



European  
Commission

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



Innovation

## European Innovation Scoreboard 2023 – Country profile Türkiye

European Commission

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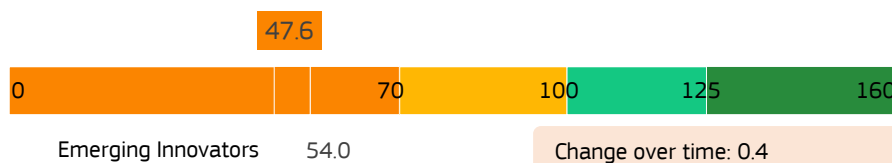
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The European Innovation Scoreboard report and annexes, and the indicators database are available at:

[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)



## Türkiye

	Performance relative to EU in 2023	Performance change 2016- 2023	Performance change 2022- 2023
<b>SUMMARY INNOVATION INDEX</b>	<b>47.6</b>	<b>0.4</b>	<b>0.7</b>
<b>Human resources</b>	<b>48.5</b>	<b>35.2</b>	<b>0.0</b>
Doctorate graduates	25.8	11.4	0.0
Population with tertiary education	66.5	58.1	0.0
Lifelong learning	N/A	N/A	N/A
<b>Attractive research systems</b>	<b>45.6</b>	<b>21.1</b>	<b>6.9</b>
International scientific co-publications	10.7	11.4	0.0
Most cited publications	73.2	27.8	11.8
Foreign doctorate students	33.0	15.0	2.2
<b>Digitalisation</b>	<b>36.6</b>	<b>9.6</b>	<b>9.4</b>
Broadband penetration	44.2	18.9	18.6
People with above basic overall digital skills	26.1	0.0	0.0
<b>Finance and support</b>	<b>68.6</b>	<b>34.6</b>	<b>3.3</b>
R&D expenditures in the public sector	40.6	-8.1	0.0
Venture capital expenditures	N/A	N/A	N/A
Government support for business R&D	111.5	90.3	7.6
<b>Firm investments</b>	<b>46.8</b>	<b>-32.5</b>	<b>-1.5</b>
R&D expenditure in the business sector	45.8	21.5	0.0
Non-R&D Innovation expenditures	61.5	-122.0	0.0
Innovation expenditures per employee	35.8	-4.4	-4.4
<b>Use of information technologies</b>	<b>32.6</b>	<b>2.2</b>	<b>15.9</b>
Enterprises providing ICT training	64.4	4.5	32.5
Employed ICT specialists	0.0	0.0	0.0
<b>Innovators</b>	<b>58.4</b>	<b>-38.3</b>	<b>-1.9</b>
Product innovators (SMEs)	64.1	-18.2	-8.2
Business process innovators (SMEs)	53.5	-59.6	4.8
<b>Linkages</b>	<b>64.7</b>	<b>-18.3</b>	<b>-16.1</b>
Innovative SMEs collaborating with others	42.1	-6.7	0.0
Public-private co-publications	10.9	8.2	0.0
Job-to-job mobility of HRST	106.3	-41.2	-38.2
<b>Intellectual assets</b>	<b>27.1</b>	<b>6.4</b>	<b>0.7</b>
PCT patent applications	49.7	12.3	-0.4
Trademark applications	20.4	9.1	4.2
Design applications	1.9	-3.1	-0.7
<b>Employment impacts</b>	<b>23.1</b>	<b>-25.1</b>	<b>0.0</b>
Employment in knowledge-intensive activities	7.2	7.2	0.0
Employment in innovative enterprises	36.1	-55.7	0.0
<b>Sales impacts</b>	<b>65.9</b>	<b>5.7</b>	<b>-1.4</b>
Medium and high-tech goods exports	55.1	-2.4	-2.5
Knowledge-intensive services exports	72.0	20.4	-1.2
Sales of innovative products	74.8	0.0	0.0
<b>Environmental sustainability</b>	<b>44.1</b>	<b>4.1</b>	<b>-6.7</b>
Resource productivity	66.5	23.0	0.0
Air emissions by fine particulate matter	N/A	N/A	N/A
Environment-related technologies	34.8	-7.7	-12.8

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).

**TÜRKİYE** is an **Emerging Innovator** with performance at 47.6% of the EU average. Performance is below the average of the Emerging Innovators. Performance is increasing at a rate lower than that of the EU (8.5%-points). The country's performance gap to the EU is becoming larger.

### Relative strengths

Government support for business R&D  
Job-to-job mobility of HRST  
Sales of innovative products  
Most cited publications  
Knowledge-intensive services exports

### Relative weaknesses

Employed ICT specialists  
Design applications  
Employment in knowledge-intensive activities  
International scientific co-publications  
Public-private co-publications

### Strong increases since 2016

Government support for business R&D  
Population with tertiary education  
Most cited publications

### Strong decreases since 2016

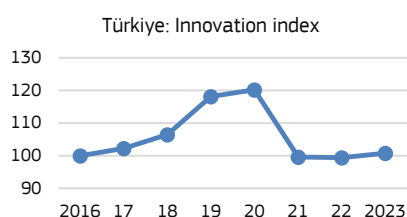
Non-R&D Innovation expenditures  
Business process innovators  
Employment in innovative enterprises

### Strong increases since 2022

Enterprises providing ICT training  
Broadband penetration  
Most cited publications

