Global Innovation Index 2025

Croatia ranking in the Global Innovation Index 2025

Croatia ranks 40th 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.

Croatia ranks 37th among the 54 High-income group economies.

Croatia ranks 26th among the 39 economies in Europe.

Croatia GII Ranking (2020-2025)

The table shows the rankings of Croatia 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 Croatia in the GII 2025 is between ranks 39 and 43.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	41st	44th	43rd
2021	42nd	41st	48th
2022	42nd	45th	40th
2023	44th	43rd	44th
2024	43rd	42nd	40th
2025	40th	40th	41st

Croatia performs worse in innovation outputs than innovation inputs in 2025.

This year Croatia ranks 40th in innovation inputs. This position is higher than last year.

Croatia ranks 41st in innovation outputs. This position is lower than last year.

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

For Croatia, 6 indicators have improved in the short-term and 5 indicators have worsened.

Science and innovation investment

	Scientific publications	R&D investments	Venture capital deal numbers	International patent filings
Short term	▼ -5 % 2023 - 2024	▲ 1 % 2022 - 2023	▲ 43.8 % 2023 - 2024	▼ -46.7 % 2023 - 2024
Long term (annual growth)	▲ 3.9 % 2014 - 2024	▲ 8.8 % 2013 - 2023	▼ -17.2 % 2020 - 2024	▼ -7.8 % 2014 - 2024

Technology adoption

	Safe sanitation	Connectivity		Robots	Electric vehicles
		Fixed broadband	5G		
Short term	▼ -0.2% 2020 - 2021	▲ 2.6% 2022 - 2023	▲ 26.7% 2022 - 2023	▲ 14.3% 2022 - 2023	n/a
Long term (annual growth)	▼ -0.3% 2011 - 2021	▲ 1.5% 2013 - 2023	n/a	▲ 17.1% 2013 - 2023	n/a
Penetration	74.7 per 100 inhabitants in 2021	28.5 per 100 inhabitants in 2023	97.5 per 100 inhabitants in 2023	n/a	n/a

Socioeconomic impact

	Labor productivity	Life expectancy	Temperature change
Short term	▼ -1.2 % 2023 - 2024	▲ 0.4 % 2022 - 2023	+ 3.4 °C 2024
Long term (annual growth)	▲ 1.3 % 2014 - 2024	▲ 0.1 % 2013 - 2023	+ 2 °C 2014
Level	98,245 USD in 2024	78.6 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 Croatia 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.

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

> Relationship between innovation inputs and outputs

Global Innovation Index 2025

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

Highest Rankings

Croatia ranks highest in Infrastructure (16th), Knowledge and technology outputs (37th) and Human capital and research (40th).

Lowest Rankings

Croatia ranks lowest in Institutions (65th), Market sophistication (54th) and Business sophistication (53rd).

* Human capital and research

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

Global Innovation Index 2025

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

High-income economies

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

Europe

Croatia performs above the regional average in Infrastructure.

Institutions

- Top 10 | Score: 78.63
- High-income | Score: 65.99
- Europe | Score: 59.42
- Croatia | Score: 51.00

Human capital and research

- Top 10 | Score: 59.30
- High-income | Score: 45.45
- Europe | Score: 44.67
- Croatia | Score: 40.27

Infrastructure

- Top 10 | Score: 61.36
- Croatia | Score: 57.99
- 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
- Croatia | Score: 39.93

Business sophistication

- Top 10 | Score: 59.10
- High-income | Score: 42.22
- Europe | Score: 40.79
- Croatia | Score: 31.73

Knowledge and technology outputs

- Top 10 | Score: 54.93
- Europe | Score: 34.99
- High-income | Score: 33.94
- Croatia | Score: 30.30

Creative outputs

- Top 10 | Score: 55.98
- High-income | Score: 38.68
- Europe | Score: 38.66
- Croatia | Score: 32.05

Global Innovation Index 2025

Innovation strengths and weaknesses in Croatia

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

Croatia's best-ranked innovation strengths are **Pupil–teacher ratio, secondary** (rank 1), **ISO 14001 environment/bn PPP$ GDP** (rank 6) and **Domestic industry diversification** (rank 8).

