European Commission

European Innovation Scoreboard **2023** Country profile **Finland**

Innovation

European Innovation Scoreboard 2023 – Country profile Finland

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European Innovation Scoreboard 2023 Country profile Finland

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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

Change over time: 18.3

Innovation Leaders 133.4

Finland

	Performance relative to EU in 2023	Performance change 2016-2023	Performance change 2022-2023
SUMMARY INNOVATION INDEX	**134.3**	**18.3**	**4.0**
Human resources	**157.1**	**-11.2**	**-1.4**
Doctorate graduates	159.3	-11.4	11.4
Population with tertiary education	92.5	3.6	3.6
Lifelong learning	230.4	-29.7	-29.7
Attractive research systems	**156.6**	**35.5**	**-0.6**
International scientific co-publications	224.3	94.6	4.9
Most cited publications	122.1	3.0	-6.9
Foreign doctorate students	143.6	55.0	8.8
Digitalisation	**158.2**	**36.0**	**14.8**
Broadband penetration	130.2	70.8	29.2
People with above basic overall digital skills	196.5	0.0	0.0
Finance and support	**103.6**	**26.9**	**6.0**
R&D expenditures in the public sector	123.4	-12.9	-4.8
Venture capital expenditures	134.9	103.7	10.1
Government support for business R&D	39.3	0.8	16.6
Firm investments	**109.1**	**6.5**	**0.9**
R&D expenditure in the business sector	138.9	-6.2	7.7
Non-R&D Innovation expenditures	72.8	14.4	-9.1
Innovation expenditures per employee	110.1	11.7	3.4
Use of information technologies	**190.6**	**0.9**	**0.0**
Enterprises providing ICT training	187.9	1.9	0.0
Employed ICT specialists	193.3	0.0	0.0
Innovators	**147.5**	**58.1**	**28.8**
Product innovators (SMEs)	147.9	25.7	14.2
Business process innovators (SMEs)	147.0	92.7	44.2
Linkages	**218.6**	**71.7**	**-7.1**
Innovative SMEs collaborating with others	243.7	119.1	0.0
Public-private co-publications	369.8	57.1	-23.7
Job-to-job mobility of HRST	133.3	35.3	-5.9
Intellectual assets	**124.6**	**-7.7**	**-9.9**
PCT patent applications	150.1	-0.6	-0.6
Trademark applications	109.4	10.3	-7.2
Design applications	104.2	-30.8	-23.6
Employment impacts	**138.0**	**22.6**	**7.0**
Employment in knowledge-intensive activities	127.7	0.0	0.0
Employment in innovative enterprises	146.4	44.1	13.6
Sales impacts	**116.4**	**32.3**	**16.4**
Medium and high-tech goods exports	73.6	10.2	9.3
Knowledge-intensive services exports	142.0	14.8	2.8
Sales of innovative products	149.8	88.2	44.2
Environmental sustainability	**78.3**	**-4.6**	**-1.0**
Resource productivity	24.8	5.5	0.1
Air emissions by fine particulate matter	99.3	8.4	-0.3
Environment-related technologies	101.1	-26.5	-2.7

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).

FINLAND is an **Innovation Leader** with performance at 134.3% of the EU average. Performance is above the average of the Innovation Leaders. Performance is increasing at a rate higher than that of the EU (8.5%-points). The country's performance lead over the EU is becoming larger.

Relative strengths

Public-private co-publications
Innovative SMEs collaborating with others
Lifelong learning
International scientific co-publications
People with above basic overall digital skills

Relative weaknesses

Resource productivity
Government support for business R&D
Non-R&D Innovation expenditures
Medium and high-tech goods exports
Population with tertiary education

Strong increases since 2016

Innovative SMEs collaborating with others
Venture capital expenditures
International scientific co-publications

Strong decreases since 2016

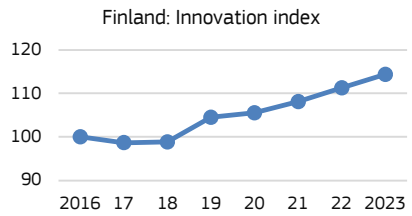
Design applications
Lifelong learning
Environment-related technologies

