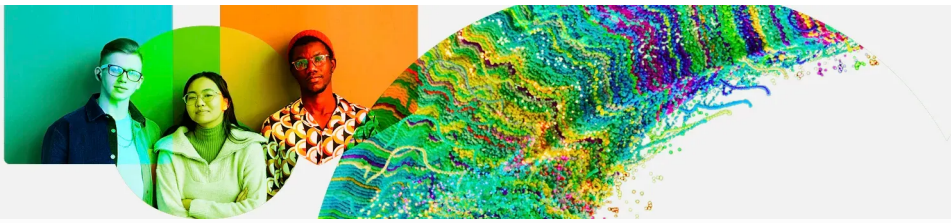
Global Innovation Index 2024



Lithuania ranking in the Global Innovation Index 2024

Lithuania ranks 35th among the 133 economies featured in the GII 2024.

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.

Lithuania ranks 33rd among the 51 high-income group economies.

Lithuania ranks 22nd among the 39 economies in Europe.

Lithuania GII Ranking (2020-2024)

The table shows the rankings of Lithuania 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 Lithuania in the GII 2024 is between ranks 34 and 39.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	40th	36th	42nd
2021	39th	35th	43rd
2022	39th	34th	47th
2023	34th	32nd	37th
2024	35th	30th	42nd

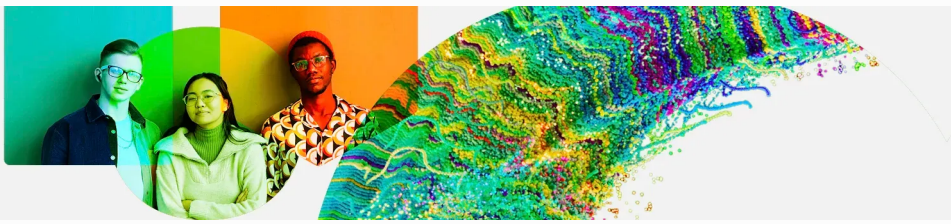
Lithuania performs worse in innovation outputs than innovation inputs in 2024.

This year **Lithuania ranks 30th in innovation inputs.** This position is higher than last year.

Lithuania ranks 42nd in innovation outputs. This position is lower than last year.

Lithuania has no clusters in the top 100 S&T clusters of the Global Innovation Index.

Global Innovation Index 2024



> Global Innovation Tracker

The Global Innovation Tracker 2024 shows what is the current state of innovation in Lithuania, how rapidly is technology being embraced and what are the resulting societal impacts.

For Lithuania, 8 indicators have improved in the short-term and 4 indicators have worsened.

Science and innovation investment

Scientific publications	R&D investments	Venture capital		International patent filings
		Deal numbers	Deal values	
▼ -5.5% 2022 - 2023	▼ -4.9% 2021 - 2022	▲ 40% 2022 - 2023	▲ 26.8% 2022 - 2023	▲ 13.2% 2022 - 2023
▲ 5.5% 2013 - 2023	▲ 4.7% 2012 - 2022	▲ 10.8% 2013 - 2023	▲ 38.8% 2013 - 2023	▲ 0.7% 2013 - 2023

Technology adoption

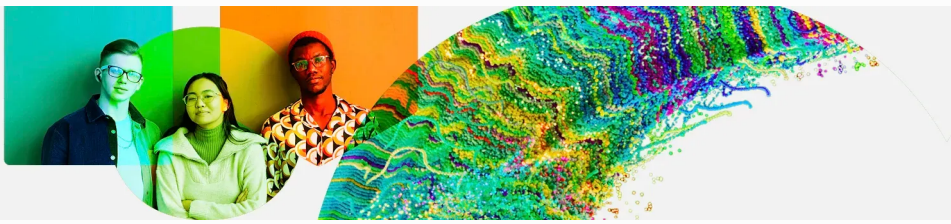
Safe sanitation	Connectivity		Robots	Electric vehicles
	Fixed broadband	5G		
▲ 0.5% 2021 - 2022	▲ 2.2% 2021 - 2022	▲ 185% 2021 - 2022	▲ 32.2% 2021 - 2022	n/a
▲ 1% 2012 - 2022	▲ 1.6% 2012 - 2022		▲ 40.2% 2012 - 2022	n/a
95.3 per 100 inhabitants in 2022	29.4 per 100 inhabitants in 2022	90.9 per 100 inhabitants in 2022		n/a

Socioeconomic impact

Labor productivity	Life expectancy	Temperature change
▼ -2.8% 2022 - 2023	▲ 2.4% 2021 - 2022	▲ 2.5°C 2023
▲ 1.7% 2013 - 2023	▲ 0.3% 2012 - 2022	n/a
93,714 USD in 2023	75.8 years in 2022	

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 country from 1951–1980. Figures are rounded.

Global Innovation Index 2024



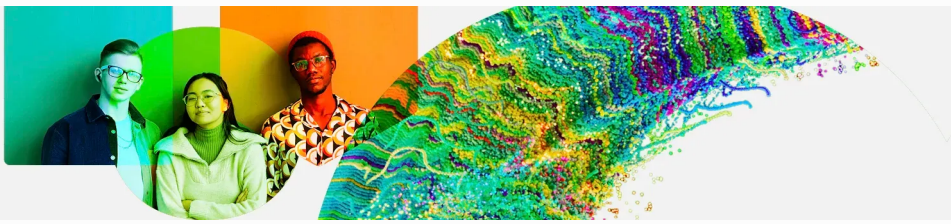
Expected vs. observed innovation performance

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, Lithuania's performance is at expectations for its level of development.