Strengths

Rank	Code	Indicator name
1	2.1.5	Pupil–teacher ratio, secondary
6	3.3.3	ISO 14001 environment/bn PPP$ GDP
8	4.3.2	Domestic industry diversification
9	6.3.5	ISO 9001 quality/bn PPP$ GDP
14	7.2.2	National feature films/mn pop. 15–69
14	6.2.2	Unicorn valuation, % GDP
16	7.2.1	Cultural and creative services exports, % total trade
18	3.1.2	ICT use*
21	2.2.1	Tertiary enrolment, % gross
24	5.3.4	FDI net inflows, % GDP

Weaknesses

Rank	Code	Indicator name
128	5.1.3	Youth demographic dividend, %
113	6.2.3	Software spending, % GDP
101	5.2.2	University–industry R&D collaboration†
99	1.3.1	Policy stability for doing business†
86	1.3.2	Entrepreneurship policies and culture†
83	5.2.3	University industry & international engagement, top 5*
82	5.2.4	State of cluster development†
82	7.1.2	Trademarks by origin/bn PPP$ GDP
75	7.1.3	Global brand value, top 5,000, % GDP
44	2.3.3	Global corporate R&D investors, top 3, mn USD

Global Innovation Index 2025

Croatia's innovation system

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

Innovation inputs in Croatia

2.1.1 Expenditure on education

was equal to 4.77 % GDP in 2022, up by 0.72 percentage points from the year prior – and equivalent to an indicator rank of 48.

2.2.2 Graduates in science and engineering

was equal to 28.73 % of total graduates in 2022, up by 0.81 percentage points from the year prior – and equivalent to an indicator rank of 27.

2.3.1 Researchers

was equal to 2543.64 FTE per million population in 2023, down by 0.89% from the year prior – and equivalent to an indicator rank of 36.

2.3.2 Gross expenditure on R&D

was equal to 1.39 % GDP in 2023, down by 0.03 percentage points from the year prior – and equivalent to an indicator rank of 32.

2.3.4 QS university ranking

was equal to an average score of 6.37 for the top three universities in 2024, up by 21.8% from the year prior – and equivalent to an indicator rank of 75.

4.3.2 Domestic industry diversification

was equal to an index score of 0.084 in 2021, up by 1.35% from the year prior – and equivalent to an indicator rank of 8.

5.1.1 Knowledge-intensive employment

was equal to 42.27 % of total workforce in 2024, up by 2.16 percentage points from the year prior – and equivalent to an indicator rank of 28.

Global Innovation Index 2025

Innovation outputs in Croatia

6.1.1 Patents by origin

was equal to 215 patents in 2023, up by 39.61% from the year prior – and equivalent to an indicator rank of 46.

6.2.2 Unicorn valuation

was equal to 3.12 % GDP in 2025, down by 0.36 percentage points from the year prior – and equivalent to an indicator rank of 14.

6.2.4 High-tech manufacturing

was equal to 5.01 high-tech manufacturing output in billion USD in 2021, up by 8.68% from the year prior – and equivalent to an indicator rank of 61.

6.3.2 Production and export complexity

was equal to a score of 0.91 in 2022 – and equivalent to an indicator rank of 30.

6.3.3 High-tech exports

was equal to 1.87 billion USD in 2023, up by 1.08% from the year prior – and equivalent to an indicator rank of 45.

7.1.1 Intangible asset intensity, top 15

was equal to 55.18 % for the top 15 companies in 2024, up by 4.71 percentage points from the year prior – and equivalent to an indicator rank of 43.

7.1.3 Global brand value, top 5,000

was equal to 261.57 million USD in 2025, up by 47.4% from the year prior – and equivalent to an indicator rank of 75.

7.2.2 National feature films

was equal to 24 films in 2023, down by 14.29% from the year prior – and equivalent to an indicator rank of 14.

7.3.3 Mobile app creation

was equal to 43.2 million global downloads of mobile apps in 2024, down by 17.57% from the year prior – and equivalent to an indicator rank of 58.

Global Innovation Index 2025

Croatia's innovation top performers

Data not available for 2.3.3 Global corporate R&D investors.

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 Croatia's top universities

Rank	University	Score
651-660	UNIVERSITY OF ZAGREB	19.10
1201-1400	THE JOSIP JURAJ STROSSMAYER UNIVERSITY OF OSIJEK	6.90
1201-1400	UNIVERSITY OF RIJEKA	6.50

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	UNIVERSITY OF ZAGREB	49.25
2	UNIVERSITY OF SPLIT	30.40
3	UNIVERSITY OF RIJEKA	30.25

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.

