

Regional Innovation Scoreboard 2021

Nord-Vest (RO11)

	Data	Normalised score	Relative to	
			RO	EU
Tertiary education	27.1	0.282	116	49
Lifelong learning	0.6	0.022	46	6
International scientific co-publications	559	0.383	131	68
Most-cited scientific publications	6.0	0.303	155	56
Above average digital skills	10.4	0.060	116	11
R&D expenditures public sector	0.15	0.090	72	19
R&D expenditures business sector	0.07	0.025	23	5
Non-R&D innovation expenditures	±	0.105	±	±
Innovation expenditures per person employed	±	0.138	±	±
Employed ICT specialists	1.3	0.119	44	24
Product innovators	±	0.343	±	±
Business process innovators	±	0.000	±	±
Innovative SMEs collaborating	±	0.076	±	±
Public-private co-publications	69.1	0.295	124	60
PCT patent applications	0.15	0.130	93	21
Trademark applications	2.38	0.174	115	38
Design applications	1.17	0.311	110	54
Employment knowledge-intensive activities	10.1	0.324	71	54
Employment innovative enterprises	±	0.000	±	±
Sales of innovative products	±	0.443	±	±
Air emissions by fine particulates	16.2	0.372	123	76
Average score	--	0.190	--	--
Country EIS-RIS correction factor	--	0.887	--	--
Regional Innovation Index 2021	--	0.169	--	--
RII 2021 (same year)	--	--	105.1	31.4
RII 2021 (cf. to EU 2014)	--	--	--	36.0
Regional Innovation Index 2014	--	0.126	--	--
RII 2014 (same year)	--	--	95.4	26.8
RII - change between 2014 and 2021	--	9.2	--	--

± Relative-to-EU scores are not shown as these would allow recalculating confidential regional CIS data.

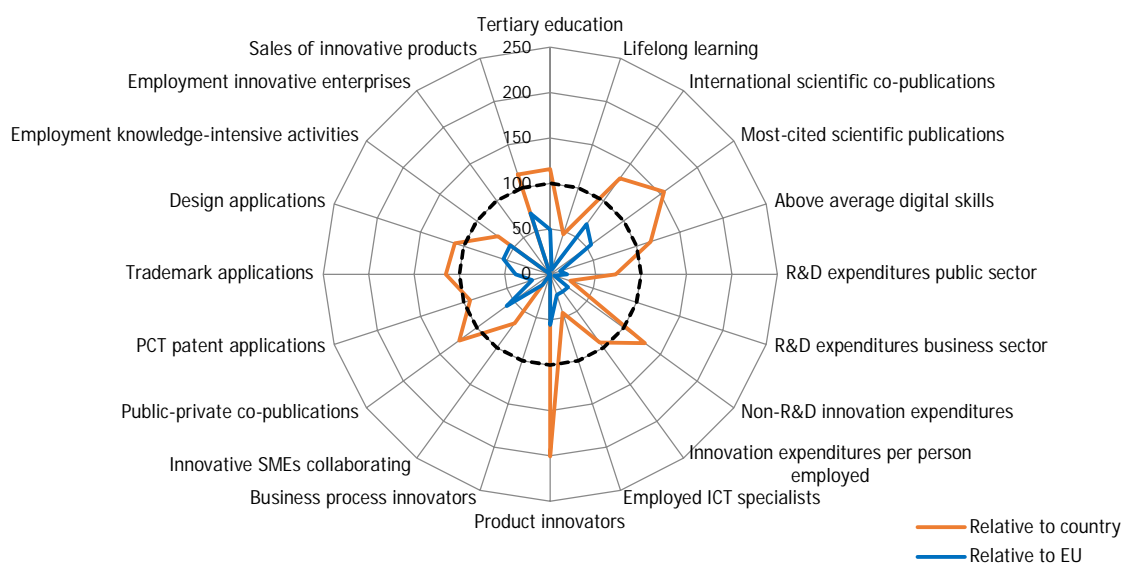
Nord-Vest (RO11) is an Emerging Innovator -. Innovation performance has increased over time (9.2%).

The table on the left shows the normalised scores per indicator and relative results compared to Romania and the EU. The table also shows the Regional Innovation Index (RII) in 2021 compared to that of Romania and the EU in 2021, the RII in 2021 compared to that of the EU in 2014, and performance change over time between 2014 and 2021.

The radar graph shows relative strengths compared to Romania (orange line) and the EU (blue line), showing relative strengths (e.g. International scientific co-publications) and weaknesses (e.g. Business process innovators).

The table below shows data highlighting possible structural differences, e.g. Employment in Manufacturing (above average) and Employment in Public administration (below average).

