

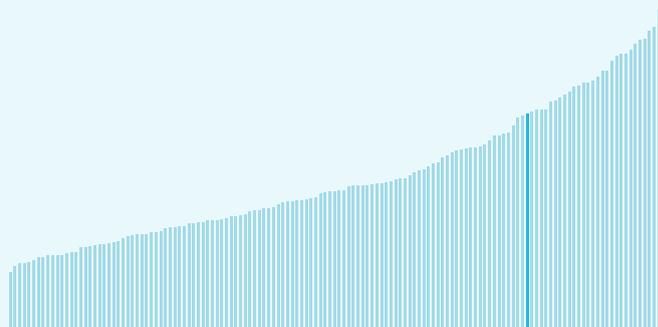
Global Innovation Index 2025



Spain ranking in the Global Innovation Index 2025

Spain ranks **29th** among the 139 economies featured in the GII 2025.

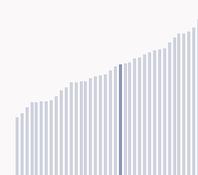
The Global Innovation Index (GII) ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GII aims to capture the multi-dimensional facets of innovation.



Spain ranks 28th among the 54 High-income group economies.



Spain ranks 18th among the 39 economies in Europe.



> Spain GII Ranking (2020-2025)

The table shows the rankings of Spain over the past six 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 Spain in the GII 2025 is between ranks 26 and 30.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	30th	27th	27th
2021	30th	28th	29th
2022	29th	28th	26th
2023	29th	28th	26th
2024	28th	29th	23rd
2025	29th	29th	24th

Spain performs better in innovation outputs than innovation inputs in 2025.

This year Spain ranks 29th in innovation inputs. This position is the same as last year.

Spain ranks 24th in innovation outputs. This position is lower than last year.

Spain has 2 clusters in the world's top innovation clusters of the Global Innovation Index.

Global Innovation Index 2025



> Global Innovation Tracker

The Global Innovation Tracker 2025 shows what is the current state of innovation in Spain, how rapidly is technology being embraced and what are the resulting societal impacts.



For Spain, 8 indicators have improved in the short-term and 3 indicators have worsened.

Science and innovation investment

	Scientific publications	R&D investments	Venture capital deal numbers	International patent filings
Short term	▲ 1.7 % 2023 - 2024	▲ 9 % 2022 - 2023	▼ -17.7 % 2023 - 2024	▲ 4.3 % 2023 - 2024
Long term (annual growth)	▲ 2.4 % 2014 - 2024	▲ 3.6 % 2013 - 2023	▼ -6 % 2020 - 2024	▼ -1.1 % 2014 - 2024

Technology adoption

	Safe sanitation	Connectivity		Robots	Electric vehicles
		Fixed broadband	5G		
Short term	0% 2023 - 2024	▲ 4.2% 2022 - 2023	▼ -1% 2022 - 2023	▲ 4.7% 2022 - 2023	▲ 25% 2023 - 2024
Long term (annual growth)	▼ -0.3% 2014 - 2024	▲ 3.8% 2013 - 2023	n/a	▲ 4.6% 2013 - 2023	▲ 62% 2014 - 2024
Penetration	88.3 per 100 inhabitants in 2024	37.2 per 100 inhabitants in 2023	85.4 per 100 inhabitants in 2023	n/a	1.8 per 100 cars in 2024

Socioeconomic impact

	Labor productivity	Life expectancy	Temperature change
Short term	▲ 1.2 % 2023 - 2024	▲ 1.6 % 2022 - 2023	+ 2.2 °C 2024
Long term (annual growth)	▲ 0.5 % 2014 - 2024	▲ 0.1 % 2013 - 2023	+ 1.5 °C 2014
Level	118,386 USD in 2024	83.7 years in 2023	n/a

Notes: Not all indicators of the Global Innovation Tracker are used to calculate the Global Innovation Index. Long-term annual growth refers to the compound annual growth rate (CAGR) over the indicated period. For each variable, a one-year growth rate is set for the short run, and ten-year CAGR is set for the long run; time windows might differ when gaps exist in data availability. The end period corresponds to the most recent available observation, which may differ among countries. Temperature change is an exception: it indicates the change in degrees Celsius with respect to the average temperature in the countries. from 1951–1980. Figures are rounded.

Global Innovation Index 2025



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.



Relative to GDP Spain performs at expectations for its level of development.

> Innovation overperformers relative to their economic development



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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.



