Australia ranks 23rd among the 131 economies featured in the GII 2020.

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 Australia 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 Australia in the GII 2020 is between ranks 21 and 27.

<table>
<thead>
<tr>
<th>Year</th>
<th>GII</th>
<th>Innovation inputs</th>
<th>Innovation outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>23</td>
<td>13</td>
<td>31</td>
</tr>
<tr>
<td>2019</td>
<td>22</td>
<td>15</td>
<td>31</td>
</tr>
<tr>
<td>2018</td>
<td>20</td>
<td>11</td>
<td>31</td>
</tr>
</tbody>
</table>

- Australia performs better in innovation inputs than innovation outputs in 2020.
- This year Australia ranks 13th in innovation inputs, higher than last year and lower compared to 2018.
- As for innovation outputs, Australia ranks 31st. This position is the same as last year and the same compared to 2018.

Australia ranks 22nd among the 49 high-income group economies.

Australia ranks 6th among the 17 economies in South East Asia, East Asia, and Oceania.
Australia ranks 23rd in the GII this year, down one position since 2019. It remains 6th in the South East Asia, East Asia, and Oceania region, but moves down one position to 22nd in the GII rankings among high-income economies. Among the most notable gains, Australia improves its rankings in environmental performance and in the volume of net foreign direct investment (FDI) inflows. Australia ranks 26th globally in the new GII indicator, Global brand value. Australia is home to 112 of the world’s top 5,000 most valuable brands. They include telecommunications Telstra, and retailers Woolworths and Coles.

Australia ranks 6th according to the quality of universities metric, with the Australian National University, the University of Melbourne and the University of Sydney ranking among the top international higher education institutions. Australia also home to three of the top 100 science and technology clusters, Melbourne (35), Sydney (37) and Brisbane (83).
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, Australia is performing 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.

Australia produces less innovation outputs relative to its level of innovation investments.
BENCHMARKING AUSTRALIA AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND SOUTH EAST ASIA, EAST ASIA, AND OCEANIA

Australia’s scores in the seven GII pillars

High-income group economies

Australia has high scores in six out of the seven GII pillars: Institutions, Human capital & research, Infrastructure, Market sophistication, Business sophistication and Creative outputs, which are above average for the high-income group.

Conversely, Australia scores below average for its income group in the pillar Knowledge & technology outputs.

South East Asia, East Asia, and Oceania

Compared to other economies in South East Asia, East Asia, and Oceania, Australia performs above average in all seven GII pillars.
OVERVIEW OF AUSTRALIA RANKINGS IN THE SEVEN GII AREAS

Australia performs best in Market sophistication and its weakest performance is in Knowledge & technology outputs.

