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 Slovenia 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 Slovenia in the GII 2020 is between ranks 32 and 33.

<table>
<thead>
<tr>
<th></th>
<th>GII</th>
<th>Innovation inputs</th>
<th>Innovation outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>32</td>
<td>29</td>
<td>39</td>
</tr>
<tr>
<td>2019</td>
<td>31</td>
<td>33</td>
<td>30</td>
</tr>
<tr>
<td>2018</td>
<td>30</td>
<td>31</td>
<td>29</td>
</tr>
</tbody>
</table>

- Slovenia performs better in innovation inputs than innovation outputs in 2020.
- This year Slovenia ranks 29th in innovation inputs, higher than last year and higher compared to 2018.
- As for innovation outputs, Slovenia ranks 39th. This position is lower than last year and lower compared to 2018.
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, Slovenia’s performance matches 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.

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

Innovation input to output performance, 2020

---

AU Australia  BH Bahrain  BN Brunei Darussalam  BG Bulgaria  CN China  CZ Czech Republic  ET Ethiopia  DE Germany  IN India  IL Israel  KW Kuwait  MG Madagascar  MW Malawi  ML Mali  MN Mongolia  BA Bosnia and Herzegovina  BE Belgium  BR Brazil  BY Belarus  CA Canada  CL Chile  CO Colombia  CR Costa Rica  CU Cuba  CY Cyprus  CZ Czech Republic  DK Denmark  DO Dominican Republic  EC Ecuador  EG Egypt  EL Greece  ES Spain  FI Finland  FR France  GB United Kingdom  GD Grenada  GE Georgia  GH Ghana  GY Guyana  HK Hong Kong  HN Honduras  HR Croatia  HU Hungary  ID Indonesia  IL Israel  IN India  IQ Iraq  IR Iran  IS Iceland  IT Italy  JM Jamaica  JP Japan  KE Kenya  KH Cambodia  KN Caribbean Netherlands  KP Korea  KR South Korea  LT Lithuania  LV Latvia  LS Lesotho  LU Luxembourg  MA Morocco  MD Moldova  MG Madagascar  MK Macedonia  ML Mali  MM Myanmar  MN Mongolia  MO Macao  MR Mauritania  MS Montenegro  MT Malta  MU Mauritius  MV Maldives  MW Malawi  MX Mexico  MY Malaysia  MZ Mozambique  NA Namibia  NG Nigeria  NL Netherlands  NO Norway  OM Oman  PK Pakistan  PN Palau  PY Paraguay  QA Qatar  RO Romania  RS Serbia  RU Russia  RW Rwanda  SA Saudi Arabia  SC Sri Lanka  SD Sudan  SE Sweden  SG Singapore  SI Slovenia  SK Slovakia  SL Sri Lanka  SN Senegal  SO Somalia  SR Sint Eustatius and Saba  SS South Sudan  ST São Tomé and Príncipe  SV El Salvador  SN Senegal  SR Sint Maarten  ST São Tomé and Príncipe  TL East Timor  TN Tunisia  TR Turkey  TT Trinidad and Tobago  TV Tuvalu  TW Taiwan  UA Ukraine  AE United Arab Emirates  GB United Kingdom  US United States of America  VN Viet Nam  ZA South Africa  ZW Zimbabwe

---

Output score  High income group  Lower middle-income group  Low income group  Fitted values
BENCHMARKING SLOVENIA AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND EUROPE

Slovenia’s scores in the seven GII pillars

High-income group economies

Slovenia has high scores in two out of the seven GII pillars: Institutions and Human capital & research, which are above average for the high-income group.

Conversely, Slovenia scores below average for its income group in five GII pillars: Infrastructure, Market sophistication, Business sophistication, Knowledge & technology outputs and Creative outputs.

Europe

Compared to other economies in Europe, Slovenia performs:

- above average in four out of the seven GII pillars: Institutions, Human capital & research, Infrastructure and Business sophistication; and
- below average in three out of the seven GII pillars: Market sophistication, Knowledge & technology outputs and Creative outputs.
OVERVIEW OF SLOVENIA RANKINGS IN THE SEVEN GII AREAS

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

*The highest possible ranking in each pillar is 1.

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Slovenia in the GII 2020.

