European Innovation Scoreboard **2024** Country Profile **Switzerland**

Innovation

European Innovation Scoreboard 2024 – Country profile Switzerland

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Directorate-General for Research and Innovation
2024 Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs EN

SWITZERLAND

Innovator Leader

Summary innovation index (relative to EU in 2017): **152.2**
Rank: **1**

Change vs 2023: ▲ 1.9 Change vs 2017: ▲ 1.3

Switzerland is an Innovation Leader with performance at 138.4% of the EU average in 2024. Performance is above the average of the Innovation Leaders (132.1%). Performance is increasing less than the EU (+10%).

Indicator	Performance relative to the EU in 2024	Performance change 2017-2024	Performance change 2023-2024
SUMMARY INNOVATION INDEX	**138.4**	**1.3**	**1.9**
Human resources	**186.9**	**11.7**	**15.8**
New doctorate graduates	191.7	0	0
Population with tertiary education	148.9	-1.2	4.8
Population involved in lifelong learning	223.6	46.9	55
Attractive research systems	**217.7**	**0.5**	**2.1**
International scientific co-publications	288.6	3.2	0
Scientific publications among the top 10% most cited	147.2	-10.6	1.3
Foreign doctorate students as a % of all doctorate students	264.4	22.4	5.4
Digitalisation	**139**	**10.9**	**10.9**
Broadband penetration	N/A	N/A	N/A
Individuals with above basic overall digital skills	166	10.8	10.8
Finance and support	**91.8**	**21.1**	**0**
R&D expenditure in the public sector	137.7	8.2	0
Venture capital expenditures	107.3	54.5	0.4
Direct and indirect government support of business R&D	18.2	0.6	-0.6
Firm investments	**164.5**	**13.3**	**0**
R&D expenditure in the business sector	154.1	12.8	0
Non-R&D innovation expenditures	N/A	N/A	N/A
Innovation expenditures per person employed	N/A	N/A	N/A
Use of information technologies	**128.5**	**6.7**	**0**
Enterprises providing ICT training	N/A	N/A	N/A
Employed ICT specialists	126.4	6.4	0
Innovators	**113.3**	**-25.3**	**0**
SMEs introducing product innovations	165.1	27.2	0
SMEs introducing business process innovations	70.9	-75.3	0
Linkages	**193.6**	**11.2**	**2.5**
Innovative SMEs collaborating with others	76	0	0
Public-private co-publications	489	0	0
Job-to-job mobility of HRST	170.8	26.5	5.9
Intellectual assets	**152**	**3.7**	**1**
PCT patent applications	143.1	2	2.4
Trademark applications	130.7	-1.8	0
Design applications	189.8	10.1	0
Employment impacts	**126.6**	**-38.3**	**-27.3**
Employment in knowledge-intensive activities	156.2	-1.2	12.1
Employment in innovative enterprises	101.7	-72.2	-63
Sales impacts	**97.8**	**1.7**	**8.7**
Exports of medium and high technology products	72.6	-0.4	-0.8
Knowledge-intensive services exports	81	-2.9	-8.6
Sales of new-to-market and new-to-firm innovations	164.7	11.4	47.4
Environmental sustainability	**116.5**	**-3.1**	**1.1**
Resource productivity	188.1	4.7	0
Air emissions by fine particulates	122.7	4.1	1.4
Environment-related technologies	42.4	-19.9	1.5

Emerging Innovators Moderate Innovators Strong Innovators Innovation Leaders

Relative strengths

- Public-private co-publications
- International scientific co-publications
- Foreign doctorate students as a % of all doctorate students

Relative weaknesses

- Direct and indirect government support of business R&D
- Environment-related technologies
- SMEs introducing business process innovations

Strong increases since 2017

- Venture capital expenditures
- Population involved in lifelong learning
- SMEs introducing product innovations

Strong decreases since 2017

- SMEs introducing business process innovations
- Employment in innovative enterprises
- Environment-related technologies

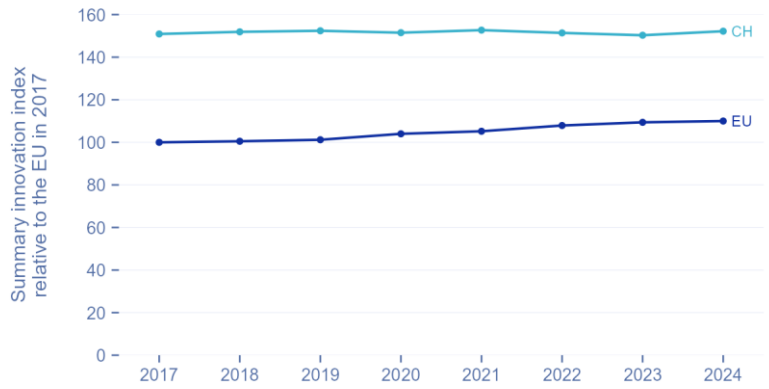
Strong increases since 2023

- Population involved in lifelong learning
- Sales of new-to-market and new-to-firm innovations
- Employment in knowledge-intensive activities