INNOVATION STRENGTHS AND WEAKNESSES

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

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>Indicator name</td>
</tr>
<tr>
<td>1</td>
<td>Institutions</td>
</tr>
<tr>
<td>1.2</td>
<td>Regulatory environment</td>
</tr>
<tr>
<td>1.2.1</td>
<td>Regulatory quality*</td>
</tr>
<tr>
<td>1.3.1</td>
<td>Ease of starting a business*</td>
</tr>
<tr>
<td>2</td>
<td>Human capital &amp; research</td>
</tr>
<tr>
<td>2.1.3</td>
<td>School life expectancy, years</td>
</tr>
<tr>
<td>2.2</td>
<td>Tertiary education</td>
</tr>
<tr>
<td>2.2.1</td>
<td>Tertiary enrolment, % gross</td>
</tr>
<tr>
<td>2.2.3</td>
<td>Tertiary inbound mobility, %</td>
</tr>
<tr>
<td>2.3.4</td>
<td>QS university ranking, average score top 3*</td>
</tr>
<tr>
<td>3.1.3</td>
<td>Government's online service*</td>
</tr>
<tr>
<td>3.1.4</td>
<td>E-participation*</td>
</tr>
<tr>
<td>4</td>
<td>Market sophistication</td>
</tr>
<tr>
<td>4.1</td>
<td>Credit</td>
</tr>
<tr>
<td>4.1.1</td>
<td>Ease of getting credit*</td>
</tr>
<tr>
<td>4.3</td>
<td>Trade, competition, and market scale</td>
</tr>
<tr>
<td>4.3.1</td>
<td>Applied tariff rate, weighted avg., %</td>
</tr>
<tr>
<td>6.1.5</td>
<td>Citable documents H index</td>
</tr>
<tr>
<td>6.2.2</td>
<td>New businesses/th pop. 15–64</td>
</tr>
<tr>
<td>7.3.1</td>
<td>Generic top-level domains (TLDs)/th pop. 15–64</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weaknesses</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>Indicator name</td>
</tr>
<tr>
<td>2.1.2</td>
<td>Government funding/pupil, secondary, % GDP/cap</td>
</tr>
<tr>
<td>2.2.2</td>
<td>Graduates in science &amp; engineering, %</td>
</tr>
<tr>
<td>3.2.3</td>
<td>Gross capital formation, % GDP</td>
</tr>
<tr>
<td>3.3.1</td>
<td>GDP/unit of energy use</td>
</tr>
<tr>
<td>5.3.3</td>
<td>ICT services imports, % total trade</td>
</tr>
<tr>
<td>6.2.1</td>
<td>Growth rate of PPP$ GDP/worker, %</td>
</tr>
<tr>
<td>6.3</td>
<td>Knowledge diffusion</td>
</tr>
<tr>
<td>6.3.3</td>
<td>ICT services exports, % total trade</td>
</tr>
<tr>
<td>6.3.4</td>
<td>FDI net outflows, % GDP</td>
</tr>
<tr>
<td>7.2.1</td>
<td>Cultural &amp; creative services exports, % total trade</td>
</tr>
<tr>
<td>7.2.2</td>
<td>National feature films/mn pop. 15–69</td>
</tr>
</tbody>
</table>
STRENGTHS

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

- Institutions (10): exhibits strengths in the sub-pillar Regulatory environment (10) and in the indicators Regulatory quality (5) and Ease of starting a business (7).
- Human capital & research (9): shows strengths in the sub-pillar Tertiary education (5) and in the indicators School life expectancy (1), Tertiary enrolment (2), Tertiary inbound mobility (5) and QS university ranking (6).
- Infrastructure (22): demonstrates strengths in the indicators Government’s online service (7) and E-participation (5).
- Market sophistication (7): has strengths in the sub-pillars Credit (5) and Trade, competition, and market scale (9) and in the indicators Ease of getting credit (4) and Applied tariff rate (10).
- Knowledge & technology outputs (40): reveals strengths in the indicators Citable documents H index (10) and New businesses (9).
- Creative outputs (23): the indicator Generic top-level domains (TLDs) (10) is a strength.

WEAKNESSES

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

- Human capital & research (9): has weaknesses in the indicators Government funding per pupil (79) and Graduates in science & engineering (78).
- Infrastructure (22): displays weaknesses in the indicators Gross capital formation (72) and GDP per unit of energy use (66).
- Business sophistication (26): the indicator ICT services imports (73) is a weakness.
- Knowledge & technology outputs (40): displays weaknesses in the sub-pillar Knowledge diffusion (74) and in the indicators Growth rate of GDP per worker (96), ICT services exports (82) and FDI net outflows (101).
- Creative outputs (23): has weaknesses in the indicators Cultural & creative services exports (63) and National feature films (58).
**INSTITUTIONS**

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>88.7</td>
<td>8</td>
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</tbody>
</table>

**1.1 Political environment**
- 86.4

**1.1.1 Political and operational stability**
- 87.3

**1.2 Regulatory environment**
- 92.1

**1.2.1 Regulatory quality**
- 92.5

**1.2.2 Rule of law**
- 91.4

**1.2.3 Cost of redundancy dismissal, salary weeks**
- 12.0

**1.3 Business environment**
- 87.7

**1.3.1 Ease of starting a business**
- 96.6

**1.3.2 Ease of resolving insolvency**
- 78.9

**HUMAN CAPITAL & RESEARCH**

<table>
<thead>
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<th>Rank</th>
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</thead>
<tbody>
<tr>
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<td>9</td>
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</table>

