European Innovation Scoreboard **2024** Country Profile
France

Innovation

European Innovation Scoreboard 2024 – Country profile France

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EUROPEAN COMMISSION

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Directorate-General for Research and Innovation

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

FRANCE

Strong Innovator

Summary innovation index (relative to EU in 2017): **114.4**
Rank: **15**

Change vs 2023: ▲ 0.3 Change vs 2017: ▲ 1.7

France is a Strong Innovator with performance at 104% of the EU average in 2024. Performance is below the average of the Strong Innovators (111.3%). 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	**104.0**	**1.7**	**0.3**
Human resources	**135.8**	**13.4**	**21.7**
New doctorate graduates	139.4	0.0	34.8
Population with tertiary education	147.8	9.6	9.0
Population involved in lifelong learning	117.8	39.8	16.3
Attractive research systems	**105.9**	**-8.1**	**-3.1**
International scientific co-publications	74.7	5.5	-2.8
Scientific publications among the top 10% most cited	87.9	-11.6	-1.7
Foreign doctorate students as a % of all doctorate students	162.8	-13.4	-6.6
Digitalisation	**110.1**	**4.0**	**4.0**
Broadband penetration	107.2	10.8	10.8
Individuals with above basic overall digital skills	114.2	-2.8	-2.8
Finance and support	**142.2**	**13.0**	**-0.6**
R&D expenditure in the public sector	95.1	-8.2	-1.6
Venture capital expenditures	150.6	51.0	0.0
Direct and indirect government support of business R&D	187.8	0.0	0.0
Firm investments	**88.8**	**-6.3**	**-4.2**
R&D expenditure in the business sector	96.5	-0.8	-2.3
Non-R&D innovation expenditures	49.4	-27.2	-23.5
Innovation expenditures per person employed	117.1	10.2	14.9
Use of information technologies	**77.9**	**3.5**	**6.7**
Enterprises providing ICT training	58.0	0.0	0.0
Employed ICT specialists	97.1	6.5	13.0
Innovators	**111.7**	**5.8**	**4.3**
SMEs introducing product innovations	109.2	5.8	3.6
SMEs introducing business process innovations	113.6	5.6	5.0
Linkages	**115.3**	**34.1**	**-18.4**
Innovative SMEs collaborating with others	122.1	18.1	-7.7
Public-private co-publications	107.0	-1.5	-9.6
Job-to-job mobility of HRST	112.5	64.7	-32.4
Intellectual assets	**82.4**	**-10.1**	**-1.2**
PCT patent applications	98.5	-12.7	-1.7
Trademark applications	70.7	-0.8	-1.0
Design applications	69.7	-13.7	-0.6
Employment impacts	**106.9**	**-3.1**	**5.4**
Employment in knowledge-intensive activities	110.2	3.6	3.6
Employment in innovative enterprises	104.3	-9.5	6.8
Sales impacts	**72.1**	**-9.6**	**-6.2**
Exports of medium and high technology products	84.5	-9.4	4.0
Knowledge-intensive services exports	77.1	4.7	-6.8
Sales of new-to-market and new-to-firm innovations	44.6	-29.5	-21.3
Environmental sustainability	**109.4**	**5.0**	**-2.1**
Resource productivity	138.3	35.0	-4.8
Air emissions by fine particulates	104.7	2.9	-0.5
Environment-related technologies	89.3	-15.5	-2.4

Emerging Innovators Moderate Innovators Strong Innovators Innovation Leaders

Relative strengths

- Direct and indirect government support of business R&D
- Foreign doctorate students as a % of all doctorate students
- Venture capital expenditures

Relative weaknesses

- Sales of new-to-market and new-to-firm innovations
- Non-R&D innovation expenditures
- Enterprises providing ICT training

Strong increases since 2017

- Job-to-job mobility of HRST
- Venture capital expenditures
- Population involved in lifelong learning

Strong decreases since 2017

- Sales of new-to-market and new-to-firm innovations
- Non-R&D innovation expenditures
- Environment-related technologies