Spain produces more innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

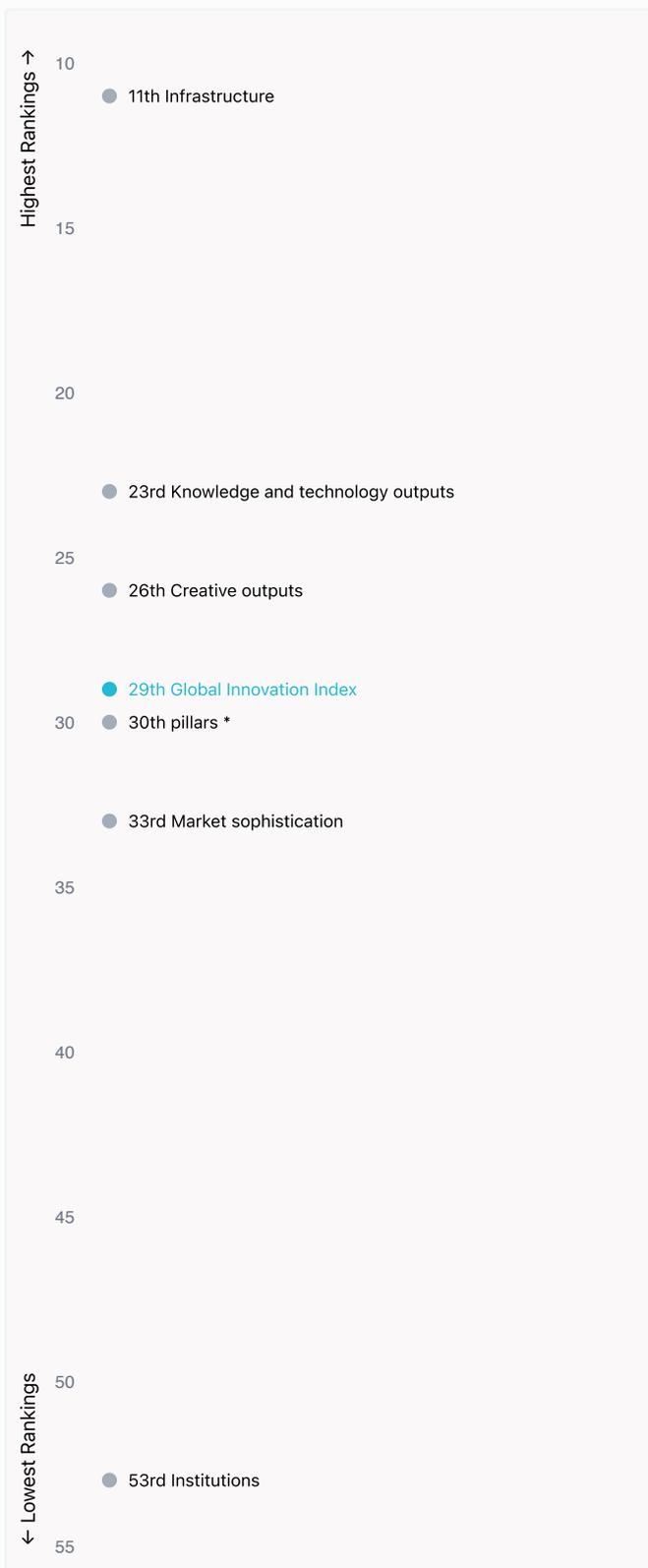


Global Innovation Index 2025



Overview of Spain's rankings in the seven areas of the GII in 2025

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



Highest Rankings

Spain ranks highest in Infrastructure (11th), Knowledge and technology outputs (23rd) and Creative outputs (26th).



Lowest Rankings

Spain ranks lowest in Institutions (53rd), Market sophistication (33rd) and Human capital and research, Business sophistication (30th).

* Human capital and research, Business sophistication



The full WIPO Intellectual Property Statistics profile for Spain can be found on <https://www.wipo.int/edocs/statistics-country-profile/en/es.pdf>

Global Innovation Index 2025



Benchmark of Spain against other economy groupings for each of the seven areas of the GII Index



High-income economies

Spain performs above the High-income group average in Human capital and research, Infrastructure, Knowledge and technology outputs, Creative outputs.



Europe

Spain performs above the regional average in Human capital and research, Infrastructure, Market sophistication, Knowledge and technology outputs, Creative outputs.

Institutions

Top 10 | Score: 78.63

High-income | Score: 65.99

Europe | Score: 59.42

Spain | Score: 54.56

Human capital and research

Top 10 | Score: 59.30

Spain | Score: 46.64

High-income | Score: 45.45

Europe | Score: 44.67

Infrastructure

Top 10 | Score: 61.36

Spain | Score: 59.51

High-income | Score: 54.18

Europe | Score: 54.13

Market sophistication

Top 10 | Score: 61.82

High-income | Score: 47.12

Spain | Score: 46.08

Europe | Score: 44.89

Business sophistication

Top 10 | Score: 59.10

High-income | Score: 42.22

Europe | Score: 40.79

Spain | Score: 40.36

Knowledge and technology outputs

Top 10 | Score: 54.93

Spain | Score: 36.60

Europe | Score: 34.99

High-income | Score: 33.94

Creative outputs

Top 10 | Score: 55.98

Spain | Score: 42.96

High-income | Score: 38.68

Europe | Score: 38.66

Global Innovation Index 2025



Innovation strengths and weaknesses in Spain

The table below gives an overview of the indicator strengths and weaknesses of Spain in the GII 2025.



