Regional Innovation Scoreboard **2023**
Regional profiles
Netherlands

Regional Innovation Scoreboard 2023 – Regional profiles Netherlands

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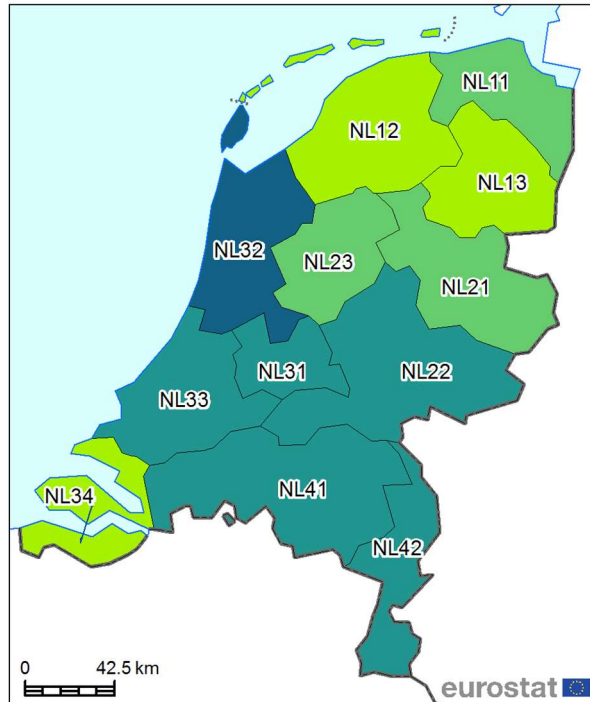
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NETHERLANDS

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

NUTS	Region	RII	Rank	Group	Change
NL	Netherlands	128.7	--	Innovation Leader	8.6
NL11	Groningen	124.9	37	Strong Innovator +	8.6
NL12	Friesland	100.3	105	Strong Innovator –	6.0
NL13	Drenthe	101.6	99	Strong Innovator –	0.0
NL21	Overijssel	117.8	53	Strong Innovator +	6.1
NL22	Gelderland	127.4	31	Innovation Leader –	7.8
NL23	Flevoland	118.8	52	Strong Innovator +	10.3
NL31	Utrecht	134.0	15	Innovation Leader –	4.5
NL32	Noord-Holland	137.1	12	Innovation Leader	7.9
NL33	Zuid-Holland	131.1	17	Innovation Leader –	7.5
NL34	Zeeland	105.6	84	Strong Innovator –	14.1
NL41	Noord-Brabant	129.8	25	Innovation Leader –	9.7
NL42	Limburg	125.7	34	Innovation Leader –	10.6

The Netherlands is an Innovation Leader and includes 12 regions.

Noord-Holland (NL32) is the most innovative region and an Innovation Leader. Five regions are Innovation Leaders –, three regions are Strong Innovators +, and three regions are Strong Innovators –. The Netherlands has four regions in the top-25 most innovative regions.

Performance has increased for all regions, and most strongly for *Zeeland* (NL34). For *Drenthe* (NL13) performance improved only marginally. For five regions performance increased at a higher rate than that of the EU (8.5), for seven regions performance increased at a lower rate.

Groningen (NL11)

	Data	Normalised score	Relative to	
			NL	EU
Tertiary education	53.9	0.807	96	154
Lifelong learning	28.9	1.000	103	269
International scientific co-publications	8387	1.000	168	326
Most-cited scientific publications	1449.7	0.856	104	157
Above average digital skills	51.8	1.000	100	213
R&D expenditures public sector	0.77	0.564	100	99
R&D expenditures business sector	1.54	0.681	100	101
Non-R&D innovation expenditures	±	0.254	100	63
Innovation expenditures per person employed	±	0.586	100	97
Employed ICT specialists	5.2	0.622	76	118
Product innovators	±	0.569	100	102
Business process innovators	±	0.659	100	102
Innovative SMEs collaborating	±	0.711	100	146
Public-private co-publications	1213.2	1.000	145	255
PCT patent applications	2.51	0.543	74	88
Trademark applications	4.69	0.317	57	64
Design applications	0.50	0.206	34	36
Employment knowledge-intensive activities	14.4	0.483	74	85
Employment innovative enterprises	±	0.628	100	110
Sales of innovative products	±	0.338	100	70
Air emissions by fine particulates	8.2	0.749	107	125
Average normalised score	--	0.646	--	--
Country EIS-RIS correction factor	--	1.058	--	--
Regional Innovation Index (RII) 2023	--	0.684	--	--
Performance 2023 relative to EU in 2023	--	--	97.1	124.9
Performance 2023 relative to EU in 2016	--	--	--	135.5
Regional Innovation Index (RII) 2016	--	0.640	--	--
Performance 2016 relative to EU in 2016	--	--	96.8	126.8
Performance change over time	--	--	0.2	8.6

± Scores are not shown as these would allow recalculating confidential regional CIS data.
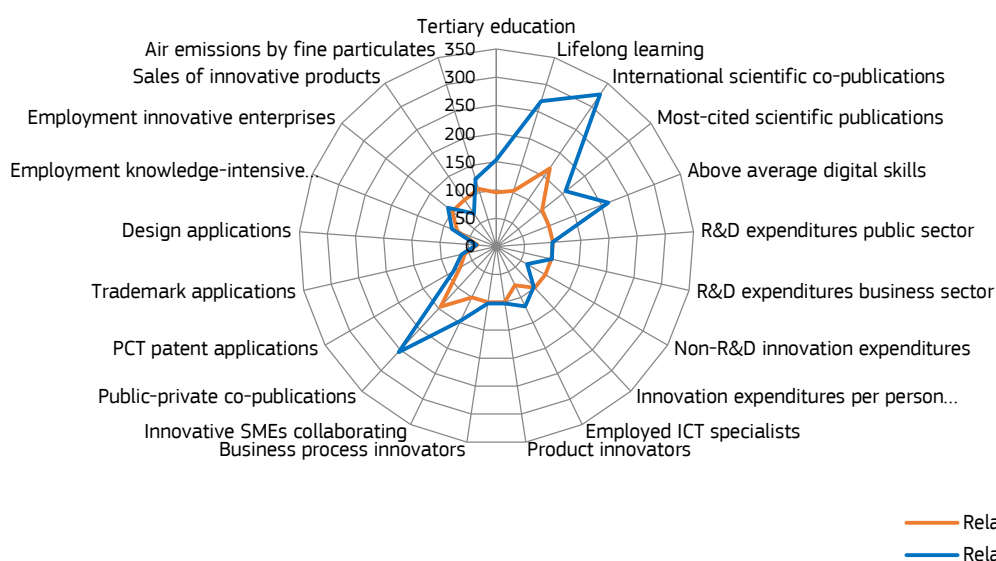
Groningen (NL11) is a Strong Innovator +. Innovation performance has increased over time (8.6%).

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 the Netherlands and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both the Netherlands (97.1) and the EU (124.9) in 2023, the RII in 2023 relative to the EU in 2016 (135.5), and the RII in 2016 relative to both the Netherlands (96.8) and the EU in 2016 (126.8). The last row shows performance change between 2016 and 2023 compared to the Netherlands (0.2%) and to the EU (8.6%).

