European Commission

European Innovation
Scoreboard **2023**
Country profile
Poland

European Innovation Scoreboard 2023 – Country profile Poland

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The European Innovation Scoreboard report and annexes, and the indicators database are available at:

https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard_en

62.8

0		70	100	125	160

Emerging Innovators   54.0

Change over time: 13.3
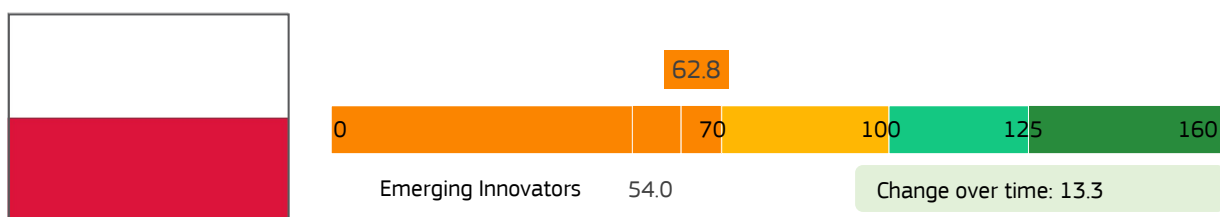
Poland

	Performance relative to EU in 2023	Performance change 2016-2023	Performance change 2022-2023
SUMMARY INNOVATION INDEX	**62.8**	**13.3**	**5.2**
Human resources	**58.3**	**5.9**	**1.0**
Doctorate graduates	25.8	0.0	-11.4
Population with tertiary education	91.3	-0.6	-0.6
Lifelong learning	57.8	24.2	24.2
Attractive research systems	**46.2**	**25.6**	**12.3**
International scientific co-publications	42.9	31.8	2.6
Most cited publications	51.2	15.7	6.7
Foreign doctorate students	40.3	42.4	34.2
Digitalisation	**81.1**	**12.7**	**4.3**
Broadband penetration	86.2	25.1	8.6
People with above basic overall digital skills	74.1	0.0	0.0
Finance and support	**61.2**	**26.9**	**3.9**
R&D expenditures in the public sector	64.1	3.2	3.2
Venture capital expenditures	43.5	15.2	1.7
Government support for business R&D	80.9	71.7	7.3
Firm investments	**59.3**	**-5.3**	**-0.1**
R&D expenditure in the business sector	59.7	36.2	3.1
Non-R&D Innovation expenditures	82.6	-45.9	-6.5
Innovation expenditures per employee	39.9	-9.4	2.5
Use of information technologies	**90.3**	**42.9**	**23.3**
Enterprises providing ICT training	113.2	84.1	43.9
Employed ICT specialists	66.7	3.4	3.4
Innovators	**41.4**	**46.5**	**28.8**
Product innovators (SMEs)	43.5	32.9	11.5
Business process innovators (SMEs)	39.6	60.9	47.3
Linkages	**73.7**	**33.4**	**0.5**
Innovative SMEs collaborating with others	51.1	39.5	29.6
Public-private co-publications	55.5	36.5	1.2
Job-to-job mobility of HRST	100.0	26.5	-26.5
Intellectual assets	**84.2**	**-1.0**	**0.4**
PCT patent applications	31.9	-3.0	-1.5
Trademark applications	92.8	15.7	2.9
Design applications	150.5	-11.6	0.9
Employment impacts	**50.8**	**26.1**	**21.4**
Employment in knowledge-intensive activities	59.0	0.0	0.0
Employment in innovative enterprises	44.0	50.8	41.6
Sales impacts	**68.2**	**9.0**	**3.8**
Medium and high-tech goods exports	75.9	1.0	2.3
Knowledge-intensive services exports	70.8	18.8	1.0
Sales of innovative products	54.6	9.2	9.4
Environmental sustainability	**43.8**	**-13.1**	**-11.0**
Resource productivity	46.4	22.1	3.0
Air emissions by fine particulate matter	48.4	14.9	-0.3
Environment-related technologies	34.3	-69.4	-32.9

The second column shows performance relative to that of the EU in 2023. Colours next to the column show matching colour codes: dark green: above 125% of the performance of the EU in 2023; light green: between 100% and 125%; light orange: between 70% and 100%; dark orange: below 70%. The next columns show performance change over time between 2016 and 2023 and between 2022 and 2023, with scores relative to those of the EU in 2016. Positive (negative) performance changes are shown in green (red).

