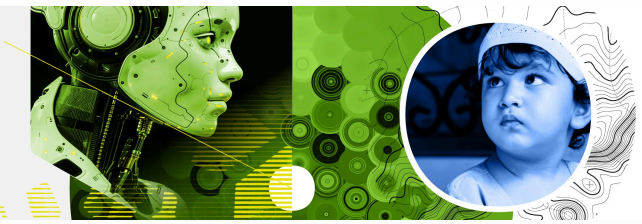

Data Availability

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

Bulgaria has missing data for two indicators and outdated data for four indicators.

Missing data for Bulgaria

Code	Indicator name	Economy year	Model year*	Source
4.1.3	Loans from microfinance institutions, % GDP	n/a	2023	International Monetary Fund, Financial Access Survey (FAS)
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2024	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund

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

Outdated data for Bulgaria

Code	Indicator name	Economy year	Model year*	Source
1.3.2	Entrepreneurship policies and culture†	2019	2024	Global Entrepreneurship Monitor
2.1.1	Expenditure on education, % GDP	2022	2023	UNESCO Institute for Statistics
2.1.5	Pupil–teacher ratio, secondary	2022	2023	UNESCO Institute for Statistics
4.1.1	Finance for startups and scaleups†	2019	2024	Global Entrepreneurship Monitor

*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.