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

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

	NL11	NL	EU
Share of employment in:			
Agriculture & Mining (A-B)	2.9	2.2	4.4
Manufacturing (C)	9.4	9.5	16.4
Utilities & Construction (D-F)	5.7	5.7	8.3
Services (G-N)	75.3	75.9	63.7
Public administration (O-U)	6.8	6.7	7.2
Average number of employed persons per enterprise	4.3	4.8	5.1
GDP per capita (PPS)	37,500	42,100	32,400
GDP per capita growth (PPS)	0.9	2.7	2.5
Population density	244	468	106
Urbanisation	77.4	90.4	75.8
Population size (000s)	590	17,480	447,210

— Relative to country
— Relative to EU

Friesland (NL) (NL12)

	Data	Normalised score	Relative to NL	Relative to EU
Tertiary education	42.0	0.543	64	103
Lifelong learning	23.2	0.841	87	227
International scientific co-publications	261	0.061	10	20
Most-cited scientific publications	1094.0	0.620	75	114
Above average digital skills	50.9	1.000	100	213
R&D expenditures public sector	0.77	0.564	100	99
R&D expenditures business sector	1.54	0.681	100	101
Non-R&D innovation expenditures	±	0.254	100	63
Innovation expenditures per person employed	±	0.586	100	97
Employed ICT specialists	3.4	0.387	47	73
Product innovators	±	0.569	100	102
Business process innovators	±	0.659	100	102
Innovative SMEs collaborating	±	0.711	100	146
Public-private co-publications	82.6	0.303	44	77
PCT patent applications	1.55	0.426	58	69
Trademark applications	4.00	0.270	49	54
Design applications	1.04	0.297	49	51
Employment knowledge-intensive activities	12.5	0.393	61	69
Employment innovative enterprises	±	0.628	100	110
Sales of innovative products	±	0.338	100	70
Air emissions by fine particulates	7.8	0.768	110	128
Average normalised score	--	0.519	--	--
Country EIS-RIS correction factor	--	1.058	--	--
Regional Innovation Index (RII) 2023	--	0.549	--	--
Performance 2023 relative to EU in 2023	--	--	78.0	100.3
Performance 2023 relative to EU in 2016	--	--	--	108.8
Regional Innovation Index (RII) 2016	--	0.519	--	--
Performance 2016 relative to EU in 2016	--	--	78.5	102.8
Performance change over time	--	--	-0.5	6.0

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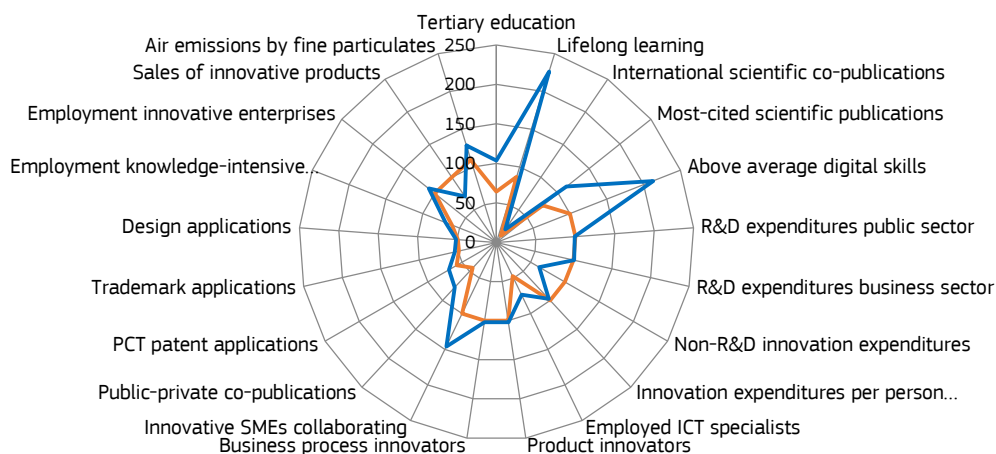
Friesland (NL) (NL12) is a Strong Innovator –. Innovation performance has increased over time (6%).

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 the Netherlands and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both the Netherlands (78) and the EU (100.3) in 2023, the RII in 2023 relative to the EU in 2016 (108.8), and the RII in 2016 relative to both the Netherlands (78.5) and the EU in 2016 (102.8). The last row shows performance change between 2016 and 2023 compared to the Netherlands (-0.5%) and to the EU (6%).

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

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

	NL12	NL	EU
Share of employment in:			
Agriculture & Mining (A-B)	4.1	2.2	4.4
Manufacturing (C)	11.5	9.5	16.4
Utilities & Construction (D-F)	7.3	5.7	8.3
Services (G-N)	70.8	75.9	63.7
Public administration (O-U)	6.4	6.7	7.2
Average number of employed persons per enterprise	4.2	4.8	5.1
GDP per capita (PPS)	29,800	42,100	32,400
GDP per capita growth (PPS)	3.6	2.7	2.5
Population density	163	468	106
Urbanisation	48.4	90.4	75.8
Population size (000s)	650	17,480	447,210

Drenthe (NL13)

	Data	Normalised score	Relative to	
			NL	EU
Tertiary education	41.0	0.521	62	99
Lifelong learning	24.5	0.890	92	240
International scientific co-publications	715	0.171	29	56
Most-cited scientific publications	946.4	0.523	63	96
Above average digital skills	51.2	1.000	100	213
R&D expenditures public sector	0.77	0.564	100	99
R&D expenditures business sector	1.54	0.681	100	101
Non-R&D innovation expenditures	±	0.254	100	63
Innovation expenditures per person employed	±	0.586	100	97
Employed ICT specialists	4.2	0.492	60	93
Product innovators	±	0.569	100	102
Business process innovators	±	0.659	100	102
Innovative SMEs collaborating	±	0.711	100	146
Public-private co-publications	122.6	0.369	54	94
PCT patent applications	1.23	0.380	52	62
Trademark applications	4.20	0.283	51	57
Design applications	0.74	0.250	41	43
Employment knowledge-intensive activities	13.4	0.436	67	77
Employment innovative enterprises	±	0.628	100	110
Sales of innovative products	±	0.338	100	70
Air emissions by fine particulates	8.5	0.733	104	122
Average normalised score	--	0.526	--	--
Country EIS-RIS correction factor	--	1.058	--	--
Regional Innovation Index (RII) 2023	--	0.556	--	--
Performance 2023 relative to EU in 2023	--	--	78.9	101.6
Performance 2023 relative to EU in 2016	--	--	--	110.2
Regional Innovation Index (RII) 2016	--	0.556	--	--
Performance 2016 relative to EU in 2016	--	--	84.1	110.2
Performance change over time	--	--	-5.2	0.0

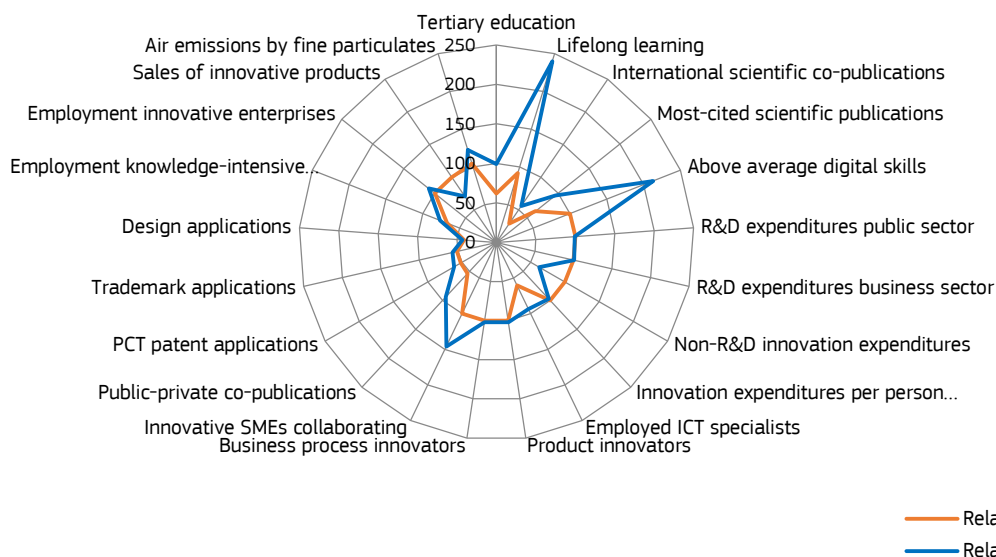± Scores are not shown as these would allow recalculating confidential regional CIS data.