	RO11	RO	EU
Share of employment in:			
Agriculture & Mining (A-B)	17.4	22.0	4.6
Manufacturing (C)	23.1	18.8	16.4
Utilities & Construction (D-F)	10.5	10.5	8.2
Services (G-N)	45.0	43.8	62.9
Public administration (O-U)	4.0	4.9	7.1
Average number of employed persons per enterprise	4.8	5.7	5.2
GDP per capita (PPS)	19,800	21,700	31,200
GDP per capita growth (PPS)	9.85	8.78	3.21
Population density	75	83	109
Urbanisation	57.4	61.8	75.3
Population size (000s)	2,550	19,330	446,450



Regional Innovation Scoreboard 2021

Centru (RO12)

	Data	Normalised score	Relative to	
			RO	EU
Tertiary education	21.4	0.146	60	26
Lifelong learning	1.1	0.041	85	10
International scientific co-publications	268	0.265	90	47
Most-cited scientific publications	5.0	0.241	123	44
Above average digital skills	9.8	0.046	89	9
R&D expenditures public sector	0.03	0.007	6	1
R&D expenditures business sector	0.28	0.100	93	19
Non-R&D innovation expenditures	±	0.079	±	±
Innovation expenditures per person employed	±	0.093	±	±
Employed ICT specialists	1.4	0.139	51	28
Product innovators	±	0.146	±	±
Business process innovators	±	0.000	±	±
Innovative SMEs collaborating	±	0.051	±	±
Public-private co-publications	50.5	0.253	106	51
PCT patent applications	0.25	0.168	120	27
Trademark applications	1.54	0.111	73	24
Design applications	0.55	0.213	76	37
Employment knowledge-intensive activities	14.6	0.550	121	92
Employment innovative enterprises	±	0.000	±	±
Sales of innovative products	±	0.342	±	±
Air emissions by fine particulates	16.0	0.379	125	77
Average score	--	0.161	--	--
Country EIS-RIS correction factor	--	0.887	--	--
Regional Innovation Index 2021	--	0.142	--	--
RII 2021 (same year)	--	--	88.7	26.5
RII 2021 (cf. to EU 2014)	--	--	--	30.4
Regional Innovation Index 2014	--	0.117	--	--
RII 2014 (same year)	--	--	89.0	25.0
RII - change between 2014 and 2021	--	5.4	--	--

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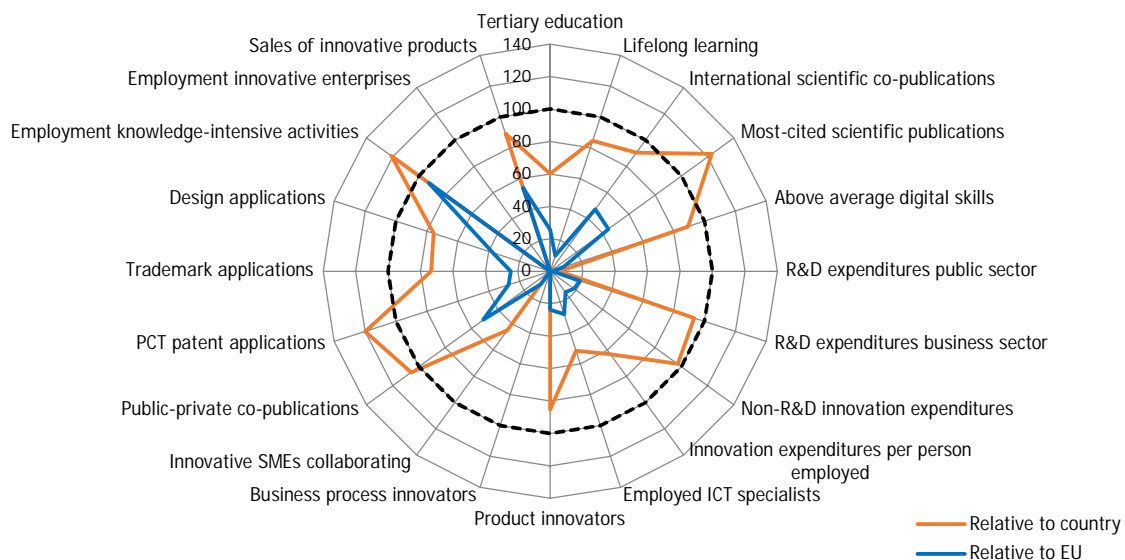
Centru (RO12) is an Emerging Innovator -. Innovation performance has increased over time (5.4%).

The table on the left shows the normalised scores per indicator and relative results compared to Romania and the EU. The table also shows the Regional Innovation Index (RII) in 2021 compared to that of Romania and the EU in 2021, the RII in 2021 compared to that of the EU in 2014, and performance change over time between 2014 and 2021.

The radar graph shows relative strengths compared to Romania (orange line) and the EU (blue line), showing relative strengths (e.g. Employment knowledge-intensive activities) and weaknesses (e.g. Business process innovators).

The table below shows data highlighting possible structural differences, e.g. Employment in Manufacturing (above average) and Population density (below average).

