



European Innovation Scoreboard **2024** Country Profile **Ukraine**

European Innovation Scoreboard 2024 – Country profile Ukraine

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UKRAINE

Emerging InnovatorSummary innovation index (relative to EU in 2017): **35.7**Rank: **38**Change vs 2023: **▲ 0.1** Change vs 2017: **▲ 3.7**

Ukraine is an Emerging Innovator with performance at 32.5% of the EU average in 2024. Performance is below the average of the Emerging Innovators (48%). 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	32.5	3.7	0.1
Human resources	29.8	-7.7	0
New doctorate graduates	27.8	-6.1	0
Population with tertiary education	N/A	N/A	N/A
Population involved in lifelong learning	N/A	N/A	N/A
Attractive research systems	13	11.2	3.9
International scientific co-publications	6.1	6.5	0
Scientific publications among the top 10% most cited	17.8	14.4	10.1
Foreign doctorate students as a % of all doctorate students	11.4	7.6	-6.9
Digitalisation	115.6	5.2	0
Broadband penetration	99.5	5.2	0
Individuals with above basic overall digital skills	N/A	N/A	N/A
Finance and support	28.4	12.6	-2
R&D expenditure in the public sector	4.9	-4.9	-4.9
Venture capital expenditures	64.6	45.6	0
Direct and indirect government support of business R&D	11	0	0
Firm investments	30.2	-1.1	-1.1
R&D expenditure in the business sector	9.7	-2.3	-2.3
Non-R&D innovation expenditures	54.2	0.2	0.2
Innovation expenditures per person employed	N/A	N/A	N/A
Use of information technologies	21.5	-3.9	0
Enterprises providing ICT training	21.8	-3.8	0
Employed ICT specialists	N/A	N/A	N/A
Innovators	0	0	0
SMEs introducing product innovations	0	0	0
SMEs introducing business process innovations	0	0	0
Linkages	21.4	4.4	0
Innovative SMEs collaborating with others	31.3	0	0
Public-private co-publications	14.3	14.2	0
Job-to-job mobility of HRST	N/A	N/A	N/A
Intellectual assets	20	2.7	1.2
PCT patent applications	34.4	-1.4	-0.6
Trademark applications	16.6	14.5	5.6
Design applications	0.5	-1.5	-0.3
Employment impacts	73.7	0	0
Employment in knowledge-intensive activities	80.1	0	0
Employment in innovative enterprises	N/A	N/A	N/A
Sales impacts	34.8	6.1	0.5
Exports of medium and high technology products	8.6	-19.4	-5.6
Knowledge-intensive services exports	81.8	37.9	5.5
Sales of new-to-market and new-to-firm innovations	3.1	3.1	3.1
Environmental sustainability	71.5	-10.7	-3
Resource productivity	N/A	N/A	N/A
Air emissions by fine particulates	N/A	N/A	N/A
Environment-related technologies	78.3	-11.5	-3.3

Relative strengths

- Broadband penetration
- Knowledge-intensive services exports
- Employment in knowledge-intensive activities

Relative weaknesses

- SMEs introducing product innovations
- SMEs introducing business process innovations
- Design applications

Strong increases since 2017

- Venture capital expenditures
- Knowledge-intensive services exports
- Trademark applications

Strong decreases since 2017

- Exports of medium and high technology products
- Environment-related technologies
- New doctorate graduates

Strong increases since 2023

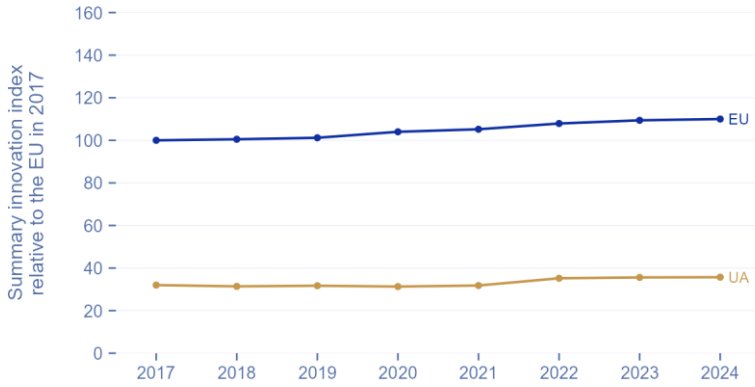
- Scientific publications among the top 10% most cited
- Trademark applications
- Knowledge-intensive services exports

Strong decreases since 2023

- Foreign doctorate students as a % of all doctorate students
- Exports of medium and high technology products
- R&D expenditure in the public sector

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 Ukraine 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

Ukraine recorded a declining trend in R&I human resources (-7.7%-points) driven by a decline in doctorate graduates (-6.1%-points) since 2017, in the context of slow pace of the research system reform to prevent the brain drain. Nevertheless, the attractiveness of research system improved by 11.2%-points over 2017 – 2024 but from a low base, Ukraine performing at 13.0% of 2024 EU average on this dimension. The improvements were driven by a 14.4%-point increase in scientific publications among the top 10% most cited and a 7.6%-point rise in the share of doctorate students, as Ukraine enhanced its participation in the EU R&I framework programmes. Ukraine performs above the EU average on Digitalisation dimension, with an overall performance of 115.6% of EU level in 2024, aided by a strong broadband penetration at 99.5% of EU average.