Strong increases since 2022

Business process innovators
Sales of innovative products
Broadband penetration

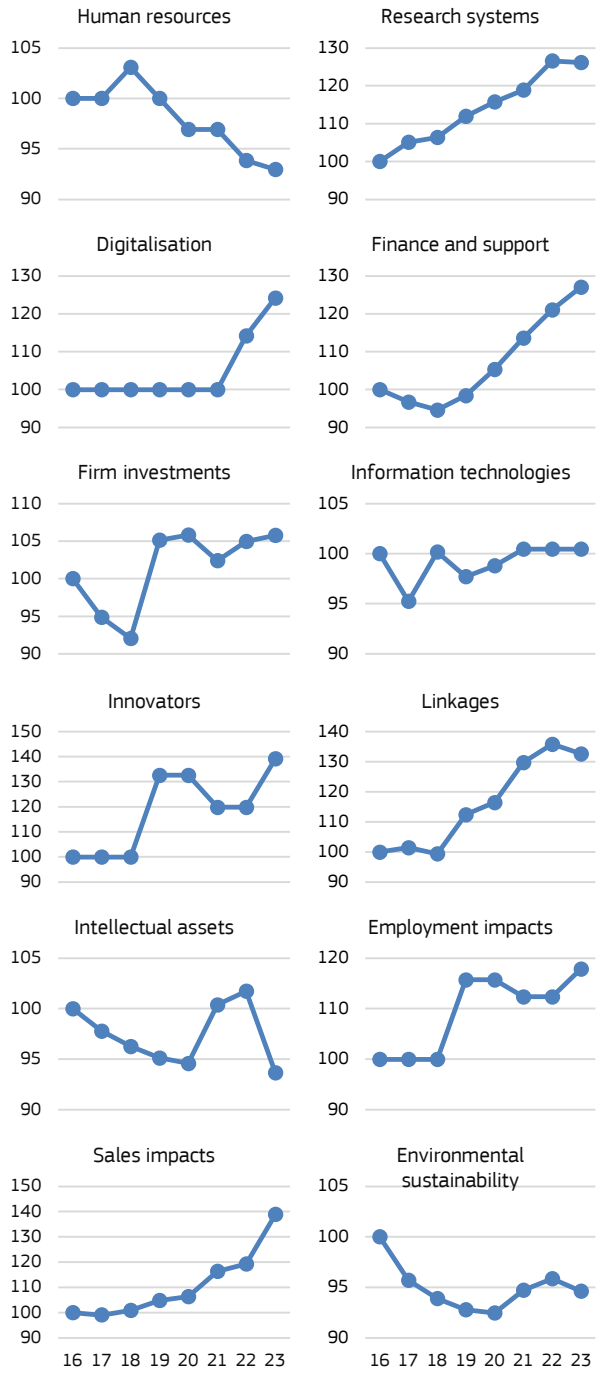
Strong decreases since 2022

Lifelong learning
Public-private co-publications
Design applications



The graph on the left shows the evolution of **innovation performance over time** against the performance of the country in 2016. Innovation performance remained stable between 2016 and 2018 and started to increase more strongly in 2019, resulting in a 14% increase 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 declined for Human resources, Intellectual assets and Environmental sustainability.



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

Structural differences with the EU are shown below:

- Finland has higher per capita income, but a slower growing economy. SMEs accounting for a larger share of turnover, with SMEs accounting for a larger share of turnover.
- Entrepreneurial Activity, FDI net inflows, Top R&D spenders, and Buyer sophistication add positively to the innovation climate.
- Finland has higher shares of In-house product innovators with market novelties and In-house business process innovators. Data for Non-innovators with potential to innovate are not available.
- Entrepreneurial training and government procurement are above the EU average as drivers of research and innovation.
- Finland shows a strong performance on Climate change related indicators with below average share of material resources coming from recycled waste materials, a stronger reduction in greenhouse gas emissions, and an above average score on environmental innovation.

	FI	EU
Performance and structure of the economy		
GDP per capita (PPS)	36,300	32,600
Average annual GDP growth (%)	2.3	4.4
Employment share Manufacturing (NACE C) (%)	12.9	16.4
of which High and Medium high-tech (%)	37.4	38.0
Employment share Services (NACE G-N) (%)	40.5	41.1
of which Knowledge-intensive services (%)	41.4	35.8
Turnover share SMEs (%)	38.5	34.1
Turnover share large enterprises (%)	46.2	49.6
Foreign-controlled enterprises – share of value added (%)	10.6	11.8
Business and entrepreneurship		
Enterprise births (10+ employees) (%)	0.6	1.0
Total Entrepreneurial Activity (TEA) (%)	7.9	6.8
FDI net inflows (% GDP)	4.3	2.1
Top R&D spending enterprises per 10 mln. population	80.8	20.3
Buyer sophistication (1 to 7 best)	4.6	3.7
Innovation profiles		
In-house product innovators with market novelties	23.5	12.2
In-house product innovators without market novelties	14.4	12.8
In-house business process innovators	20.0	16.5
Innovators that do not develop innovations themselves	4.5	6.5
Innovation active non-innovators	6.3	4.1
Non-innovators with potential to innovate	n/a	17.2
Non-innovators without disposition to innovate	31.4	30.7
Governance and policy framework		
Corruption Perceptions Index (0 to 100 best)	86.7	64.0
Basic school entrepreneurial education and training	6.1	3.3
Govt. procurement of advanced tech. products	3.9	3.5
Rule of law (-2.5 to 2.5 best)	2.1	1.0
Climate change indicators		
Circular material use rate	4.7	11.8
Greenhouse gas emissions intensity of energy consumption	69.3	82.8
Eco-Innovation Index	146.6	100.0
Demography		
Population size	5.5	447.1
Average annual population growth (%)	0.2	-0.1
Population density	18.1	108.8

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

Studies and reports