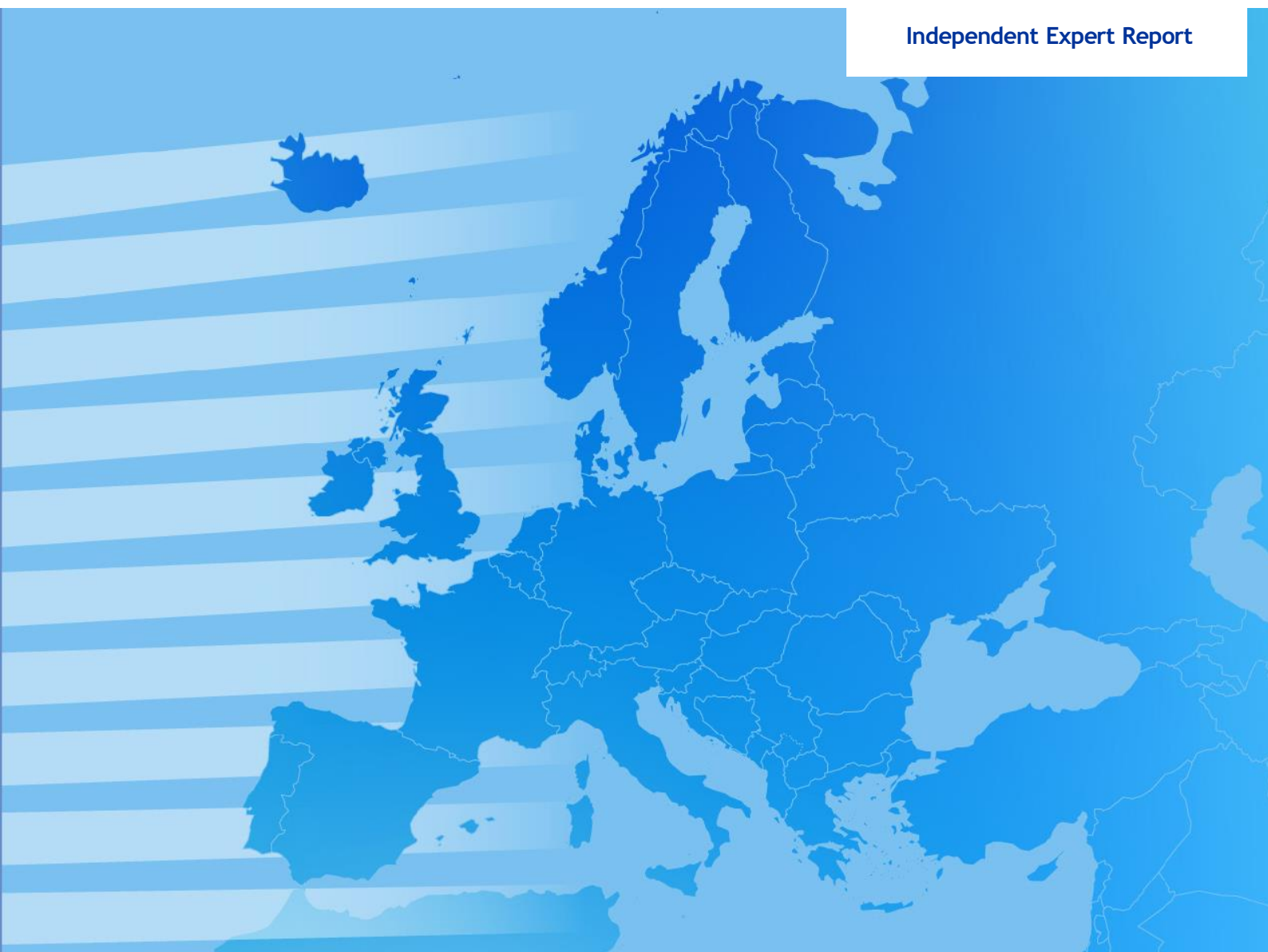


European Innovation Scoreboard 2025

Country profile Czechia

Independent Expert Report



European Innovation Scoreboard 2025 – Country profile Czechia

European Commission

Directorate-General for Research and Innovation

Directorate G – Common Policy Centre

Unit G.1 – Common R&I Strategy & Foresight Service

Contact Paolo Pasimeni, Chief Economist and Head of Unit G.1
Athina Karvounaraki
Alexis Stevenson

