



European  
Commission

# European Innovation Scoreboard **2023** Country profile **Montenegro**



Innovation

## European Innovation Scoreboard 2023 – Country profile Montenegro

European Commission

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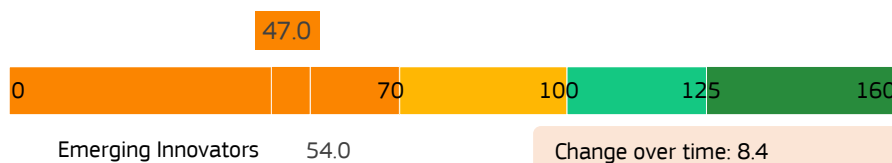
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The European Innovation Scoreboard report and annexes, and the indicators database are available at:

[https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard\\_en](https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard_en)



## Montenegro

	Performance relative to EU in 2023	Performance change 2016- 2023	Performance change 2022- 2023
<b>SUMMARY INNOVATION INDEX</b>	<b>47.0</b>	<b>8.4</b>	<b>-0.9</b>
<b>Human resources</b>	<b>36.3</b>	<b>16.7</b>	<b>0.4</b>
Doctorate graduates	4.4	3.0	0.9
Population with tertiary education	90.8	50.9	0.0
Lifelong learning	9.8	-3.3	0.0
<b>Attractive research systems</b>	<b>48.1</b>	<b>-0.9</b>	<b>4.1</b>
International scientific co-publications	55.0	46.5	-11.8
Most cited publications	37.4	1.7	12.4
Foreign doctorate students	60.9	-51.2	0.0
<b>Digitalisation</b>	<b>47.7</b>	<b>26.8</b>	<b>13.6</b>
Broadband penetration	65.8	52.8	26.8
People with above basic overall digital skills	22.9	0.0	0.0
<b>Finance and support</b>	<b>14.5</b>	<b>7.7</b>	<b>0.0</b>
R&D expenditures in the public sector	28.1	12.9	0.0
Venture capital expenditures	N/A	N/A	N/A
Government support for business R&D	0.3	-0.2	0.0
<b>Firm investments</b>	<b>23.3</b>	<b>1.3</b>	<b>0.0</b>
R&D expenditure in the business sector	9.7	3.8	0.0
Non-R&D Innovation expenditures	34.7	0.0	0.0
Innovation expenditures per employee	27.0	0.0	0.0
<b>Use of information technologies</b>	<b>69.3</b>	<b>9.9</b>	<b>-6.6</b>
Enterprises providing ICT training	107.5	16.6	-13.4
Employed ICT specialists	30.0	3.4	0.0
<b>Innovators</b>	<b>132.5</b>	<b>0.0</b>	<b>0.0</b>
Product innovators (SMEs)	170.6	0.0	0.0
Business process innovators (SMEs)	99.0	0.0	0.0
<b>Linkages</b>	<b>48.3</b>	<b>-10.4</b>	<b>-3.7</b>
Innovative SMEs collaborating with others	76.4	0.0	0.0
Public-private co-publications	39.0	41.6	-6.1
Job-to-job mobility of HRST	29.2	-44.1	-5.9
<b>Intellectual assets</b>	<b>16.2</b>	<b>4.4</b>	<b>-2.6</b>
PCT patent applications	37.0	18.0	0.0
Trademark applications	3.3	-11.8	-10.2
Design applications	0.0	0.0	0.0
<b>Employment impacts</b>	<b>105.8</b>	<b>7.6</b>	<b>0.0</b>
Employment in knowledge-intensive activities	69.9	15.7	0.0
Employment in innovative enterprises	135.3	0.0	0.0
<b>Sales impacts</b>	<b>29.8</b>	<b>9.0</b>	<b>-9.2</b>
Medium and high-tech goods exports	21.1	14.9	0.0
Knowledge-intensive services exports	20.4	9.0	-27.9
Sales of innovative products	51.9	0.0	0.0
<b>Environmental sustainability</b>	<b>56.0</b>	<b>47.6</b>	<b>0.0</b>
Resource productivity	N/A	N/A	N/A
Air emissions by fine particulate matter	N/A	N/A	N/A
Environment-related technologies	64.0	45.1	0.0

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).

**MONTENEGRO** is an **Emerging Innovator** with performance at 47.0% of the EU average. Performance is below the average of the Emerging Innovators. Performance is increasing at a rate just below that of the EU (8.5%-points). The country's performance gap to the EU is becoming larger.

### Relative strengths

Product innovators  
Employment in innovative enterprises  
Enterprises providing ICT training  
Business process innovators  
Population with tertiary education

### Relative weaknesses

Design applications  
Government support for business R&D  
Trademark applications  
Doctorate graduates  
R&D expenditure in the business sector

### Strong increases since 2016

Broadband penetration  
Population with tertiary education  
International scientific co-publications

### Strong decreases since 2016

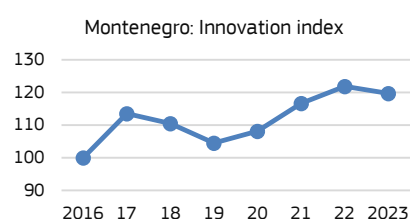
Foreign doctorate students  
Job-to-job mobility of HRST  
Trademark applications

