



# European Innovation Scoreboard **2024** Country Profile **Moldova**

## European Innovation Scoreboard 2024 – Country profile Moldova

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**MOLDOVA****Emerging Innovator**Summary innovation index (relative to EU in 2017): **25.5**Rank: **39**Change vs 2023: ▼ **-4.1** Change vs 2017: ▲ **0.3**

Moldova is an Emerging Innovator with performance at 23.2% of the EU average in 2024. Performance is below the average of the Emerging Innovators (48%). Performance is increasing less than the EU (+10%).

Indicator	Performance relative to the EU in 2024	Performance change 2017-2024	Performance change 2023-2024
<b>SUMMARY INNOVATION INDEX</b>	<b>23.2</b>	<b>0.3</b>	<b>-4.1</b>
<b>Human resources</b>	<b>18.1</b>	<b>3.2</b>	<b>0.2</b>
New doctorate graduates	8.8	-7.6	0.5
Population with tertiary education	41.8	18	0
Population involved in lifelong learning	2.3	2.8	0
<b>Attractive research systems</b>	<b>37.5</b>	<b>15.8</b>	<b>-7.8</b>
International scientific co-publications	5.8	6.9	0.2
Scientific publications among the top 10% most cited	11.6	-3.5	-9.1
Foreign doctorate students as a % of all doctorate students	107.7	66.6	-11.4
<b>Digitalisation</b>	<b>103.2</b>	<b>10</b>	<b>0</b>
Broadband penetration	88.8	10	0
Individuals with above basic overall digital skills	N/A	N/A	N/A
<b>Finance and support</b>	<b>17.7</b>	<b>12.1</b>	<b>0.2</b>
R&D expenditure in the public sector	11	-9.3	0.7
Venture capital expenditures	37.9	50.1	0
Direct and indirect government support of business R&D	0.9	-0.7	0
<b>Firm investments</b>	<b>18.3</b>	<b>-4.1</b>	<b>-0.9</b>
R&D expenditure in the business sector	0	-1.5	0
Non-R&D innovation expenditures	58.7	-10.9	-3.4
Innovation expenditures per person employed	0.5	-0.3	0.6
<b>Use of information technologies</b>	<b>39.1</b>	<b>36</b>	<b>0</b>
Enterprises providing ICT training	N/A	N/A	N/A
Employed ICT specialists	38.5	35.1	0
<b>Innovators</b>	<b>16.5</b>	<b>17.7</b>	<b>5.2</b>
SMEs introducing product innovations	18.4	18.2	4.8
SMEs introducing business process innovations	15	17.4	5.5
<b>Linkages</b>	<b>23</b>	<b>-27.9</b>	<b>0</b>
Innovative SMEs collaborating with others	36.8	-56.6	-3.2
Public-private co-publications	8.5	10.3	4.9
Job-to-job mobility of HRST	N/A	N/A	N/A
<b>Intellectual assets</b>	<b>17.8</b>	<b>4.8</b>	<b>-1.5</b>
PCT patent applications	25	9.1	-2.4
Trademark applications	20.9	4.7	-3.3
Design applications	2.8	-0.7	0.9
<b>Employment impacts</b>	<b>0</b>	<b>-31.2</b>	<b>-14.6</b>
Employment in knowledge-intensive activities	0	0	0
Employment in innovative enterprises	0	-59.9	-28.1
<b>Sales impacts</b>	<b>24.3</b>	<b>-1.8</b>	<b>-1.2</b>
Exports of medium and high technology products	23.4	2.1	7.4
Knowledge-intensive services exports	36.3	1.2	-8.8
Sales of new-to-market and new-to-firm innovations	7.2	-12.3	-4.7
<b>Environmental sustainability</b>	<b>7.4</b>	<b>-47.4</b>	<b>-54.2</b>
Resource productivity	N/A	N/A	N/A
Air emissions by fine particulates	N/A	N/A	N/A
Environment-related technologies	8.1	-51.3	-58.7

**Relative strengths**

- Foreign doctorate students as a % of all doctorate students
- Broadband penetration
- Non-R&D innovation expenditures

**Relative weaknesses**

- R&D expenditure in the business sector
- Employment in knowledge-intensive activities
- Employment in innovative enterprises

**Strong increases since 2017**

- Foreign doctorate students as a % of all doctorate students
- Venture capital expenditures
- Employed ICT specialists

