

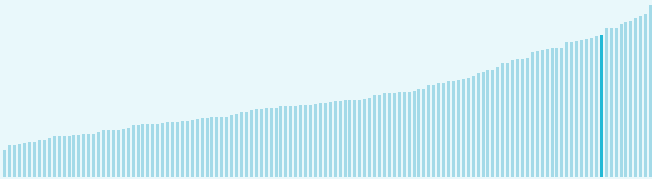
# Global Innovation Index 2023



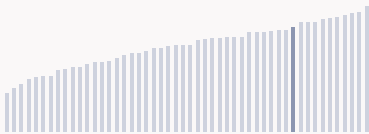
The Global Innovation Index (GII) **ranks world economies according to their innovation capabilities**. Consisting of **roughly 80 indicators**, grouped into innovation inputs and outputs, the GII **aims to capture the multi-dimensional facets of innovation**.

## France ranking in the Global Innovation Index 2023

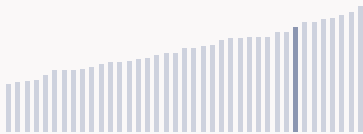
> France ranks **11th** among the 132 economies featured in the GII 2023.



> France ranks **11th** among the 50 high-income group economies.



> France ranks **8th** among the 39 economies in Europe.



### > France GII Ranking (2020-2023)

The table shows the rankings of France over the past four years. Data availability and changes to the GII model framework influence year-on-year comparisons of the GII rankings. The statistical confidence interval for the ranking of France in the GII 2023 is between ranks 11 and 13.

	GII Position	Innovation Inputs	Innovation Outputs
2020	12th	16th	12th
2021	11th	17th	10th
2022	12th	13th	11th
2023	11th	17th	11th

France performs better in innovation outputs than innovation inputs in 2023.

This year France ranks **17th** in innovation inputs. This position is lower than last year.

France ranks **11th** in innovation outputs. This position is the same as last year.

# Global Innovation Index 2023



## → Expected vs. observed innovation performance

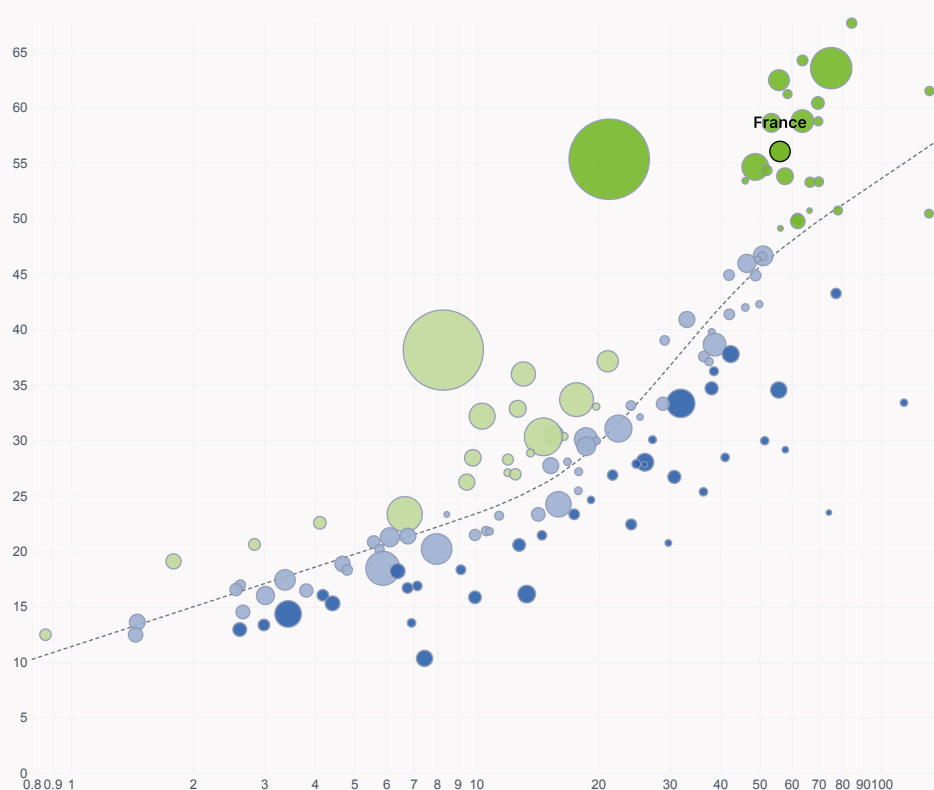
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected and those below are performing below expectations.



> France is an innovation leader, ranking in the top 25 of the GII.

## > Innovation overperformers relative to their economic development

↑ GII Score



- Innovation leader
- Performing above expectations for level of development
- Performing at expectations for level of development
- Performing below expectations for level of development

Size legend (Population)



→ GDP per capita, PPP logarithmic scale (thousands of \$)

