



European Innovation Scoreboard **2024** Country Profile **Hungary**

European Innovation Scoreboard 2024 – Country profile Hungary

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**Moderate Innovator** ●Summary innovation index (relative to EU in 2017): **77.6**Rank: **25**

Change vs 2023: ▲ 2.1 Change vs 2017: ▲ 8.7

Hungary is a Moderate Innovator with performance at 70.5% of the EU average in 2024. Performance is below the average of the Moderate Innovators (84.8%). Performance is increasing less than the EU (+10%).

Indicator	Performance relative to the EU in 2024	Performance change 2017-2024	Performance change 2023-2024
SUMMARY INNOVATION INDEX	70.5	8.7	2.1
Human resources	47.8	7.9	-0.2
New doctorate graduates	47.6	11.6	0.0
Population with tertiary education	25.5	-21.0	-15.0
Population involved in lifelong learning	72.9	37.7	17.4
Attractive research systems	77.3	47.4	2.1
International scientific co-publications	60.2	27.7	4.6
Scientific publications among the top 10% most cited	53.5	14.1	-1.7
Foreign doctorate students as a % of all doctorate students	130.7	138.7	8.1
Digitalisation	86.9	36.3	24.2
Broadband penetration	75.0	43.3	18.9
Individuals with above basic overall digital skills	103.5	29.3	29.3
Finance and support	81.2	-9.4	-1.2
R&D expenditure in the public sector	42.6	4.9	-3.3
Venture capital expenditures	73.6	1.4	-12.9
Direct and indirect government support of business R&D	136.4	-43.2	14.9
Firm investments	70.3	-3.5	2.9
R&D expenditure in the business sector	66.7	-10.5	-18.0
Non-R&D innovation expenditures	89.4	-7.8	13.6
Innovation expenditures per person employed	56.5	8.7	14.7
Use of information technologies	79.2	13.0	8.5
Enterprises providing ICT training	75.9	16.6	14.0
Employed ICT specialists	82.3	9.7	3.2
Innovators	45.3	18.8	-11.0
SMEs introducing product innovations	60.0	22.4	-12.6
SMEs introducing business process innovations	33.4	15.5	-9.5
Linkages	92.3	55.1	2.5
Innovative SMEs collaborating with others	73.1	42.8	-7.0
Public-private co-publications	117.3	44.7	0.5
Job-to-job mobility of HRST	97.9	70.6	11.7
Intellectual assets	50.4	-0.5	-0.7
PCT patent applications	58.8	-4.8	1.9
Trademark applications	66.4	10.3	-3.1
Design applications	19.2	-3.6	-1.9
Employment impacts	60.2	13.2	8.5
Employment in knowledge-intensive activities	86.6	1.2	0.0
Employment in innovative enterprises	38.0	24.5	16.2
Sales impacts	81.1	-5.8	1.9
Exports of medium and high technology products	113.7	-1.2	8.9
Knowledge-intensive services exports	63.3	12.7	1.7
Sales of new-to-market and new-to-firm innovations	57.1	-38.2	-8.8
Environmental sustainability	69.8	-9.1	-3.9
Resource productivity	67.5	22.5	10.9
Air emissions by fine particulates	91.7	-2.9	-1.1
Environment-related technologies	41.8	-43.4	-19.8

Relative strengths

- Direct and indirect government support of business R&D
- Foreign doctorate students as a % of all doctorate students
- Public-private co-publications

Relative weaknesses

- Design applications
- Population with tertiary education
- SMEs introducing business process innovations

Strong increases since 2017

- Foreign doctorate students as a % of all doctorate students
- Job-to-job mobility of HRST
- Public-private co-publications

Strong decreases since 2017

- Environment-related technologies
- Direct and indirect government support of business R&D
- Sales of new-to-market and new-to-firm innovations

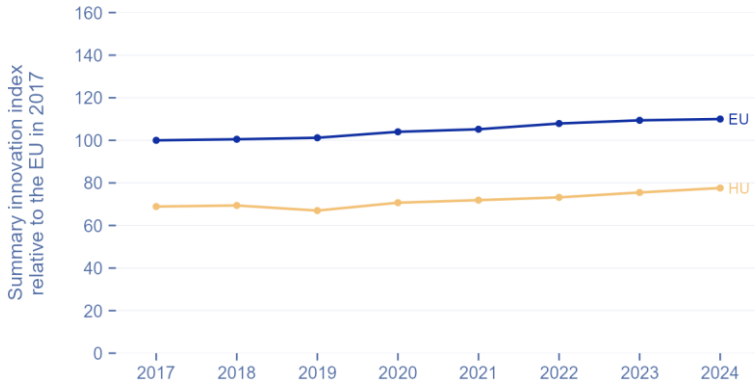
Strong increases since 2023

- Individuals with above basic overall digital skills
- Broadband penetration
- Population involved in lifelong learning