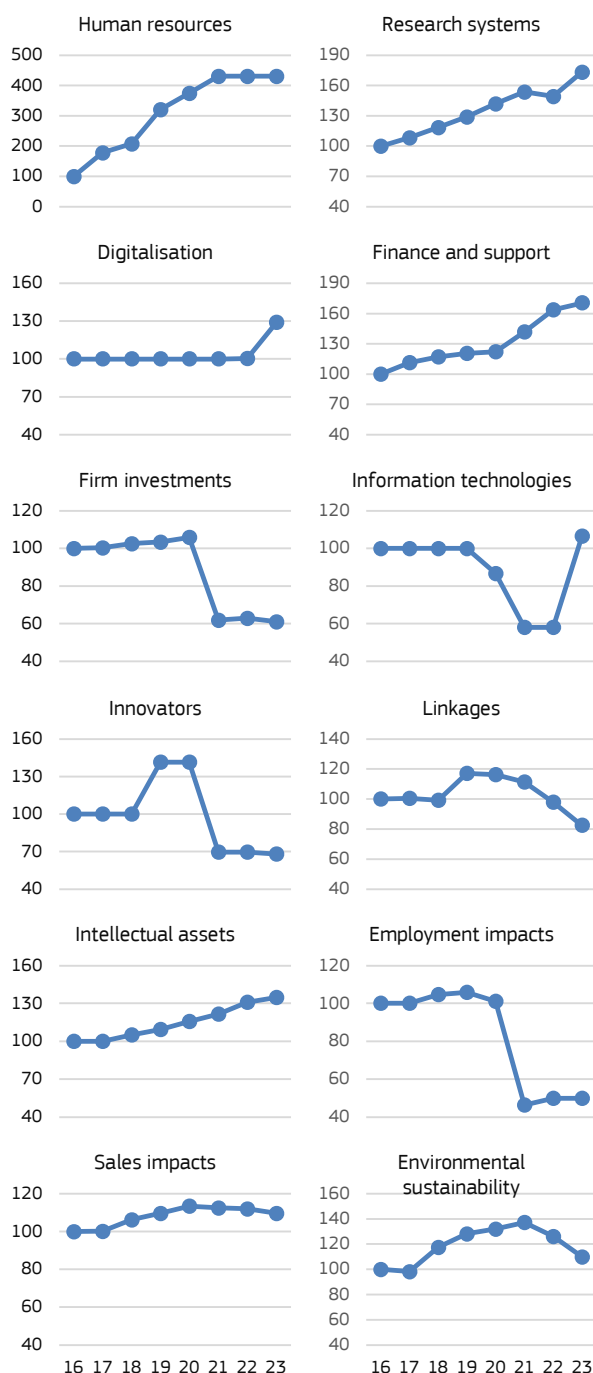
### Strong decreases since 2022

Job-to-job mobility of HRST  
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 between 2016 and 2020, with an acceleration in 2019, and declined strongly in 2021, and has almost not changed in 2022 and 2023. The overall performance change between 2016 and 2023 was slightly positive.

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, Research systems and Finance and support. Performance declined for Firm investments, Innovators, Linkages and Employment impacts.



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

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

- Türkiye has lower per capita income, but a faster growing economy. Manufacturing takes up a larger share of the economy, with SMEs and large enterprises accounting for a larger share of turnover.
- Enterprise births, Entrepreneurial Activity, and FDI net inflows add positively to the innovation climate, Top R&D spenders, and Buyer sophistication add negatively.
- Türkiye has higher shares of Innovation active non-innovators, Non-innovators with potential to innovate, and Non-innovators without disposition to innovate.
- Entrepreneurial training and government procurement are below the EU average as drivers of research and innovation.
- Climate change related indicators show that Türkiye has a below average reduction in greenhouse gas emissions.

	TR	EU
<b>Performance and structure of the economy</b>		
GDP per capita (PPS)	19,300	32,600
Average annual GDP growth (%)	5.5	4.4
Employment share Manufacturing (NACE C) (%)	18.7	16.4
of which High and Medium high-tech (%)	20.1	38.0
Employment share Services (NACE G-N) (%)	34.3	41.1
of which Knowledge-intensive services (%)	20.2	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) (%)	3.1	1.0
Total Entrepreneurial Activity (TEA) (%)	15.7	6.8
FDI net inflows (% GDP)	n/a	2.1
Top R&D spending enterprises per 10 mln. population	0.6	20.3
Buyer sophistication (1 to 7 best)	3.5	3.7
<b>Innovation profiles</b>		
In-house product innovators with market novelties	11.3	12.2
In-house product innovators without market novelties	7.6	12.8
In-house business process innovators	11.1	16.5
Innovators that do not develop innovations themselves	0.9	6.5
Innovation active non-innovators	7.4	4.1
Non-innovators with potential to innovate	22.6	17.2
Non-innovators without disposition to innovate	39.3	30.7
<b>Governance and policy framework</b>		
Corruption Perceptions Index (0 to 100 best)	38.0	64.0
Basic school entrepreneurial education and training	2.1	3.3
Govt. procurement of advanced tech. products	3.5	3.5
Rule of law (-2.5 to 2.5 best)	-0.1	1.0
<b>Climate change indicators</b>		
Circular material use rate	n/a	11.8
Greenhouse gas emissions intensity of energy consumption	88.8	82.8
Eco-Innovation Index	n/a	100.0
<b>Demography</b>		
Population size	82.9	447.1
Average annual population growth (%)	1.0	-0.1
Population density	106.2	108.8

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

*Studies and reports*