# Global Innovation Index 2023



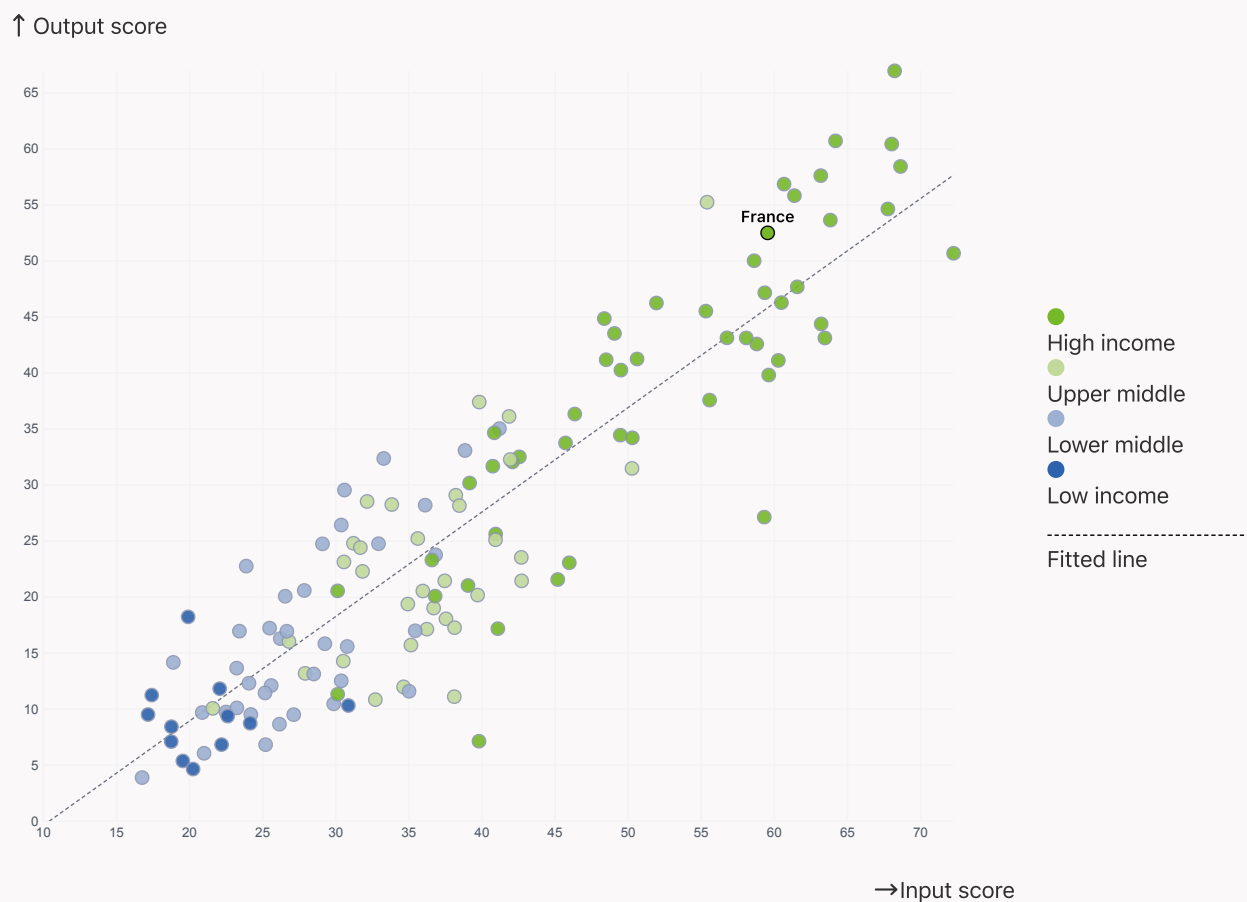
## → Effectively translating innovation investments into innovation outputs

The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.



> France produces more innovation outputs relative to its level of innovation investments.

### > Relationship between innovation inputs and outputs



# Global Innovation Index 2023



## → Overview of France's rankings in the seven areas of the GII in 2023

The chart shows the ranking for each of the seven areas that the GII comprises. The strongest areas for France are those that rank above the GII (shown in blue) and the weakest are those that rank below.

Highest rankings →

● 6th Creative outputs

● 9th Market sophistication

● 11th Global Innovation Index

● 16th Knowledge and technology outputs

● 17th 2 pillars \*

● 22nd Infrastructure

← Lowest rankings

● 27th Institutions

\* Human capital and research, Business sophistication

### > Highest rankings



France ranks highest in Creative outputs (6th) and Market sophistication (9th).

### > Lowest rankings



France ranks lowest in Institutions (27th), Infrastructure (22nd) and Human capital and research, Business sophistication (17th).



The full WIPO Intellectual Property Statistics profile for France can be found on [this link](#).

# Global Innovation Index 2023



## → Benchmark of France against other country groupings for each of the seven areas of the GII Index

The charts show the relative position of France (blue bar) against other country groupings (grey bars), for each of the seven areas of the GII Index.

### > High-Income economies

France performs above the high-income group average in all the pillars.



### > Europe

France performs above the regional average in all the pillars.



### Knowledge and technology outputs

Top 10 | Score: 58.96

France | Score: 46.71

Europe | Score: 38.80

High income | Score: 38.62

### Creative outputs

France | 58.20

Top 10 | 56.09

High income | 40.27

Europe | 39.87

### Business sophistication

Top 10 | 64.39

France | 56.07

High income | 46.38

Europe | 44.61

### Market sophistication

Top 10 | 61.93

France | 60.68

High income | 46.42

Europe | 43.65

### Human capital and research

Top 10 | 60.28

France | 54.01

High income | 46.30

Europe | 44.05

### Infrastructure

Top 10 | 62.83

France | 57.18

High income | 55.85

Europe | 54.69

### Institutions

Top 10 | 79.85

France | 70.00

High income | 68.16

Europe | 61.69

# Global Innovation Index 2023



## → Innovation strengths and weaknesses in France

The table below gives an overview of the indicator strengths and weaknesses of France in the GII 2023.



> France's main innovation strengths are **Intangible asset intensity, top 15, % (rank 2)**, **Firms offering formal training, % (rank 2)** and **Global brand value, top 5,000 (rank 4)**.