Strong decreases since 2023

- Environment-related technologies
- R&D expenditure in the business sector
- Population with tertiary education

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 Hungary 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

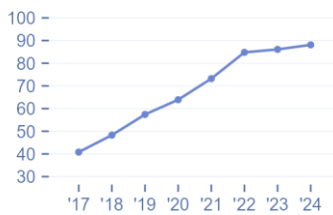
Since 2017, Hungary's framework conditions have seen notable improvements. Human resources have improved, with an increase in new doctorate graduates in STEM (+11.6%-points) and significant growth in lifelong learning (+37.7%-points). However, the population with tertiary education has fallen (-21.0%-points) to 25.5% of the EU average in 2024.

Hungary's research environment has become more attractive, evidenced by a significant rise in international scientific co-publications (+27.7%-points) and in the percentage of foreign doctorate students (+138.7%-points) that is now 130.7% of the EU average. Digitalisation efforts have also advanced, with substantial improvements in broadband penetration (+43.3%-points) and basic digital skills among the population that surpasses the EU average. These improvements run in parallel with programmes like the Digital Transition of Higher Education and Digital Welfare Programme, which focused on digital transformation, ICT infrastructure, skills, teaching and learning.

Human resources



Attractive research systems



Digitalisation



Investments

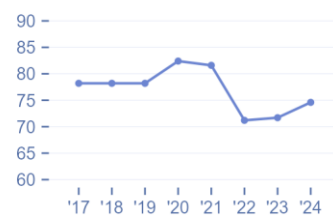
From 2017, Hungary's investments in finance and support for innovation have experienced mixed trends. Overall financial support for R&D has seen a decline (-9.4%-points), while public R&D expenditure is very low and is only 42.6% of the EU average in 2024. Direct and indirect government support of business sits at 136.4% of the EU average in 2024 however there has been a large fall since 2017 (-43.2%-points). This high score can be attributed to the Hungarian National Research, Development and Innovation Strategy providing over HUF 591 billion to bolster the country's research and innovation landscape through various research, development and innovation calls since its inception in 2014.

Firm investments as a whole in innovation is 70.3% of the EU average in 2024. Non-R&D innovation expenditures has fallen (-7.8%-points) yet innovation spending per employee has grown (+8.7%-points). Additionally, the use of information technologies in enterprises has risen, with more businesses providing ICT training (16.6%-points), and employing ICT specialists (+9.7%-points).

Finance and support



Firm investments



Use of information technologies



Innovation activities

Hungary’s innovation activities have shown solid progress; however, they are still performing poorly in comparison to the EU average in 2024. There has been progress on innovators, however they are still well below the EU average with enterprises providing ICT training and employed ICT specialists being 60.0% and 33.4% of the EU average in 2024, respectively. There have been dramatic improvements in the linkages between Hungarian research actors (+55.1%-points overall), with notable growth in innovative SMEs collaborating with others, public-private co-publications, and job-to-job mobility of highly skilled professionals, that are now 73.1%, 117.3%, and 97.9% of the EU average. This progress has been aided by initiatives such as the Széchenyi 2020 programme which supported projects which targeted business process innovations and that strengthen linkages between SMEs and research institutions. Nonetheless, on the negative side the production of intellectual assets has stagnated, with patents and trademark applications standing at 58.8% and 66.4% of the EU average in 2024, while design applications are less than a fifth of the EU average. Barriers exacerbating the lack of intellectual assets production include the increasing lack of labour market information for doctoral schools and doctoral students; low transferable skills development; and a lack of support for doctoral students in completing their studies, as underlined by the OECD country note on Hungary.

Innovators



Linkages



Intellectual assets



Impacts

Since 2017, Hungary has seen significant changes in economic impacts. Employment in innovative enterprises has grown (+24.5%-points), however they still lie at a very low level of 38.0% of the EU average in 2024 for employment in innovative enterprises. Sales impacts are mixed, with a notable decline in sales of new-to-market and new-to-firm innovations (-38.2%-points since 2017) falling to 57.1% of the EU average in 2024. Exports of medium and high technology products are 113.7% of the EU average, highlighting Hungary’s strength in this sector. Hungary is one of the largest electronics producers in Europe with companies such as Videoton, Flextronics, Jabil, Foxconn, Zollner and Sanmina manufacturing electronics in the country.