	RO12	RO	EU
Share of employment in:			
Agriculture & Mining (A-B)	10.5	22.0	4.6
Manufacturing (C)	29.2	18.8	16.4
Utilities & Construction (D-F)	11.5	10.5	8.2
Services (G-N)	44.3	43.8	62.9
Public administration (O-U)	4.5	4.9	7.1
Average number of employed persons per enterprise	5.5	5.7	5.2
GDP per capita (PPS)	20,500	21,700	31,200
GDP per capita growth (PPS)	9.04	8.78	3.21
Population density	68	83	109
Urbanisation	59.9	61.8	75.3
Population size (000s)	2,310	19,330	446,450



Regional Innovation Scoreboard 2021

Nord-Est (RO21)

	Data	Normalised score	Relative to	
			RO	EU
Tertiary education	17.1	0.044	18	8
Lifelong learning	0.9	0.034	69	8
International scientific co-publications	272	0.267	91	48
Most-cited scientific publications	5.2	0.253	129	47
Above average digital skills	9.4	0.038	73	7
R&D expenditures public sector	0.16	0.097	78	20
R&D expenditures business sector	0.04	0.014	13	3
Non-R&D innovation expenditures	±	0.062	±	±
Innovation expenditures per person employed	±	0.100	±	±
Employed ICT specialists	1.5	0.156	58	31
Product innovators	±	0.186	±	±
Business process innovators	±	0.000	±	±
Innovative SMEs collaborating	±	0.047	±	±
Public-private co-publications	33.3	0.205	86	41
PCT patent applications	0.10	0.106	76	17
Trademark applications	1.79	0.130	86	28
Design applications	0.85	0.265	94	46
Employment knowledge-intensive activities	4.3	0.032	7	5
Employment innovative enterprises	±	0.000	±	±
Sales of innovative products	±	0.349	±	±
Air emissions by fine particulates	18.3	0.268	88	55
Average score	--	0.126	--	--
Country EIS-RIS correction factor	--	0.887	--	--
Regional Innovation Index 2021	--	0.112	--	--
RII 2021 (same year)	--	--	69.8	20.9
RII 2021 (cf. to EU 2014)	--	--	--	23.9
Regional Innovation Index 2014	--	0.117	--	--
RII 2014 (same year)	--	--	88.7	25.0
RII - change between 2014 and 2021	--	-1.0	--	--

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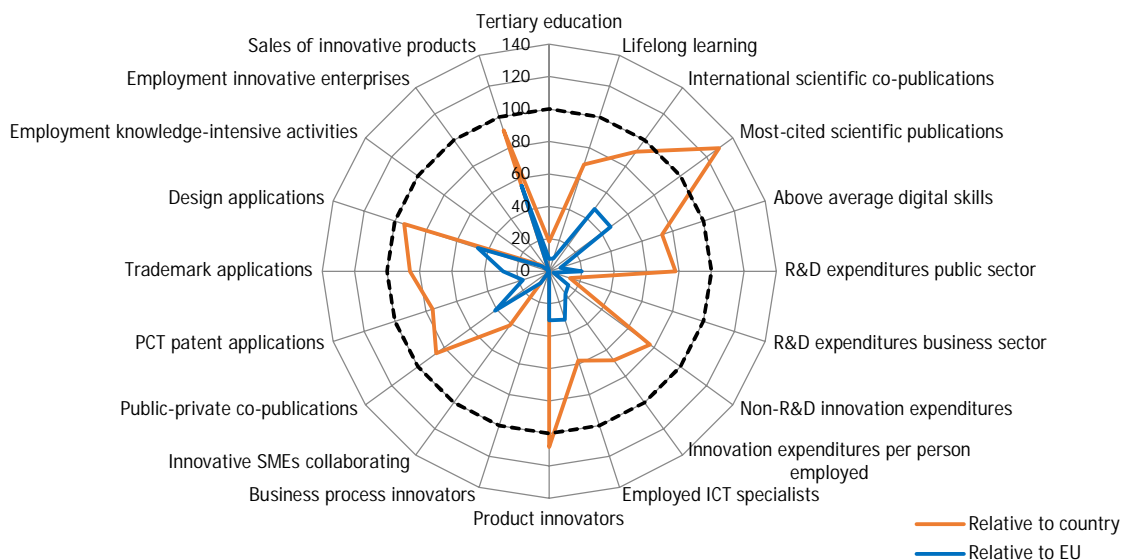
Nord-Est (RO21) is an Emerging Innovator -. Innovation performance has decreased over time (-1%).

The table on the left shows the normalised scores per indicator and relative results compared to Romania and the EU. The table also shows the Regional Innovation Index (RII) in 2021 compared to that of Romania and the EU in 2021, the RII in 2021 compared to that of the EU in 2014, and performance change over time between 2014 and 2021.

