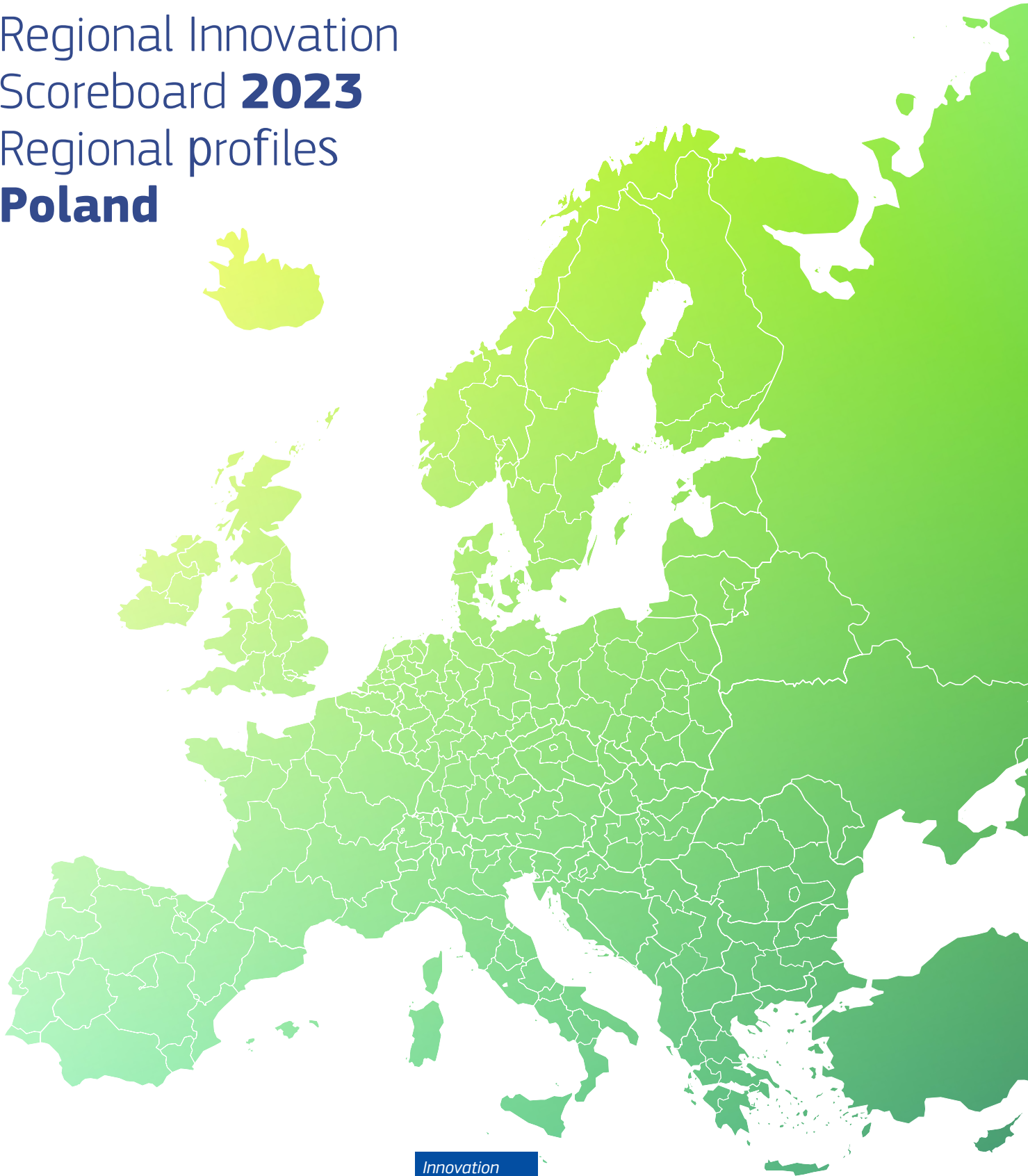




European  
Commission

# Regional Innovation Scoreboard **2023** Regional profiles **Poland**



*Innovation*

## Regional Innovation Scoreboard 2023 – Regional profiles Poland

European Commission

Directorate-General for Research and Innovation

Directorate G – Common Policy Centre

Unit G.1 – Common R&I Strategy & Foresight Service

Contact           Alexandr Hobza, Chief Economist and Head of Unit G.1  
Athina Karvounaraki  
Alexis Stevenson

Email             RTD-STATISTICS@ec.europa.eu  
RTD-PUBLICATIONS@ec.europa.eu

Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs

Directorate A – Strategy and Economic Analysis

Unit A.1 – Chief Economist

Contact           Román Arjona, Chief Economist and Head of Unit A.1  
Xosé-Luís Varela-Irimia

Email             GROW-A1@ec.europa.eu

European Commission

B-1049 Brussels

Manuscript completed in June 2023.

This document has been prepared for the European Commission; however it reflects the views only of the authors, and the European Commission shall not be liable for any consequence stemming from the reuse.

© European Union, 2023



The reuse policy of European Commission documents is implemented by Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39). Unless otherwise noted, the reuse of this document is authorised under a Creative Commons Attribution 4.0 International (CC BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes are indicated.

For any use or reproduction of elements that are not owned by the European Union, permission may need to be sought directly from the respective rightsholders.

# Regional Innovation Scoreboard 2023

## Regional profiles Poland

**The report was prepared by**

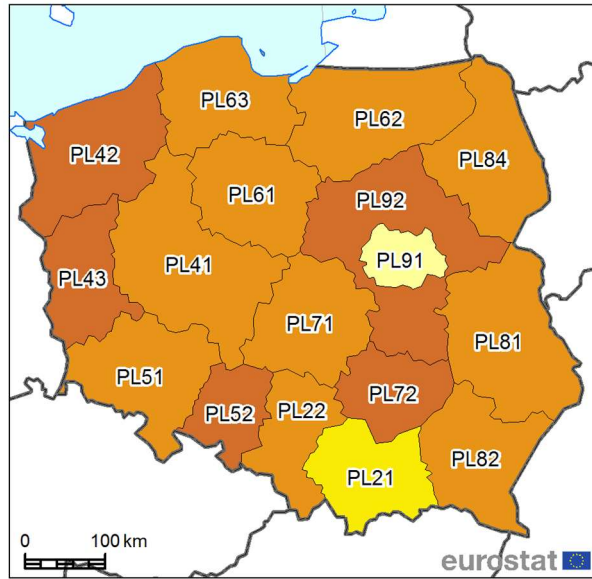
*Hugo Hollanders*

(Maastricht University – UNU-MERIT)

as part of the European Innovation Scoreboard project

for the European Commission, Directorate-General for Research and Innovation under

Framework Contract N° 2018/RTD/A2/OP/PP-07001-2018 Lot 2 (EDAR)



Map administrative boundaries: ©EuroGeographics ©UN-FAO ©Turkstat

NUTS	Region	RII	Rank	Group	Change
PL	Poland	62.8	--	Emerging Innovator	13.3
PL21	Małopolskie	80.2	155	Moderate Innovator	19.3
PL22	Śląskie	57.7	206	Emerging Innovator +	11.6
PL41	Wielkopolskie	56.3	210	Emerging Innovator +	11.9
PL42	Zachodniopomorskie	50.7	218	Emerging Innovator	8.9
PL43	Lubuskie	46.1	224	Emerging Innovator	6.5
PL51	Dolnośląskie	69.4	177	Emerging Innovator +	16.6
PL52	Opolskie	47.3	221	Emerging Innovator	10.7
PL61	Kujawsko-Pomorskie	55.6	213	Emerging Innovator +	12.5
PL62	Warmińsko-Mazurskie	54.2	217	Emerging Innovator +	15.7
PL63	Pomorskie	66.8	187	Emerging Innovator +	13.2
PL71	Łódzkie	58.9	201	Emerging Innovator +	12.7
PL72	Świętokrzyskie	45.2	225	Emerging Innovator	10.2
PL81	Lubelskie	58.9	202	Emerging Innovator +	17.0
PL82	Podkarpackie	56.7	209	Emerging Innovator +	4.3
PL84	Podlaskie	58.3	204	Emerging Innovator +	19.0
PL91	Warszawski stołeczny	95.1	119	Moderate Innovator +	19.9
PL92	Mazowiecki regionalny	37.3	228	Emerging Innovator	4.1

Poland is an Emerging Innovator and includes 17 regions.

*Warszawski stołeczny* (PL91), the capital region, is the most innovative region, and a Moderate Innovator +. *Małopolskie* (PL21) is a Moderate Innovator. All other regions are Emerging Innovators.

Performance has increased for all regions, and most strongly in *Warszawski stołeczny* (PL91), *Małopolskie* (PL21) and *Podlaskie* (PL84). For 14 regions performance increased at a higher rate than that of the EU (8.5), for three regions performance increased at a lower rate.

Malopolskie (PL21)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	48.5	0.687	134	131
Lifelong learning	7.9	0.261	157	70
International scientific co-publications	1219	0.294	208	96
Most-cited scientific publications	557.4	0.265	102	48
Above average digital skills	20.7	0.338	100	72
R&D expenditures public sector	0.86	0.603	137	106
R&D expenditures business sector	1.54	0.681	133	101
Non-R&D innovation expenditures	±	0.378	116	93
Innovation expenditures per person employed	±	0.368	123	61
Employed ICT specialists	5.7	0.687	174	130
Product innovators	±	0.287	117	51
Business process innovators	±	0.381	120	59
Innovative SMEs collaborating	±	0.288	110	59
Public-private co-publications	201.0	0.472	159	120
PCT patent applications	1.09	0.358	155	58
Trademark applications	7.44	0.504	123	101
Design applications	11.12	0.971	141	167
Employment knowledge-intensive activities	15.0	0.512	120	90
Employment innovative enterprises	±	0.371	116	65
Sales of innovative products	±	0.288	122	60
Air emissions by fine particulates	19.5	0.193	53	32
Average normalised score	--	0.437	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.439	--	--
Performance 2023 relative to EU in 2023	--	--	127.8	80.2
Performance 2023 relative to EU in 2016	--	--	--	87.0
Regional Innovation Index (RII) 2016	--	0.342	--	--
Performance 2016 relative to EU in 2016	--	--	123.5	67.7
Performance change over time	--	--	4.3	19.3

± Scores are not shown as these would allow recalculating confidential regional CIS data.