Spain's best-ranked innovation strengths are **Software spending, % GDP (rank 2)**, **National feature films/mn pop. 15–69 (rank 7)** and **Late-stage VC deal count, % global VC (rank 10)**.

Strengths

Rank	Code	Indicator name
2	6.2.3	Software spending, % GDP
7	7.2.2	National feature films/mn pop. 15–69
10	4.2.3	Late-stage VC deal count, % global VC
11	7.1.4	Industrial designs by origin/bn PPP\$ GDP
12	6.1.5	Citable documents H-index
12	2.2.1	Tertiary enrolment, % gross
14	3.3.3	ISO 14001 environment/bn PPP\$ GDP
14	2.3.3	Global corporate R&D investors, top 3, mn USD
15	4.3.3	Domestic market scale, bn PPP\$
15	2.1.3	School life expectancy, years

Weaknesses

Rank	Code	Indicator name
132	5.1.3	Youth demographic dividend, %
98	6.2.1	Labor productivity growth, %
95	3.2.3	Gross capital formation, % GDP
95	1.3.1	Policy stability for doing business ⁺
74	2.2.2	Graduates in science and engineering, %
70	5.2.2	University–industry R&D collaboration ⁺
65	5.3.2	High-tech imports, % total trade
60	4.1.1	Finance for startups and scaleups ⁺
59	1.3.2	Entrepreneurship policies and culture ⁺
58	2.2.3	Tertiary inbound mobility, %

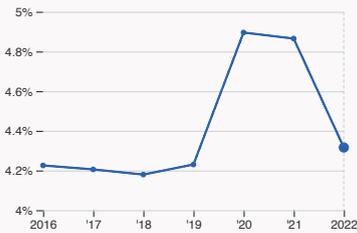
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Spain's innovation system

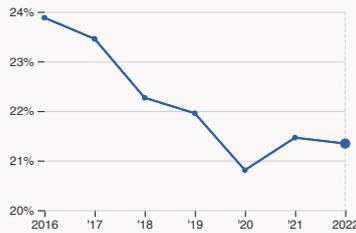
As far as practicable, the plots below present unscaled indicator data.

> Innovation inputs in Spain



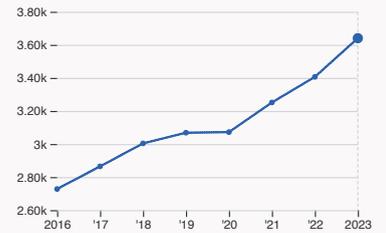
2.1.1 Expenditure on education

was equal to 4.32 % GDP in 2022, down by 0.55 percentage points from the year prior – and equivalent to an indicator rank of 62.



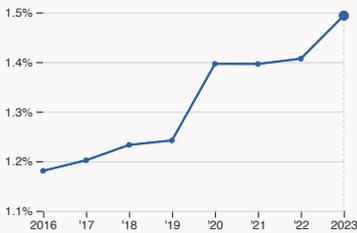
2.2.2 Graduates in science and engineering

was equal to 21.34 % of total graduates in 2022, down by 0.12 percentage points from the year prior – and equivalent to an indicator rank of 74.



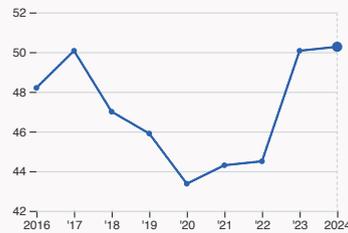
2.3.1 Researchers

was equal to 3640.3 FTE per million population in 2023, up by 6.87% from the year prior – and equivalent to an indicator rank of 30.



2.3.2 Gross expenditure on R&D

was equal to 1.49 % GDP in 2023, up by 0.09 percentage points from the year prior – and equivalent to an indicator rank of 28.



2.3.4 QS university ranking

was equal to an average score of 50.27 for the top three universities in 2024, up by 0.4% from the year prior – and equivalent to an indicator rank of 23.



4.3.2 Domestic industry diversification

was equal to an index score of 0.1 in 2022, up by 13.81% from the year prior – and equivalent to an indicator rank of 26.



5.1.1 Knowledge-intensive employment

was equal to 36.35 % of total workforce in 2024, up by 0.2 percentage points from the year prior – and equivalent to an indicator rank of 41.

Global Innovation Index 2025

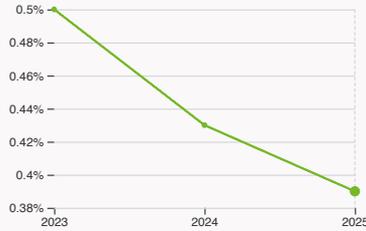


> Innovation outputs in Spain



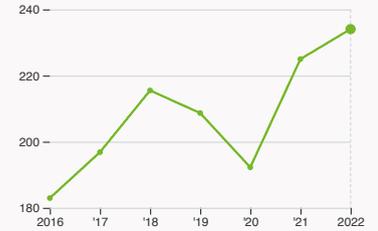
6.1.1 Patents by origin

was equal to 3.27 thousand patents in 2023, up by 6.17% from the year prior – and equivalent to an indicator rank of 44.



