



European
Commission

Regional Innovation Scoreboard **2023** Regional profiles **Italy**



Innovation

Regional Innovation Scoreboard 2023 – Regional profiles Italy

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 Italy

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

Italy is a Moderate Innovator and includes 21 regions.

There are three Strong Innovators, 16 Moderate Innovators and two Emerging Innovators.

Performance has increased for all regions, and most strongly for *Marche* (ITI3) and *Abruzzo* (ITF1). For 20 regions performance has also increased at a higher rate than that of the EU (8.5), only for *Valle d'Aosta/ Vallée d'Aoste* (ITC2) the performance increase was below that of the EU.

NUTS	Region	RII	Rank	Group	Change
IT	Italy	90.3	--	Moderate Innovator	15.6
ITC1	Piemonte	95.4	118	Moderate Innovator +	17.6
ITC2	Valle d'Aosta/ Vallée d'Aoste	72.8	169	Moderate Innovator -	7.8
ITC3	Liguria	89.1	136	Moderate Innovator	17.4
ITC4	Lombardia	97.4	113	Moderate Innovator +	15.0
ITH1	Provincia Autonoma Bolzano/Bozen	88.5	139	Moderate Innovator	13.4
ITH2	Provincia Autonoma Trento	100.8	104	Strong Innovator -	13.3
ITH3	Veneto	97.9	111	Moderate Innovator +	14.7
ITH4	Friuli-Venezia Giulia	101.0	102	Strong Innovator -	13.5
ITH5	Emilia-Romagna	101.2	101	Strong Innovator -	15.8
ITI1	Toscana	93.1	124	Moderate Innovator +	12.3
ITI2	Umbria	98.0	110	Moderate Innovator +	17.9
ITI3	Marche	98.7	108	Moderate Innovator +	27.8
ITI4	Lazio	97.6	112	Moderate Innovator +	17.9
ITF1	Abruzzo	89.2	135	Moderate Innovator	26.0
ITF2	Molise	76.9	159	Moderate Innovator -	16.8
ITF3	Campania	81.0	152	Moderate Innovator	23.3
ITF4	Puglia	76.5	163	Moderate Innovator -	19.2
ITF5	Basilicata	74.4	166	Moderate Innovator -	19.8
ITF6	Calabria	74.2	167	Moderate Innovator -	20.4
ITG1	Sicilia	67.3	183	Emerging Innovator +	15.5
ITG2	Sardegna	69.4	176	Emerging Innovator +	12.3

Piemonte (ITC1)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	28.8	0.251	105	48
Lifelong learning	10.4	0.356	106	96
International scientific co-publications	1466	0.353	130	115
Most-cited scientific publications	1173.1	0.673	95	123
Above average digital skills	22.4	0.377	99	80
R&D expenditures public sector	0.44	0.400	87	70
R&D expenditures business sector	1.86	0.748	141	111
Non-R&D innovation expenditures	±	0.439	111	109
Innovation expenditures per person employed	±	0.565	95	94
Employed ICT specialists	3.9	0.441	102	84
Product innovators	±	0.691	112	124
Business process innovators	±	0.923	128	143
Innovative SMEs collaborating	±	0.502	98	103
Public-private co-publications	351.9	0.625	132	159
PCT patent applications	2.37	0.527	107	86
Trademark applications	6.78	0.459	82	92
Design applications	3.67	0.557	81	96
Employment knowledge-intensive activities	21.0	0.796	133	140
Employment innovative enterprises	±	0.703	113	122
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	18.3	0.248	60	41
Average normalised score	--	0.537	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.522	--	--
Performance 2023 relative to EU in 2023	--	--	105.5	95.4
Performance 2023 relative to EU in 2016	--	--	--	103.4
Regional Innovation Index (RII) 2016	--	0.434	--	--
Performance 2016 relative to EU in 2016	--	--	104.3	85.9
Performance change over time	--	--	1.3	17.6

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

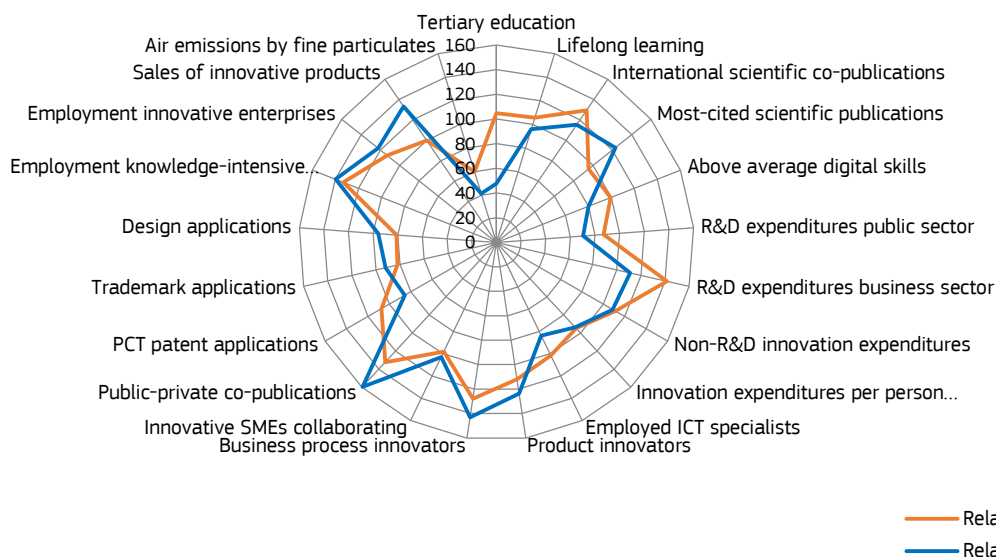
Piemonte (ITC1) is a Moderate Innovator +. Innovation performance has increased over time (17.6%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (105.5) and the EU (95.4) in 2023, the RII in 2023 relative to the EU in 2016 (103.4), and the RII in 2016 relative to both Italy (104.3) and the EU in 2016 (85.9). The last row shows performance change between 2016 and 2023 compared to Italy (1.3%) and to the EU (17.6%).

The radar graph shows relative strengths compared to Italy (orange line) and the EU (blue line), showing relative strengths (e.g. Public-private co-publications) and weaknesses (e.g. Tertiary education).

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).

	ITC1	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	3.5	4.1	4.4
Manufacturing (C)	24.0	18.6	16.4
Utilities & Construction (D-F)	7.5	7.6	8.3
Services (G-N)	60.9	64.4	63.7
Public administration (O-U)	4.0	5.3	7.2
Average number of employed persons per enterprise	4.2	3.9	5.1
GDP per capita (PPS)	32,600	30,900	32,400
GDP per capita growth (PPS)	1.5	1.8	2.5
Population density	168	196	106
Urbanisation	74.9	83.6	75.8
Population size (000s)	4,270	59,240	447,210



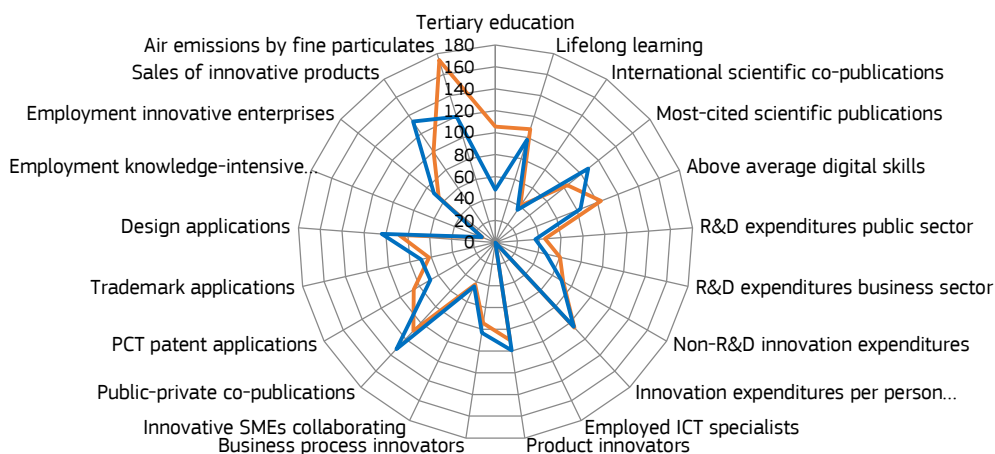
Valle d'Aosta/Vallée d'Aoste (ITC2)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	28.9	0.253	106	48
Lifelong learning	10.6	0.364	108	98
International scientific co-publications	462	0.110	40	36
Most-cited scientific publications	1048.6	0.590	84	108
Above average digital skills	23.1	0.392	103	83
R&D expenditures public sector	0.17	0.208	45	37
R&D expenditures business sector	0.34	0.320	60	47
Non-R&D innovation expenditures	±	0.281	71	70
Innovation expenditures per person employed	±	0.631	106	105
Employed ICT specialists	n/a	n/a	n/a	n/a
Product innovators	±	0.554	90	99
Business process innovators	±	0.537	74	83
Innovative SMEs collaborating	±	0.217	42	45
Public-private co-publications	243.2	0.520	110	133
PCT patent applications	1.52	0.422	86	69
Trademark applications	5.13	0.347	62	70
Design applications	4.30	0.603	88	104
Employment knowledge-intensive activities	5.8	0.076	13	13
Employment innovative enterprises	±	0.412	66	72
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	8.8	0.719	174	120
Average normalised score	--	0.410	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.398	--	--
Performance 2023 relative to EU in 2023	--	--	80.5	72.8
Performance 2023 relative to EU in 2016	--	--	--	78.9
Regional Innovation Index (RII) 2016	--	0.359	--	--
Performance 2016 relative to EU in 2016	--	--	86.4	71.1
Performance change over time	--	--	-5.8	7.8

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

Valle d'Aosta/Vallée d'Aoste (ITC2) is a Moderate Innovator -. Innovation performance has increased over time (7.8%). 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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (80.5) and the EU (72.8) in 2023, the RII in 2023 relative to the EU in 2016 (78.9), and the RII in 2016 relative to both Italy (86.4) and the EU in 2016 (71.1). The last row shows performance change between 2016 and 2023 compared to Italy (-5.8%) and to the EU (7.8%). The radar graph shows relative strengths compared to Italy (orange line) and the EU (blue line), showing relative strengths (e.g. Public-private co-publications) and weaknesses (e.g. Employment knowledge-intensive activities). The table below shows data highlighting possible structural differences, e.g. Employment in Utilities & Construction (above EU average) and Population density (below EU average).