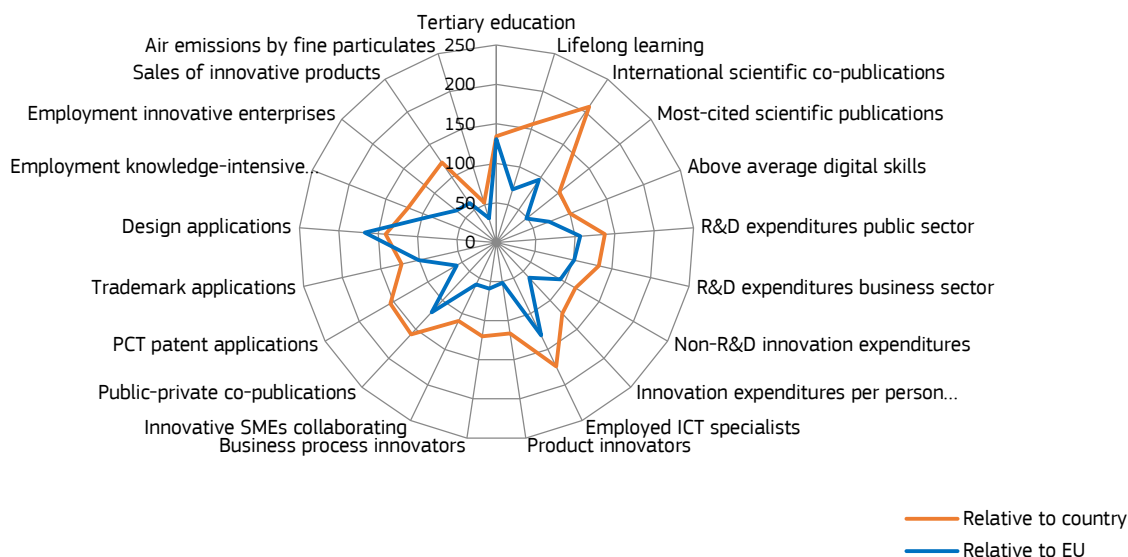
Malopolskie (PL21) is a Moderate Innovator. Innovation performance has increased over time (19.3%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (127.8) and the EU (80.2) in 2023, the RII in 2023 relative to the EU in 2016 (87), and the RII in 2016 relative to both Poland (123.5) and the EU in 2016 (67.7). The last row shows performance change between 2016 and 2023 compared to Poland (4.3%) and to the EU (19.3%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Design applications) and weaknesses (e.g. Most-cited scientific publications).

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

	PL21	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	9.2	10.3	4.4
Manufacturing (C)	17.5	20.1	16.4
Utilities & Construction (D-F)	12.2	10.2	8.3
Services (G-N)	56.4	52.9	63.7
Public administration (O-U)	4.7	6.5	7.2
Average number of employed persons per enterprise	4.1	4.5	5.1
GDP per capita (PPS)	23,000	25,000	32,400
GDP per capita growth (PPS)	5.5	5.3	2.5
Population density	222	121	106
Urbanisation	67.7	69.2	75.8
Population size (000s)	3,370	37,840	447,210



Slaskie (PL22)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	40.5	0.510	100	97
Lifelong learning	4.3	0.125	75	34
International scientific co-publications	531	0.127	90	41
Most-cited scientific publications	495.0	0.223	86	41
Above average digital skills	20.7	0.338	100	72
R&D expenditures public sector	0.34	0.339	77	60
R&D expenditures business sector	0.54	0.403	79	60
Non-R&D innovation expenditures	±	0.327	100	81
Innovation expenditures per person employed	±	0.282	94	47
Employed ICT specialists	3.9	0.448	113	85
Product innovators	±	0.256	104	46
Business process innovators	±	0.274	86	42
Innovative SMEs collaborating	±	0.287	110	59
Public-private co-publications	88.4	0.313	105	80
PCT patent applications	0.32	0.193	84	31
Trademark applications	4.13	0.279	68	56
Design applications	4.71	0.632	92	109
Employment knowledge-intensive activities	16.6	0.588	138	103
Employment innovative enterprises	±	0.319	100	56
Sales of innovative products	±	0.223	95	46
Air emissions by fine particulates	20.8	0.129	35	21
Average normalised score	--	0.315	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.316	--	--
Performance 2023 relative to EU in 2023	--	--	92.0	57.7
Performance 2023 relative to EU in 2016	--	--	--	62.6
Regional Innovation Index (RII) 2016	--	0.258	--	--
Performance 2016 relative to EU in 2016	--	--	93.2	51.1
Performance change over time	--	--	-1.2	11.6

± Scores are not shown as these would allow recalculating confidential regional CIS data.

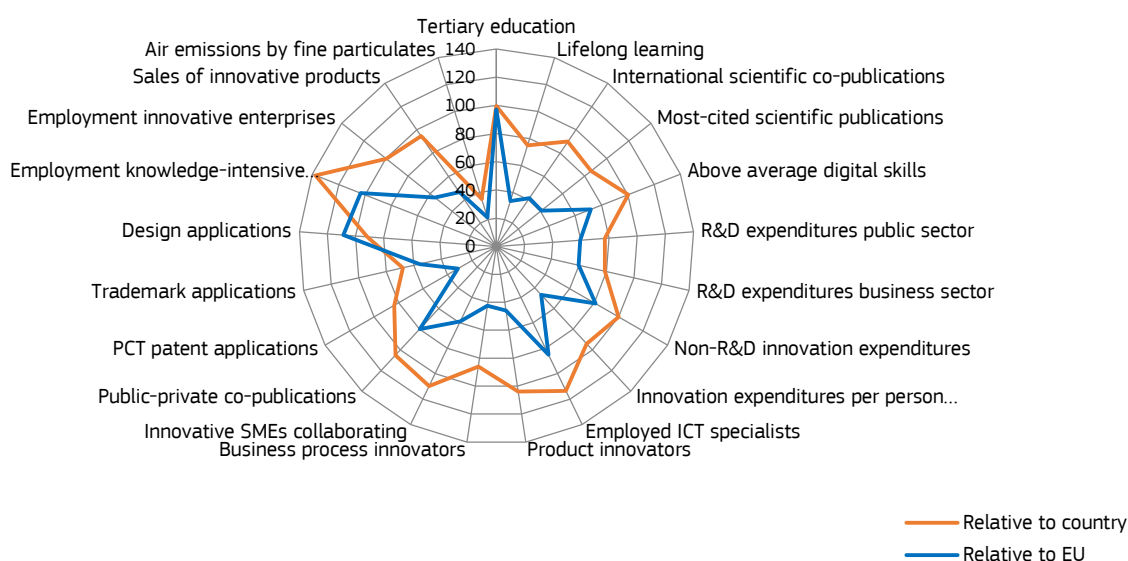
Slaskie (PL22) is an Emerging Innovator +. Innovation performance has increased over time (11.6%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (92) and the EU (57.7) in 2023, the RII in 2023 relative to the EU in 2016 (62.6), and the RII in 2016 relative to both Poland (93.2) and the EU in 2016 (51.1). The last row shows performance change between 2016 and 2023 compared to Poland (-1.2%) and to the EU (11.6%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Design applications) and weaknesses (e.g. PCT patent applications).

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

	PL22	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	8.3	10.3	4.4
Manufacturing (C)	22.4	20.1	16.4
Utilities & Construction (D-F)	9.9	10.2	8.3
Services (G-N)	54.2	52.9	63.7
Public administration (O-U)	5.2	6.5	7.2
Average number of employed persons per enterprise	4.9	4.5	5.1
GDP per capita (PPS)	25,500	25,000	32,400
GDP per capita growth (PPS)	4.8	5.3	2.5
Population density	361	121	106
Urbanisation	88.0	69.2	75.8
Population size (000s)	4,450	37,840	447,210



Wielkopolskie (PL41)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	33.2	0.348	68	66
Lifelong learning	3.9	0.110	66	30
International scientific co-publications	605	0.145	102	47
Most-cited scientific publications	609.1	0.299	115	55
Above average digital skills	20.8	0.341	101	72
R&D expenditures public sector	0.45	0.406	92	71
R&D expenditures business sector	0.42	0.356	69	53
Non-R&D innovation expenditures	±	0.296	91	73
Innovation expenditures per person employed	±	0.239	80	40
Employed ICT specialists	2.4	0.253	64	48
Product innovators	±	0.200	81	36
Business process innovators	±	0.306	96	47
Innovative SMEs collaborating	±	0.188	72	39
Public-private co-publications	90.4	0.317	106	81
PCT patent applications	0.27	0.178	77	29
Trademark applications	7.07	0.479	117	96
Design applications	7.70	0.808	117	139
Employment knowledge-intensive activities	12.3	0.384	90	68
Employment innovative enterprises	±	0.269	84	47
Sales of innovative products	±	0.120	51	25
Air emissions by fine particulates	15.1	0.407	111	68
Average normalised score	--	0.307	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.308	--	--
Performance 2023 relative to EU in 2023	--	--	89.7	56.3
Performance 2023 relative to EU in 2016	--	--	--	61.1
Regional Innovation Index (RII) 2016	--	0.248	--	--
Performance 2016 relative to EU in 2016	--	--	89.8	49.2
Performance change over time	--	--	-0.1	11.9

± Scores are not shown as these would allow recalculating confidential regional CIS data.

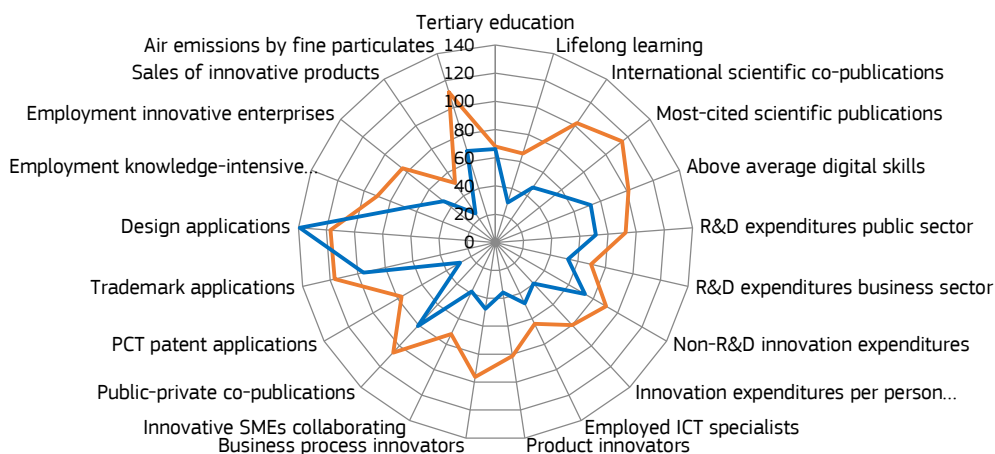
Wielkopolskie (PL41) is an Emerging Innovator +. Innovation performance has increased over time (11.9%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (89.7) and the EU (56.3) in 2023, the RII in 2023 relative to the EU in 2016 (61.1), and the RII in 2016 relative to both Poland (89.8) and the EU in 2016 (49.2). The last row shows performance change between 2016 and 2023 compared to Poland (-0.1%) and to the EU (11.9%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Design applications) and weaknesses (e.g. PCT patent applications).

