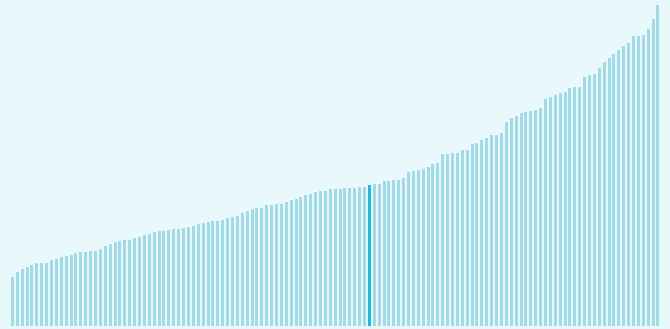


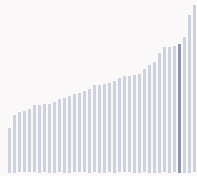
Ukraine ranking in the Global Innovation Index 2024

Ukraine ranks **60th** among the 133 economies featured in the GII 2024.

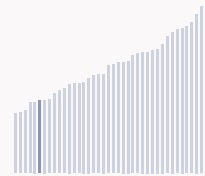
The Global Innovation Index (GII) ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GII aims to capture the multi-dimensional facets of innovation.



Ukraine ranks **4th** among the 38 lower-middle-income group economies.



Ukraine ranks **34th** among the 39 economies in Europe.



> Ukraine GII Ranking (2020-2024)

The table shows the rankings of Ukraine over the past four years. Data availability and changes to the GII model framework influence year-on-year comparisons of the GII rankings. The statistical confidence interval for the ranking of Ukraine in the GII 2024 is between ranks 49 and 65.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	45th	71st	37th
2021	49th	76th	37th
2022	57th	75th	48th
2023	55th	78th	42nd
2024	60th	78th	54th

Ukraine performs better in innovation outputs than innovation inputs in 2024.

This year Ukraine ranks **78th** in innovation inputs. This position is the same as last year.

Ukraine ranks **54th** in innovation outputs. This position is lower than last year.

Ukraine has no clusters in the top 100 S&T clusters of the Global Innovation Index.

Global Innovation Index 2024



> Global Innovation Tracker

The Global Innovation Tracker 2024 shows what is the current state of innovation in Ukraine, how rapidly is technology being embraced and what are the resulting societal impacts.



For Ukraine, 4 indicators have improved in the short-term and 5 indicators have worsened.

Science and innovation investment

Scientific publications	R&D investments	Venture capital		International patent filings
		Deal numbers	Deal values	
▼ -2.7% 2022 - 2023	▼ -38.5% 2021 - 2022	▲ 66.7% 2022 - 2023	▲ 750.6% 2022 - 2023	▲ 3.4% 2022 - 2023
▼ -0.6% 2013 - 2023	▼ -11.6% 2012 - 2022	n/a	n/a	▼ -4.9% 2013 - 2023

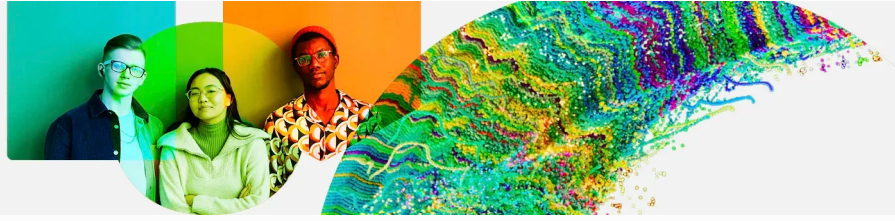
Technology adoption

Safe sanitation	Connectivity		Robots	Electric vehicles
	Fixed broadband	5G		
0% 2021 - 2022	▼ -1.9% 2020 - 2021	n/a	0% 2021 - 2022	n/a
▲ 2.4% 2012 - 2022	▲ 10.1% 2011 - 2021		▲ 11.6% 2012 - 2022	n/a
71.9 per 100 inhabitants in 2022	18.3 per 100 inhabitants in 2021	n/a		n/a

Socioeconomic impact

Labor productivity	Life expectancy	Temperature change
▲ 4.1% 2022 - 2023	▼ -1.5% 2021 - 2022	▲ 2.8°C 2023
▼ -0.4% 2013 - 2023	▼ -0.3% 2012 - 2022	n/a
32,685 USD in 2023	68.6 years in 2022	

Notes: Not all indicators of the Global Innovation Tracker are used to calculate the Global Innovation Index. Long-term annual growth refers to the compound annual growth rate (CAGR) over the indicated period. For each variable, a one-year growth rate is set for the short run, and ten-year CAGR is set for the long run; time windows might differ when gaps exist in data availability. The end period corresponds to the most recent available observation, which may differ among countries. Temperature change is an exception: it indicates the change in degrees Celsius with respect to the average temperature in the country from 1951–1980. Figures are rounded.



