

**88.8**

Change over time: 8.6

89.7 Moderate Innovators

Spain	Performance relative to EU in 2022	Performance change 2015-2022	Performance change 2021-2022
SUMMARY INNOVATION INDEX	88.8	8.6	5.5
Human resources	127.6	0.0	0.0
Doctorate graduates	100.0	0.0	0.0
Population with tertiary education	145.9	0.0	0.0
Lifelong learning	140.0	0.0	0.0
Attractive research systems	96.6	15.0	5.3
International scientific co-publications	93.4	50.3	13.8
Most cited publications	92.5	-2.4	1.0
Foreign doctorate students	108.5	20.5	6.9
Digitalisation	149.8	12.7	12.7
Broadband penetration	146.2	24.2	24.2
People with above basic overall digital skills	154.5	0.0	0.0
Finance and support	74.5	7.7	6.3
R&D expenditures in the public sector	75.8	3.2	12.9
Venture capital expenditures	99.6	49.6	18.0
Government support for business R&D	38.8	-29.4	-14.6
Firm investments	62.4	16.5	6.0
R&D expenditure in the business sector	49.3	7.8	6.2
Non-R&D Innovation expenditures	81.3	18.4	-2.6
Innovation expenditures per employee	58.7	22.9	14.5
Use of information technologies	91.3	-6.5	-6.5
Enterprises providing ICT training	100.0	-12.5	-12.5
Employed ICT specialists	81.8	0.0	0.0
Innovators	50.1	19.4	20.6
Product innovators (SMEs)	59.6	42.3	22.9
Business process innovators (SMEs)	41.8	-4.9	18.1
Linkages	88.5	39.8	-6.7
Innovative SMEs collaborating with others	57.0	7.5	3.6
Public-private co-publications	114.7	60.9	18.2
Job-to-job mobility of HRST	102.1	58.8	-26.5
Intellectual assets	78.1	-4.1	1.0
PCT patent applications	64.2	-4.7	2.0
Trademark applications	109.8	7.7	3.0
Design applications	63.8	-12.4	-1.7
Employment impacts	58.8	-5.9	5.6
Employment in knowledge-intensive activities	81.8	0.0	0.0
Employment in innovative enterprises	40.5	-11.3	10.7
Sales impacts	96.6	29.1	26.6
Medium and high-tech goods exports	71.9	-3.3	-5.1
Knowledge-intensive services exports	63.9	46.9	42.8
Sales of innovative products	169.2	50.8	49.3
Environmental sustainability	102.4	-10.6	-9.3
Resource productivity	136.6	0.1	-19.3
Air emissions by fine particulate matter	92.5	5.9	-1.3
Environment-related technologies	83.5	-37.6	-12.2

The second column shows performance relative to that of the EU in 2022. Colours next to the column show matching colour codes: dark green: above 125% of the performance of the EU in 2022; light green: between 100% and 125%; yellow: between 70% and 100%; orange: below 70%. Normalised performance uses the data after a possible imputation of missing data and transformation of the data. The next columns show performance change over time between 2015 and 2022 and between 2021 and 2022, with scores relative to those of the EU in 2015. Positive performance changes are shown in green, negative performance changes in red.

SPAIN is a **Moderate Innovator** with performance at 88.8% of the EU average. Performance is below the average of the Moderate Innovators (89.7%). Performance is increasing (8.6%-points) at a rate lower than that of the EU (9.9%-points). The country's performance gap to the EU is becoming larger.

Relative strengths

- Sales of innovative products
- People with above basic overall digital skills
- Broadband penetration
- Population with tertiary education
- Lifelong learning

Relative weaknesses

- Government support for business R&D
- Employment in innovative enterprises
- Business process innovators
- R&D expenditure in the business sector
- Innovative SMEs collaborating with others

Strong increases since 2015

- Public-private co-publications
- Job-to-job mobility of HRST
- Sales of innovative products

Strong decreases since 2015

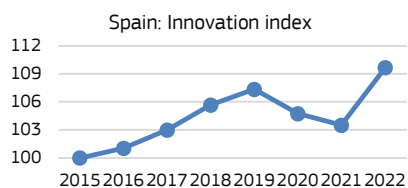
- Environment-related technologies
- Government support for business R&D
- Enterprises providing ICT training

Strong increases since 2021

- Sales of innovative products
- Knowledge-intensive services exports
- Broadband penetration

