The Global Innovation Index (GII) ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GII aims to capture the multi-dimensional facets of innovation.

Norway ranking in the Global Innovation Index 2023

> Norway ranks 19th among the 132 economies featured in the GII 2023.

> Norway ranks 18th among the 50 high-income group economies.

> Norway ranks 11th among the 39 economies in Europe.

> Norway GII Ranking (2020-2023)

The table shows the rankings of Norway over the past four years. Data availability and changes to the GII model framework influence year-on-year comparisons of the GII rankings. The statistical confidence interval for the ranking of Norway in the GII 2023 is between ranks 19 and 25.

<table>
<thead>
<tr>
<th>Year</th>
<th>GII Position</th>
<th>Innovation Inputs</th>
<th>Innovation Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>20th</td>
<td>15th</td>
<td>28th</td>
</tr>
<tr>
<td>2021</td>
<td>20th</td>
<td>13th</td>
<td>28th</td>
</tr>
<tr>
<td>2022</td>
<td>22nd</td>
<td>14th</td>
<td>29th</td>
</tr>
<tr>
<td>2023</td>
<td>19th</td>
<td>15th</td>
<td>28th</td>
</tr>
</tbody>
</table>

Norway performs worse in innovation outputs than innovation inputs in 2023.

This year Norway ranks 15th in innovation inputs. This position is lower than last year.

Norway ranks 28th in innovation outputs. This position is higher than last year.
Global Innovation Index 2023

→ Expected vs. observed innovation performance

The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected and those below are performing below expectations.

→ Norway is an innovation leader, ranking in the top 25 of the GII.

→ Innovation overperformers relative to their economic development

GII Score

GDP per capita, PPP logarithmic scale (thousands of $)
Effectively translating innovation investments into innovation outputs

The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

Norway produces less innovation outputs relative to its level of innovation investments.

Relationship between innovation inputs and outputs

![Chart showing the relationship between innovation inputs and outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs. Norway produces less innovation outputs relative to its level of innovation investments.](chart.png)
Overview of Norway's rankings in the seven areas of the GII in 2023

The chart shows the ranking for each of the seven areas that the GII comprises. The strongest areas for Norway are those that rank above the GII (shown in blue) and the weakest are those that rank below.

- **Highest rankings**
  - Norway ranks highest in Institutions (4th), Infrastructure (7th) and Human capital and research (19th).

- **Lowest rankings**
  - Norway ranks lowest in Market sophistication (29th), Knowledge and technology outputs (28th) and Creative outputs (23rd).

* Human capital and research
Benchmark of Norway against other country groupings for each of the seven areas of the GII Index

The charts show the relative position of Norway (blue bar) against other country groupings (grey bars), for each of the seven areas of the GII Index.

**High-Income economies**
Norway performs above the high-income group average in Creative outputs, Business sophistication, Market sophistication, Human capital and research, Infrastructure, Institutions.

**Europe**
Norway performs above the regional average in Creative outputs, Business sophistication, Market sophistication, Human capital and research, Infrastructure, Institutions.

### Knowledge and technology outputs
- **Top 10 | Score:** 58.96
- **Europe | Score:** 38.80
- **High income | Score:** 38.62
- **Norway | Score:** 37.47

#### Creative outputs
- Top 10 | 56.09
- Norway | 44.67
- High income | 40.27
- Europe | 39.87

#### Business sophistication
- Top 10 | 64.39
- Norway | 52.52
- High income | 46.38
- Europe | 44.61

#### Market sophistication
- Top 10 | 61.93
- Norway | 47.54
- High income | 46.42
- Europe | 43.85

#### Human capital and research
- Top 10 | 60.28
- Norway | 53.22
- High income | 46.30
- Europe | 44.05

#### Infrastructure
- Norway | 63.23
- Top 10 | 62.83
- High income | 55.85
- Europe | 54.69

#### Institutions
- Norway | 85.07
- Top 10 | 79.85
- High income | 68.16
- Europe | 61.69
**Innovation strengths and weaknesses in Norway**

The table below gives an overview of the indicator strengths and weaknesses of Norway in the GII 2023.

> Norway's main innovation strengths are **Electricity output, GWh/mn pop. (rank 1)**, **Rule of law** (rank 2) and **Entertainment and media market/th pop. 15-69** (rank 4).