### Strengths

Rank	Code	Indicator name
2	7.1.1	Intangible asset intensity, top 15, %
2	5.1.2	Firms offering formal training, %
4	7.1.3	Global brand value, top 5,000
5	6.1.5	Citable documents H-index
7	6.2.3	Software spending, % GDP
8	7.1.4	Industrial designs by origin/bn PPP\$ GDP
9	3.1.2	ICT use
9	2.3.4	QS university ranking, top 3
9	2.3.3	Global corporate R&D investors, top 3, mn US\$
10	4.3.3	Domestic market scale, bn PPP\$

### Weaknesses

Rank	Code	Indicator name
105	6.2.1	Labor productivity growth, %
80	5.3.4	FDI net inflows, % GDP
64	2.1.5	Pupil-teacher ratio, secondary
60	3.1.1	ICT access
56	3.2.3	Gross capital formation, % GDP
53	6.1.3	Utility models by origin/bn PPP\$ GDP
50	6.3.4	ICT services exports, % total trade
48	3.3.3	ISO 14001 environment/bn PPP\$ GDP
46	3.3.1	GDP/unit of energy use
41	2.1.3	School life expectancy, years



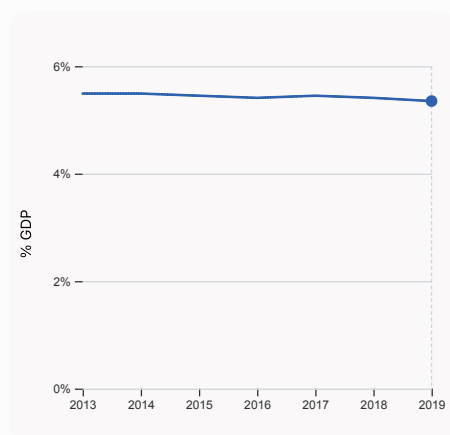
# Global Innovation Index 2023



## → France's innovation system

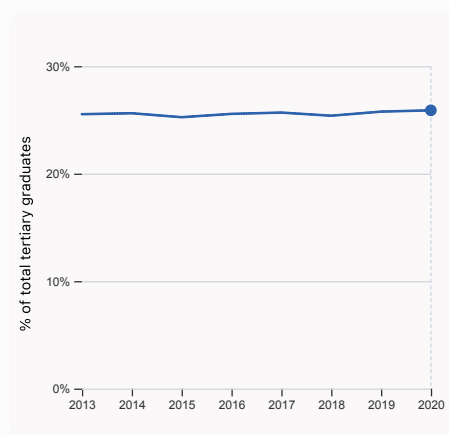
As far as practicable, the plots below present unscaled indicator data.

### > Innovation inputs in France



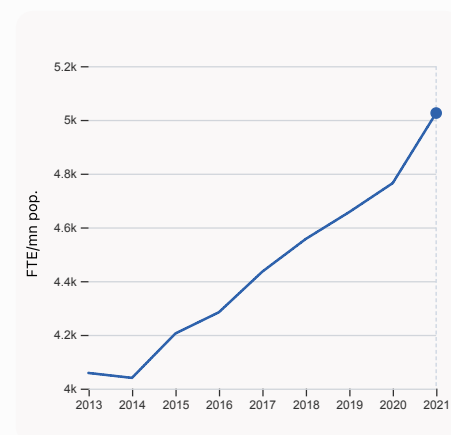
#### 2.1.1 Expenditure on education, % GDP

was equal to 5.35% GDP in 2019, down by 0.06 percentage points from the year prior – and equivalent to an indicator rank of 25.



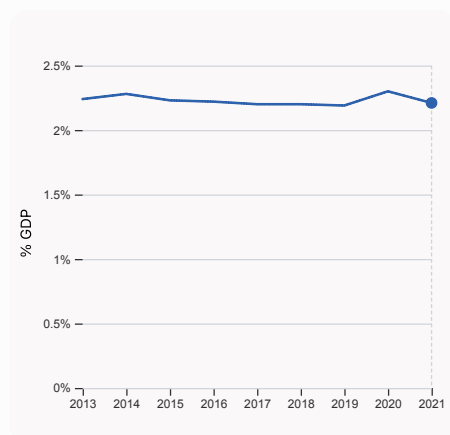
#### 2.2.2 Graduates in science and engineering, %

was equal to 25.89% of total tertiary graduates in 2020, up by 0.12 percentage points from the year prior – and equivalent to an indicator rank of 39.



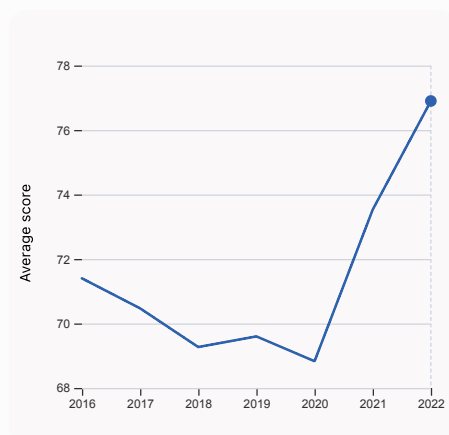
#### 2.3.1 Researchers, FTE/mn pop.

was equal to 5,025.43 FTE/mn pop. in 2021, up by 5.47% from the year prior – and equivalent to an indicator rank of 18.