The radar graph shows relative strengths compared to Romania (orange line) and the EU (blue line), showing relative strengths (e.g. International scientific co-publications) and weaknesses (e.g. Business process innovators).

The table below shows data highlighting possible structural differences, e.g. Employment in Agriculture & Mining (above average) and Employment in Public administration (below average).

	RO21	RO	EU
Share of employment in:			
Agriculture & Mining (A-B)	44.8	22.0	4.6
Manufacturing (C)	10.6	18.8	16.4
Utilities & Construction (D-F)	10.9	10.5	8.2
Services (G-N)	31.0	43.8	62.9
Public administration (O-U)	2.7	4.9	7.1
Average number of employed persons per enterprise	4.3	5.7	5.2
GDP per capita (PPS)	13,700	21,700	31,200
GDP per capita growth (PPS)	9.58	8.78	3.21
Population density	88	83	109
Urbanisation	51.6	61.8	75.3
Population size (000s)	3,180	19,330	446,450



Regional Innovation Scoreboard 2021

Sud-Est (RO22)

	Data	Normalised score	Relative to	
			RO	EU
Tertiary education	18.2	0.071	29	12
Lifelong learning	0.7	0.026	54	6
International scientific co-publications	89	0.153	52	27
Most-cited scientific publications	1.7	0.032	16	6
Above average digital skills	9.4	0.038	73	7
R&D expenditures public sector	0.08	0.041	33	9
R&D expenditures business sector	0.00	0.000	0	0
Non-R&D innovation expenditures	±	0.090	±	±
Innovation expenditures per person employed	±	0.099	±	±
Employed ICT specialists	0.9	0.061	23	12
Product innovators	±	0.092	±	±
Business process innovators	±	0.000	±	±
Innovative SMEs collaborating	±	0.084	±	±
Public-private co-publications	15.6	0.140	59	28
PCT patent applications	0.08	0.094	67	15
Trademark applications	0.67	0.047	31	10
Design applications	0.51	0.206	73	36
Employment knowledge-intensive activities	10.1	0.324	71	54
Employment innovative enterprises	±	0.000	±	±
Sales of innovative products	±	0.242	±	±
Air emissions by fine particulates	16.2	0.373	123	76
Average score	--	0.105	--	--
Country EIS-RIS correction factor	--	0.887	--	--
Regional Innovation Index 2021	--	0.093	--	--
RII 2021 (same year)	--	--	58.2	17.4
RII 2021 (cf. to EU 2014)	--	--	--	20.0
Regional Innovation Index 2014	--	0.106	--	--
RII 2014 (same year)	--	--	80.8	22.7
RII - change between 2014 and 2021	--	-2.7	--	--

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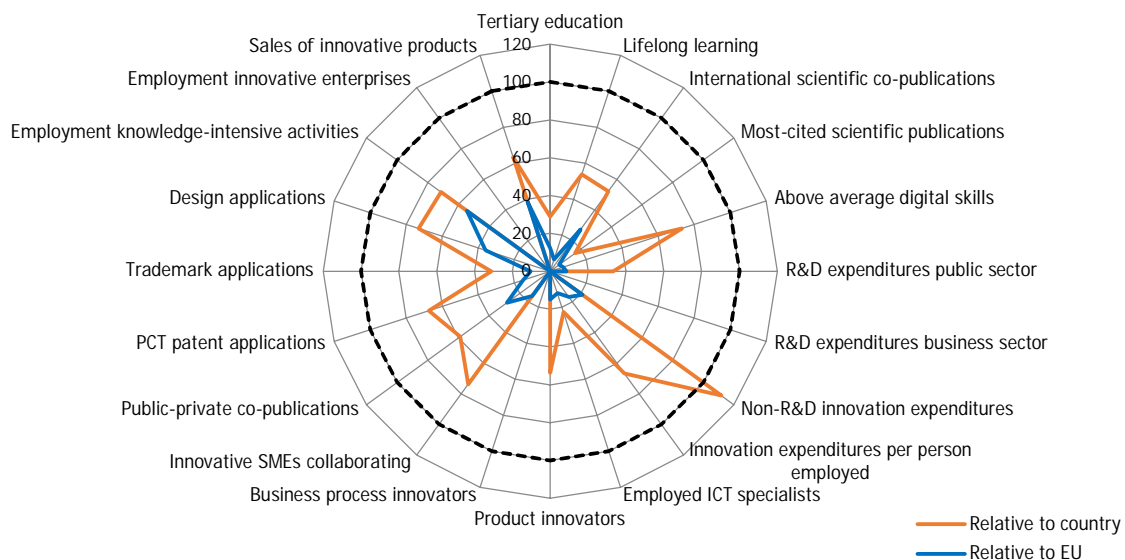
Sud-Est (RO22) is an Emerging Innovator -. Innovation performance has decreased over time (-2.7%).