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

	PL41	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	11.0	10.3	4.4
Manufacturing (C)	25.6	20.1	16.4
Utilities & Construction (D-F)	10.1	10.2	8.3
Services (G-N)	48.6	52.9	63.7
Public administration (O-U)	4.6	6.5	7.2
Average number of employed persons per enterprise	5.0	4.5	5.1
GDP per capita (PPS)	27,000	25,000	32,400
GDP per capita growth (PPS)	5.0	5.3	2.5
Population density	117	121	106
Urbanisation	65.1	69.2	75.8
Population size (000s)	3,480	37,840	447,210



— Relative to country  
— Relative to EU

Zachodniopomorskie (PL42)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	35.4	0.397	77	76
Lifelong learning	3.9	0.110	66	30
International scientific co-publications	392	0.093	66	30
Most-cited scientific publications	624.0	0.309	119	56
Above average digital skills	20.8	0.341	101	72
R&D expenditures public sector	0.35	0.345	79	61
R&D expenditures business sector	0.18	0.233	45	35
Non-R&D innovation expenditures	±	0.257	79	64
Innovation expenditures per person employed	±	0.198	66	33
Employed ICT specialists	2.2	0.229	58	43
Product innovators	±	0.231	94	41
Business process innovators	±	0.301	95	47
Innovative SMEs collaborating	±	0.265	102	54
Public-private co-publications	65.4	0.269	90	69
PCT patent applications	0.16	0.135	58	22
Trademark applications	3.80	0.256	63	51
Design applications	2.93	0.498	72	86
Employment knowledge-intensive activities	10.8	0.313	73	55
Employment innovative enterprises	±	0.270	84	47
Sales of innovative products	±	0.144	61	30
Air emissions by fine particulates	11.0	0.611	167	102
Average normalised score	--	0.276	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.278	--	--
Performance 2023 relative to EU in 2023	--	--	80.7	50.7
Performance 2023 relative to EU in 2016	--	--	--	55.0
Regional Innovation Index (RII) 2016	--	0.233	--	--
Performance 2016 relative to EU in 2016	--	--	84.2	46.1
Performance change over time	--	--	-3.4	8.9

± Scores are not shown as these would allow recalculating confidential regional CIS data.

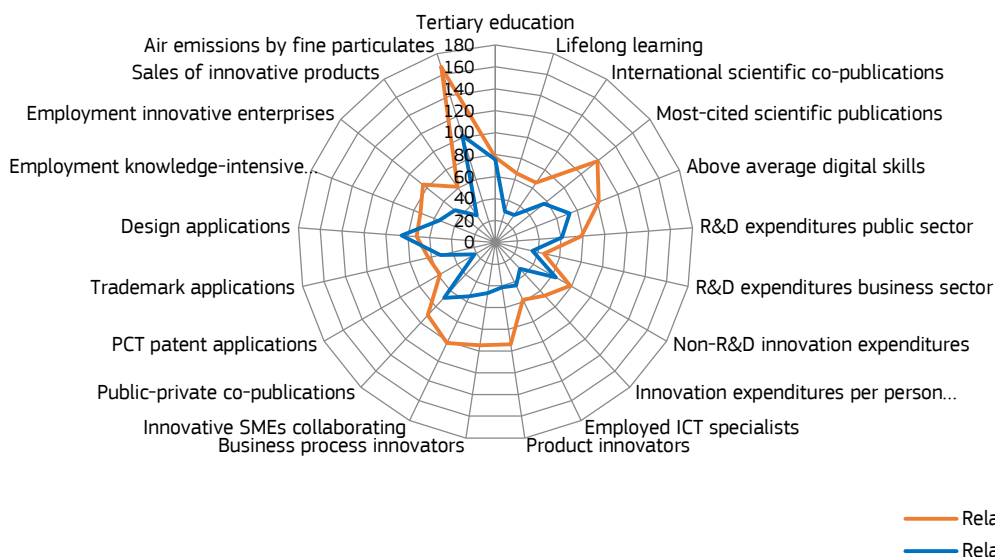
Zachodniopomorskie (PL42) is an Emerging Innovator. Innovation performance has increased over time (8.9%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (80.7) and the EU (50.7) in 2023, the RII in 2023 relative to the EU in 2016 (55), and the RII in 2016 relative to both Poland (84.2) and the EU in 2016 (46.1). The last row shows performance change between 2016 and 2023 compared to Poland (-3.4%) and to the EU (8.9%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Design applications) and weaknesses (e.g. PCT patent applications).

The table below shows data highlighting possible structural differences, e.g. Employment in Utilities & Construction (above EU average) and Average employed persons per enterprise (below EU average).

	PL42	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	5.8	10.3	4.4
Manufacturing (C)	18.6	20.1	16.4
Utilities & Construction (D-F)	12.0	10.2	8.3
Services (G-N)	54.8	52.9	63.7
Public administration (O-U)	8.8	6.5	7.2
Average number of employed persons per enterprise	3.3	4.5	5.1
GDP per capita (PPS)	20,700	25,000	32,400
GDP per capita growth (PPS)	5.0	5.3	2.5
Population density	74	121	106
Urbanisation	73.9	69.2	75.8
Population size (000s)	1,660	37,840	447,210



— Relative to country  
— Relative to EU



Lubuskie (PL43)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	33.9	0.364	71	69
Lifelong learning	2.9	0.072	43	19
International scientific co-publications	304	0.072	51	23
Most-cited scientific publications	722.8	0.374	144	68
Above average digital skills	20.8	0.341	101	72
R&D expenditures public sector	0.06	0.079	18	14
R&D expenditures business sector	0.37	0.334	65	50
Non-R&D innovation expenditures	±	0.226	69	56
Innovation expenditures per person employed	±	0.241	80	40
Employed ICT specialists	n/a	n/a	n/a	n/a
Product innovators	±	0.122	50	22
Business process innovators	±	0.121	38	19
Innovative SMEs collaborating	±	0.094	36	19
Public-private co-publications	44.5	0.222	75	57
PCT patent applications	0.17	0.139	60	23
Trademark applications	5.22	0.353	86	71
Design applications	8.98	0.872	127	150
Employment knowledge-intensive activities	10.5	0.299	70	53
Employment innovative enterprises	±	0.094	30	16
Sales of innovative products	±	0.073	31	15
Air emissions by fine particulates	12.5	0.537	147	90
Average normalised score	--	0.251	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.253	--	--
Performance 2023 relative to EU in 2023	--	--	73.5	46.1
Performance 2023 relative to EU in 2016	--	--	--	50.0
Regional Innovation Index (RII) 2016	--	0.220	--	--
Performance 2016 relative to EU in 2016	--	--	79.4	43.5
Performance change over time	--	--	-5.9	6.5

± Scores are not shown as these would allow recalculating confidential regional CIS data.

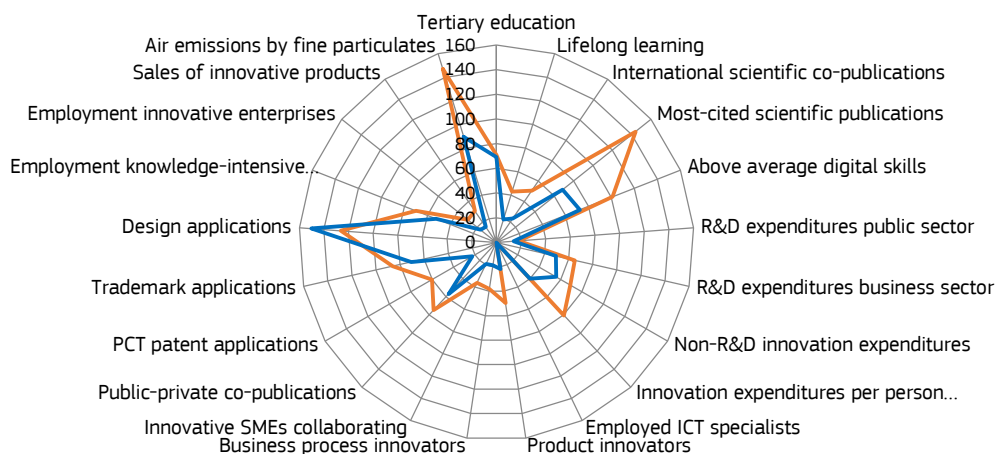
Lubuskie (PL43) is an Emerging Innovator. Innovation performance has increased over time (6.5%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (73.5) and the EU (46.1) in 2023, the RII in 2023 relative to the EU in 2016 (50), and the RII in 2016 relative to both Poland (79.4) and the EU in 2016 (43.5). The last row shows performance change between 2016 and 2023 compared to Poland (-5.9%) and to the EU (6.5%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Design applications) and weaknesses (e.g. R&D expenditures public sector).

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

	PL43	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	6.2	10.3	4.4
Manufacturing (C)	23.9	20.1	16.4
Utilities & Construction (D-F)	10.3	10.2	8.3
Services (G-N)	50.3	52.9	63.7
Public administration (O-U)	9.4	6.5	7.2
Average number of employed persons per enterprise	3.8	4.5	5.1
GDP per capita (PPS)	20,200	25,000	32,400
GDP per capita growth (PPS)	4.7	5.3	2.5
Population density	71	121	106
Urbanisation	74.2	69.2	75.8
Population size (000s)	1,000	37,840	447,210



— Relative to country  
— Relative to EU

Dolnoslaskie (PL51)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	48.2	0.681	133	130
Lifelong learning	8.5	0.284	170	77
International scientific co-publications	879	0.211	150	69
Most-cited scientific publications	571.0	0.274	105	50
Above average digital skills	20.8	0.340	101	72
R&D expenditures public sector	0.52	0.444	101	78
R&D expenditures business sector	0.77	0.482	94	71
Non-R&D innovation expenditures	±	0.246	75	61
Innovation expenditures per person employed	±	0.284	95	47
Employed ICT specialists	5.5	0.658	167	125
Product innovators	±	0.205	83	37
Business process innovators	±	0.280	88	43
Innovative SMEs collaborating	±	0.213	82	44
Public-private co-publications	138.4	0.392	132	100
PCT patent applications	0.66	0.279	121	45
Trademark applications	4.97	0.336	82	67
Design applications	3.07	0.510	74	88
Employment knowledge-intensive activities	18.0	0.654	153	115
Employment innovative enterprises	±	0.296	92	52
Sales of innovative products	±	0.461	196	96
Air emissions by fine particulates	14.9	0.416	114	69
Average normalised score	--	0.378	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.380	--	--
Performance 2023 relative to EU in 2023	--	--	110.5	69.4
Performance 2023 relative to EU in 2016	--	--	--	75.2
Regional Innovation Index (RII) 2016	--	0.296	--	--
Performance 2016 relative to EU in 2016	--	--	107.1	58.7
Performance change over time	--	--	3.4	16.6

± Scores are not shown as these would allow recalculating confidential regional CIS data.