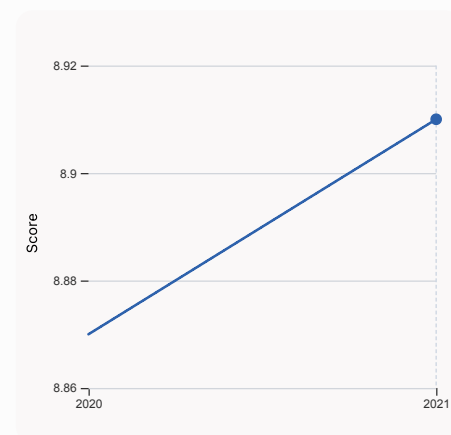
#### 2.3.2 Gross expenditure on R&D, % GDP

was equal to 2.21% GDP in 2021, down by 0.09 percentage points from the year prior – and equivalent to an indicator rank of 17.



#### 2.3.4 QS university ranking, top 3

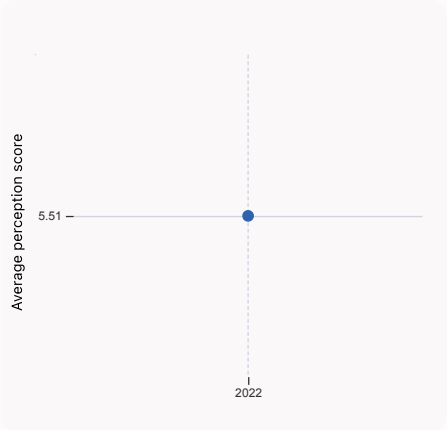
was equal to an average score of 76.9 for the top 3 universities in 2022, up by 4.58% from the year prior – and equivalent to an indicator rank of 9.



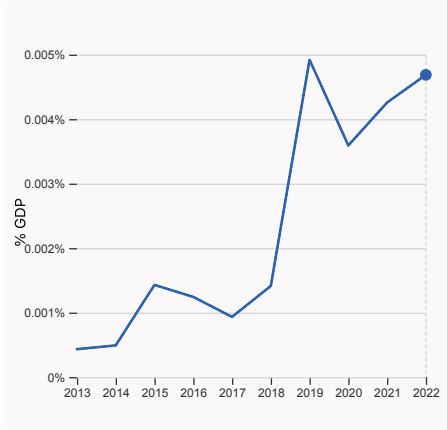
#### 3.1.1 ICT access

was equal to a score of 8.91 in 2021, up by 0.45% from the year prior – and equivalent to an indicator rank of 60.

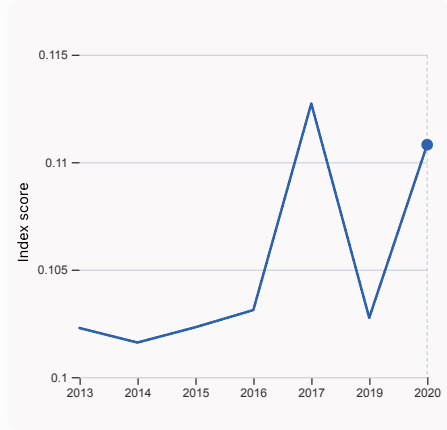
# Global Innovation Index 2023



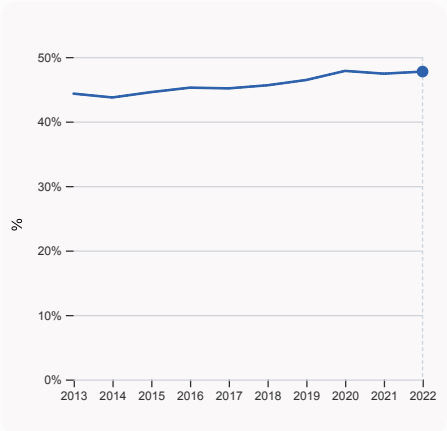
**4.1.1 Finance for startups and scaleups**  
was equal to an average perception score of 5.51 in 2022, equivalent to an indicator rank of 17.



**4.2.4 VC received, value, % GDP**  
was equal to 0.00469% GDP in 2022, up by 0.00043 percentage points from the year prior – and equivalent to an indicator rank of 17.



**4.3.2 Domestic industry diversification**  
was equal to an index score of 0.111 in 2020, up by 7.83% from the year prior – and equivalent to an indicator rank of 27.



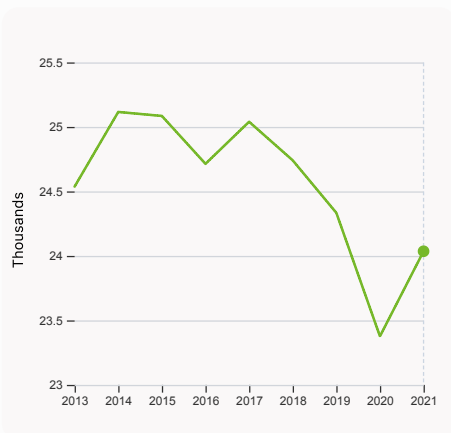
**5.1.1 Knowledge-intensive employment, %**  
was equal to 47.74% in 2022, up by 0.32 percentage points from the year prior – and equivalent to an indicator rank of 14.



