The GII indicators are grouped into innovation inputs and outputs. The following table reflects Thailand’s rankings over time.

<table>
<thead>
<tr>
<th>Year</th>
<th>GII</th>
<th>Input</th>
<th>Output</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>44</td>
<td>52</td>
<td>45</td>
<td>33</td>
</tr>
<tr>
<td>2017</td>
<td>51</td>
<td>65</td>
<td>43</td>
<td>24</td>
</tr>
<tr>
<td>2016</td>
<td>52</td>
<td>57</td>
<td>50</td>
<td>53</td>
</tr>
</tbody>
</table>

- Thailand is constantly improving in the GII rankings, taking the 44th spot this year and moving up 8 positions from 2016.
- This year Thailand improves in innovation inputs, reaching the 52nd position, up from the 65th last year.
- Its rank in innovation outputs slightly deteriorates, ranking 45th and dropping 2 spots from 2017.
- The country ranks 33rd in the Innovation Efficiency Ratio, lower than in 2017, but much higher than the 53rd rank in 2016. This shows that Thailand is very efficient in translating its innovation inputs into outputs.

Thailand is ranked 44th in the GII 2018, moving up 7 positions from the previous year.

Thailand is ranked 5th among the 34 upper-middle-income countries in the GII 2018.

Thailand is ranked 9th among the 15 countries in South East Asia and Oceania.

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1 Note that year-on-year comparisons of the GII ranks are imperfect and influenced by changes in the GII model and data availability.
Benchmarking Thailand to other upper-middle-income countries and the South East Asia and Oceania region

**Thailand’s scores by area**

**Upper-middle-income countries**

Thailand has high scores in 6 of the 7 GII areas – Institutions, Human Capital & Research, Market Sophistication, Business Sophistication, Knowledge & Technology Outputs, and Creative Outputs, in which it scores above the average of the upper-middle income group.

Top scores in areas such as Business environment, Education, Trade, competition & market scale, Knowledge absorption, Knowledge impact, and Intangible assets are behind these high rankings.

**South East Asia and Oceania region**

Compared to other countries in the South East Asia and Oceania region, Thailand performs below-average in all 7 GII areas.

**Thailand’s innovation profile**

**Strengths**

- Thailand’s strengths are concentrated in few areas of the GII.

- In Market Sophistication (28th), it has strong performance in indicators Domestic credit to private sector (8th), Ease of protecting minority investors (16th), Market capitalization (9th), and Domestic market scale (20th).

- Thailand also demonstrates strengths in Business Sophistication (62nd) in indicators R&D financed by business, where it ranks 6th in the world, and High-tech imports (11th).

- On the innovation output side, most of Thailand’s strengths are exhibited in Knowledge & Technology Outputs (40th), where it performs strongly in indicators Productivity growth (11th), High- & medium-high-tech manufactures (15th), and High-tech exports (8th).

- In Creative Outputs (50th), Thailand shows strong performance in the indicator Creative goods exports, where it ranks 6th globally.

**Weaknesses**
Thailand’s relative weaknesses are mainly accrued among innovation inputs, and in particular across four of the five GII areas capturing innovation inputs.

- In Institutions (65th), Thailand performs relatively weakly in indicators Political stability & safety (107th) and Cost of redundancy dismissal (116th).
- In Human Capital & Research (57th), GII weaknesses are found in indicators Pupil-teacher ratio (100th) and Tertiary inbound mobility (88th).
- In Market Sophistication (28th), indicators Microfinance gross loans (80th) and Venture capital deals (76th) are marked as GII weaknesses.
- In Business Sophistication (62nd), indicators Firms offering formal training (78th), R&D financed by abroad (85th), and ICT services imports (116th) present a relatively weak performance.
- On the Innovation Output side, Thailand exhibits only one relative weakness in the indicator ICT services exports (114th) within the Knowledge & Technology Outputs (40th) area.

The following figure presents a summary of Thailand’s ranks in the 7 GII areas, as well as the overall rank in the GII 2018.
Expected vs. Observed Innovation Performance

The GII bubble chart shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The depicted trendline gives an indication of the expected innovation performance at different levels of income. Countries located above the trendline are performing better than what would be expected based on their income level. Countries below the line are Innovation Under-performers relative to GDP.

Relative to GDP, Thailand performs above its expected level of development.
More and better data improve the ability of a country to understand its strengths and weaknesses and give policymakers greater capacity to plan and adapt public policies accordingly. The GII 2018 covers 126 countries that complied with the minimum indicator coverage of 35 indicators in the Innovation Input Sub-Index (66%) and 18 indicators in the Innovation Output Sub-Index (66%).

The following tables show data for Thailand that is not available or that is outdated.