The table on the left shows the normalised scores per indicator and relative results compared to Romania and the EU. The table also shows the Regional Innovation Index (RII) in 2021 compared to that of Romania and the EU in 2021, the RII in 2021 compared to that of the EU in 2014, and performance change over time between 2014 and 2021.

The radar graph shows relative strengths compared to Romania (orange line) and the EU (blue line), showing relative strengths (e.g. Employment knowledge-intensive activities) and weaknesses (e.g. R&D expenditures business sector).

The table below shows data highlighting possible structural differences, e.g. Employment in Agriculture & Mining (above average) and GDP per capita (below average).

	RO22	RO	EU
Share of employment in:			
Agriculture & Mining (A-B)	22.0	22.0	4.6
Manufacturing (C)	18.0	18.8	16.4
Utilities & Construction (D-F)	11.5	10.5	8.2
Services (G-N)	42.1	43.8	62.9
Public administration (O-U)	6.4	4.9	7.1
Average number of employed persons per enterprise	4.7	5.7	5.2
GDP per capita (PPS)	18,000	21,700	31,200
GDP per capita growth (PPS)	7.86	8.78	3.21
Population density	71	83	109
Urbanisation	62.3	61.8	75.3
Population size (000s)	2,380	19,330	446,450



Sud - Muntenia (RO31)

	Data	Normalised score	Relative to	
			RO	EU
Tertiary education	17.1	0.044	18	8
Lifelong learning	3.0	0.112	231	28
International scientific co-publications	31	0.090	31	16
Most-cited scientific publications	4.7	0.217	111	40
Above average digital skills	9.6	0.043	84	8
R&D expenditures public sector	0.04	0.014	11	3
R&D expenditures business sector	0.29	0.104	97	20
Non-R&D innovation expenditures	±	0.013	±	±
Innovation expenditures per person employed	±	0.004	±	±
Employed ICT specialists	0.8	0.056	21	11
Product innovators	±	0.065	±	±
Business process innovators	±	0.000	±	±
Innovative SMEs collaborating	±	0.040	±	±
Public-private co-publications	9.3	0.108	45	22
PCT patent applications	0.11	0.109	78	18
Trademark applications	1.02	0.072	48	16
Design applications	0.20	0.127	45	22
Employment knowledge-intensive activities	13.8	0.510	112	86
Employment innovative enterprises	±	0.000	±	±
Sales of innovative products	±	0.271	±	±
Air emissions by fine particulates	17.8	0.294	97	60
Average score	--	0.109	--	--
Country EIS-RIS correction factor	--	0.887	--	--
Regional Innovation Index 2021	--	0.097	--	--
RII 2021 (same year)	--	--	60.3	18.0
RII 2021 (cf. to EU 2014)	--	--	--	20.7
Regional Innovation Index 2014	--	0.091	--	--
RII 2014 (same year)	--	--	69.0	19.4
RII - change between 2014 and 2021	--	1.3	--	--

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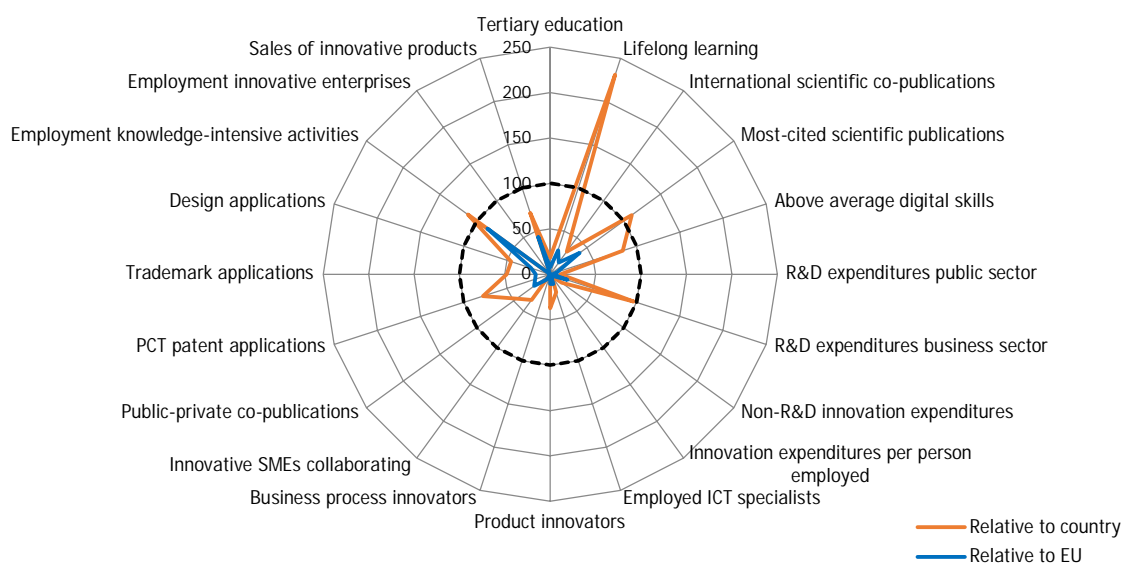
Sud - Muntenia (RO31) is an Emerging Innovator -. Innovation performance has increased over time (1.3%).