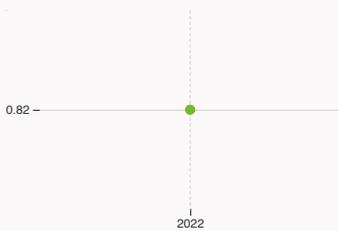
6.2.2 Unicorn valuation

was equal to 0.39 % GDP in 2025, down by 0.04 percentage points from the year prior – and equivalent to an indicator rank of 44.



6.2.4 High-tech manufacturing

was equal to 234.05 high-tech manufacturing output in billion USD in 2022, up by 4.03% from the year prior – and equivalent to an indicator rank of 36.



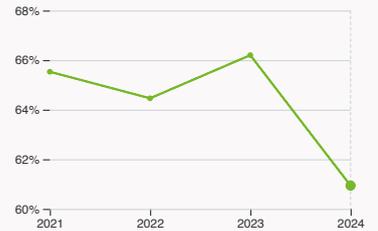
6.3.2 Production and export complexity

was equal to a score of 0.82 in 2022 – and equivalent to an indicator rank of 32.



6.3.3 High-tech exports

was equal to 29.7 billion USD in 2023, down by 19.29% from the year prior – and equivalent to an indicator rank of 42.



7.1.1 Intangible asset intensity, top 15

was equal to 60.94 % for the top 15 companies in 2024, down by 5.26 percentage points from the year prior – and equivalent to an indicator rank of 33.



7.1.3 Global brand value, top 5,000

was equal to 141.81 billion USD in 2025, up by 7.88% from the year prior – and equivalent to an indicator rank of 26.



7.2.2 National feature films

was equal to 364 films in 2023, up by 13.04% from the year prior – and equivalent to an indicator rank of 7.



7.3.3 Mobile app creation

was equal to 1.14 billion global downloads of mobile apps in 2024, down by 17.39% from the year prior – and equivalent to an indicator rank of 37.

Global Innovation Index 2025



Spain's innovation top performers

Disclaimer: This section contains only the top performers per country. For the complete list, please visit the GII Innovation Ecosystems and Data Explorer website.

2.3.3 Global corporate R&D investors from Spain

Rank	Firm	Industry	R&D [mn EUR]	R&D Growth [%]	R&D Intensity [%]
1	BANCO SANTANDER	Banks	2,197	26	4
2	AMADEUS	Software & Computer Services	1,116	13	21
3	TELEFONICA	Fixed Line Telecommunications	785	10	2
4	INDRA SISTEMAS	Software & Computer Services	390	31	9

Source: WIPO, based on European Commission's Joint Research Centre (<https://iri.jrc.ec.europa.eu/scoreboard/2024-eu-industrial-rd-investment-scoreboard>) and Orbis database (<https://www.moodys.com/web/en/us/capabilities/company-reference-data/orbis.html>).

Note: Data is based on the 2024 EU Industrial R&D Investment Scoreboard from the European Commission's Joint Research Centre, which ranks the top 2,000 firms by R&D investment annually. For countries not represented in the Scoreboard, companies from Orbis with R&D expenditure above USD 50 million were identified and used to complement the dataset.

2.3.4 QS university ranking of Spain's top universities

Rank	University	Score
164	COMPLUTENSE UNIVERSITY OF MADRID	50.90
165	UNIVERSITAT DE BARCELONA	50.70
175	UNIVERSITAT AUTONOMA DE BARCELONA	49.20

Source: QS Quacquarelli Symonds Ltd (<https://www.topuniversities.com/university-rankings/world-university-rankings/2024>).

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'.

5.2.3 University industry and international engagement, top 5 universities

Rank	University	Score
1	POMPEU FABRA UNIVERSITY	83.05
2	UNIVERSITY OF NAVARRA	81.45
3	UNIVERSITY OF BARCELONA	73.05

Source: Times Higher Education (THE), World University Rankings 2025.

Note: Rank corresponds to within economy ranks. The score is calculated as the average of the International Outlook score (encompassing international staff, students, and co-authorship) and the industry score (reflecting industry income and patent citations). The 2025 ranking corresponds to data from the academic year that ended in 2022.

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6.2.2 Top Unicorn Companies in Spain

Rank	Unicorn Company	Industry	City	Valuation, bn USD
1	JOBANDTALENT	Enterprise Tech	Madrid	2
2	CABIFY	Industrials	Madrid	1
3	TRAVELPERK	Enterprise Tech	Barcelona	1

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 Spain

Rank	Firm	Intensity, %
1	INDUSTRIA DE DISEÑO TEXTIL, S.A.	84.17
2	IBERDROLA, S.A.	39.07
3	CELLNEX TELECOM, S.A.	75.93

Source: Brand Finance (<https://brandirectory.com/reports/gift-2024>).
Note: Brand Finance only provides within economy ranks.