POLAND is an **Emerging Innovator** with performance at 62.8% of the EU average. Performance is above the average of the Emerging Innovators. Performance is increasing at a rate higher than that of the EU (8.5%-points). The country's performance gap to the EU is becoming smaller.

Relative strengths

Design applications
Enterprises providing ICT training
Job-to-job mobility of HRST
Trademark applications
Population with tertiary education

Relative weaknesses

Doctorate graduates
PCT patent applications
Environment-related technologies
Business process innovators
Innovation expenditures per employee

Strong increases since 2016

Enterprises providing ICT training
Government support for business R&D
Business process innovators

Strong decreases since 2016

Environment-related technologies
Non-R&D Innovation expenditures
Design applications

Strong increases since 2022

Business process innovators
Enterprises providing ICT training
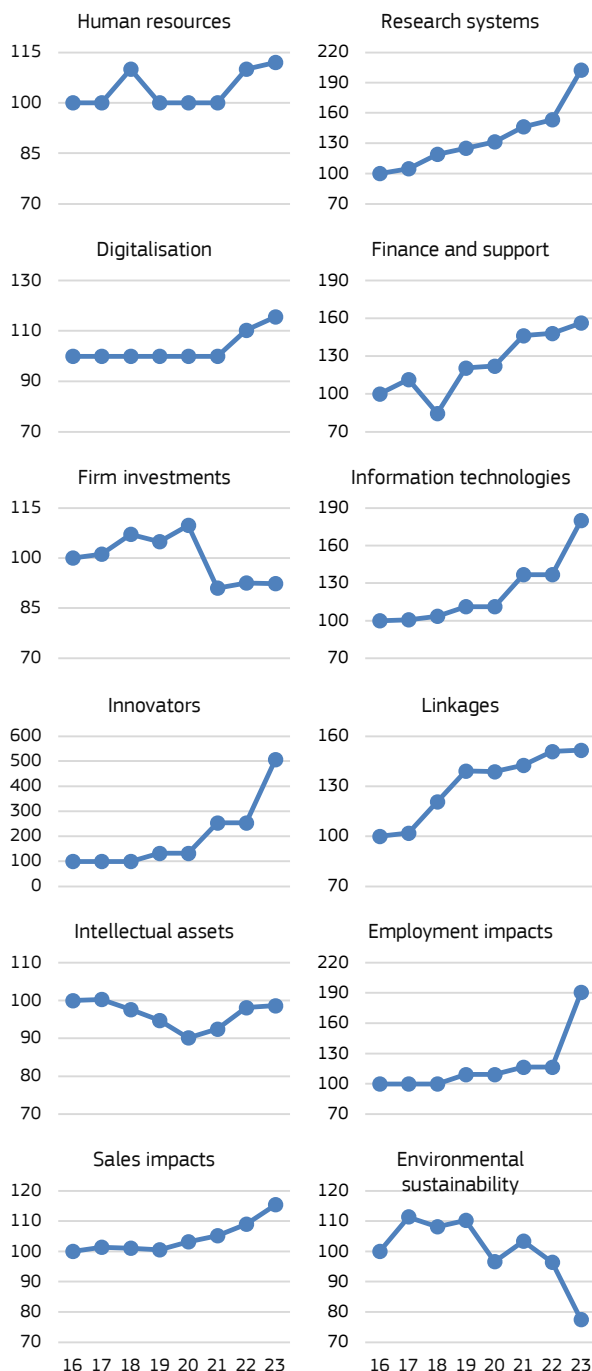Employment in innovative enterprises

