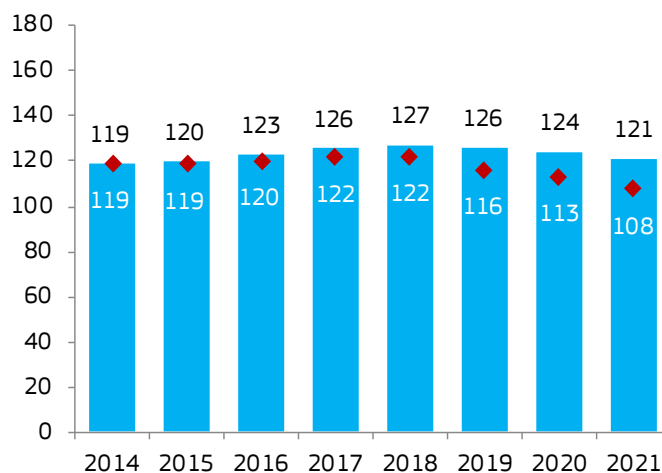




### Ireland is a Strong Innovator.

Over time, performance relative to the EU has decreased strongly, in particular in the last three years.



■ Relative to EU in base year ◆ Relative to EU in same year

**Structural differences** with the EU are shown in the table below including, compared to the EIS 2020, new information on different types of (innovating) enterprises (Innovation profiles) and environmental indicators.

	IE	EU
<b>Performance and structure of the economy</b>		
GDP per capita (PPS)	58,400	30,800
Average annual GDP growth (%)	3.2	-2.5
Employment share Manufacturing (NACE C) (%)	11.2	16.5
of which High and Medium high-tech (%)	34.5	37.9
Employment share Services (NACE G-N) (%)	46.5	41.2
of which Knowledge-intensive services (%)	40.2	35.1
Turnover share SMEs (%)	30.9	36.5
Turnover share large enterprises (%)	53.6	45.7
Foreign-controlled enterprises – share of value added (%)	44.3	11.8
<b>Business and entrepreneurship</b>		
Enterprise births (10+ employees) (%)	0.9	1.0
Total Entrepreneurial Activity (TEA) (%)	10.3	6.7
FDI net inflows (% GDP)	17.5	2.0
Top R&D spending enterprises per 10 million population	62.6	16.2
Buyer sophistication (1 to 7 best)	4.3	3.7
<b>Innovation profiles</b>		
In-house product innovators with market novelties	n/a	10.7
In-house product innovators without market novelties	n/a	12.3
In-house business process innovators	n/a	11.0
Innovators that do not develop innovations themselves	n/a	11.6
Innovation active non-innovators	n/a	3.3
Non-innovators with potential to innovate	n/a	19.9
Non-innovators without disposition to innovate	n/a	31.3
<b>Governance and policy framework</b>		
Ease of starting a business (0 to 100 best)	79.8	76.5
Basic school entrepreneurial education and training	2.2	2.0
Govt. procurement of advanced tech. products	3.5	3.5
Rule of law (-2.5 to 2.5 best)	1.4	1.1
<b>Climate change indicators</b>		
Circular material use rate	1.6	11.7
Greenhouse gas emissions intensity of energy consumption	84.9	86.6
Eco-Innovation Index	97.0	100.0
<b>Demography</b>		
Population size	4.9	446.7
Average annual population growth (%)	1.4	0.1
Population density	70.9	108.8

Ireland's strengths are in *Linkages*, *Human resources* and *Attractive research systems*. The top-3 indicators include Population with tertiary education, Innovative SMEs collaborating with others, and Employment in knowledge-intensive activities.

The decline in innovation performance in the last two years is due to reduced performance on Government support for business R&D, Business R&D expenditures, Employment in innovative enterprises, Sales of innovative products, and Environment-related technologies. Ireland is showing below average scores on the Climate change related indicators due to a low score on the Circular material use rate.

Ireland	Relative to EU 2021 in 2021	Relative to EU 2014 in 2014	Relative to EU 2021 in 2021
<b>SUMMARY INNOVATION INDEX</b>	<b>107.8</b>	<b>119.2</b>	<b>121.3</b>
<b>Human resources</b>	<b>151.1</b>	<b>142.9</b>	<b>160.2</b>
Doctorate graduates	126.0	100.0	111.5
Population with tertiary education	202.6	255.4	261.2
Lifelong learning	118.2	90.0	130.0
<b>Attractive research systems</b>	<b>133.6</b>	<b>149.5</b>	<b>150.4</b>
International scientific co-publications	133.2	134.7	174.7
Most cited publications	117.2	118.8	115.2
Foreign doctorate students	162.6	232.9	193.1
<b>Digitalisation</b>	<b>104.1</b>	<b>95.0</b>	<b>144.0</b>
Broadband penetration	97.8	100.0	148.3
People with above basic overall digital skills	113.6	88.9	138.9
<b>Finance and support</b>	<b>75.1</b>	<b>98.8</b>	<b>89.5</b>
R&D expenditures in the public sector	18.2	47.4	17.5
Venture capital expenditures	121.1	121.1	203.7
Government support for business R&D	93.2	153.5	107.8
<b>Firm investments</b>	<b>81.4</b>	<b>89.7</b>	<b>98.3</b>
R&D expenditure in the business sector	32.6	84.3	36.2
Non-R&D Innovation expenditures	60.7	55.3	69.0
Innovation expenditures per employee	133.6	122.4	176.3
<b>Use of information technologies</b>	<b>140.8</b>	<b>157.7</b>	<b>162.6</b>
Enterprises providing ICT training	146.7	133.3	146.7
Employed ICT specialists	135.7	185.7	181.0
<b>Innovators</b>	<b>94.0</b>	<b>132.6</b>	<b>128.6</b>
Product innovators (SMEs)	96.4	126.6	136.0
Business process innovators (SMEs)	91.8	137.9	122.1
<b>Linkages</b>	<b>152.4</b>	<b>137.6</b>	<b>205.5</b>
Innovative SMEs collaborating with others	182.7	142.5	267.7
Public-private co-publications	173.6	165.1	194.7
Job-to-job mobility of HRST	N/A	N/A	N/A
<b>Intellectual assets</b>	<b>62.5</b>	<b>64.0</b>	<b>54.2</b>
PCT patent applications	56.9	66.4	49.3
Trademark applications	75.1	101.1	78.8
Design applications	49.9	25.2	34.2
<b>Employment impacts</b>	<b>112.6</b>	<b>160.5</b>	<b>114.7</b>
Employment in knowledge-intensive activities	178.0	201.3	194.7
Employment in innovative enterprises	60.1	131.7	58.1
<b>Sales impacts</b>	<b>119.7</b>	<b>141.1</b>	<b>121.9</b>
Medium and high tech goods exports	109.5	84.9	120.0
Knowledge-intensive services exports	152.1	161.1	161.1
Sales of innovative products	89.6	191.3	77.9
<b>Environmental sustainability</b>	<b>97.1</b>	<b>91.7</b>	<b>101.1</b>
Resource productivity	115.1	104.6	170.5
Air emissions by fine particulate matter	122.7	120.0	130.5
Environment-related technologies	29.7	47.8	22.3

The colours show normalised performance in 2021 relative to that of the EU in 2021: dark green: above 125%; 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.