**Strong decreases since 2017**

- Employment in innovative enterprises
- Innovative SMEs collaborating with others
- Environment-related technologies

**Strong increases since 2023**

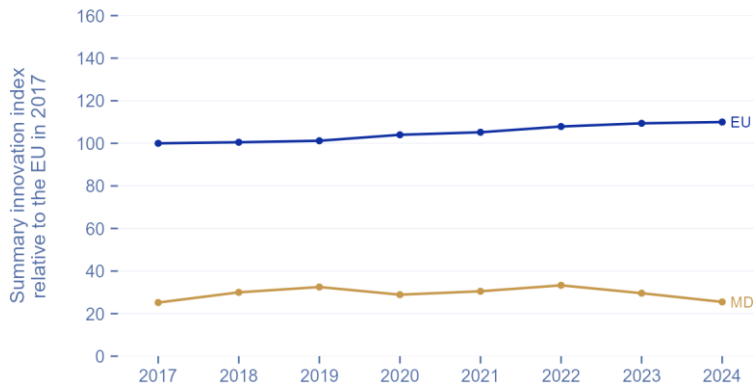
- Exports of medium and high technology products
- SMEs introducing business process innovations
- Public-private co-publications

**Strong decreases since 2023**

- Environment-related technologies
- Employment in innovative enterprises
- Foreign doctorate students as a % of all doctorate students

**Footnote:** The first data column shows scores relative to the EU in 2024, with colour codes indicating performance levels. The subsequent columns show performance changes over time, with scores relative to the EU in 2017, coloured in purple for positive change and red for negative change. As reference years differ between the first column (2024) and the last two columns (2017), scores cannot be directly compared or subtracted across these columns.

Emerging Innovators Moderate Innovators Strong Innovators Innovation Leaders



### Summary innovation index

The line chart shows the evolution of the innovation performance of Moldova over time, relative to the performance of the EU in 2017.

**Footnote:** All performance scores (SII and dimensions below) are relative to that of the EU in 2017.

### Framework conditions

Moldova performs at 18.1% of the 2024 EU average on Human resources, with low performance in new doctorate graduates (8.8% of the 2024 EU level) and population involved in lifelong learning (2.3%). The country has improved significantly in the share of the population with tertiary education (+18%-points since 2017), but remains below the 2024 EU average, at 41.8%. The quality and affordability of doctorate education in Moldova continued to attract foreign students from neighbouring and developing countries with Moldova performing at 107.7% of the 2024 EU average on this indicator. However, the political and security risks associated with the war in Ukraine had negative effects, with the share of foreign doctorate students declining by 11.4%-points compared to 2023.

Moldova enhanced its participation in EU R&I framework programmes with positive effects for the number of international scientific co-publications, which grew by 6.9%-points since 2017 but remains at 5.8% of the 2024 EU level for now. As Moldova continues to enhance the quality of its research system and integration with the EU, the scientific publications are likely to receive more international recognition through citation, but for now remain at a modest 11.6% of the 2024 EU average.

Finally, Moldova performs at 103.2% of the EU average on Digitalisation, as the country continues to enhance its broadband penetration rate, which saw a 10%-point increase since 2017.

Human resources



Attractive research systems



Digitalisation



### Investments

R&D funding in the public sector remains a challenge, despite a marginal increase of 0.7%-points compared to 2023, and the state support for business R&D continues to decrease, standing at only 0.9% of the EU average in 2024. In fact, the gross domestic expenditure on R&D was only 0.23% of GDP in 2022. However, venture capital spending on R&D increased significantly since 2017, reflecting the dynamism in innovation ecosystem with further growth on this indicator to be enabled by enhanced legal frameworks for equity financing of innovation (UNECE, 2022).

Firm investments have been mostly focused on non-R&D innovation, with performance of 58.7% of the 2024 EU average, but dropped following the Covid-19 pandemic and are on a declining trend since 2021, failing to recover to pre-pandemic levels affected by the war in neighbouring Ukraine. The R&D expenditure in the business sector is marginal and innovation expenditures per person employed are at 0.5% of the 2024 EU average, reflecting the weak absorptive capacities of Moldovan firms to innovate (UNECE, 2022).

Moldova performs at 39.1% of the 2024 EU average on use of ICT but has registered a significant increase of 36.0%-points since 2017, reflecting the growth of its ICT sector. However, further growth is constrained by the shortage of STEM graduates and ICT specialists available to address the demand in the market (UNECE, 2022).