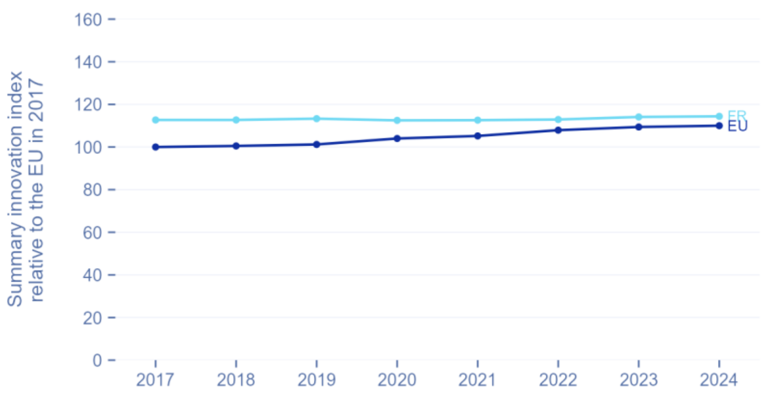
Strong increases since 2023

- New doctorate graduates
- Population involved in lifelong learning
- Innovation expenditures per person employed

Strong decreases since 2023

- Job-to-job mobility of HRST
- Non-R&D innovation expenditures
- Sales of new-to-market and new-to-firm innovations

***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 France 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

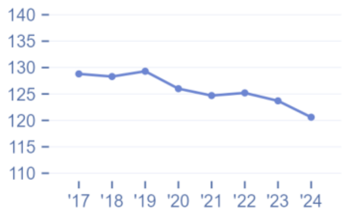
France has a very skilled workforce, with a majority of population having completed tertiary education (51.9%), a high involvement in lifelong learning which has been increasing (+39.7%-points between 2017 and 2024), and a high number of annual new doctorate in STEM per million population (139.4% of the EU average). With its quality education network of more than 3500 universities and institutes (Campus France, 2017), France is also an attractive destination for foreign students, with one of the highest shares of foreign doctorate students across the EU, reaching 162.5% of the EU average in 2024, although it has decreased since 2017 (-13.4%-points).

French research outputs are less recognised than more than half of EU countries, with a decreasing share of publications among the top 10% most cited (-11.6%-points between 2017 and 2024). France also performs below the EU average in terms of international scientific co-publications (74.9% of the EU average), which is partially explained by the size of France, as large countries tend to be less engaged in international research activities.

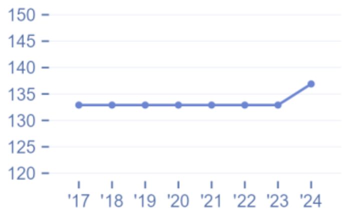
France is slightly more digitalised than the EU average, with 63% of enterprises using high-quality Internet connection. Accelerating the digital transition of businesses is one of the priorities of the 'France Relance' plan (French Ministry of Economy, 2023), partially financed by the EU (RRF). The number of individuals with above basic digital skills is higher than the EU average (114.2% of the EU average) but has slightly dropped in the last year (-2.8%-points).

Human resources

Attractive research systems



Digitalisation



Investments

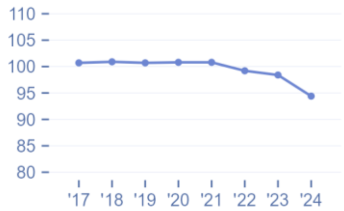
France is the EU Member State that provides the best financial support to innovation. This excellent performance results from the multiple alternative sources of support to innovation available to companies. Direct and indirect government support of business R&D is the highest in the EU and is almost twice larger than the EU average (187.8%). This type of support includes innovation funding for start-ups or SMEs, and fiscal advantages for firms engaging in R&D, such as the French "crédit impôt-recherche", a fiscal scheme aimed at encouraging companies to undertake R&D activities by reducing their taxable amount (Direction de l'information légale et administrative, 2024). Venture capital expenditures have strongly increased in the recent years (+51.0%-points) and outperform the EU average (150.6%), increasing the access to innovation financing.

On the other hand, innovation expenditures have been decreasing both in the public sector, including higher education institutes and government (-8.2%-points), and in the business sector (-6.3%-points). Regarding the latter, firm investments in innovation are impacted by the particularly low and decreasing non-R&D innovation expenditures (-27.2%-points). However, innovation expenditures per person employed in innovative enterprises, including both R&D and non-R&D, remain quite high, significantly above the EU average (117.1%) and increasing.