	ITC2	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	3.2	4.1	4.4
Manufacturing (C)	9.3	18.6	16.4
Utilities & Construction (D-F)	11.5	7.6	8.3
Services (G-N)	66.3	64.4	63.7
Public administration (O-U)	9.8	5.3	7.2
Average number of employed persons per enterprise	3.3	3.9	5.1
GDP per capita (PPS)	39,200	30,900	32,400
GDP per capita growth (PPS)	1.0	1.8	2.5
Population density	38	196	106
Urbanisation	49.5	83.6	75.8
Population size (000s)	120	59,240	447,210



— Relative to country
— Relative to EU

Liguria (ITC3)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	29.1	0.257	107	49
Lifelong learning	11.8	0.409	121	110
International scientific co-publications	2090	0.505	185	165
Most-cited scientific publications	1078.0	0.610	86	112
Above average digital skills	22.6	0.382	101	81
R&D expenditures public sector	0.65	0.510	111	90
R&D expenditures business sector	0.86	0.509	96	75
Non-R&D innovation expenditures	±	0.341	86	84
Innovation expenditures per person employed	±	0.754	126	125
Employed ICT specialists	2.9	0.309	71	59
Product innovators	±	0.599	97	107
Business process innovators	±	0.699	97	108
Innovative SMEs collaborating	±	0.540	105	111
Public-private co-publications	455.9	0.711	151	181
PCT patent applications	1.74	0.451	92	73
Trademark applications	4.89	0.330	59	66
Design applications	1.12	0.308	45	53
Employment knowledge-intensive activities	15.2	0.521	87	92
Employment innovative enterprises	±	0.513	82	89
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	10.4	0.642	155	107
Average normalised score	--	0.502	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.488	--	--
Performance 2023 relative to EU in 2023	--	--	98.6	89.1
Performance 2023 relative to EU in 2016	--	--	--	96.7
Regional Innovation Index (RII) 2016	--	0.400	--	--
Performance 2016 relative to EU in 2016	--	--	96.2	79.3
Performance change over time	--	--	2.4	17.4

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

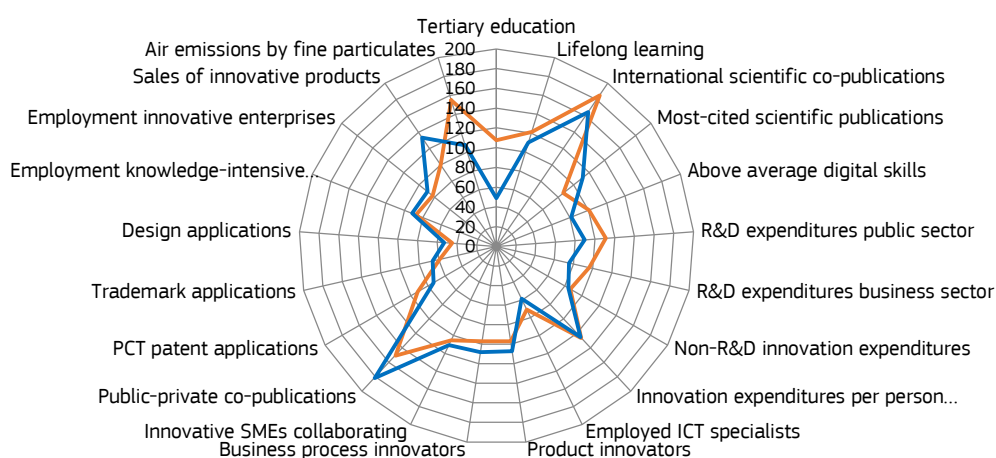
Liguria (ITC3) is a Moderate Innovator. Innovation performance has increased over time (17.4%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (98.6) and the EU (89.1) in 2023, the RII in 2023 relative to the EU in 2016 (96.7), and the RII in 2016 relative to both Italy (96.2) and the EU in 2016 (79.3). The last row shows performance change between 2016 and 2023 compared to Italy (2.4%) and to the EU (17.4%).

The radar graph shows relative strengths compared to Italy (orange line) and the EU (blue line), showing relative strengths (e.g. Public-private co-publications) and weaknesses (e.g. Tertiary education).

The table below shows data highlighting possible structural differences, e.g. Population density (above EU average) and GDP per capita growth (below EU average).

	ITC3	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	2.2	4.1	4.4
Manufacturing (C)	11.6	18.6	16.4
Utilities & Construction (D-F)	7.9	7.6	8.3
Services (G-N)	72.0	64.4	63.7
Public administration (O-U)	6.2	5.3	7.2
Average number of employed persons per enterprise	3.4	3.9	5.1
GDP per capita (PPS)	32,800	30,900	32,400
GDP per capita growth (PPS)	0.9	1.8	2.5
Population density	280	196	106
Urbanisation	89.2	83.6	75.8
Population size (000s)	1,520	59,240	447,210



— Relative to country
— Relative to EU

Lombardia (ITC4)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	30.7	0.293	122	56
Lifelong learning	10.4	0.356	106	96
International scientific co-publications	1733	0.418	153	136
Most-cited scientific publications	1366.1	0.801	114	147
Above average digital skills	23.1	0.393	103	84
R&D expenditures public sector	0.29	0.304	66	54
R&D expenditures business sector	1.07	0.568	107	84
Non-R&D innovation expenditures	±	0.362	92	89
Innovation expenditures per person employed	±	0.593	99	98
Employed ICT specialists	5.3	0.635	146	120
Product innovators	±	0.612	99	110
Business process innovators	±	0.726	101	112
Innovative SMEs collaborating	±	0.482	94	99
Public-private co-publications	390.8	0.659	139	168
PCT patent applications	2.53	0.545	111	88
Trademark applications	10.30	0.699	125	140
Design applications	7.46	0.795	116	137
Employment knowledge-intensive activities	21.9	0.839	140	148
Employment innovative enterprises	±	0.661	106	115
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	20.5	0.142	34	24
Average normalised score	--	0.549	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.533	--	--
Performance 2023 relative to EU in 2023	--	--	107.8	97.4
Performance 2023 relative to EU in 2016	--	--	--	105.7
Regional Innovation Index (RII) 2016	--	0.458	--	--
Performance 2016 relative to EU in 2016	--	--	110.1	90.7
Performance change over time	--	--	-2.3	15.0

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

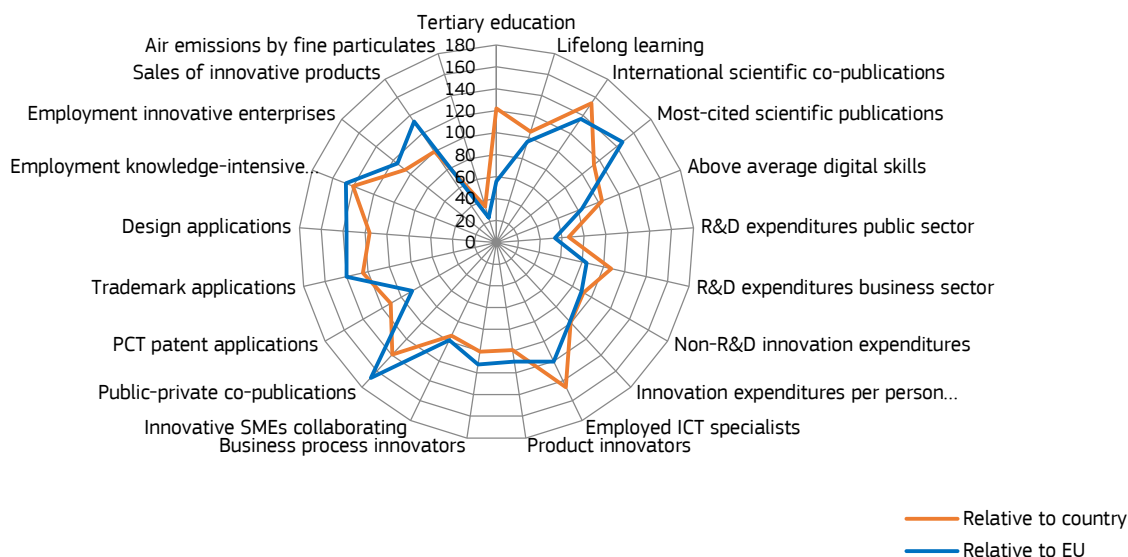
Lombardia (ITC4) is a Moderate Innovator +. Innovation performance has increased over time (15%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (107.8) and the EU (97.4) in 2023, the RII in 2023 relative to the EU in 2016 (105.7), and the RII in 2016 relative to both Italy (110.1) and the EU in 2016 (90.7). The last row shows performance change between 2016 and 2023 compared to Italy (-2.3%) and to the EU (15%).

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

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

	ITC4	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	1.7	4.1	4.4
Manufacturing (C)	24.4	18.6	16.4
Utilities & Construction (D-F)	7.1	7.6	8.3
Services (G-N)	64.2	64.4	63.7
Public administration (O-U)	2.6	5.3	7.2
Average number of employed persons per enterprise	5.1	3.9	5.1
GDP per capita (PPS)	41,400	30,900	32,400
GDP per capita growth (PPS)	2.0	1.8	2.5
Population density	418	196	106
Urbanisation	91.1	83.6	75.8
Population size (000s)	9,980	59,240	447,210



Provincia Autonoma Bolzano/Bozen (ITH1)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	24.0	0.144	60	27
Lifelong learning	8.1	0.269	80	72
International scientific co-publications	1767	0.426	157	139
Most-cited scientific publications	1116.0	0.635	90	116
Above average digital skills	22.6	0.382	101	81
R&D expenditures public sector	0.23	0.259	56	46
R&D expenditures business sector	0.54	0.403	76	60
Non-R&D innovation expenditures	±	0.424	107	105
Innovation expenditures per person employed	±	0.565	95	94
Employed ICT specialists	1.7	0.154	35	29
Product innovators	±	0.560	91	100
Business process innovators	±	0.723	100	112
Innovative SMEs collaborating	±	0.591	115	121
Public-private co-publications	777.3	0.929	197	237
PCT patent applications	1.60	0.433	88	70
Trademark applications	11.01	0.747	133	150
Design applications	4.26	0.601	88	104
Employment knowledge-intensive activities	10.3	0.289	48	51
Employment innovative enterprises	±	0.667	107	116
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	10.8	0.620	150	103
Average normalised score	--	0.498	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.484	--	--
Performance 2023 relative to EU in 2023	--	--	97.9	88.5
Performance 2023 relative to EU in 2016	--	--	--	96.0
Regional Innovation Index (RII) 2016	--	0.417	--	--
Performance 2016 relative to EU in 2016	--	--	100.2	82.6
Performance change over time	--	--	-2.3	13.4

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

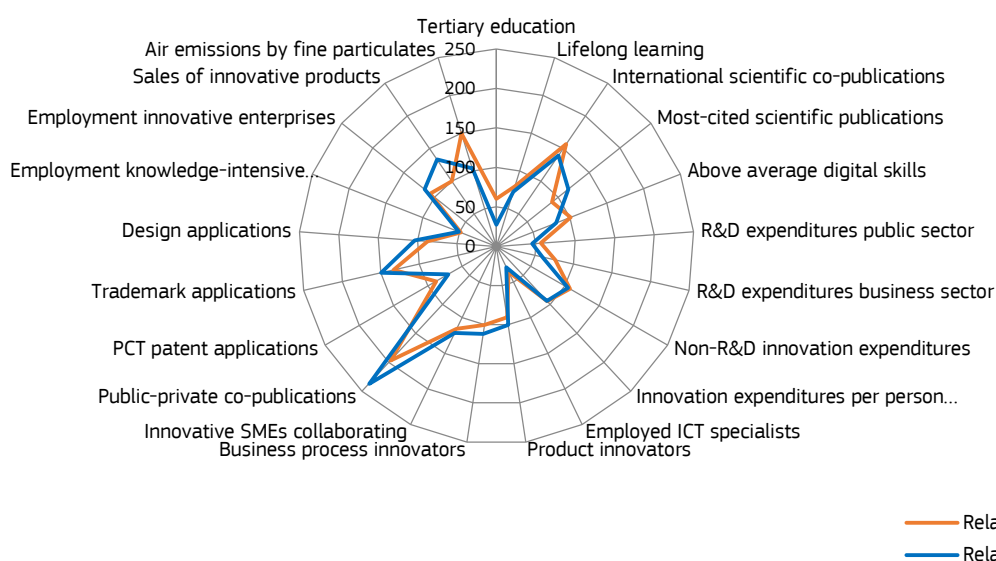
Provincia Autonoma Bolzano/Bozen (ITH1) is a Moderate Innovator. Innovation performance has increased over time (13.4%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (97.9) and the EU (88.5) in 2023, the RII in 2023 relative to the EU in 2016 (96), and the RII in 2016 relative to both Italy (100.2) and the EU in 2016 (82.6). The last row shows performance change between 2016 and 2023 compared to Italy (-2.3%) and to the EU (13.4%).

The radar graph shows relative strengths compared to Italy (orange line) and the EU (blue line), showing relative strengths (e.g. Public-private co-publications) and weaknesses (e.g. Tertiary education).

