



European Innovation Scoreboard 2024 - Country profile Austria

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Strong Innovator

Summary innovation index (relative to EU in 2017): **127.9** Rank: **8**

Change vs 2023: ▼ -1.2 Change vs 2017: ▲ 4.6

Austria is a Strong Innovator with performance at 116.3% of the EU average in 2024. Performance is above the average of the Strong Innovators (111.3%). Performance is increasing less than the EU (+10%).

Performano licator relative to the E in 202		EU	Performance change 2017-2024	Performance change 2023-2024	
SUMMARY INNOVATION INDEX	116.3		4.6	-1.2	
Human resources	111.8		3.9	-0.6	
New doctorate graduates	100.0		-11.6	-11.6	
Population with tertiary education	102.2		6.6	2.4	
Population involved in lifelong learning	136.4		25.5	13.2	
Attractive research systems	148.9		27.0	2.6	
International scientific co-publications	183.3		59.8	-0.1	
Scientific publications among the top 10% most cited	108.4		-11.6	1.8	
Foreign doctorate students as a % of all doctorate students	181.3		81.9	6.6	
Digitalisation	89.6		6.5	7.7	
Broadband penetration	67.6		18.5	21.1	
Individuals with above basic overall digital skills	120.3		-5.5	-5.5	
Finance and support	128.0		26.8	-7.3	
R&D expenditure in the public sector	141.0		19.7	-3.3	
Venture capital expenditures	80.7		35.4	-2.2	
Direct and indirect government support of business	172.3		27.4	-18.9	
R&D Firm investments					
	107.1		1.8	2.5	
R&D expenditure in the business sector	150.0		1.5	-3.8	
Non-R&D innovation expenditures	65.2		-9.4	2.6	
Innovation expenditures per person employed	100.4		14.1	9.2	
Use of information technologies	100.9		-27.8	12.2	
Enterprises providing ICT training	86.8		-83.4	15.3	
Employed ICT specialists	114.7		25.8	9.7	
Innovators	127.3		-4.0	0.0	
SMEs introducing product innovations	124.3		-12.9	0.0	
SMEs introducing business process innovations	129.7		4.4	0.0	
Linkages	171.7		13.8	-13.1	
Innovative SMEs collaborating with others	136.2		-69.0	0.0	
Public-private co-publications	393.7		124.1	4.2	
Job-to-job mobility of HRST	110.4		32.4	-32.3	
Intellectual assets	139.5		-5.7	-8.2	
PCT patent applications	118.6		-3.3	2.9	
Trademark applications	133.6		13.1	-7.5	
Design applications	179.1		-23.6	-23.2	
Employment impacts	119.3		4.9	0.4	
Employment in knowledge-intensive activities	109.0		8.5	1.2	
Employment in innovative enterprises	128.3		1.7	-0.6	
Sales impacts	76.9		3.3	-6.9	
Exports of medium and high technology products	88.0		-3.3	2.4	
Knowledge-intensive services exports	51.2		7.2	-11.2	
Sales of new-to-market and new-to-firm innovations	99.5		8.2	-15.8	
Environmental sustainability	104.7		1.9	3.0	
Resource productivity	94.2		19.9	5.3	
Air emissions by fine particulates	116.1		5.3	1.8	
Environment-related technologies	98.6		-17.2	2.8	

Relative strengths

- Public-private co-publications
- International scientific copublications
- Foreign doctorate students as a % of all doctorate students

Relative weaknesses

- Knowledge-intensive services exports
- Non-R&D innovation expenditures
- · Broadband penetration

Strong increases since 2017

- Public-private co-publications
- Foreign doctorate students as a % of all doctorate students
- International scientific copublications

Strong decreases since 2017

- Enterprises providing ICT training
- Innovative SMEs collaborating with others
- Design applications

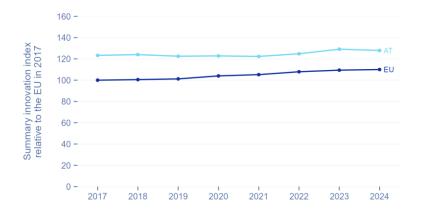
Strong increases since 2023

- Broadband penetration
- Enterprises providing ICT training
- Population involved in lifelong learning

Strong decreases since 2023

- · Job-to-job mobility of HRST
- Design applications
- Direct and indirect government support of business R&D

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.



Summary innovation index

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

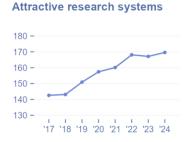
Footnote: All performance scores (SII and dimensions below) are relative to that of the EU in 2017

Framework conditions

Austria has shown a mixed performance in the Human Resources dimension and strong performance, mostly above 125% of the 2024 EU average, in the Attractive Research Systems dimension. Despite a 11.6%-point decline in new doctorate graduates compared to 2017, Austria has increased the share of its population with tertiary education by 6.6%-points. Additionally, Austria's high-quality education system continues to attract foreign PhD students with a rise of 81.9%-points since 2017, and overall performance of 181.3% of the 2024 EU average.