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaks</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rank</strong></td>
<td><strong>Code</strong></td>
<td><strong>Indicator name</strong></td>
</tr>
<tr>
<td>1</td>
<td>3.2.1</td>
<td>Electricity output, GWh/mn pop.</td>
</tr>
<tr>
<td>2</td>
<td>1.2.2</td>
<td>Rule of law</td>
</tr>
<tr>
<td>4</td>
<td>7.2.3</td>
<td>Entertainment and media market/th pop. 15-69</td>
</tr>
<tr>
<td>4</td>
<td>2.1.1</td>
<td>Expenditure on education, % GDP</td>
</tr>
<tr>
<td>5</td>
<td>7.3.3</td>
<td>GitHub commits/mn pop. 15-69</td>
</tr>
<tr>
<td>5</td>
<td>1.1.2</td>
<td>Government effectiveness</td>
</tr>
<tr>
<td>5</td>
<td>5.1.1</td>
<td>Knowledge-intensive employment, %</td>
</tr>
<tr>
<td>5</td>
<td>1.1.1</td>
<td>Operational stability for businesses</td>
</tr>
<tr>
<td>6</td>
<td>4.1.2</td>
<td>Domestic credit to private sector, % GDP</td>
</tr>
<tr>
<td>6</td>
<td>2.3.1</td>
<td>Researchers, FTE/mn pop.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Norway’s innovation system

As far as practicable, the plots below present unscaled indicator data.

Innovation inputs in Norway

2.1.1 Expenditure on education, % GDP
was equal to 7.94% GDP in 2019, up by 0.3 percentage points from the year prior – and equivalent to an indicator rank of 4.

2.2.2 Graduates in science and engineering, %
was equal to 21.23% of total tertiary graduates in 2020, up by 0.28 percentage points from the year prior – and equivalent to an indicator rank of 64.

2.3.1 Researchers, FTE/mn pop.
was equal to 7,140.35 FTE/mn pop. in 2021, up by 5.76% from the year prior – and equivalent to an indicator rank of 6.

2.3.2 Gross expenditure on R&D, % GDP
was equal to 1.94% GDP in 2021, down by 0.3 percentage points from the year prior – and equivalent to an indicator rank of 20.

2.3.4 QS university ranking, top 3
was equal to an average score of 44.1 for the top 3 universities in 2022, down by 0.9% from the year prior – and equivalent to an indicator rank of 28.

3.1.1 ICT access
was equal to a score of 9.22 in 2021, up by 0.66% from the year prior – and equivalent to an indicator rank of 32.
4.1.1 Finance for startups and scaleups was equal to an average perception score of 5.3 in 2022, equivalent to an indicator rank of 25.

4.2.4 VC received, value, % GDP was equal to 0.00196% GDP in 2022, up by 0.000069 percentage points from the year prior – and equivalent to an indicator rank of 39.

4.3.2 Domestic industry diversification was equal to an index score of 0.182 in 2020, up by 19.3% from the year prior – and equivalent to an indicator rank of 62.

5.1.1 Knowledge-intensive employment, % was equal to 52.27% in 2022, down by 0.29 percentage points from the year prior – and equivalent to an indicator rank of 5.
6.1.1 Patents by origin
was equal to 1.58 Thousands in 2021, up by 3.87% from the year prior – and equivalent to an indicator rank of 21.

6.1.5 Citable documents H-index
was equal to an index value of 809 in 2022, up by 8.3% from the year prior – and equivalent to an indicator rank of 21.

6.2.2 Unicorn valuation, % GDP
was equal to 0.925 % GDP in 2023 – and equivalent to an indicator rank of 35.

6.2.3 Software spending, % GDP
was equal to 0.579% GDP in 2022, up by 0.13 percentage points from the year prior – and equivalent to an indicator rank of 18.

6.2.4 High-tech manufacturing, %
was equal to 17.68% of total manufacturing output in 2020, down by 5.66 percentage points from the year prior – and equivalent to an indicator rank of 69.

6.3.1 Intellectual property receipts, % total trade
was equal to 0.255% total trade in 2021, down by 0.046 percentage points from the year prior – and equivalent to an indicator rank of 39.
6.3.2 Production and export complexity
was equal to a score of 0.693 in 2020, up by
26.75% from the year prior – and equivalent to
an indicator rank of 37.

6.3.3 High-tech exports
was equal to 4,746,441,659 USD in 2021, up
by 16.65% from the year prior – and equivalent
to an indicator rank of 49.

7.1.1 Intangible asset intensity, top 15, %
was equal to 64.09% in 2022, up by 0.2
percentage points from the year prior – and
equivalent to an indicator rank of 31.