The table on the left shows the normalised scores per indicator and relative results compared to Romania and the EU. The table also shows the Regional Innovation Index (RII) in 2021 compared to that of Romania and the EU in 2021, the RII in 2021 compared to that of the EU in 2014, and performance change over time between 2014 and 2021.

The radar graph shows relative strengths compared to Romania (orange line) and the EU (blue line), showing relative strengths (e.g. Employment knowledge-intensive activities) and weaknesses (e.g. Business process innovators).

The table below shows data highlighting possible structural differences, e.g. Employment in Agriculture & Mining (above average) and GDP per capita (below average).

	RO31	RO	EU
Share of employment in:			
Agriculture & Mining (A-B)	23.0	22.0	4.6
Manufacturing (C)	20.2	18.8	16.4
Utilities & Construction (D-F)	11.1	10.5	8.2
Services (G-N)	40.5	43.8	62.9
Public administration (O-U)	5.2	4.9	7.1
Average number of employed persons per enterprise	5.0	5.7	5.2
GDP per capita (PPS)	16,800	21,700	31,200
GDP per capita growth (PPS)	8.11	8.78	3.21
Population density	86	83	109
Urbanisation	57.2	61.8	75.3
Population size (000s)	2,900	19,330	446,450



Regional Innovation Scoreboard 2021

Bucuresti - Ilfov (RO32)

	Data	Normalised score	Relative to	
			RO	EU
Tertiary education	52.7	0.889	365	155
Lifelong learning	1.0	0.037	77	9
International scientific co-publications	1,306	0.586	200	104
Most-cited scientific publications	4.1	0.183	93	34
Above average digital skills	11.1	0.076	148	14
R&D expenditures public sector	0.49	0.325	261	67
R&D expenditures business sector	0.67	0.240	223	46
Non-R&D innovation expenditures	±	0.087	±	±
Innovation expenditures per person employed	±	0.268	±	±
Employed ICT specialists	9.0	1.000	372	200
Product innovators	±	0.247	±	±
Business process innovators	±	0.134	±	±
Innovative SMEs collaborating	±	0.313	±	±
Public-private co-publications	214.5	0.520	218	105
PCT patent applications	0.17	0.137	98	22
Trademark applications	3.84	0.281	186	62
Design applications	1.93	0.400	142	70
Employment knowledge-intensive activities	21.1	0.877	193	147
Employment innovative enterprises	±	0.018	±	±
Sales of innovative products	±	0.447	±	±
Air emissions by fine particulates	20.1	0.183	60	37
Average score	--	0.345	--	--
Country EIS-RIS correction factor	--	0.887	--	--
Regional Innovation Index 2021	--	0.306	--	--
RII 2021 (same year)	--	--	190.7	56.9
RII 2021 (cf. to EU 2014)	--	--	--	65.4
Regional Innovation Index 2014	--	0.248	--	--
RII 2014 (same year)	--	--	188.4	53.0
RII - change between 2014 and 2021	--	12.4	--	--

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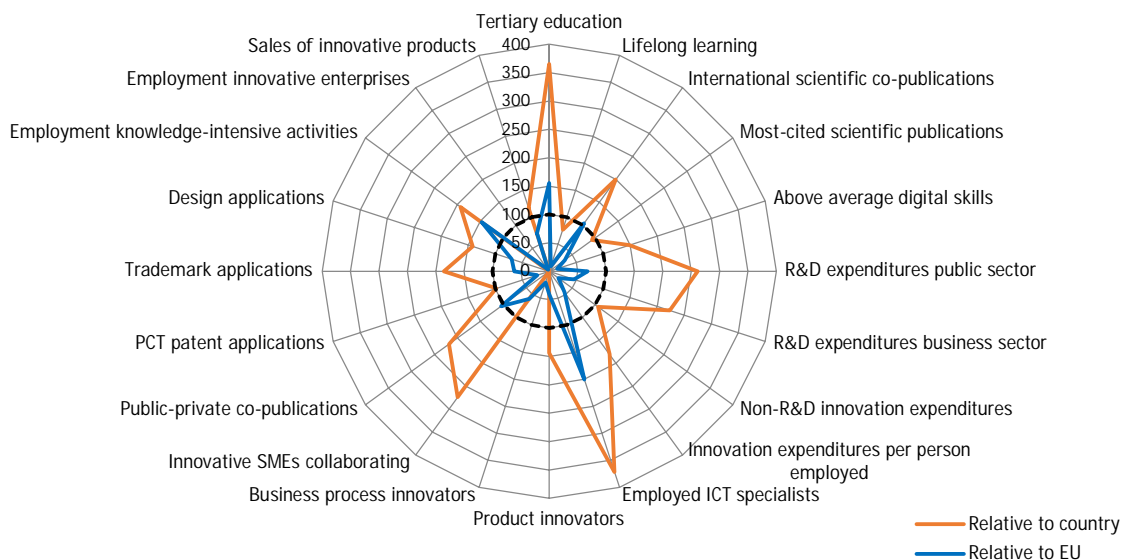
Bucuresti - Ilfov (RO32) is an Emerging Innovator +. Innovation performance has increased over time (12.4%).