### Strong increases since 2022

Broadband penetration  
Most cited publications  
Doctorate graduates

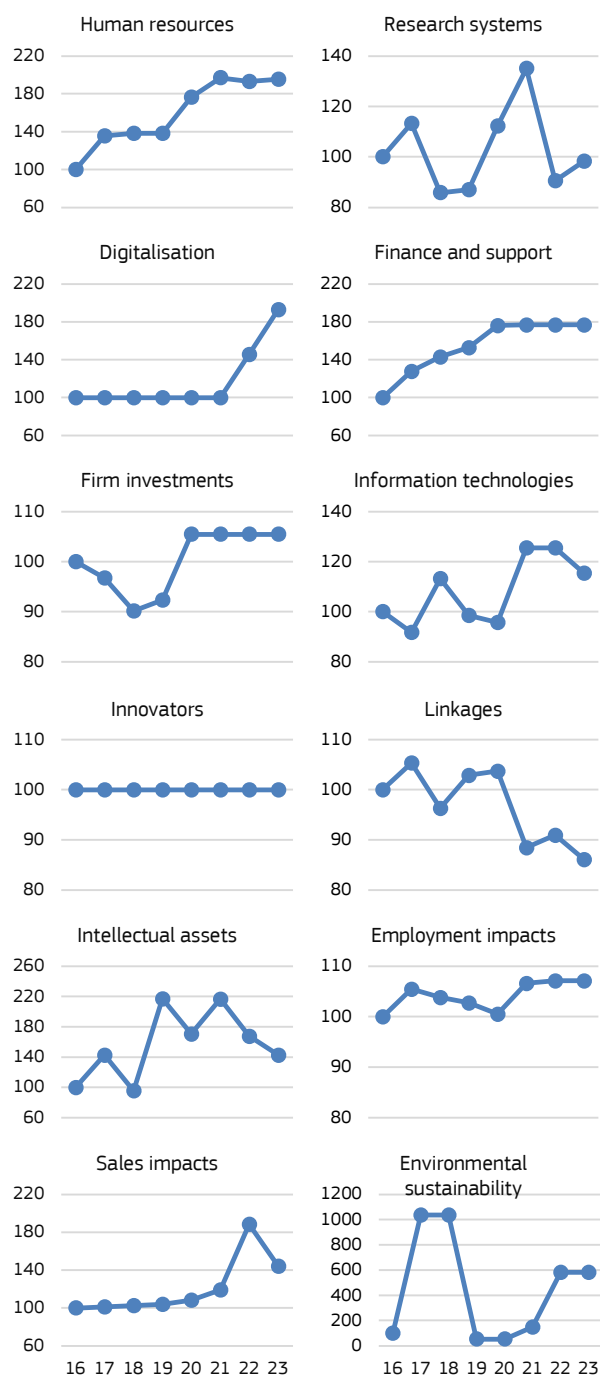
### Strong decreases since 2022

Knowledge-intensive services exports  
Enterprises providing ICT training  
International scientific co-publications



The graph on the left shows the evolution of **innovation performance over time** against the performance of the country in 2016. Innovation performance initially rose but dropped in 2018 and 2019. It then increased between 2020 and 2022, but declined again in 2023, resulting in a significant 20% increase for 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 Human resources, Digitalisation, Finance and support, Intellectual assets, Sales impacts and Environmental sustainability. Performance declined for Research systems and Linkages.





**Structural differences** with the EU are shown below:

- Montenegro has lower per capita income and a slower growing economy. Business services takes up a larger share of the economy, with SMEs and large enterprises accounting for a larger share of turnover.
- The absence of top R&D spenders adds negatively to the innovation climate.
- Top R&D spenders, and Buyer sophistication add negatively to the innovation climate.
- Montenegro has higher shares of Non-innovators with potential to innovate and Non-innovators without disposition to innovate.
- Information on Climate change related indicators is not available.

	ME	EU
<b>Performance and structure of the economy</b>		
GDP per capita (PPS)	14,500	32,600
Average annual GDP growth (%)	-1.9	4.4
Employment share Manufacturing (NACE C) (%)	6.1	16.4
of which High and Medium high-tech (%)	n/a	38.0
Employment share Services (NACE G-N) (%)	48.4	41.1
of which Knowledge-intensive services (%)	30.3	35.8
Turnover share SMEs (%)	n/a	34.1
Turnover share large enterprises (%)	n/a	49.6
Foreign-controlled enterprises – share of value added (%)	n/a	11.8
<b>Business and entrepreneurship</b>		
Enterprise births (10+ employees) (%)	n/a	1.0
Total Entrepreneurial Activity (TEA) (%)	n/a	6.8
FDI net inflows (% GDP)	n/a	2.1
Top R&D spending enterprises per 10 mln. population	0.0	20.3
Buyer sophistication (1 to 7 best)	3.2	3.7
<b>Innovation profiles (for ME CIS 2018 data)</b>		
In-house product innovators with market novelties	10.1	12.2
In-house product innovators without market novelties	4.0	12.8
In-house business process innovators	3.8	16.5
Innovators that do not develop innovations themselves	2.3	6.5
Innovation active non-innovators	0.4	4.1
Non-innovators with potential to innovate	24.5	17.2
Non-innovators without disposition to innovate	54.9	30.7
<b>Governance and policy framework</b>		
Corruption Perceptions Index (0 to 100 best)	45.3	64.0
Basic school entrepreneurial education and training	n/a	3.3
Govt. procurement of advanced tech. products	n/a	3.5
Rule of law (-2.5 to 2.5 best)	n/a	1.0
<b>Climate change indicators</b>		
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
<b>Demography</b>		
Population size	0.6	447.1
Average annual population growth (%)	-0.3	-0.1
Population density	45.7	108.8

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



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

*Studies and reports*