6.2.2 Top Unicorn Companies in Croatia

Rank	Unicorn Company	Industry	City	Valuation, bn USD
1	RIMAC AUTOMOBILI	Industrials	Sveta Nedelja	2
2	INFOBIP	Enterprise Tech	Vodnjan	1

Source: CBInsights, Tracker – The Complete List of Unicorn Companies: https://www.cbinsights.com/research-unicorn-companies.

7.1.1 Top 15 intangible-asset intensive companies in Croatia

Rank	Firm	Intensity, %
1	INA-INDUSTRIJA NAFTE, D.D.	57.55
2	DURO DAKOVIC GRUPA D.D.	94.02
3	PODRAVKA D.D.	52.05

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 Croatia with highest global brand value

Rank	Brand	Industry	Brand Value, mn USD
1	ZAGREBACKA BANKA	Banking	261.6

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

Croatia

GII 2025 rank **40**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
41	40	High	Europe	3.9	187.2	48,811.1

	Score / Value	Rank	
Institutions	**51**	**65**	◇
1.1 Institutional environment	**68.3**	**36**	
1.1.1 Operational stability for businesses*	76	32	
1.1.2 Government effectiveness*	60.6	39	
1.2 Regulatory environment	**61.3**	**46**	
1.2.1 Regulatory quality*	61.6	44	
1.2.2 Rule of law*	61	54	
1.3 Business environment	**23.4**	**117**	◇
1.3.1 Policy stability for doing business†	33.3	99	○ ◇
1.3.2 Entrepreneurship policies and culture†	13.5	86	○ ◇
Human capital and research	**40.3**	**40**	
2.1 Education	**68.6**	**9**	◆
2.1.1 Expenditure on education, % GDP	4.8	48	
2.1.2 Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3 School life expectancy, years	16.3	31	
2.1.4 PISA scales in reading, maths and science	473.8	34	
2.1.5 Pupil–teacher ratio, secondary	6.1	1	● ◆
2.2 Tertiary education	**39.1**	**34**	
2.2.1 Tertiary enrolment, % gross	80.8	21	●
2.2.2 Graduates in science and engineering, %	28.7	27	
2.2.3 Tertiary inbound mobility, %	3.6	62	
2.3 Research and development (R&D)	**13.2**	**56**	
2.3.1 Researchers, FTE/mn pop.	2,543.6	36	
2.3.2 Gross expenditure on R&D, % GDP	1.4	32	
2.3.3 Global corporate R&D investors, top 3, mn USD	0	44	○ ◇
2.3.4 QS university ranking, top 3*	6.5	75	◇
Infrastructure	**58**	**16**	
3.1 Information and communication technologies (ICTs)	**91.1**	**18**	
3.1.1 ICT access*	97.2	27	
3.1.2 ICT use*	91.3	18	●
3.1.3 Government's online service*	84.8	31	
3.2 General infrastructure	**36.3**	**54**	
3.2.1 Electricity output, GWh/mn pop.	4,485.6	46	
3.2.2 Logistics performance*	54.5	42	
3.2.3 Gross capital formation, % GDP	23.4	73	
3.3 Ecological sustainability	**46.7**	**6**	◆
3.3.1 GDP/unit of energy use	15.5	32	
3.3.2 Low-carbon energy use, %	31.8	36	
3.3.3 ISO 14001 environment/bn PPP$ GDP	8	6	● ◆
Market sophistication	**39.9**	**54**	
4.1 Credit	**34**	**53**	
4.1.1 Finance for startups and scaleups†	51.7	45	
4.1.2 Domestic credit to private sector, % GDP	47.1	72	
4.1.3 Loans from microfinance institutions, % GDP	n/a	n/a	
4.2 Investment	**7.3**	**58**	
4.2.1 Market capitalization, % GDP	32	46	
4.2.2 Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	43	
4.2.3 Late-stage VC deal count, % global VC	0.01	61	
4.2.4 VC investors, deal count/bn PPP$ GDP	0.2	43	
4.2.5 VC investor co-participation/bn PPP$ GDP	0.07	53	
4.3 Trade, diversification and market scale	**78.5**	**36**	
4.3.1 Applied tariff rate, weighted avg., %	1.3	24	
4.3.2 Domestic industry diversification	96.5	8	●
4.3.3 Domestic market scale, bn PPP$	187.2	78	