# Global Innovation Index 2023

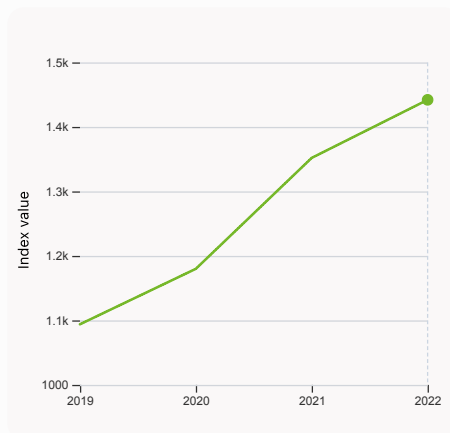


## > Innovation outputs in France



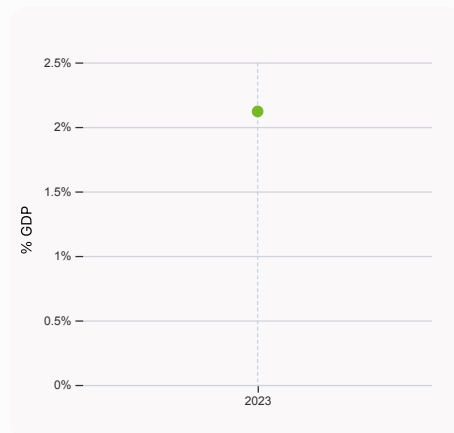
### 6.1.1 Patents by origin

was equal to 24.036 Thousands in 2021, up by 2.82% from the year prior – and equivalent to an indicator rank of 12.



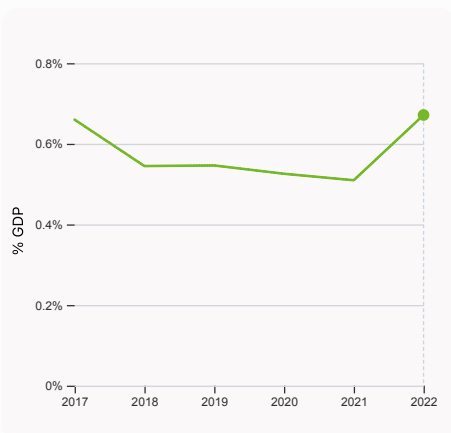
### 6.1.5 Citable documents H-index

was equal to an index value of 1,442 in 2022, up by 6.66% from the year prior – and equivalent to an indicator rank of 5.



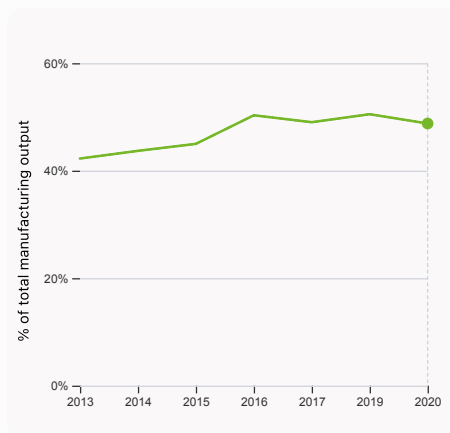
### 6.2.2 Unicorn valuation, % GDP

was equal to 2.12 % GDP in 2023 – and equivalent to an indicator rank of 18.



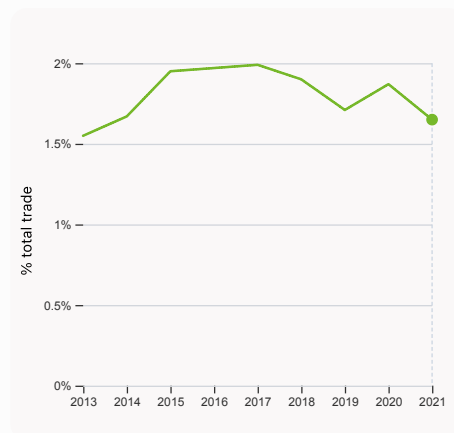
### 6.2.3 Software spending, % GDP

was equal to 0.671% GDP in 2022, up by 0.16 percentage points from the year prior – and equivalent to an indicator rank of 7.



### 6.2.4 High-tech manufacturing, %

was equal to 48.78% of total manufacturing output in 2020, down by 1.73 percentage points from the year prior – and equivalent to an indicator rank of 12.



### 6.3.1 Intellectual property receipts, % total trade

was equal to 1.65% total trade in 2021, down by 0.22 percentage points from the year prior – and equivalent to an indicator rank of 14.

# Global Innovation Index 2023



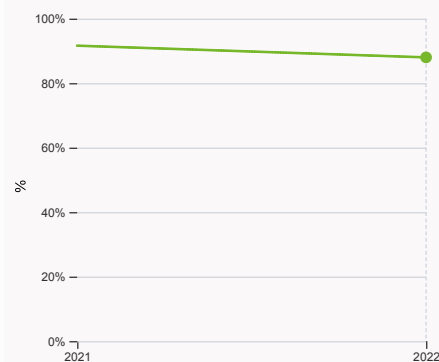
## 6.3.2 Production and export complexity

was equal to a score of 1.29 in 2020, up by with no change from the year prior – and equivalent to an indicator rank of 18.



## 6.3.3 High-tech exports

was equal to 97,528,027,196 USD in 2021, up by 11.95% from the year prior – and equivalent to an indicator rank of 17.



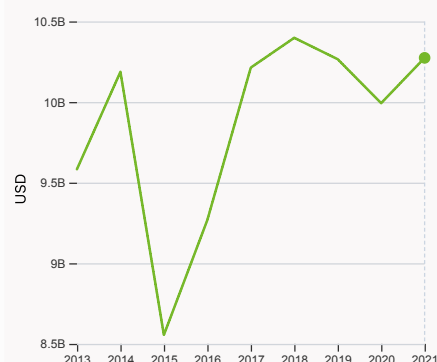
## 7.1.1 Intangible asset intensity, top 15, %

was equal to 87.99% in 2022, down by 3.63 percentage points from the year prior – and equivalent to an indicator rank of 2.



## 7.1.3 Global brand value, top 5,000

was equal to 515.991 bn USD in 2023, up by 3.64% from the year prior – and equivalent to an indicator rank of 4.