Email RTD-STATISTICS@ec.europa.eu
RTD-PUBLICATIONS@ec.europa.eu

Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs

Directorate A – Strategy and Economic Analysis

Unit A.1 – Chief Economist

Contact Román Arjona, Chief Economist and Head of Unit A.1
Xosé-Luís Varela-Irimia

Email GROW-A1@ec.europa.eu

European Commission

B-1049 Brussels

Manuscript completed in July 2025

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European Innovation Scoreboard 2025

Country profile Czechia

The report was prepared by

Santiago Donat, Technopolis Group

for the European Commission, Directorate-General for Research and Innovation under the Specific Contract LC-03213706
implementing framework contract European Innovation Scoreboard (EIS) and the Regional Innovation Scoreboard (RIS)
2024-2027 N° FW-00154786

Moderate Innovator ●

Summary innovation index (indexed to EU in 2025): **80.6**

Change vs 2018: ▲ +16.3 Change vs 2024: ▼ -8.4

Current benchmarking

Indicator	Performance indexed to the EU in 2025	Rank among EU Member States
SUMMARY INNOVATION INDEX	80.6	19
Human resources	73.6	20
New doctorate graduates	100.0	9
Population with tertiary education	40.1	24
Population involved in lifelong learning	79.2	19
Attractive research systems	86.9	18
International scientific co-publications	102.4	14
Scientific publications among the top 10% most cited	53.2	22
Foreign doctorate students as a % of all doctorate students	125.3	14
Digitalisation	85.6	18
High-speed internet access	52.0	26
Individuals with above basic overall digital skills	135.0	8
Finance and support	63.7	18
R&D expenditure in the public sector	85.0	13
Venture capital expenditures	37.8	17
Direct and indirect government support of business R&D	56.6	14
Firm investments	80.4	12
R&D expenditure in the business sector	79.3	11
Non-R&D innovation expenditures	105.0	7
Innovation expenditures per person employed	66.8	13
Investments in information technologies	96.3	16
Cloud Computing	104.7	12
Employed ICT specialists	87.2	21
Innovators	96.0	18
SMEs introducing product innovations	103.0	17
SMEs introducing business process innovations	90.4	16
Linkages	85.3	22
Innovative SMEs collaborating with others	108.3	11
Public-private co-publications	129.9	18
Job-to-job mobility of HRST	47.9	22
Intellectual assets	67.8	21
PCT patent applications	54.5	19
Trademark applications	91.4	19
Design applications	63.3	18
Sales and employment impacts	94.4	15
Sales of new-to-market and new-to-firm innovations	109.9	9
Employment in innovative enterprises	80.5	16
Trade impacts	88.1	6
Exports of medium and high-tech products	114.7	3
Knowledge-intensive services exports	55.8	19
High-tech imports from outside the EU	90.7	6
Resource and labour productivity	59.7	23
Resource productivity	79.1	15
Production-based CO2 productivity	51.7	25
Labour productivity	41.9	19

Czechia is a Moderate Innovator, performing at 80.6% of the EU average in 2025.

It ranks 19th among EU Member States, and 23rd among the EU and neighbouring countries.

Its performance is below the average of Moderate Innovators in the EU (80.6% vs 85.9% of the EU average in 2025).

Relative strengths

- Individuals with above basic overall digital skills
- Public-private co-publications
- Foreign doctorate students as a % of all doctorate students

Relative weaknesses

- Venture capital expenditures
- Population with tertiary education
- Labour productivity

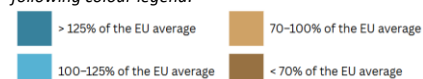
Highest ranked indicators among EU Member States

- Exports of medium and high-tech products
- High-tech imports from outside the EU
- Non-R&D innovation expenditures

Lowest ranked indicators among EU Member States

- High-speed internet access
- Production-based CO2 productivity
- Population with tertiary education

Footnote: Scores are indexed to the EU average in 2025. Relative strengths (purple) and weaknesses (red) refer to the three indicators where the country's scores are furthest above or below the EU average in 2025. These highlight the areas where the country stands out most positively or faces the greatest relative challenges compared to the EU. The highest (purple) and lowest (red) ranked indicators are those where the country achieves its highest and lowest ranks among EU Member States. These show how the country compares to others, regardless of the EU average, by indicating its best and worst positions in the rankings. Relative performance compared to the EU average in 2025 is indicated using the following colour legend:



Performance trends

Indicator	Performance indexed to the EU in 2018	Performance change 2018-2025	Performance change 2024-2025
SUMMARY INNOVATION INDEX	90.8	+16.3	-8.4
Human resources	78.6	+9.8	+1.8
New doctorate graduates	88.4	0	0
Population with tertiary education	47.0	-9.3	-1.3
Population involved in lifelong learning	99.0	+48.1	+8.7
Attractive research systems	98.2	+33.9	+6.0
International scientific co-publications	139.8	+42.2	+11.0
Scientific publications among the top 10% most cited	50.5	+13.4	+2.9
Foreign doctorate students as a % of all doctorate students	163.4	+71.4	+8.4
Digitalisation	122.5	+58.9	+24.4
High-speed internet access	100.7	+69.5	-8.9
Individuals with above basic overall digital skills	140.2	+50.9	+50.9
Finance and support	72.2	+1.5	-21.0
R&D expenditure in the public sector	86.4	-1.7	-6.8
Venture capital expenditures	54.9	+46.9	-86.8
Direct and indirect government support of business R&D	63.3	-17.9	-4.2
Firm investments	81.2	+9.7	-35.0
R&D expenditure in the business sector	85.8	+13.4	-1.5
Non-R&D innovation expenditures	82.9	-8.9	-68.9
Innovation expenditures per person employed	75.5	+21.9	-38.7
Investments in information technologies	165.5	+65.5	+12.0
Cloud Computing	331.6	+238.9	+27.9
Employed ICT specialists	100.0	-2.9	+5.9
Innovators	111.1	+11.1	-52.5
SMEs introducing product innovations	106.8	+7.0	-49.0
SMEs introducing business process innovations	115.2	+14.9	-56.3
Linkages	115.9	+19.9	-10.9
Innovative SMEs collaborating with others	149.4	+9.2	-14.2
Public-private co-publications	158.2	+25.7	-2.0
Job-to-job mobility of HRST	67.6	+26.5	-11.8
Intellectual assets	56.3	-4.9	-7.5
PCT patent applications	47.5	-8.1	-8.7
Trademark applications	88.0	+12.7	-3.8
Design applications	43.2	-14.0	-8.7
Sales and employment impacts	95.7	+1.1	-22.6
Sales of new-to-market and new-to-firm innovations	105.4	+6.1	-5.8
Employment in innovative enterprises	86.1	-4.0	-38.7
Trade impacts	89.6	+11.4	+1.3
Exports of medium and high-tech products	115.7	+7.3	+1.8
Knowledge-intensive services exports	58.2	+10.1	-1.9
High-tech imports from outside the EU	91.0	+16.8	+3.4
Resource and labour productivity	79.6	+29.1	+8.5
Resource productivity	109.0	+41.6	+9.5
Production-based CO2 productivity	81.8	+39.9	+15.1
Labour productivity	43.8	+4.4	+0.7

Summary innovation index (indexed to EU in 2018): **90.8**

Performance since 2018 is increasing more than the EU (+16.3%-points vs +12.6%-points for the EU).

Strong increases since 2018

- Cloud Computing
- Foreign doctorate students as a % of all doctorate students
- High-speed internet access

Strong decreases since 2018

- Direct and indirect government support of business R&D
- Design applications
- Population with tertiary education

Strong increases since 2024

- Individuals with above basic overall digital skills
- Cloud Computing
- Production-based CO2 productivity

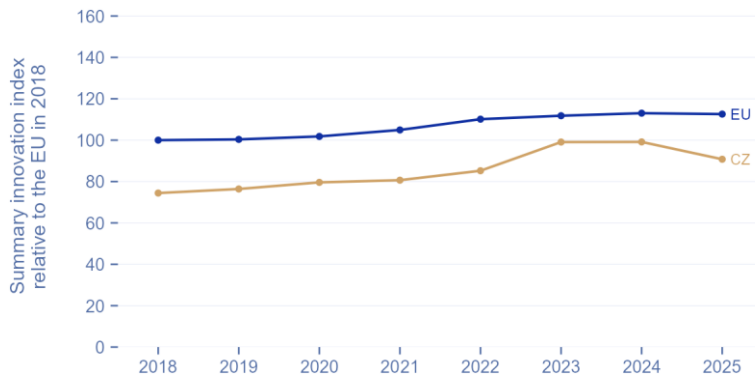
Strong decreases since 2024

- Venture capital expenditures
- Non-R&D innovation expenditures
- SMEs introducing business process innovations

Footnote: Scores are indexed to the EU in 2018. Changes over time are shown in purple (positive) and red (negative).