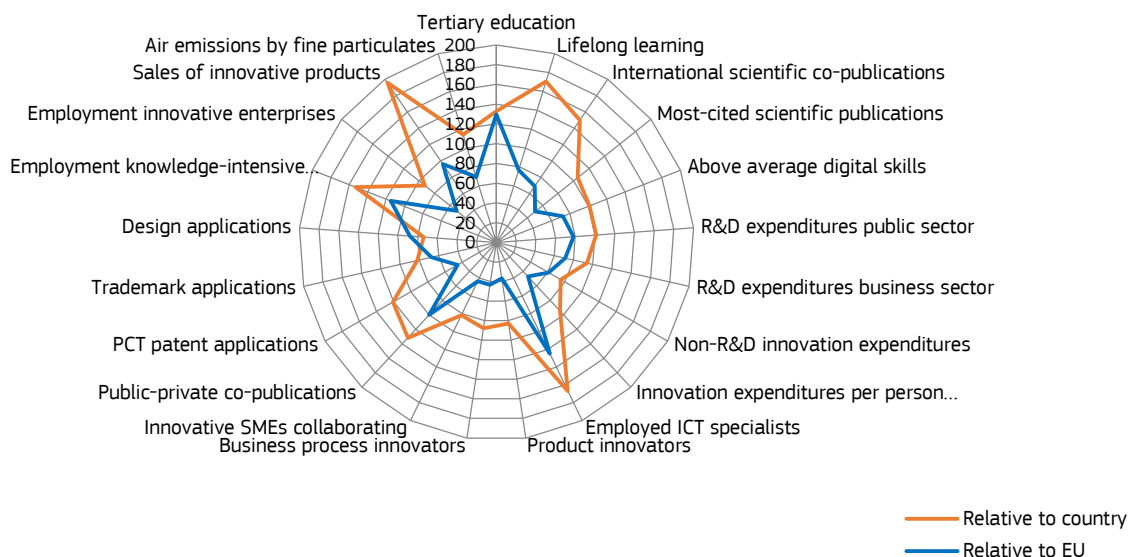
Dolnoslaskie (PL51) is an Emerging Innovator +. Innovation performance has increased over time (16.6%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (110.5) and the EU (69.4) in 2023, the RII in 2023 relative to the EU in 2016 (75.2), and the RII in 2016 relative to both Poland (107.1) and the EU in 2016 (58.7). The last row shows performance change between 2016 and 2023 compared to Poland (3.4%) and to the EU (16.6%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Tertiary education) and weaknesses (e.g. Product innovators).

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

	PL51	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	6.0	10.3	4.4
Manufacturing (C)	22.1	20.1	16.4
Utilities & Construction (D-F)	9.3	10.2	8.3
Services (G-N)	56.4	52.9	63.7
Public administration (O-U)	6.2	6.5	7.2
Average number of employed persons per enterprise	4.4	4.5	5.1
GDP per capita (PPS)	27,900	25,000	32,400
GDP per capita growth (PPS)	5.5	5.3	2.5
Population density	143	121	106
Urbanisation	71.6	69.2	75.8
Population size (000s)	2,860	37,840	447,210



Opolskie (PL52)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	30.1	0.279	55	53
Lifelong learning	3.9	0.110	66	30
International scientific co-publications	459	0.109	77	36
Most-cited scientific publications	442.7	0.188	72	34
Above average digital skills	20.8	0.340	101	72
R&D expenditures public sector	0.21	0.243	55	43
R&D expenditures business sector	0.34	0.320	63	47
Non-R&D innovation expenditures	±	0.241	74	60
Innovation expenditures per person employed	±	0.219	73	36
Employed ICT specialists	n/a	n/a	n/a	n/a
Product innovators	±	0.213	87	38
Business process innovators	±	0.246	77	38
Innovative SMEs collaborating	±	0.164	63	34
Public-private co-publications	64.7	0.268	90	68
PCT patent applications	0.33	0.195	85	32
Trademark applications	5.44	0.368	90	74
Design applications	2.93	0.498	72	86
Employment knowledge-intensive activities	9.9	0.270	63	48
Employment innovative enterprises	±	0.287	90	50
Sales of innovative products	±	0.252	107	52
Air emissions by fine particulates	16.4	0.345	94	58
Average normalised score	--	0.258	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.259	--	--
Performance 2023 relative to EU in 2023	--	--	75.3	47.3
Performance 2023 relative to EU in 2016	--	--	--	51.3
Regional Innovation Index (RII) 2016	--	0.205	--	--
Performance 2016 relative to EU in 2016	--	--	74.0	40.5
Performance change over time	--	--	1.3	10.7

± Scores are not shown as these would allow recalculating confidential regional CIS data.

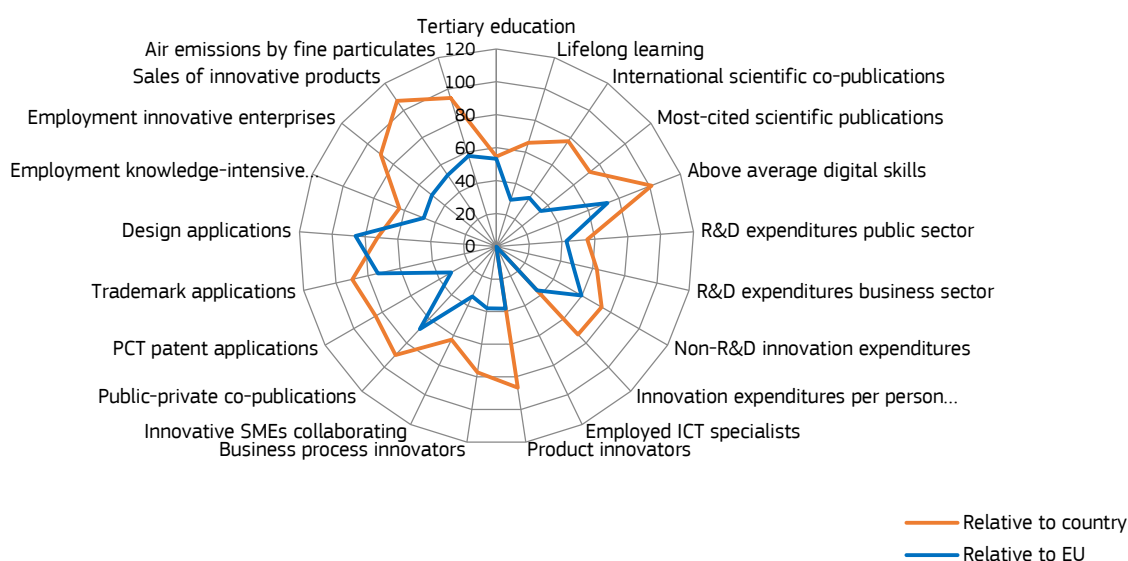
Opolskie (PL52) is an Emerging Innovator. Innovation performance has increased over time (10.7%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (75.3) and the EU (47.3) in 2023, the RII in 2023 relative to the EU in 2016 (51.3), and the RII in 2016 relative to both Poland (74) and the EU in 2016 (40.5). The last row shows performance change between 2016 and 2023 compared to Poland (1.3%) and to the EU (10.7%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Design applications) and weaknesses (e.g. Lifelong learning).

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

	PL52	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	9.3	10.3	4.4
Manufacturing (C)	24.1	20.1	16.4
Utilities & Construction (D-F)	12.8	10.2	8.3
Services (G-N)	47.5	52.9	63.7
Public administration (O-U)	6.3	6.5	7.2
Average number of employed persons per enterprise	4.0	4.5	5.1
GDP per capita (PPS)	20,000	25,000	32,400
GDP per capita growth (PPS)	5.6	5.3	2.5
Population density	99	121	106
Urbanisation	66.9	69.2	75.8
Population size (000s)	940	37,840	447,210



Kujawsko-Pomorskie (PL61)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	36.9	0.430	84	82
Lifelong learning	7.4	0.242	145	65
International scientific co-publications	507	0.121	86	39
Most-cited scientific publications	579.4	0.279	107	51
Above average digital skills	20.6	0.336	100	71
R&D expenditures public sector	0.34	0.339	77	60
R&D expenditures business sector	0.53	0.400	78	59
Non-R&D innovation expenditures	±	0.451	138	112
Innovation expenditures per person employed	±	0.346	116	57
Employed ICT specialists	2.1	0.203	51	39
Product innovators	±	0.157	64	28
Business process innovators	±	0.245	77	38
Innovative SMEs collaborating	±	0.272	104	56
Public-private co-publications	78.9	0.296	99	75
PCT patent applications	0.27	0.178	77	29
Trademark applications	3.75	0.253	62	51
Design applications	4.67	0.629	91	108
Employment knowledge-intensive activities	9.5	0.251	59	44
Employment innovative enterprises	±	0.268	84	47
Sales of innovative products	±	0.221	94	46
Air emissions by fine particulates	14.1	0.455	125	76
Average normalised score	--	0.303	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.305	--	--
Performance 2023 relative to EU in 2023	--	--	88.6	55.6
Performance 2023 relative to EU in 2016	--	--	--	60.3
Regional Innovation Index (RII) 2016	--	0.242	--	--
Performance 2016 relative to EU in 2016	--	--	87.3	47.8
Performance change over time	--	--	1.3	12.5

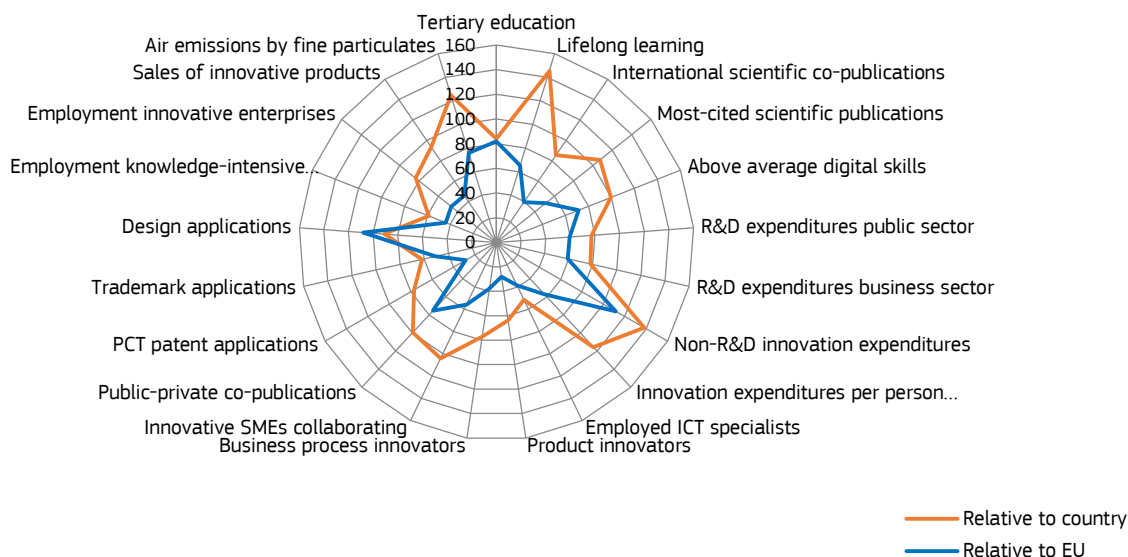
± Scores are not shown as these would allow recalculating confidential regional CIS data.

Kujawsko-Pomorskie (PL61) is an Emerging Innovator +. Innovation performance has increased over time (12.5%). The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (88.6) and the EU (55.6) in 2023, the RII in 2023 relative to the EU in 2016 (60.3), and the RII in 2016 relative to both Poland (87.3) and the EU in 2016 (47.8). The last row shows performance change between 2016 and 2023 compared to Poland (1.3%) and to the EU (12.5%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Non-R&D innovation expenditures) and weaknesses (e.g. Product innovators).