In environmental sustainability Hungary is only 69.8% of the EU average in 2024, driven downward by the low production of patents based on environment-related technologies which only sits at 41.8% of the EU average in 2024 and has been decreasing over years. However, resource productivity has improved significantly between 2017 and 2024 (+22.5%-points), and air emissions by fine particles almost reach the EU average level (91.7%).

Employment impacts



Sales impacts



Environmental sustainability



Structural differences

Performance and structure of the economy

Hungary has a mixed economy that has high productive capabilities, however the GDP per capita remains lower than the EU average. The manufacturing sector employs a higher percentage of the workforce along with the high and medium high-tech sector. SMEs have a relatively high turnover share, although it is less than that of large enterprises, which dominate the economic landscape. Foreign-controlled enterprises contribute a substantial share of value added to the economy (31%), this is the second highest score within the EU, behind Ireland which has 57%, highlighting Hungary as one of the most attractive places in the EU for foreign enterprises.

Business and entrepreneurship

Hungary provides a solid ecosystem for business and entrepreneurship. The rate of enterprise births and total entrepreneurial activity is higher than the EU average. Foreign direct investment net inflows are the highest in the EU (39.4%), bolstered by heavy government support in offering favourable conditions for foreign companies such as through lower tax rates. Nonetheless, the reliance of FDI may have caused Hungary to have a very low number of companies (1.0%) in the top 2500 research and development (R&D) spending worldwide.

Innovation profiles

Hungary's innovation profile reveals a mixed landscape. The proportion of in-house product innovators with market novelties and without market novelties is lower than the EU average. In-house business process innovators are also less prevalent. Nonetheless, the percentage of non-innovators with potential to innovate is significantly higher than the EU average (39.6%).

Governance and policy framework

Hungary's governance and policy framework presents several. The Corruption Perceptions Index (42.3/100) is notably lower than the EU average and the lowest in the EU, indicating high levels of perceived corruption and strong improvements needed. Basic-school entrepreneurial education and training also fall short of the EU average to the second lowest in the EU being just above Austria. Government procurement of advanced technology products and innovation procurement are also below the EU average, representing respectively 2.8% and 5.1% of total procurement.

Climate change

Hungary faces several challenges in its climate change based on the given set of indicators. The country's circular material use rate (6.8) and the performance on the Eco-Innovation Index (81.2) is well below the EU average. However, greenhouse gas emissions intensity of energy consumption in Hungary is better than the EU average. Hungary in recent years has developed and adopted the Green Public Procurement Strategy 2022-2027 which may induce changes in environmental trends.

Demography

Hungary is a landlocked country in Central Europe with a population size of approximately 9.7 million, Hungary's average annual population growth is negative, at -0.7%. This falling population is characterised by declining birth rates and increasing emigration of young people from Hungary, causing a brain drain.

Structural indicators

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

	HU	EU
Performance and structure of the economy		
GDP per capita	75.7	100
Average annual GDP growth (2021-2023 average)	1.8	1.9
Employment share Manufacturing	21.1	15.8
Employment share High and Medium high-tech	43.4	37.9
Employment share Services	36.5	39.8
Employment share Knowledge-intensive services	25.3	28.6
Turnover share SMEs	14	12.6
Turnover share large enterprises	44.1	49.6
Foreign-controlled enterprises – share of value added	31	13.3
Business and entrepreneurship		
Enterprise births	1	0.8
Total Entrepreneurial Activity	9.8	6.8
FDI net inflows	39.4	1.9
Top R&D spending enterprises	1	8.4
Buyer sophistication	3	3.6
Innovation profiles		
In-house product innovators with market novelties	8.6	11.7
In-house product innovators without market novelties	8.7	13.7
In-house business process innovators	6.3	17.6
Innovators that do not develop innovations themselves	5.8	6.1
Innovation active non-innovators	3.4	4.2
Non-innovators with potential to innovate	39.6	17.8
Non-innovators without disposition to innovate	27.7	30.6
Governance and policy frameworks		
Corruption Perceptions Index	42.3	64
Basic-school entrepreneurial education and training	2.3	2.6
Government procurement of advanced technology products	2.8	3.4
Rule of law	0.5	1
Innovation procurement as a share of total public procurement	5.1	9.2
Climate change		
Circular material use rate	6.8	11.5
Greenhouse gas emissions intensity of energy consumption	77.1	82.8
Eco-Innovation Index	81.2	121.5
Demography		

	HU	EU
Population size (in millions)	9.7	447
Average annual population growth (2021-2023 average)	-0.7	0.3
Population density	106.6	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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This report provides the Country profile from the 2024 European Innovation Scoreboard for Hungary

Studies and reports