Finance and support



Firm investments



Use of information technologies



### Innovation activities

Moldova registered a steady improvement on the Innovators dimension, as it saw a 18.2%-point increase in SME introducing product innovations and 17.4%-point rise in process innovations since 2017. Despite the demonstrated resilience of Moldova’s SME sector to external shocks, such as the Covid-19 pandemic and the war in Ukraine, Moldova performs at 16.5% of the 2024 EU level on this dimension. In addition, Moldova registered a significant decline in the share of innovative SMEs cooperating with others. The significant decrease in performance on this indicator (-56.6%-points) since 2017 points to the persistent weaknesses in the science–industry collaboration framework (UNECE, 2022). At the same time, the continued efforts in integration into European Research Area and industry–science collaboration within several “pockets of excellence” (e.g., ICT, automotive industry) (UNECE, 2022) contributed to a 10.3%-point increase in the number of public-private publications in Moldova since 2017. Finally, Moldova performs at 17.8% of the 2024 EU average on Intellectual assets, with positive dynamics in patent and trademark applications stalled in 2022, as businesses faced higher political instability with rising inflation and uncertainty associated with security risks.

Innovators



Linkages



Intellectual assets



### Impacts

Moldova demonstrated significant increase in medium and high-tech exports (+7.4%-points compared to 2023); this result is likely affected by the relocation of Ukrainian businesses’ production facilities to Moldova due to the war. However, the country performs at 24.3% of the 2024 EU average on Sales impacts dimension, as the knowledge-intensive service exports face skilled labour shortages and firm investment in innovation is slowed down by unfavourable economic conditions. The focus on environment-related technologies has been limited, decreasing by 51.3%-points since 2017, with performance standing at 8.1% of the EU average in 2024. Competing policy priorities due to economic and security challenges arising in 2022 are likely to have contributed to this significant decline.

Employment impacts



Sales impacts



Environmental sustainability



## Structural differences

### Performance and structure of the economy

Comparable data is missing. Moldova's economy witnessed a modest 0.7% growth in 2023 after a recession in 2022, but the Government managed to tame the inflation rate to 4.2% in 2023 and reach a lower budget deficit (German Economic Team, 2024).

### Business and entrepreneurship

FDI flows reached a 2.7% of GDP in 2023, higher than in the EU, a strong result given the ongoing war in neighbouring Ukraine. However, the FDI levels remain the lowest among the Eastern European countries in per capita terms. Buyer sophistication is relatively low, reflecting the socio-economic challenges the country faces.

### Innovation profiles

Comparable data is missing. Firm-level evidence suggests that private sector is lacking absorptive capacities for innovation, as only 11.4% of firms reported to have conducted innovative activity in 2021-2022. However, the country has improved its position in the Global Innovation Index 2023 and is performing above expectations for its level of economic development for a 13th consecutive year (WIPO, 2023).

### Governance and policy framework

The public procurement of advanced technology is facilitated by the digital procurement system allowing for more transparent and efficient public procurement process, i.e. MTender. Moldova made progress on the rule of law, critical for the EU integration, but continued efforts are needed in judiciary reforms and fight against corruption.

### Climate change

Comparable data is missing. The GHG emission productivity stood at 3.69 GDP/GHGs, an improvement since 2010 (2.75). Moldova has increased its contribution to addressing the climate change in 2020 committing to emissions reduction target of 70% by 2030 compared to 1990 levels (Government of Moldova, 2022).

### Demography

The population has continued to decline driven by high levels of emigration, Moldovan international migrants reaching 28% of the total population in 2021 (ETF, 2021), posing a challenge for human capital development and talent retainment.

## Structural indicators

The table below presents some structural differences between Moldova and the EU.

	MD	EU
<b>Business and entrepreneurship</b>		
FDI net inflows	2.7	1.9
Buyer sophistication	2.9	3.6
<b>Governance and policy frameworks</b>		
Government procurement of advanced technology products	2.4	3.4
Rule of law	-0.4	1
<b>Demography</b>		
Population size (in millions)	2.6	447
Average annual population growth (2021-2023 average)	-1.6	0.3

## References

The country's relative strengths and weaknesses for each indicator, compared to other EU Member States and neighbouring countries, can be found in [Annex B](#).

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This report provides the Country profile from the 2024 European Innovation Scoreboard for Moldova

*Studies and reports*