> Innovation overperformers relative to their economic development

Global Innovation Index 2024

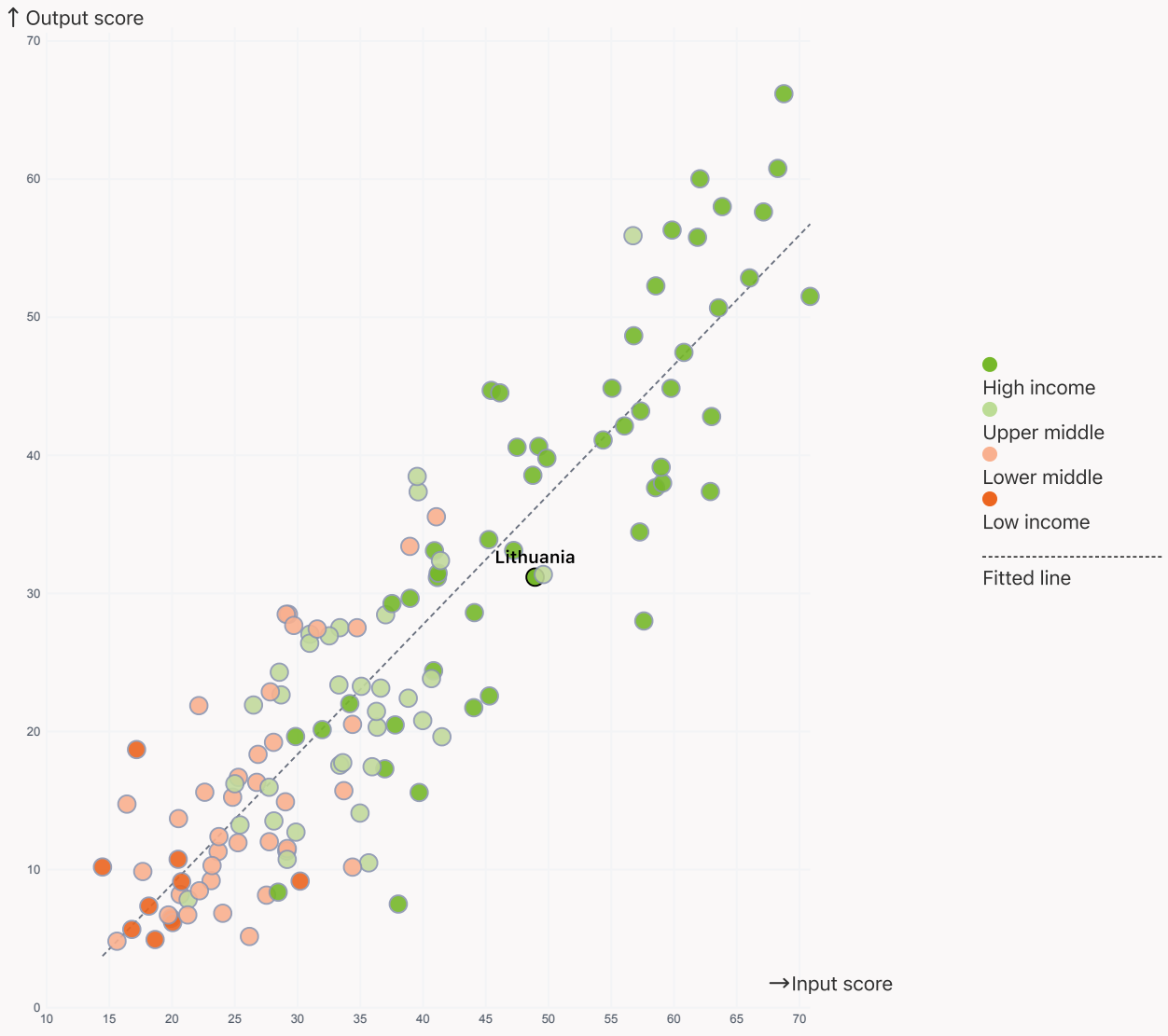


Effectively translating innovation investments into innovation outputs

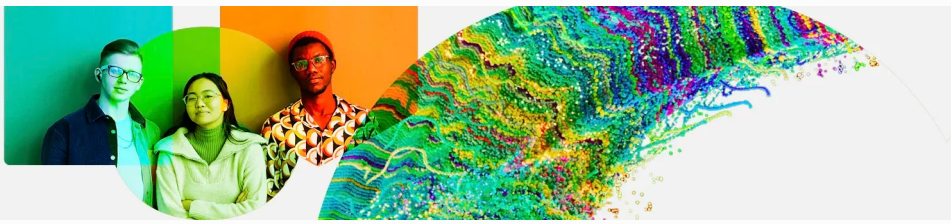
The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