However, broadband penetration remains a challenge for Austria, as it performs below the 70% of the EU average on this indicator in 2024. This is primarily due to the unattractive nature of mountainous and sparsely populated regions for private-sector telecom companies. To address this issue, the government plans to implement Austria's 2030 broadband strategy (OECD, 2024). Furthermore, Austria's increased investments in digital skills have contributed to the country's strong performance at 120.3% of the 2024 EU level in the share of individuals with above basic digital skills, despite the 5.5%-point decrease since 2017.







Investments

Austria has a high level of gross domestic spending on R&D (GERD), standing at 3.26% of GDP in 2023 (Statistics Austria, 2024). Public support to business R&D is substantial and registered a 27.4%-point increase since 2017, with overall performance at 172.3% of the 2024 EU average. Such support includes direct funding (e.g., through the General Programme of the Austrian Research Promotion Agency) and tax incentives (i.e., research premiums), with almost half of innovative companies receiving state funding for their R&D activities in 2022 (OECD, 2024). Venture capital is increasingly becoming a solid source of financing of Austrian R&D, even if it remains below the 2024 EU average, standing at 80.7%, with an increase of 35.4%-points since 2017. The R&D expenditures in the business sector is at 150.0% of the EU average in 2024, recording a modest 1.5%-point growth over the last eight years. However, as the economy has slowed down in 2023, marked by low level of investment due to high interest rates and high inflation, state and firm investments in R&D have decreased compared to 2023.

Austria has a relatively high share of employed ICT specialists compared to the EU, with an increase of 25.8%-points since 2017. The share of enterprises providing ICT training recorded a strong decrease over 2018-2021, falling by 117.9%-points before recovering modestly in 2022-2024, with an overall performance standing at 86.8% of the EU average in 2024.

Finance and support



Firm investments



Use of information technologies



Innovation activities

Austria boasts a strong transfer of knowledge and technology, from research institutes to firms, with high mobility between the two sectors reflected in a very strong performance on the Linkages dimension. In particular, Austria performs well in public-private co-publications (393.7% of the EU level in 2024), and Innovative SMEs collaborating with others (136.2% of the 2024 EU average). Despite higher than EU performance in the Innovators dimension (127.3% of the 2024 EU average), Austria's innovation activity and business dynamism are hindered by labour and skills shortages, which are among the highest in the EU (OECD, 2024) contributing to the decrease of 4.0%-points on this dimension. This is particularly challenging in the context of increasing demand for new skills for green and digital transitions (European Commission, 2024).

Austria shows strong performance on the Intellectual Assets dimension compared to peers in the Strong innovators group and also the EU, standing at 139.5% of the 2024 EU average. According to 2023 Global Innovation Index, Austria produces more innovation outputs, in particular knowledge and technology outputs, relative to its level of innovation investments (WIPO, 2023). However, Austria has seen a modest 3.3%-point decline in patent applications since 2017, and design applications fell by 23.6%-points over the eight years period. At the same time, the country's performance on trademarks has been on the upward trend, with Austria performing at 133.6% of the 2024 EU average on this indicator.





Linkages



Intellectual assets



Impacts

Austria shows strong performance on Employment impacts, especially on employment in innovative enterprises with a score above 125% of EU average. Yet, Austria performs below 70% of the EU average on knowledge-intensive services exports, and lags behind the EU on sales of innovations (at 51.2% and 99.5% of the EU level in 2024, respectively). Despite the overall improvement since 2017, the last two indicators have seen a decrease of over 10%-points since 2023, most likely due to weakened demand in the market in the context of recession and economic slowdown in major export markets (e.g., Germany) (OECD, 2024).

Austria's resource productivity has improved by 19.9%-points compared to 2017 and stands at 94.2% of the EU average in 2024. Despite a decrease by 17.2%-points compared to 2017, the development of environment-related technologies has seen a 2.8%-points rise vis-a-vis 2023, likely due Austria's increased presence in the solar industry and in the supply chain for battery manufacturing (European Commission, 2024). Finally, Austria performs above the EU average on air emissions, registering a steady 5.3%-point improvement since 2017.

Employment impacts

140 -135 -130 -125 -120 -115 -110 -17 '18 '19 '20 '21 '22 '23 '24

Sales impacts



Environmental sustainability



Structural differences

Performance and structure of the economy

Austria has the fifth highest GDP per capita in the EU - 123% of the EU average, with an average growth rate in line with the EU. Following the contraction by 0.8% in 2023, the Austrian economy is expected to recover gradually reaching 0.3% growth in 2024 and up to 1.6% in 2025 (European Commission, 2024).