7.1.3 Global brand value, top 5,000
was equal to 36.679 bn USD in 2023, up by
35.52% from the year prior – and equivalent to
an indicator rank of 28.

7.2.1 Cultural and creative services exports
was equal to 1,057,868,000 USD in 2021, up
by 38.66% from the year prior – and
equivalent to an indicator rank of 48.

7.2.2 National feature films/mn pop. 15-69
was equal to 5.01films/mn pop. 15–69 in 2021,
down by 0.4% from the year prior – and
equivalent to an indicator rank of 22.
7.3.4 Mobile app creation/bn PPP$ GDP was equal to 646,400.64 Apps/bn PPP$ GDP in 2022, down by 14.56% from the year prior – and equivalent to an indicator rank of 32.
Norway's innovation top performers

2.3.3 Global corporate R&D investors from Norway

<table>
<thead>
<tr>
<th>Rank</th>
<th>Firm</th>
<th>Industry</th>
<th>R&amp;D</th>
<th>R&amp;D Growth</th>
<th>R&amp;D Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>497</td>
<td>VISMA</td>
<td>Software &amp; Computer Services</td>
<td>362</td>
<td>28</td>
<td>174</td>
</tr>
<tr>
<td>639</td>
<td>EQUINOR</td>
<td>Oil &amp; Gas Producers</td>
<td>257</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>886</td>
<td>KALERA</td>
<td>Food Producers</td>
<td>178</td>
<td>103</td>
<td>7,056</td>
</tr>
<tr>
<td>925</td>
<td>DNB</td>
<td>Banks</td>
<td>169</td>
<td>-9</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Note: European Commission’s Joint Research Centre ranks the top 2,500 firms by R&D investment annually.

2.3.4 QS university ranking of Norway's top universities

<table>
<thead>
<tr>
<th>Rank</th>
<th>University</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>UNIVERSITY OF OSLO</td>
<td>58.70</td>
</tr>
<tr>
<td>207</td>
<td>UNIVERSITY OF BERGEN</td>
<td>42.70</td>
</tr>
<tr>
<td>352</td>
<td>NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY</td>
<td>39.90</td>
</tr>
</tbody>
</table>

Note: QS Quacquarelli Symonds Ltd annually assesses over 1,200 universities across the globe and scores them between [0,100]. Ranks can represent a single value "x", a tie "x=x" or a range "x-y".

6.2.2 Top Unicorn Companies in Norway

<table>
<thead>
<tr>
<th>Rank</th>
<th>Unicorn Company</th>
<th>Industry</th>
<th>City</th>
<th>Valuation, bn USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>COGNITE</td>
<td>Data management &amp; analytics</td>
<td>Lysaker</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GELATO</td>
<td>E-commerce &amp; direct-to-consumer</td>
<td>Oslo</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>DUNE ANALYTICS</td>
<td>Data management &amp; analytics</td>
<td>Oslo</td>
<td>1</td>
</tr>
</tbody>
</table>

7.1.1 Top 15 intangible-asset intensive companies in Norway

<table>
<thead>
<tr>
<th>Rank</th>
<th>Firm</th>
<th>Intensity, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EQUINOR ASA</td>
<td>59.57</td>
</tr>
<tr>
<td>2</td>
<td>TELENOR ASA</td>
<td>56.76</td>
</tr>
<tr>
<td>3</td>
<td>ADEVINTA ASA</td>
<td>104.49</td>
</tr>
</tbody>
</table>

Note: Brand Finance only provides within economy ranks.

7.1.3 Top 5,000 companies in Norway with highest global brand value

<table>
<thead>
<tr>
<th>Rank</th>
<th>Brand</th>
<th>Industry</th>
<th>Brand Value, mn USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EQUINOR</td>
<td>Oil &amp; Gas</td>
<td>13,099.4</td>
</tr>
<tr>
<td>2</td>
<td>TELENOR</td>
<td>Telecoms</td>
<td>4,469.1</td>
</tr>
<tr>
<td>3</td>
<td>DNB</td>
<td>Banking</td>
<td>3,252.1</td>
</tr>
</tbody>
</table>

Note: Rank corresponds to within economy ranks.
Global Innovation Index 2023

Norway

Output rank 28 Input rank 15 Income High Region

Population (mn) 5.4 GDP, PPP$( bn) 425.6 GDP per capita, PPP$ 78,127.6

Score / Value Rank

1.1 Institutional environment 85.1 4

1.11 Operational stability for businesses* 86.8 3
1.12 Government effectiveness* 86.1 5 6
1.2 Regulatory environment 87.5 4
1.21 Regulatory quality* 87.5 4
1.22 Cost of bureaucratic compliance 84.5 10
1.23 Cost of regulatory compliance 96.8 2
1.3 Business environment 87.2 7
1.31 Policies for doing business* 73.5 18
1.32 Entrepreneurship policies and culture* 87.2 14