Lithuania produces less innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

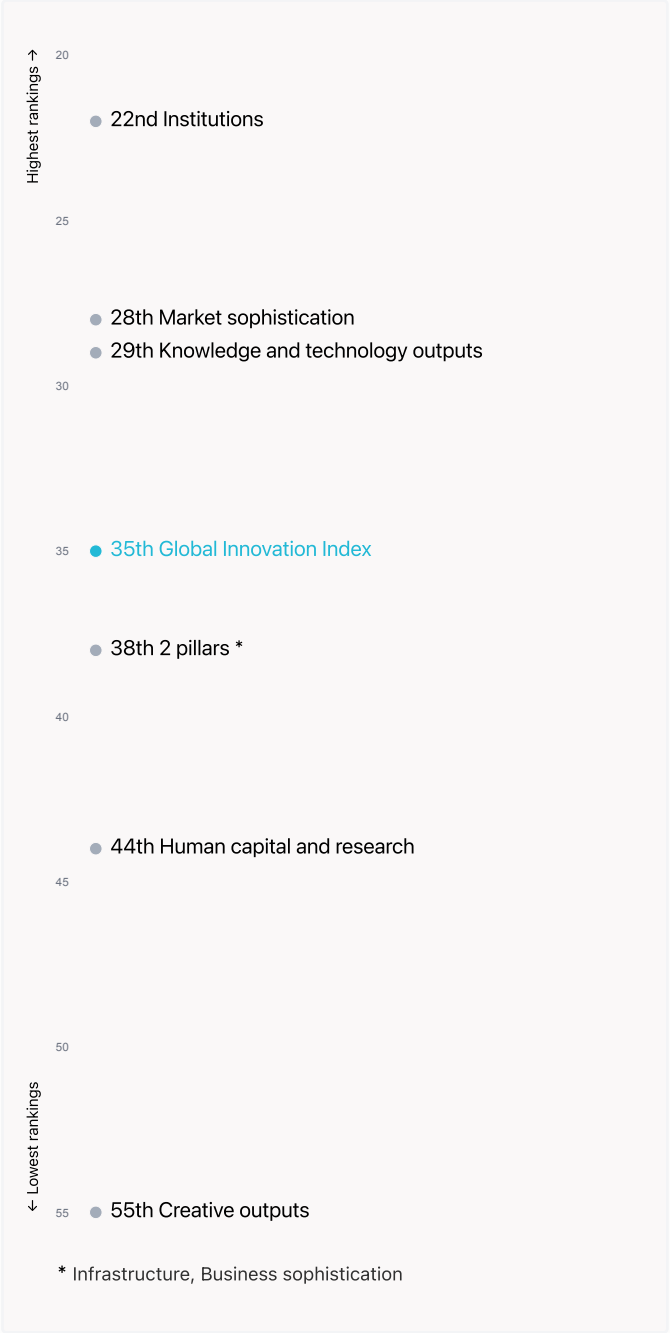


Global Innovation Index 2024



Overview of Lithuania's rankings in the seven areas of the GII in 2024

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



Highest rankings

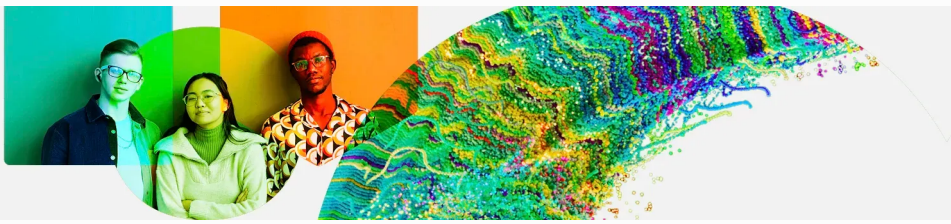
Lithuania ranks highest in Institutions (22nd), Market sophistication (28th) and Knowledge and technology outputs (29th).

Lowest rankings

Lithuania ranks lowest in Creative outputs (55th), Human capital and research (44th) and Infrastructure, Business sophistication (38th).

The full WIPO Intellectual Property Statistics profile for Lithuania can be found on this link.

Global Innovation Index 2024



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

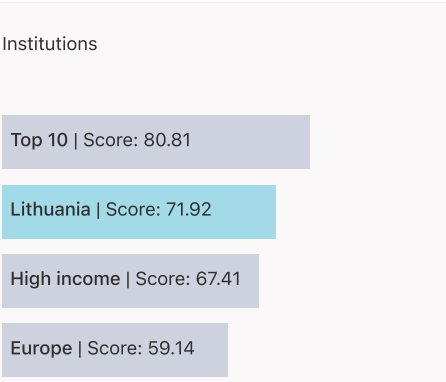
The charts shows the relative position of Lithuania (blue bar) against other economy groupings (grey bars), for each of the seven areas of the GII Index.