Note on performance score: A value of 0 in the Current Benchmarking or Performance Trend tables means that the country had the lowest performance for that indicator, or was identified as a negative outlier and rescaled to 0 during the rescaling phase (see Methodology Report for details). Multiple countries can receive a score of 0 for the same indicator. If multiple countries receive the same score, they share the same rank. As a result, the lowest rank (e.g. 27 or 39) may not always appear.

Performance indicators



Summary innovation index

The line chart shows the evolution of the innovation performance of Czechia over time, indexed to the performance of the EU in 2018.

Footnote: All performance scores (SII and dimensions below) are indexed to the EU in 2018.

Framework conditions

Framework conditions have improved in Czechia since 2018. Improvements in digitalisation are reinforced by progress in digital skills, with one of the highest shares of individuals possessing above-basic overall digital skills, placing Czechia well above the EU average. This is very positive in terms of individual capabilities, but challenges remain in broadband penetration. While 5G rollout is above the EU average, general broadband coverage, particularly high-speed internet directly to homes and businesses—still faces obstacles (European Commission, 2024). Despite difficulties, high internet access continues expanding, supported by significant investment, with a substantial portion of EU funds, including Czechia's Recovery and Resilience Plan (RRP) and digital allocations under cohesion policy, dedicated to the country's digital transformation (European Commission, 2024).

The attractiveness of the research system in Czechia has been increasing. A growing share of foreign doctoral students among the total number of doctoral candidates, up by 71.4%-points between 2018 and 2025, represents a strength within the Czech research ecosystem. International publications have also increased (+42.2%-points since 2018), and the share of scientific publications among the top 10% most cited has slightly improved. However, it remains at only 53.2% of the EU average. This progress contrasts with a declining share of the population with tertiary education, which now stands among the lowest in the EU, at only 40% of the EU average.

Human resources



Attractive research systems



Digitalisation



Investments

Investments in research and development (R&D) have been gradually improving since 2018, with the private sector acting as the main driver. Businesses have increased their investment efforts, leading to a 13.4%-point rise in R&D expenditure since 2018. This has also translated into higher innovation spending per employee, which has improved by 21.9%-points over the same period. In contrast, spending on non-R&D innovation, such as marketing or organisational innovations, has declined by 8.9%-points since 2018. Nevertheless, Czechia remains one of the top performers in Europe in this area, reaching 105.0% of the EU average and ranking 7th. Venture capital investment, while improving by 46.9%-points since 2018, remains low at 37.8% of the EU average in 2025. In the field of information technology, Czechia has seen a sharp increase of 238.9%-points in cloud computing between 2018 and 2025. However, the employment of ICT specialists has remained stable since 2018, which may represent a bottleneck for the adoption of advanced digital technologies.

Public R&D investments have not shown the same dynamism as those in the private sector. Government expenditure has declined slightly since 2018 (-1.7%-points), and both direct and indirect public support for business R&D has decreased significantly (-17.7%-points). This limited progress suggests that public funding is not sufficiently stimulating R&D activity in the business sector.

Finance and support



Firm investments



Investments in information tech



Innovation activities

Despite the challenges posed by a fragmented innovation ecosystem that hinders connections between industry and research (European Commission, 2025), innovation activities in Czechia have increased since 2018. However, trends differ between SME innovation and intellectual property practices. The rise in innovation is mainly driven by stronger connections between innovative SMEs and other actors and reinforced by public-private linkages. Public-private co-publications have grown by 25.7%-points since 2018, and job-to-job mobility of Human Resources in Science and Technology (HRST) has risen by 26.5%-points, though it remains below the EU average in 2025 (47.9%). Companies are also bringing more innovations to market, especially in processes (+14.9%-points) and to a lesser extent in products (+7.0%-points), reaching 90.4% and 103% of the EU average, respectively, in 2025.