**2.1 Education**
- 56.4

**2.1.1 Expenditure on education, % GDP**
- 5.3

**2.2 Tertiary education**
- 61.4

**2.2.1 Tertiary enrolment, % gross**
- 131.2

**2.2.2 Graduates in science & engineering, %**
- 84.0

**2.2.3 Tertiary inbound mobility, %**
- 21.5

**2.3 Research & development (R&D)**
- 59.4

**2.3.1 Activities, R&D expenditure, % GDP**
- 4.93

**2.3.2 Gross expenditure on R&D, % GDP**
- 18.2

**2.3.3 Global R&D companies, avg. exp. top 5, mn USD**
- 67.4

**2.3.4 QS university ranking, average score top 5**
- 92.7

**INFRASTRUCTURE**

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
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</thead>
<tbody>
<tr>
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<td>22</td>
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</tbody>
</table>

**3.1 Information & communication technologies (ICTs)**
- 88.6

**3.1.1 ICT access**
- 79.6

**3.1.2 ICT use**
- 79.2

**3.1.3 Government’s online services**
- 97.2

**3.1.4 E-participation**
- 96.3

**3.2 General infrastructure**
- 39.7

**3.2.1 Electricity output, kWh/mn pop**
- 10,443

**3.2.2 Logistics performance**
- 78.9

**3.2.3 Gross capital formation, % GDP**
- 22.5

**3.3 Ecological sustainability**
- 39.0

**3.3.1 Environmental performance**
- 74.9

**3.3.2 ISO 14001 environmental certificates/bn PPP$ GDP**
- 2.0

**MARKET SOPHISTICATION**

<table>
<thead>
<tr>
<th>Score/Value</th>
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<tbody>
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</tbody>
</table>

**4.1 Credit**
- 78.9

**4.1.1 Ease of getting credit**
- 95.0

**4.1.2 Domestic credit to private sector, % GDP**
- 139.6

**4.2 Investment**
- 43.7

**4.2.1 Ease of protecting minority investors**
- 64.0

**4.2.2 Market capitalization, % GDP**
- 102.1

**4.2.3 Venture capital deals/bn PPP$ GDP**
- 0.1

**4.3 Trade, competition, and market scale**
- 78.8

**4.3.1 Applied tariff rate, weighted avg, %**
- 0.9

**4.3.2 Intensity of local competition**
- 79.2

**4.3.3 Domestic market scale, bn PPP$**
- 1,364.8

**BUSINESS SOPHISTICATION**

<table>
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<tr>
<th>Score/Value</th>
<th>Rank</th>
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<tbody>
<tr>
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</tbody>
</table>

**5.1 Knowledge workers**
- 53.0

**5.1.1 Knowledge-intensive employment, %**
- 46.1

**5.1.2 Firms offering formal training, %**
- 65.9

**5.1.3 GERD performed by business, % GDP**
- 0.9

**5.1.4 GERD financed by business, %**
- 5.5

**5.1.5 Females employed in advanced degrees, %**
- 22.6

**5.2 Innovation linkages**
- 44.1

**5.2.1 University-industry research collaboration**
- 50.4

**5.2.2 State of cluster development**
- 54.2

**5.2.3 GERD financed by abroad, % GDP**
- 5.5

**5.2.4 JV-strategic alliance deals/bn PPP$ GDP**
- 0.2

**5.2.5 Patent families 2x offices/bn PPP$ GDP**
- 0.2

**5.3 Knowledge absorption**
- 33.8

**5.3.1 International property payments, % total trade**
- 1.2

**5.3.2 High tech imports, % total trade**
- 10.5

**5.3.3 ICT services imports, % total trade**
- 1.0

**5.3.4 FDI net inflows, % GDP**
- 3.8

**5.3.5 Research patent, % in business enterprise**
- 27.9

**KNOWLEDGE & TECHNOLOGY OUTPUTS**

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.4</td>
<td>40</td>
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</tbody>
</table>