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

	PL61	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	13.5	10.3	4.4
Manufacturing (C)	21.4	20.1	16.4
Utilities & Construction (D-F)	9.9	10.2	8.3
Services (G-N)	48.7	52.9	63.7
Public administration (O-U)	6.6	6.5	7.2
Average number of employed persons per enterprise	4.1	4.5	5.1
GDP per capita (PPS)	20,200	25,000	32,400
GDP per capita growth (PPS)	5.3	5.3	2.5
Population density	114	121	106
Urbanisation	64.2	69.2	75.8
Population size (000s)	2,040	37,840	447,210



Warminsko-Mazurskie (PL62)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	28.4	0.242	47	46
Lifelong learning	3.3	0.087	52	23
International scientific co-publications	335	0.079	56	26
Most-cited scientific publications	575.7	0.277	106	51
Above average digital skills	20.6	0.336	100	71
R&D expenditures public sector	0.25	0.275	63	48
R&D expenditures business sector	0.24	0.269	53	40
Non-R&D innovation expenditures	±	0.428	131	106
Innovation expenditures per person employed	±	0.297	99	49
Employed ICT specialists	n/a	n/a	n/a	n/a
Product innovators	±	0.265	107	47
Business process innovators	±	0.302	95	47
Innovative SMEs collaborating	±	0.295	113	61
Public-private co-publications	68.1	0.275	92	70
PCT patent applications	0.17	0.142	61	23
Trademark applications	3.77	0.254	62	51
Design applications	7.89	0.818	119	141
Employment knowledge-intensive activities	5.6	0.066	16	12
Employment innovative enterprises	±	0.394	123	69
Sales of innovative products	±	0.299	127	62
Air emissions by fine particulates	13.0	0.509	139	85
Average normalised score	--	0.295	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.297	--	--
Performance 2023 relative to EU in 2023	--	--	86.3	54.2
Performance 2023 relative to EU in 2016	--	--	--	58.8
Regional Innovation Index (RII) 2016	--	0.218	--	--
Performance 2016 relative to EU in 2016	--	--	78.7	43.1
Performance change over time	--	--	7.6	15.7

± Scores are not shown as these would allow recalculating confidential regional CIS data.

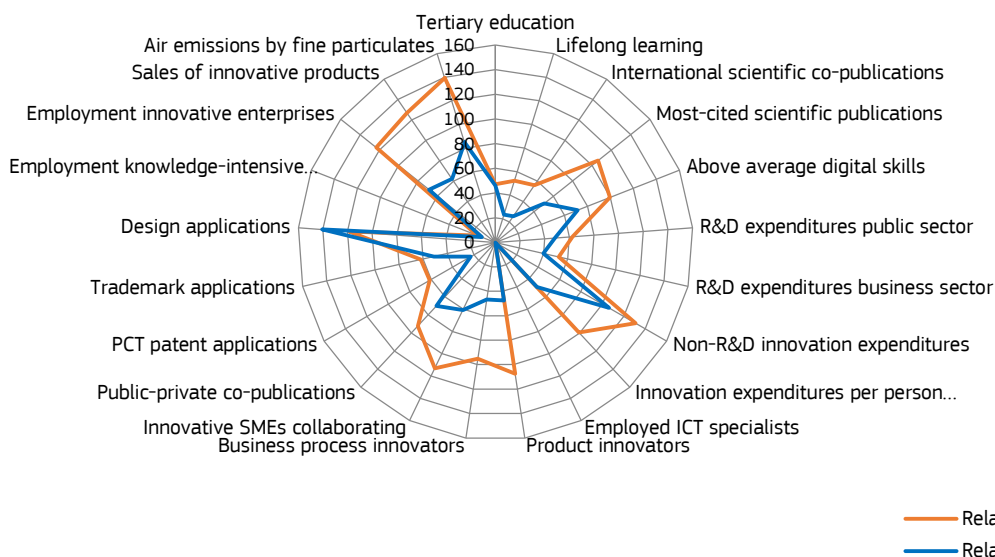
Warminsko-Mazurskie (PL62) is an Emerging Innovator +. Innovation performance has increased over time (15.7%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (86.3) and the EU (54.2) in 2023, the RII in 2023 relative to the EU in 2016 (58.8), and the RII in 2016 relative to both Poland (78.7) and the EU in 2016 (43.1). The last row shows performance change between 2016 and 2023 compared to Poland (7.6%) and to the EU (15.7%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Design applications) and weaknesses (e.g. Employment knowledge-intensive activities).

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

	PL62	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	12.0	10.3	4.4
Manufacturing (C)	21.5	20.1	16.4
Utilities & Construction (D-F)	11.1	10.2	8.3
Services (G-N)	45.5	52.9	63.7
Public administration (O-U)	9.8	6.5	7.2
Average number of employed persons per enterprise	3.8	4.5	5.1
GDP per capita (PPS)	17,400	25,000	32,400
GDP per capita growth (PPS)	5.0	5.3	2.5
Population density	58	121	106
Urbanisation	61.5	69.2	75.8
Population size (000s)	1,390	37,840	447,210



Pomorskie (PL63)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	39.8	0.494	97	94
Lifelong learning	6.8	0.220	132	59
International scientific co-publications	818	0.196	139	64
Most-cited scientific publications	617.4	0.304	117	56
Above average digital skills	20.6	0.336	100	71
R&D expenditures public sector	0.51	0.439	100	77
R&D expenditures business sector	1.18	0.596	116	88
Non-R&D innovation expenditures	±	0.269	82	66
Innovation expenditures per person employed	±	0.295	98	49
Employed ICT specialists	3.6	0.410	104	78
Product innovators	±	0.277	112	50
Business process innovators	±	0.319	101	49
Innovative SMEs collaborating	±	0.325	125	67
Public-private co-publications	140.6	0.395	133	101
PCT patent applications	0.50	0.242	105	39
Trademark applications	6.33	0.429	105	86
Design applications	3.52	0.546	79	94
Employment knowledge-intensive activities	15.1	0.517	121	91
Employment innovative enterprises	±	0.313	98	55
Sales of innovative products	±	0.158	67	33
Air emissions by fine particulates	11.8	0.573	157	96
Average normalised score	--	0.364	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.366	--	--
Performance 2023 relative to EU in 2023	--	--	106.4	66.8
Performance 2023 relative to EU in 2016	--	--	--	72.5
Regional Innovation Index (RII) 2016	--	0.299	--	--
Performance 2016 relative to EU in 2016	--	--	108.1	59.2
Performance change over time	--	--	-1.7	13.2

± Scores are not shown as these would allow recalculating confidential regional CIS data.

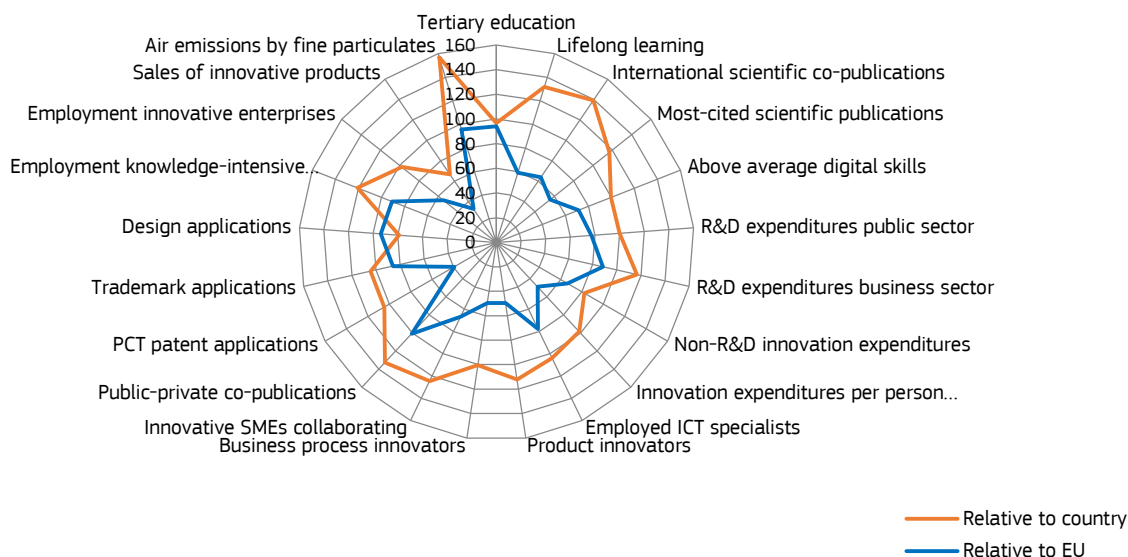
Pomorskie (PL63) is an Emerging Innovator +. Innovation performance has increased over time (13.2%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (106.4) and the EU (66.8) in 2023, the RII in 2023 relative to the EU in 2016 (72.5), and the RII in 2016 relative to both Poland (108.1) and the EU in 2016 (59.2). The last row shows performance change between 2016 and 2023 compared to Poland (-1.7%) and to the EU (13.2%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Public-private co-publications) and weaknesses (e.g. PCT patent applications).

The table below shows data highlighting possible structural differences, e.g. Employment in Utilities & Construction (above EU average) and Average employed persons per enterprise (below EU average).

	PL63	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	6.0	10.3	4.4
Manufacturing (C)	19.8	20.1	16.4
Utilities & Construction (D-F)	11.6	10.2	8.3
Services (G-N)	56.0	52.9	63.7
Public administration (O-U)	6.7	6.5	7.2
Average number of employed persons per enterprise	3.9	4.5	5.1
GDP per capita (PPS)	24,400	25,000	32,400
GDP per capita growth (PPS)	5.6	5.3	2.5
Population density	128	121	106
Urbanisation	70.6	69.2	75.8
Population size (000s)	2,320	37,840	447,210



Lódzkie (PL71)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	35.7	0.404	79	77
Lifelong learning	3.1	0.080	48	21
International scientific co-publications	728	0.175	124	57
Most-cited scientific publications	519.6	0.239	92	44
Above average digital skills	19.8	0.318	94	68
R&D expenditures public sector	0.58	0.475	108	84
R&D expenditures business sector	0.55	0.407	80	60
Non-R&D innovation expenditures	±	0.371	114	92
Innovation expenditures per person employed	±	0.301	100	50
Employed ICT specialists	3.0	0.328	83	62
Product innovators	±	0.307	125	55
Business process innovators	±	0.224	71	35
Innovative SMEs collaborating	±	0.221	85	45
Public-private co-publications	116.1	0.359	121	92
PCT patent applications	0.39	0.213	92	35
Trademark applications	6.47	0.438	107	88
Design applications	5.69	0.694	101	120
Employment knowledge-intensive activities	12.3	0.384	90	68
Employment innovative enterprises	±	0.305	95	53
Sales of innovative products	±	0.225	96	47
Air emissions by fine particulates	17.7	0.279	77	47
Average normalised score	--	0.321	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.323	--	--
Performance 2023 relative to EU in 2023	--	--	93.8	58.9
Performance 2023 relative to EU in 2016	--	--	--	63.9
Regional Innovation Index (RII) 2016	--	0.258	--	--
Performance 2016 relative to EU in 2016	--	--	93.4	51.2
Performance change over time	--	--	0.5	12.7

± Scores are not shown as these would allow recalculating confidential regional CIS data.