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

Rank	Brand	Industry	Brand Value, mn USD
1	SANTANDER	Banking	21,849.8
2	ZARA	Apparel	18,086.2
3	BBVA	Banking	9,243.5

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

Spain

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
24	29	High	Europe	47.9	2,665.2	55,089.2
Score / Value Rank				Score / Value Rank		
Institutions				54.6	53	
1.1 Institutional environment				64.1	43	
1.1.1 Operational stability for businesses*				66.7	53	
1.1.2 Government effectiveness*				61.5	36	
1.2 Regulatory environment				67.5	36	
1.2.1 Regulatory quality*				62.7	39	
1.2.2 Rule of law*				72.2	32	
1.3 Business environment				32.1	94	◇
1.3.1 Policy stability for doing business†				33.9	95	○ ◇
1.3.2 Entrepreneurship policies and culture†				30.3	59	○
Human capital and research				46.6	30	
2.1 Education				60.6	39	
2.1.1 Expenditure on education, % GDP				4.3	62	●
2.1.2 Government funding/pupil, secondary, % GDP/cap				21.7	39	
2.1.3 School life expectancy, years				17.7	15	●
2.1.4 PISA scales in reading, maths and science				477.3	28	
2.1.5 Pupil-teacher ratio, secondary				10.8	42	
2.2 Tertiary education				34.5	51	
2.2.1 Tertiary enrolment, % gross				93.7	12	●
2.2.2 Graduates in science and engineering, %				21.3	74	○
2.2.3 Tertiary inbound mobility, %				4.3	58	○
2.3 Research and development (R&D)				44.9	22	
2.3.1 Researchers, FTE/mn pop.				3,640.3	30	
2.3.2 Gross expenditure on R&D, % GDP				1.5	28	
2.3.3 Global corporate R&D investors, top 3, mn USD				69.5	14	●
2.3.4 QS university ranking, top 3*				51.5	23	
Infrastructure				59.5	11	
3.1 Information and communication technologies (ICTs)				90.8	20	
3.1.1 ICT access*				98.6	19	
3.1.2 ICT use*				85.1	34	
3.1.3 Government's online service*				88.6	22	
3.2 General infrastructure				45.1	32	
3.2.1 Electricity output, GWh/mn pop.				5,794.5	38	
3.2.2 Logistics performance*				81.8	13	
3.2.3 Gross capital formation, % GDP				21.4	95	○
3.3 Ecological sustainability				42.7	14	
3.3.1 GDP/unit of energy use				16.6	25	
3.3.2 Low-carbon energy use, %				32.9	34	
3.3.3 ISO 14001 environment/bn PPP\$ GDP				6.1	14	●
Market sophistication				46.1	33	
4.1 Credit				35.8	45	
4.1.1 Finance for startups and scaleups†				42.4	60	○ ◇
4.1.2 Domestic credit to private sector, % GDP				78.3	36	
4.1.3 Loans from microfinance institutions, % GDP				n/a	n/a	
4.2 Investment				16.6	37	
4.2.1 Market capitalization, % GDP				52.6	36	
4.2.2 Venture capital (VC) received, deal count/bn PPP\$ GDP				0.3	31	
4.2.3 Late-stage VC deal count, % global VC				0.5	10	●
4.2.4 VC investors, deal count/bn PPP\$ GDP				0.3	36	
4.2.5 VC investor co-participation/bn PPP\$ GDP				0.2	35	
4.3 Trade, diversification and market scale				85.9	10	
4.3.1 Applied tariff rate, weighted avg., %				1.3	24	
4.3.2 Domestic industry diversification				93.1	26	
4.3.3 Domestic market scale, bn PPP\$				2,665.2	15	●
Business sophistication				40.4	30	
5.1 Knowledge workers				45.2	36	
5.1.1 Knowledge-intensive employment, %				36.3	41	
5.1.2 Females employed w/advanced degrees, %				24.9	20	
5.1.3 Youth demographic dividend, %				23.3	132	○
5.1.4 GERD performed by business, % GDP				0.8	30	
5.1.5 GERD financed by business, %				49.3	28	
5.2 Innovation linkages				41.4	29	
5.2.1 Public research-industry co-publications, %				2.8	28	
5.2.2 University-industry R&D collaboration†				34.5	70	○
5.2.3 University industry & international engagement, top 5*				70.2	25	
5.2.4 State of cluster development†				64.3	41	
5.2.5 Patent families/bn PPP\$ GDP				0.5	34	
5.3 Knowledge absorption				34.4	40	
5.3.1 Intellectual property payments, % total trade				1.1	31	
5.3.2 High-tech imports, % total trade				8.2	65	○
5.3.3 ICT services imports, % total trade				2.1	37	
5.3.4 FDI net inflows, % GDP				3.9	43	
5.3.5 Research talent, % in businesses				40.7	35	
Knowledge and technology outputs				36.6	23	
6.1 Knowledge creation				36.6	26	
6.1.1 Patents by origin/bn PPP\$ GDP				1.3	44	
6.1.2 PCT patents by inventor origin/bn PPP\$ GDP				0.6	28	
6.1.3 Utility models by origin/bn PPP\$ GDP				1	16	◆
6.1.4 Scientific and technical articles/bn PPP\$ GDP				23.7	25	
6.1.5 Citable documents H-index				62.7	12	◆◆
6.2 Knowledge impact				36.5	28	
6.2.1 Labor productivity growth, %				0.07	98	○
6.2.2 Unicorn valuation, % GDP				0.4	44	
6.2.3 Software spending, % GDP				0.7	2	◆◆
6.2.4 High-tech manufacturing, %				32.8	36	
6.3 Knowledge diffusion				36.6	30	
6.3.1 Intellectual property receipts, % total trade				0.8	21	
6.3.2 Production and export complexity				67.3	32	
6.3.3 High-tech exports, % total trade				5.1	42	
6.3.4 ICT services exports, % total trade				3.8	32	
6.3.5 ISO 9001 quality/bn PPP\$ GDP				12.6	19	
Creative outputs				43	26	
7.1 Intangible assets				50.4	16	
7.1.1 Intangible asset intensity, top 15, %				60.9	33	
7.1.2 Trademarks by origin/bn PPP\$ GDP				37.7	48	
7.1.3 Global brand value, top 5,000, % GDP				7.8	26	
7.1.4 Industrial designs by origin/bn PPP\$ GDP				7.5	11	◆◆
7.2 Creative goods and services				27	43	
7.2.1 Cultural and creative services exports, % total trade				1	33	
7.2.2 National feature films/mn pop. 15-69				10.6	7	●
7.2.3 Entertainment and media market/th pop. 15-69				27.3	24	
7.2.4 Creative goods exports, % total trade				0.8	52	
7.3 Online creativity				44	34	
7.3.1 Top-level domains (TLDs)/th pop. 15-69				24.9	31	
7.3.2 GitHub commits/mn pop. 15-69				35.9	32	
7.3.3 Mobile app creation/bn PPP\$ GDP				71.1	37	