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

	ITH1	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	6.5	4.1	4.4
Manufacturing (C)	14.6	18.6	16.4
Utilities & Construction (D-F)	8.7	7.6	8.3
Services (G-N)	64.7	64.4	63.7
Public administration (O-U)	5.6	5.3	7.2
Average number of employed persons per enterprise	4.8	3.9	5.1
GDP per capita (PPS)	49,100	30,900	32,400
GDP per capita growth (PPS)	2.0	1.8	2.5
Population density	72	196	106
Urbanisation	54.6	83.6	75.8
Population size (000s)	530	59,240	447,210



Provincia Autonoma Trento (ITH2)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	31.0	0.299	125	57
Lifelong learning	14.8	0.523	155	141
International scientific co-publications	3888	0.941	345	307
Most-cited scientific publications	1267.2	0.735	104	135
Above average digital skills	23.3	0.399	105	85
R&D expenditures public sector	0.96	0.643	140	113
R&D expenditures business sector	0.62	0.432	82	64
Non-R&D innovation expenditures	±	0.450	114	111
Innovation expenditures per person employed	±	0.718	120	119
Employed ICT specialists	3.7	0.425	98	81
Product innovators	±	0.599	97	107
Business process innovators	±	0.718	100	111
Innovative SMEs collaborating	±	0.530	103	109
Public-private co-publications	621.1	0.831	176	212
PCT patent applications	1.84	0.465	95	75
Trademark applications	8.05	0.546	97	109
Design applications	1.97	0.408	59	70
Employment knowledge-intensive activities	13.5	0.441	74	78
Employment innovative enterprises	±	0.642	103	112
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	12.5	0.536	129	89
Average normalised score	--	0.568	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.552	--	--
Performance 2023 relative to EU in 2023	--	--	111.6	100.8
Performance 2023 relative to EU in 2016	--	--	--	109.3
Regional Innovation Index (RII) 2016	--	0.485	--	--
Performance 2016 relative to EU in 2016	--	--	116.6	96.0
Performance change over time	--	--	-5.0	13.3

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

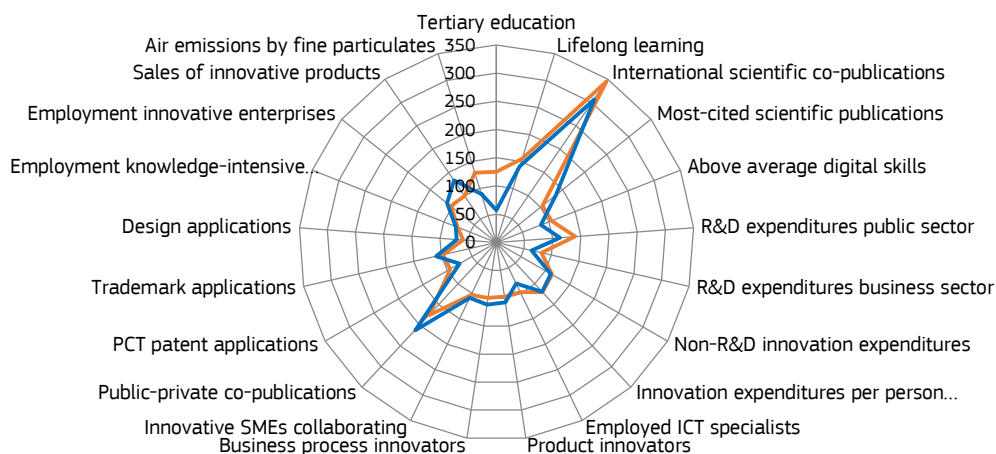
Provincia Autonoma Trento (ITH2) is a Strong Innovator -. Innovation performance has increased over time (13.3%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (111.6) and the EU (100.8) in 2023, the RII in 2023 relative to the EU in 2016 (109.3), and the RII in 2016 relative to both Italy (116.6) and the EU in 2016 (96). The last row shows performance change between 2016 and 2023 compared to Italy (-5%) and to the EU (13.3%).

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

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

	ITH2	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	4.6	4.1	4.4
Manufacturing (C)	16.4	18.6	16.4
Utilities & Construction (D-F)	8.1	7.6	8.3
Services (G-N)	64.8	64.4	63.7
Public administration (O-U)	6.2	5.3	7.2
Average number of employed persons per enterprise	4.3	3.9	5.1
GDP per capita (PPS)	40,800	30,900	32,400
GDP per capita growth (PPS)	2.5	1.8	2.5
Population density	87	196	106
Urbanisation	64.4	83.6	75.8
Population size (000s)	540	59,240	447,210



— Relative to country
— Relative to EU

Veneto (ITH3)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	33.7	0.359	150	68
Lifelong learning	10.6	0.364	108	98
International scientific co-publications	1587	0.383	140	125
Most-cited scientific publications	1276.5	0.742	105	136
Above average digital skills	22.8	0.387	102	82
R&D expenditures public sector	0.41	0.383	83	67
R&D expenditures business sector	0.96	0.538	102	80
Non-R&D innovation expenditures	±	0.428	108	106
Innovation expenditures per person employed	±	0.574	96	95
Employed ICT specialists	2.6	0.277	64	53
Product innovators	±	0.649	105	116
Business process innovators	±	0.764	106	118
Innovative SMEs collaborating	±	0.683	134	140
Public-private co-publications	304.1	0.581	123	148
PCT patent applications	2.93	0.586	119	95
Trademark applications	11.53	0.783	140	157
Design applications	11.78	0.999	145	172
Employment knowledge-intensive activities	18.0	0.654	110	115
Employment innovative enterprises	±	0.671	108	117
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	20.7	0.131	32	22
Average normalised score	--	0.551	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.536	--	--
Performance 2023 relative to EU in 2023	--	--	108.3	97.9
Performance 2023 relative to EU in 2016	--	--	--	106.2
Regional Innovation Index (RII) 2016	--	0.462	--	--
Performance 2016 relative to EU in 2016	--	--	111.1	91.5
Performance change over time	--	--	-2.7	14.7

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

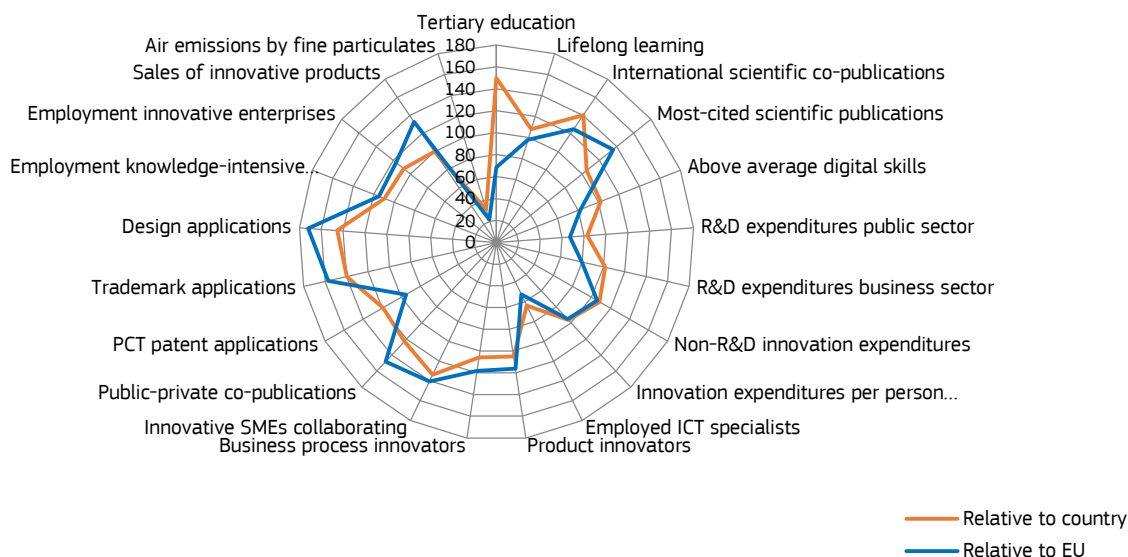
Veneto (ITH3) is a Moderate Innovator +. Innovation performance has increased over time (14.7%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (108.3) and the EU (97.9) in 2023, the RII in 2023 relative to the EU in 2016 (106.2), and the RII in 2016 relative to both Italy (111.1) and the EU in 2016 (91.5). The last row shows performance change between 2016 and 2023 compared to Italy (-2.7%) and to the EU (14.7%).

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

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).

	ITH3	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	3.2	4.1	4.4
Manufacturing (C)	27.4	18.6	16.4
Utilities & Construction (D-F)	6.6	7.6	8.3
Services (G-N)	59.3	64.4	63.7
Public administration (O-U)	3.5	5.3	7.2
Average number of employed persons per enterprise	4.4	3.9	5.1
GDP per capita (PPS)	34,500	30,900	32,400
GDP per capita growth (PPS)	1.4	1.8	2.5
Population density	265	196	106
Urbanisation	87.1	83.6	75.8
Population size (000s)	4,870	59,240	447,210



Friuli-Venezia Giulia (ITH4)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	30.2	0.282	118	54
Lifelong learning	12.3	0.428	127	115
International scientific co-publications	3008	0.728	267	237
Most-cited scientific publications	1043.8	0.587	83	107
Above average digital skills	23.0	0.390	103	83
R&D expenditures public sector	0.77	0.564	123	99
R&D expenditures business sector	0.94	0.532	101	79
Non-R&D innovation expenditures	±	0.574	145	142
Innovation expenditures per person employed	±	0.555	93	92
Employed ICT specialists	2.5	0.258	59	49
Product innovators	±	0.726	118	130
Business process innovators	±	0.788	109	122
Innovative SMEs collaborating	±	0.558	109	115
Public-private co-publications	454.5	0.710	150	181
PCT patent applications	3.36	0.628	128	102
Trademark applications	7.25	0.491	88	98
Design applications	7.40	0.792	115	136
Employment knowledge-intensive activities	16.0	0.559	94	98
Employment innovative enterprises	±	0.678	109	118
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	13.6	0.480	116	80
Average normalised score	--	0.569	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.553	--	--
Performance 2023 relative to EU in 2023	--	--	111.8	101.0
Performance 2023 relative to EU in 2016	--	--	--	109.6
Regional Innovation Index (RII) 2016	--	0.485	--	--
Performance 2016 relative to EU in 2016	--	--	116.7	96.1
Performance change over time	--	--	-4.8	13.5

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

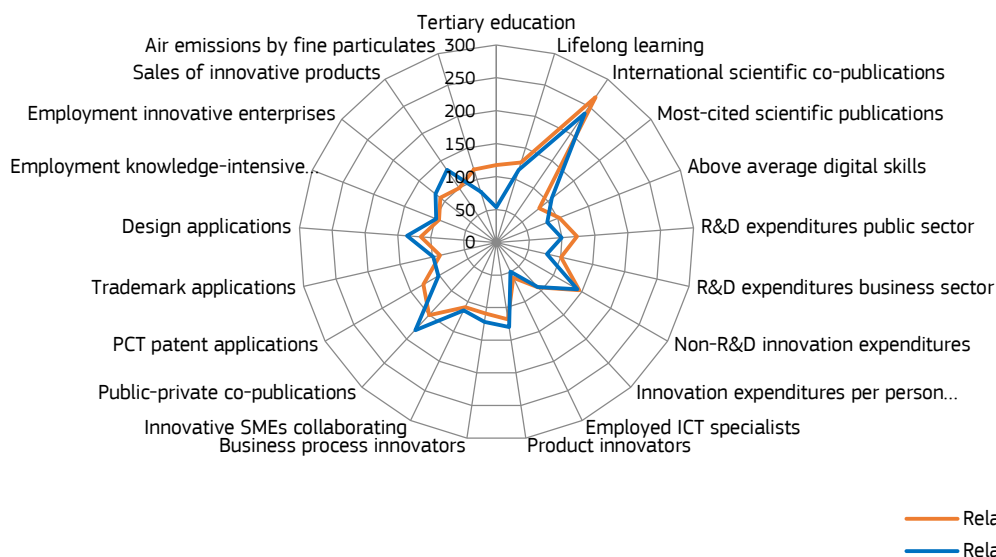
Friuli-Venezia Giulia (ITH4) is a Strong Innovator -. Innovation performance has increased over time (13.5%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (111.8) and the EU (101) in 2023, the RII in 2023 relative to the EU in 2016 (109.6), and the RII in 2016 relative to both Italy (116.7) and the EU in 2016 (96.1). The last row shows performance change between 2016 and 2023 compared to Italy (-4.8%) and to the EU (13.5%).

The radar graph shows relative strengths compared to Italy (orange line) and the EU (blue line), showing relative strengths (e.g. International scientific co-publications) and weaknesses (e.g. Employed ICT specialists).

