FINLAND

7th  Finland ranks 7th among the 132 economies featured in the GII 2021.

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.

The following table shows the rankings of Finland over the past three years, noting that 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 Finland in the GII 2021 is between ranks 5 and 8.

<table>
<thead>
<tr>
<th></th>
<th>GII</th>
<th>Innovation inputs</th>
<th>Innovation outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>7</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>2020</td>
<td>7</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>2019</td>
<td>6</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

• Finland performs better in innovation inputs than innovation outputs in 2021.
• This year Finland ranks 6th in innovation inputs, higher than both 2020 and 2019.
• As for innovation outputs, Finland ranks 9th. This position is lower than both 2020 and 2019.

7th  Finland ranks 7th among the 51 high-income group economies.

5th  Finland ranks 5th among the 39 economies in Europe.
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.

Relative to GDP, Finland’s performance is above expectations for its level of development.
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.

Finland produces more innovation outputs relative to its level of innovation investments.
BENCHMARKING AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND EUROPE

The seven GII pillar scores for Finland

High-income group economies

Finland performs above the high-income group average in all GII pillars.

Europe

Finland performs above the regional average in all GII pillars.
OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Finland performs best in Institutions and its weakest performance is in Market sophistication.

The seven GII pillar ranks for Finland

- Institutions: 2
- Human capital and research: 4
- Knowledge and technology outputs: 5
- Business sophistication: 6
- Global Innovation Index 2021: 7
- Infrastructure: 11
- Creative outputs: 16
- Market sophistication: 19

Note: The highest possible ranking in each pillar is one.
INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Finland in the GII 2021.

**Strengths and weaknesses for Finland**

<table>
<thead>
<tr>
<th>Code</th>
<th>Strengths</th>
<th>Rank</th>
<th>Code</th>
<th>Weaknesses</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Political environment</td>
<td>5</td>
<td>2.1.5</td>
<td>Pupil-teacher ratio, secondary</td>
<td>65</td>
</tr>
<tr>
<td>1.1.2</td>
<td>Government effectiveness</td>
<td>4</td>
<td>3.3.1</td>
<td>GDP/unit of energy use</td>
<td>99</td>
</tr>
<tr>
<td>1.2</td>
<td>Regulatory environment</td>
<td>5</td>
<td>4.1.1</td>
<td>Ease of getting credit</td>
<td>74</td>
</tr>
<tr>
<td>1.2.2</td>
<td>Rule of law</td>
<td>1</td>
<td>4.2.1</td>
<td>Ease of protecting minority investors</td>
<td>60</td>
</tr>
<tr>
<td>1.3</td>
<td>Business environment</td>
<td>1</td>
<td>4.3.3</td>
<td>Domestic market scale, bn PPP$</td>
<td>57</td>
</tr>
<tr>
<td>1.3.2</td>
<td>Ease of resolving insolvency</td>
<td>1</td>
<td>5.3.2</td>
<td>High-tech imports, % total trade</td>
<td>74</td>
</tr>
<tr>
<td>2.3.1</td>
<td>Researchers, FTE/mn pop.</td>
<td>4</td>
<td>6.2.1</td>
<td>Labor productivity growth, %</td>
<td>82</td>
</tr>
<tr>
<td>3.1.3</td>
<td>Government's online service</td>
<td>3</td>
<td>7.1.1</td>
<td>Trademarks by origin/bn PPP$ GDP</td>
<td>62</td>
</tr>
<tr>
<td>5.1.5</td>
<td>Females employed w/advanced degrees, %</td>
<td>4</td>
<td>7.2.4</td>
<td>Printing and other media, % manufacturing</td>
<td>56</td>
</tr>
<tr>
<td>5.2</td>
<td>Innovation linkages</td>
<td>3</td>
<td>7.2.5</td>
<td>Creative goods exports, % total trade</td>
<td>61</td>
</tr>
<tr>
<td>5.2.1</td>
<td>University-industry R&amp;D collaboration</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2.5</td>
<td>Patent families/bn PPP$ GDP</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.3.3</td>
<td>ICT services imports, % total trade</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.1.2</td>
<td>PCT patents by origin/bn PPP$ GDP</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.3</td>
<td>Knowledge diffusion</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6.3.1</td>
<td>Intellectual property receipts, % total trade</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.3.4</td>
<td>ICT services exports, % total trade</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.1.4</td>
<td>ICTs and organizational model creation</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Finland