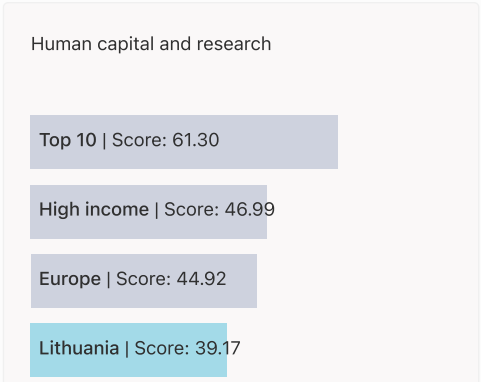
High-Income economies

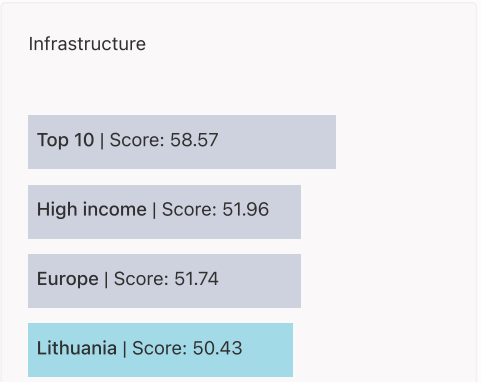
Lithuania performs above the high-income group average in Institutions, Market sophistication.

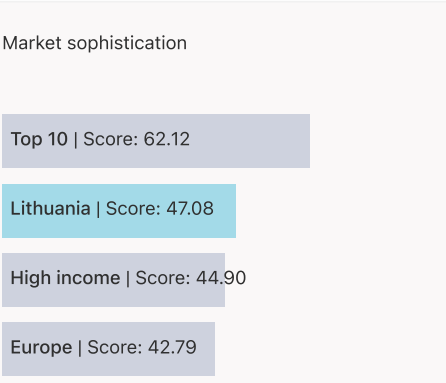
Europe

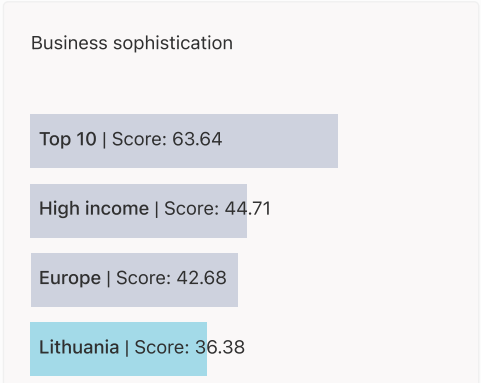
Lithuania performs above the regional average in Institutions, Market sophistication.

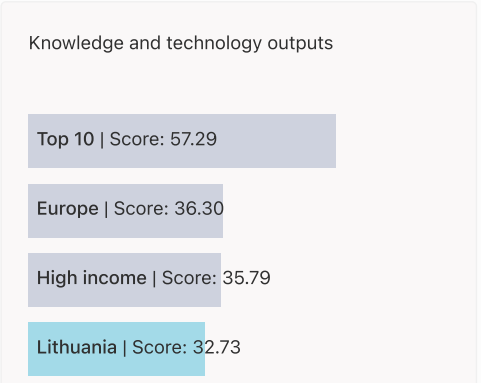


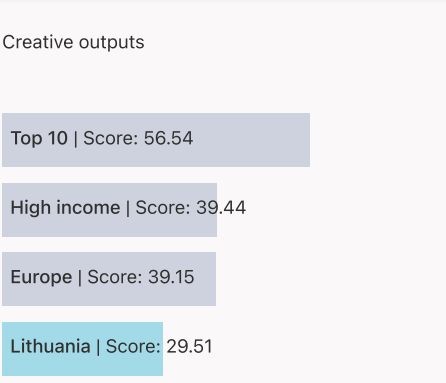




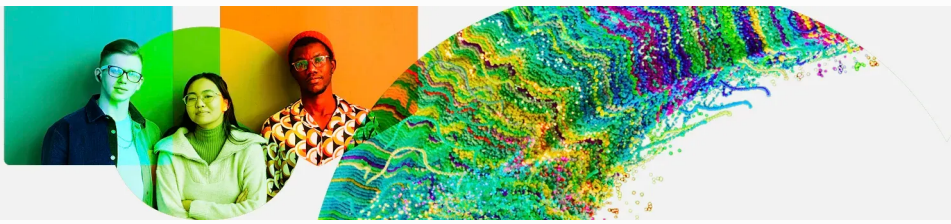








Global Innovation Index 2024



Innovation strengths and weaknesses in Lithuania

The table below gives an overview of the indicator strengths and weaknesses of Lithuania in the GII 2024.

Lithuania's main innovation strengths are **Females employed w/advanced degrees, %** (rank 1), **Unicorn valuation, % GDP** (rank 1) and **ICT use*** (rank 4).

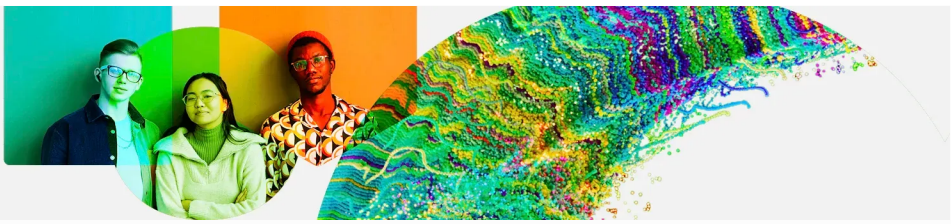
Strengths

Rank	Code	Indicator name
1	5.1.5	Females employed w/advanced degrees, %
1	6.2.2	Unicorn valuation, % GDP
4	3.1.2	ICT use*
8	7.3.3	Mobile app creation/bn PPP$ GDP
8	1.3.2	Entrepreneurship policies and culture†
9	3.3.3	ISO 14001 environment/bn PPP$ GDP
10	4.1.1	Finance for startups and scaleups†
16	4.2.4	VC received, value, % GDP
17	2.1.5	Pupil–teacher ratio, secondary
19	5.1.1	Knowledge-intensive employment, %