Strong decreases since 2023

- Employment in innovative enterprises
- Knowledge-intensive services exports
- Exports of medium and high technology products

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.*



Summary innovation index

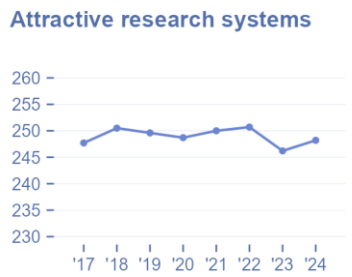
The line chart shows the evolution of the innovation performance of Switzerland over time, relative to the performance of the EU in 2017.

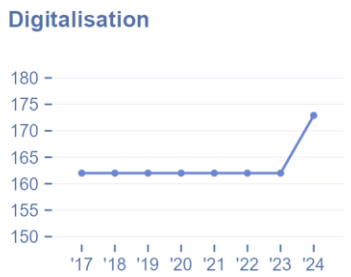
Footnote: *All performance scores (SII and dimensions below) are relative to that of the EU in 2017.*

Framework conditions

Switzerland's framework conditions are among the best in Europe and have been improving over the years. Switzerland's research system is particularly strong and well-integrated into the global research ecosystem. Research collaboration with partners from abroad is highly developed, as shown by international scientific co-publications that are above all other European countries and outperform the EU average by almost three times (288.6% of the EU average). Due to the quality of its tertiary education system, Switzerland is also highly attractive to foreign doctorate students, who represent 58% of all doctorate students in the country, i.e. 264.4% of the EU average.

The quality network of tertiary institutions also allows Switzerland to have a particularly skilled workforce, with a population with tertiary education and a number of doctorate graduates in STEM significantly above the EU average (respectively 148.9% and 191.7% of the EU average). Beyond tertiary education, Switzerland is also a leader in upskilling its population, including regarding digital skills: the population involved in lifelong learning and the population with above basic digital skills are both significantly above the EU average, and increasing over years with notable 46.9%-points and 10.8%-points increases between 2017 and 2024.

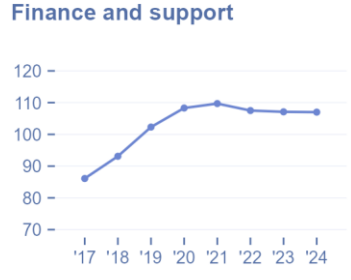


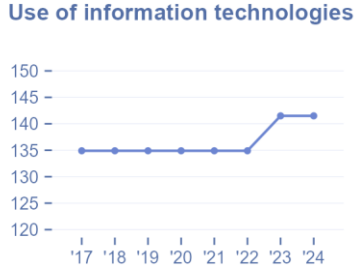


Investments

R&D expenditures in the public and business sectors are significantly above the EU average (137.7% and 154.1% of the EU average respectively) and increase yearly, showing the importance of innovation in both businesses and government and higher education institutes. The direct and indirect government support to business R&D is very low, around five times smaller than the EU average.

Venture capital is an important source of financing for businesses, and its significance has increased in recent years (+54.5% points since 2017). It has gone from being below the EU average to outperforming it. In line with the digitalisation of the economy, the business sector is employing more ICT specialists than the EU average (126.4%).

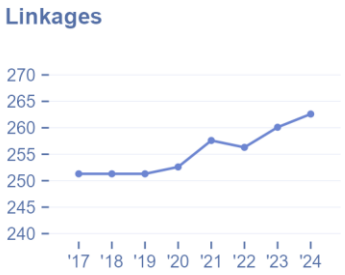


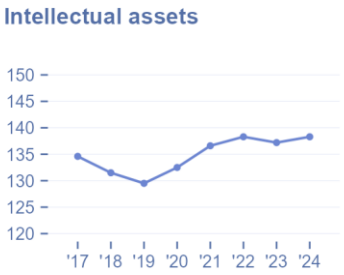


Innovation activities

Switzerland scores higher than the EU average in terms of PCT applications, trademark applications, and design applications but is not as active as Europe's top performing countries in intellectual asset generation. Only design applications significantly increased between 2017 and 2024 (+10.1%-points), while PCT and trademark applications remained rather stable (+2%-points and -1.8%-points respectively).

Compared to the EU, Swiss SMEs innovation activities are focused on the introduction of product innovations (165.1% of the EU average) rather than on the introduction of business process innovations (70.9% of the EU average) which has strongly declined since 2017 (-75.3%-points). Collaboration between innovative SMEs exists but is low compared to the research collaboration between enterprises and the public sector, as indicated by the excellent performance of Switzerland in public-private co-publications, which is among the highest in Europe and exceeds the EU average by almost 5 times. The dynamism of the Science & Technology ecosystem is further evidenced by the high job-to-job mobility of human resources in that field (170.8% of the EU average).