#### GII 2021 rank

| 7 | Score/Value Rank | 60.0 | 6 |

#### Institutions

| 10 | Score/Value Rank | 93.3 | 2 |

1. **Political environment**
   - 1.1 Political and operational stability
     - 1.1.1 Political and operational stability
     - 1.1.2 Government effectiveness
2. **Regulatory environment**
   - 1.2 Regulatory quality
     - 1.2.1 Rule of law
     - 1.2.2 Cost of redundancy dismissal
3. **Business environment**
   - 1.3 Ease of starting a business
   - 1.3.2 Ease of resolving insolvency

#### Human capital and research

| 7 | Score/Value Rank | 62.4 | 4 |

2. **Education**
   - 2.1 Expenditure on education, % GDP
   - 2.2.2 Graduates in science and engineering, %
   - 2.2.3 Gross capital formation, % GDP

3. **Research and development (R&D)**
   - 2.3.1 Researchers, FTE/mn pop.

#### Infrastructure

| 7 | Score/Value Rank | 59.5 | 11 |

3. **Information and communication technologies (ICTs)**
   - 3.1.1 ICT access
   - 3.1.2 ICT use
   - 3.1.3 Government’s online service
   - 3.1.4 E-participation

3. **General infrastructure**
   - 3.2.1 Electricity output, GWh/mn pop.
   - 3.2.2 Logistics performance
   - 3.2.3 Cross border regulation, % GDP

#### Market sophistication

| 7 | Score/Value Rank | 58.7 | 19 |

4. **Credit**
   - 4.1.1 Ease of getting credit
   - 4.1.3 Microfinance gross loans, % GDP

4. **Investment**
   - 4.2.1 Ease of protecting minority investors

4. **Trade**
   - 4.3.3 Domestic industry diversification

### Business sophistication

| 6 | Score/Value Rank | 61.0 | 6 |

5. **Knowledge workers**
   - 5.1.1 Knowledge-intensive employment, %

5. **Knowledge absorption**
   - 5.3.1 Intellectual property receipts, % total trade

5. **Knowledge diffusion**
   - 6.3.1 Intellectual property receipts, % total trade

5. **Creative outputs**
   - 7.2.1 Cultural and creative services exports, % total trade

### Creative outputs

7. **Intangible assets**
   - 7.1.1 Trademarks by origin/bn PPP$ GDP

#### Knowledge and technology outputs

| 5 | Score/Value Rank | 56.5 | 5 |

6. **Patents by origin/bn PPP$ GDP**
   - 6.1.1 Patents by origin/bn PPP$ GDP

6. **Knowledge and technology outputs**
   - 6.1.4 Scientific and technical articles/bn PPP$ GDP

#### Knowledge and technology outputs

NOTES: ● indicates a strength; ○ a weakness; ● an income group strength; ○ an income group weakness; * an index; † a survey question. ○ indicates that the economy’s data are older than the base year; see Appendix IV for details, including the year of the data, at http://globalinnovationindex.org. 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 data that are either missing or outdated for Finland.

### Missing data for Finland

<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>Microfinance gross loans, % GDP</td>
<td>n/a</td>
<td>2018</td>
<td>Microfinance Information Exchange</td>
</tr>
<tr>
<td>4.2.2</td>
<td>Market capitalization, % GDP</td>
<td>n/a</td>
<td>2019</td>
<td>World Federation of Exchanges</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Firms offering formal training, %</td>
<td>n/a</td>
<td>2019</td>
<td>World Bank</td>
</tr>
</tbody>
</table>

### Outdated data for Finland

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<td>Pupil-teacher ratio, secondary</td>
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<td>2019</td>
<td>UNESCO Institute for Statistics</td>
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ABOUT THE GLOBAL INNOVATION INDEX

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.