



# European Innovation Scoreboard **2024** Country Profile **Lithuania**

## European Innovation Scoreboard 2024 – Country profile Lithuania

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# **European Innovation Scoreboard 2024 Country profile Lithuania**

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**LITHUANIA****Moderate Innovator**Summary innovation index (relative to EU in 2017): **92**Rank: **22**Change vs 2023: **▲ 3.7** Change vs 2017: **▲ 16.3**

Lithuania is a Moderate Innovator with performance at 83.6% of the EU average in 2024. Performance is below the average of the Moderate Innovators (84.8%). Performance is increasing more than the EU (+10%).

Indicator	Performance relative to the EU in 2024	Performance change 2017-2024	Performance change 2023-2024
<b>SUMMARY INNOVATION INDEX</b>	<b>83.6</b>	<b>16.3</b>	<b>3.7</b>
<b>Human resources</b>	<b>107.2</b>	<b>5.6</b>	<b>4.3</b>
New doctorate graduates	60.7	0.0	0.0
Population with tertiary education	177.7	-0.6	-4.8
Population involved in lifelong learning	82.2	22.4	22.4
<b>Attractive research systems</b>	<b>58.0</b>	<b>37.1</b>	<b>8.1</b>
International scientific co-publications	71.2	46.3	1.0
Scientific publications among the top 10% most cited	62.7	34.2	9.8
Foreign doctorate students as a % of all doctorate students	38.6	35.3	10.5
<b>Digitalisation</b>	<b>97.7</b>	<b>11.1</b>	<b>10.0</b>
Broadband penetration	100.4	9.1	7.2
Individuals with above basic overall digital skills	93.9	12.9	12.9
<b>Finance and support</b>	<b>82.1</b>	<b>21.1</b>	<b>6.1</b>
R&D expenditure in the public sector	65.6	-39.3	-6.5
Venture capital expenditures	137.6	92.7	17.3
Direct and indirect government support of business R&D	32.7	25.9	11.7
<b>Firm investments</b>	<b>86.7</b>	<b>12.4</b>	<b>15.5</b>
R&D expenditure in the business sector	31.9	15.8	-3.0
Non-R&D innovation expenditures	172.6	4.3	29.2
Innovation expenditures per person employed	66.3	17.4	21.6
<b>Use of information technologies</b>	<b>75.2</b>	<b>25.6</b>	<b>6.4</b>
Enterprises providing ICT training	46.6	15.3	-3.8
Employed ICT specialists	102.9	35.5	16.1
<b>Innovators</b>	<b>96.7</b>	<b>-5.4</b>	<b>-24.4</b>
SMEs introducing product innovations	85.6	-15.8	-42.0
SMEs introducing business process innovations	105.7	4.3	-7.9
<b>Linkages</b>	<b>130.0</b>	<b>44.2</b>	<b>-8.3</b>
Innovative SMEs collaborating with others	92.9	-62.7	-34.1
Public-private co-publications	74.0	39.3	7.6
Job-to-job mobility of HRST	183.3	138.2	5.9
<b>Intellectual assets</b>	<b>72.8</b>	<b>17.9</b>	<b>1.0</b>
PCT patent applications	39.1	-8.1	-1.1
Trademark applications	136.2	67.3	7.3
Design applications	56.3	12.9	-1.1
<b>Employment impacts</b>	<b>106.0</b>	<b>25.1</b>	<b>14.4</b>
Employment in knowledge-intensive activities	97.8	21.7	15.6
Employment in innovative enterprises	113.1	28.1	13.2
<b>Sales impacts</b>	<b>52.6</b>	<b>16.1</b>	<b>4.7</b>
Exports of medium and high technology products	49.2	3.5	3.7
Knowledge-intensive services exports	33.7	24.9	-2.8
Sales of new-to-market and new-to-firm innovations	87.7	24.0	16.5
<b>Environmental sustainability</b>	<b>75.3</b>	<b>-0.4</b>	<b>-2.5</b>
Resource productivity	48.5	2.8	6.4
Air emissions by fine particulates	102.8	16.6	2.0
Environment-related technologies	61.9	-27.5	-16.3

