



European
Commission

European Innovation Scoreboard **2023** Country profile **Switzerland**



Innovation

European Innovation Scoreboard 2023 – Country profile Switzerland

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-Irímia

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.

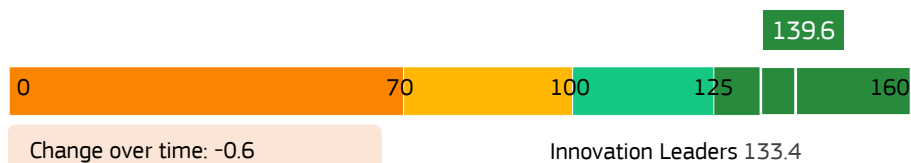
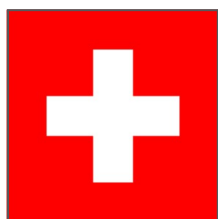
European Innovation Scoreboard 2023 Country profile Switzerland

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



Switzerland

	Performance relative to EU in 2023	Performance change 2016-2023	Performance change 2022-2023
SUMMARY INNOVATION INDEX	139.6	-0.6	-1.8
Human resources	190.1	0.8	-4.1
Doctorate graduates	218.7	11.4	0.0
Population with tertiary education	153.8	-6.0	-6.0
Lifelong learning	199.0	-8.8	-8.8
Attractive research systems	224.5	-3.0	-5.5
International scientific co-publications	274.9	2.5	0.0
Most cited publications	140.4	-17.6	-10.1
Foreign doctorate students	330.5	25.4	0.0
Digitalisation	136.2	0.0	0.0
Broadband penetration	N/A	N/A	N/A
People with above basic overall digital skills	161.5	0.0	0.0
Finance and support	84.7	24.4	-0.1
R&D expenditures in the public sector	128.1	11.3	0.0
Venture capital expenditures	96.2	53.9	-0.3
Government support for business R&D	18.3	11.3	0.0
Firm investments	150.4	4.7	0.0
R&D expenditure in the business sector	144.4	4.6	0.0
Non-R&D Innovation expenditures	N/A	N/A	N/A
Innovation expenditures per employee	N/A	N/A	N/A
Use of information technologies	134.7	7.0	7.0
Enterprises providing ICT training	N/A	N/A	N/A
Employed ICT specialists	136.7	6.9	6.9
Innovators	131.3	-13.7	0.0
Product innovators (SMEs)	128.9	-40.6	0.0
Business process innovators (SMEs)	133.4	14.9	0.0
Linkages	194.3	15.5	2.5
Innovative SMEs collaborating with others	80.4	11.5	0.0
Public-private co-publications	468.0	0.0	0.0
Job-to-job mobility of HRST	170.8	26.5	5.9
Intellectual assets	133.2	-14.2	-11.7
PCT patent applications	147.4	-3.0	-3.0
Trademark applications	124.4	-4.1	-2.5
Design applications	122.0	-36.5	-29.7
Employment impacts	165.8	-5.2	0.0
Employment in knowledge-intensive activities	169.9	0.0	0.0
Employment in innovative enterprises	162.4	-10.1	0.0
Sales impacts	98.7	-9.9	0.6
Medium and high-tech goods exports	74.9	-2.7	0.9
Knowledge-intensive services exports	120.1	10.5	0.8
Sales of innovative products	109.6	-46.4	0.0
Environmental sustainability	125.0	-1.6	0.5
Resource productivity	192.0	11.5	0.0
Air emissions by fine particulate matter	132.6	4.2	0.0
Environment-related technologies	47.6	-17.3	1.4

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).

SWITZERLAND is an **Innovation Leader** with performance at 139.6% of the EU average. Performance is above the average of the Innovation Leaders. Performance is decreasing and is lower than the rate of increase of the EU (8.5%-points). The country's performance lead over the EU is becoming smaller.

Relative strengths

Public-private co-publications
Foreign doctorate students
International scientific co-publications
Doctorate graduates
Lifelong learning

Relative weaknesses

Government support for business R&D
Environment-related technologies
Medium and high-tech goods exports
Innovative SMEs collaborating with others
Venture capital expenditures

Strong increases since 2016

Venture capital expenditures
Job-to-job mobility of HRST
Foreign doctorate students

Strong decreases since 2016

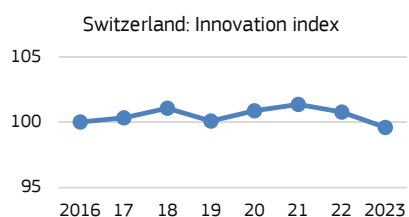
Sales of innovative products
Product innovators
Design applications

Strong increases since 2022

Employed ICT specialists
Job-to-job mobility of HRST
Environment-related technologies