Weaknesses

Rank	Code	Indicator name
104	6.2.3	Software spending, % GDP
97	5.2.1	Public Research-Industry co-publications, %
91	3.2.1	Electricity output, GWh/mn pop.
89	6.3.1	Intellectual property receipts, % total trade
86	4.1.2	Domestic credit to private sector, % GDP
85	3.3.2	Low-carbon energy use, %
84	5.3.2	High-tech imports, % total trade
75	7.1.3	Global brand value, top 5,000, % GDP
71	7.1.1	Intangible asset intensity, top 15, %
41	2.3.3	Global corporate R&D investors, top 3, mn USD

Global Innovation Index 2024



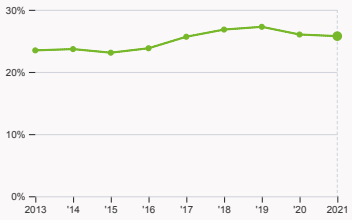
Lithuania's innovation system

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

Innovation inputs in Lithuania

2.1.1 **Expenditure on education**

was equal to 4.75 % GDP in 2021, up by 0.24 percentage points from the year prior – and equivalent to an indicator rank of 47.

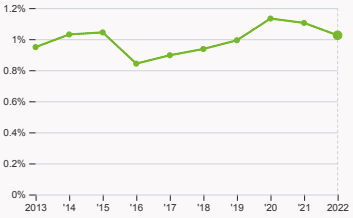


2.2.2 **Graduates in science and engineering**

was equal to 25.77 % of total graduates in 2021, down by 0.26 percentage points from the year prior – and equivalent to an indicator rank of 39.

2.3.1 **Researchers**

was equal to 4019.39 FTE per million population in 2022, up by 1.82% from the year prior – and equivalent to an indicator rank of 28.



2.3.2 **Gross expenditure on R&D**

was equal to 1.02 % GDP in 2022, down by 0.08 percentage points from the year prior – and equivalent to an indicator rank of 37.

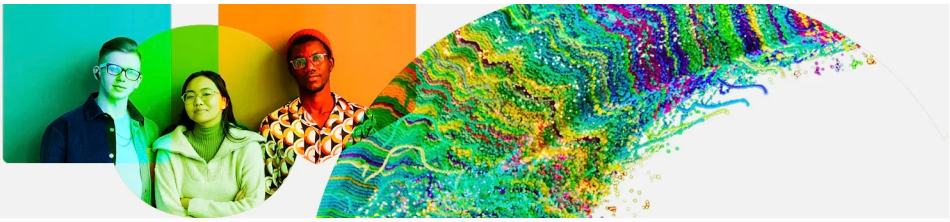
2.3.4 **QS university ranking**

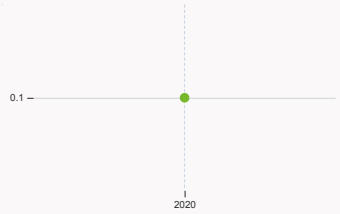
was equal to an average score of 17.43 for the top three universities in 2023, down by 12.98% from the year prior – and equivalent to an indicator rank of 53.

4.2.4 **VC received, value**

was equal to 227.37 thousand USD in 2023, up by 26.77% from the year prior – and equivalent to an indicator rank of 16.

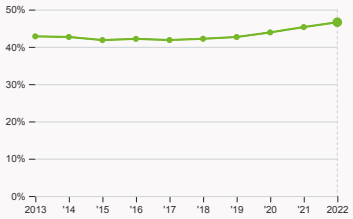
Global Innovation Index 2024





4.3.2 Domestic industry diversification

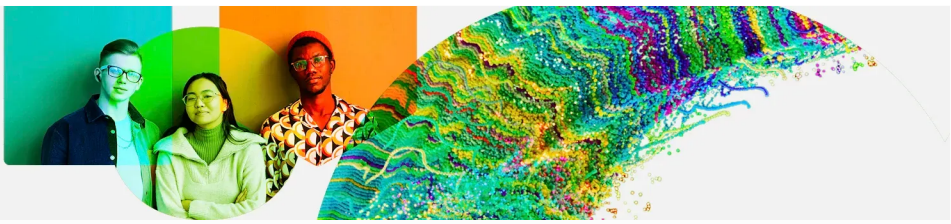
was equal to an index score of 0.1 in 2020 – and equivalent to an indicator rank of 28.



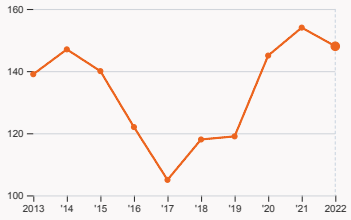
5.1.1 Knowledge-intensive employment

was equal to 46.6 % in 2022, up by 1.29 percentage points from the year prior – and equivalent to an indicator rank of 19.