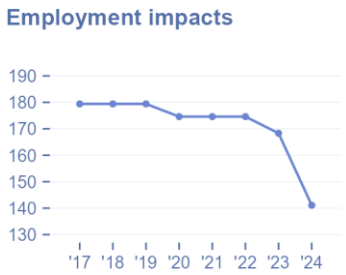


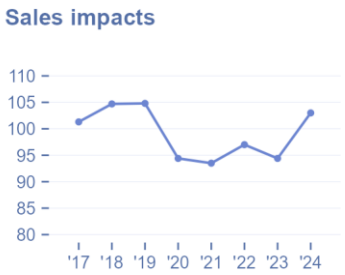
Impacts

The excellent framework conditions, high investment in innovation, and strong innovation activity have a positive impact on employment in Switzerland. There is a high share of employment in knowledge-intensive activities (156.2% of the EU average). However, employment in innovative enterprises previously represented a larger share of the labour market and has strongly declined in the last eight years (-72.2%-points) down to a level close to the EU average (101.7%).

Innovation-related exports are limited in Switzerland, with exports of medium and high-tech products and knowledge-intensive services below the EU average (72.6% and 81.0% of the EU average respectively) and not increasing over the years. However, domestic innovation sales are strong, with sales of new-to-market and new-to-firm innovations among the highest in Europe and on an upward trend (+11.4%-points increase between 2017 and 2024).

Swiss performance regarding environmental sustainability is mixed. The country excels in resource productivity (188.1% of the EU average) but has experienced a strong decline (-19.9%-points) in the production of patents based on environment-related technologies, positioning Switzerland more than twice below the EU average (42.4%). However, the low performance is partially nuanced by the overall high number of patent applications.





Structural differences

Performance and structure of the economy

Switzerland has one of the highest GDPs per capita in Europe, outperforming Luxembourg and Norway. The structure of the Swiss economy is strongly oriented towards high-value-added activities, with an important share of employment in high—and medium-tech sectors (49.0% of the manufacturing sector) and knowledge-intensive services (40.2% of the service sector).

Comparatively to the EU, SMEs have a stronger role in the economy, capturing 18.2% of total turnover, compared to 38.3% for large enterprises – quite below the EU average of 49.6%.

Business and entrepreneurship

The Swiss business context stands out in terms of enterprises having top R&D spending – 63.0% of Swiss firms compared to 8.4% for the EU average, which shows how widespread the culture of R&D expenditures is among Swiss businesses. Another characteristic of the Swiss economy is the negative net inflow of FDI, reflecting the massive investment of Swiss companies abroad.

With its strong economy and limited red tape, Switzerland offers favourable conditions that facilitate entrepreneurship and investment in new businesses. This results in a high total entrepreneurial activity, significantly above the EU average.

Innovation profiles

Data regarding innovation activities is not available for Switzerland.

Governance and policy framework

Switzerland is governed by a federal system with direct democracy at all political levels. It has excellent scores regarding the rule of law and corruption perception, ranking in the European top 5 for both. The Swiss government also promotes innovation by investing above average in innovation procurement (11.8% of total procurement) and in the procurement of advanced technology products (3.83%). Basic-school entrepreneurial education and training are also more widespread than in most European countries.

Climate change

Data regarding climate change is not available for Switzerland.

Demography

Switzerland has a population of 8.7 million, growing at a 0.8% rate, significantly faster than the EU average of 0.3%. Although a considerable part of its territory is mountainous, Switzerland is significantly more densely populated than the EU, with 217.3 inhabitants/km^2.

Structural indicators

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

	CH	EU
Performance and structure of the economy		
GDP per capita	156.7	100
Employment share Manufacturing	10.6	15.8
Employment share High and Medium high-tech	49	37.9
Employment share Services	37.6	39.8
Employment share Knowledge-intensive services	40.2	28.6
Turnover share SMEs	18.2	12.6
Turnover share large enterprises	38.3	49.6
Business and entrepreneurship		
Enterprise births		0.8
Total Entrepreneurial Activity	9.2	6.8
FDI net inflows	-16.1	1.9
Top R&D spending enterprises	63	8.4
Buyer sophistication	5	3.6
Governance and policy frameworks		
Corruption Perceptions Index	82.7	64
Basic-school entrepreneurial education and training	3.6	2.6
Government procurement of advanced technology products	3.8	3.4
Rule of law	1.8	1
Innovation procurement as a share of total public procurement	11.8	9.2
Demography		
Population size (in millions)	8.7	447
Average annual population growth (2021-2023 average)	0.8	0.3
Population density	217.3	109

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.

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

Studies and reports