Expected vs. observed innovation performance

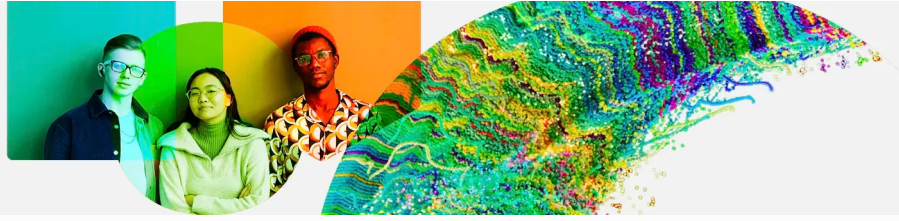
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected and those below are performing below expectations.



Relative to GDP, Ukraine is performing above expectations for its level of development.

> Innovation overperformers relative to their economic development





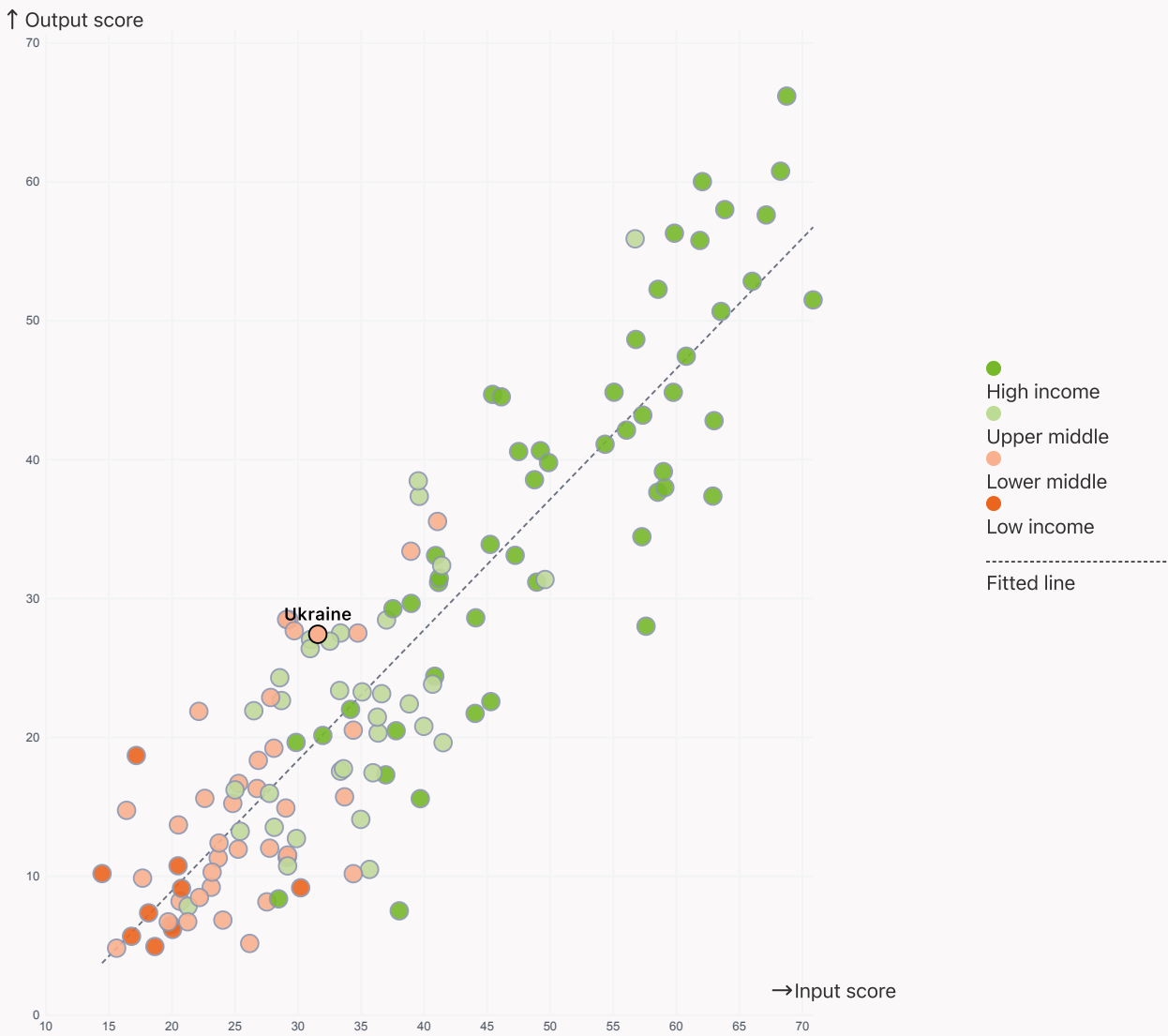
Effectively translating innovation investments into innovation outputs