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The radar graph shows relative strengths compared to Romania (orange line) and the EU (blue line), showing relative strengths (e.g. Employed ICT specialists) and weaknesses (e.g. Lifelong learning).

The table below shows data highlighting possible structural differences, e.g. Population density (above average) and Employment in Agriculture & Mining (below average).

	RO32	RO	EU
Share of employment in:			
Agriculture & Mining (A-B)	0.9	22.0	4.6
Manufacturing (C)	7.7	18.8	16.4
Utilities & Construction (D-F)	9.1	10.5	8.2
Services (G-N)	74.4	43.8	62.9
Public administration (O-U)	7.9	4.9	7.1
Average number of employed persons per enterprise	8.3	5.7	5.2
GDP per capita (PPS)	49,700	21,700	31,200
GDP per capita growth (PPS)	7.44	8.78	3.21
Population density	1,322	83	109
Urbanisation	95.6	61.8	75.3
Population size (000s)	2,320	19,330	446,450



Sud-Vest Oltenia (RO41)

	Data	Normalised score	Relative to	
			RO	EU
Tertiary education	19.0	0.090	37	16
Lifelong learning	0.7	0.026	54	6
International scientific co-publications	136	0.189	64	34
Most-cited scientific publications	3.7	0.160	82	29
Above average digital skills	10.1	0.054	105	10
R&D expenditures public sector	0.12	0.069	56	14
R&D expenditures business sector	0.12	0.043	40	8
Non-R&D innovation expenditures	±	0.000	±	±
Innovation expenditures per person employed	±	0.096	±	±
Employed ICT specialists	0.9	0.075	28	15
Product innovators	±	0.028	±	±
Business process innovators	±	0.000	±	±
Innovative SMEs collaborating	±	0.019	±	±
Public-private co-publications	25.6	0.180	76	36
PCT patent applications	0.11	0.111	79	18
Trademark applications	0.69	0.048	32	11
Design applications	0.40	0.181	64	32
Employment knowledge-intensive activities	7.8	0.208	46	35
Employment innovative enterprises	±	0.000	±	±
Sales of innovative products	±	0.348	±	±
Air emissions by fine particulates	19.7	0.205	67	42
Average score	--	0.101	--	--
Country EIS-RIS correction factor	--	0.887	--	--
Regional Innovation Index 2021	--	0.090	--	--
RII 2021 (same year)	--	--	56.0	16.7
RII 2021 (cf. to EU 2014)	--	--	--	19.2
Regional Innovation Index 2014	--	0.069	--	--
RII 2014 (same year)	--	--	52.6	14.8
RII - change between 2014 and 2021	--	4.4	--	--

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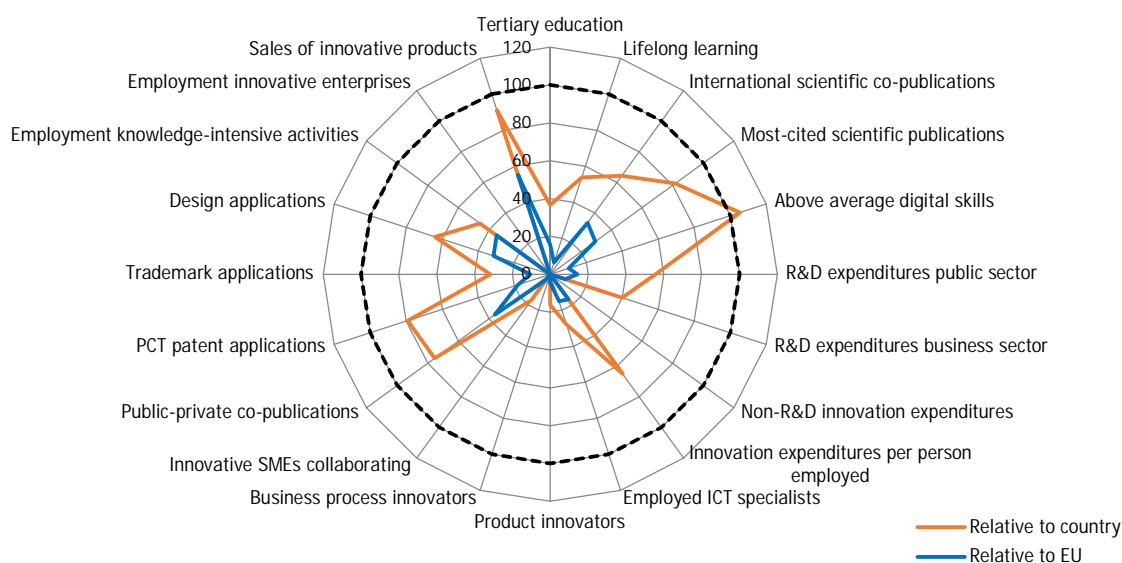
Sud-Vest Oltenia (RO41) is an Emerging Innovator -. Innovation performance has increased over time (4.4%).