NOTES: ● indicates a strength ○ a weakness ◆ an income group strength ◇ an income group weakness * an index † a survey question ● that the economy's data is outdated. Square brackets [] indicate the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level, n/a represents missing values, a dash - indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.

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Data Availability

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



Spain has missing data for one indicator and outdated data for one indicator.

Missing data for Spain

Code	Indicator name	Economy year	Model year*	Source
4.1.3	Loans from microfinance institutions, % GDP	n/a	2023	International Monetary Fund, Financial Access Survey (FAS)

*Model year corresponds to the most frequent data year (the year that appears most often across all economies in the GII).

Outdated data for Spain

Code	Indicator name	Economy year	Model year*	Source
2.1.1	Expenditure on education, % GDP	2022	2023	UNESCO Institute for Statistics

*Model year corresponds to the most frequent data year (the year that appears most often across all economies in the GII).

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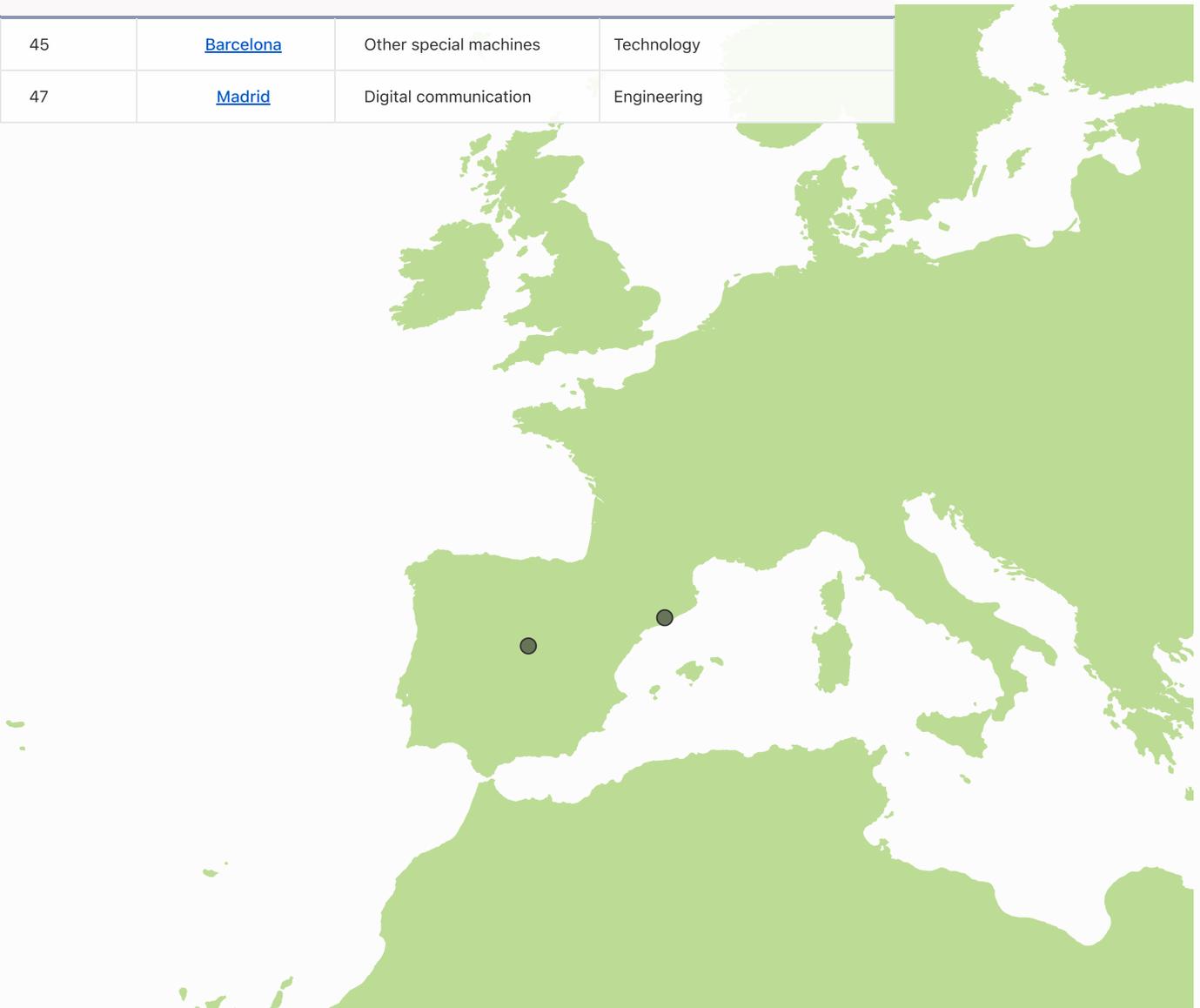
Top innovation clusters in Spain



Spain has 2 clusters in the world's top innovation clusters of the Global Innovation Index

The table and map below give an overview of the top innovation clusters in Spain.

Rank	Cluster name	Top patent field	Top academic subject
45	Barcelona	Other special machines	Technology
47	Madrid	Digital communication	Engineering