Global Innovation Index 2024

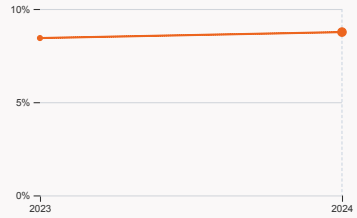


Innovation outputs in Lithuania



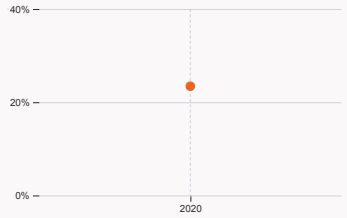
6.1.1 Patents by origin

was equal to 148 patents in 2022, down by 3.9% from the year prior – and equivalent to an indicator rank of 56.



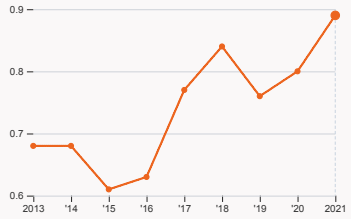
6.2.2 Unicorn valuation

was equal to 8.76 % GDP in 2024, up by 0.32 percentage points from the year prior – and equivalent to an indicator rank of 1.



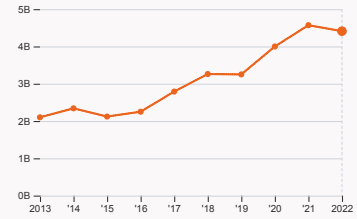
6.2.4 High-tech manufacturing

was equal to 23.43 % of total manufacturing output in 2020 – and equivalent to an indicator rank of 51.



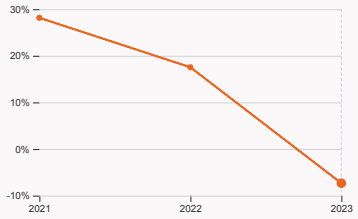
6.3.2 Production and export complexity

was equal to a score of 0.89 in 2021, up by 11.25% from the year prior – and equivalent to an indicator rank of 30.



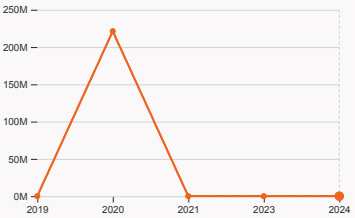
6.3.3 High-tech exports

was equal to 4.41 billion USD in 2022, down by 3.5% from the year prior – and equivalent to an indicator rank of 30.



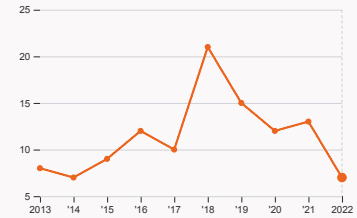
7.1.1 Intangible asset intensity

was equal to -7.33 % for the top 15 companies in 2023, down by 24.87 percentage points from the year prior – and equivalent to an indicator rank of 71.



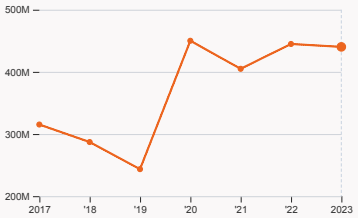
7.1.3 Global brand value

was equal to 0 million USD for the brands in the top 5,000 in 2024 with no change from the year prior – and equivalent to an indicator rank of 75.



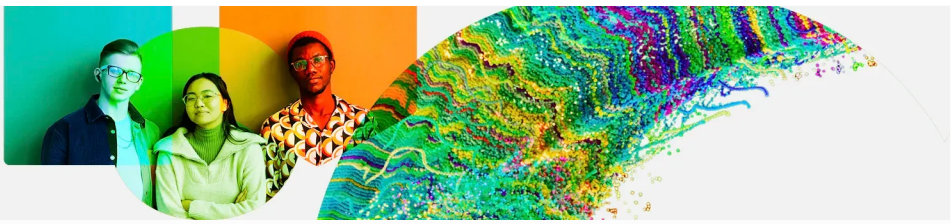
7.2.2 National feature films

was equal to 7 films in 2022, down by 46.15% from the year prior – and equivalent to an indicator rank of 39.



7.3.3 Mobile app creation

was equal to 440.21 million global downloads of mobile apps in 2023, down by 1.05% from the year prior – and equivalent to an indicator rank of 8.



Lithuania's innovation top performers

2.3.4 QS university ranking of Lithuania's top universities

Rank	University	Score
473	VILNIUS UNIVERSITY	24.40
801-850	VILNIUS GEDIMINAS TECHNICAL UNIVERSITY	14.20
801-850	KAUNAS UNIVERSITY OF TECHNOLOGY	13.70

Source: QS Quacquarelli Symonds Ltd (https://www.topuniversities.com/university-rankings/world-university-rankings/2023).
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".