## 7.2.1 Cultural and creative services exports

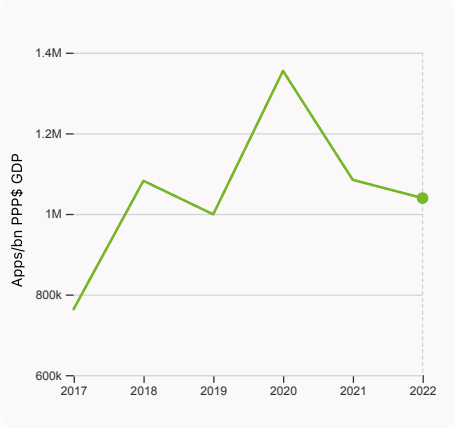
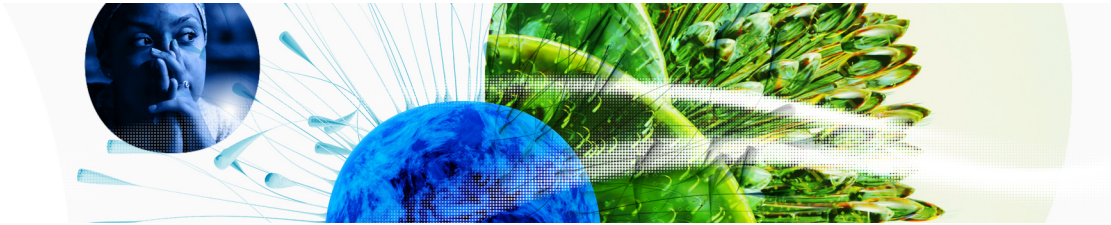
was equal to 10,274,004,000 USD in 2021, up by 2.81% from the year prior – and equivalent to an indicator rank of 25.



## 7.2.2 National feature films/mn pop. 15-69

was equal to 6.12 films/mn pop. 15-69 in 2021, up by 39.73% from the year prior – and equivalent to an indicator rank of 17.

# Global Innovation Index 2023



### 7.3.4 Mobile app creation/bn PPP\$ GDP

was equal to 1,039,209.01 Apps/bn PPP\$ GDP in 2022, down by 4.17% from the year prior – and equivalent to an indicator rank of 17.

# Global Innovation Index 2023



## → France's innovation top performers

### > 2.3.3 Global corporate R&D investors from France

Rank	Firm	Industry	R&D	R&D Growth	R&D Intensity
			[mn EUR]	[%]	[%]
32	SANOFI	Pharmaceuticals & Biotechnology	5,689	3	15
77	RENAULT	Automobiles & Parts	2,361	-14	5
120	VALEO	Automobiles & Parts	1,555	-0	9
123	SCHNEIDER	Electronic & Electrical Equipment	1,539	9	5

Source: European Commission's Joint Research Centre (<https://iri.jrc.ec.europa.eu/scoreboard/2022-eu-industrial-rd-investment-scoreboard>).

Note: European Commission's Joint Research Centre ranks the top 2,500 firms by R&D investment annually.

### > 2.3.4 QS university ranking of France's top universities

Rank	University	Score
26	UNIVERSITE PSL (PARIS SCIENCES & LETTRES)	83.80
48	INSTITUT POLYTECHNIQUE DE PARIS	76.80
60	SORBONNE UNIVERSITY	70.10

Source: QS Quacquarelli Symonds Ltd (<https://www.topuniversities.com/university-rankings/world-university-rankings/2023>).

Note: QS Quacquarelli Symonds Ltd annually assesses over 1,200 universities across the globe and scores them between [0,100]. Ranks can represent a single value "x", a tie "x=" or a range "x-y".

## > 6.2.2 Top Unicorn Companies in France

Rank	Unicorn Company	Industry	City	Valuation, bn USD
1	DOCTOLIB	Health	Paris	6
2	BACK MARKET	E-commerce & direct-to-consumer	Paris	6
3	CONTENTSQUARE	Internet software & services	Paris	6

Source: CBInsights, Tracker – The Complete List of Unicorn Companies: <https://www.cbinsights.com/research-unicorn-companies>



> 7.1.1 Top 15 intangible-asset intensive companies in France

Rank	Firm	Intensity, %
1	LVMH MOET HENNESSY LOUIS VUITTON SE	93.11
2	L'OREAL SA	91.21
3	CHRISTIAN DIOR SE	88.54

Source: Brand Finance (<https://brandirectory.com/reports/gift-2022>).  
Note: Brand Finance only provides within economy ranks.

> 7.1.3 Top 5,000 companies in France with highest global brand value

Rank	Brand	Industry	Brand Value, mn USD
1	LOUIS VUITTON	Apparel	26,289.9
2	TOTALENERGIES	Oil & Gas	20,723.2
3	CHANEL	Apparel	19,386.4

Source: Brand Finance (<https://brandirectory.com>).  
Note: Rank corresponds to within economy ranks.