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

	ITH4	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	3.1	4.1	4.4
Manufacturing (C)	23.6	18.6	16.4
Utilities & Construction (D-F)	7.6	7.6	8.3
Services (G-N)	59.1	64.4	63.7
Public administration (O-U)	6.6	5.3	7.2
Average number of employed persons per enterprise	4.4	3.9	5.1
GDP per capita (PPS)	33,400	30,900	32,400
GDP per capita growth (PPS)	2.1	1.8	2.5
Population density	153	196	106
Urbanisation	72.9	83.6	75.8
Population size (000s)	1,200	59,240	447,210



Emilia-Romagna (ITH5)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	34.1	0.368	154	70
Lifelong learning	12.3	0.428	127	115
International scientific co-publications	2063	0.498	183	162
Most-cited scientific publications	1166.0	0.668	95	122
Above average digital skills	23.5	0.403	106	86
R&D expenditures public sector	0.51	0.439	95	77
R&D expenditures business sector	1.62	0.699	132	104
Non-R&D innovation expenditures	±	0.381	97	94
Innovation expenditures per person employed	±	0.631	106	105
Employed ICT specialists	3.3	0.371	85	70
Product innovators	±	0.665	108	119
Business process innovators	±	0.731	101	113
Innovative SMEs collaborating	±	0.470	92	97
Public-private co-publications	457.8	0.713	151	182
PCT patent applications	3.93	0.679	138	110
Trademark applications	9.47	0.643	115	129
Design applications	8.22	0.835	122	144
Employment knowledge-intensive activities	19.9	0.744	125	131
Employment innovative enterprises	±	0.623	100	109
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	16.4	0.342	83	57
Average normalised score	--	0.570	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.554	--	--
Performance 2023 relative to EU in 2023	--	--	112.0	101.2
Performance 2023 relative to EU in 2016	--	--	--	109.8
Regional Innovation Index (RII) 2016	--	0.475	--	--
Performance 2016 relative to EU in 2016	--	--	114.1	94.0
Performance change over time	--	--	-2.1	15.8

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

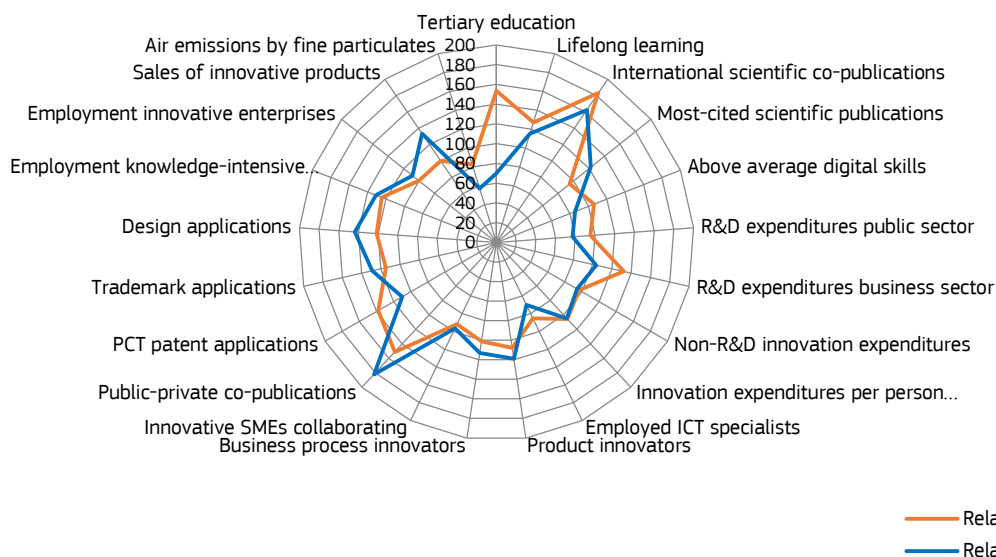
Emilia-Romagna (ITH5) is a Strong Innovator -. Innovation performance has increased over time (15.8%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (112) and the EU (101.2) in 2023, the RII in 2023 relative to the EU in 2016 (109.8), and the RII in 2016 relative to both Italy (114.1) and the EU in 2016 (94). The last row shows performance change between 2016 and 2023 compared to Italy (-2.1%) and to the EU (15.8%).

The radar graph shows relative strengths compared to Italy (orange line) and the EU (blue line), showing relative strengths (e.g. Public-private co-publications) and weaknesses (e.g. Tertiary education).

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).

	ITH5	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	3.9	4.1	4.4
Manufacturing (C)	25.3	18.6	16.4
Utilities & Construction (D-F)	6.9	7.6	8.3
Services (G-N)	60.3	64.4	63.7
Public administration (O-U)	3.7	5.3	7.2
Average number of employed persons per enterprise	4.4	3.9	5.1
GDP per capita (PPS)	37,700	30,900	32,400
GDP per capita growth (PPS)	1.7	1.8	2.5
Population density	198	196	106
Urbanisation	83.4	83.6	75.8
Population size (000s)	4,440	59,240	447,210



Toscana (IT1)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	29.2	0.259	108	49
Lifelong learning	11.0	0.379	112	102
International scientific co-publications	2298	0.555	204	181
Most-cited scientific publications	1220.1	0.704	100	129
Above average digital skills	22.8	0.386	102	82
R&D expenditures public sector	0.68	0.524	114	92
R&D expenditures business sector	0.91	0.524	99	78
Non-R&D innovation expenditures	±	0.372	94	92
Innovation expenditures per person employed	±	0.548	92	91
Employed ICT specialists	2.6	0.277	64	53
Product innovators	±	0.521	84	93
Business process innovators	±	0.562	78	87
Innovative SMEs collaborating	±	0.520	102	107
Public-private co-publications	489.5	0.737	156	188
PCT patent applications	2.28	0.517	105	84
Trademark applications	9.99	0.678	121	136
Design applications	5.75	0.698	102	120
Employment knowledge-intensive activities	14.1	0.469	79	83
Employment innovative enterprises	±	0.578	93	101
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	12.1	0.556	134	93
Average normalised score	--	0.524	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.510	--	--
Performance 2023 relative to EU in 2023	--	--	103.0	93.1
Performance 2023 relative to EU in 2016	--	--	--	100.9
Regional Innovation Index (RII) 2016	--	0.447	--	--
Performance 2016 relative to EU in 2016	--	--	107.6	88.6
Performance change over time	--	--	-4.6	12.3

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

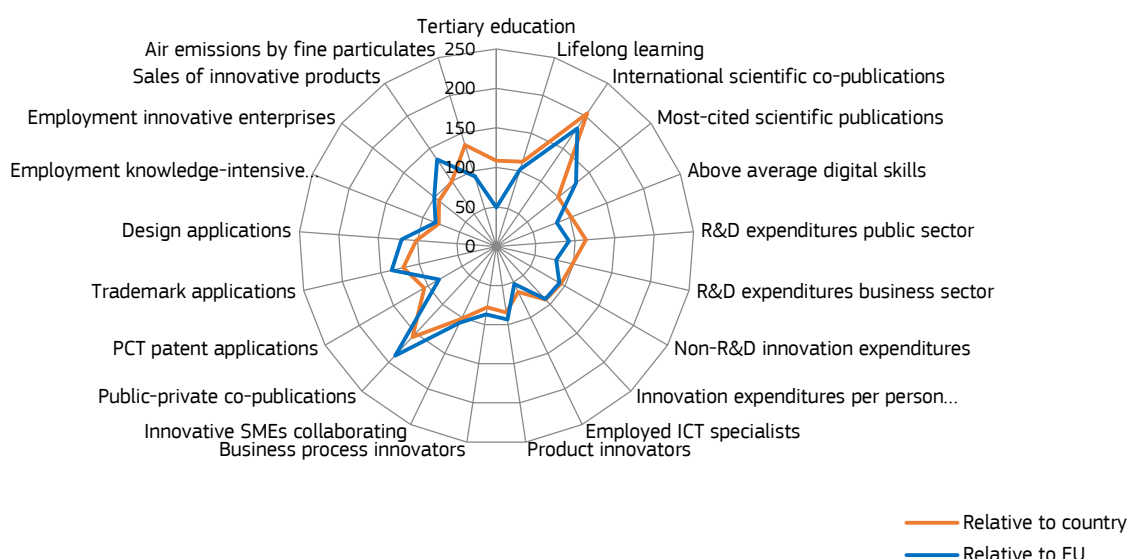
Toscana (IT1) is a Moderate Innovator +. Innovation performance has increased over time (12.3%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (103) and the EU (93.1) in 2023, the RII in 2023 relative to the EU in 2016 (100.9), and the RII in 2016 relative to both Italy (107.6) and the EU in 2016 (88.6). The last row shows performance change between 2016 and 2023 compared to Italy (-4.6%) and to the EU (12.3%).

The radar graph shows relative strengths compared to Italy (orange line) and the EU (blue line), showing relative strengths (e.g. Public-private co-publications) and weaknesses (e.g. Tertiary education).

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

	IT1	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	3.2	4.1	4.4
Manufacturing (C)	18.7	18.6	16.4
Utilities & Construction (D-F)	7.9	7.6	8.3
Services (G-N)	65.2	64.4	63.7
Public administration (O-U)	5.0	5.3	7.2
Average number of employed persons per enterprise	3.5	3.9	5.1
GDP per capita (PPS)	31,900	30,900	32,400
GDP per capita growth (PPS)	1.0	1.8	2.5
Population density	161	196	106
Urbanisation	81.0	83.6	75.8
Population size (000s)	3,690	59,240	447,210



Umbria (IT12)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	33.7	0.359	150	68
Lifelong learning	11.6	0.402	119	108
International scientific co-publications	1964	0.474	174	155
Most-cited scientific publications	1135.4	0.648	92	119
Above average digital skills	22.2	0.373	98	79
R&D expenditures public sector	0.57	0.470	102	83
R&D expenditures business sector	0.47	0.376	71	56
Non-R&D innovation expenditures	±	0.466	118	115
Innovation expenditures per person employed	±	0.629	105	104
Employed ICT specialists	3.2	0.353	81	67
Product innovators	±	0.765	124	137
Business process innovators	±	0.813	113	126
Innovative SMEs collaborating	±	0.624	122	128
Public-private co-publications	373.8	0.644	136	164
PCT patent applications	1.69	0.445	91	72
Trademark applications	6.04	0.409	73	82
Design applications	13.55	1.000	146	172
Employment knowledge-intensive activities	14.6	0.493	83	87
Employment innovative enterprises	±	0.654	105	114
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	12.2	0.549	133	92
Average normalised score	--	0.552	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.536	--	--
Performance 2023 relative to EU in 2023	--	--	108.4	98.0
Performance 2023 relative to EU in 2016	--	--	--	106.3
Regional Innovation Index (RII) 2016	--	0.446	--	--
Performance 2016 relative to EU in 2016	--	--	107.2	88.3
Performance change over time	--	--	1.2	17.9

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

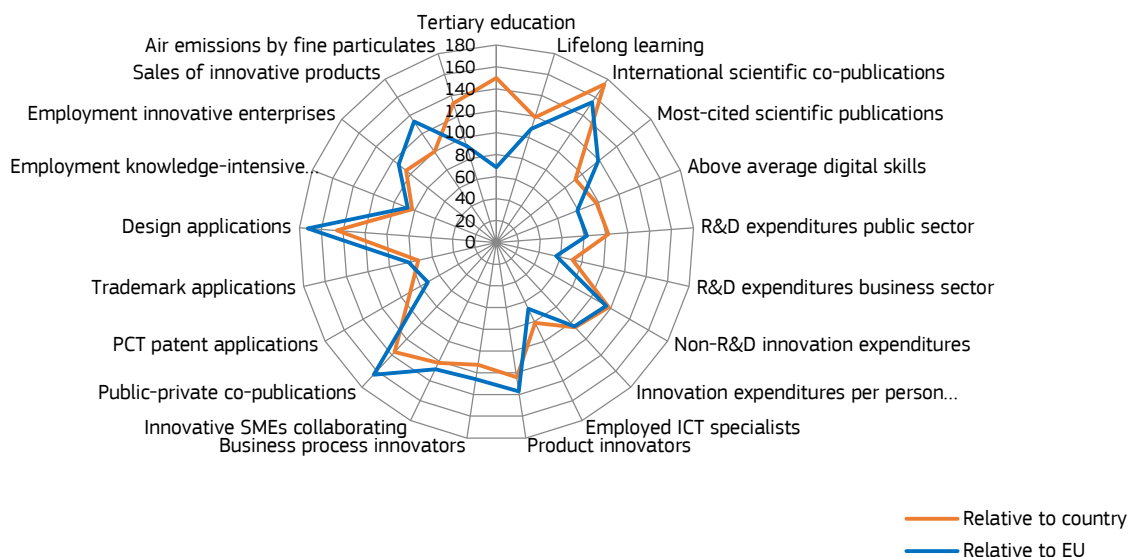
Umbria (IT12) is a Moderate Innovator +. Innovation performance has increased over time (17.9%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (108.4) and the EU (98) in 2023, the RII in 2023 relative to the EU in 2016 (106.3), and the RII in 2016 relative to both Italy (107.2) and the EU in 2016 (88.3). The last row shows performance change between 2016 and 2023 compared to Italy (1.2%) and to the EU (17.9%).