**Relative strengths**

- Job-to-job mobility of HRST
- Population with tertiary education
- Non-R&D innovation expenditures

**Relative weaknesses**

- R&D expenditure in the business sector
- Direct and indirect government support of business R&D
- Knowledge-intensive services exports

**Strong increases since 2017**

- Job-to-job mobility of HRST
- Venture capital expenditures
- Trademark applications

**Strong decreases since 2017**

- Innovative SMEs collaborating with others
- R&D expenditure in the public sector
- Environment-related technologies

**Strong increases since 2023**

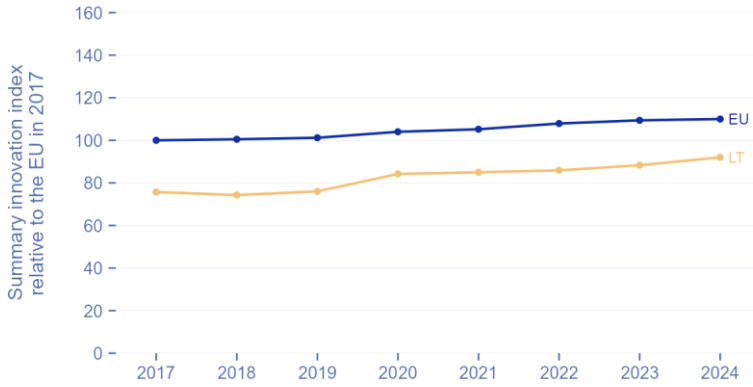
- Non-R&D innovation expenditures
- Population involved in lifelong learning
- Innovation expenditures per person employed

**Strong decreases since 2023**

- SMEs introducing product innovations
- Innovative SMEs collaborating with others
- Environment-related technologies

**Footnote:** The first data column shows scores relative to the EU in 2024, with colour codes indicating performance levels. The subsequent columns show performance changes over time, with scores relative to the EU in 2017, coloured in purple for positive change and red for negative change. As reference years differ between the first column (2024) and the last two columns (2017), scores cannot be directly compared or subtracted across these columns.

Emerging Innovators Moderate Innovators Strong Innovators Innovation Leaders



**Summary innovation index**

The line chart shows the evolution of the innovation performance of Lithuania over time, relative to the performance of the EU in 2017.

**Footnote:** All performance scores (SII and dimensions below) are relative to that of the EU in 2017.

**Framework conditions**

Since 2017, Lithuania has significantly improved its framework conditions. The country ranks fourth among EU Member States for the percentage of its population with tertiary education (at 177.7% of the EU average in 2024), showing its strong commitment to higher learning, despite a recent decline of 4.8%-points since 2023. The attractiveness of its research systems has improved (+37.1%-points since 2017 for that dimension), with an increase in the quantity and quality of published research, recording more publications in the top 10% most cited worldwide.

Digitalisation in Lithuania has also advanced significantly (+10.0%-points in the last year), with scores around the EU average for broadband penetration (100.4% of the 2024 EU level) and digital skills (93.9%). This progress is part of a comprehensive strategy aimed at integrating digital technologies across sectors to boost economic growth and enhance public services (European Semester Report 2024). Lithuania's substantial investments in digitalisation encompass initiatives such as for instance the creation of a National Data Lake for open data, efforts to develop digital skills, and enhancements to broadband infrastructure and digital connectivity.

**Human resources**



**Attractive research systems**



**Digitalisation**



**Investments**

Since 2017, Lithuania has been improving in all investment indicators except in R&D expenditures in the public sector where a significant decline (-39.3%-points) is recorded. According to the European Semester Report (2024), this is largely due to issues such as lack of coordination among government bodies, administrative burden, and unpredictability in timelines, which diminishes the attractiveness of public support. Despite this, Lithuania leads among EU Member States in non-R&D innovation expenditures (172.6% of the EU average in 2024).