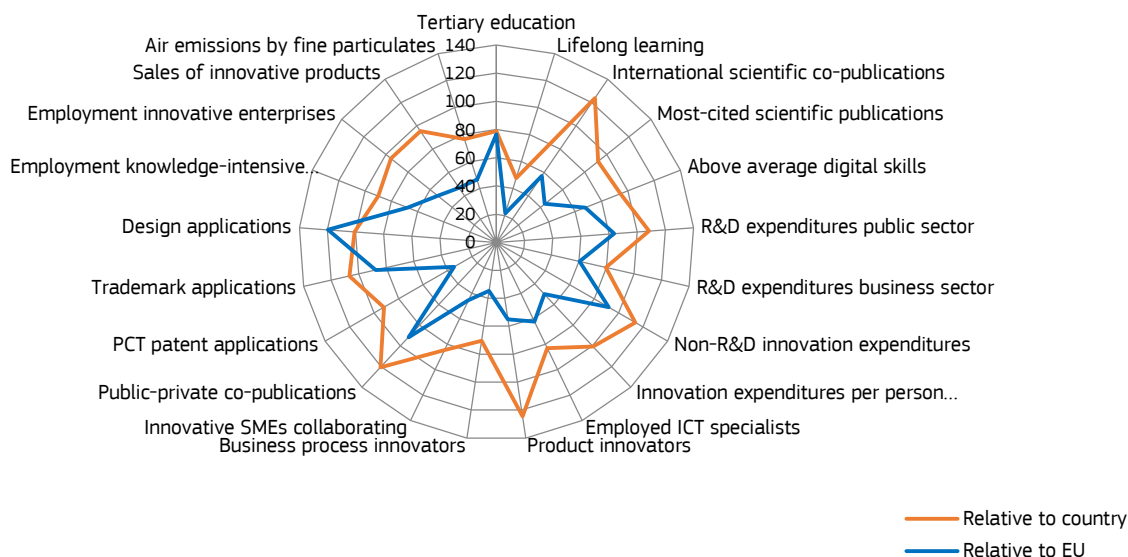
Lódzkie (PL71) is an Emerging Innovator +. Innovation performance has increased over time (12.7%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (93.8) and the EU (58.9) in 2023, the RII in 2023 relative to the EU in 2016 (63.9), and the RII in 2016 relative to both Poland (93.4) and the EU in 2016 (51.2). The last row shows performance change between 2016 and 2023 compared to Poland (0.5%) and to the EU (12.7%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Design applications) and weaknesses (e.g. Lifelong learning).

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

	PL71	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	12.5	10.3	4.4
Manufacturing (C)	22.9	20.1	16.4
Utilities & Construction (D-F)	8.6	10.2	8.3
Services (G-N)	49.7	52.9	63.7
Public administration (O-U)	6.3	6.5	7.2
Average number of employed persons per enterprise	4.4	4.5	5.1
GDP per capita (PPS)	23,800	25,000	32,400
GDP per capita growth (PPS)	5.9	5.3	2.5
Population density	133	121	106
Urbanisation	68.1	69.2	75.8
Population size (000s)	2,430	37,840	447,210



Swietokrzyskie (PL72)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	35.6	0.401	78	76
Lifelong learning	3.1	0.080	48	21
International scientific co-publications	242	0.057	40	18
Most-cited scientific publications	186.1	0.018	7	3
Above average digital skills	19.8	0.318	94	68
R&D expenditures public sector	0.22	0.251	57	44
R&D expenditures business sector	0.29	0.296	58	44
Non-R&D innovation expenditures	±	0.396	121	98
Innovation expenditures per person employed	±	0.221	74	37
Employed ICT specialists	n/a	n/a	n/a	n/a
Product innovators	±	0.149	60	27
Business process innovators	±	0.201	63	31
Innovative SMEs collaborating	±	0.148	57	30
Public-private co-publications	46.8	0.228	77	58
PCT patent applications	0.35	0.202	87	33
Trademark applications	3.69	0.248	61	50
Design applications	9.68	0.906	131	156
Employment knowledge-intensive activities	7.5	0.156	37	28
Employment innovative enterprises	±	0.207	65	36
Sales of innovative products	±	0.117	49	24
Air emissions by fine particulates	16.6	0.332	91	55
Average normalised score	--	0.247	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.248	--	--
Performance 2023 relative to EU in 2023	--	--	72.0	45.2
Performance 2023 relative to EU in 2016	--	--	--	49.0
Regional Innovation Index (RII) 2016	--	0.196	--	--
Performance 2016 relative to EU in 2016	--	--	70.8	38.8
Performance change over time	--	--	1.2	10.2

± Scores are not shown as these would allow recalculating confidential regional CIS data.

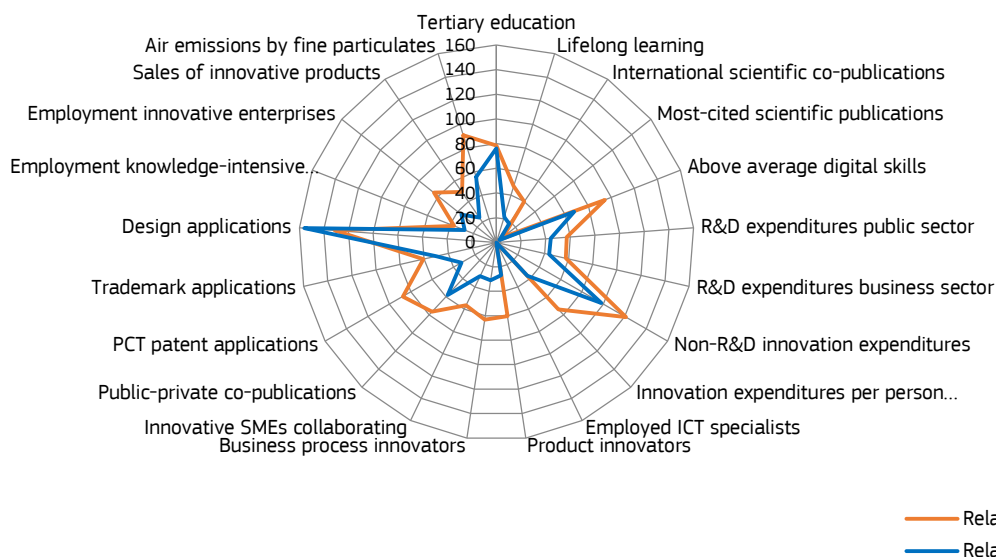
Swietokrzyskie (PL72) is an Emerging Innovator. Innovation performance has increased over time (10.2%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (72) and the EU (45.2) in 2023, the RII in 2023 relative to the EU in 2016 (49), and the RII in 2016 relative to both Poland (70.8) and the EU in 2016 (38.8). The last row shows performance change between 2016 and 2023 compared to Poland (1.2%) and to the EU (10.2%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Design applications) and weaknesses (e.g. Most-cited scientific publications).

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

	PL72	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	18.9	10.3	4.4
Manufacturing (C)	17.0	20.1	16.4
Utilities & Construction (D-F)	11.4	10.2	8.3
Services (G-N)	46.2	52.9	63.7
Public administration (O-U)	6.5	6.5	7.2
Average number of employed persons per enterprise	4.0	4.5	5.1
GDP per capita (PPS)	17,900	25,000	32,400
GDP per capita growth (PPS)	5.4	5.3	2.5
Population density	103	121	106
Urbanisation	48.8	69.2	75.8
Population size (000s)	1,210	37,840	447,210



— Relative to country  
— Relative to EU



Lubelskie (PL81)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	39.1	0.479	94	91
Lifelong learning	6.2	0.197	118	53
International scientific co-publications	632	0.151	107	49
Most-cited scientific publications	648.1	0.325	125	59
Above average digital skills	20.3	0.330	98	70
R&D expenditures public sector	0.75	0.556	127	98
R&D expenditures business sector	0.43	0.360	70	53
Non-R&D innovation expenditures	±	0.521	159	129
Innovation expenditures per person employed	±	0.326	109	54
Employed ICT specialists	1.6	0.137	35	26
Product innovators	±	0.250	101	45
Business process innovators	±	0.321	101	50
Innovative SMEs collaborating	±	0.296	113	61
Public-private co-publications	98.8	0.331	111	84
PCT patent applications	0.32	0.193	83	31
Trademark applications	3.59	0.242	59	48
Design applications	4.91	0.645	94	111
Employment knowledge-intensive activities	7.6	0.161	38	28
Employment innovative enterprises	±	0.296	93	52
Sales of innovative products	±	0.212	90	44
Air emissions by fine particulates	15.0	0.414	113	69
Average normalised score	--	0.321	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.322	--	--
Performance 2023 relative to EU in 2023	--	--	93.8	58.9
Performance 2023 relative to EU in 2016	--	--	--	63.9
Regional Innovation Index (RII) 2016	--	0.236	--	--
Performance 2016 relative to EU in 2016	--	--	85.5	46.8
Performance change over time	--	--	8.3	17.0

± Scores are not shown as these would allow recalculating confidential regional CIS data.

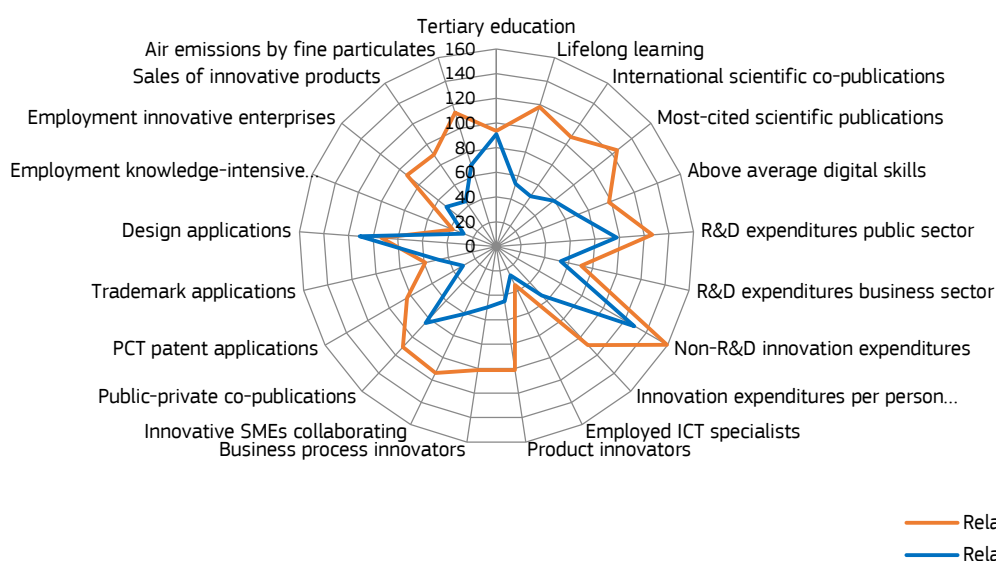
Lubelskie (PL81) is an Emerging Innovator +. Innovation performance has increased over time (17%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (93.8) and the EU (58.9) in 2023, the RII in 2023 relative to the EU in 2016 (63.9), and the RII in 2016 relative to both Poland (85.5) and the EU in 2016 (46.8). The last row shows performance change between 2016 and 2023 compared to Poland (8.3%) and to the EU (17%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Non-R&D innovation expenditures) and weaknesses (e.g. Employed ICT specialists).