The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

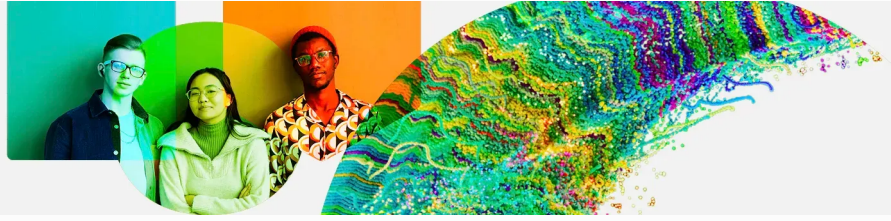


Ukraine produces more innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

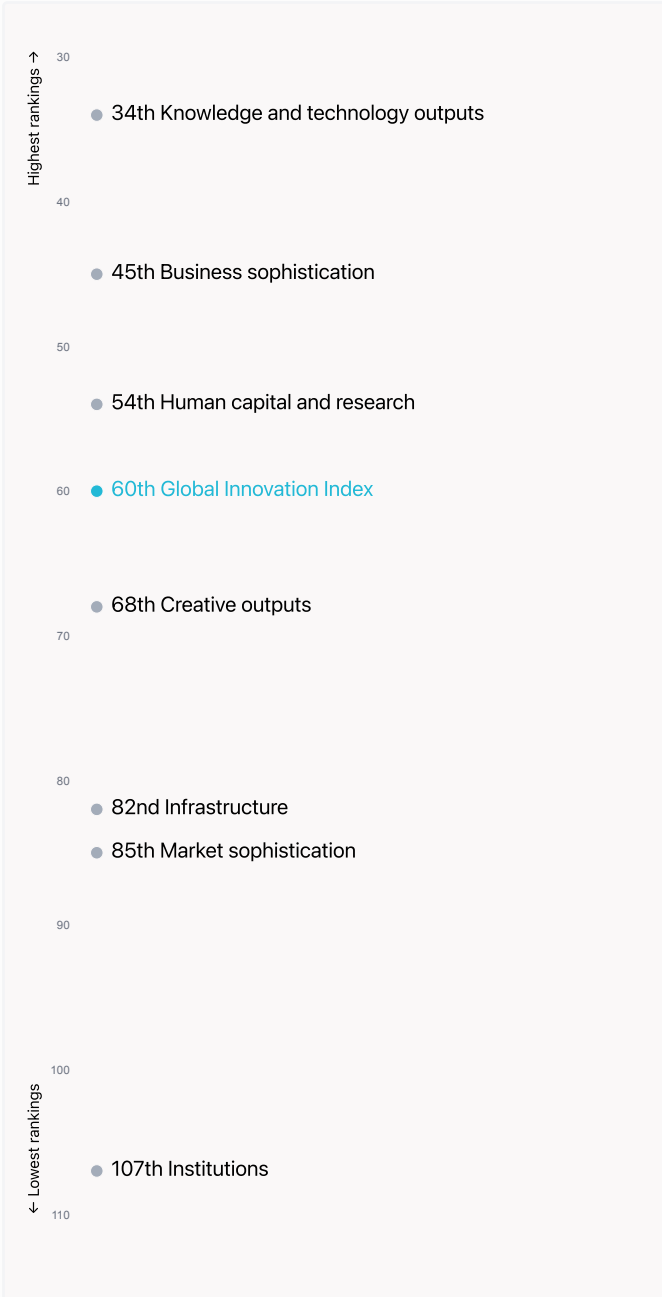


Global Innovation Index 2024



Overview of Ukraine's rankings in the seven areas of the GII in 2024

The chart shows the ranking for each of the seven areas that the GII comprises. The strongest areas for Ukraine are those that rank above the GII (shown in blue) and the weakest are those that rank below.



Highest rankings



Ukraine ranks highest in Knowledge and technology outputs (34th), Business sophistication (45th) and Human capital and research (54th).

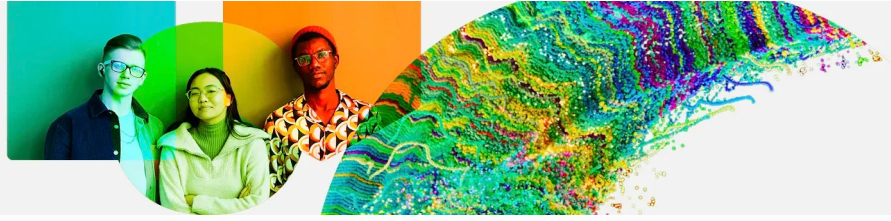
Lowest rankings



Ukraine ranks lowest in Institutions (107th), Market sophistication (85th) and Infrastructure (82nd).

The full WIPO Intellectual Property Statistics profile for Ukraine can be found on [this link](#).

Global Innovation Index 2024



Benchmark of Ukraine against other economy groupings for each of the seven areas of the GII Index

The charts show the relative position of Ukraine (blue bar) against other economy groupings (grey bars), for each of the seven areas of the GII Index.



Lower-Middle-Income economies

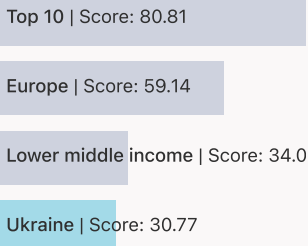
Ukraine performs above the lower-middle-income group average in Human capital and research, Infrastructure, Business sophistication, Knowledge and technology outputs, Creative outputs.