Lithuania has also shown significant progress as the top Moderate Innovator for Venture Capital expenditures, at 137.6% of the EU level in 2024, marked by a substantial increase of 92.7%-points since 2017. However, the country ranks last among Moderate Innovators for Direct and Indirect government support of business R&D (procurement procedures are complex and tax incentives are well below the EU average, according to the European Semester Report 2024), at 32.7% of the EU level in 2024 for that indicator. Positive signs in digitalisation with increases (+35.5%-points) in employed ICT specialists in the last two years are recorded, underscoring Lithuania's commitment to enhancing digital skills and infrastructure.

**Finance and support**



**Firm investments**



**Use of information technologies**



**Innovation activities**

Limited access to finance hinders the innovation capacity of firms, especially SMEs, with a decline in SMEs introducing innovations since 2023. Lithuania’s innovation still lags behind, as evidenced by the consistently low number of patent applications (39.1% of the EU average in 2024). However, the country performs well in trademark applications, ranking fifth in the EU (136.2% of the EU average in 2024), with a steady improvement since 2017 (+67.3%-points).

The European Semester Report (2024) for Lithuania points to the need to strengthen science-business linkages further to deliver innovation and growth. The country ranks first among EU Member States for job-to-job mobility of HRST, standing at 183.3% of the 2024 EU average, with an impressive improvement (+138.2%-points) from 2017 to 2024. This is a good asset for Lithuania as Job-to-job mobility supports knowledge creation, one of the key drivers of innovation. Although Lithuania has one of the lowest rates of public-private co-publications in the EU (at 74.0% of the EU average), it has been improving since 2017 by 39.3%-points. The Recovery and Resilience Plan (RRP) includes measures focused on mission-based science and business cooperation.

**Innovators**



**Linkages**



**Intellectual assets**



**Impacts**

Employment and sales impacts are on the rise in Lithuania, yet the country faces several challenges. While Lithuania shows moderate performance in employment impacts, it ranks third last among EU Member States in the sales impact dimension (52.6% of the EU average in 2024). Skills shortages and mismatches continue to hamper innovation as per Lithuania’s European Semester report (2024). According to EURES, in 2022, Lithuania experienced labour shortages primarily in transportation, manufacturing, construction, services, and education sectors. The country also lags in exports of medium and high technology products (fourth last among EU Member States, 49.2% of EU average in 2024) and knowledge-intensive services (third last, 33.7%).

Lithuania has made progress in the green transition, but still presents mixed results. It performs just above the EU average for air emissions (102.8%) and is still improving in this area, although air quality in Lithuania is an emerging area of concern. There has also been a significant decline in environmental-related technologies since 2017, dropping by 27.5%-points. Lithuania aims to achieve carbon neutrality by 2050 through its National Climate Change Management Agenda (NCCMA), focusing on over 100 sector-specific policies that emphasize renewable energy in transport and heating, electrification, energy efficiency, and reducing emissions from transport (OECD 2021).

**Employment impacts****Sales impacts****Environmental sustainability****Structural differences****Performance and structure of the economy**

Lithuania's GDP per capita is 88% of the EU average, with slower annual growth. Persistently high inflation, rising interest rates, weak external demand, and Russia's invasion of Ukraine are negatively impacting its economic performance.

While employment in manufacturing and services is comparable to the EU average, the share of employment in high and medium high-tech sectors is much lower, at less than half of the EU's. Lithuania also has low employment in knowledge-intensive services compared to other Moderate Innovators. However, the country is actively working towards transforming into a more knowledge-intensive economy by expanding knowledge-based activities by upskilling and reskilling (European Semester Report 2024).

**Business and entrepreneurship**

Enterprise births in Lithuania are comparable to the EU average, while entrepreneurial activity is much higher. The European Semester report (2024) portrays the Lithuanian innovation ecosystem as benefiting from entrepreneurial dynamism, a nurturing start-up environment, and niches of technological excellence. Lithuania has been increasingly attracting foreign direct investment (FDI), though challenges like infrastructure improvements and geopolitical tensions remain.

