



European
Commission

European Innovation Scoreboard **2023** Country profile **Serbia**



Innovation

European Innovation Scoreboard 2023 – Country profile Serbia

European Commission

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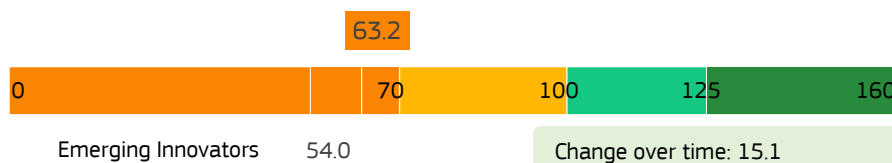
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The European Innovation Scoreboard report and annexes, and the indicators database are available at:

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



Serbia

	Performance relative to EU in 2023	Performance change 2016- 2023	Performance change 2022- 2023
SUMMARY INNOVATION INDEX	63.2	15.1	-1.3
Human resources	47.3	5.1	-4.8
Doctorate graduates	55.5	11.4	-11.4
Population with tertiary education	50.3	-3.0	-3.0
Lifelong learning	34.3	4.4	4.4
Attractive research systems	46.7	19.7	3.1
International scientific co-publications	51.7	34.9	2.8
Most cited publications	49.0	15.2	5.5
Foreign doctorate students	36.3	15.7	-2.2
Digitalisation	59.2	37.5	17.7
Broadband penetration	75.3	73.7	34.8
People with above basic overall digital skills	37.0	0.0	0.0
Finance and support	39.2	20.6	0.6
R&D expenditures in the public sector	65.6	4.8	-3.2
Venture capital expenditures	35.7	52.9	8.6
Government support for business R&D	12.5	8.3	-2.5
Firm investments	101.9	14.3	2.6
R&D expenditure in the business sector	27.8	18.5	7.7
Non-R&D Innovation expenditures	181.5	25.6	0.0
Innovation expenditures per employee	108.5	0.0	0.0
Use of information technologies	79.7	-30.7	20.8
Enterprises providing ICT training	98.9	-66.2	38.9
Employed ICT specialists	60.0	3.4	3.4
Innovators	132.2	85.0	-2.3
Product innovators (SMEs)	157.2	101.1	-15.1
Business process innovators (SMEs)	110.2	67.8	11.3
Linkages	65.4	38.8	-27.0
Innovative SMEs collaborating with others	58.3	31.0	-55.8
Public-private co-publications	51.6	30.2	-3.1
Job-to-job mobility of HRST	77.1	50.0	-11.8
Intellectual assets	17.8	-0.2	-0.1
PCT patent applications	23.2	-4.7	0.0
Trademark applications	25.5	8.4	-1.0
Design applications	1.5	-1.3	0.6
Employment impacts	99.5	36.7	0.0
Employment in knowledge-intensive activities	55.4	0.0	0.0
Employment in innovative enterprises	135.8	71.6	0.0
Sales impacts	72.1	13.2	-4.2
Medium and high-tech goods exports	58.2	-6.6	-3.1
Knowledge-intensive services exports	74.2	20.9	-8.9
Sales of innovative products	89.5	34.1	0.0
Environmental sustainability	27.6	-11.8	-16.1
Resource productivity	3.1	-4.4	0.0
Air emissions by fine particulate matter	0.0	0.0	0.0
Environment-related technologies	91.6	-30.6	-45.7

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).

SERBIA is an **Emerging Innovator** with performance at 63.2% 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

Non-R&D Innovation expenditures
Product innovators
Employment in innovative enterprises
Business process innovators
Innovation expenditures per employee

Relative weaknesses

Air emissions by fine particulate matter
Design applications
Resource productivity
Government support for business R&D
PCT patent applications

Strong increases since 2016

Product innovators
Broadband penetration
Employment in innovative enterprises

Strong decreases since 2016

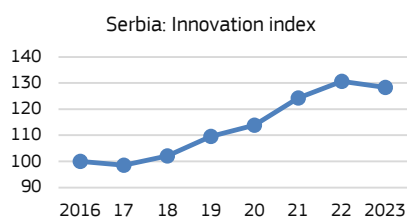
Enterprises providing ICT training
Environment-related technologies
Medium and high-tech goods exports

Strong increases since 2022

Enterprises providing ICT training
Broadband penetration
Business process innovators