Drenthe (NL13) is a Strong Innovator -. Innovation performance has decreased over time (0%).

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 the Netherlands and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both the Netherlands (78.9) and the EU (101.6) in 2023, the RII in 2023 relative to the EU in 2016 (110.2), and the RII in 2016 relative to both the Netherlands (84.1) and the EU in 2016 (110.2). The last row shows performance change between 2016 and 2023 compared to the Netherlands (-5.2%) and to the EU (0%).

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

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

	NL13	NL	EU
Share of employment in:			
Agriculture & Mining (A-B)	3.1	2.2	4.4
Manufacturing (C)	10.5	9.5	16.4
Utilities & Construction (D-F)	6.4	5.7	8.3
Services (G-N)	72.3	75.9	63.7
Public administration (O-U)	7.7	6.7	7.2
Average number of employed persons per enterprise	4.4	4.8	5.1
GDP per capita (PPS)	28,400	42,100	32,400
GDP per capita growth (PPS)	2.5	2.7	2.5
Population density	185	468	106
Urbanisation	68.5	90.4	75.8
Population size (000s)	490	17,480	447,210

Legend:
— Relative to country
— Relative to EU

Overijssel (NL21)

	Data	Normalised score	Relative to NL	Relative to EU
Tertiary education	52.1	0.767	91	146
Lifelong learning	26.7	0.973	100	262
International scientific co-publications	1835	0.443	74	144
Most-cited scientific publications	1250.5	0.724	88	133
Above average digital skills	52.2	1.000	100	213
R&D expenditures public sector	0.77	0.564	100	99
R&D expenditures business sector	1.54	0.681	100	101
Non-R&D innovation expenditures	±	0.254	100	63
Innovation expenditures per person employed	±	0.586	100	97
Employed ICT specialists	4.1	0.469	57	89
Product innovators	±	0.569	100	102
Business process innovators	±	0.659	100	102
Innovative SMEs collaborating	±	0.711	100	146
Public-private co-publications	382.3	0.652	95	166
PCT patent applications	2.50	0.541	74	88
Trademark applications	6.98	0.473	85	95
Design applications	4.02	0.583	96	101
Employment knowledge-intensive activities	14.3	0.479	74	84
Employment innovative enterprises	±	0.628	100	110
Sales of innovative products	±	0.338	100	70
Air emissions by fine particulates	9.1	0.705	100	118
Average normalised score	--	0.610	--	--
Country EIS-RIS correction factor	--	1.058	--	--
Regional Innovation Index (RII) 2023	--	0.645	--	--
Performance 2023 relative to EU in 2023	--	--	91.5	117.8
Performance 2023 relative to EU in 2016	--	--	--	127.7
Regional Innovation Index (RII) 2016	--	0.614	--	--
Performance 2016 relative to EU in 2016	--	--	92.9	121.7
Performance change over time	--	--	-1.4	6.1

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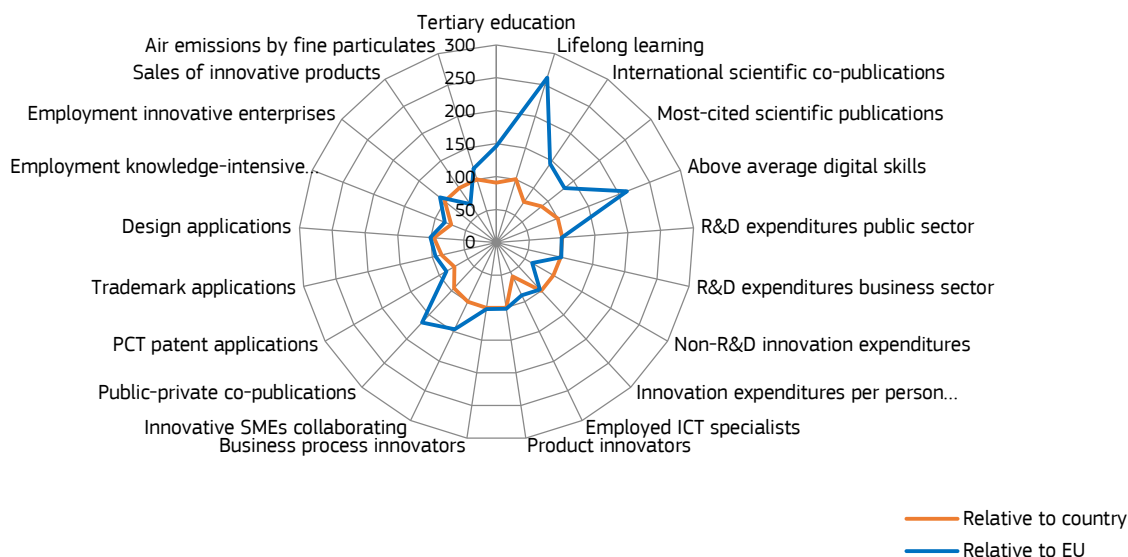
Overijssel (NL21) is a Strong Innovator +. Innovation performance has increased over time (6.1%).

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

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

	NL21	NL	EU
Share of employment in:			
Agriculture & Mining (A-B)	3.0	2.2	4.4
Manufacturing (C)	12.5	9.5	16.4
Utilities & Construction (D-F)	6.9	5.7	8.3
Services (G-N)	71.9	75.9	63.7
Public administration (O-U)	5.7	6.7	7.2
Average number of employed persons per enterprise	5.6	4.8	5.1
GDP per capita (PPS)	35,300	42,100	32,400
GDP per capita growth (PPS)	3.0	2.7	2.5
Population density	341	468	106
Urbanisation	88.7	90.4	75.8
Population size (000s)	1,170	17,480	447,210

Relative to country

Relative to EU

Gelderland (NL22)