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Code</th>
<th>Indicator name</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.3</td>
<td>Business environment</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>1.3.2</td>
<td>Ease of resolving insolvency*</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>2.1.3</td>
<td>School life expectancy, years</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>2.1.4</td>
<td>PISA scales in reading, maths, &amp; science</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>3.3.3</td>
<td>ISO 14001 environmental certificates/bn PPP$ GDP</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>5.1</td>
<td>Knowledge workers</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>5.1.4</td>
<td>GERD financed by business, %</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>5.2.3</td>
<td>GERD financed by abroad, % GDP</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>5.3.5</td>
<td>Research talent, % in business enterprise</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>6.1.4</td>
<td>Scientific &amp; technical articles/bn PPP$ GDP</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>6.2.4</td>
<td>ISO 9001 quality certificates/bn PPP$ GDP</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>7.2.2</td>
<td>National feature films/mn pop. 15–69</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weaknesses</th>
<th>Code</th>
<th>Indicator name</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.2.3</td>
<td>Gross capital formation, % GDP</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Market sophistication</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>4.1</td>
<td>Credit</td>
<td>103</td>
</tr>
<tr>
<td></td>
<td>4.1.1</td>
<td>Ease of getting credit*</td>
<td>101</td>
</tr>
<tr>
<td></td>
<td>4.1.2</td>
<td>Domestic credit to private sector, % GDP</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>4.2.2</td>
<td>Market capitalization, % GDP</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>4.3.3</td>
<td>Domestic market scale, bn PPP$</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>5.2.2</td>
<td>State of cluster development†</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>5.3.2</td>
<td>High-tech imports, % total trade</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td>6.1.3</td>
<td>Utility models by origin/bn PPP$ GDP</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>6.2.3</td>
<td>Computer software spending, % GDP</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>7.1.2</td>
<td>Global brand value, top 5000, % GDP</td>
<td>65</td>
</tr>
</tbody>
</table>
STRENGTHS

GII strengths for Slovenia are found in six of the seven GII pillars.

- Institutions (20): exhibits strengths in the sub-pillar Business environment (7), and in the indicator Ease of resolving insolvency (8).
- Human capital & research (26): shows strengths in the indicators School life expectancy (15) and PISA scales in reading, maths, & science (11).
- Infrastructure (32): demonstrates strengths in the indicator ISO 14001 environmental certificates (18).
- Business sophistication (27): displays strengths in the sub-pillar Knowledge workers (18) and in the indicators GERD financed by business (10), GERD financed by abroad (13) and Research talent (11).
- Knowledge & technology outputs (35): reveals strengths in the indicators Scientific & technical articles (2) and ISO 9001 quality certificates (8).
- Creative outputs (41): exhibits strengths in the indicator National feature films (9).

WEAKNESSES

GII weaknesses for Slovenia are found in five of the seven GII pillars.

- Infrastructure (32): displays weaknesses in the indicator Gross capital formation (83).
- Market sophistication (77): shows weaknesses in the sub-pillar Credit (103) and in the indicators Ease of getting credit (101), Domestic credit to private sector (76), Market capitalization (64) and Domestic market scale (89).
- Business sophistication (27): demonstrates weaknesses in the indicators State of cluster development (73) and High-tech imports (97).
- Knowledge & technology outputs (35): reveals weaknesses in the indicators Utility models by origin (52) and Computer software spending (89).
- Creative outputs (41): exhibits weaknesses in the indicator Global brand value (65).
<table>
<thead>
<tr>
<th>Output rank</th>
<th>GII 2020 rank</th>
<th>Input rank</th>
<th>Income</th>
<th>Region</th>
<th>Population (mn)</th>
<th>GDP, PPP$</th>
<th>GDP per capita, PPP$</th>
<th>GII 2019 rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>39</td>
<td>29</td>
<td>High</td>
<td>EUR</td>
<td>2.1</td>
<td>79.6</td>
<td>33,578.8</td>
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**INSTITUTIONS**

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>82.4</td>
<td>20</td>
</tr>
</tbody>
</table>

1.1 Political environment
1.1.1 Political and operational stability
1.1.2 Government effectiveness
1.2 Regulatory environment
1.2.1 Regulatory quality
1.2.2 Rule of law
1.2.3 Cost of redundancy dismissal, salary weeks
1.3 Business environment
1.3.1 Ease of starting a business
1.3.2 Ease of resolving insolvency

**HUMAN CAPITAL & RESEARCH**

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>47.2</td>
<td>26</td>
</tr>
</tbody>
</table>

2.1 Education
2.1.1 Expenditure on education, % GDP
2.1.2 Government funding/pupil, secondary, % GDP
2.1.3 School life expectancy, years
2.1.4 PISA scales in reading, maths, & science
2.1.5 Publications ratio, secondary

2.2 Tertiary education
2.2.1 Tertiary enrolment, % gross
2.2.2 Graduates in science & engineering, %
2.2.3 Tertiary inboard mobility

2.3 Research & development (R&D)
2.3.1 Researchers, FTE/million population
2.3.2 Gross expenditure on R&D, % GDP
2.3.3 Global R&D companies, avg. exp. top 3, mn $US
2.3.4 QS university ranking, average score top 3

**INFRASTRUCTURE**

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>52.5</td>
<td>32</td>
</tr>
</tbody>
</table>

3.1 Information & 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

3.2 General infrastructure
3.2.1 Electricity output, kWh/mn pop
3.2.2 Logistics performance
3.2.3 Gross capital formation, % GDP

3.3 Ecological sustainability
3.3.1 Government’s environmental policy, %
3.3.2 Environmental performance
3.3.3 ISO 14001 environmental certificates/bn PPP$ GDP