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

	PL81	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	21.1	10.3	4.4
Manufacturing (C)	14.6	20.1	16.4
Utilities & Construction (D-F)	8.4	10.2	8.3
Services (G-N)	48.4	52.9	63.7
Public administration (O-U)	7.5	6.5	7.2
Average number of employed persons per enterprise	3.9	4.5	5.1
GDP per capita (PPS)	16,900	25,000	32,400
GDP per capita growth (PPS)	4.6	5.3	2.5
Population density	83	121	106
Urbanisation	48.8	69.2	75.8
Population size (000s)	2,070	37,840	447,210



Podkarpackie (PL82)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	38.2	0.459	90	87
Lifelong learning	3.7	0.102	61	28
International scientific co-publications	284	0.067	47	22
Most-cited scientific publications	431.6	0.181	70	33
Above average digital skills	20.3	0.330	98	70
R&D expenditures public sector	0.31	0.318	73	56
R&D expenditures business sector	0.99	0.546	107	81
Non-R&D innovation expenditures	±	0.310	95	77
Innovation expenditures per person employed	±	0.277	93	46
Employed ICT specialists	2.1	0.207	52	39
Product innovators	±	0.279	113	50
Business process innovators	±	0.274	86	42
Innovative SMEs collaborating	±	0.292	112	60
Public-private co-publications	54.2	0.245	82	63
PCT patent applications	0.30	0.187	81	30
Trademark applications	6.04	0.408	100	82
Design applications	4.90	0.644	93	111
Employment knowledge-intensive activities	11.5	0.346	81	61
Employment innovative enterprises	±	0.372	116	65
Sales of innovative products	±	0.228	97	47
Air emissions by fine particulates	14.8	0.424	116	71
Average normalised score	--	0.309	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.311	--	--
Performance 2023 relative to EU in 2023	--	--	90.4	56.7
Performance 2023 relative to EU in 2016	--	--	--	61.5
Regional Innovation Index (RII) 2016	--	0.289	--	--
Performance 2016 relative to EU in 2016	--	--	104.5	57.2
Performance change over time	--	--	-14.1	4.3

± Scores are not shown as these would allow recalculating confidential regional CIS data.

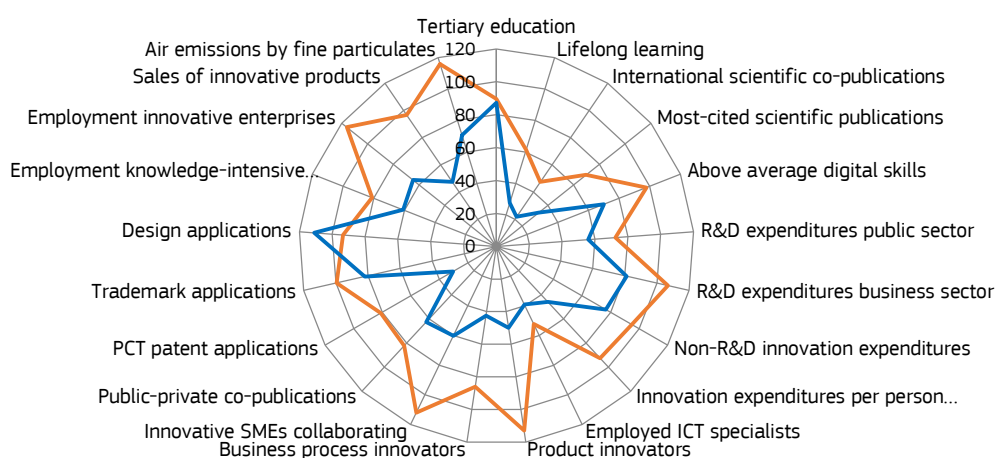
Podkarpackie (PL82) is an Emerging Innovator +. Innovation performance has increased over time (4.3%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (90.4) and the EU (56.7) in 2023, the RII in 2023 relative to the EU in 2016 (61.5), and the RII in 2016 relative to both Poland (104.5) and the EU in 2016 (57.2). The last row shows performance change between 2016 and 2023 compared to Poland (-14.1%) and to the EU (4.3%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Design applications) and weaknesses (e.g. International scientific co-publications).

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

	PL82	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	9.2	10.3	4.4
Manufacturing (C)	24.2	20.1	16.4
Utilities & Construction (D-F)	12.0	10.2	8.3
Services (G-N)	48.2	52.9	63.7
Public administration (O-U)	6.4	6.5	7.2
Average number of employed persons per enterprise	4.3	4.5	5.1
GDP per capita (PPS)	17,300	25,000	32,400
GDP per capita growth (PPS)	5.1	5.3	2.5
Population density	116	121	106
Urbanisation	50.3	69.2	75.8
Population size (000s)	2,080	37,840	447,210



— Relative to country  
— Relative to EU

Podlaskie (PL84)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	36.5	0.421	82	80
Lifelong learning	3.7	0.102	61	28
International scientific co-publications	536	0.128	91	42
Most-cited scientific publications	635.1	0.316	122	58
Above average digital skills	20.3	0.330	98	70
R&D expenditures public sector	0.53	0.450	102	79
R&D expenditures business sector	0.29	0.296	58	44
Non-R&D innovation expenditures	±	0.433	132	107
Innovation expenditures per person employed	±	0.349	116	58
Employed ICT specialists	n/a	n/a	n/a	n/a
Product innovators	±	0.260	105	47
Business process innovators	±	0.302	95	47
Innovative SMEs collaborating	±	0.269	103	55
Public-private co-publications	75.7	0.290	97	74
PCT patent applications	0.27	0.179	78	29
Trademark applications	5.43	0.367	90	74
Design applications	8.86	0.866	126	149
Employment knowledge-intensive activities	5.9	0.081	19	14
Employment innovative enterprises	±	0.305	95	53
Sales of innovative products	±	0.134	57	28
Air emissions by fine particulates	13.7	0.475	130	79
Average normalised score	--	0.318	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.319	--	--
Performance 2023 relative to EU in 2023	--	--	92.8	58.3
Performance 2023 relative to EU in 2016	--	--	--	63.2
Regional Innovation Index (RII) 2016	--	0.223	--	--
Performance 2016 relative to EU in 2016	--	--	80.6	44.2
Performance change over time	--	--	12.1	19.0

± Scores are not shown as these would allow recalculating confidential regional CIS data.

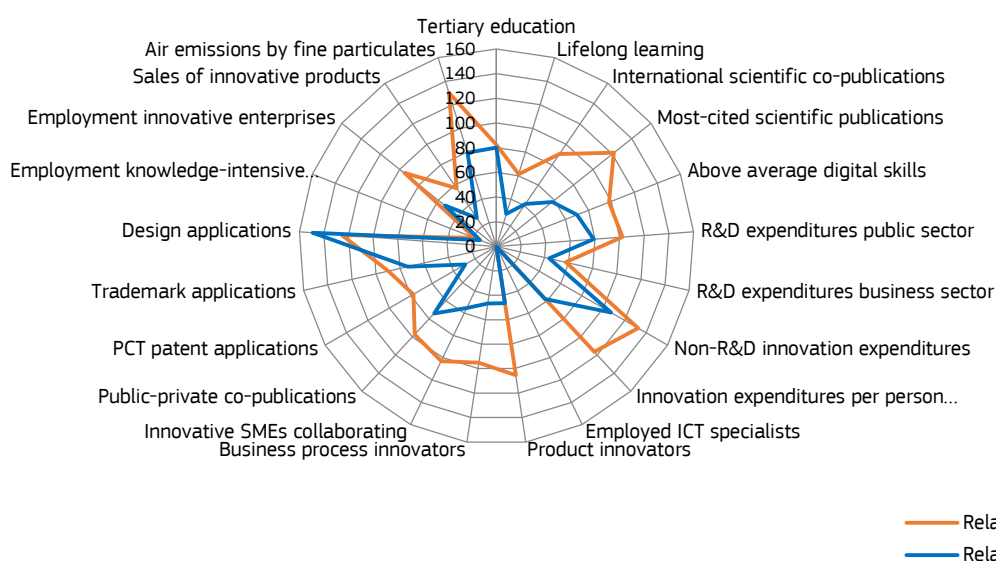
Podlaskie (PL84) is an Emerging Innovator +. Innovation performance has increased over time (19%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (92.8) and the EU (58.3) in 2023, the RII in 2023 relative to the EU in 2016 (63.2), and the RII in 2016 relative to both Poland (80.6) and the EU in 2016 (44.2). The last row shows performance change between 2016 and 2023 compared to Poland (12.1%) and to the EU (19%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Design applications) and weaknesses (e.g. Employment knowledge-intensive activities).

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

	PL84	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	19.8	10.3	4.4
Manufacturing (C)	16.5	20.1	16.4
Utilities & Construction (D-F)	9.7	10.2	8.3
Services (G-N)	46.4	52.9	63.7
Public administration (O-U)	7.7	6.5	7.2
Average number of employed persons per enterprise	3.6	4.5	5.1
GDP per capita (PPS)	18,100	25,000	32,400
GDP per capita growth (PPS)	5.3	5.3	2.5
Population density	57	121	106
Urbanisation	60.8	69.2	75.8
Population size (000s)	1,140	37,840	447,210



— Relative to country  
— Relative to EU

Warszawski stoleczny (PL91)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	64.9	1.000	195	190
Lifelong learning	10.4	0.356	214	96
International scientific co-publications	2134	0.515	365	168
Most-cited scientific publications	546.7	0.257	99	47
Above average digital skills	21.2	0.351	104	75
R&D expenditures public sector	0.70	0.533	121	94
R&D expenditures business sector	1.90	0.756	148	112
Non-R&D innovation expenditures	±	0.308	94	76
Innovation expenditures per person employed	±	0.387	129	64
Employed ICT specialists	8.8	1.000	253	190
Product innovators	±	0.349	142	63
Business process innovators	±	0.555	175	86
Innovative SMEs collaborating	±	0.402	154	83
Public-private co-publications	336.5	0.611	205	156
PCT patent applications	0.54	0.252	109	41
Trademark applications	9.81	0.665	162	133
Design applications	5.01	0.651	94	112
Employment knowledge-intensive activities	21.4	0.815	191	143
Employment innovative enterprises	±	0.486	152	85
Sales of innovative products	±	0.368	156	77
Air emissions by fine particulates	17.8	0.275	75	46
Average normalised score	--	0.519	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.521	--	--
Performance 2023 relative to EU in 2023	--	--	151.5	95.1
Performance 2023 relative to EU in 2016	--	--	--	103.2
Regional Innovation Index (RII) 2016	--	0.421	--	--
Performance 2016 relative to EU in 2016	--	--	152.1	83.3
Performance change over time	--	--	-0.5	19.9

± Scores are not shown as these would allow recalculating confidential regional CIS data.