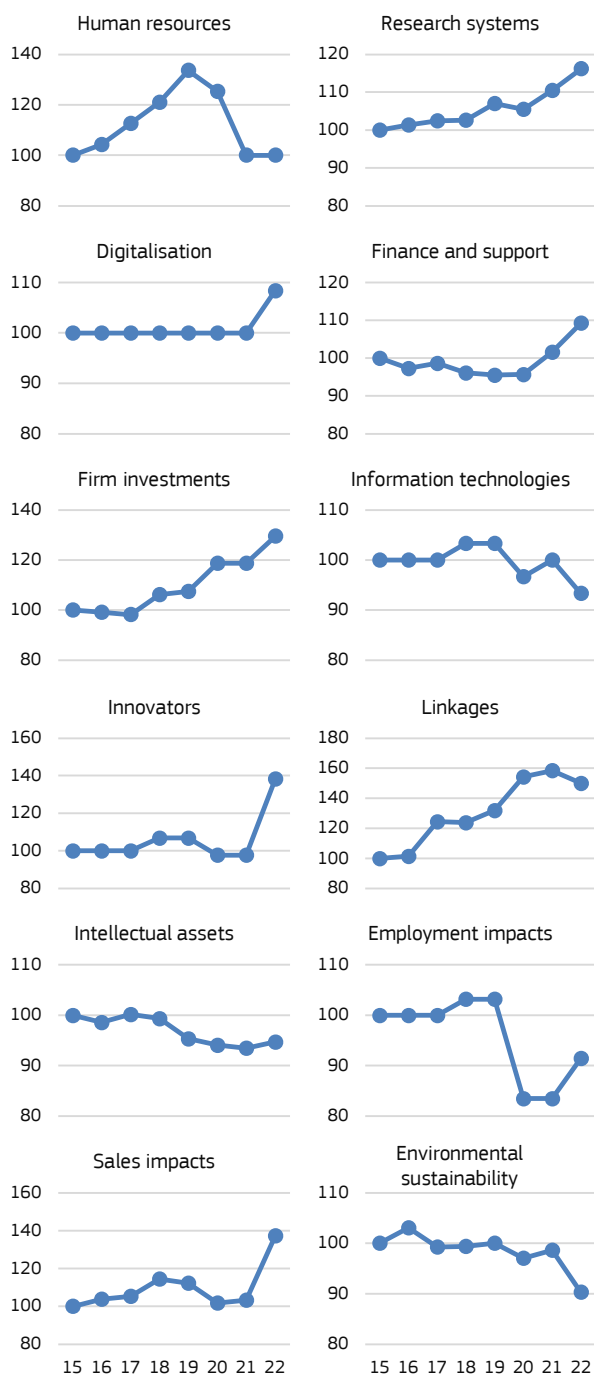
Strong decreases since 2021

- Job-to-job mobility of HRST
- Resource productivity
- Government support for business R&D



The graph on the left shows the evolution of **innovation performance over time** against the performance of the country in 2015. Innovation performance increased between 2015 and 2019 and declined in 2020 and 2021. Performance increased more strongly in 2022 contributing to an overall increase of 10% over time.

The graphs below show the evolution of innovation performance in the different **innovation dimensions** against the performance of the country in 2015. Performance increased strongly for Innovators, Linkages and Sales impacts. Performance did not change for Human resources and declined for Information technologies, Intellectual assets, Employment impacts and Environmental sustainability.



Performance is measured relative to that of the country in 2015 (=100).

Structural differences with the EU are shown below:

- Spain has lower per capita income and 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 and FDI net inflows add positively to the innovation climate, entrepreneurial activities and top R&D spenders add negatively.
- Spain has a much higher share of non-innovators with potential to innovate, and a below average share of in-house product innovators with and without market novelties.
- It is more difficult to start a new business. Entrepreneurial training and government procurement are at par with the EU as drivers of research and innovation.
- Spain shows a below average performance on Climate change related indicators, particularly on the circular material use rate.

	ES	EU
Performance and structure of the economy		
GDP per capita (PPS)	26,900	31,200
Average annual GDP growth (%)	-3.4	-0.4
Employment share Manufacturing (NACE C) (%)	12.5	16.4
of which High and Medium high-tech (%)	32.0	38.0
Employment share Services (NACE G-N) (%)	48.2	41.1
of which Knowledge-intensive services (%)	32.1	35.8
Turnover share SMEs (%)	37.0	34.8
Turnover share large enterprises (%)	42.3	48.2
Foreign-controlled enterprises – share of value added (%)	10.1	11.7
Business and entrepreneurship		
Enterprise births (10+ employees) (%)	1.4	1.0
Total Entrepreneurial Activity (TEA) (%)	5.6	7.3
FDI net inflows (% GDP)	2.8	1.0
Top R&D spending enterprises per 10 mln. population	5.0	18.3
Buyer sophistication (1 to 7 best)	3.5	3.7
Innovation profiles		
In-house product innovators with market novelties	6.2	10.7
In-house product innovators without market novelties	7.1	12.3
In-house business process innovators	10.6	11.0
Innovators that do not develop innovations themselves	3.5	11.6
Innovation active non-innovators	2.8	3.3
Non-innovators with potential to innovate	43.2	19.9
Non-innovators without disposition to innovate	26.6	31.3
Governance and policy framework		
Ease of starting a business (0 to 100 best)	77.8	76.5
Basic school entrepreneurial education and training	3.3	3.5
Govt. procurement of advanced tech. products	3.2	3.5
Rule of law (-2.5 to 2.5 best)	1.0	1.1
Climate change indicators		
Circular material use rate	4.3	12.2
Greenhouse gas emissions intensity of energy consumption	79.7	82.8
Eco-Innovation Index	95.9	100.0
Demography		
Population size	47.2	447.0
Average annual population growth (%)	0.5	0.1
Population density	93.2	108.8