



European
Commission

European Innovation Scoreboard **2023** Country profile **Italy**



Innovation

European Innovation Scoreboard 2023 – Country profile Italy

European Commission

Directorate-General for Research and Innovation

Directorate G – Common Policy Centre

Unit G.1 – Common R&I Strategy & Foresight Service

Contact Alexandr Hobza, Chief Economist and Head of Unit G.1

Athina Karvounaraki

Alexis Stevenson

Email RTD-STATISTICS@ec.europa.eu

RTD-PUBLICATIONS@ec.europa.eu

Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs

Directorate A – Strategy and Economic Analysis

Unit A.1 – Chief Economist

Contact Román Arjona, Chief Economist and Head of Unit A.1

Xosé-Luís Varela-Irimia

Email GROW-A1@ec.europa.eu

European Commission

B-1049 Brussels

Manuscript completed in June 2023.

This document has been prepared for the European Commission; however it reflects the views only of the authors, and the European Commission shall not be liable for any consequence stemming from the reuse.

© European Union, 2023



The reuse policy of European Commission documents is implemented by Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39). Unless otherwise noted, the reuse of this document is authorised under a Creative Commons Attribution 4.0 International (CC BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes are indicated.

For any use or reproduction of elements that are not owned by the European Union, permission may need to be sought directly from the respective rightsholders.

European Innovation Scoreboard 2023 Country profile Italy

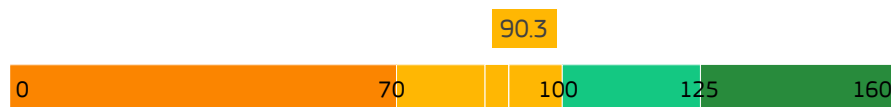
The report was prepared by

Hugo Hollanders, Nordine Es-Sadki and Aishe Khalilova
(Maastricht University / UNU-MERIT)

as part of the European Innovation Scoreboard project
for the European Commission, Directorate-General for Research and Innovation under
Framework Contract N° 2018/RTD/A2/OP/PP-07001-2018 Lot 2 (EDAR)

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: 15.6

86.1 Moderate Innovators

Italy

	Performance relative to EU in 2023	Performance change 2016- 2023	Performance change 2022- 2023
SUMMARY INNOVATION INDEX	90.3	15.6	-5.6
Human resources	62.1	-4.0	0.9
Doctorate graduates	85.2	-11.4	0.0
Population with tertiary education	26.0	5.4	5.4
Lifelong learning	77.5	-3.3	-3.3
Attractive research systems	106.2	25.9	6.5
International scientific co-publications	88.2	46.7	0.8
Most cited publications	126.4	18.9	11.0
Foreign doctorate students	87.9	22.4	1.5
Digitalisation	77.9	19.5	10.8
Broadband penetration	74.7	38.3	21.2
People with above basic overall digital skills	82.4	0.0	0.0
Finance and support	66.8	20.9	-14.1
R&D expenditures in the public sector	67.2	1.6	0.0
Venture capital expenditures	56.6	5.9	-3.7
Government support for business R&D	79.8	63.2	-44.6
Firm investments	72.3	11.3	-18.5
R&D expenditure in the business sector	59.7	6.2	-1.5
Non-R&D Innovation expenditures	85.9	3.7	-27.0
Innovation expenditures per employee	73.3	23.4	-27.4
Use of information technologies	79.5	23.6	13.6
Enterprises providing ICT training	82.2	44.6	24.2
Employed ICT specialists	76.7	3.4	3.4
Innovators	115.2	47.2	-37.6
Product innovators (SMEs)	112.3	32.5	-35.0
Business process innovators (SMEs)	117.8	62.8	-40.4
Linkages	92.0	51.7	-5.1
Innovative SMEs collaborating with others	113.9	79.2	-16.2
Public-private co-publications	148.0	71.1	5.7
Job-to-job mobility of HRST	50.0	17.6	0.0
Intellectual assets	107.6	2.1	0.0
PCT patent applications	77.6	0.1	-1.2
Trademark applications	106.1	17.5	-2.8
Design applications	152.7	-7.4	3.7
Employment impacts	107.0	10.0	-13.1
Employment in knowledge-intensive activities	101.2	0.0	0.0
Employment in innovative enterprises	111.7	19.4	-25.6
Sales impacts	92.8	15.4	-5.4
Medium and high-tech goods exports	83.8	3.6	7.6
Knowledge-intensive services exports	95.2	18.4	-2.1
Sales of innovative products	102.8	30.0	-29.6
Environmental sustainability	113.4	1.2	-5.1
Resource productivity	170.2	23.6	-13.9
Air emissions by fine particulate matter	106.2	4.6	-0.8
Environment-related technologies	67.2	-17.9	-4.4

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).

ITALY is a **Moderate Innovator** with performance at 90.3% of the EU average. Performance is above the average of the Moderate 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

Resource productivity
Design applications

Public-private co-publications
Most cited publications
Business process innovators

Relative weaknesses

Population with tertiary education
Job-to-job mobility of HRST
Venture capital expenditures
R&D expenditure in the business sector
Environment-related technologies

Strong increases since 2016

Innovative SMEs collaborating with others
Public-private co-publications
Government support for business R&D

Strong decreases since 2016

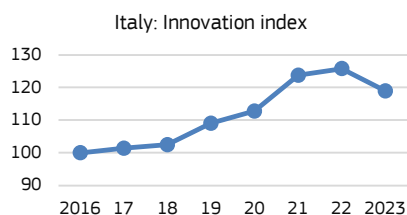
Environment-related technologies
Doctorate graduates
Design applications