# Global Innovation Index 2023



GII 2023 rank

11

## France

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
11	17	High	EUR	64.6	3,688.3	56,199.9
Score / Value Rank				Score / Value Rank		
<b>Institutions</b>				<b>Business sophistication</b>		
70.0 27				56.1 17		
<b>1.1 Institutional environment</b>				<b>5.1 Knowledge workers</b>		
66.4 34 ◇				69.1 7		
1.1.1 Operational stability for businesses*				47.7 14		
61.1 43 ◇				5.1.1 Knowledge-intensive employment, %		
1.1.2 Government effectiveness*				67.9 2 ●		
71.7 25				5.1.2 Firms offering formal training, %		
<b>1.2 Regulatory environment</b>				1.5 17		
83.0 22				5.1.3 GERD performed by business, % GDP		
1.2.1 Regulatory quality*				56.8 19		
74.2 24				5.1.4 GERD financed by business, %		
1.2.2 Rule of law*				25.3 19		
77.5 22				5.1.5 Females employed w/advanced degrees, %		
1.2.3 Cost of redundancy dismissal				<b>5.2 Innovation linkages</b>		
13.0 41				47.3 23 ◇		
<b>1.3 Business environment</b>				5.2.1 University-industry R&D collaboration†		
60.6 33				58.6 38 ◇		
1.3.1 Policies for doing business†				5.2.2 State of cluster development†		
58.9 40 ◇				69.2 24		
1.3.2 Entrepreneurship policies and culture†				5.2.3 GERD financed by abroad, % GDP		
62.3 20				0.2 23		
<b>Human capital and research</b>				5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP		
54.0 17				0.1 24		
<b>2.1 Education</b>				5.2.5 Patent families/bn PPP\$ GDP		
60.3 35				<b>5.3 Knowledge absorption</b>		
2.1.1 Expenditure on education, % GDP				51.9 15		
● 5.4 25				5.3.1 Intellectual property payments, % total trade		
2.1.2 Government funding/pupil, secondary, % GDP/cap				1.4 23		
25.1 19				5.3.2 High-tech imports, % total trade		
2.1.3 School life expectancy, years				9.4 44		
15.9 41 ○				5.3.3 ICT services imports, % total trade		
2.1.4 PISA scales in reading, maths and science				3.0 17		
493.7 25				5.3.4 FDI net inflows, % GDP		
2.1.5 Pupil-teacher ratio, secondary				1.8 80 ○		
● 13.4 64 ○				5.3.5 Research talent, % in businesses		
2.2 Tertiary education				61.8 11		
39.2 35				<b>Knowledge and technology outputs</b>		
2.2.1 Tertiary enrolment, % gross				46.7 16		
69.3 41				<b>6.1 Knowledge creation</b>		
2.2.2 Graduates in science and engineering, %				43.7 21		
2.2.3 Tertiary inbound mobility, %				6.1.1 Patents by origin/bn PPP\$ GDP		
9.2 28				7.2 12		
<b>2.3 Research and development (R&amp;D)</b>				6.1.2 PCT patents by origin/bn PPP\$ GDP		
62.5 12				2.1 15		
2.3.1 Researchers, FTE/mn pop.				6.1.3 Utility models by origin/bn PPP\$ GDP		
5,025.4 18				0.1 53 ○		
2.3.2 Gross expenditure on R&D, % GDP				6.1.4 Scientific and technical articles/bn PPP\$ GDP		
2.2 17				n/a n/a		
2.3.3 Global corporate R&D investors, top 3, mn US\$				6.1.5 Citable documents H-index		
80.4 9 ●				77.9 5 ●		
2.3.4 QS university ranking, top 3*				<b>6.2 Knowledge impact</b>		
77.9 9 ●				51.2 12		
<b>Infrastructure</b>				6.2.1 Labor productivity growth, %		
57.2 22				-0.3 105 ○		
<b>3.1 Information and communication technologies (ICTs)</b>				6.2.2 Unicorn valuation, % GDP		
84.1 23				2.1 18		
3.1.1 ICT access*				6.2.3 Software spending, % GDP		
83.7 60 ○				0.7 7 ●		
3.1.2 ICT use*				6.2.4 High-tech manufacturing, %		
95.6 9 ●				48.8 12		
3.1.3 Government's online service*				<b>6.3 Knowledge diffusion</b>		
86.4 20				45.3 23		
3.1.4 E-participation*				6.3.1 Intellectual property receipts, % total trade		
70.9 37				1.7 14		
<b>3.2 General infrastructure</b>				6.3.2 Production and export complexity		
48.1 22				79.5 18		
3.2.1 Electricity output, GWh/mn pop.				6.3.3 High-tech exports, % total trade		
8,069.8 18				10.4 17		
3.2.2 Logistics performance*				6.3.4 ICT services exports, % total trade		
81.8 13				2.4 50 ○		
3.2.3 Gross capital formation, % GDP				6.3.5 ISO 9001 quality/bn PPP\$ GDP		
24.9 56 ○				6.6 44		
<b>3.3 Ecological sustainability</b>				<b>Creative outputs</b>		
39.3 33				58.2 6		
3.3.1 GDP/unit of energy use				<b>7.1 Intangible assets</b>		
12.2 46 ○				74.9 3		
3.3.2 Environmental performance*				7.1.1 Intangible asset intensity, top 15, %		
73.9 12				88.0 2 ●		
3.3.3 ISO 14001 environment/bn PPP\$ GDP				7.1.2 Trademarks by origin/bn PPP\$ GDP		
1.9 48 ○				97.6 15		
<b>Market sophistication</b>				7.1.3 Global brand value, top 5,000		
60.7 9				18.4 4 ●		
<b>4.1 Credit</b>				7.1.4 Industrial designs by origin/bn PPP\$ GDP		
58.1 19				11.0 8 ●		
4.1.1 Finance for startups and scaleups†				<b>7.2 Creative goods and services</b>		
70.3 17				33.1 22		
4.1.2 Domestic credit to private sector, % GDP				7.2.1 Cultural and creative services exports, % total trade		
122.0 20				1.1 25		
4.1.3 Loans from microfinance institutions, % GDP				7.2.2 National feature films/mn pop. 15-69		
n/a n/a				6.1 17		
<b>4.2 Investment</b>				7.2.3 Entertainment and media market/th pop. 15-69		
35.4 18				51.6 15		
4.2.1 Market capitalization, % GDP				7.2.4 Creative goods exports, % total trade		
● 92.7 18				1.6 31		
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP				<b>7.3 Online creativity</b>		
0.3 24				49.9 26		
4.2.3 VC recipients, deals/bn PPP\$ GDP				7.3.1 Generic top-level domains (TLDs)/th pop. 15-69		
0.2 12				49.3 16		
4.2.4 VC received, value, % GDP				7.3.2 Country-code TLDs/th pop. 15-69		
0.0 17				27.2 26		
<b>4.3 Trade, diversification, and market scale</b>				7.3.3 GitHub commits/mn pop. 15-69		
88.5 8				46.8 23		
4.3.1 Applied tariff rate, weighted avg., %				7.3.4 Mobile app creation/bn PPP\$ GDP		
1.5 20				76.4 17		
4.3.2 Domestic industry diversification						
95.7 27						
4.3.3 Domestic market scale, bn PPP\$						
3,688.3 10 ●						