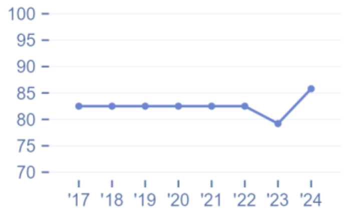
French companies employ an average number of ICT specialists (97.1% of the EU average in 2024), but invest less than the EU average in providing ICT training to their employees, with only 4.5% of companies doing so, which represents 58.0% of the EU average in 2024.

Finance and support

Firm investments



Use of information technologies

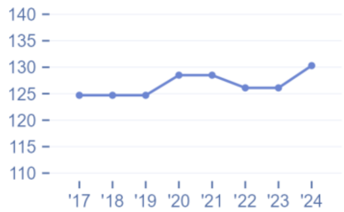


Innovation activities

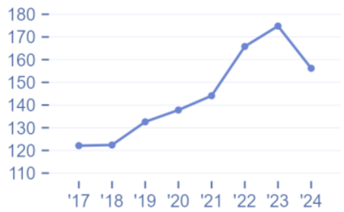
Innovation activity in France is particularly developed compared to the EU average and driven by the strong research ecosystem that stimulates links between innovation actors. More and more innovative SMEs tend to collaborate with each other (+18.1%-points), and SMEs introduce regularly business process innovations (+5.6%-points) and product innovations (+5.8%-points). Staff in science and technology sectors have a high job-to-job mobility (112.5% of the EU average), which indicates a dynamic labour market. However, some of these positive trends have slowed down between 2023 and 2024.

Regarding intellectual property, France is lagging the EU average, performing at 82.4% of the EU average. Design applications have been decreasing (-13.7%-points between 2017 and 2024), and are among the lowest among EU Member States (69.7% of the EU average). PCT patent applications are also trending downward since 2017 (-12.7%-points), while Trademark applications are stable but low (70.7% of the EU average).

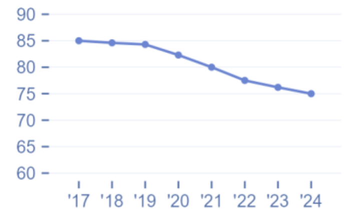
Innovators



Linkages



Intellectual assets

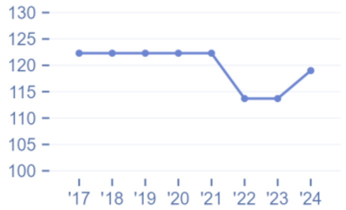


Impacts

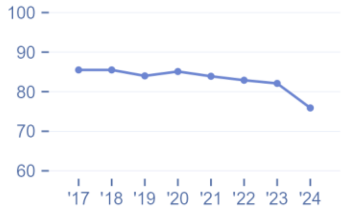
France's high level of investments and good framework conditions lead to impacts in terms of employment, with employment in knowledge-intensive activities and in innovative enterprises slightly above the EU average (respectively 110.4% and 104.3% of the EU average), although the latter has decreased since 2017 (-9.4%-points). Strong performance is also observed in environmental sustainability, particularly driven upward by resource productivity (+35.0%-points since 2017).

However, the impact on sales is more limited, with the sales of innovations (new-to-market and new-to-firm) by French enterprises collapsing over years and reaching only 44.6% of the EU average. Exports of medium and high technology products and of knowledge-intensive services are also below EU average (respectively 84.5% and 77.1% of the EU average), and showing volatility over years.

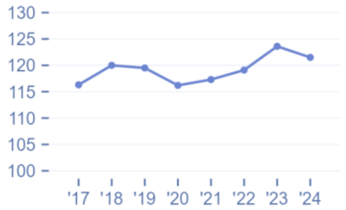
Employment impacts



Sales impacts



Environmental sustainability



Structural differences

Performance and structure of the economy

France's GDP per capita is just above the EU average but growing at a slightly slower pace (1.6% annually). Regarding the structure of the economy, the share of employment in the service sector is the same as the EU average (39.7%), but with a stronger specialisation in knowledge-intensive services. Manufacturing in France is weaker than the EU average (11.0% of total employment) as more affected by deteriorating cost-competitiveness (Trésor-Economics, 2014), but the sector could be revived due to the recent "industrial relocation" policies (French Chamber of Commerce and Industry, 2023; BPI France, 2024). The share of employment active in high to medium high-tech sectors is also more limited than the EU average (34.6% of manufacturing).