	Data	Normalised score	Relative to	
			NL	EU
Tertiary education	53.3	0.794	94	151
Lifelong learning	26.1	0.951	98	256
International scientific co-publications	3590	0.869	146	283
Most-cited scientific publications	1469.9	0.870	105	159
Above average digital skills	51.9	1.000	100	213
R&D expenditures public sector	0.77	0.564	100	99
R&D expenditures business sector	1.54	0.681	100	101
Non-R&D innovation expenditures	±	0.254	100	63
Innovation expenditures per person employed	±	0.586	100	97
Employed ICT specialists	5.2	0.613	75	116
Product innovators	±	0.569	100	102
Business process innovators	±	0.659	100	102
Innovative SMEs collaborating	±	0.711	100	146
Public-private co-publications	624.0	0.832	121	212
PCT patent applications	3.01	0.594	81	96
Trademark applications	7.40	0.501	90	100
Design applications	4.01	0.583	95	100
Employment knowledge-intensive activities	16.1	0.564	87	99
Employment innovative enterprises	±	0.628	100	110
Sales of innovative products	±	0.338	100	70
Air emissions by fine particulates	9.5	0.682	97	114
Average normalised score	--	0.659	--	--
Country EIS-RIS correction factor	--	1.058	--	--
Regional Innovation Index (RII) 2023	--	0.697	--	--
Performance 2023 relative to EU in 2023	--	--	99.0	127.4
Performance 2023 relative to EU in 2016	--	--	--	138.2
Regional Innovation Index (RII) 2016	--	0.658	--	--
Performance 2016 relative to EU in 2016	--	--	99.6	130.4
Performance change over time	--	--	-0.6	7.8

± Scores are not shown as these would allow recalculating confidential regional CIS data.
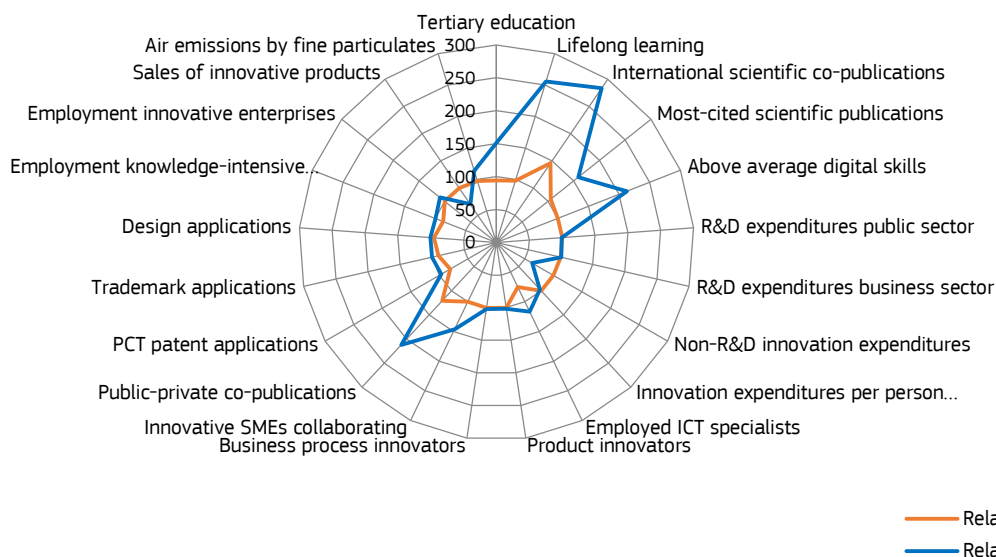
Gelderland (NL22) is an Innovation Leader -. Innovation performance has increased over time (7.8%).

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 the Netherlands and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both the Netherlands (99) and the EU (127.4) in 2023, the RII in 2023 relative to the EU in 2016 (138.2), and the RII in 2016 relative to both the Netherlands (99.6) and the EU in 2016 (130.4). The last row shows performance change between 2016 and 2023 compared to the Netherlands (-0.6%) and to the EU (7.8%).

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

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

	NL22	NL	EU
Share of employment in:			
Agriculture & Mining (A-B)	2.3	2.2	4.4
Manufacturing (C)	10.1	9.5	16.4
Utilities & Construction (D-F)	6.1	5.7	8.3
Services (G-N)	75.0	75.9	63.7
Public administration (O-U)	6.6	6.7	7.2
Average number of employed persons per enterprise	4.9	4.8	5.1
GDP per capita (PPS)	35,500	42,100	32,400
GDP per capita growth (PPS)	2.7	2.7	2.5
Population density	408	468	106
Urbanisation	92.9	90.4	75.8
Population size (000s)	2,100	17,480	447,210

Flevoland (NL23)

	Data	Normalised score	Relative to NL	Relative to EU
Tertiary education	40.2	0.503	60	96
Lifelong learning	26.2	0.955	98	257
International scientific co-publications	352	0.083	14	27
Most-cited scientific publications	1797.0	1.000	121	183
Above average digital skills	51.6	1.000	100	213
R&D expenditures public sector	0.77	0.564	100	99
R&D expenditures business sector	1.54	0.681	100	101
Non-R&D innovation expenditures	±	0.254	100	63
Innovation expenditures per person employed	±	0.586	100	97
Employed ICT specialists	9.1	1.000	122	190
Product innovators	±	0.569	100	102
Business process innovators	±	0.659	100	102
Innovative SMEs collaborating	±	0.711	100	146
Public-private co-publications	124.2	0.371	54	95
PCT patent applications	0.73	0.293	40	48
Trademark applications	9.61	0.652	117	131
Design applications	4.48	0.616	101	106
Employment knowledge-intensive activities	19.5	0.725	112	128
Employment innovative enterprises	±	0.628	100	110
Sales of innovative products	±	0.338	100	70
Air emissions by fine particulates	8.7	0.724	103	121
Average normalised score	--	0.615	--	--
Country EIS-RIS correction factor	--	1.058	--	--
Regional Innovation Index (RII) 2023	--	0.651	--	--
Performance 2023 relative to EU in 2023	--	--	92.3	118.8
Performance 2023 relative to EU in 2016	--	--	--	128.9
Regional Innovation Index (RII) 2016	--	0.599	--	--
Performance 2016 relative to EU in 2016	--	--	90.5	118.6
Performance change over time	--	--	1.8	10.3

± Scores are not shown as these would allow recalculating confidential regional CIS data.
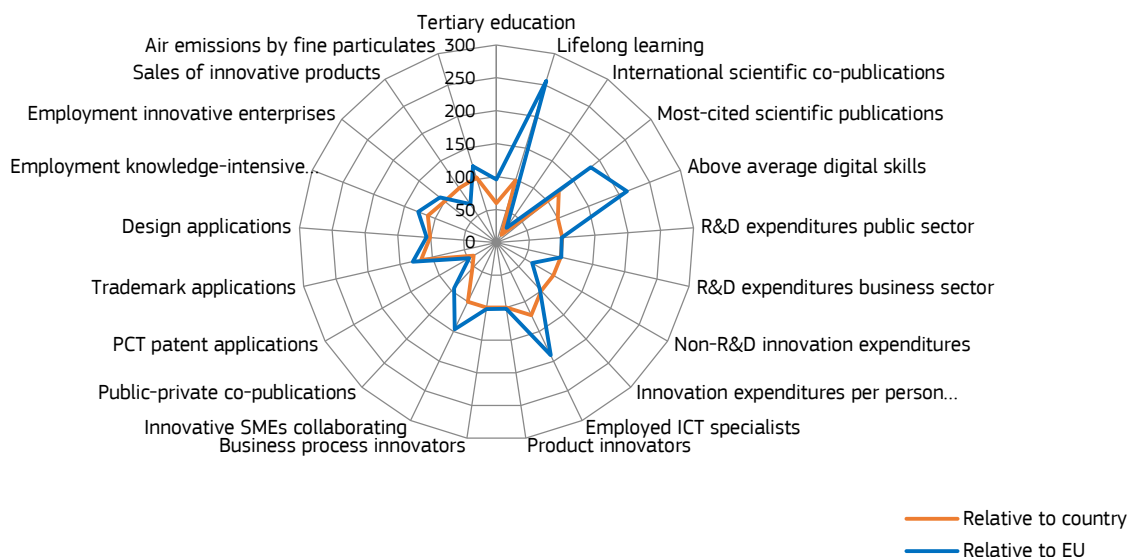
Flevoland (NL23) is a Strong Innovator +. Innovation performance has increased over time (10.3%).