	Score / Value	Rank	
Business sophistication	**31.7**	**53**	
5.1 Knowledge workers	**42.2**	**49**	
5.1.1 Knowledge-intensive employment, %	42.3	28	
5.1.2 Females employed w/advanced degrees, %	21	32	
5.1.3 Youth demographic dividend, %	24.2	128	○
5.1.4 GERD performed by business, % GDP	0.8	34	
5.1.5 GERD financed by business, %	40.4	43	
5.2 Innovation linkages	**22.9**	**79**	◇
5.2.1 Public research–industry co-publications, %	3	27	
5.2.2 University–industry R&D collaboration†	24	101	○ ◇
5.2.3 University industry & international engagement, top 5*	14.1	83	○ ◇
5.2.4 State of cluster development†	41.7	82	○ ◇
5.2.5 Patent families/bn PPP$ GDP	0.1	52	
5.3 Knowledge absorption	**30.1**	**56**	
5.3.1 Intellectual property payments, % total trade	1	37	
5.3.2 High-tech imports, % total trade	8	68	
5.3.3 ICT services imports, % total trade	1.6	56	
5.3.4 FDI net inflows, % GDP	5.6	24	●
5.3.5 Research talent, % in businesses	25.4	50	
Knowledge and technology outputs	**30.3**	**37**	
6.1 Knowledge creation	**20**	**53**	
6.1.1 Patents by origin/bn PPP$ GDP	1.2	46	
6.1.2 PCT patents by inventor origin/bn PPP$ GDP	0.3	39	
6.1.3 Utility models by origin/bn PPP$ GDP	0.1	49	
6.1.4 Scientific and technical articles/bn PPP$ GDP	23.6	26	
6.1.5 Citable documents H-index	18	48	
6.2 Knowledge impact	**34.7**	**39**	
6.2.1 Labor productivity growth, %	1.6	43	
6.2.2 Unicorn valuation, % GDP	3.1	14	●
6.2.3 Software spending, % GDP	0.05	113	○ ◇
6.2.4 High-tech manufacturing, %	20.6	61	
6.3 Knowledge diffusion	**36.1**	**31**	
6.3.1 Intellectual property receipts, % total trade	0.3	39	
6.3.2 Production and export complexity	69.1	30	
6.3.3 High-tech exports, % total trade	4.1	45	
6.3.4 ICT services exports, % total trade	4	30	
6.3.5 ISO 9001 quality/bn PPP$ GDP	16.6	9	● ◆
Creative outputs	**32.1**	**44**	
7.1 Intangible assets	**30.1**	**60**	
7.1.1 Intangible asset intensity, top 15, %	55.2	43	
7.1.2 Trademarks by origin/bn PPP$ GDP	23.4	82	○
7.1.3 Global brand value, top 5,000, % GDP	0.3	75	○ ◇
7.1.4 Industrial designs by origin/bn PPP$ GDP	1.8	40	
7.2 Creative goods and services	**29.7**	**34**	
7.2.1 Cultural and creative services exports, % total trade	1.8	16	●
7.2.2 National feature films/mn pop. 15–69	8.8	14	●
7.2.3 Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4 Creative goods exports, % total trade	0.6	56	
7.3 Online creativity	**38.3**	**37**	
7.3.1 Top-level domains (TLDs)/th pop. 15–69	16.7	39	
7.3.2 GitHub commits/mn pop. 15–69	30.5	34	
7.3.3 Mobile app creation/bn PPP$ GDP	67.8	58	

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 Croatia.

Croatia has missing data for three indicators and outdated data for seven indicators.

Missing data for Croatia

Code	Indicator name	Economy year	Model year*	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2021	UNESCO Institute for Statistics
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 Croatia

Code	Indicator name	Economy year	Model year*	Source
2.1.1	Expenditure on education, % GDP	2022	2023	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2022	2023	UNESCO Institute for Statistics
2.1.5	Pupil–teacher ratio, secondary	2022	2023	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2022	2023	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	2022	2023	UNESCO Institute for Statistics
4.3.2	Domestic industry diversification	2021	2022	United Nations Industrial Development Organization (UNIDO)
6.2.4	High-tech manufacturing, %	2021	2022	United Nations Industrial Development Organization (UNIDO)

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

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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.