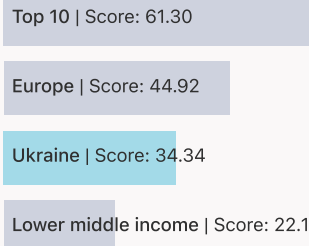
Europe

Ukraine performs below the regional average in all pillars.

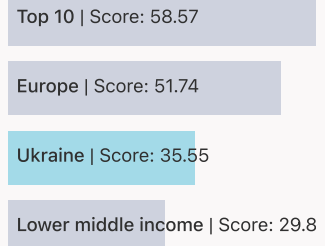
Institutions



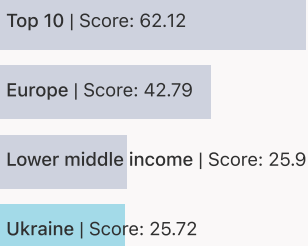
Human capital and research



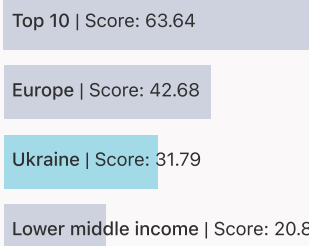
Infrastructure



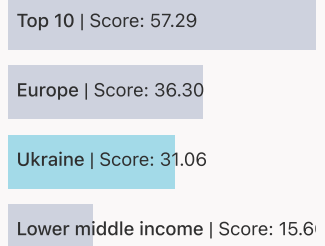
Market sophistication



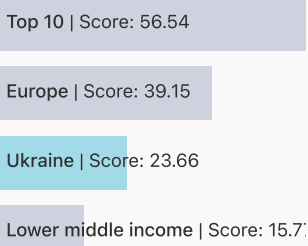
Business sophistication



Knowledge and technology outputs



Creative outputs





Innovation strengths and weaknesses in Ukraine

The table below gives an overview of the indicator strengths and weaknesses of Ukraine in the GII 2024.

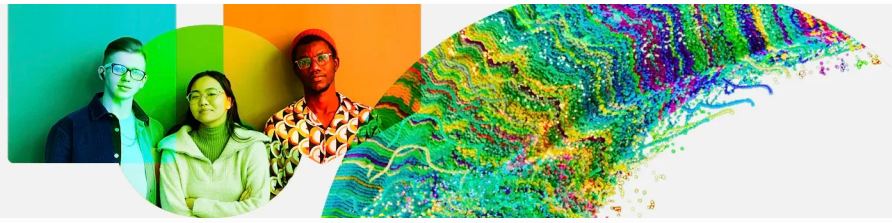


Ukraine's main innovation strengths are **Utility models by origin/bn PPP\$ GDP (rank 1)**, **Females employed w/advanced degrees, % (rank 2)** and **Software spending, % GDP (rank 4)**.

Strengths

Weaknesses

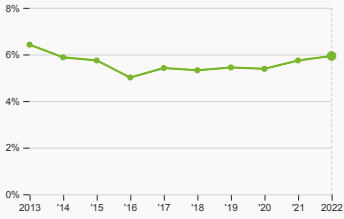
Rank	Code	Indicator name	Rank	Code	Indicator name
1	6.1.3	Utility models by origin/bn PPP\$ GDP	130	6.2.1	Labor productivity growth, %
2	5.1.5	Females employed w/advanced degrees, %	125	3.2.3	Gross capital formation, % GDP
4	6.2.3	Software spending, % GDP	123	1.1.1	Operational stability for businesses*
5	6.3.4	ICT services exports, % total trade	120	5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP
10	2.1.2	Government funding/pupil, secondary, % GDP/cap	115	3.3.1	GDP/unit of energy use
11	7.3.3	Mobile app creation/bn PPP\$ GDP	95	4.2.3	VC recipients, deals/bn PPP\$ GDP
16	2.1.1	Expenditure on education, % GDP	80	4.2.1	Market capitalization, % GDP
18	2.1.5	Pupil-teacher ratio, secondary	57	4.1.3	Loans from microfinance institutions, % GDP
20	7.1.4	Industrial designs by origin/bn PPP\$ GDP	49	6.2.2	Unicorn valuation, % GDP
29	5.2.1	Public Research-Industry co-publications, %	41	2.3.3	Global corporate R&D investors, top 3, mn USD



Ukraine's innovation system

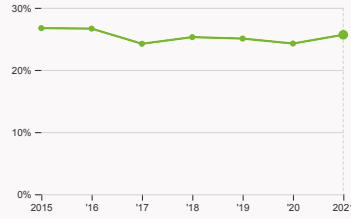
As far as practicable, the plots below present unscaled indicator data.