6.2.2 Top Unicorn Companies in Lithuania

Rank	Unicorn Company	Industry	City	Valuation, bn USD
1	VINTED	Consumer & Retail	Vilnius	5
2	NORD SECURITY	Enterprise Tech	Vilnius	3

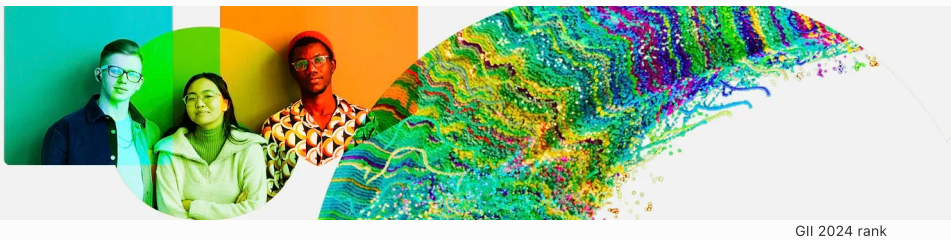
Source: CBInsights, Tracker – The Complete List of Unicorn Companies: https://www.cbinsights.com/research-unicorn-companies

7.1.1 Top 15 intangible-asset intensive companies in Lithuania

Rank	Firm	Intensity, %
1	BALTIC CLASSIFIEDS GROUP PLC	102.69
2	AB PIENO ZVAIGZDES	40.59
3	GRIGEO AB	14.72

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

Global Innovation Index 2024



Lithuania

GII 2024 rank **35**

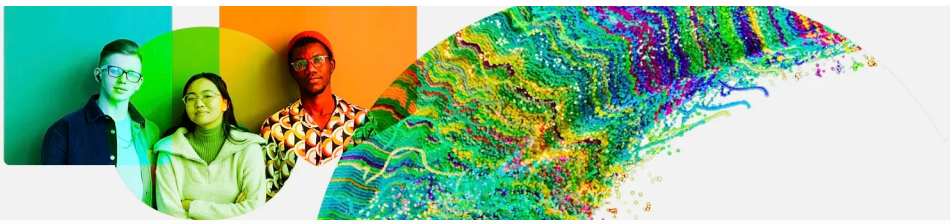
Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
42	30	High	EUR	2.9	137.3	49,244.7

	Score / Value	Rank	
Institutions	**71.9**	**22**	
1.1 Institutional environment	**75.6**	**25**	
1.1.1 Operational stability for businesses*	81.3	18	
1.1.2 Government effectiveness*	70	31	
1.2 Regulatory environment	**75.1**	**24**	
1.2.1 Regulatory quality*	76	21	
1.2.2 Rule of law*	74.2	26	
1.3 Business environment	**65**	**26**	
1.3.1 Policy stability for doing business†	53.2	54	
1.3.2 Entrepreneurship policies and culture†	76.8	8	●◆
Human capital and research	**39.2**	**44**	
2.1 Education	**59.1**	**41**	
2.1.1 Expenditure on education, % GDP	4.8	47	
2.1.2 Government funding/pupil, secondary, % GDP/cap	18.8	57	
2.1.3 School life expectancy, years	16.4	30	
2.1.4 PISA scales in reading, maths and science	477.1	30	
2.1.5 Pupil–teacher ratio, secondary	8.3	17	●◆
2.2 Tertiary education	**39.7**	**41**	
2.2.1 Tertiary enrolment, % gross	71.9	37	
2.2.2 Graduates in science and engineering, %	25.8	39	
2.2.3 Tertiary inbound mobility, %	7.3	38	
2.3 Research and development (R&D)	**18.7**	**46**	
2.3.1 Researchers, FTE/mn pop.	4,019.4	28	
2.3.2 Gross expenditure on R&D, % GDP	1	37	
2.3.3 Global corporate R&D investors, top 3, mn USD	0	41	○◇
2.3.4 QS university ranking, top 3*	17.6	53	
Infrastructure	**50.4**	**38**	
3.1 Information and communication technologies (ICTs)	**81.3**	**43**	
3.1.1 ICT access*	96.4	40	
3.1.2 ICT use*	93.7	4	●◆
3.1.3 Government's online service*	81.7	28	
3.1.4 E-participation*	53.5	67	
3.2 General infrastructure	**31.5**	**64**	
3.2.1 Electricity output, GWh/mn pop.	1,493.6	91	○◇
3.2.2 Logistics performance*	59.1	37	
3.2.3 Gross capital formation, % GDP	23.6	67	
3.3 Ecological sustainability	**38.4**	**21**	
3.3.1 GDP/unit of energy use	15.1	31	
3.3.2 Low-carbon energy use, %	10.4	85	○
3.3.3 ISO 14001 environment/bn PPP$ GDP	8.6	9	●◆
Market sophistication	**47.1**	**28**	
4.1 Credit	**44**	**31**	
4.1.1 Finance for startups and scaleups†	77.3	10	●◆
4.1.2 Domestic credit to private sector, % GDP	35.7	86	○◇
4.1.3 Loans from microfinance institutions, % GDP	n/a	n/a	
4.2 Investment	**35.3**	**22**	
4.2.1 Market capitalization, % GDP	n/a	n/a	
4.2.2 Venture capital (VC) investors, deals/bn PPP$ GDP	0.2	29	
4.2.3 VC recipients, deals/bn PPP$ GDP	0.2	20	
4.2.4 VC received, value, % GDP	0.004	16	●◆
4.3 Trade, diversification and market scale	**61.9**	**41**	
4.3.1 Applied tariff rate, weighted avg., %	1.1	21	
4.3.2 Domestic industry diversification	92.1	28	
4.3.3 Domestic market scale, bn PPP$	137.3	83	

