



### European Innovation Scoreboard 2023 - Country profile Netherlands

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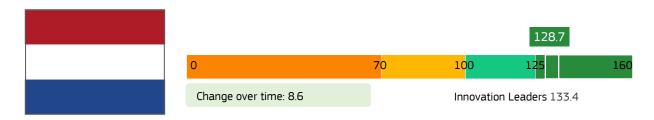
# European Innovation Scoreboard 2023 Country profile Netherlands

## The report was prepared by

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The European Innovation Scoreboard report and annexes, and the indicators database are available at: https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard\_en



### Performance Performance **Netherlands** relative to EU change 2016- change 2022in 2023 2023 2023 **SUMMARY INNOVATION INDEX** 128.7 8.6 1.0 **Human resources** 166.4 -3.9 -8.8 Doctorate graduates 85.2 114 229 Population with tertiary education 183.2 4.8 4.8 -2.2 Lifelong learning 242.2 -2.2 24.0 193.8 Attractive research systems -3.5 International scientific co-publications 199.3 74.0 -3.0 Most cited publications 146.1 10.9 281.7 77.6 13.2 Foreign doctorate students Digitalisation 158.3 14.1 6.1 130.4 12.1 Broadband penetration 27.7 People with above basic overall digital skills 196.5 0.0 0.0 Finance and support 121.5 26.5 4.9 -4.8 R&D expenditures in the public sector 96.9 127.9 80.5 7.5 Venture capital expenditures Government support for business R&D 142.3 10.5 15.6 Firm investments 77.9 10.2 -0.5 R&D expenditure in the business sector 102.1 -1.5 8.5 Non-R&D Innovation expenditures 0.0 0.0 38.3 Innovation expenditures per employee 86.7 21.2 0.0 162.2 43.1 25.3 Use of information technologies Enterprises providing ICT training 138.5 70.1 33.8 Employed ICT specialists 186.7 17.2 17.2 13.1 104.7 9.3 **Innovators** 103.4 Product innovators (SMEs) 5.4 43.7 21.3 Business process innovators (SMEs) 105.8 182.2 5.4 1.2 44.0 Innovative SMEs collaborating with others 161.9 6.8 Public-private co-publications 321.2 83.6 -11.0 Job-to-job mobility of HRST 139.6 32.4 32.4 Intellectual assets 114.1 1.4 -3.5 -129 PCT patent applications 124.4 -1.2 Trademark applications 106.5 7.8 -1.8 14.4 -7.8 Design applications 107.5 0.0 **Employment impacts** 124.1 -15.5 0.0 Employment in knowledge-intensive activities 165.1 0.0 Employment in innovative enterprises 30.2 0.0 90.4 86.3 -4.0 -3.5 Sales impacts Medium and high-tech goods exports 71.1 1.9 -6.6 Knowledge-intensive services exports 131.5 39 -27 Sales of innovative products 60.3 22.8 0.0 **Environmental sustainability** 123.2 4.4 2.6 192.0 0.0 Resource productivity Air emissions by fine particulate matter 111.4 6.1 1.0 Environment-related technologies 71.9 -16.4

The second column shows performance relative to that of the EU in 2023. Colours next to the column show matching colour codes: dark green: above 125% of the performance of the EU in 2023; light green: between 100% and 125%; light orange: between 70% and 100%; dark orange: below 70%. The next columns show performance change over time between 2016 and 2023 and between 2022 and 2023, with scores relative to those of the EU in 2016. Positive (negative) performance changes are shown in green (red).

The **NETHERLANDS** is an **Innovation Leader** with performance at 128.7% of the EU average. Performance is below the average of the Innovation Leaders. Performance is increasing at a rate marginally higher than that of the EU (8.5%-points). The country's performance lead over the EU is becoming larger.

### **Relative strengths**

Public-private co-publications
Foreign doctorate students
Lifelong learning
International scientific co-publications
People with above basic overall digital skills

### **Relative weaknesses**

Non-R&D Innovation expenditures Sales of innovative products Medium and high-tech goods exports Environment-related technologies Doctorate graduates

### Strong increases since 2016

Public-private co-publications Venture capital expenditures Foreign doctorate students

## Strong decreases since 2016

Job-to-job mobility of HRST Employment in innovative enterprises Product innovators

### Strong increases since 2022

Innovative SMEs collaborating with others Enterprises providing ICT training Business process innovators

### Strong decreases since 2022

Job-to-job mobility of HRST Doctorate graduates Public-private co-publications



The graph on the left shows the evolution of **innovation performance over time** against the performance of the country in 2016. Innovation performance, after an initial increase, dropped in 2021 and then increased strongly in both 2022 and 2023, leading to a 7% performance increase in 2023.