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

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

	IT12	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	3.7	4.1	4.4
Manufacturing (C)	18.6	18.6	16.4
Utilities & Construction (D-F)	8.1	7.6	8.3
Services (G-N)	64.3	64.4	63.7
Public administration (O-U)	5.3	5.3	7.2
Average number of employed persons per enterprise	3.5	3.9	5.1
GDP per capita (PPS)	27,100	30,900	32,400
GDP per capita growth (PPS)	1.8	1.8	2.5
Population density	102	196	106
Urbanisation	69.1	83.6	75.8
Population size (000s)	870	59,240	447,210



Marche (ITI3)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	30.9	0.297	124	57
Lifelong learning	10.1	0.345	102	93
International scientific co-publications	1255	0.302	111	99
Most-cited scientific publications	1142.7	0.653	93	119
Above average digital skills	22.0	0.369	97	79
R&D expenditures public sector	0.47	0.417	91	73
R&D expenditures business sector	0.55	0.407	77	60
Non-R&D innovation expenditures	±	0.505	128	125
Innovation expenditures per person employed	±	0.591	99	98
Employed ICT specialists	2.2	0.217	50	41
Product innovators	±	0.841	136	151
Business process innovators	±	0.861	119	133
Innovative SMEs collaborating	±	0.745	146	153
Public-private co-publications	271.7	0.549	116	140
PCT patent applications	1.77	0.456	93	74
Trademark applications	9.16	0.621	111	125
Design applications	13.40	1.000	146	172
Employment knowledge-intensive activities	15.6	0.540	90	95
Employment innovative enterprises	±	0.740	119	129
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	11.7	0.577	139	96
Average normalised score	--	0.556	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.541	--	--
Performance 2023 relative to EU in 2023	--	--	109.3	98.7
Performance 2023 relative to EU in 2016	--	--	--	107.1
Regional Innovation Index (RII) 2016	--	0.400	--	--
Performance 2016 relative to EU in 2016	--	--	96.2	79.2
Performance change over time	--	--	13.1	27.8

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

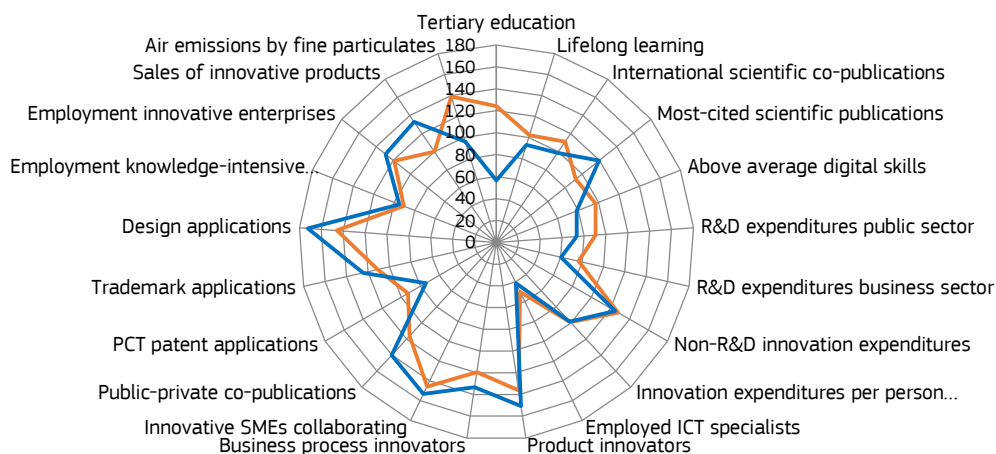
Marche (ITI3) is a Moderate Innovator +. Innovation performance has increased over time (27.8%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (109.3) and the EU (98.7) in 2023, the RII in 2023 relative to the EU in 2016 (107.1), and the RII in 2016 relative to both Italy (96.2) and the EU in 2016 (79.2). The last row shows performance change between 2016 and 2023 compared to Italy (13.1%) and to the EU (27.8%).

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

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

	ITI3	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	3.2	4.1	4.4
Manufacturing (C)	27.9	18.6	16.4
Utilities & Construction (D-F)	6.1	7.6	8.3
Services (G-N)	58.2	64.4	63.7
Public administration (O-U)	4.6	5.3	7.2
Average number of employed persons per enterprise	3.5	3.9	5.1
GDP per capita (PPS)	29,200	30,900	32,400
GDP per capita growth (PPS)	2.0	1.8	2.5
Population density	159	196	106
Urbanisation	81.0	83.6	75.8
Population size (000s)	1,500	59,240	447,210



— Relative to country
— Relative to EU

Lazio (IT14)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	32.2	0.326	136	62
Lifelong learning	11.3	0.390	116	105
International scientific co-publications	2330	0.563	207	184
Most-cited scientific publications	1174.6	0.674	96	123
Above average digital skills	23.2	0.396	104	84
R&D expenditures public sector	1.14	0.710	154	125
R&D expenditures business sector	0.79	0.488	92	72
Non-R&D innovation expenditures	±	0.307	78	76
Innovation expenditures per person employed	±	0.616	103	102
Employed ICT specialists	8.5	1.000	230	190
Product innovators	±	0.618	100	111
Business process innovators	±	0.715	99	111
Innovative SMEs collaborating	±	0.459	90	94
Public-private co-publications	464.4	0.718	152	183
PCT patent applications	1.05	0.350	71	57
Trademark applications	6.85	0.464	83	93
Design applications	1.94	0.405	59	70
Employment knowledge-intensive activities	18.7	0.687	115	121
Employment innovative enterprises	±	0.559	90	97
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	14.0	0.461	111	77
Average normalised score	--	0.550	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.535	--	--
Performance 2023 relative to EU in 2023	--	--	108.1	97.6
Performance 2023 relative to EU in 2016	--	--	--	105.9
Regional Innovation Index (RII) 2016	--	0.444	--	--
Performance 2016 relative to EU in 2016	--	--	106.9	88.0
Performance change over time	--	--	1.2	17.9

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

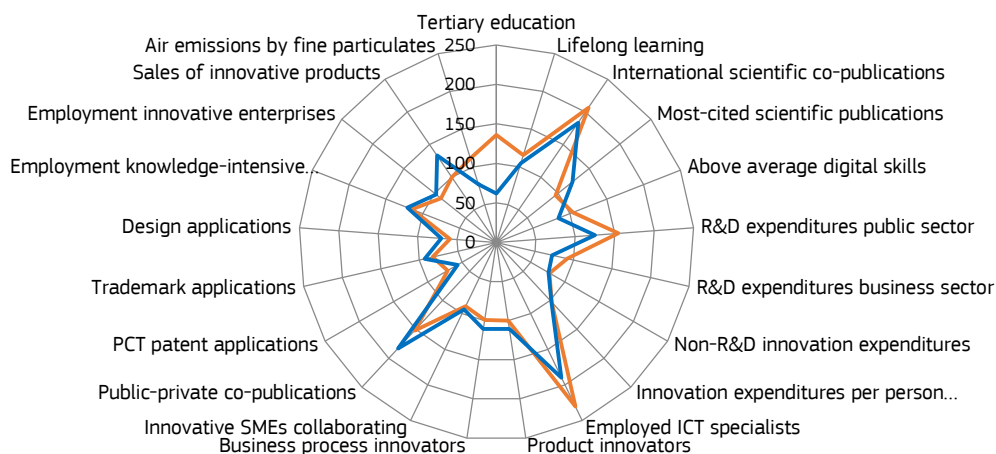
Lazio (IT14) is a Moderate Innovator +. Innovation performance has increased over time (17.9%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (108.1) and the EU (97.6) in 2023, the RII in 2023 relative to the EU in 2016 (105.9), and the RII in 2016 relative to both Italy (106.9) and the EU in 2016 (88). The last row shows performance change between 2016 and 2023 compared to Italy (1.2%) and to the EU (17.9%).

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

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

	IT14	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	2.6	4.1	4.4
Manufacturing (C)	8.0	18.6	16.4
Utilities & Construction (D-F)	6.8	7.6	8.3
Services (G-N)	73.5	64.4	63.7
Public administration (O-U)	9.1	5.3	7.2
Average number of employed persons per enterprise	4.1	3.9	5.1
GDP per capita (PPS)	35,300	30,900	32,400
GDP per capita growth (PPS)	1.1	1.8	2.5
Population density	333	196	106
Urbanisation	90.0	83.6	75.8
Population size (000s)	5,730	59,240	447,210



— Relative to country
— Relative to EU

Abruzzo (ITF1)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	30.2	0.282	118	54
Lifelong learning	9.3	0.314	93	85
International scientific co-publications	1803	0.435	160	142
Most-cited scientific publications	1325.9	0.774	110	142
Above average digital skills	22.2	0.373	98	79
R&D expenditures public sector	0.52	0.444	97	78
R&D expenditures business sector	0.48	0.380	72	56
Non-R&D innovation expenditures	±	0.488	124	121
Innovation expenditures per person employed	±	0.711	119	118
Employed ICT specialists	2.0	0.191	44	36
Product innovators	±	0.653	106	117
Business process innovators	±	0.837	116	130
Innovative SMEs collaborating	±	0.502	98	103
Public-private co-publications	326.0	0.602	127	153
PCT patent applications	1.37	0.400	82	65
Trademark applications	5.45	0.368	66	74
Design applications	1.86	0.397	58	68
Employment knowledge-intensive activities	15.5	0.536	90	94
Employment innovative enterprises	±	0.652	105	114
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	11.9	0.567	137	95
Average normalised score	--	0.502	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.488	--	--
Performance 2023 relative to EU in 2023	--	--	98.7	89.2
Performance 2023 relative to EU in 2016	--	--	--	96.7
Regional Innovation Index (RII) 2016	--	0.357	--	--
Performance 2016 relative to EU in 2016	--	--	85.9	70.7
Performance change over time	--	--	12.9	26.0

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

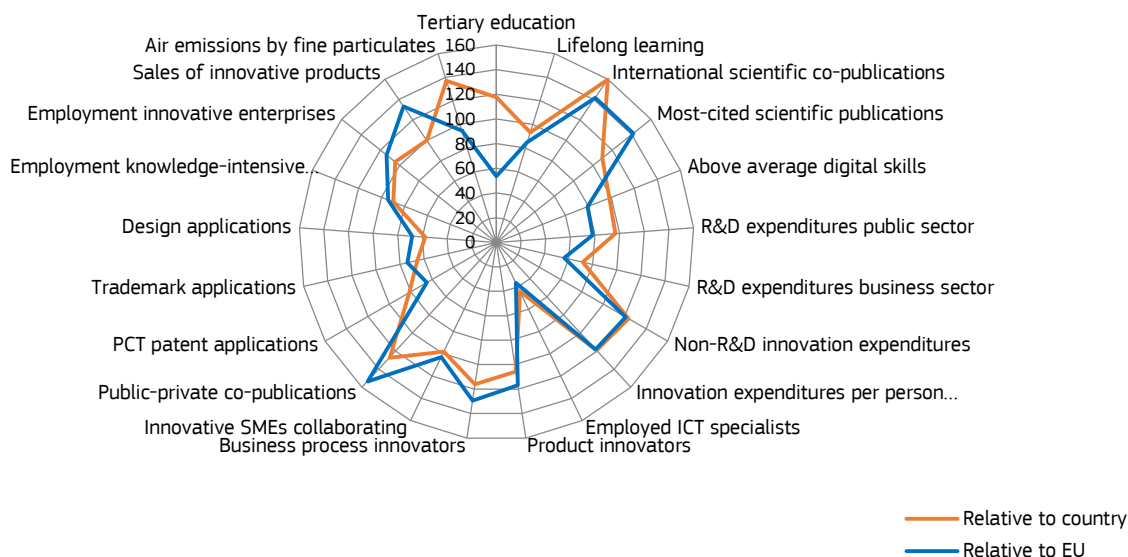
Abruzzo (ITF1) is a Moderate Innovator. Innovation performance has increased over time (26%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (98.7) and the EU (89.2) in 2023, the RII in 2023 relative to the EU in 2016 (96.7), and the RII in 2016 relative to both Italy (85.9) and the EU in 2016 (70.7). The last row shows performance change between 2016 and 2023 compared to Italy (12.9%) and to the EU (26%).