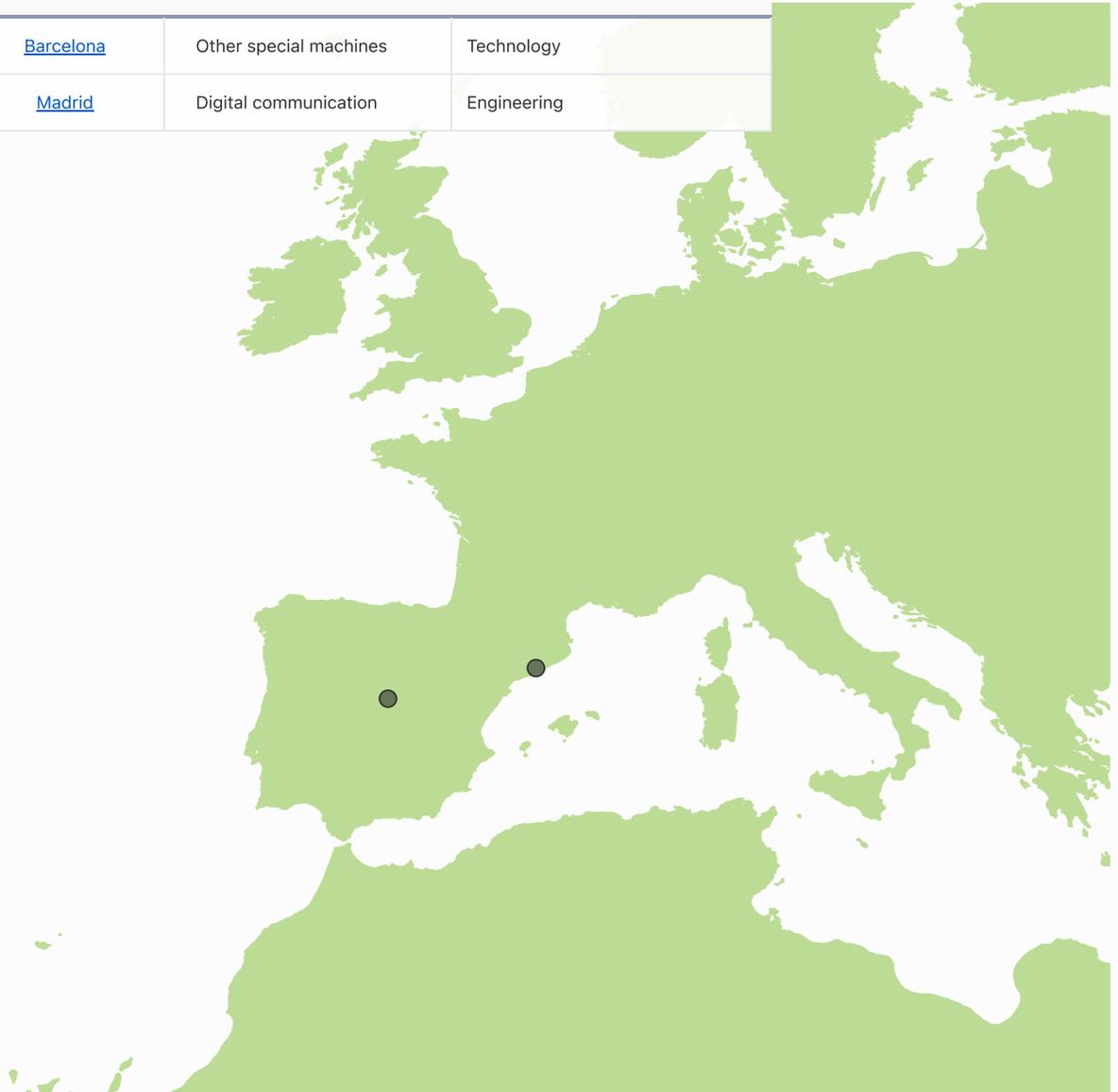


Global Innovation Index 2025



The table and map below give an overview by intensity of the top innovation clusters in Spain.

Rank	Cluster name	Top patent field	Top academic subject
62	Barcelona	Other special machines	Technology