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 the Netherlands and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both the Netherlands (92.3) and the EU (118.8) in 2023, the RII in 2023 relative to the EU in 2016 (128.9), and the RII in 2016 relative to both the Netherlands (90.5) and the EU in 2016 (118.6). The last row shows performance change between 2016 and 2023 compared to the Netherlands (1.8%) and to the EU (10.3%).

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

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

	NL23	NL	EU
Share of employment in:			
Agriculture & Mining (A-B)	2.6	2.2	4.4
Manufacturing (C)	8.3	9.5	16.4
Utilities & Construction (D-F)	4.7	5.7	8.3
Services (G-N)	77.5	75.9	63.7
Public administration (O-U)	6.9	6.7	7.2
Average number of employed persons per enterprise	4.5	4.8	5.1
GDP per capita (PPS)	30,900	42,100	32,400
GDP per capita growth (PPS)	2.2	2.7	2.5
Population density	177	468	106
Urbanisation	100.0	90.4	75.8
Population size (000s)	430	17,480	447,210

Relative to country

Relative to EU

Utrecht (NL31)

	Data	Normalised score	Relative to NL	Relative to EU
Tertiary education	65.5	1.000	118	190
Lifelong learning	29.4	1.000	103	269
International scientific co-publications	4966	1.000	168	326
Most-cited scientific publications	1466.7	0.868	105	159
Above average digital skills	52.3	1.000	100	213
R&D expenditures public sector	0.77	0.564	100	99
R&D expenditures business sector	1.54	0.681	100	101
Non-R&D innovation expenditures	±	0.254	100	63
Innovation expenditures per person employed	±	0.586	100	97
Employed ICT specialists	9.5	1.000	122	190
Product innovators	±	0.569	100	102
Business process innovators	±	0.659	100	102
Innovative SMEs collaborating	±	0.711	100	146
Public-private co-publications	941.7	1.000	145	255
PCT patent applications	2.25	0.514	70	83
Trademark applications	6.38	0.432	78	87
Design applications	1.23	0.322	53	56
Employment knowledge-intensive activities	19.9	0.744	115	131
Employment innovative enterprises	±	0.628	100	110
Sales of innovative products	±	0.338	100	70
Air emissions by fine particulates	9.3	0.694	99	116
Average normalised score	--	0.694	--	--
Country EIS-RIS correction factor	--	1.058	--	--
Regional Innovation Index (RII) 2023	--	0.734	--	--
Performance 2023 relative to EU in 2023	--	--	104.2	134.0
Performance 2023 relative to EU in 2016	--	--	--	145.4
Regional Innovation Index (RII) 2016	--	0.711	--	--
Performance 2016 relative to EU in 2016	--	--	107.6	140.9
Performance change over time	--	--	-3.4	4.5

± Scores are not shown as these would allow recalculating confidential regional CIS data.
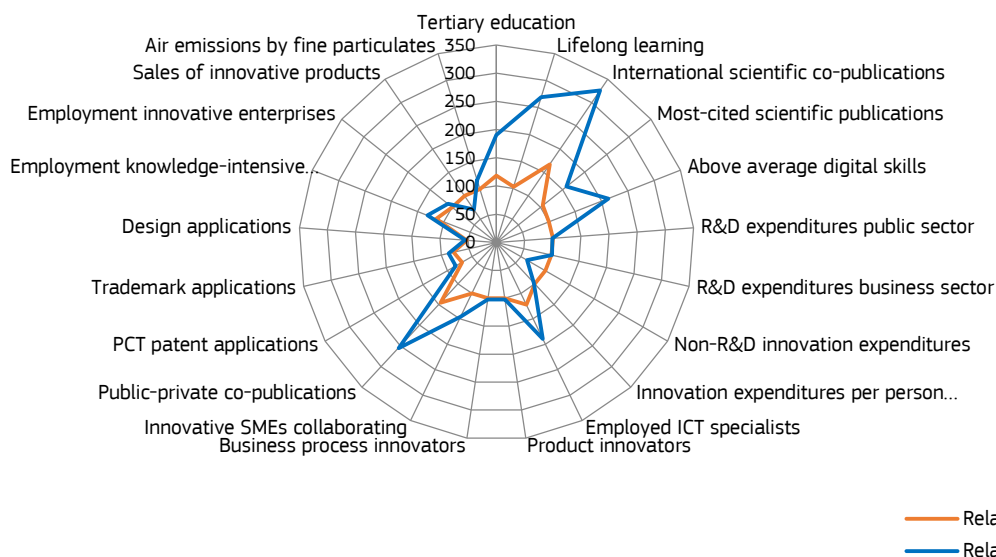
Utrecht (NL31) is an Innovation Leader -. Innovation performance has increased over time (4.5%).

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 the Netherlands and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both the Netherlands (104.2) and the EU (134) in 2023, the RII in 2023 relative to the EU in 2016 (145.4), and the RII in 2016 relative to both the Netherlands (107.6) and the EU in 2016 (140.9). The last row shows performance change between 2016 and 2023 compared to the Netherlands (-3.4%) and to the EU (4.5%).

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

	NL31	NL	EU
Share of employment in:			
Agriculture & Mining (A-B)	1.1	2.2	4.4
Manufacturing (C)	5.9	9.5	16.4
Utilities & Construction (D-F)	4.6	5.7	8.3
Services (G-N)	81.5	75.9	63.7
Public administration (O-U)	7.0	6.7	7.2
Average number of employed persons per enterprise	5.1	4.8	5.1
GDP per capita (PPS)	52,600	42,100	32,400
GDP per capita growth (PPS)	3.2	2.7	2.5
Population density	939	468	106
Urbanisation	99.3	90.4	75.8
Population size (000s)	1,360	17,480	447,210

Noord-Holland (NL32)

	Data	Normali sed score	Relative to	
			NL	EU
Tertiary education	61.1	0.967	114	184
Lifelong learning	28.3	1.000	103	269
International scientific co-publications	3764	0.911	153	297
Most-cited scientific publications	1468.6	0.869	105	159
Above average digital skills	51.7	1.000	100	213
R&D expenditures public sector	0.77	0.564	100	99
R&D expenditures business sector	1.54	0.681	100	101
Non-R&D innovation expenditures	±	0.254	100	63
Innovation expenditures per person employed	±	0.586	100	97
Employed ICT specialists	10.4	1.000	122	190
Product innovators	±	0.569	100	102
Business process innovators	±	0.659	100	102
Innovative SMEs collaborating	±	0.711	100	146
Public-private co-publications	690.1	0.875	127	223
PCT patent applications	1.88	0.469	64	76
Trademark applications	12.09	0.821	148	165
Design applications	2.44	0.455	74	78
Employment knowledge-intensive activities	21.6	0.825	127	145
Employment innovative enterprises	±	0.628	100	110
Sales of innovative products	±	0.338	100	70
Air emissions by fine particulates	8.9	0.714	102	119
Average normalised score	--	0.709	--	--
Country EIS-RIS correction factor	--	1.058	--	--
Regional Innovation Index (RII) 2023	--	0.751	--	--
Performance 2023 relative to EU in 2023	--	--	106.5	137.1
Performance 2023 relative to EU in 2016	--	--	--	148.7
Regional Innovation Index (RII) 2016	--	0.711	--	--
Performance 2016 relative to EU in 2016	--	--	107.5	140.7
Performance change over time	--	--	-1.0	7.9