**6.1 Knowledge creation**
- 42.5

**6.1.1 Patents by origin/bn PPP$ GDP**
- 21.9

**6.1.2 PCT patents by origin/bn PPP$ GDP**
- 1.3

**6.1.3 Utility models by origin/bn PPP$ GDP**
- 0.9

**6.1.4 Scientific & technical articles/bn PPP$ GDP**
- 25.2

**6.1.5 Citable documents H-index**
- 65.5

**6.2 Knowledge impact**
- 28.2

**6.2.1 Growth rate of PPP$ GDP/worker, %**
- 59.9

**6.2.2 New businesses / 1000 pop, 15-64**
- 14.5

**6.2.3 Computer software spending, % GDP**
- 0.0

**6.3 Knowledge diffusion**
- 20.3

**6.3.1 Intellectual property receipts, % total trade**
- 0.3

**6.3.2 High tech net exports, % total trade**
- 1.7

**6.3.3 ICT services exports, % total trade**
- 0.1

**6.3.4 FDI net outflows, % GDP**
- 0.1

**CREATIVE OUTPUTS**

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
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</thead>
<tbody>
<tr>
<td>37.3</td>
<td>23</td>
</tr>
</tbody>
</table>

**7.1 Intangible assets**
- 37.1

**7.1.1 Trademarks by origin/bn PPP$ GDP**
- 63.4

**7.1.2 Global brand value, top 50, % GDP**
- 29.8

**7.1.3 Industrial designs by origin/bn PPP$ GDP**
- 2.3

**7.1.4 ICTs & organizational model creation**
- 67.3

**7.2 Creative goods and services**
- 23.7

**7.2.1 Cultural & creative services exports, % total trade**
- 0.3

**7.2.2 National feature films/mn pop, 15-69**
- 3.2

**7.2.3 Entertainment & Media markets/mn pop, 15-69**
- 64.9

**7.2.4 Printing and other media, % manufacturing**
- 2.3

**7.2.5 Creative goods exports, % total trade**
- 0.6

**7.3 Online creativity**
- 51.5

**7.3.1 Generic top-level domains (TLDs)/mn pop, 15-69**
- 61.3

**7.3.2 Country-code TLDs/mn pop, 15-69**
- 54.7

**7.3.3 Wikipedia edits/mn pop, 15-69**
- 29.5

**7.3.4 Mobile app creation/bn PPP$ GDP**
- 11.6

**NOTES:** Indicates a strength;  Indicates a weakness;  Indicates a strength relative to the other top 25-ranked GII economies;  Indicates a weakness relative to the other top 25-ranked GII economies; an index,  a survey question,  indicates that the economy’s data are older than the base year; see Appendix A for details, including the year of the data at http://globalinnovationindex.org. Square brackets  indicate that the data minimum coverage (EMC) requirements were not met at the sub-pixel or pillar level.
DATA AVAILABILITY

The following tables list data that are either missing or outdated for Australia.

### 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>2.1.5</td>
<td>Pupil-teacher ratio, secondary</td>
<td>n/a</td>
<td>2018</td>
<td>UNESCO Institute for Statistics</td>
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<tr>
<td>4.1.3</td>
<td>Microfinance gross loans, % GDP</td>
<td>n/a</td>
<td>2018</td>
<td>Microfinance Information Exchange</td>
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<tr>
<td>5.1.2</td>
<td>Firms offering formal training, %</td>
<td>n/a</td>
<td>2018</td>
<td>World Bank</td>
</tr>
<tr>
<td>5.1.4</td>
<td>GERD financed by business, %</td>
<td>n/a</td>
<td>2017</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators</td>
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<tr>
<td>5.2.3</td>
<td>GERD financed by abroad, % GDP</td>
<td>n/a</td>
<td>2017</td>
<td>UNESCO Institute for Statistics</td>
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</table>

### Outdated data

<table>
<thead>
<tr>
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<th>Country year</th>
<th>Model year</th>
<th>Source</th>
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</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>2.3.1</td>
<td>Researchers, FTE/mn pop.</td>
<td>2010</td>
<td>2018</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators</td>
</tr>
<tr>
<td>2.3.2</td>
<td>Gross expenditure on R&amp;D, % GDP</td>
<td>2017</td>
<td>2018</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators</td>
</tr>
<tr>
<td>5.1.3</td>
<td>GERD performed by business, % GDP</td>
<td>2017</td>
<td>2018</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators</td>
</tr>
<tr>
<td>5.1.5</td>
<td>Females employed w/advanced degrees, %</td>
<td>2013</td>
<td>2018</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>5.3.5</td>
<td>Research talent, % in business enterprise</td>
<td>2010</td>
<td>2018</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators</td>
</tr>
</tbody>
</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.