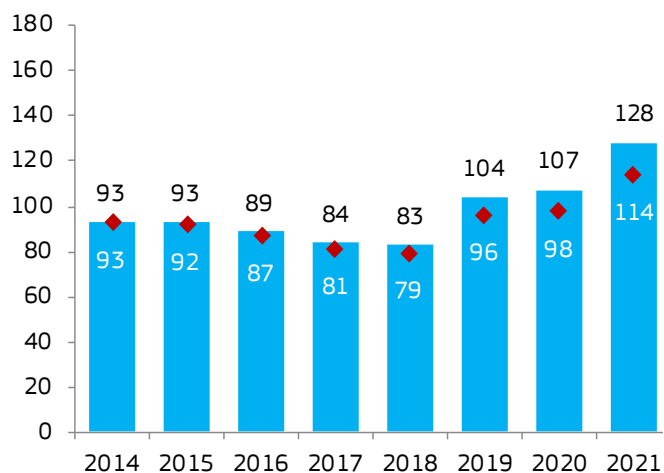




Estonia is a Strong Innovator.

Over time, performance relative to the EU has increased strongly.



■ 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.

	EE	EU
Performance and structure of the economy		
GDP per capita (PPS)	25,200	30,800
Average annual GDP growth (%)	0.6	-2.5
Employment share Manufacturing (NACE C) (%)	18.2	16.5
of which High and Medium high-tech (%)	22.7	37.9
Employment share Services (NACE G-N) (%)	40.7	41.2
of which Knowledge-intensive services (%)	32.9	35.1
Turnover share SMEs (%)	47.1	36.5
Turnover share large enterprises (%)	20.5	45.7
Foreign-controlled enterprises – share of value added (%)	13.3	11.8
Business and entrepreneurship		
Enterprise births (10+ employees) (%)	1.1	1.0
Total Entrepreneurial Activity (TEA) (%)	19.4	6.7
FDI net inflows (% GDP)	5.6	2.0
Top R&D spending enterprises per 10 million population	0.0	16.2
Buyer sophistication (1 to 7 best)	3.7	3.7
Innovation profiles		
In-house product innovators with market novelties	13.2	10.7
In-house product innovators without market novelties	26.7	12.3
In-house business process innovators	13.1	11.0
Innovators that do not develop innovations themselves	13.1	11.6
Innovation active non-innovators	4.7	3.3
Non-innovators with potential to innovate	12.3	19.9
Non-innovators without disposition to innovate	16.9	31.3
Governance and policy framework		
Ease of starting a business (0 to 100 best)	80.7	76.5
Basic school entrepreneurial education and training	3.0	2.0
Govt. procurement of advanced tech. products	3.7	3.5
Rule of law (-2.5 to 2.5 best)	1.3	1.1
Climate change indicators		
Circular material use rate	13.8	11.7
Greenhouse gas emissions intensity of energy consumption	94.6	86.6
Eco-Innovation Index	73.0	100.0
Demography		
Population size	1.3	446.7
Average annual population growth (%)	0.4	0.1
Population density	30.4	108.8

Estonia's strengths are in *Linkages*, *Innovators* and *Intellectual assets*. The top-3 indicators include Trademark applications, Innovative SMEs collaborating with others, and Non-R&D innovation expenditures.

The very strong performance improvements since 2018 are almost entirely due to improved performance on the indicators using innovation survey data, in particular for Product innovators (an almost fivefold increase from 10.2% to 48.9%) and Business process innovators (an almost triple increase from 18.0% to 52.5%).

Estonia has an above average share of In-house product innovators without market novelties and is showing close to average scores on the Climate change related indicators.

Estonia	Relative to EU 2021 in 2021	Relative to EU 2014 in 2014	Relative to EU 2021 in 2021
SUMMARY INNOVATION INDEX	114.0	92.9	128.3
Human resources	128.8	109.6	136.4
Doctorate graduates	87.0	77.0	77.0
Population with tertiary education	121.8	138.8	157.0
Lifelong learning	194.9	132.2	214.4
Attractive research systems	104.6	76.8	117.8
International scientific co-publications	131.8	108.9	172.8
Most cited publications	89.8	72.7	88.3
Foreign doctorate students	92.2	44.5	109.5
Digitalisation	102.5	119.4	141.8
Broadband penetration	86.0	89.4	130.4
People with above basic overall digital skills	127.3	155.6	155.6
Finance and support	92.0	103.3	109.7
R&D expenditures in the public sector	101.8	122.8	98.2
Venture capital expenditures	151.0	113.5	253.9
Government support for business R&D	20.8	69.3	24.1
Firm investments	95.5	110.6	115.3
R&D expenditure in the business sector	57.4	91.3	63.8
Non-R&D Innovation expenditures	194.2	168.1	220.7
Innovation expenditures per employee	83.0	83.8	109.5
Use of information technologies	131.1	91.9	151.4
Enterprises providing ICT training	80.0	60.0	80.0
Employed ICT specialists	175.0	128.6	233.3
Innovators	159.1	86.2	217.7
Product innovators (SMEs)	169.3	81.4	238.8
Business process innovators (SMEs)	149.7	90.5	199.2
Linkages	179.3	140.0	241.7
Innovative SMEs collaborating with others	237.4	192.3	347.8
Public-private co-publications	154.0	119.8	172.7
Job-to-job mobility of HRST	151.8	117.9	217.9
Intellectual assets	131.6	100.4	114.0
PCT patent applications	52.5	68.2	45.6
Trademark applications	187.6	131.6	196.9
Design applications	135.5	98.1	92.8
Employment impacts	147.6	83.8	150.4
Employment in knowledge-intensive activities	103.7	70.7	113.3
Employment in innovative enterprises	182.9	95.1	176.6
Sales impacts	76.9	62.4	78.3
Medium and high tech goods exports	60.6	70.3	66.4
Knowledge-intensive services exports	69.0	60.4	73.1
Sales of innovative products	115.3	54.5	100.3
Environmental sustainability	66.1	61.3	68.8
Resource productivity	17.2	6.3	25.5
Air emissions by fine particulate matter	33.2	0.0	35.4
Environment-related technologies	182.8	172.3	137.3

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.