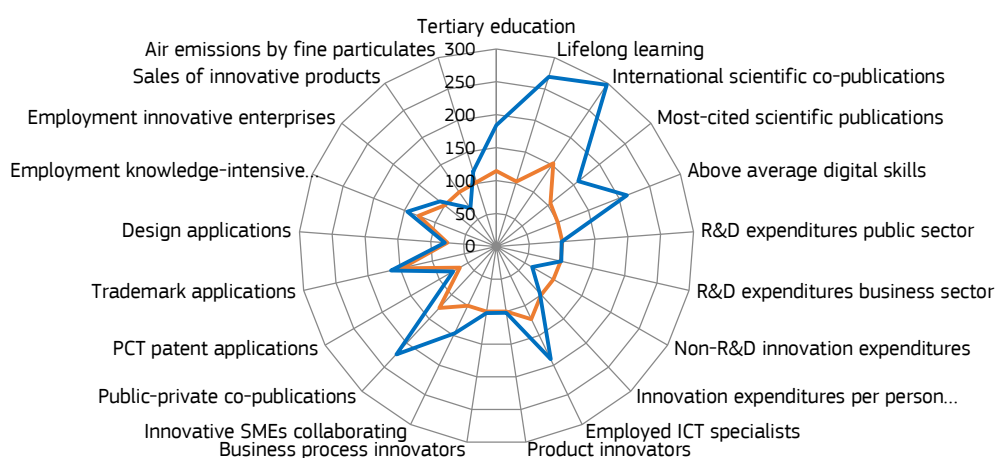± Scores are not shown as these would allow recalculating confidential regional CIS data.

Noord-Holland (NL32) is an Innovation Leader. Innovation performance has increased over time (7.9%).

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 the Netherlands and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both the Netherlands (106.5) and the EU (137.1) in 2023, the RII in 2023 relative to the EU in 2016 (148.7), and the RII in 2016 relative to both the Netherlands (107.5) and the EU in 2016 (140.7). The last row shows performance change between 2016 and 2023 compared to the Netherlands (-1%) and to the EU (7.9%).

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

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

	NL32	NL	EU
Share of employment in:			
Agriculture & Mining (A-B)	1.4	2.2	4.4
Manufacturing (C)	6.4	9.5	16.4
Utilities & Construction (D-F)	4.6	5.7	8.3
Services (G-N)	81.4	75.9	63.7
Public administration (O-U)	6.2	6.7	7.2
Average number of employed persons per enterprise	4.9	4.8	5.1
GDP per capita (PPS)	54,400	42,100	32,400
GDP per capita growth (PPS)	2.3	2.7	2.5
Population density	849	468	106
Urbanisation	97.1	90.4	75.8
Population size (000s)	2,890	17,480	447,210

Zuid-Holland (NL33)

	Data	Normalised score	Relative to NL	Relative to EU
Tertiary education	58.0	0.898	106	171
Lifelong learning	27.4	1.000	103	269
International scientific co-publications	3575	0.865	145	282
Most-cited scientific publications	1391.1	0.818	99	150
Above average digital skills	51.7	1.000	100	213
R&D expenditures public sector	0.77	0.564	100	99
R&D expenditures business sector	1.54	0.681	100	101
Non-R&D innovation expenditures	±	0.254	100	63
Innovation expenditures per person employed	±	0.586	100	97
Employed ICT specialists	7.0	0.861	105	163
Product innovators	±	0.569	100	102
Business process innovators	±	0.659	100	102
Innovative SMEs collaborating	±	0.711	100	146
Public-private co-publications	716.8	0.892	130	227
PCT patent applications	3.41	0.632	86	103
Trademark applications	7.37	0.499	90	100
Design applications	2.21	0.433	71	75
Employment knowledge-intensive activities	18.1	0.659	101	116
Employment innovative enterprises	±	0.628	100	110
Sales of innovative products	±	0.338	100	70
Air emissions by fine particulates	9.2	0.700	100	117
Average normalised score	--	0.678	--	--
Country EIS-RIS correction factor	--	1.058	--	--
Regional Innovation Index (RII) 2023	--	0.718	--	--
Performance 2023 relative to EU in 2023	--	--	101.9	131.1
Performance 2023 relative to EU in 2016	--	--	--	142.2
Regional Innovation Index (RII) 2016	--	0.680	--	--
Performance 2016 relative to EU in 2016	--	--	102.9	134.7
Performance change over time	--	--	-1.0	7.5

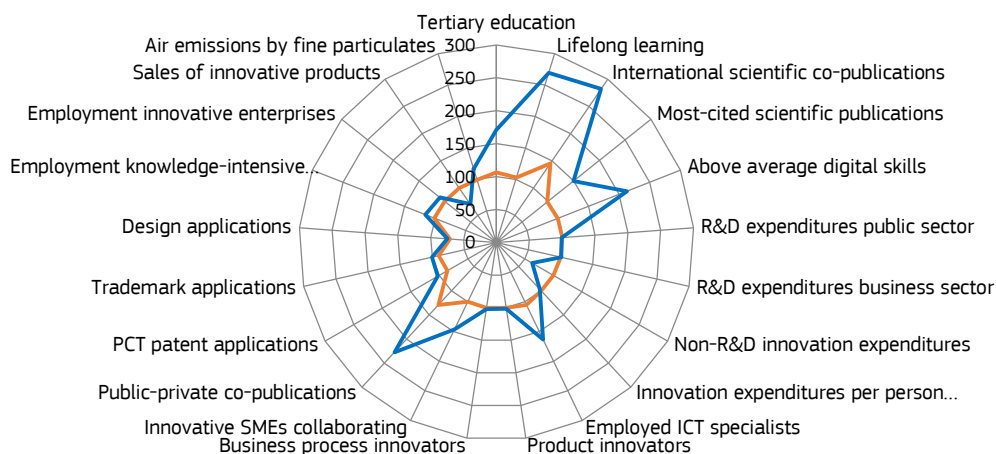± Scores are not shown as these would allow recalculating confidential regional CIS data.

Zuid-Holland (NL33) is an Innovation Leader -. Innovation performance has increased over time (7.5%).

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 the Netherlands and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both the Netherlands (101.9) and the EU (131.1) in 2023, the RII in 2023 relative to the EU in 2016 (142.2), and the RII in 2016 relative to both the Netherlands (102.9) and the EU in 2016 (134.7). The last row shows performance change between 2016 and 2023 compared to the Netherlands (-1%) and to the EU (7.5%).