74	Madrid	Digital communication	Engineering

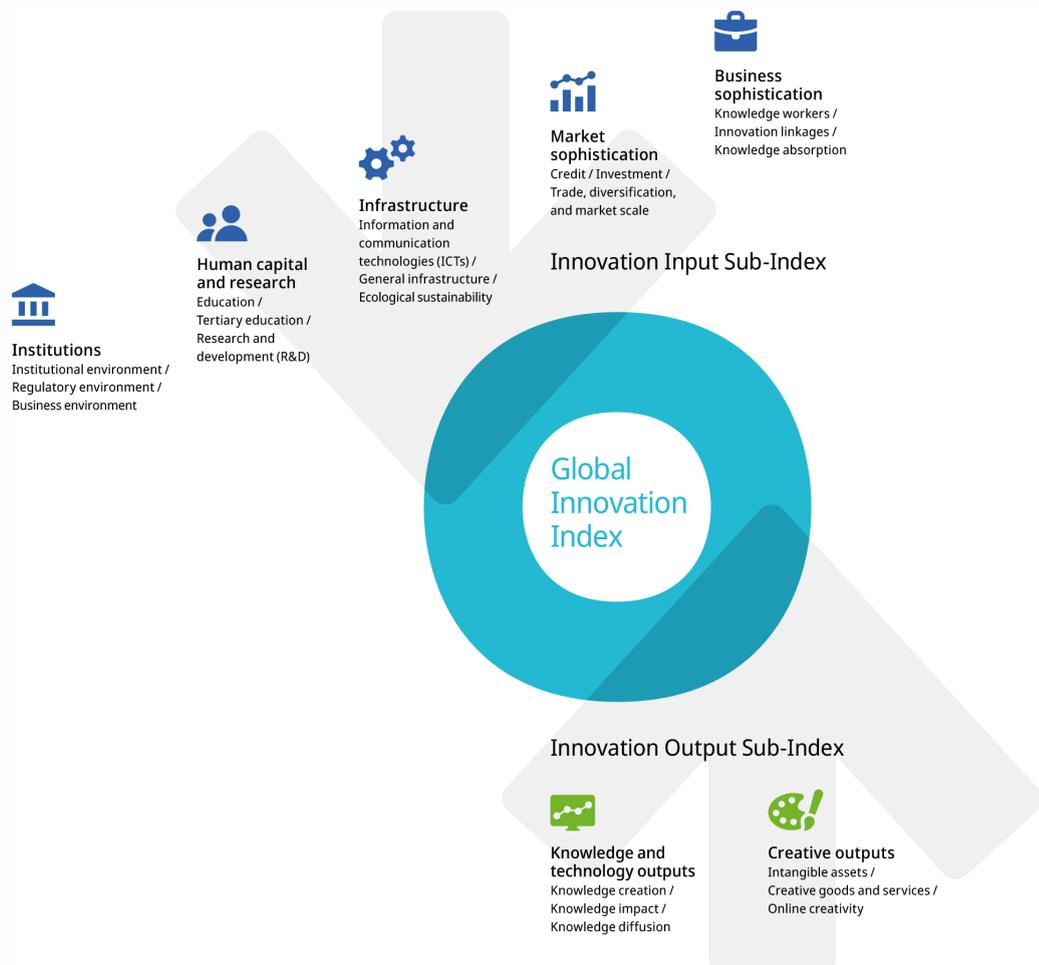


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About the Global Innovation Index

- 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 140 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.