Strong decreases since 2022

Environment-related technologies
Job-to-job mobility of HRST
Doctorate graduates

Poland: Innovation index
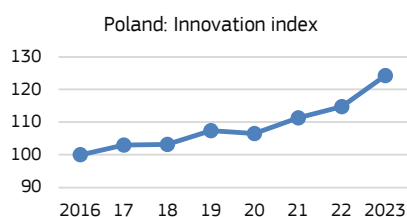
The graph on the left shows the evolution of **innovation performance over time** against the performance of the country in 2016. Innovation performance increased strongly over time being 24% higher in 2023, with half of the increase taking place in 2023.

The graphs below show the evolution of innovation performance in the different **innovation dimensions** against the performance of the country in 2016. Performance increased most strongly for Research systems, Finance and support, Information technologies, Innovators, Linkages and Employment impacts. Performance declined for Firm investments, Intellectual assets and Environmental sustainability.

Structural differences with the EU are shown below:

- Poland has lower per capita income, but a faster growing economy. Manufacturing takes up a larger share of the economy, with both SMEs and large enterprises accounting for a smaller share of turnover.

- Enterprise births, and FDI net inflows add positively to the innovation climate, Entrepreneurial Activity, Top R&D spenders, and Buyer sophistication add negatively.

- Poland has a much higher share of Non-innovators without disposition to innovate.

- Entrepreneurial training and government procurement average as drivers of research and innovation are below the EU average.

- Poland's performance on climate change indicators is subpar, particularly in regards to environmental innovation.

Human resources

Research systems

Digitalisation

Finance and support

Firm investments

Information technologies

Innovators

Linkages

Intellectual assets

Employment impacts

Sales impacts

Environmental sustainability

Performance is measured relative to that of the country in 2016 (=100).

	PL	EU
Performance and structure of the economy		
GDP per capita (PPS)	25,300	32,600
Average annual GDP growth (%)	6.6	4.4
Employment share Manufacturing (NACE C) (%)	20.1	16.4
of which High and Medium high-tech (%)	27.5	38.0
Employment share Services (NACE G-N) (%)	35.6	41.1
of which Knowledge-intensive services (%)	31.8	35.8
Turnover share SMEs (%)	33.2	34.1
Turnover share large enterprises (%)	44.9	49.6
Foreign-controlled enterprises – share of value added (%)	15.9	11.8
Business and entrepreneurship		
Enterprise births (10+ employees) (%)	1.6	1.0
Total Entrepreneurial Activity (TEA) (%)	3.5	6.8
FDI net inflows (% GDP)	3.9	2.1
Top R&D spending enterprises per 10 mln. population	0.8	20.3
Buyer sophistication (1 to 7 best)	3.4	3.7
Innovation profiles		
In-house product innovators with market novelties	5.9	12.2
In-house product innovators without market novelties	8.2	12.8
In-house business process innovators	14.0	16.5
Innovators that do not develop innovations themselves	3.1	6.5
Innovation active non-innovators	3.8	4.1
Non-innovators with potential to innovate	4.2	17.2
Non-innovators without disposition to innovate	61.0	30.7
Governance and policy framework		
Corruption Perceptions Index (0 to 100 best)	55.7	64.0
Basic school entrepreneurial education and training	2.5	3.3
Govt. procurement of advanced tech. products	3.0	3.5
Rule of law (-2.5 to 2.5 best)	0.5	1.0
Climate change indicators		
Circular material use rate	9.0	11.8
Greenhouse gas emissions intensity of energy consumption	84.0	82.8
Eco-Innovation Index	55.5	100.0
Demography		
Population size	37.8	447.1
Average annual population growth (%)	-0.4	-0.1
Population density	123.6	108.8

This report provides the Country profile from the 2023 European Innovation Scoreboard for Poland.

Studies and reports