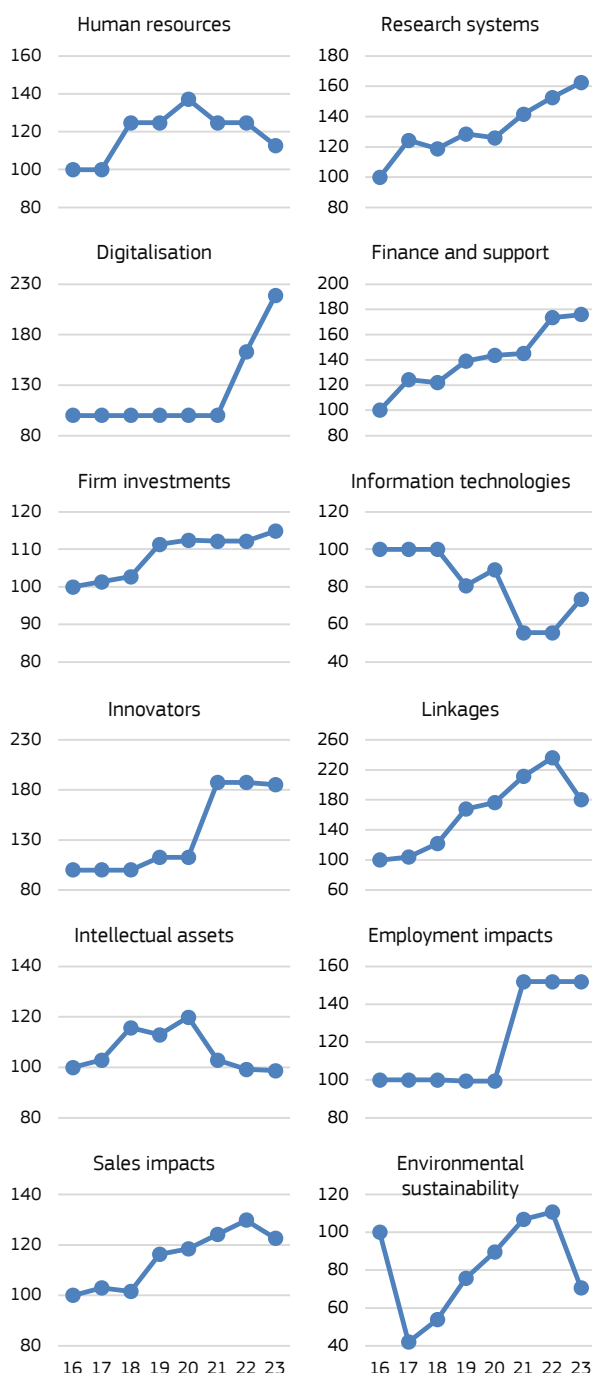
Strong decreases since 2022

Innovative SMEs collaborating with others
Environment-related technologies
Product innovators



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 between 2016 and 2022 and declined in 2023, leading to an overall improvement of 28% between 2016 and 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, Digitalisation, Finance and support, Innovators, Linkages and Employment impacts. Performance declined for Information technologies, 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:

- Serbia has lower per capita income, but a faster growing economy. Manufacturing takes up a larger share of the economy, with SMEs accounting for a larger share of turnover.
- Enterprise births and FDI net inflows add positively to the innovation climate, Top R&D spenders, and Buyer sophistication add negatively.
- Serbia has higher shares of Innovators that do not develop innovations themselves and Non-innovators without disposition to innovate.
- Government procurement is below the EU average as driver of research and innovation.
- Information on Climate change related indicators is not available.

	RS	EU
Performance and structure of the economy		
GDP per capita (PPS)	13,600	32,600
Average annual GDP growth (%)	5.9	4.4
Employment share Manufacturing (NACE C) (%)	19.2	16.4
of which High and Medium high-tech (%)	26.2	38.0
Employment share Services (NACE G-N) (%)	35.9	41.1
of which Knowledge-intensive services (%)	34.6	35.8
Turnover share SMEs (%)	44.2	34.1
Turnover share large enterprises (%)	41.7	49.6
Foreign-controlled enterprises – share of value added (%)	n/a	11.8
Business and entrepreneurship		
Enterprise births (10+ employees) (%)	1.8	1.0
Total Entrepreneurial Activity (TEA) (%)	n/a	6.8
FDI net inflows (% GDP)	7.4	2.1
Top R&D spending enterprises per 10 mln. population	0.0	20.3
Buyer sophistication (1 to 7 best)	2.5	3.7
Innovation profiles		
In-house product innovators with market novelties	13.3	12.2
In-house product innovators without market novelties	13.1	12.8
In-house business process innovators	10.9	16.5
Innovators that do not develop innovations themselves	12.1	6.5
Innovation active non-innovators	1.1	4.1
Non-innovators with potential to innovate	13.9	17.2
Non-innovators without disposition to innovate	35.6	30.7
Governance and policy framework		
Corruption Perceptions Index (0 to 100 best)	37.3	64.0
Basic school entrepreneurial education and training	n/a	3.3
Govt. procurement of advanced tech. products	2.8	3.5
Rule of law (-2.5 to 2.5 best)	-0.1	1.0
Climate change indicators		
Circular material use rate	n/a	11.8
Greenhouse gas emissions intensity of energy consumption	n/a	82.8
Eco-Innovation Index	n/a	100.0
Demography		
Population size	6.9	447.1
Average annual population growth (%)	-0.9	-0.1
Population density	91.0	108.8



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

Studies and reports