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

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

	NL33	NL	EU
Share of employment in:			
Agriculture & Mining (A-B)	2.0	2.2	4.4
Manufacturing (C)	6.9	9.5	16.4
Utilities & Construction (D-F)	6.0	5.7	8.3
Services (G-N)	76.6	75.9	63.7
Public administration (O-U)	8.5	6.7	7.2
Average number of employed persons per enterprise	4.6	4.8	5.1
GDP per capita (PPS)	41,200	42,100	32,400
GDP per capita growth (PPS)	2.5	2.7	2.5
Population density	1,148	468	106
Urbanisation	96.7	90.4	75.8
Population size (000s)	3,730	17,480	447,210

Zeeland (NL34)

	Data	Normalised score	Relative to NL	Relative to EU
Tertiary education	44.4	0.596	71	114
Lifelong learning	25.1	0.913	94	246
International scientific co-publications	189	0.044	7	14
Most-cited scientific publications	1457.8	0.862	104	158
Above average digital skills	52.5	1.000	100	213
R&D expenditures public sector	0.77	0.564	100	99
R&D expenditures business sector	1.54	0.681	100	101
Non-R&D innovation expenditures	±	0.254	100	63
Innovation expenditures per person employed	±	0.586	100	97
Employed ICT specialists	3.7	0.421	51	80
Product innovators	±	0.569	100	102
Business process innovators	±	0.659	100	102
Innovative SMEs collaborating	±	0.711	100	146
Public-private co-publications	62.1	0.263	38	67
PCT patent applications	2.04	0.489	67	79
Trademark applications	4.27	0.288	52	58
Design applications	2.15	0.426	70	73
Employment knowledge-intensive activities	14.8	0.502	77	88
Employment innovative enterprises	±	0.628	100	110
Sales of innovative products	±	0.338	100	70
Air emissions by fine particulates	9.4	0.687	98	115
Average normalised score	--	0.547	--	--
Country EIS-RIS correction factor	--	1.058	--	--
Regional Innovation Index (RII) 2023	--	0.579	--	--
Performance 2023 relative to EU in 2023	--	--	82.1	105.6
Performance 2023 relative to EU in 2016	--	--	--	114.6
Regional Innovation Index (RII) 2016	--	0.507	--	--
Performance 2016 relative to EU in 2016	--	--	76.7	100.5
Performance change over time	--	--	5.4	14.1

± Scores are not shown as these would allow recalculating confidential regional CIS data.
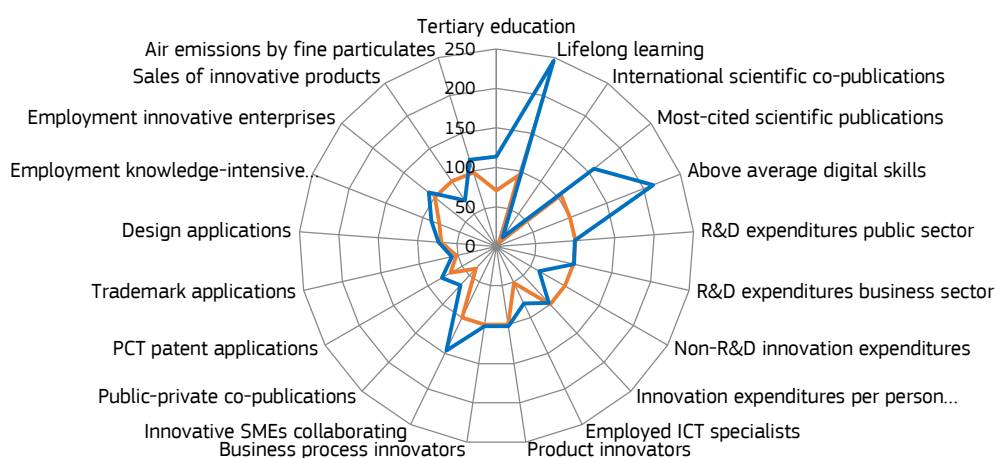
Zeeland (NL34) is a Strong Innovator -. Innovation performance has increased over time (14.1%).

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 the Netherlands and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both the Netherlands (82.1) and the EU (105.6) in 2023, the RII in 2023 relative to the EU in 2016 (114.6), and the RII in 2016 relative to both the Netherlands (76.7) and the EU in 2016 (100.5). The last row shows performance change between 2016 and 2023 compared to the Netherlands (5.4%) and to the EU (14.1%).

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

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

	NL34	NL	EU
Share of employment in:			
Agriculture & Mining (A-B)	3.4	2.2	4.4
Manufacturing (C)	14.1	9.5	16.4
Utilities & Construction (D-F)	7.0	5.7	8.3
Services (G-N)	69.2	75.9	63.7
Public administration (O-U)	6.1	6.7	7.2
Average number of employed persons per enterprise	4.5	4.8	5.1
GDP per capita (PPS)	35,400	42,100	32,400
GDP per capita growth (PPS)	4.4	2.7	2.5
Population density	199	468	106
Urbanisation	50.3	90.4	75.8
Population size (000s)	390	17,480	447,210

Relative to country
Relative to EU

Noord-Brabant (NL41)

	Data	Normalised score	Relative to	
			NL	EU
Tertiary education	54.0	0.809	96	154
Lifelong learning	24.9	0.905	93	244
International scientific co-publications	1410	0.340	57	111
Most-cited scientific publications	1295.7	0.754	91	138
Above average digital skills	51.7	1.000	100	213
R&D expenditures public sector	0.77	0.564	100	99
R&D expenditures business sector	1.54	0.681	100	101
Non-R&D innovation expenditures	±	0.254	100	63
Innovation expenditures per person employed	±	0.586	100	97
Employed ICT specialists	5.5	0.661	81	125
Product innovators	±	0.569	100	102
Business process innovators	±	0.659	100	102
Innovative SMEs collaborating	±	0.711	100	146
Public-private co-publications	411.5	0.676	98	172
PCT patent applications	15.30	1.000	136	162
Trademark applications	8.77	0.595	107	119
Design applications	14.83	1.000	164	172
Employment knowledge-intensive activities	19.2	0.711	109	125
Employment innovative enterprises	±	0.628	100	110
Sales of innovative products	±	0.338	100	70
Air emissions by fine particulates	9.8	0.669	95	112
Average normalised score	--	0.672	--	--
Country EIS-RIS correction factor	--	1.058	--	--
Regional Innovation Index (RII) 2023	--	0.711	--	--
Performance 2023 relative to EU in 2023	--	--	100.9	129.8
Performance 2023 relative to EU in 2016	--	--	--	140.8
Regional Innovation Index (RII) 2016	--	0.662	--	--
Performance 2016 relative to EU in 2016	--	--	100.2	131.2
Performance change over time	--	--	0.7	9.7