This positive trend is not supported by improvements in the management of intellectual assets. Despite improvements in trademark application since 2018 (+12.7%-points), patent and design applications have declined between 2018 and 2025, by 8.1%-points and 14%-points respectively, and the general performance of the country in 2025 is below the EU average (67.8%). The reform of knowledge transfer, introduced in January 2024 (Government of Czechia, 2024), aims to strengthen linkages between private businesses and the public research sector to improve the valorisation of scientific and research knowledge, thereby supporting the economy and enhancing global competitiveness (Tan et al. 2025).

Innovators



Linkages



Intellectual assets



Impacts

Czechia's strong industrial base includes innovative and high-tech companies. Its performance in sales of new-to-market and new-to-firm innovations places it in a solid position at European level, reaching 109.9% of the EU average in 2025, and an improvement of 6.1%-points since 2018. It also ranks among the top three EU27 Member States in exports of medium- and high-tech products, at 114.7% of the EU average, up by 7.3%-points since 2018. However, some key weaknesses remain, such as employment in innovative enterprises, which stands at just 80.5% of the EU average, and exports of knowledge-intensive services, which are particularly low at 55.8%. Although the latter has improved by 10.1 %-points since 2018, employment in innovative firms has declined by 4.0%-points over the same period.

Despite gains in innovative product and service sales and strong export performance, these are not reflected in productivity outcomes. Labour productivity stands at only 41.9%-points of the EU average in 2025, with a modest increase of 4.4%-points since 2018. Resource productivity has improved more significantly (41.6%-points) as well as Production-based CO₂ productivity (39.9%-points since 2018), yet Czech companies remain inefficient in using resources to generate value with low emissions, with CO₂ productivity at just 59.7% of the EU average, ranking 25th.

Sales and employment impacts



Trade impacts



Resource and labour productivity



Structural differences

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

	CZ	EU
Performance and structure of the economy		
GDP per capita (2022-2024 average)	90	100
Average annual GDP growth (2022-2024 average)	0.5	0.8
Employment share Manufacturing (2022-2024 average)	25.3	15.6
Employment share High and Medium high-tech (2022-2024 average)	42.4	38.1
Employment share Services (2021-2024 average)	34.6	40.2
Employment share Knowledge-intensive services (2022-2024 average)	28	28.5
Turnover share SMEs (2018-2020 average)	13.6	12.6
Turnover share large enterprises (2018-2020 average)	45.6	49.6
Foreign-controlled enterprises – share of value added (2018-2020 average)	28.4	13.3
Herfindahl-Hirschman Index of non-EU imports of high-tech goods (2022-2024)	0.4	N/A
Business and entrepreneurship		
Enterprise births (2018-2020 average)	0.5	0.8
FDI net inflows (2021-2023 average)	3.3	1
Buyer sophistication (2015-17 average)	3	3.6
Digital Intensity Index (2024)	34.8	34.2
Young High Growth Enterprises (2022)	0.8	0.8
Total Entrepreneurial Activity (2022-2024 average)	N/A	7.1
Innovation profiles		
In-house product innovators with market novelties (2020)	17.2	11.7
In-house product innovators without market novelties (2020)	17.7	13.7
In-house business process innovators (2020)	16.9	17.6
Innovators that do not develop innovations themselves (2020)	4.5	6.1
Innovation active non-innovators (2020)	0.7	4.2
Non-innovators with potential to innovate (2020)	17	17.8
Non-innovators without disposition to innovate (2020)	26.1	30.6
HEU funding intensity per researcher (2022-2024 average)	3190.5	6194
Governance and policy frameworks		
Corruption Perceptions Index (2022-24 average)	56.3	63.3
Rule of law (2021-23 average)	1.1	1
Innovation procurement as a share of total public procurement (2024)	4.1	9.2
Basic-school entrepreneurial education and training (2022-24 average)	N/A	2.4
Environment		
Circular material use rate (2021-23 average)	11.7	11.5
Greenhouse gas emissions intensity of energy consumption (2018-20 average)	73.8	82.8
Eco-Innovation Index (2024)	125.6	127.5
Demography		
Population size (2022-24 average, in millions)	10.7	447.7
Average annual population growth (2022-24 average)	1.8	0.4
Population density (2022-24 average)	139.4	109.1



Performance and structure of the economy

Czechia's economy has maintained an average annual growth rate of GDP below the EU average between 2022 and 2024, although this is forecast to improve in 2025-2026. Growth is expected to be driven primarily by domestic demand, while the external environment remains challenging (European Commission, 2025). Employment is largely concentrated in manufacturing, reflecting Czechia's strong industrial base, and is well above the EU average. The employment share of high and medium high-tech companies is also above the EU average, while employment in knowledge-intensive services is close to the EU average over 2022–2024, suggesting the positive dynamism of certain innovative and technological firms. A contributing factor is the high share of added value generated by foreign-controlled enterprises, which has remained well above the EU average since 2018 (28.4 vs 13.3). In 2024, Czechia had a level of GDP per capita less than 10% below the EU average.