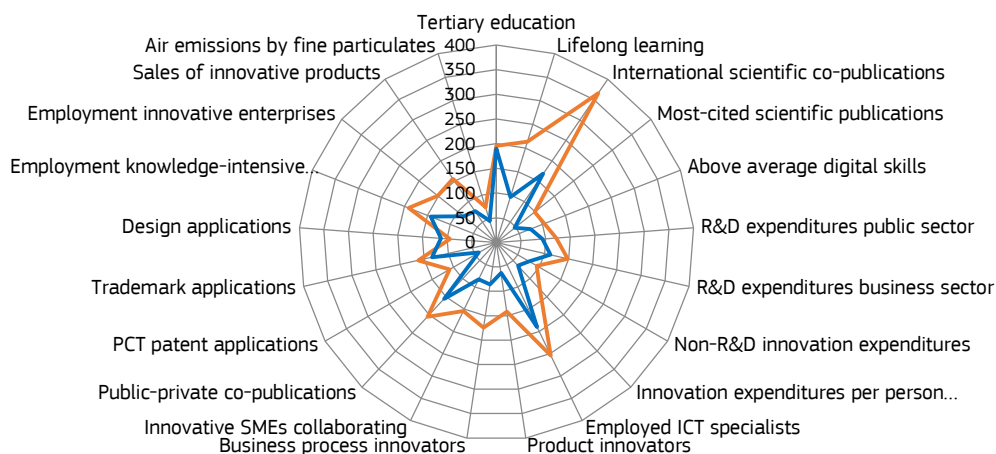
Warszawski stoleczny (PL91) is a Moderate Innovator +. Innovation performance has increased over time (19.9%).

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (151.5) and the EU (95.1) in 2023, the RII in 2023 relative to the EU in 2016 (103.2), and the RII in 2016 relative to both Poland (152.1) and the EU in 2016 (83.3). The last row shows performance change between 2016 and 2023 compared to Poland (-0.5%) and to the EU (19.9%).

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Tertiary education) and weaknesses (e.g. PCT patent applications).

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

	PL91	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	2.1	10.3	4.4
Manufacturing (C)	11.4	20.1	16.4
Utilities & Construction (D-F)	7.9	10.2	8.3
Services (G-N)	70.5	52.9	63.7
Public administration (O-U)	8.1	6.5	7.2
Average number of employed persons per enterprise	6.2	4.5	5.1
GDP per capita (PPS)	53,700	25,000	32,400
GDP per capita growth (PPS)	4.9	5.3	2.5
Population density	507	121	106
Urbanisation	89.8	69.2	75.8
Population size (000s)	3,100	37,840	447,210



— Relative to country  
— Relative to EU

Mazowiecki regionalny (PL92)

	Data	Normalised score	Relative to	
			PL	EU
Tertiary education	35.0	0.388	76	74
Lifelong learning	2.5	0.057	34	15
International scientific co-publications	65	0.014	10	4
Most-cited scientific publications	258.1	0.066	25	12
Above average digital skills	21.2	0.351	104	75
R&D expenditures public sector	0.07	0.094	22	17
R&D expenditures business sector	0.38	0.338	66	50
Non-R&D innovation expenditures	±	0.234	72	58
Innovation expenditures per person employed	±	0.168	56	28
Employed ICT specialists	n/a	n/a	n/a	n/a
Product innovators	±	0.109	44	20
Business process innovators	±	0.226	71	35
Innovative SMEs collaborating	±	0.099	38	20
Public-private co-publications	14.9	0.128	43	33
PCT patent applications	0.54	0.252	109	41
Trademark applications	2.94	0.198	48	40
Design applications	2.55	0.464	67	80
Employment knowledge-intensive activities	8.4	0.199	47	35
Employment innovative enterprises	±	0.209	65	36
Sales of innovative products	±	0.067	28	14
Air emissions by fine particulates	15.2	0.403	110	67
Average normalised score	--	0.203	--	--
Country EIS-RIS correction factor	--	1.004	--	--
Regional Innovation Index (RII) 2023	--	0.204	--	--
Performance 2023 relative to EU in 2023	--	--	59.4	37.3
Performance 2023 relative to EU in 2016	--	--	--	40.4
Regional Innovation Index (RII) 2016	--	0.183	--	--
Performance 2016 relative to EU in 2016	--	--	66.3	36.3
Performance change over time	--	--	-6.9	4.1

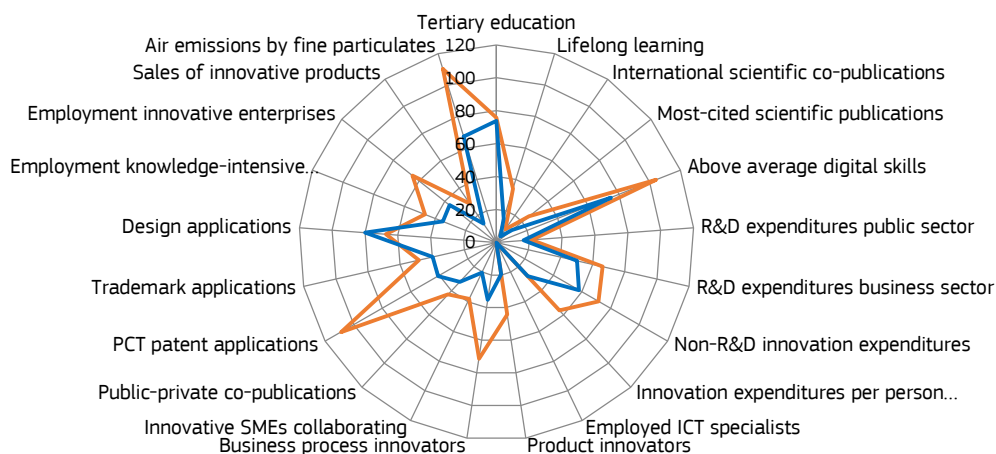
± Scores are not shown as these would allow recalculating confidential regional CIS data.

Mazowiecki regionalny (PL92) is an Emerging Innovator. Innovation performance has increased over time (4.1%). The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Poland and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Poland (59.4) and the EU (37.3) in 2023, the RII in 2023 relative to the EU in 2016 (40.4), and the RII in 2016 relative to both Poland (66.3) and the EU in 2016 (36.3). The last row shows performance change between 2016 and 2023 compared to Poland (-6.9%) and to the EU (4.1%).

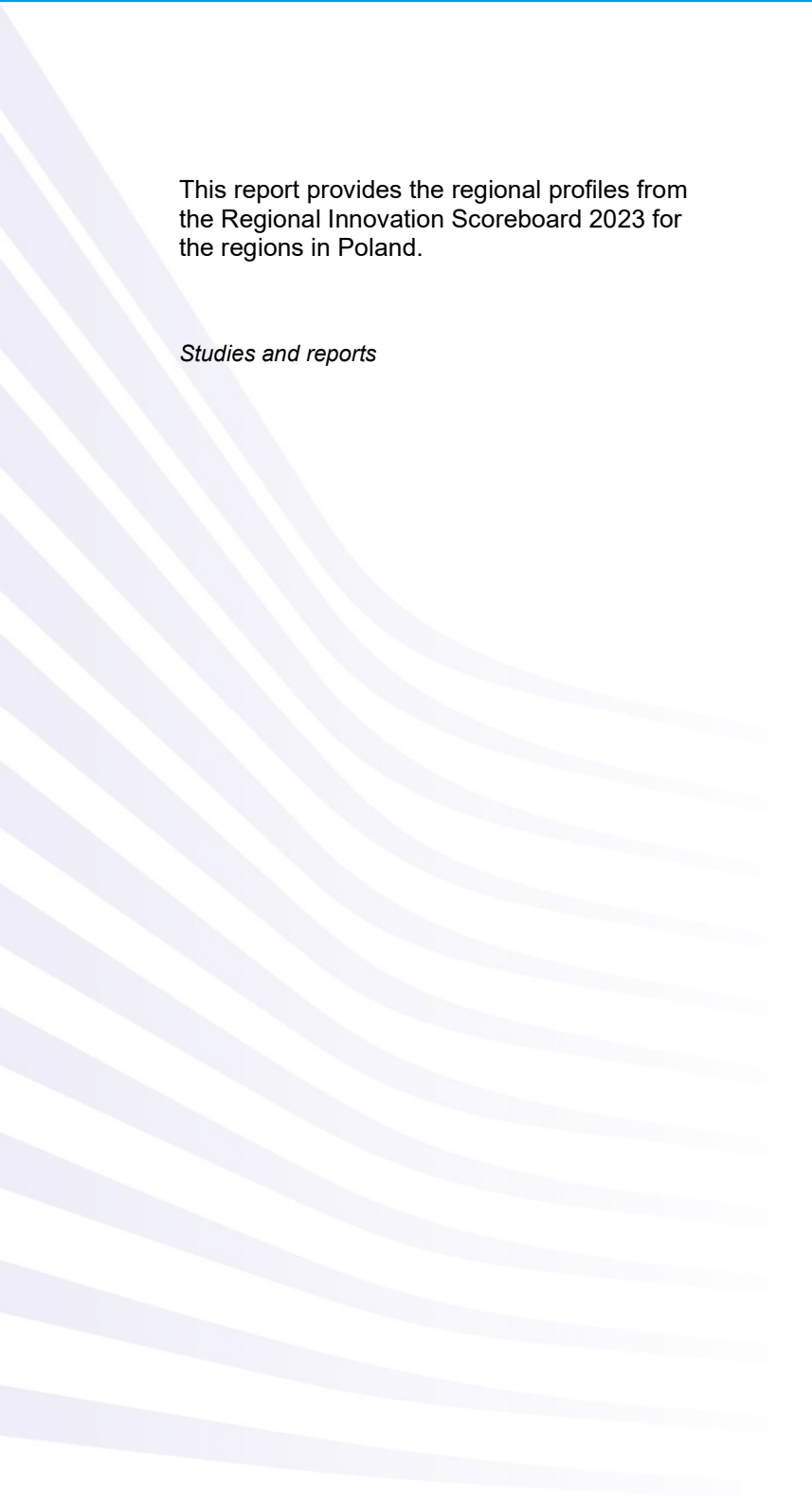

The radar graph shows relative strengths compared to Poland (orange line) and the EU (blue line), showing relative strengths (e.g. Design applications) and weaknesses (e.g. International scientific co-publications).

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

	PL92	PL	EU
Share of employment in:			
Agriculture & Mining (A-B)	18.0	10.3	4.4
Manufacturing (C)	19.3	20.1	16.4
Utilities & Construction (D-F)	10.8	10.2	8.3
Services (G-N)	45.8	52.9	63.7
Public administration (O-U)	6.1	6.5	7.2
Average number of employed persons per enterprise	3.9	4.5	5.1
GDP per capita (PPS)	21,700	25,000	32,400
GDP per capita growth (PPS)	5.7	5.3	2.5
Population density	78	121	106
Urbanisation	52.3	69.2	75.8
Population size (000s)	2,310	37,840	447,210



— Relative to country  
— Relative to EU



This report provides the regional profiles from the Regional Innovation Scoreboard 2023 for the regions in Poland.

*Studies and reports*