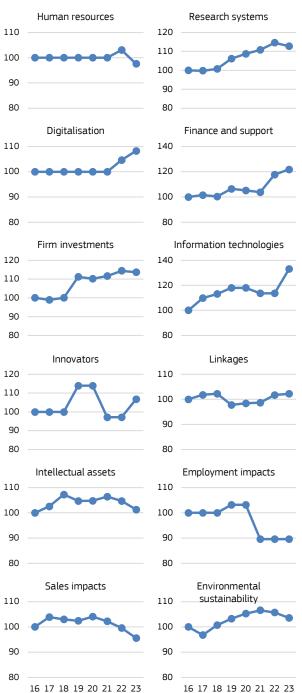
The graphs below show the evolution of innovation performance in the different **innovation dimensions** against the performance of the country in 2016. Performance improved strongest for Information technologies. Performance declined for Human resources, Employment impacts and Sales impacts.

Structural differences with the EU are shown below:

# • The Netherlands has higher per capita income, but a slower growing economy. Business services takes up a larger share of

- The Netherlands has higher per capita income, but a slower growing economy. Business services takes up a larger share of the economy, with SMEs accounting for a larger share of turnover.
- Entrepreneurial Activity, Top R&D spenders, and Buyer sophistication add positively to the innovation climate, Enterprise births, and FDI net inflows add negatively.
- Information on Innovation profiles is not available.
- Entrepreneurial training and government procurement are above the EU as drivers of research and innovation.
- The Netherlands shows a mixed performance on Climate change related indicators with above average share of material resources coming from recycled waste materials, a lesser reduction in greenhouse gas emissions.

| Performance and structure of the economy GDP per capita (PPS)  Average annual GDP growth (%)  Employment share Manufacturing (NACE C) (%)  of which High and Medium high-tech (%)  Employment share Services (NACE G-N) (%)  of which Knowledge-intensive services (%)  Turnover share SMEs (%)  Turnover share large enterprises (%)  Foreign-controlled enterprises – share of value added (%)  Business and entrepreneurship  Enterprise births (10+ employees) (%)  Total Entrepreneurial Activity (TEA) (%)  FDI net inflows (% GDP)  Top R&D spending enterprises per 10 mln. population  Buyer sophistication (1 to 7 best)  Inhouse product innovators with market novelties  In-house product innovators without market novelties  Innovators that do not develop innovations themselves  Innovation active non-innovators  Non-innovators without disposition to innovate  fovernance and policy framework   |
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| Employment share Manufacturing (NACE C) (%) 9.5 16 of which High and Medium high-tech (%) 32.6 38 Employment share Services (NACE G-N) (%) 46.8 41 of which Knowledge-intensive services (%) 41.3 35 Turnover share SMEs (%) 47.1 34 Turnover share large enterprises (%) 37.2 49 Foreign-controlled enterprises – share of value added (%) 14.7 11 Business and entrepreneurship Enterprise births (10+ employees) (%) 0.8 1 Total Entrepreneurial Activity (TEA) (%) 12.0 6 FDI net inflows (% GDP) -13.2 2 Top R&D spending enterprises per 10 mln. population 34.1 20 Buyer sophistication (1 to 7 best) 4.5 3 Innovation profiles In-house product innovators without market novelties n/a 12 In-house business process innovators n/a 16 Innovators that do not develop innovations themselves n/a 6 Innovation active non-innovators n/a 17 Non-innovators without disposition to innovate n/a 30   |
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| Governance and policy framework  |
|  |
| Corruption Perceptions Index (0 to 100 best) 81.3 64   |
| Basic school entrepreneurial education and training 5.7 3  |
| Govt. procurement of advanced tech. products 4.0 3   |
| Rule of law (-2.5 to 2.5 best) 1.8 1   |
| Climate change indicators  |
| Circular material use rate 31.3 11   |
| Greenhouse gas emissions intensity of energy consumption 91.1 82   |
| Eco-Innovation Index 97.8 100  |
| Demography   |
| Population size 17.5 447   |
| Average annual population growth (%) 0.5 -0  |
| Population density 504.1 108   |



Performance is measured relative to that of the country in 2016 (=100).

This report provides the Country profile from the 2023 European Innovation Scoreboard for Netherlands.

Studies and reports