

Ireland	Performance relative to EU in	change	Performance change
	SUMMARY INNOVATION INDEX	118.9	7.1
Human resources	169.1	4.8	0.0
Doctorate graduates	144.5	11.4	0.0
Population with tertiary education	225.4	0.0	0.0
Lifelong learning	131.1	0.0	0.0
Attractive research systems	158.0	33.0	7.4
International scientific co-publications	179.3	100.3	27.4
Most cited publications	118.0	-11.8	-4.7
Foreign doctorate students	207.2	68.4	15.1
Digitalisation	123.3	1.6	1.6
Broadband penetration	92.3	3.0	3.0
People with above basic overall digital skills	163.6	0.0	0.0
Finance and support	78.9	0.0	11.1
R&D expenditures in the public sector	30.3	-19.4	0.0
Venture capital expenditures	94.0	36.9	-1.8
Government support for business R&D	120.4	-12.0	39.4
Firm investments	73.2	-9.0	-17.6
R&D expenditure in the business sector	58.1	-17.1	0.0
Non-R&D Innovation expenditures	12.2	-62.9	-64.7
Innovation expenditures per employee	132.9	52.6	12.7
Use of information technologies	162.0	6.5	-13.0
Enterprises providing ICT training	143.8	12.5	-25.0
Employed ICT specialists	181.8	0.0	0.0
Innovators	115.8	-18.8	29.4
Product innovators (SMEs)	107.8	-30.9	4.2
Business process innovators (SMEs)	122.8	-5.9	56.2
Linkages	177.1	88.8	10.8
Innovative SMEs collaborating with others	201.4	100.5	6.8
Public-private co-publications	242.6	112.4	24.4
Job-to-job mobility of HRST	N/A	N/A	N/A
Intellectual assets	61.2	-15.7	-1.5
PCT patent applications	63.3	-23.5	-7.4
Trademark applications	74.1	-21.9	4.1
Design applications	44.8	-1.7	1.3
Employment impacts	153.8	-13.3	29.5
Employment in knowledge-intensive activities	215.6	0.0	0.0
Employment in innovative enterprises	104.8	-25.4	56.5
Sales impacts	137.3	23.2	30.8
Medium and high-tech goods exports	118.0	35.6	4.9
Knowledge-intensive services exports	131.1	1.6	1.9
Sales of innovative products	169.2	32.2	98.1
Environmental sustainability	101.7	20.0	8.2
Resource productivity	134.5	85.3	28.1
Air emissions by fine particulate matter	123.3	9.4	1.7
Environment-related technologies	37.2	-11.8	2.3

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.

IRELAND is a **Strong Innovator** with performance at 118.9% of the EU average. Performance is above the average of the Strong Innovators (114.5%). Performance is increasing (7.1%-points) at a rate lower than that of the EU (9.9%-points). The country's performance lead over the EU is becoming smaller.

Relative strengths

Public-private co-publications
Population with tertiary education
Employment in knowledge-intensive
activities

Foreign doctorate students Innovative SMEs collaborating with others

Relative weaknesses

Non-R&D Innovation expenditures R&D expenditures in the public sector Environment-related technologies Design applications R&D expenditure in the business sector

Strong increases since 2015

Public-private co-publications Innovative SMEs collaborating with others

International scientific co-publications

Strong decreases since 2015

Non-R&D Innovation expenditures
Product innovators
Employment in innovative enterprises

Strong increases since 2021

Sales of innovative products Employment in innovative enterprises Business process innovators

Strong decreases since 2021

Non-R&D Innovation expenditures Enterprises providing ICT training PCT patent applications



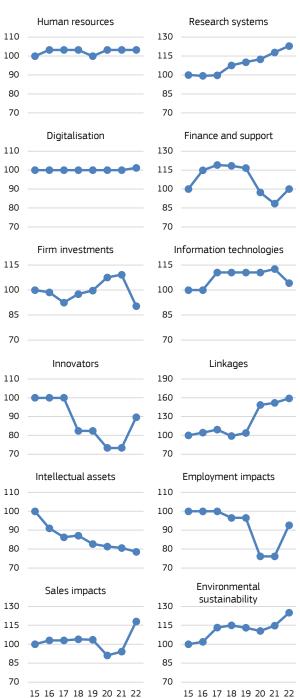
The graph on the left shows the evolution of **innovation performance over time** against the performance of the country in 2015. Innovation performance, after an initial increase, dropped below its 2015 level in 2020 and then increased strongly in 2022.

The graphs below show the evolution of innovation performance in the different **innovation dimensions** against the performance of the country in 2015. Performance improved strongly for Linkages and declined for Firm investments, Innovators, Intellectual assets and Employment impacts. Performance remained also the same for Digitalisation and Finance and support.

Structural differences with the EU are shown below:

- Ireland has a higher per capita income and a faster growing economy. Business services takes up a larger share of the economy, with large enterprises accounting for a larger share of turnover.
- Entrepreneurial activity, FDI net inflows and top R&D spenders add positively to the innovation climate, enterprise births add negatively.
- Information on Innovation profiles is not available.
- Governance and policy framework indicators are close to the EU average. On average, it is easier to start a new business in Ireland
- Ireland shows a mixed performance on Climate change related indicators with an above average share of material resources coming from recycled waste materials but a below average score on environmental innovation.





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