> Innovation inputs in Ukraine



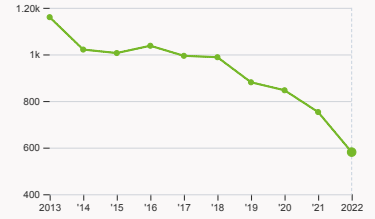
2.1.1 Expenditure on education

was equal to 5.93 % GDP in 2022, up by 0.19 percentage points from the year prior – and equivalent to an indicator rank of 16.



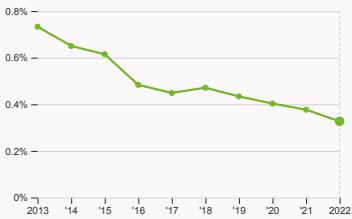
2.2.2 Graduates in science and engineering

was equal to 25.66 % of total graduates in 2021, up by 1.41 percentage points from the year prior – and equivalent to an indicator rank of 40.



2.3.1 Researchers

was equal to 580.81 FTE per million population in 2022, down by 22.85% from the year prior – and equivalent to an indicator rank of 66.



2.3.2 Gross expenditure on R&D

was equal to 0.33 % GDP in 2022, down by 0.05 percentage points from the year prior – and equivalent to an indicator rank of 70.



2.3.4 QS university ranking

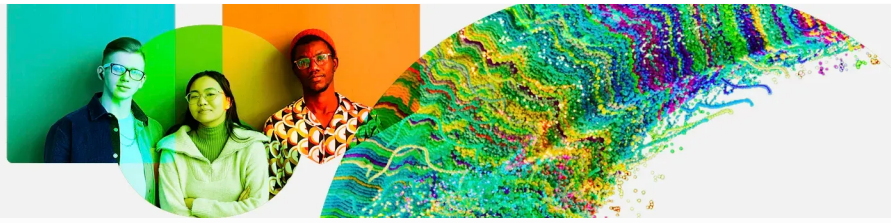
was equal to an average score of 16.67 for the top three universities in 2023, down by 16.1% from the year prior – and equivalent to an indicator rank of 56.



4.2.4 VC received, value

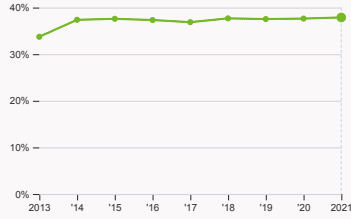
was equal to 58.01 thousand USD in 2023, up by 750.59% from the year prior – and equivalent to an indicator rank of 81.

Global Innovation Index 2024



4.3.2 Domestic industry diversification

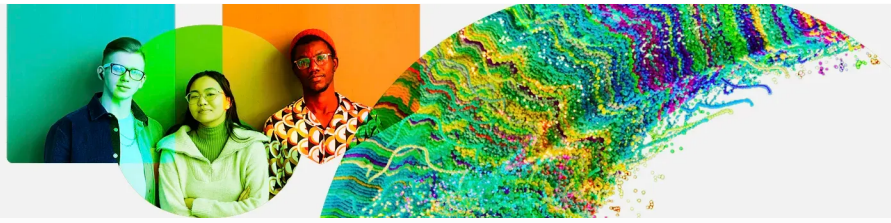
was equal to an index score of 0.13 in 2020, up by 6.51% from the year prior – and equivalent to an indicator rank of 51.



5.1.1 Knowledge-intensive employment

was equal to 37.88 % in 2021, up by 0.25 percentage points from the year prior – and equivalent to an indicator rank of 37.

Global Innovation Index 2024

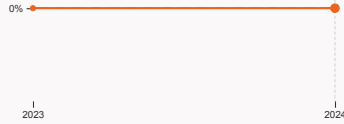


> Innovation outputs in Ukraine



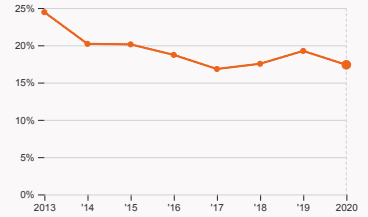
6.1.1 Patents by origin

was equal to 794 patents in 2022, down by 39.02% from the year prior – and equivalent to an indicator rank of 34.



6.2.2 Unicorn valuation

was equal to 0 % GDP in 2024 with no change from the year prior – and equivalent to an indicator rank of 49.



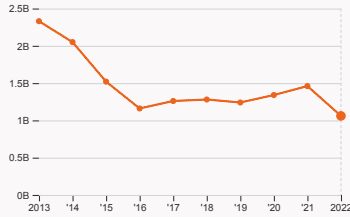
6.2.4 High-tech manufacturing

was equal to 17.38 % of total manufacturing output in 2020, down by 1.86 percentage points from the year prior – and equivalent to an indicator rank of 67.



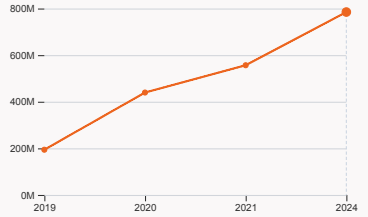
6.3.2 Production and export complexity

was equal to a score of 0.32 in 2021, up by 45.45% from the year prior – and equivalent to an indicator rank of 49.