### Missing Data

<table>
<thead>
<tr>
<th>Code</th>
<th>Indicator</th>
<th>Country Year</th>
<th>Model Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.2.1</td>
<td>Cultural &amp; creative services exports, % total trade</td>
<td>n/a</td>
<td>2016</td>
<td>WTO, Trade in Commercial Services</td>
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</tbody>
</table>

### Outdated Data

<table>
<thead>
<tr>
<th>Code</th>
<th>Indicator</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>2013</td>
<td>2014</td>
<td>UNESCO Institute for Statistics (UIS)</td>
</tr>
<tr>
<td>2.1.2</td>
<td>Government funding/pupil, secondary, % GDP/cap</td>
<td>2013</td>
<td>2014</td>
<td>UNESCO Institute for Statistics (UIS)</td>
</tr>
<tr>
<td>2.1.3</td>
<td>School life expectancy, years</td>
<td>2015</td>
<td>2016</td>
<td>UNESCO Institute for Statistics (UIS)</td>
</tr>
<tr>
<td>2.1.5</td>
<td>Pupil-teacher ratio, secondary</td>
<td>2015</td>
<td>2016</td>
<td>UNESCO Institute for Statistics (UIS)</td>
</tr>
<tr>
<td>2.2.1</td>
<td>Tertiary enrolment, % gross</td>
<td>2015</td>
<td>2016</td>
<td>UNESCO Institute for Statistics (UIS)</td>
</tr>
<tr>
<td>2.2.2</td>
<td>Graduates in science &amp; engineering, %</td>
<td>2015</td>
<td>2016</td>
<td>UNESCO Institute for Statistics (UIS)</td>
</tr>
<tr>
<td>2.2.3</td>
<td>Tertiary inbound mobility, %</td>
<td>2014</td>
<td>2016</td>
<td>UNESCO Institute for Statistics (UIS)</td>
</tr>
<tr>
<td>2.3.1</td>
<td>Researchers, FTE/mn.pop.</td>
<td>2015</td>
<td>2016</td>
<td>UNESCO Institute for Statistics (UIS)</td>
</tr>
<tr>
<td>2.3.2</td>
<td>Gross expenditure on R&amp;D, % GDP</td>
<td>2015</td>
<td>2016</td>
<td>UNESCO Institute for Statistics (UIS)</td>
</tr>
<tr>
<td>4.1.3</td>
<td>Microfinance gross loans, % GDP</td>
<td>2011</td>
<td>2016</td>
<td>Microfinance Information Exchange, Mix Market</td>
</tr>
<tr>
<td>4.3.1</td>
<td>Applied tariff rate, weighted mean, %</td>
<td>2015</td>
<td>2016</td>
<td>World Bank, World Development Indicators</td>
</tr>
<tr>
<td>5.1.3</td>
<td>GERD performed by business, % GDP</td>
<td>2015</td>
<td>2016</td>
<td>UNESCO Institute for Statistics (UIS)</td>
</tr>
<tr>
<td>5.3.5</td>
<td>Research talent, % in business enterprise</td>
<td>2015</td>
<td>2016</td>
<td>UNESCO Institute for Statistics (UIS)</td>
</tr>
<tr>
<td>6.2.5</td>
<td>High- &amp; medium-high-tech manufactures, %</td>
<td>2011</td>
<td>2015</td>
<td>UNIDO, Industrial Statistics</td>
</tr>
<tr>
<td>7.2.2</td>
<td>National feature films/mn pop. 15–69</td>
<td>2010</td>
<td>2015</td>
<td>UNESCO Institute for Statistics (UIS)</td>
</tr>
<tr>
<td>7.2.4</td>
<td>Printing &amp; other media, % manufacturing</td>
<td>2011</td>
<td>2015</td>
<td>UNIDO, Industrial Statistics</td>
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</table>
THAILAND

<table>
<thead>
<tr>
<th>Output rank</th>
<th>Input rank</th>
<th>Income</th>
<th>Region</th>
<th>Efficiency ratio</th>
<th>Population (mn)</th>
<th>GDP, PPP$</th>
<th>GDP per capita, PPP$</th>
<th>Gil 2018 rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>52</td>
<td>Upper-middle SEAO</td>
<td>33</td>
<td></td>
<td>69.0</td>
<td>1,228.9</td>
<td>17,855.8</td>
<td>51</td>
</tr>
</tbody>
</table>

1. **Political environment**
   - Score/Value: 50.0/107
   - Rank: 69

2. **Regulatory environment**
   - Score/Value: 51.8/102
   - Rank: 69

3. **Business environment**
   - Score/Value: 51.8/102
   - Rank: 69

4. **Human capital & research**
   - Score/Value: 51.8/102
   - Rank: 69

5. **Infrastructure**
   - Score/Value: 51.8/102
   - Rank: 69

6. **Market sophistication**
   - Score/Value: 51.8/102
   - Rank: 69

**Data Source and Notes:**
- Indicates a strength; ○ a weakness; ★ an income group strength; ◊ an income group weakness; * an index; † a survey question.
- Indicates that the country's data are older than the base year; see Appendix II 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; see page 75 of this appendix for details.

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THAILAND

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