	Score / Value	Rank	
Business sophistication	**36.4**	**38**	
5.1 Knowledge workers	**52.4**	**31**	
5.1.1 Knowledge-intensive employment, %	46.6	19	●◆
5.1.2 Firms offering formal training, %	27.5	59	
5.1.3 GERD performed by business, % GDP	0.5	39	
5.1.4 GERD financed by business, %	36.1	53	
5.1.5 Females employed w/advanced degrees, %	30.5	1	●◆
5.2 Innovation linkages	**29.4**	**49**	
5.2.1 Public Research-Industry co-publications, %	0.9	97	○◇
5.2.2 University-industry R&D collaboration†	68.8	27	
5.2.3 State of cluster development†	52.1	55	
5.2.4 Joint venture/strategic alliance deals/bn PPP$ GDP	0.02	53	
5.2.5 Patent families/bn PPP$ GDP	0.4	36	
5.3 Knowledge absorption	**27.4**	**63**	
5.3.1 Intellectual property payments, % total trade	0.5	73	
5.3.2 High-tech imports, % total trade	7.2	84	○
5.3.3 ICT services imports, % total trade	1.4	63	
5.3.4 FDI net inflows, % GDP	4.4	29	
5.3.5 Research talent, % in businesses	31.5	40	
Knowledge and technology outputs	**32.7**	**29**	
6.1 Knowledge creation	**21.1**	**53**	
6.1.1 Patents by origin/bn PPP$ GDP	1.1	56	
6.1.2 PCT patents by origin/bn PPP$ GDP	0.3	39	
6.1.3 Utility models by origin/bn PPP$ GDP	-	-	
6.1.4 Scientific and technical articles/bn PPP$ GDP	22.1	31	
6.1.5 Citable documents H-index	13.3	63	
6.2 Knowledge impact	**47**	**18**	●◆
6.2.1 Labor productivity growth, %	1.3	46	
6.2.2 Unicorn valuation, % GDP	8.8	1	●◆
6.2.3 Software spending, % GDP	0.06	104	○◇
6.2.4 High-tech manufacturing, %	23.4	51	
6.3 Knowledge diffusion	**30.2**	**40**	
6.3.1 Intellectual property receipts, % total trade	0.02	89	○
6.3.2 Production and export complexity	65.5	30	
6.3.3 High-tech exports, % total trade	7.1	30	
6.3.4 ICT services exports, % total trade	3	42	
6.3.5 ISO 9001 quality/bn PPP$ GDP	11.7	23	
Creative outputs	**29.5**	**55**	
7.1 Intangible assets	**24.6**	**72**	
7.1.1 Intangible asset intensity, top 15, %	-7.3	71	○◇
7.1.2 Trademarks by origin/bn PPP$ GDP	38.6	52	
7.1.3 Global brand value, top 5,000, % GDP	0	75	○◇
7.1.4 Industrial designs by origin/bn PPP$ GDP	2.5	34	
7.2 Creative goods and services	**21.5**	**52**	
7.2.1 Cultural and creative services exports, % total trade	0.9	34	
7.2.2 National feature films/mn pop. 15–69	3.5	39	
7.2.3 Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4 Creative goods exports, % total trade	1.4	35	
7.3 Online creativity	**47.3**	**28**	
7.3.1 Top-level domains (TLDs)/th pop. 15–69	21.2	29	
7.3.2 GitHub commits/mn pop. 15–69	38.9	28	
7.3.3 Mobile app creation/bn PPP$ GDP	81.9	8	●◆

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 2024



Data availability

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

Lithuania has missing data for four indicators and outdated data for eight indicators.

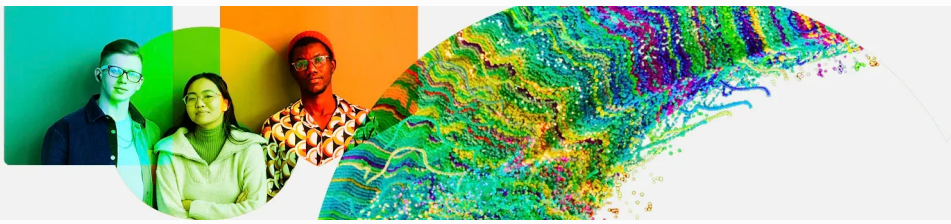
Missing data for Lithuania

Code	Indicator name	Economy Year	Model Year	Source
4.1.3	Loans from microfinance institutions, % GDP	n/a	2022	International Monetary Fund, Financial Access Survey (FAS)
4.2.1	Market capitalization, % GDP	n/a	2022	World Federation of Exchanges; World Bank
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2022	World Intellectual Property Organization; International Monetary Fund
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2023	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund

Outdated data for Lithuania

Code	Indicator name	Economy Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2021	2022	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2021	2022	UNESCO Institute for Statistics
2.1.5	Pupil–teacher ratio, secondary	2021	2022	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2021	2022	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	2021	2022	UNESCO Institute for Statistics
4.3.2	Domestic industry diversification	2020	2021	United Nations Industrial Development Organization (UNIDO), Industrial Statistics Database (INDSTAT) Rev.3 and 4
5.1.2	Firms offering formal training, %	2019	2023	World Bank Enterprise Surveys
6.2.4	High-tech manufacturing, %	2020	2021	United Nations Industrial Development Organization

Global Innovation Index 2024



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, 2024.

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.