6.3.3 High-tech exports

was equal to 1.06 billion USD in 2022, down by 27.4% from the year prior – and equivalent to an indicator rank of 68.



7.1.3 Global brand value

was equal to 784.93 million USD for the brands in the top 5,000 in 2024, up by 41.02% from the year prior – and equivalent to an indicator rank of 65.



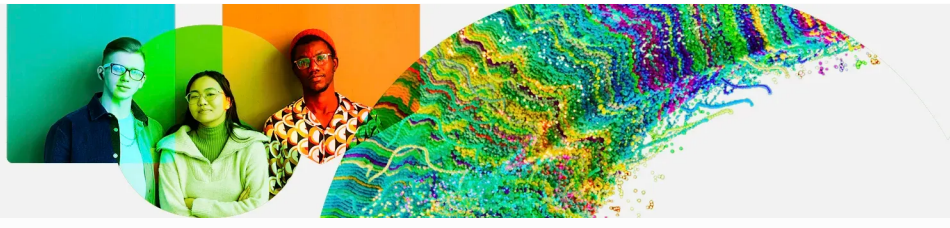
7.2.2 National feature films

was equal to 20 films in 2022, down by 16.67% from the year prior – and equivalent to an indicator rank of 73.



7.3.3 Mobile app creation

was equal to 753.09 million global downloads of mobile apps in 2023, down by 9.63% from the year prior – and equivalent to an indicator rank of 11.



Ukraine's innovation top performers

2.3.4 QS university ranking of Ukraine's top universities

Rank	University	Score
681-690	TARAS SHEVCHENKO NATIONAL UNIVERSITY OF KYIV	17.10
691-700	V. N. KARAZIN KHARKIV NATIONAL UNIVERSITY	16.90
731-740	NATIONAL TECHNICAL UNIVERSITY KHARKIV POLYTECHNIC INSTITUTE	16.00

Source: QS Quacquarelli Symonds Ltd (<https://www.topuniversities.com/university-rankings/world-university-rankings/2023>).

Note: QS Quacquarelli Symonds Ltd annually assesses over 1,200 universities across the globe and scores them between [0,100].

Ranks can represent a single value "x", a tie "x=" or a range "x-y".

7.1.3 Top 5,000 companies in Ukraine with highest global brand value

Rank	Brand	Industry	Brand Value, mn USD
1	KERNEL	Food	436.7
2	PRYLUKY	Tobacco	175.2
3	KYIVSTAR	Telecoms	173

Source: Brand Finance (<https://brandirectory.com>).

Note: Rank corresponds to within economy ranks.