**MARKET SOPHISTICATION**

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>45.7</td>
<td>77</td>
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</tbody>
</table>

4.1 Credit
4.1.1 Ease of getting credit
4.1.2 Domestic credit to private sector, % GDP
4.1.3 Microfinance gross loans, % GDP

4.2 Investment
4.2.1 City centre availability, %
4.2.2 Market capitalization, % GDP
4.2.3 Venture capital deals/bn PPP$ GDP

4.3 Trade, competition, and market scale
4.3.1 Applied tariff rate, weighted avg., %
4.3.2 Intensity of local competition
4.3.3 Domestic market scale, bn PPP$ GDP

**BUSINESS SOPHISTICATION**

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
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<tbody>
<tr>
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<td>27</td>
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</tbody>
</table>

5.1 Knowledge workers
5.1.1 Knowledge-intensive employment, %
5.1.2 Firms offering formal training, %
5.1.3 GERD performed by business, % GDP
5.1.4 GERD financed by business, %
5.1.5 Females employed in advanced degrees, %

5.2 Innovation linkages
5.2.1 University/industry research collaboration
5.2.2 State of cluster development
5.2.4 JV-strategic alliance deals/bn PPP$ GDP
5.2.5 Patent families/200 patent families

5.3 Knowledge absorption
5.3.1 Intellectual property payments, % total trade
5.3.2 High-tech imports, % total trade
5.3.3 ICT services imports, % total trade
5.3.4 ICT net inflows, % GDP
5.3.5 Research talent, % in business enterprises

**KNOWLEDGE & TECHNOLOGY OUTPUTS**

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.7</td>
<td>35</td>
</tr>
</tbody>
</table>

6.1 Knowledge creation
6.1.1 Patents by origin/bn PPP$ GDP
6.1.2 PCT patents by origin/bn PPP$ GDP
6.1.3 Utility models by origin/bn PPP$ GDP
6.1.4 Scientific & technical articles/bn PPP$ GDP
6.1.5 Citable documents H-index

6.2 Knowledge impact
6.2.1 Growth rate of PPP$ GDP/worker, %
6.2.2 New businesses/1000 pop.
6.2.3 Computer software spending, % GDP
6.2.4 ISO 9001 quality certificates/bn PPP$ GDP
6.2.5 High-end electronic & high-tech manufacturing, %

6.3 Knowledge diffusion
6.3.1 Intellectual property receipts, % total trade
6.3.2 High-tech net exports, % total trade
6.3.3 ICT services exports, % total trade
6.3.4 ICT net outflows, % GDP

**CREATIVE OUTPUTS**

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.7</td>
<td>41</td>
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</tbody>
</table>

7.1 Intangible assets
7.1.1 Trademarks by origin/bn PPP$ GDP
7.1.2 Brand value, top 1000, % GDP
7.1.3 Industrial designs by origin/bn PPP$ GDP
7.1.4 ICTs & organizational model creation

7.2 Creative goods and services
7.2.1 Cultural & creative services exports, % total trade
7.2.2 National feature films/mn pop.
7.2.3 Entertainment & Media market/bn pop.
7.2.4 Printing and other media, % manufacturing
7.2.5 Creative goods exports, % total trade

7.3 Online creativity
7.3.1 Generic top-level domains (TLD)/mn pop.
7.3.2 Country-code TLDs/bn pop.
7.3.3 Wikipedia editions/bn pop.
7.3.4 Mobile app creation/bn PPP$ GDP

**NOTES:** Indicates a strength; ○ a weakness; • an income group strength; ◦ an income group weakness; ● an indicator; ○ a survey question; ○ indicates that the economy’s data are older than the base year; see Appendix I 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 Slovenia.

### Missing data

<table>
<thead>
<tr>
<th>Code</th>
<th>Indicator name</th>
<th>Country 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>4.2.3</td>
<td>Venture capital deals/bn PPP$ GDP</td>
<td>n/a</td>
<td>2019</td>
<td>Thomson Reuters</td>
</tr>
<tr>
<td>7.2.3</td>
<td>Entertainment &amp; Media market/1000 pop. 15–69</td>
<td>n/a</td>
<td>2018</td>
<td>PwC</td>
</tr>
</tbody>
</table>

### Outdated data

<table>
<thead>
<tr>
<th>Code</th>
<th>Indicator name</th>
<th>Country year</th>
<th>Model year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.1</td>
<td>Expenditure on education, % GDP</td>
<td>2016</td>
<td>2018</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.1.5</td>
<td>Pupil-teacher ratio, secondary</td>
<td>2016</td>
<td>2018</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>6.1.3</td>
<td>Utility models by origin/bn PPP$ GDP</td>
<td>2010</td>
<td>2018</td>
<td>World Intellectual Property Organization</td>
</tr>
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</table>
ABOUT THE GLOBAL INNOVATION INDEX

The Global Innovation Index (GII) is co-published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations. In 2020, the GII presents its 13th edition devoted to the theme *Who Will Finance Innovation?*

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.