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The radar graph shows relative strengths compared to Romania (orange line) and the EU (blue line), showing relative strengths (e.g. Public-private co-publications) and weaknesses (e.g. Non-R&D innovation expenditures).

The table below shows data highlighting possible structural differences, e.g. Employment in Agriculture & Mining (above average) and Employment in Services (below average).

	RO41	RO	EU
Share of employment in:			
Agriculture & Mining (A-B)	36.3	22.0	4.6
Manufacturing (C)	14.8	18.8	16.4
Utilities & Construction (D-F)	10.6	10.5	8.2
Services (G-N)	33.6	43.8	62.9
Public administration (O-U)	4.7	4.9	7.1
Average number of employed persons per enterprise	4.8	5.7	5.2
GDP per capita (PPS)	16,800	21,700	31,200
GDP per capita growth (PPS)	10.42	8.78	3.21
Population density	67	83	109
Urbanisation	49.0	61.8	75.3
Population size (000s)	1,910	19,330	446,450



Regional Innovation Scoreboard 2021

Vest (RO42)

	Data	Normalised score	Relative to	
			RO	EU
Tertiary education	22.7	0.177	73	31
Lifelong learning	2.0	0.074	154	19
International scientific co-publications	331	0.295	100	52
Most-cited scientific publications	6.2	0.316	161	58
Above average digital skills	10.6	0.065	127	12
R&D expenditures public sector	0.11	0.062	50	13
R&D expenditures business sector	0.31	0.111	103	21
Non-R&D innovation expenditures	±	0.092	±	±
Innovation expenditures per person employed	±	0.075	±	±
Employed ICT specialists	1.6	0.171	64	34
Product innovators	±	0.025	±	±
Business process innovators	±	0.000	±	±
Innovative SMEs collaborating	±	0.042	±	±
Public-private co-publications	33.9	0.207	87	42
PCT patent applications	0.46	0.228	163	37
Trademark applications	1.61	0.116	77	25
Design applications	0.43	0.188	67	33
Employment knowledge-intensive activities	26.0	1.000	220	168
Employment innovative enterprises	±	0.000	±	±
Sales of innovative products	±	0.262	±	±
Air emissions by fine particulates	16.6	0.353	116	72
Average score	--	0.184	--	--
Country EIS-RIS correction factor	--	0.887	--	--
Regional Innovation Index 2021	--	0.163	--	--
RII 2021 (same year)	--	--	101.5	30.3
RII 2021 (cf. to EU 2014)	--	--	--	34.8
Regional Innovation Index 2014	--	0.122	--	--
RII 2014 (same year)	--	--	92.7	26.1
RII - change between 2014 and 2021	--	8.8	--	--

± Relative-to-EU scores are not shown as these would allow recalculating confidential regional CIS data.

Vest (RO42) is an Emerging Innovator -. Innovation performance has increased over time (8.8%).

The table on the left shows the normalised scores per indicator and relative results compared to Romania and the EU. The table also shows the Regional Innovation Index (RII) in 2021 compared to that of Romania and the EU in 2021, the RII in 2021 compared to that of the EU in 2014, and performance change over time between 2014 and 2021.

The radar graph shows relative strengths compared to Romania (orange line) and the EU (blue line), showing relative strengths (e.g. Employment knowledge-intensive activities) and weaknesses (e.g. Business process innovators).

The table below shows data highlighting possible structural differences, e.g. Employment in Manufacturing (above average) and Population density (below average).

	RO42	RO	EU
Share of employment in:			
Agriculture & Mining (A-B)	8.9	22.0	4.6
Manufacturing (C)	37.3	18.8	16.4
Utilities & Construction (D-F)	8.1	10.5	8.2
Services (G-N)	41.5	43.8	62.9
Public administration (O-U)	4.3	4.9	7.1
Average number of employed persons per enterprise	6.1	5.7	5.2
GDP per capita (PPS)	22,100	21,700	31,200
GDP per capita growth (PPS)	8.24	8.78	3.21
Population density	56	83	109
Urbanisation	64.0	61.8	75.3
Population size (000s)	1,770	19,330	446,450