Human resources



Attractive research systems



Digitalisation



Investments

Government and private spending on R&D remain a challenge in Ukraine, standing at 4.9% and 9.7% of the EU average in 2024, respectively. However, the country witnessed a considerable growth of venture capital for R&D financing (+45.6%-points since 2017) and firms invested at the level of 54.2% of 2024 EU average into non-R&D innovation. Gap in funding of innovation was not sufficiently addressed through state support to business R&D (e.g., through National Research Fund and Ukrainian Start-up Fund) which remains very low, at 11.0% of the EU average in 2024. The use of ICT by firms is below a third of the EU average with a 3.8%-point decrease compared to 2017 in the share of enterprises providing ICT training to their employees.

Finance and support



Firm investments



Use of information technologies



Innovation activities

Ukraine is the worst performing country in terms of Innovators, as only 5.9% of SMEs introduced process innovations and 4.4% introduced product innovations in 2022. However, Ukraine has seen an increase in private-public co-publications since 2017 (+14.2%-points) partly due to the ongoing reform in the R&I sector aimed at deregulation of science-industry cooperation (OECD, 2022). In addition, SMEs collaborating with others represent 31.3% of the EU level in 2024. Ukraine demonstrates a weak performance in Intellectual assets, with a 1.4%-point decrease in patent applications since 2017 and despite the robust increase of 14.5%-points in trademark applications.

Innovators



Linkages



Intellectual assets



Impacts

The booming ICT services sector (OECD, 2022) is mostly responsible for the impressive increase of 37.9%-points in knowledge-intensive services exports since 2017 and the 80.1% of EU average in employment in knowledge-intensive activities in 2024. However, the continued de-industrialisation of the economy (UNECE, 2023) resulted in 19.4%-point decline in exports of high and medium tech products, while political instability and ongoing war have shifted policy priorities. The negative effect of the war is also reflected in the 11.5%-point decline in environment-related since 2017 and on a downward trend, the country performing at 78.3% of the 2024 EU level on this indicator.

Employment impacts



Sales impacts



Environmental sustainability



Structural differences

Performance and structure of the economy

After a sharp decline in 2022, Ukraine managed to recover showing moderate growth of 5.2% in 2023 (GET, 2023), growing faster than the EU but from a much lower base. Public finances are under pressure due to war-related expenditures and reliance on external financing has grown significantly, with the EU providing major macro financial assistance through the EUR 50 billion Ukraine Facility instrument (2024 -2027).

Business and entrepreneurship

Foreign direct investment inflows recorded a strong rebound from 2022 reaching 1.4% of GDP (averaged over 2020-2022) but remained below the EU levels. The relatively high buyer sophistication (3.3 vs 3.6 in the EU) contributes to business sector innovation and the competitiveness of Ukraine's economy, which are important elements for the EU integration.

Innovation profiles

Comparable data is missing. However, the Ukrainian tech and business ecosystem has shown resilience after the 2022 invasion by developing flexible business models, investing in technology and infrastructure, and enhancing supply chain resilience (Deloitte, 2023). War challenges increased business digitalisation and pushed for a surge in defence innovation and technology (Accelerator of Ministry of Defence). In 2023, the European Institute of Innovation and Technology (EIT) Regional Innovation Scheme (RIS) Hub was established in Kyiv offering Ukrainian businesses and innovators opportunity to scale to EU markets (EIT, 2023).

Governance and policy framework

Ukraine holds solid entrepreneurial potential with much higher level of basic school entrepreneurial education and training than in the EU (4.3 vs 2.6). The relatively high share of advanced technology in public procurement is largely due to the increased expenditures on military products (e.g., drones, radars, etc.). The martial law is in vigour as the war continues negatively affecting the rule of law in Ukraine.

Climate change

Comparable data is missing. The war has had a significant negative environmental impact with a total assessed damage of USD 32 billion and the emission of 175 million tons of carbon dioxide over the two years following the invasion (Ecoaction, 2024). This makes it difficult for Ukraine to meet its obligations under the Paris Agreement, i.e. reduction of emissions by 65% below 1990 levels by 2030 and to zero by 2060, with the need to address emissions during the reconstruction phase.

Demography

Since 2022, the war has resulted in a massive population displacement with 6.5 million Ukrainian refugees registered worldwide and 3.7 million internally displaced persons (as of Dec 2023) (European Parliament, 2024).

Structural indicators

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

	UA	EU
Business and entrepreneurship		
FDI net inflows	1.4	1.9
Buyer sophistication	3.2	3.6
Governance and policy frameworks		
Basic-school entrepreneurial education and training	4.3	2.6
Government procurement of advanced technology products	3	3.4
Rule of law	-0.8	1
Demography		
Population size (in millions)	41	447

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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 Ukraine

Studies and reports