Business and entrepreneurship

Austria's overall entrepreneurial activity is similar to the EU average, standing at 6.8%. The country outperforms the EU on top enterprises investing in R&D, with the value of 14.9 vs 8.4, drawing on strong business R&D expenditures overall, i.e. 1.06% of GDP in 2023 (Federal Ministry of Education, Science and Research, 2023).

Innovation profiles

Austria has a much higher share of in-house product innovators with market novelties than the EU (20.1 vs 11.7), and this despite shortages in labour and skills, as well as gaps in equity financing weighing on innovation activity. The share of innovators not performing R&D in-house is slightly higher than the EU average (6.7% vs 6.1%), coherent with the high levels of the R&D spending by firms in Austria.

Governance and policy framework

Austria has better than the EU score on Corruption Perception Index, standing at 72 vs 64, despite the weakening of its position due to recent high-profile political scandals. The trust in the national government has been one of the lowest among OECD countries (25% versus 41% of OECD average). The state use of public procurement to boost demand for innovation is below the EU average.

Climate change

The GHG emissions intensity of energy consumption is slightly above EU average, at 83.4, mostly due to remaining high reliance of domestic energy consumption on imported fossil fuels, despite significant hydropower resources for domestic production of energy (OECD, 2024). Austria outperforms the EU on the circular material use and Eco-Innovation index (173.9 vs 121.5 for the EU).

Demography

Austria has a population of around 9 million inhabitants, with an average growth of 1%, much higher than the EU's (0.3%). Its population density is close to the EU average, and its foreign-born population represents almost one-fifth of Austria's resident population, the third highest share in the OECD. The war in Ukraine sparked a large influx of refugees, with almost 80 thousand Ukrainians living in Austria as of 2023 (OECD, 2024).

Structural indicators

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

	AT	EU
Performance and structure of the economy		
GDP per capita	123	100
Average annual GDP growth (2021-2023 average)	2	1.9
Employment share Manufacturing	16.7	15.8
Employment share High and Medium high-tech	38.5	37.9
Employment share Services	40.9	39.8
Employment share Knowledge-intensive services	27.5	28.6
Turnover share SMEs	14	12.6
Turnover share large enterprises		49.6
Foreign-controlled enterprises – share of value added	17	13.3
Business and entrepreneurship		
Enterprise births	0.9	0.8
Total Entrepreneurial Activity	6.8	6.8
FDI net inflows	1	1.9
Top R&D spending enterprises	14.9	8.4
Buyer sophistication	3.8	3.6
Innovation profiles		
In-house product innovators with market novelties	20.1	11.7
In-house product innovators without market novelties	10.2	13.7
In-house business process innovators	19.9	17.6
Innovators that do not develop innovations themselves	6.7	6.1
Innovation active non-innovators	2.9	4.2
Non-innovators with potential to innovate	12.2	17.8
Non-innovators without disposition to innovate	27.9	30.6
Governance and policy frameworks		
Corruption Perceptions Index	72	64
Basic-school entrepreneurial education and training	2.2	2.6
Government procurement of advanced technology products	3.4	3.4
Rule of law	1.7	:
Innovation procurement as a share of total public procurement	6.5	9.2
Climate change		
Circular material use rate	12.7	11.5
Greenhouse gas emissions intensity of energy consumption	83.4	82.8
Eco-Innovation Index	173.9	121.5
Demography		

	AT	EU
Population size (in millions)	9	447
Average annual population growth (2021-2023 average)	1	0.3
Population density	108.4	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 <u>Annex B</u>.

European Commission (2024) 2024 Country Report - Austria. Available at: https://economy-finance.ec.europa.eu/document/download/dfd1e288-8903-4c97-b814-caa16760a326_en?filename=SWD_2024_620_1_EN_Austria.pdf.

Federal Ministry of Education, Science and Research of Republic of Austria (2023) Austrian Research and Technology Report 2024. Available at: https://www.bmk.gv.at/en/topics/innovation/publications/technology_reports.html.

OECD (2024), OECD Economic Surveys: Austria 2024, Éditions OCDE, Paris, https://doi.org/10.1787/60ea1561-en.

Research intensity (2024) STATISTICS AUSTRIA. Available at: https://www.statistik.at/en/statistics/research-innovation-digitalisation/research-and-experimental-development-rd/research-intensity.

WIPO (2023) Global Innovation Index 2023. Available at: https://www.wipo.int/edocs/pubdocs/en/wipo-pub-2000-2023-en-main-report-global-innovation-index-2023-16th-edition.pdf.

This report provides the Country profile from the 2024 European Innovation Scoreboard for Austria

Studies and reports