Large enterprises are pillars of the French economy, capturing 59.3% of total turnover, the 2nd largest share across the EU, while SMEs' role in generating value is more limited, with only 10.2% of total turnover. Moreover, foreign-controlled companies are under-represented on the French market, as they capture only 8.2% of total value-added – this can be partially explained by the size of France (large countries tend to attract less foreign enterprises), and by the barriers to entry the French market (local preferences, language).

Business and entrepreneurship

France has a strong business and entrepreneurial activity, significantly above the EU average and driven by the quality of the French entrepreneurship ecosystem and by the high ambition of French start-ups. However, it is barely reflected in the creation of SMEs, as the enterprise birth rate for enterprises larger than 10 employees stands at half of the EU average.

French businesses attract high levels of investment from abroad, with FDI financing activities in the industry, as well as in some technological sectors, leading to a positive FDI inflow significantly higher than the EU average (2.6% of GDP). Even though 8.7% of firms are top R&D spenders (close to EU average), investment in innovation in not yet widespread in the French business sector and remains confined to large enterprises mostly.

Innovation profiles

Data regarding innovation activities is not available for France. Nevertheless, France offers a range of more than 60 national arrangements supporting R&I, managed by different economic operators (France Stratégie, 2022). Some of these economic operators are the Agency for Ecological Transition (ADEME), the National Research Agency (ANR), or the French Public Investment Bank (BPIFrance). Innovative activities and research are also strongly supported by 'France 2030', the French investment strategy to transform key economic sectors through innovation (French Government, 2023).

Governance and policy framework

France ranks above the EU average in terms of rule of law and corruption perception index. However, the Corruption Perception Index of 71/100 indicates that improvements can be made. Governance plays a role in promoting innovation, with a significant share of public procurement being innovation procurement (11.4%). There is also an above EU average procurement of advanced technology products (3.8%).

Climate change

Regarding climate transition, France is slightly more advanced than most EU countries, especially regarding circularity, with the third highest circular material use rate of the EU. France's effort towards the circular economy have contributed to its above-average score on the Eco-Innovation Index. The greenhouse gas emissions from energy consumption remain high, although just below the EU average, with the transportation sector contributing the most to France's greenhouse gas emissions.

Demography

France has the second largest population in the EU, with 68 million inhabitants, and grows at the same rate as the EU, i.e. 0.3%. Despite the multiple mountain ranges occupying the territory, France is almost as densely populated as the EU overall, with 107 inhabitants per km^2.

Structural indicators

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

	FR	EU
Performance and structure of the economy		
GDP per capita	101.3	100
Average annual GDP growth (2021-2023 average)	1.6	1.9
Employment share Manufacturing	11	15.8
Employment share High and Medium high-tech	34.6	37.9
Employment share Services	39.7	39.8
Employment share Knowledge-intensive services	32.2	28.6
Turnover share SMEs	10.2	12.6
Turnover share large enterprises	59.3	49.6
Foreign-controlled enterprises – share of value added	8.2	13.3
Business and entrepreneurship		
Enterprise births	0.4	0.8
Total Entrepreneurial Activity	9.2	6.8
FDI net inflows	2.6	1.9
Top R&D spending enterprises	8.7	8.4
Buyer sophistication	4	3.6
Governance and policy frameworks		
Corruption Perceptions Index	71.3	64
Basic-school entrepreneurial education and training	2.7	2.6
Government procurement of advanced technology products	3.8	3.4
Rule of law	1.2	1
Innovation procurement as a share of total public procurement	11.4	9.2
Climate change		
Circular material use rate	18.9	11.5
Greenhouse gas emissions intensity of energy consumption	79.5	82.8
Eco-Innovation Index	130.7	121.5
Demography		
Population size (in millions)	68	447
Average annual population growth (2021-2023 average)	0.3	0.3
Population density	106.8	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.

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

Studies and reports