**Innovation profiles**

Lithuania's innovation profile resembles that of the EU, though it has produced more product market novelties in-house. However, Lithuania shows a lower disposition to innovate and a higher number of enterprises that neither introduced innovations nor had any ongoing or abandoned innovation activities, nor considered innovation. Lithuania has a slow innovation profile due to limited access to finance, skills shortages, and insufficient science-business linkages (European Semester Report 2024).

**Governance and policy framework**

Lithuania has a favourable Corruption Perception Index compared to other Moderate Innovators, along with a robust basic school entrepreneurial education and training program. Its rule of law score of 1 is equal to that of the EU. However, government procurement in Lithuania is lower than the EU average, and innovation procurement as a share of total public procurement is more than three times smaller than that in the EU. The European Semester report attributes this discrepancy largely to factors such as insufficient coordination among government bodies, administrative burdens, inflexibility, and unpredictability in timelines, which collectively diminish the attractiveness of public support for innovation initiatives.

**Climate change**

Lithuania faces significant challenges in climate change indicators, with a circular material use rate nearly three times lower than the EU average, indicating that only 4.1% of materials are reused. Greenhouse gas emissions exceed EU levels, and air quality is a growing concern due to pollutant emissions surpassing maximum levels (European Semester Report 2024). Lithuania also scores lower on the eco-innovation index compared to the EU average. Resource inefficiency, especially in industry, hampers progress towards a circular economy.

## Demography

Lithuania is a parliamentary democracy situated in the Baltic region of Northern Europe, with a population of less than 3 million inhabitants. Significant disparities (such as in GDP, productivity, migration and education) exist between the capital region and other parts of Lithuania concerning economic activity, investments, and social indicators (European Semester Report 2024).

## Structural indicators

The table below presents some structural differences between Lithuania and the EU.

	LT	EU
<b>Performance and structure of the economy</b>		
GDP per capita	88	100
Average annual GDP growth (2021-2023 average)	1	1.9
Employment share Manufacturing	16.1	15.8
Employment share High and Medium high-tech	17.1	37.9
Employment share Services	40.7	39.8
Employment share Knowledge-intensive services	24	28.6
Turnover share SMEs	16.5	12.6
Turnover share large enterprises	33.8	49.6
Foreign-controlled enterprises – share of value added	16.4	13.3
<b>Business and entrepreneurship</b>		
Enterprise births	0.8	0.8
Total Entrepreneurial Activity	9.7	6.8
FDI net inflows	4.5	1.9
Buyer sophistication	3.2	3.6
<b>Innovation profiles</b>		
In-house product innovators with market novelties	15.8	11.7
In-house product innovators without market novelties	11.1	13.7
In-house business process innovators	17.1	17.6
Innovators that do not develop innovations themselves	7.4	6.1
Innovation active non-innovators	1.6	4.2
Non-innovators with potential to innovate	12.7	17.8
Non-innovators without disposition to innovate	34.3	30.6
<b>Governance and policy frameworks</b>		
Corruption Perceptions Index	61.3	64
Basic-school entrepreneurial education and training	4.7	2.6
Government procurement of advanced technology products	3	3.4
Rule of law	1	1
Innovation procurement as a share of total public procurement	2.8	9.2
<b>Climate change</b>		



	LT	EU
Circular material use rate	4.1	11.5
Greenhouse gas emissions intensity of energy consumption	103	82.8
Eco-Innovation Index	103.8	121.5
<b>Demography</b>		
Population size (in millions)	2.8	447
Average annual population growth (2021-2023 average)	1.1	0.3
Population density	44.8	109

## References

The country's relative strengths and weaknesses for each indicator, compared to other EU Member States and neighbouring countries, can be found in [Annex B](#).

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*Studies and reports*