The radar graph shows relative strengths compared to Italy (orange line) and the EU (blue line), showing relative strengths (e.g. Public-private co-publications) and weaknesses (e.g. Employed ICT specialists).

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

	ITF1	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	4.5	4.1	4.4
Manufacturing (C)	19.4	18.6	16.4
Utilities & Construction (D-F)	9.5	7.6	8.3
Services (G-N)	61.4	64.4	63.7
Public administration (O-U)	5.2	5.3	7.2
Average number of employed persons per enterprise	3.2	3.9	5.1
GDP per capita (PPS)	26,300	30,900	32,400
GDP per capita growth (PPS)	1.4	1.8	2.5
Population density	118	196	106
Urbanisation	70.3	83.6	75.8
Population size (000s)	1,280	59,240	447,210



Molise (ITF2)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	31.0	0.299	125	57
Lifelong learning	9.9	0.337	100	91
International scientific co-publications	1438	0.347	127	113
Most-cited scientific publications	1094.4	0.621	88	114
Above average digital skills	21.4	0.355	93	75
R&D expenditures public sector	0.41	0.383	83	67
R&D expenditures business sector	0.62	0.432	82	64
Non-R&D innovation expenditures	±	0.475	120	118
Innovation expenditures per person employed	±	0.626	105	104
Employed ICT specialists	n/a	n/a	n/a	n/a
Product innovators	±	0.346	56	62
Business process innovators	±	0.436	60	68
Innovative SMEs collaborating	±	0.575	112	118
Public-private co-publications	455.2	0.711	150	181
PCT patent applications	0.89	0.322	66	52
Trademark applications	4.00	0.270	48	54
Design applications	0.48	0.202	29	35
Employment knowledge-intensive activities	12.9	0.412	69	73
Employment innovative enterprises	±	0.268	43	47
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	11.1	0.605	146	101
Average normalised score	--	0.433	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.421	--	--
Performance 2023 relative to EU in 2023	--	--	85.1	76.9
Performance 2023 relative to EU in 2016	--	--	--	83.4
Regional Innovation Index (RII) 2016	--	0.337	--	--
Performance 2016 relative to EU in 2016	--	--	80.9	66.7
Performance change over time	--	--	4.2	16.8

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

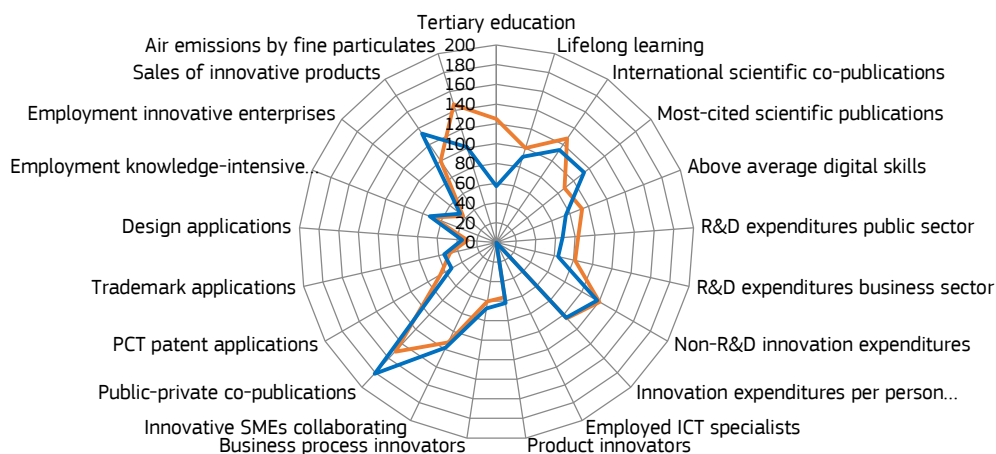
Molise (ITF2) is a Moderate Innovator -. Innovation performance has increased over time (16.8%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (85.1) and the EU (76.9) in 2023, the RII in 2023 relative to the EU in 2016 (83.4), and the RII in 2016 relative to both Italy (80.9) and the EU in 2016 (66.7). The last row shows performance change between 2016 and 2023 compared to Italy (4.2%) and to the EU (16.8%).

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

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

	ITF2	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	7.0	4.1	4.4
Manufacturing (C)	16.5	18.6	16.4
Utilities & Construction (D-F)	8.4	7.6	8.3
Services (G-N)	60.4	64.4	63.7
Public administration (O-U)	7.7	5.3	7.2
Average number of employed persons per enterprise	2.6	3.9	5.1
GDP per capita (PPS)	22,500	30,900	32,400
GDP per capita growth (PPS)	2.4	1.8	2.5
Population density	66	196	106
Urbanisation	55.0	83.6	75.8
Population size (000s)	290	59,240	447,210



— Relative to country
— Relative to EU

Campania (ITF3)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	23.7	0.137	57	26
Lifelong learning	7.2	0.235	70	63
International scientific co-publications	1303	0.314	115	102
Most-cited scientific publications	1315.6	0.767	109	140
Above average digital skills	22.2	0.372	98	79
R&D expenditures public sector	0.68	0.524	114	92
R&D expenditures business sector	0.63	0.436	82	65
Non-R&D innovation expenditures	±	0.462	117	114
Innovation expenditures per person employed	±	0.650	109	108
Employed ICT specialists	3.0	0.332	76	63
Product innovators	±	0.548	89	98
Business process innovators	±	0.624	87	97
Innovative SMEs collaborating	±	0.341	67	70
Public-private co-publications	309.2	0.586	124	149
PCT patent applications	0.98	0.340	69	55
Trademark applications	6.72	0.455	81	91
Design applications	1.57	0.365	53	63
Employment knowledge-intensive activities	13.0	0.417	70	73
Employment innovative enterprises	±	0.550	88	96
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	13.5	0.488	118	81
Average normalised score	--	0.456	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.444	--	--
Performance 2023 relative to EU in 2023	--	--	89.7	81.0
Performance 2023 relative to EU in 2016	--	--	--	87.9
Regional Innovation Index (RII) 2016	--	0.326	--	--
Performance 2016 relative to EU in 2016	--	--	78.4	64.6
Performance change over time	--	--	11.3	23.3

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

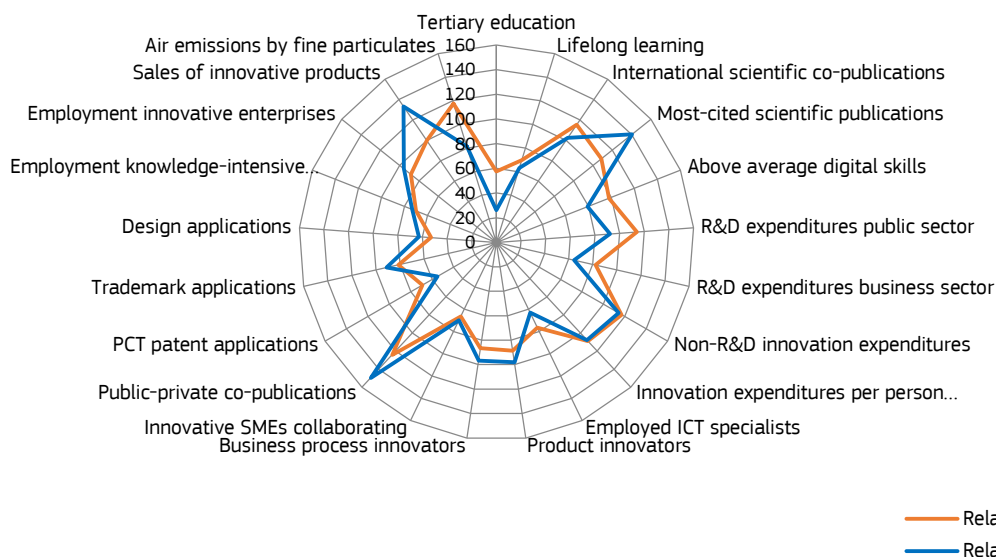
Campania (ITF3) is a Moderate Innovator. Innovation performance has increased over time (23.3%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (89.7) and the EU (81) in 2023, the RII in 2023 relative to the EU in 2016 (87.9), and the RII in 2016 relative to both Italy (78.4) and the EU in 2016 (64.6). The last row shows performance change between 2016 and 2023 compared to Italy (11.3%) and to the EU (23.3%).

The radar graph shows relative strengths compared to Italy (orange line) and the EU (blue line), showing relative strengths (e.g. Public-private co-publications) and weaknesses (e.g. Tertiary education).

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

	ITF3	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	4.3	4.1	4.4
Manufacturing (C)	13.2	18.6	16.4
Utilities & Construction (D-F)	8.5	7.6	8.3
Services (G-N)	67.7	64.4	63.7
Public administration (O-U)	6.3	5.3	7.2
Average number of employed persons per enterprise	3.0	3.9	5.1
GDP per capita (PPS)	20,100	30,900	32,400
GDP per capita growth (PPS)	2.0	1.8	2.5
Population density	411	196	106
Urbanisation	85.1	83.6	75.8
Population size (000s)	5,620	59,240	447,210



Puglia (ITF4)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	23.2	0.126	53	24
Lifelong learning	7.4	0.242	72	65
International scientific co-publications	1015	0.244	90	80
Most-cited scientific publications	1254.4	0.727	103	133
Above average digital skills	21.1	0.348	92	74
R&D expenditures public sector	0.44	0.400	87	70
R&D expenditures business sector	0.40	0.347	66	51
Non-R&D innovation expenditures	±	0.444	113	110
Innovation expenditures per person employed	±	0.502	84	83
Employed ICT specialists	2.1	0.207	48	39
Product innovators	±	0.553	90	99
Business process innovators	±	0.655	91	101
Innovative SMEs collaborating	±	0.402	78	82
Public-private co-publications	225.3	0.500	106	128
PCT patent applications	0.75	0.297	60	48
Trademark applications	6.96	0.472	84	95
Design applications	3.82	0.569	83	98
Employment knowledge-intensive activities	10.9	0.318	53	56
Employment innovative enterprises	±	0.526	85	92
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	12.6	0.533	129	89
Average normalised score	--	0.431	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.419	--	--
Performance 2023 relative to EU in 2023	--	--	84.7	76.5
Performance 2023 relative to EU in 2016	--	--	--	83.0
Regional Innovation Index (RII) 2016	--	0.322	--	--
Performance 2016 relative to EU in 2016	--	--	77.5	63.8
Performance change over time	--	--	7.3	19.2

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

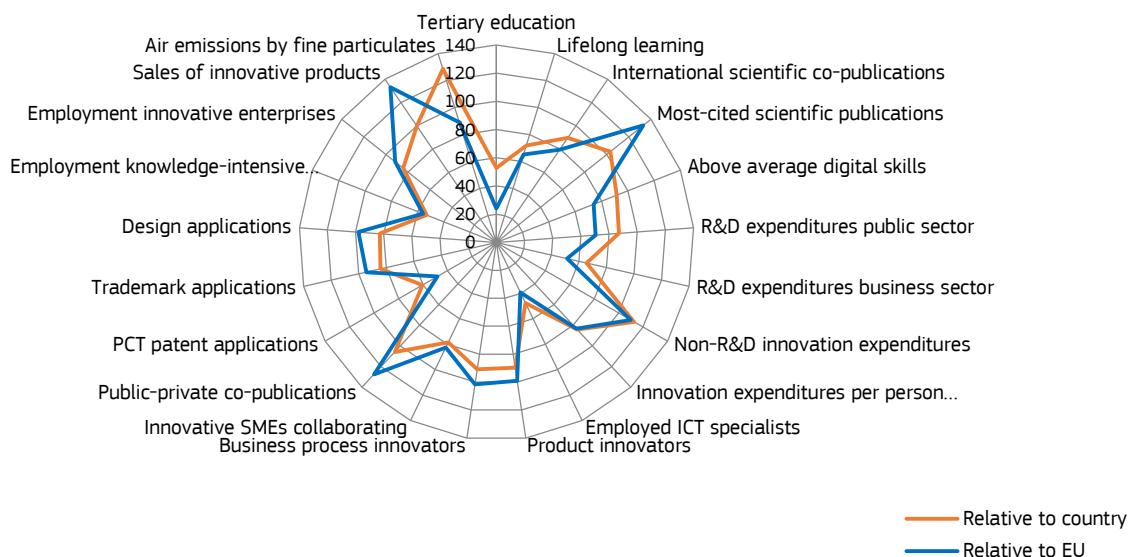
Puglia (ITF4) is a Moderate Innovator -. Innovation performance has increased over time (19.2%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (84.7) and the EU (76.5) in 2023, the RII in 2023 relative to the EU in 2016 (83), and the RII in 2016 relative to both Italy (77.5) and the EU in 2016 (63.8). The last row shows performance change between 2016 and 2023 compared to Italy (7.3%) and to the EU (19.2%).

