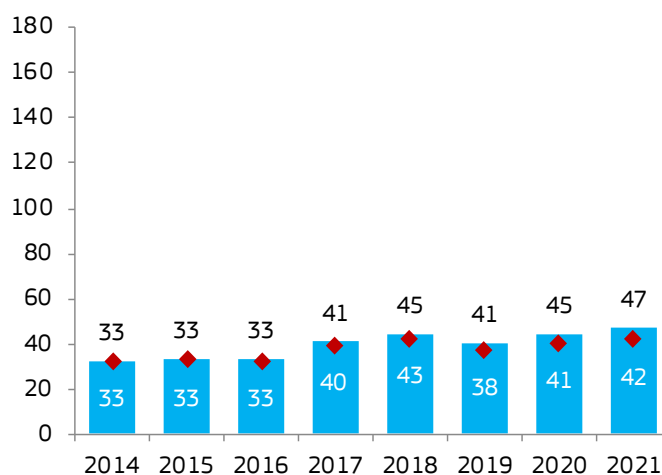




North Macedonia is an **Emerging Innovator**. Over time, performance relative to the EU has increased.



■ 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.

	MK	EU
Performance and structure of the economy		
GDP per capita (PPS)	11,100	30,800
Average annual GDP growth (%)	1.9	-2.5
Employment share Manufacturing (NACE C) (%)	19.9	16.5
of which High and Medium high-tech (%)	24.8	37.9
Employment share Services (NACE G-N) (%)	32.3	41.2
of which Knowledge-intensive services (%)	21.5	35.1
Turnover share SMEs (%)	44.9	36.5
Turnover share large enterprises (%)	31.8	45.7
Foreign-controlled enterprises – share of value added (%)	n/a	11.8
Business and entrepreneurship		
Enterprise births (10+ employees) (%)	n/a	1.0
Total Entrepreneurial Activity (TEA) (%)	6.2	6.7
FDI net inflows (% GDP)	4.0	2.0
Top R&D spending enterprises per 10 million population	0.0	16.2
Buyer sophistication (1 to 7 best)	2.9	3.7
Innovation profiles		
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
Governance and policy framework		
Ease of starting a business (0 to 100 best)	80.6	76.5
Basic school entrepreneurial education and training	2.1	2.0
Govt. procurement of advanced tech. products	2.7	3.5
Rule of law (-2.5 to 2.5 best)	-0.2	1.1
Climate change indicators		
Circular material use rate	n/a	11.7
Greenhouse gas emissions intensity of energy consumption	n/a	86.6
Demography		
Population size	2.1	446.7
Average annual population growth (%)	0.0	0.1
Population density	83.4	108.8

North Macedonia's strengths are in *Attractive research systems*, *Sales impacts* and *Innovators*. The top-3 indicators include Foreign doctorate students, Medium and high-tech goods exports, and Non-R&D innovation expenditures.

Recent performance improvements are the result of increased performance for Tertiary education, Lifelong learning, International scientific co-publications, Digital skills, Government support for business R&D, ICT specialists, Job-to-job mobility of HRST, Medium and high-tech goods exports, and Knowledge-intensive services exports.

North Macedonia	Relative to EU 2021 in 2021	Relative to EU 2014 in 2014	Relative to EU 2021 in 2021
SUMMARY INNOVATION INDEX	41.9	32.7	47.1
Human resources	36.0	28.4	38.2
Doctorate graduates	9.1	19.6	8.1
Population with tertiary education	76.9	35.5	99.2
Lifelong learning	19.2	35.6	21.1
Attractive research systems	67.3	20.8	75.8
International scientific co-publications	30.8	18.7	40.4
Most cited publications	21.9	20.6	21.5
Foreign doctorate students	197.6	24.0	234.7
Digitalisation	52.4	58.3	72.5
Broadband penetration	69.2	83.7	104.9
People with above basic overall digital skills	27.3	27.8	33.3
Finance and support	9.5	21.2	11.3
R&D expenditures in the public sector	14.5	31.6	14.0
Venture capital expenditures	N/A	N/A	N/A
Government support for business R&D	3.4	0.2	3.9
Firm investments	35.7	42.4	43.1
R&D expenditure in the business sector	3.5	2.4	3.9
Non-R&D Innovation expenditures	109.6	124.5	124.5
Innovation expenditures per employee	12.7	16.8	16.8
Use of information technologies	36.9	36.5	42.7
Enterprises providing ICT training	46.7	60.0	46.7
Employed ICT specialists	28.6	9.5	38.1
Innovators	56.2	71.7	76.9
Product innovators (SMEs)	37.2	58.2	52.5
Business process innovators (SMEs)	74.0	83.7	98.4
Linkages	55.6	37.6	75.0
Innovative SMEs collaborating with others	44.7	77.5	65.5
Public-private co-publications	30.4	19.0	34.0
Job-to-job mobility of HRST	78.6	23.1	112.8
Intellectual assets	10.9	7.8	9.4
PCT patent applications	8.9	0.0	7.7
Trademark applications	19.2	22.1	20.1
Design applications	0.6	0.6	0.4
Employment impacts	31.5	32.1	32.1
Employment in knowledge-intensive activities	15.9	17.3	17.3
Employment in innovative enterprises	44.1	42.5	42.5
Sales impacts	62.8	41.5	64.0
Medium and high tech goods exports	119.3	78.0	130.8
Knowledge-intensive services exports	27.2	21.0	28.8
Sales of innovative products	20.7	18.0	18.0
Environmental sustainability	32.5	9.1	33.8
Resource productivity	41.2	24.8	61.0
Air emissions by fine particulate matter	N/A	N/A	N/A
Environment-related technologies	38.0	2.7	28.6

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.