Score / Value Rank

Human capital and research 53.2 19

2.1 Education 73.4 3
2.11 Expenditure on education, % GDP 79.4 4
2.12 Government spending per pupil, secondary, % GDP/cap 94.8 14
2.13 School life expectancy, years 18.2 12
2.14 PISA scores in reading, math and science 486.9 22
2.15 Pupil-teacher ratio, secondary 8.7 20
2.2 Tertiary education 33.9 54
2.21 Tertiary enrolment, % gross 84.4 18
2.22 Graduates in science and engineering, % 21.2 64
2.23 Tertiary immobility, % 4.4 54

Score / Value Rank

2.3 Research and development (R&D) 52.4 19

2.31 Researchers, FTE/mn pop. 7140.3 6
2.32 Gross expenditure on R&D, % GDP 1.9 20
2.33 Global corporate R&D investors, top 3, mn US$ 56.2 27
2.34 QS university ranking, top 3* 44.7 28

Score / Value Rank

Infrastructure 63.2 7

3.1 Information and communication technologies (ICTs) 82.7 29
3.11 ICT access* 88.4 32
3.12 ICT use* 95.8 8
3.13 Government’s online service* 78.0 39
3.14 E-participation* 68.6 43
3.2 General infrastructure 64.3 4
3.21 Electricity output, GWh/mn pop. 29134.8 1
3.22 Logistics performance* 72.7 16
3.23 Gross capital formation, % GDP 24.2 64
3.3 Ecological sustainability 42.7 27
3.31 GDP/unit of energy use 11.4 55
3.32 Environmental performance* 68.5 20
3.33 ISO 14001 environment/tn PPP$ GDP 4.2 23

Score / Value Rank

Market sophistication 47.5 29

4.1 Credit 64.6 12
4.11 Finance for startups and scaleups* 65.8 25
4.12 Domestic credit to private sector, % GDP 166.0 6
4.13 Loans from microfinance institutions, % GDP n/a n/a
4.2 Investment 19.1 37
4.21 Market capitalization, % GDP 68.8 24
4.22 Venture capital (VC) investors, deals/tn PPP$ GDP 0.2 28
4.23 VC recipients, deals/tn PPP$ GDP 0.1 34
4.24 VC received, value, % GDP 0.0 39
4.3 Trade, diversification, and market scale 58.9 62
4.31 Applied tariff rate, weighted avg., % 2.8 69
4.32 Domestic industry diversification 85.9 62
4.33 Domestic market scale, bn PPP$ 425.6 50

Score / Value Rank

Business sophistication 52.5 22

5.1 Knowledge workers 61.5 19
5.11 Knowledge-intensive employment, % GDP 52.3 5
5.12 Firms offering formal training, % n/a n/a
5.13 GERD performed by business, % GDP 1.0 21
5.14 GERD financed by business, % GDP 44.5 36
5.15 Females employed in advanced degrees, % 27.6 10
5.2 Innovation linkages 52.9 17
5.21 University-industry R&D collaboration* 72.6 22
5.22 State of cluster development* 75.9 17
5.23 GERD financed by abroad, % GDP 0.2 24
5.24 Joint ventures, strategic alliances deals/tn PPP$ GDP 0.1 14
5.25 Patent families, tnpn PPP$ GDP 1.8 21
5.3 Knowledge absorption 43.2 35
5.31 Intellectual property payments, % total trade 0.5 72 68
5.32 High-tech imports, % total trade 6.8 89
5.33 ICT services imports, % total trade 3.1 15
5.34 FDI net inflows, % GDP 1.9 74
5.35 Research talent, % in businesses 51.0 24

Score / Value Rank

Knowledge and technology outputs 37.5 28

6.1 Knowledge creation 49.7 15
6.11 Patents by origin/tn PPP$ GDP 4.1 21
6.12 PCT patents by origin/tn PPP$ GDP 1.9 16
6.13 Utility models by origin/tn PPP$ GDP n/a n/a
6.14 Scientific and technical articles/tn PPP$ GDP n/a n/a
6.15 Opaque documents H-index 42.6 21
6.2 Knowledge impact 34.6 42
6.21 Labor productivity growth, % 0.2 92
6.22 Unemployment, % GDP 0.9 35
6.23 Software spending, % GDP 0.6 18
6.24 High-tech manufacturing, % 177 69
6.3 Knowledge diffusion 28.0 56
6.31 Intellectual property receipts, % total trade 0.3 39
6.32 Production and export complexity 67.3 37
6.33 High-tech exports, % total trade 2.8 49
6.34 ICT services exports, % total trade 1.6 67
6.35 ISO 9001 quality/tn PPP$ GDP 7.1 39