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

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).

	ITF4	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	8.9	4.1	4.4
Manufacturing (C)	13.3	18.6	16.4
Utilities & Construction (D-F)	8.6	7.6	8.3
Services (G-N)	62.4	64.4	63.7
Public administration (O-U)	6.8	5.3	7.2
Average number of employed persons per enterprise	3.0	3.9	5.1
GDP per capita (PPS)	20,300	30,900	32,400
GDP per capita growth (PPS)	2.2	1.8	2.5
Population density	201	196	106
Urbanisation	95.8	83.6	75.8
Population size (000s)	3,930	59,240	447,210



Basilicata (ITF5)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	27.4	0.220	92	42
Lifelong learning	9.5	0.322	96	87
International scientific co-publications	813	0.195	72	64
Most-cited scientific publications	1088.5	0.617	87	113
Above average digital skills	21.6	0.359	95	76
R&D expenditures public sector	0.51	0.439	95	77
R&D expenditures business sector	0.16	0.220	41	33
Non-R&D innovation expenditures	±	0.577	146	143
Innovation expenditures per person employed	±	0.395	66	66
Employed ICT specialists	2.4	0.244	56	46
Product innovators	±	0.291	47	52
Business process innovators	±	0.570	79	88
Innovative SMEs collaborating	±	0.629	123	129
Public-private co-publications	203.3	0.475	101	121
PCT patent applications	0.44	0.226	46	37
Trademark applications	4.26	0.287	51	58
Design applications	4.63	0.626	91	108
Employment knowledge-intensive activities	14.1	0.469	79	83
Employment innovative enterprises	±	0.343	55	60
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	10.1	0.654	158	109
Average normalised score	--	0.419	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.407	--	--
Performance 2023 relative to EU in 2023	--	--	82.4	74.4
Performance 2023 relative to EU in 2016	--	--	--	80.7
Regional Innovation Index (RII) 2016	--	0.308	--	--
Performance 2016 relative to EU in 2016	--	--	74.0	60.9
Performance change over time	--	--	8.4	19.8

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

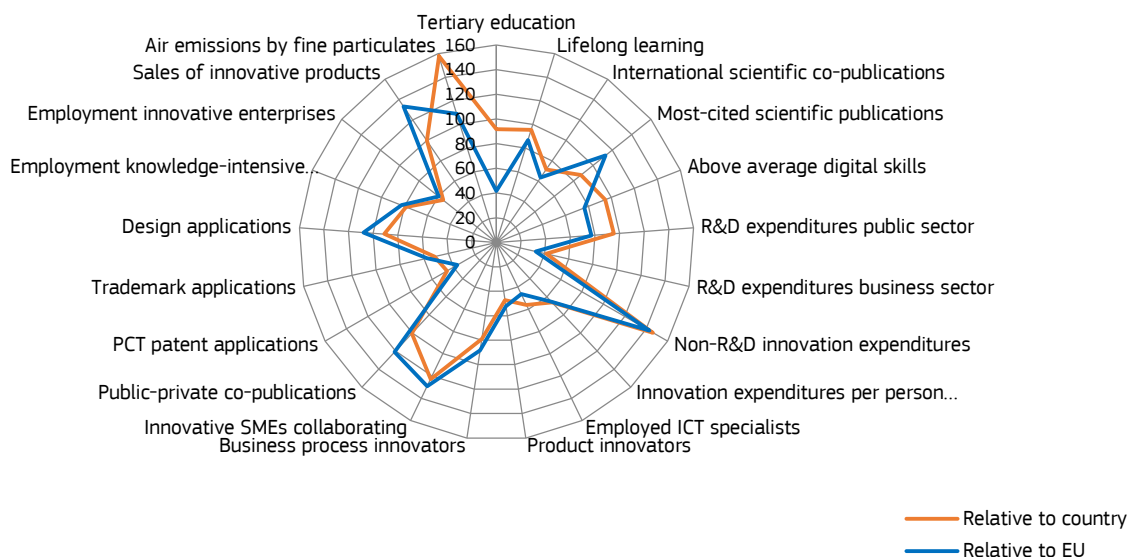
Basilicata (ITF5) is a Moderate Innovator -. Innovation performance has increased over time (19.8%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (82.4) and the EU (74.4) in 2023, the RII in 2023 relative to the EU in 2016 (80.7), and the RII in 2016 relative to both Italy (74) and the EU in 2016 (60.9). The last row shows performance change between 2016 and 2023 compared to Italy (8.4%) and to the EU (19.8%).

The radar graph shows relative strengths compared to Italy (orange line) and the EU (blue line), showing relative strengths (e.g. Non-R&D innovation expenditures) 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 EU average) and Population density (below EU average).

	ITF5	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	9.0	4.1	4.4
Manufacturing (C)	15.1	18.6	16.4
Utilities & Construction (D-F)	10.5	7.6	8.3
Services (G-N)	58.3	64.4	63.7
Public administration (O-U)	7.0	5.3	7.2
Average number of employed persons per enterprise	2.9	3.9	5.1
GDP per capita (PPS)	24,500	30,900	32,400
GDP per capita growth (PPS)	2.8	1.8	2.5
Population density	54	196	106
Urbanisation	50.1	83.6	75.8
Population size (000s)	550	59,240	447,210



Calabria (ITF6)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	22.9	0.120	50	23
Lifelong learning	7.8	0.258	76	69
International scientific co-publications	879	0.211	77	69
Most-cited scientific publications	1467.9	0.868	123	159
Above average digital skills	21.3	0.352	93	75
R&D expenditures public sector	0.45	0.406	88	71
R&D expenditures business sector	0.17	0.226	43	34
Non-R&D innovation expenditures	±	0.399	101	99
Innovation expenditures per person employed	±	0.899	151	149
Employed ICT specialists	1.6	0.145	33	27
Product innovators	±	0.498	81	89
Business process innovators	±	0.760	105	118
Innovative SMEs collaborating	±	0.527	103	108
Public-private co-publications	161.1	0.423	89	108
PCT patent applications	0.63	0.271	55	44
Trademark applications	3.22	0.216	39	43
Design applications	0.50	0.205	30	35
Employment knowledge-intensive activities	8.0	0.180	30	32
Employment innovative enterprises	±	0.502	81	87
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	9.9	0.664	160	111
Average normalised score	--	0.418	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.406	--	--
Performance 2023 relative to EU in 2023	--	--	82.1	74.2
Performance 2023 relative to EU in 2016	--	--	--	80.4
Regional Innovation Index (RII) 2016	--	0.303	--	--
Performance 2016 relative to EU in 2016	--	--	73.0	60.1
Performance change over time	--	--	9.1	20.4

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

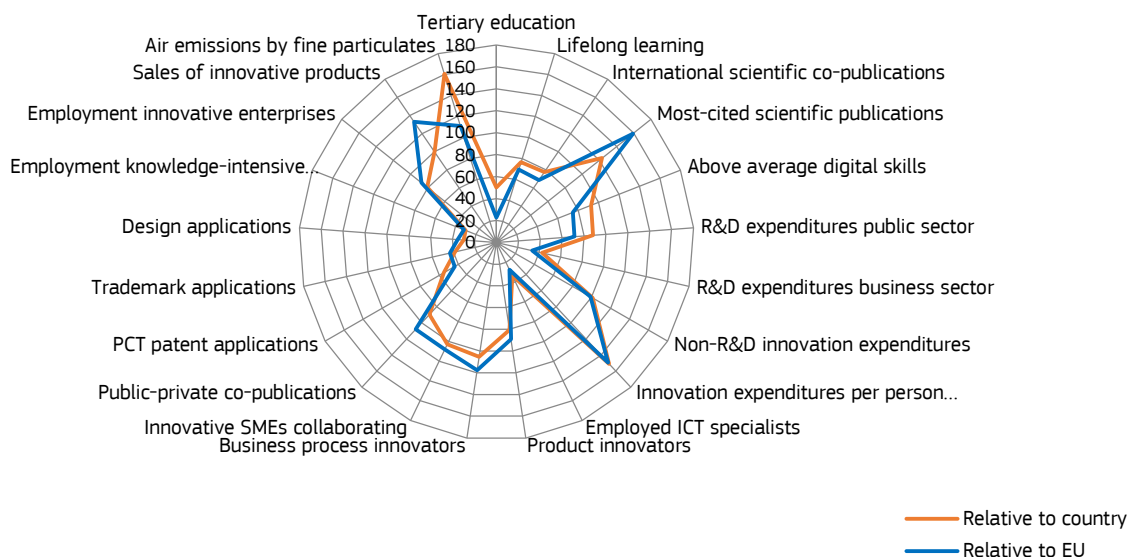
Calabria (ITF6) is a Moderate Innovator -. Innovation performance has increased over time (20.4%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (82.1) and the EU (74.2) in 2023, the RII in 2023 relative to the EU in 2016 (80.4), and the RII in 2016 relative to both Italy (73) and the EU in 2016 (60.1). The last row shows performance change between 2016 and 2023 compared to Italy (9.1%) and to the EU (20.4%).

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

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

	ITF6	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	13.0	4.1	4.4
Manufacturing (C)	5.9	18.6	16.4
Utilities & Construction (D-F)	9.2	7.6	8.3
Services (G-N)	64.5	64.4	63.7
Public administration (O-U)	7.4	5.3	7.2
Average number of employed persons per enterprise	2.4	3.9	5.1
GDP per capita (PPS)	18,100	30,900	32,400
GDP per capita growth (PPS)	1.3	1.8	2.5
Population density	122	196	106
Urbanisation	69.1	83.6	75.8
Population size (000s)	1,860	59,240	447,210



Sicilia (ITG1)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	20.1	0.058	24	11
Lifelong learning	7.1	0.231	69	62
International scientific co-publications	1004	0.242	89	79
Most-cited scientific publications	1128.3	0.643	91	118
Above average digital skills	21.2	0.350	92	75
R&D expenditures public sector	0.55	0.460	100	81
R&D expenditures business sector	0.34	0.320	60	47
Non-R&D innovation expenditures	±	0.488	124	121
Innovation expenditures per person employed	±	0.484	81	80
Employed ICT specialists	2.0	0.199	46	38
Product innovators	±	0.472	76	84
Business process innovators	±	0.475	66	73
Innovative SMEs collaborating	±	0.406	79	83
Public-private co-publications	203.8	0.476	101	121
PCT patent applications	0.62	0.269	55	44
Trademark applications	4.05	0.274	49	55
Design applications	0.88	0.273	40	47
Employment knowledge-intensive activities	9.7	0.261	44	46
Employment innovative enterprises	±	0.306	49	53
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	10.5	0.633	153	106
Average normalised score	--	0.379	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.369	--	--
Performance 2023 relative to EU in 2023	--	--	74.5	67.3
Performance 2023 relative to EU in 2016	--	--	--	73.0
Regional Innovation Index (RII) 2016	--	0.290	--	--
Performance 2016 relative to EU in 2016	--	--	69.8	57.5
Performance change over time	--	--	4.7	15.5