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Ukraine

GII 2024 rank

60

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
54	78	Lower middle	EUR	37.7	474.8	14,304
			Score / Value Rank	Score / Value Rank		
Institutions			30.8 107	Business sophistication 31.8 45		
1.1 Institutional environment			28.8 117	5.1 Knowledge workers 45.8 39		
1.1.1 Operational stability for businesses*			26.7 123	5.1.1 Knowledge-intensive employment, % 37.9 37		
1.1.2 Government effectiveness*			31 99	5.1.2 Firms offering formal training, % 24.3 70		
1.2 Regulatory environment			25.3 106	5.1.3 GERD performed by business, % GDP 0.3 49		
1.2.1 Regulatory quality*			33.1 90	5.1.4 GERD financed by business, % 30.5 61		
1.2.2 Rule of law*			17.5 115	5.1.5 Females employed w/advanced degrees, % 30 2		
1.3 Business environment			38.2 84	5.2 Innovation linkages 23.7 63		
1.3.1 Policy stability for doing business*			46 72	5.2.1 Public Research-Industry co-publications, % 2.5 29		
1.3.2 Entrepreneurship policies and culture*			30.3 54	5.2.2 University-industry R&D collaboration+ 43.9 67		
Human capital and research			34.3 54	5.2.3 State of cluster development+ 44 71		
2.1 Education			58.9 43	5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP 0.003 120		
2.1.1 Expenditure on education, % GDP			5.9 16	5.2.5 Patent families/bn PPP\$ GDP 0.1 50		
2.1.2 Government funding/pupil, secondary, % GDP/cap			28.5 10	5.3 Knowledge absorption 25.8 69		
2.1.3 School life expectancy, years			13.3 76	5.3.1 Intellectual property payments, % total trade 0.7 54		
2.1.4 PISA scales in reading, maths and science			439.5 43	5.3.2 High-tech imports, % total trade 8.3 67		
2.1.5 Pupil-teacher ratio, secondary			8.3 18	5.3.3 ICT services imports, % total trade 1 79		
2.2 Tertiary education			37.2 49	5.3.4 FDI net inflows, % GDP 1.5 88		
2.2.1 Tertiary enrolment, % gross			70.7 44	5.3.5 Research talent, % in businesses 27.3 49		
2.2.2 Graduates in science and engineering, %			25.7 40	Knowledge and technology outputs 31.1 34		
2.2.3 Tertiary inbound mobility, %			4.9 50	6.1 Knowledge creation 32.8 29		
2.3 Research and development (R&D)			7 69	6.1.1 Patents by origin/bn PPP\$ GDP 1.8 34		
2.3.1 Researchers, FTE/mn pop.			580.8 66	6.1.2 PCT patents by origin/bn PPP\$ GDP 0.2 50		
2.3.2 Gross expenditure on R&D, % GDP			0.3 70	6.1.3 Utility models by origin/bn PPP\$ GDP 5.2 1		
2.3.3 Global corporate R&D investors, top 3, mn USD			0 41	6.1.4 Scientific and technical articles/bn PPP\$ GDP 9.6 73		
2.3.4 QS university ranking, top 3*			16.9 56	6.1.5 Citable documents H-index 16.5 50		
Infrastructure			35.5 82	6.2 Knowledge impact 27.8 60		
3.1 Information and communication technologies (ICTs)			75.6 56	6.2.1 Labor productivity growth, % -2.8 130		
3.1.1 ICT access*			87.9 74	6.2.2 Unicorn valuation, % GDP 0 49		
3.1.2 ICT use*			n/a n/a	6.2.3 Software spending, % GDP 0.7 4		
3.1.3 Government's online service*			79.5 34	6.2.4 High-tech manufacturing, % 17.4 67		
3.1.4 E-participation*			59.3 57	6.3 Knowledge diffusion 32.5 35		
3.2 General infrastructure			13.8 117	6.3.1 Intellectual property receipts, % total trade 0.09 58		
3.2.1 Electricity output, GWh/mn pop.			3,605.8 60	6.3.2 Production and export complexity 51.2 49		
3.2.2 Logistics performance*			27.3 76	6.3.3 High-tech exports, % total trade 1.6 68		
3.2.3 Gross capital formation, % GDP			14.1 125	6.3.4 ICT services exports, % total trade 11 5		
3.3 Ecological sustainability			17.3 81	6.3.5 ISO 9001 quality/bn PPP\$ GDP 3.6 70		
3.3.1 GDP/unit of energy use			5.5 115	Creative outputs 23.7 68		
3.3.2 Low-carbon energy use, %			31.3 32	7.1 Intangible assets 25.8 69		
3.3.3 ISO 14001 environment/bn PPP\$ GDP			0.8 81	7.1.1 Intangible asset intensity, top 15, % n/a n/a		
Market sophistication			25.7 85	7.1.2 Trademarks by origin/bn PPP\$ GDP 52.3 32		
4.1 Credit			13.8 100	7.1.3 Global brand value, top 5,000, % GDP 0.4 65		
4.1.1 Finance for startups and scaleups+			34.8 60	7.1.4 Industrial designs by origin/bn PPP\$ GDP 4 20		
4.1.2 Domestic credit to private sector, % GDP			23.5 109	7.2 Creative goods and services 6.6 89		
4.1.3 Loans from microfinance institutions, % GDP			0.07 57	7.2.1 Cultural and creative services exports, % total trade 0.5 53		
4.2 Investment			2.6 103	7.2.2 National feature films/mn pop. 15-69 0.7 73		
4.2.1 Market capitalization, % GDP			4.3 80	7.2.3 Entertainment and media market/th pop. 15-69 n/a n/a		
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP			0.08 47	7.2.4 Creative goods exports, % total trade 0.2 82		
4.2.3 VC recipients, deals/bn PPP\$ GDP			0.01 95	7.3 Online creativity 36.4 39		
4.2.4 VC received, value, % GDP			0.0001 81	7.3.1 Top-level domains (TLDs)/th pop. 15-69 4.7 56		
4.3 Trade, diversification and market scale			60.7 50	7.3.2 GitHub commits/mn pop. 15-69 26.2 39		
4.3.1 Applied tariff rate, weighted avg., %			1.6 59	7.3.3 Mobile app creation/bn PPP\$ GDP 78.4 11		
4.3.2 Domestic industry diversification			85.6 51			
4.3.3 Domestic market scale, bn PPP\$			474.8 48			

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; + a survey question, ● that the economy's data is outdated. Square brackets [] indicate the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash - indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.



Data availability

The following tables list indicators that are either missing or outdated for Ukraine.



Ukraine has missing data for three indicators and outdated data for fourteen indicators.

Missing data for Ukraine

Code	Indicator name	Economy Year	Model Year	Source
3.1.2	ICT use*	n/a	2022	World Intellectual Property Organization; International Telecommunication Union ITU DataHub (accessed May 1st, 2024)
7.1.1	Intangible asset intensity, top 15, %	n/a	2023	Brand Finance
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2023	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund

Outdated data for Ukraine

Code	Indicator name	Economy Year	Model Year	Source
2.1.3	School life expectancy, years	2021	2022	UNESCO Institute for Statistics
2.1.5	Pupil–teacher ratio, secondary	2021	2022	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	2021	2022	UNESCO Institute for Statistics
3.1.1	ICT access*	2021	2022	World Intellectual Property Organization; International Telecommunication Union ITU DataHub (accessed May 1st, 2024)
3.2.1	Electricity output, GWh/mn pop.	2021	2022	International Energy Agency
4.2.1	Market capitalization, % GDP	2018	2022	World Federation of Exchanges; World Bank
4.3.2	Domestic industry diversification	2020	2021	United Nations Industrial Development Organization (UNIDO), Industrial Statistics Database (INDSTAT) Rev.3 and 4
5.1.1	Knowledge-intensive employment, %	2021	2022	International Labour Organization
5.1.2	Firms offering formal training, %	2019	2023	World Bank Enterprise Surveys
5.1.3	GERD performed by business, % GDP	2018	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	2018	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	Females employed	2021	2023	International Labour Organization

Global Innovation Index 2024



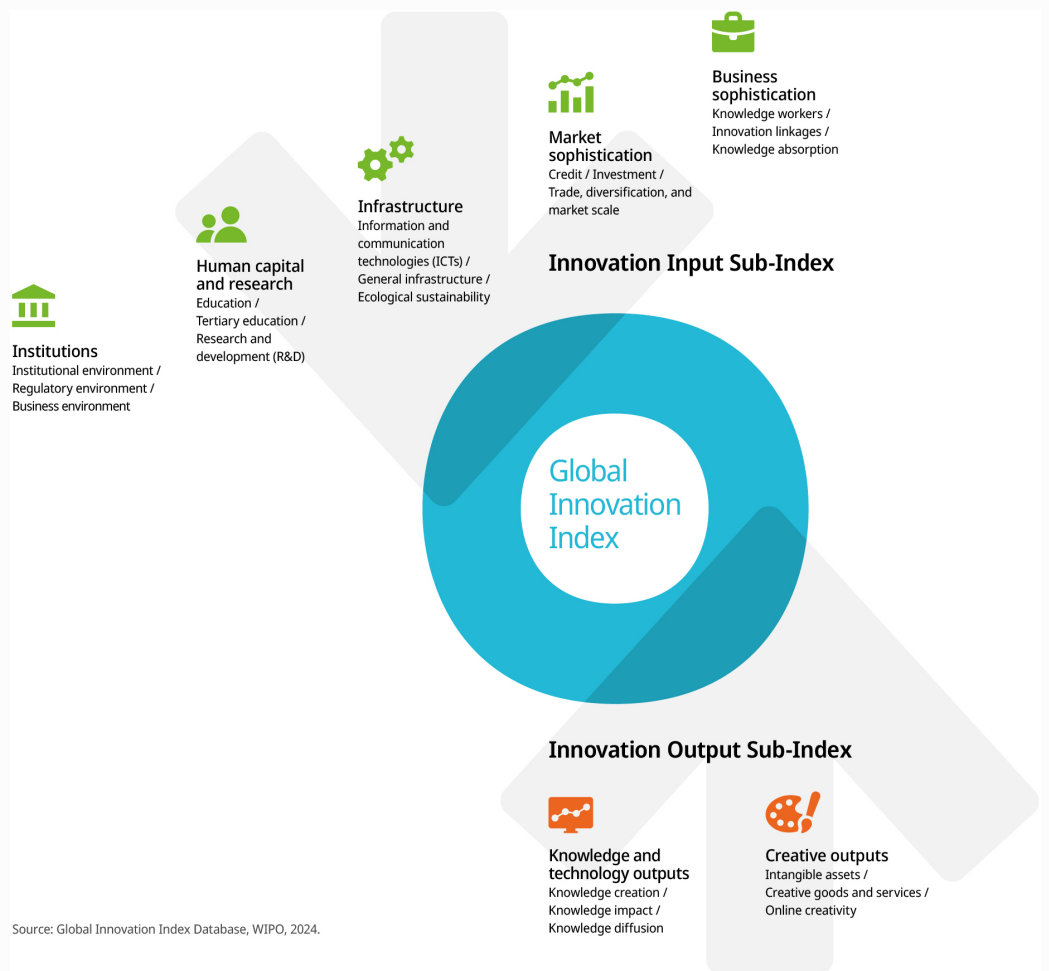
Code	Indicator name	Economy Year	Model Year	Source
	w/advanced degrees, %			
5.3.5	Research talent, % in businesses	2018	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.2.4	High-tech manufacturing, %	2020	2021	United Nations Industrial Development Organization

Global Innovation Index 2024



About the Global Innovation Index

- The Global Innovation Index (GII) is published by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations.
- Recognizing that innovation is a key driver of economic development, the GII aims to provide an innovation ranking and rich analysis referencing around 130 economies. Over the last decade, the GII has established itself as both a leading reference on innovation and a “tool for action” for economies that incorporate the GII into their innovation agendas.



The Index is a ranking of the innovation capabilities and results of world economies. It measures innovation based on criteria that include institutions, human capital and research, infrastructure, credit, investment, linkages; the creation, absorption and diffusion of knowledge; and creative outputs.

The GII has two sub-indices: the Innovation Input Sub-Index and the Innovation Output Sub-Index, and seven pillars, each consisting of three sub-pillars.