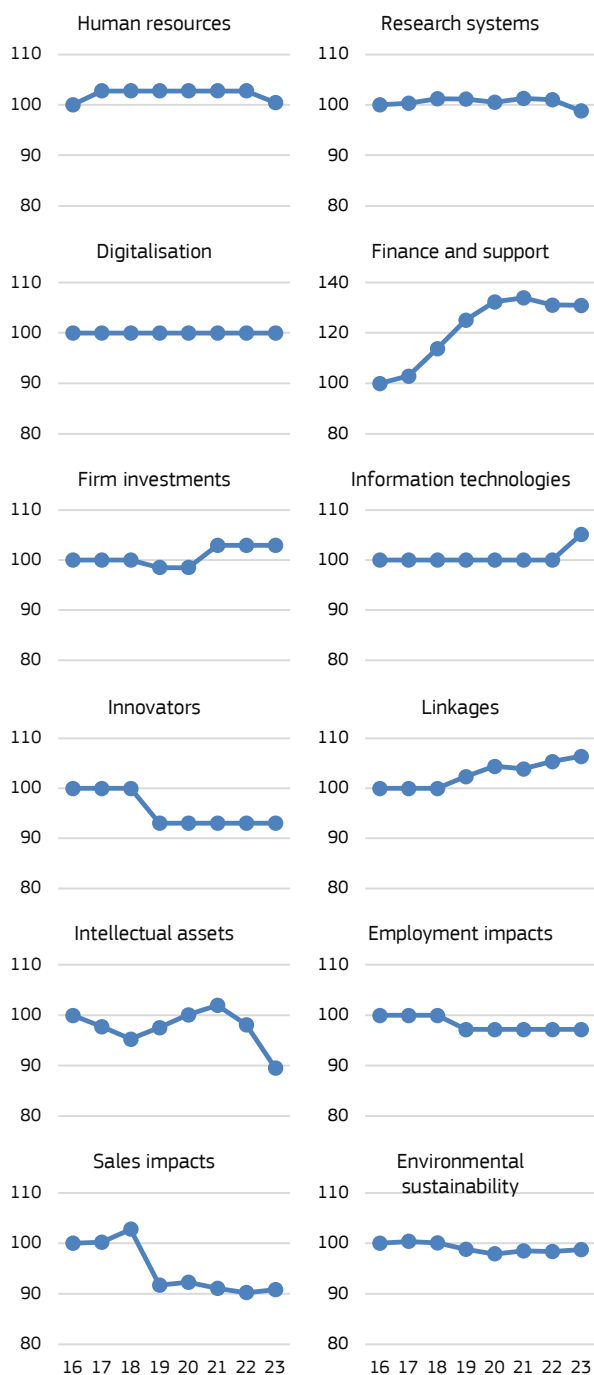
Strong decreases since 2022

Design applications
Most cited publications
Lifelong learning



The graph on the left shows the evolution of **innovation performance over time** against the performance of the country in 2016. Innovation performance, after an initial increase, dropped in 2019, and then increased between 2020 and 2021, after which performance declined in 2022 and 2023, leading to a 0% performance increase in 2023.

The graphs below show the evolution of innovation performance in the different **innovation dimensions** against the performance of the country in 2016. Performance improved strongest for Finance and support. Performance declined for Research systems, Innovators, Intellectual assets, Employment impacts, Sales impacts and Environmental sustainability.





Structural differences with the EU are shown below:

- Switzerland has higher per capita income, but a slower growing economy. Business services takes up a larger share of the economy, with SMEs accounting for a larger share of turnover.
- Enterprise births, Entrepreneurial Activity, Top R&D spenders, and Buyer sophistication add positively to the innovation climate, FDI net inflows add negatively.
- Information on Innovation profiles is not available.
- Entrepreneurial training and government procurement are above the EU average as drivers of research and innovation.
- Information on Climate change related indicators is not available.

	CH	EU
Performance and structure of the economy		
GDP per capita (PPS)	47,900	32,600
Average annual GDP growth (%)	2.3	4.4
Employment share Manufacturing (NACE C) (%)	9.2	16.4
of which High and Medium high-tech (%)	40.8	38.0
Employment share Services (NACE G-N) (%)	44.6	41.1
of which Knowledge-intensive services (%)	41.1	35.8
Turnover share SMEs (%)	54.5	34.1
Turnover share large enterprises (%)	38.3	49.6
Foreign-controlled enterprises – share of value added (%)	n/a	11.8
Business and entrepreneurship		
Enterprise births (10+ employees) (%)	4.0	1.0
Total Entrepreneurial Activity (TEA) (%)	9.6	6.8
FDI net inflows (% GDP)	-10.8	2.1
Top R&D spending enterprises per 10 mln. population	65.8	20.3
Buyer sophistication (1 to 7 best)	5.0	3.7
Innovation profiles		
In-house product innovators with market novelties	n/a	12.2
In-house product innovators without market novelties	n/a	12.8
In-house business process innovators	n/a	16.5
Innovators that do not develop innovations themselves	n/a	6.5
Innovation active non-innovators	n/a	4.1
Non-innovators with potential to innovate	n/a	17.2
Non-innovators without disposition to innovate	n/a	30.7
Governance and policy framework		
Corruption Perceptions Index (0 to 100 best)	83.7	64.0
Basic school entrepreneurial education and training	4.0	3.3
Govt. procurement of advanced tech. products	3.8	3.5
Rule of law (-2.5 to 2.5 best)	1.8	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	8.7	447.1
Average annual population growth (%)	0.8	-0.1
Population density	213.6	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 Switzerland.

Studies and reports