Business and entrepreneurship

Between 2021 and 2023, Foreign Direct Investment (FDI) net inflows in Czechia averaged 3.3% of GDP, well above the EU average of 1.0%, highlighting its strong attractiveness to foreign investors. In contrast, enterprise births remain below the EU average (0.5% vs 0.8%) for 2018–2020, pointing a weaker domestic entrepreneurial dynamism. The performance of Czechia's business competitiveness is close to those of the EU average: buyer sophistication scores slightly lower than the EU average (3.0 vs 3.6), but performance in the Digital Intensity Index is marginally higher (34.8 vs 34.2 in 2024), indicating broad adoption of digital technologies. The share of young high-growth enterprises matches the EU average (0.8%), though data regarding “total entrepreneurial activity” is not available in Czechia, compared to the EU average of 7.1%.



Innovation profiles

Czechia's innovation profile in 2020 shows a relatively strong base of in-house innovation compared to the EU average. The country had higher shares of in-house product innovators, both with market novelties (17.2% vs 11.7%) and without (17.7% vs 13.7%), as well as a similar share of business process innovators (16.9% vs 17.6%). These figures indicate a solid internal innovation capacity within firms. Moreover, Czechia reported a lower proportion of firms relying on external sources for innovation (4.5% vs 6.1%) and fewer businesses with no disposition to innovate (26.1% vs 30.6%), suggesting a business environment that have been more innovation-oriented than the EU average. In 2020, Czechia had a lower share of innovation active non-innovators (0.7%) compared to the EU average (4.2%). This group includes enterprises with ongoing or abandoned innovation activities that did not result in an innovation, suggesting fewer firms even attempting innovation. The share of non-innovators with potential was similar (17.0% vs 17.8%), while fewer firms lacked disposition to innovate (26.1% vs 30.6%), indicating slightly better innovation readiness.

In terms of international funding, the Horizon Europe (HEU) funding intensity per researcher over the 2022–2024 period was significantly lower in Czechia (3,190.5) than the EU average (6,194), reflecting limited participation in EU-level research networks. These differences suggest that while Czechia performs well in firm-level innovation, it underperforms in leveraging external collaboration and competitive research funding.



Governance and policy frameworks

Czechia scores below the EU average in perceived corruption (56.3 vs 63.3) showing persistent concerns around transparency and public trust but slightly above in rule of law (1.1 vs 1.0).

Innovation procurement is underused, as total share of public procurement is significantly lower than those of the EU average (4.1% vs 9.2%), suggesting missed opportunities to leverage public procurement as a driver for market creation and innovation diffusion. Data regarding Basic-school entrepreneurial education and training is unavailable in Czechia.



Environment

Czechia slightly outperforms the EU average in circular material use (11.7% vs 11.5%) between 2021 and 2023. Its rate has nearly doubled over the past decade and has remained close to the EU average since 2020 (European Commission, 2025). The Circular Czechia 2040 strategy, adopted in 2021 as part of the Recovery and Resilience Plan, sets the national vision for a circular economy.

Czechia also shows lower greenhouse gas emissions intensity from energy consumption (73.8 vs 82.8) for 2018–2020, indicating relatively more efficient energy use than the EU average. In 2024, its Eco-Innovation Index stood at 125.6, close to the EU average of 127.5, suggesting a solid but not leading performance in environmentally driven innovation.



Demography

Czechia's population averaged 10.7 million in 2022–2024, with an annual growth rate of 1.8%, well above the EU average of 0.4%. All regions have seen continuous growth since 2014. Population density is also higher than the EU average (139.4 vs 109.1). However, population tends to concentrate in more prosperous regions, while net out-migration—especially of young people—continues to deepen territorial disparities.

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This report provides the Country profile from the 2025 European Innovation Scoreboard for Czechia

Studies and reports