Score / Value Rank

Creative outputs 44.7 23

7.1 Intangible assets 38.7 47
7.11 Intangible asset intensity, top 15, % 64.1 31
7.12 Trademarks by origin/tn PPP$ GDP 30.8 76
7.13 Global brand value, top 500 7.3 28
7.14 Industrial designs by origin/tn PPP$ GDP 1.2 62
7.2 Creative goods and services 31.5 26
7.21 Cultural and creative services exports, % total trade 0.6 48
7.22 National feature films/mn pop. 15-69 5.0 22
7.23 Entertainment and media market/tn pop. 15-69 75.7 4
7.24 Creative goods exports, % total trade 0.5 63
7.3 Online creativity 69.7 9
7.31 Generic top-level domains (TLDs)/tn pop. 15-69 57.9 13
7.32 Country-code TLDs/tn pop. 15-69 65.5 12
7.33 GitHub commits/mn pop. 15-69 82.0 5
7.34 Mobile app creation/tn PPP$ GDP 74.1 32

NOTES: * indicates a strength; ○ a weakness; ● an income group strength; ◊ an income group weakness; * an index; ◊ survey question. n/a indicates that the economy’s data are older than the base year; see appendices for details, including the year of the data, at https://www.wipo.int/gii-ranking. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level.
Data availability

The following tables list indicators that are either missing or outdated for Norway.

Norway has missing data for three indicators and outdated data for five indicators.

### Missing data for Norway

<table>
<thead>
<tr>
<th>Code</th>
<th>Indicator name</th>
<th>Economy Year</th>
<th>Model Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1.3</td>
<td>Loans from microfinance institutions, % GDP</td>
<td>n/a</td>
<td>2021</td>
<td>International Monetary Fund, Financial Access Survey (FAS)</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Firms offering formal training, %</td>
<td>n/a</td>
<td>2019</td>
<td>World Bank Enterprise Surveys</td>
</tr>
<tr>
<td>6.1.3</td>
<td>Utility models by origin/bn PPP$ GDP</td>
<td>n/a</td>
<td>2021</td>
<td>World Intellectual Property Organization; International Monetary Fund</td>
</tr>
</tbody>
</table>

### Outdated data for Norway

<table>
<thead>
<tr>
<th>Code</th>
<th>Indicator name</th>
<th>Economy Year</th>
<th>Model Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3.1</td>
<td>Policies for doing business</td>
<td>2018</td>
<td>2022</td>
<td>World Economic Forum, Executive Opinion Survey (EOS)</td>
</tr>
<tr>
<td>2.1.1</td>
<td>Expenditure on education, % GDP</td>
<td>2019</td>
<td>2021</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>4.2.1</td>
<td>Market capitalization, % GDP</td>
<td>2019</td>
<td>2020</td>
<td>World Federation of Exchanges; World Bank</td>
</tr>
<tr>
<td>5.2.1</td>
<td>University-industry R&amp;D collaboration</td>
<td>2018</td>
<td>2022</td>
<td>World Economic Forum, Executive Opinion Survey (EOS)</td>
</tr>
<tr>
<td>5.2.2</td>
<td>State of cluster development</td>
<td>2018</td>
<td>2022</td>
<td>World Economic Forum, Executive Opinion Survey (EOS)</td>
</tr>
</tbody>
</table>
The Global Innovation Index (GII) is published by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations. Recognizing that innovation is a key driver of economic development, the GII aims to provide an innovation ranking and rich analysis referencing around 130 economies. Over the last decade, the GII has established itself as both a leading reference on innovation and a “tool for action” for economies that incorporate the GII into their innovation agendas.

The Index is a ranking of the innovation capabilities and results of world economies. It measures innovation based on criteria that include institutions, human capital and research, infrastructure, credit, investment, linkages; the creation, absorption and diffusion of knowledge; and creative outputs.

The GII has two sub-indices: the Innovation Input Sub-Index and the Innovation Output Sub-Index, and seven pillars, each consisting of three sub-pillars.