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; \* an index; † a survey question, ● indicates that the economy's data are older than the base year; see appendices for details, including the year of the data, at <https://www.wipo.int/gii-ranking>. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level.





## → Data availability

The following tables list indicators that are either missing or outdated for France.



> France has missing data for one indicator and outdated data for three indicators.

## > Missing data for France

Code	Indicator name	Economy Year	Model Year	Source
4.1.3	Loans from microfinance institutions, % GDP	n/a	2021	International Monetary Fund, Financial Access Survey (FAS)

## > Outdated data for France

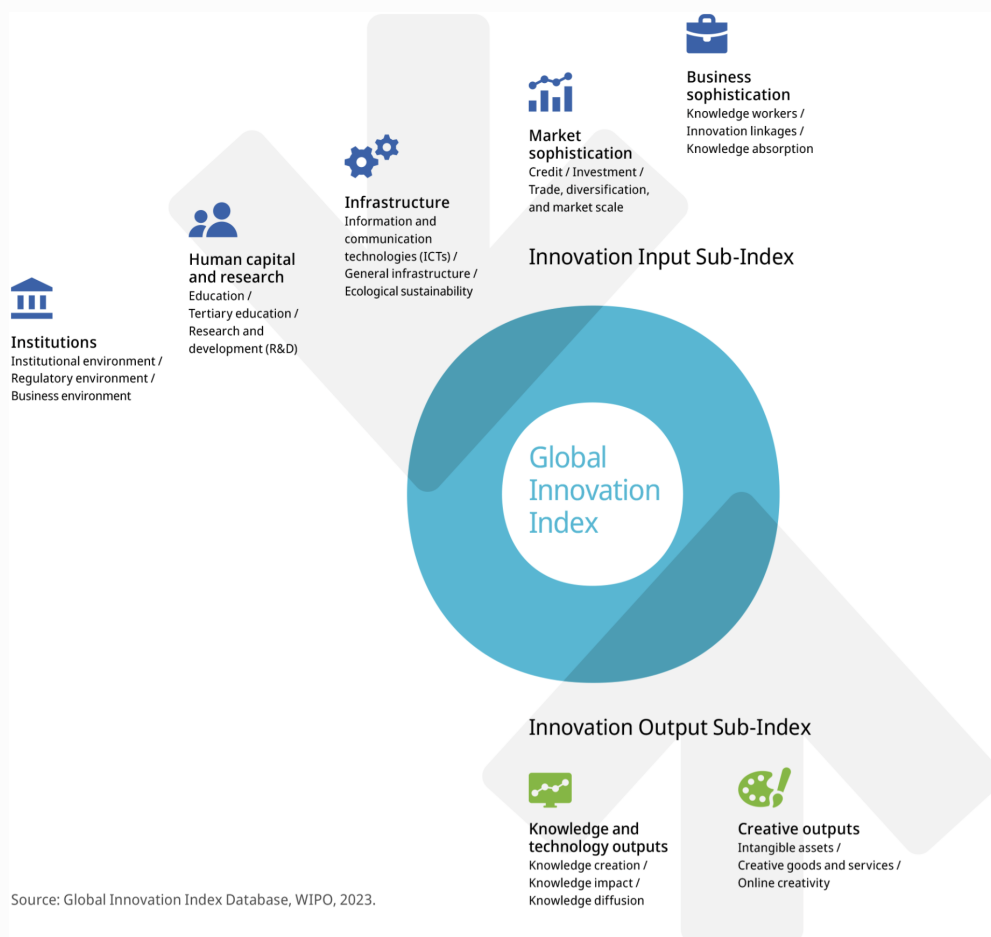
Code	Indicator name	Economy Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2019	2021	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2019	2020	UNESCO Institute for Statistics
4.2.1	Market capitalization, % GDP	2018	2020	World Federation of Exchanges; World Bank

# Global Innovation Index 2023



## → About the Global Innovation Index

- The Global Innovation Index (GII) is published by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations.
- Recognizing that innovation is a key driver of economic development, the GII aims to provide an innovation ranking and rich analysis referencing around 130 economies. Over the last decade, the GII has established itself as both a leading reference on innovation and a “tool for action” for economies that incorporate the GII into their innovation agendas.



The Index is a ranking of the innovation capabilities and results of world economies. It measures innovation based on criteria that include institutions, human capital and research, infrastructure, credit, investment, linkages; the creation, absorption and diffusion of knowledge; and creative outputs.

The GII has two sub-indices: the Innovation Input Sub-Index and the Innovation Output Sub-Index, and seven pillars, each consisting of three sub-pillars.