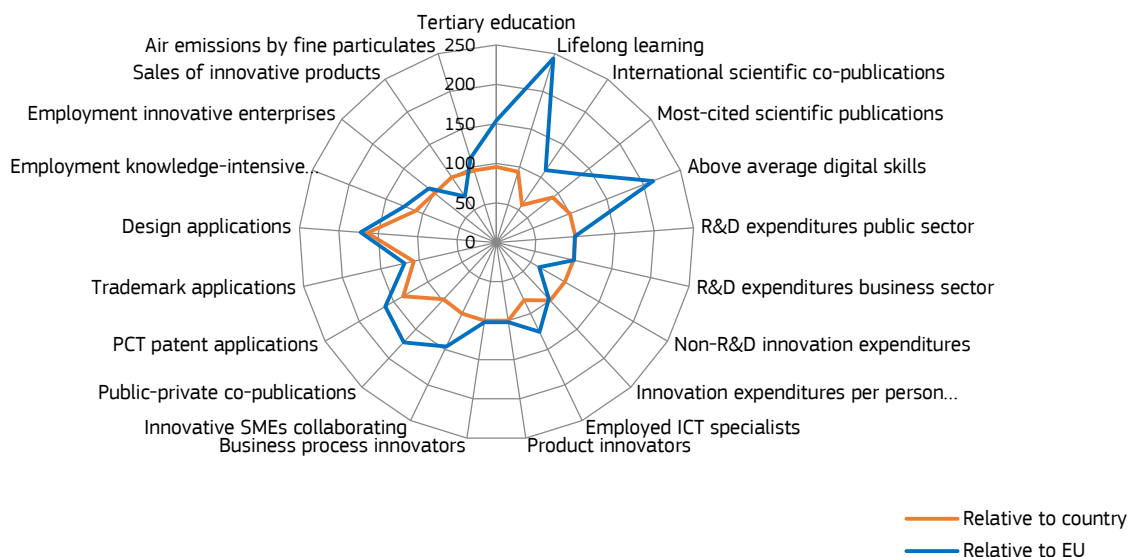± Scores are not shown as these would allow recalculating confidential regional CIS data.

Noord-Brabant (NL41) is an Innovation Leader –. Innovation performance has increased over time (9.7%).

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 the Netherlands and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both the Netherlands (100.9) and the EU (129.8) in 2023, the RII in 2023 relative to the EU in 2016 (140.8), and the RII in 2016 relative to both the Netherlands (100.2) and the EU in 2016 (131.2). The last row shows performance change between 2016 and 2023 compared to the Netherlands (0.7%) and to the EU (9.7%).

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

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

	NL41	NL	EU
Share of employment in:			
Agriculture & Mining (A-B)	2.5	2.2	4.4
Manufacturing (C)	13.8	9.5	16.4
Utilities & Construction (D-F)	5.9	5.7	8.3
Services (G-N)	72.6	75.9	63.7
Public administration (O-U)	5.2	6.7	7.2
Average number of employed persons per enterprise	5.0	4.8	5.1
GDP per capita (PPS)	43,200	42,100	32,400
GDP per capita growth (PPS)	2.9	2.7	2.5
Population density	506	468	106
Urbanisation	91.9	90.4	75.8
Population size (000s)	2,570	17,480	447,210

Limburg (NL) (NL42)

	Data	Normalised score	Relative to NL	Relative to EU
Tertiary education	53.5	0.798	94	152
Lifelong learning	22.6	0.818	84	220
International scientific co-publications	3584	0.867	146	283
Most-cited scientific publications	1353.8	0.793	96	145
Above average digital skills	51.5	1.000	100	213
R&D expenditures public sector	0.77	0.564	100	99
R&D expenditures business sector	1.54	0.681	100	101
Non-R&D innovation expenditures	±	0.254	100	63
Innovation expenditures per person employed	±	0.586	100	97
Employed ICT specialists	4.0	0.464	57	88
Product innovators	±	0.569	100	102
Business process innovators	±	0.659	100	102
Innovative SMEs collaborating	±	0.711	100	146
Public-private co-publications	564.2	0.792	115	202
PCT patent applications	5.31	0.789	108	128
Trademark applications	6.89	0.467	84	94
Design applications	4.17	0.594	97	102
Employment knowledge-intensive activities	16.4	0.578	89	102
Employment innovative enterprises	±	0.628	100	110
Sales of innovative products	±	0.338	100	70
Air emissions by fine particulates	8.9	0.712	102	119
Average normalised score	--	0.651	--	--
Country EIS-RIS correction factor	--	1.058	--	--
Regional Innovation Index (RII) 2023	--	0.688	--	--
Performance 2023 relative to EU in 2023	--	--	97.7	125.7
Performance 2023 relative to EU in 2016	--	--	--	136.4
Regional Innovation Index (RII) 2016	--	0.635	--	--
Performance 2016 relative to EU in 2016	--	--	96.0	125.8
Performance change over time	--	--	1.7	10.6

± Scores are not shown as these would allow recalculating confidential regional CIS data.
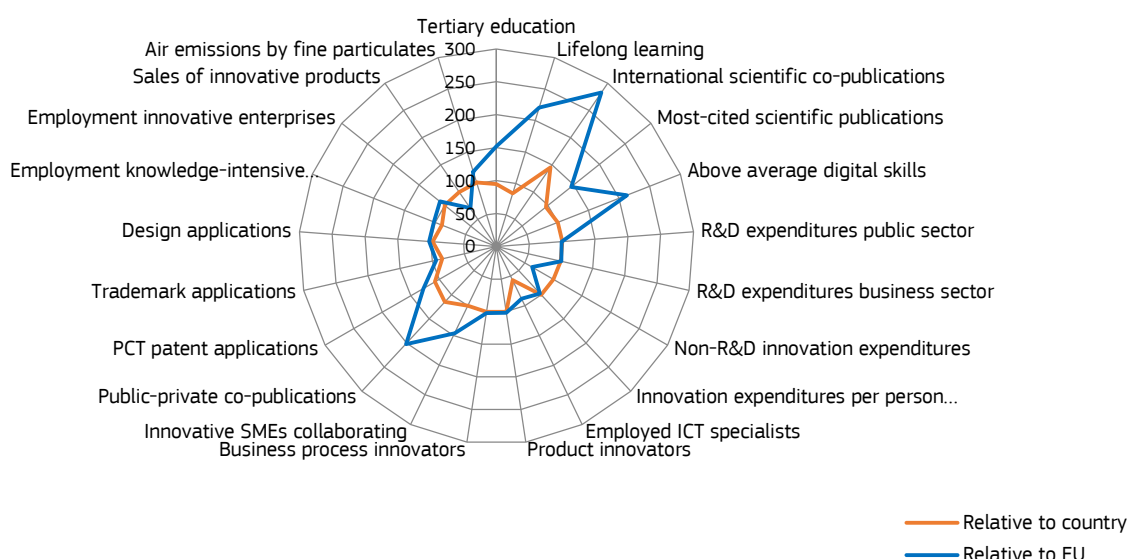
Limburg (NL) (NL42) is an Innovation Leader –. Innovation performance has increased over time (10.6%).

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 the Netherlands and the EU. The next 7 rows show the calculation of the Regional Innovation Index (RII), the RII relative to both the Netherlands (97.7) and the EU (125.7) in 2023, the RII in 2023 relative to the EU in 2016 (136.4), and the RII in 2016 relative to both the Netherlands (96) and the EU in 2016 (125.8). The last row shows performance change between 2016 and 2023 compared to the Netherlands (1.7%) and to the EU (10.6%).

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

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

	NL42	NL	EU
Share of employment in:			
Agriculture & Mining (A-B)	2.7	2.2	4.4
Manufacturing (C)	13.9	9.5	16.4
Utilities & Construction (D-F)	5.1	5.7	8.3
Services (G-N)	72.3	75.9	63.7
Public administration (O-U)	6.1	6.7	7.2
Average number of employed persons per enterprise	4.9	4.8	5.1
GDP per capita (PPS)	37,900	42,100	32,400
GDP per capita growth (PPS)	3.1	2.7	2.5
Population density	505	468	106
Urbanisation	85.1	90.4	75.8
Population size (000s)	1,120	17,480	447,210

Relative to country
Relative to EU

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

Studies and reports