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

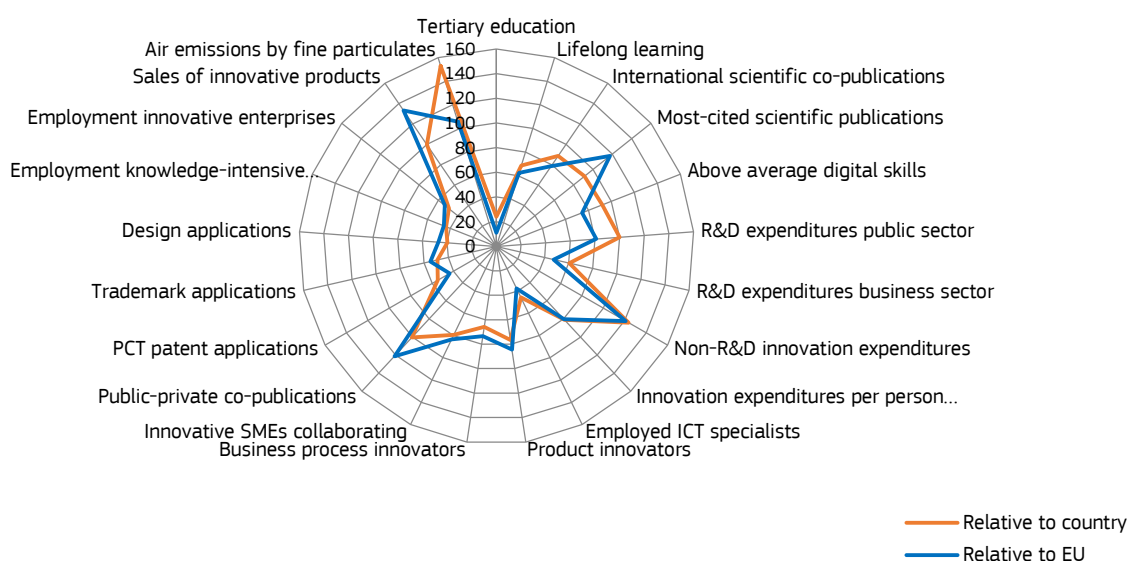
Sicilia (ITG1) is an Emerging Innovator +. Innovation performance has increased over time (15.5%).

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 Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (74.5) and the EU (67.3) in 2023, the RII in 2023 relative to the EU in 2016 (73), and the RII in 2016 relative to both Italy (69.8) and the EU in 2016 (57.5). The last row shows performance change between 2016 and 2023 compared to Italy (4.7%) and to the EU (15.5%).

The radar graph shows relative strengths compared to Italy (orange line) and the EU (blue line), showing relative strengths (e.g. Public-private co-publications) and weaknesses (e.g. Tertiary education).

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

	ITG1	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	8.8	4.1	4.4
Manufacturing (C)	7.3	18.6	16.4
Utilities & Construction (D-F)	8.3	7.6	8.3
Services (G-N)	66.2	64.4	63.7
Public administration (O-U)	9.3	5.3	7.2
Average number of employed persons per enterprise	2.7	3.9	5.1
GDP per capita (PPS)	18,800	30,900	32,400
GDP per capita growth (PPS)	1.4	1.8	2.5
Population density	187	196	106
Urbanisation	88.3	83.6	75.8
Population size (000s)	4,830	59,240	447,210



Sardegna (ITG2)

	Data	Normalised score	Relative to	
			IT	EU
Tertiary education	22.3	0.106	44	20
Lifelong learning	11.1	0.383	113	103
International scientific co-publications	1308	0.315	116	103
Most-cited scientific publications	1068.6	0.604	86	110
Above average digital skills	22.5	0.380	100	81
R&D expenditures public sector	0.76	0.560	122	98
R&D expenditures business sector	0.14	0.205	39	30
Non-R&D innovation expenditures	±	0.261	66	64
Innovation expenditures per person employed	±	0.523	88	87
Employed ICT specialists	2.2	0.227	52	43
Product innovators	±	0.384	62	69
Business process innovators	±	0.630	87	98
Innovative SMEs collaborating	±	0.354	69	73
Public-private co-publications	243.8	0.520	110	133
PCT patent applications	0.48	0.237	48	38
Trademark applications	5.05	0.342	61	68
Design applications	0.63	0.231	34	40
Employment knowledge-intensive activities	8.5	0.204	34	36
Employment innovative enterprises	±	0.377	61	66
Sales of innovative products	±	0.641	100	133
Air emissions by fine particulates	8.6	0.729	176	122
Average normalised score	--	0.391	--	--
Country EIS-RIS correction factor	--	0.972	--	--
Regional Innovation Index (RII) 2023	--	0.380	--	--
Performance 2023 relative to EU in 2023	--	--	76.9	69.4
Performance 2023 relative to EU in 2016	--	--	--	75.3
Regional Innovation Index (RII) 2016	--	0.318	--	--
Performance 2016 relative to EU in 2016	--	--	76.5	63.0
Performance change over time	--	--	0.3	12.3

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

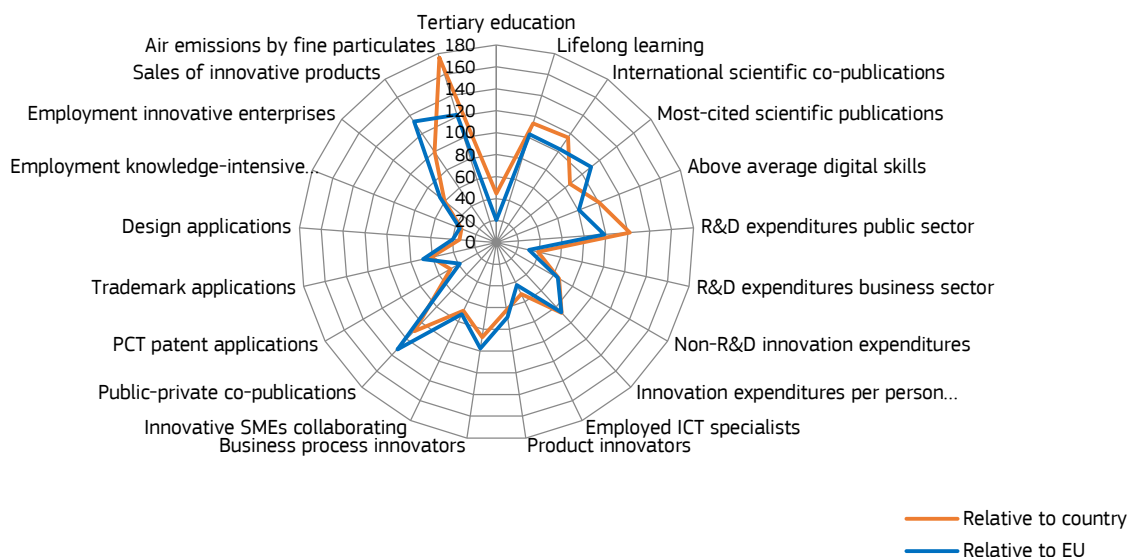
Sardegna (ITG2) is an Emerging Innovator +. Innovation performance has increased over time (12.3%).

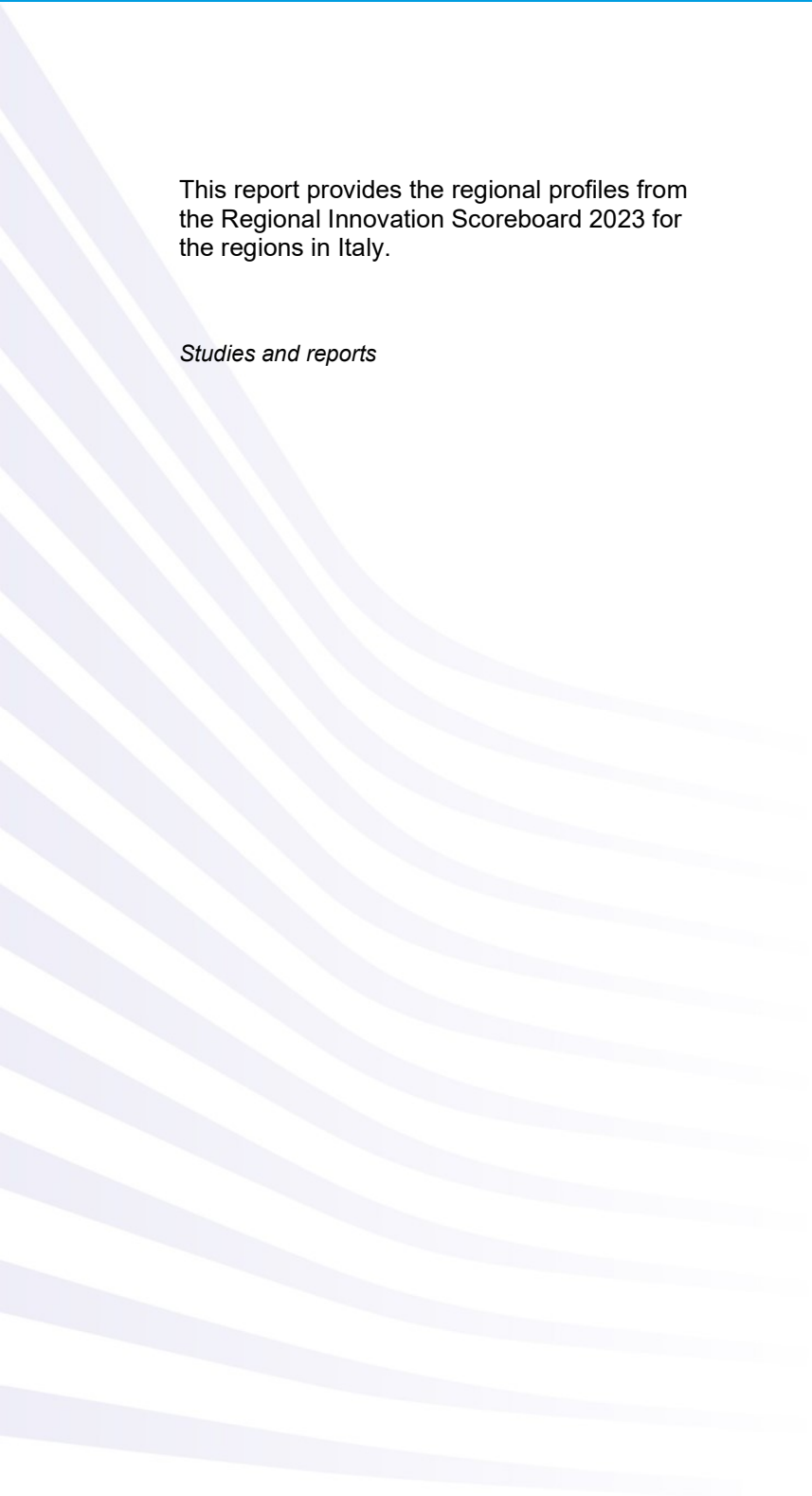

The first 21 rows and two data columns in the table on the left show the values and the normalised scores per indicator. The last two data columns show relative performance of the normalised scores compared to Italy and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both Italy (76.9) and the EU (69.4) in 2023, the RII in 2023 relative to the EU in 2016 (75.3), and the RII in 2016 relative to both Italy (76.5) and the EU in 2016 (63). The last row shows performance change between 2016 and 2023 compared to Italy (0.3%) and to the EU (12.3%).

The radar graph shows relative strengths compared to Italy (orange line) and the EU (blue line), showing relative strengths (e.g. Public-private co-publications) and weaknesses (e.g. Tertiary education).

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

	ITG2	IT	EU
Share of employment in:			
Agriculture & Mining (A-B)	6.1	4.1	4.4
Manufacturing (C)	6.1	18.6	16.4
Utilities & Construction (D-F)	8.8	7.6	8.3
Services (G-N)	70.6	64.4	63.7
Public administration (O-U)	8.4	5.3	7.2
Average number of employed persons per enterprise	2.8	3.9	5.1
GDP per capita (PPS)	22,600	30,900	32,400
GDP per capita growth (PPS)	2.1	1.8	2.5
Population density	66	196	106
Urbanisation	63.4	83.6	75.8
Population size (000s)	1,590	59,240	447,210





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

Studies and reports