Strong increases since 2022

Enterprises providing ICT training
Broadband penetration
Most cited publications

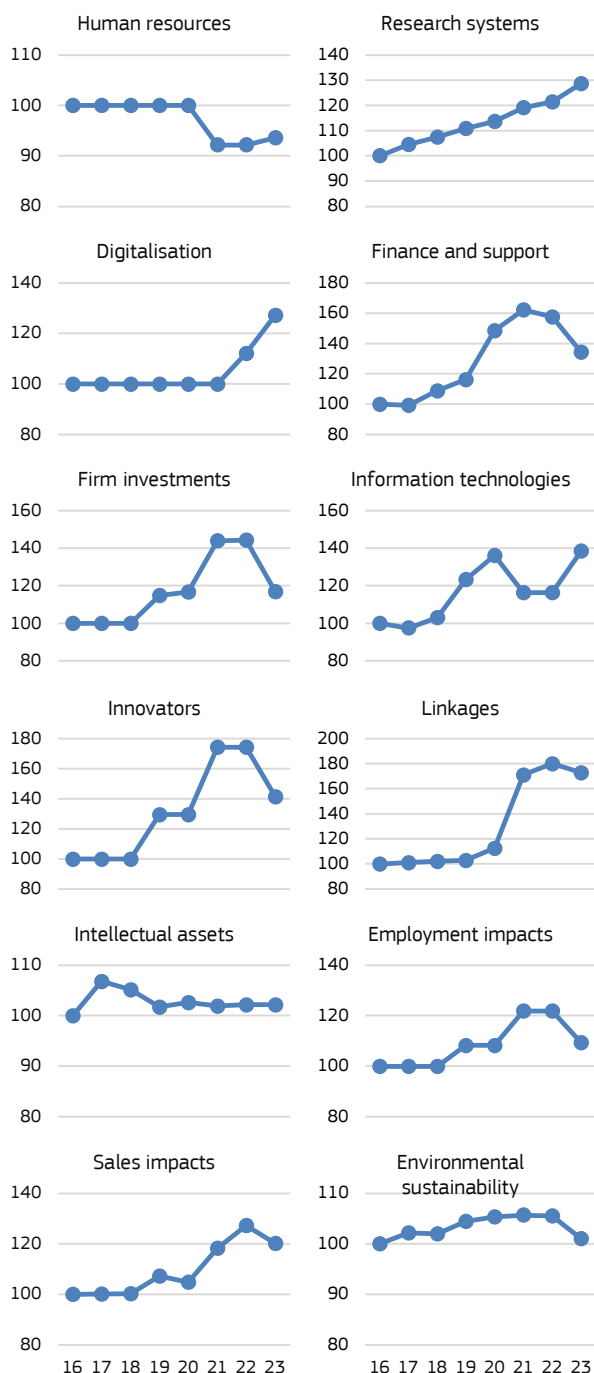
Strong decreases since 2022

Government support for business R&D
Business process innovators
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 in 2021 and continued to increase in 2022, after which it declined strongly in 2023, leading to a 19% performance increase.

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 Innovators and Linkages. Performance declined for Human resources.





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

Structural differences with the EU are shown below:

- Italy has lower per capita income, but a faster growing economy. Manufacturing and business services take up a larger share of the economy, with SMEs accounting for a larger share of turnover.
- Enterprise births, and Buyer sophistication add positively to the innovation climate, Entrepreneurial Activity, FDI net inflows, and Top R&D spenders add negatively.
- Italy has higher shares of In-house product innovators with market novelties and Non-innovators without disposition to innovate.
- Entrepreneurial training is above the EU, while government procurement is below the EU as drivers of research and innovation.
- Italy shows a strong performance on Climate change related indicators with an above average share of material resources coming from recycled waste materials, an above average reduction in greenhouse gas emissions, and an above average score on environmental innovation.

	IT	EU
Performance and structure of the economy		
GDP per capita (PPS)	31,000	32,600
Average annual GDP growth (%)	5.8	4.4
Employment share Manufacturing (NACE C) (%)	18.6	16.4
of which High and Medium high-tech (%)	34.2	38.0
Employment share Services (NACE G-N) (%)	44.7	41.1
of which Knowledge-intensive services (%)	37.8	35.8
Turnover share SMEs (%)	40.8	34.1
Turnover share large enterprises (%)	36.0	49.6
Foreign-controlled enterprises – share of value added (%)	7.1	11.8
Business and entrepreneurship		
Enterprise births (10+ employees) (%)	1.1	1.0
Total Entrepreneurial Activity (TEA) (%)	3.2	6.8
FDI net inflows (% GDP)	0.4	2.1
Top R&D spending enterprises per 10 mln. population	7.0	20.3
Buyer sophistication (1 to 7 best)	3.8	3.7
Innovation profiles		
In-house product innovators with market novelties	16.6	12.2
In-house product innovators without market novelties	12.3	12.8
In-house business process innovators	17.6	16.5
Innovators that do not develop innovations themselves	3.0	6.5
Innovation active non-innovators	6.1	4.1
Non-innovators with potential to innovate	5.9	17.2
Non-innovators without disposition to innovate	38.4	30.7
Governance and policy framework		
Corruption Perceptions Index (0 to 100 best)	55.0	64.0
Basic school entrepreneurial education and training	3.4	3.3
Govt. procurement of advanced tech. products	2.9	3.5
Rule of law (-2.5 to 2.5 best)	0.3	1.0
Climate change indicators		
Circular material use rate	19.5	11.8
Greenhouse gas emissions intensity of energy consumption	81.9	82.8
Eco-Innovation Index	106.5	100.0
Demography		
Population size	59.3	447.1
Average annual population growth (%)	-0.5	-0.1
Population density	202.6	108.8



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

Studies and reports