The Global Innovation Index (GII) is a ranking of world economies based on 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 the Russian Federation over the past three years, noting that data availability and the GII model influence year-on-year comparisons of the GII ranks. The confidence interval for the Russian Federation's ranking in the GII 2019 is between 43 and 48.

<table>
<thead>
<tr>
<th>Year</th>
<th>GII</th>
<th>Innovation Inputs</th>
<th>Innovation Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>46</td>
<td>41</td>
<td>59</td>
</tr>
<tr>
<td>2018</td>
<td>46</td>
<td>43</td>
<td>56</td>
</tr>
<tr>
<td>2017</td>
<td>45</td>
<td>43</td>
<td>51</td>
</tr>
</tbody>
</table>

- The Russian Federation performs better in Innovation Inputs than Outputs.
- This year the Russian Federation ranks 41st in Innovation Inputs, better than last year and compared to 2017.
- As for Innovation Outputs, the Russian Federation ranks 59th. This position is worse than last year and compared to 2017.

The Russian Federation ranks 6th among the 34 upper middle-income economies.

The Russian Federation ranks 31st 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 considered Innovation under-performers relative to GDP.

Relative to GDP, the Russian Federation performs below its expected level of development.
EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

The chart below shows the relationship between innovation inputs and innovation outputs, indicating which economies best translate innovation inputs into innovation outputs. Economies appearing above the line are effectively translating their costly innovation investments into more and higher-quality outputs. In contrast, those below the line are not effectively translating innovation inputs into outputs.

The Russian Federation produces less innovation outputs relative to its level of innovation investments.
**BENCHMARKING THE RUSSIAN FEDERATION TO OTHER UPPER MIDDLE-INCOME ECONOMIES AND THE EUROPE REGION**

The Russian Federation’s scores in the seven GII pillars

![Diagram showing the scores of various GII pillars for Russia, upper middle-income economies, Europe, and top 10.]

**Upper middle-income economies**

The Russian Federation has high scores in 5 out of the 7 GII pillars: Human capital & research, Infrastructure, Market sophistication, Business sophistication, and Knowledge & technology outputs, which are above the average of the upper middle-income group.

**Europe Region**

Compared to other economies in Europe, the Russian Federation performs above average in 1 out of the 7 GII pillars: Human capital & research.

Top ranks are found in areas such as Tertiary education, Research and development (R&D), Information & communication technologies (ICTs), Trade, competition, & market scale, Knowledge workers, and Knowledge creation, where the country ranks in the top 30 worldwide.
OVERVIEW OF THE RUSSIAN FEDERATION’S RANKINGS IN THE 7 GII AREAS

The Russian Federation performs the best in Human capital & research and its weakest performance is in Institutions.

THE RUSSIAN FEDERATION’S INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the Russian Federation’s strengths and weaknesses in the GII 2019.
STRENGTHS

- GII strengths for the Russian Federation are found in four of the seven GII pillars.
- Most of them are in Human capital & research (23), where strengths are sub-pillar Tertiary education (14) and indicators Pupil-teacher ratio (15), Tertiary enrolment (17), and Graduates in science & engineering (10).
- Other three relative strengths are found in Business sophistication (35), and in particular indicators Knowledge-intensive employment (18), Females employed with advanced degrees (7), and Intellectual property payments (18).
- In Market sophistication (61), the Russian Federation’s strengths are sub-pillar Trade, competition, & market scale (11) and indicator Domestic market scale (6).
- In Knowledge & technology outputs (47), indicators Patents by origin (20), Utility models by origin (8), and Quality of scientific publications (22) are GII strengths for the country.

WEAKNESSES

- The Russian Federation’s weaknesses in the GII are found in five of the seven GII pillars.
- In Institutions (74), the Russian Federation’s weaknesses are sub-pillar Regulatory environment (95) and indicators Political & operational stability (91), Regulatory quality (103), and Rule of law (111).
- In Infrastructure (62), relative GII weaknesses are sub-pillar Ecological sustainability (101) and two of its three indicators - GDP per unit of energy use (113) and ISO 14001 environmental certificates (112).
- In Market sophistication (61), the Russian Federation’s weaknesses are sub-pillar Investment (102) as well as indicators Microfinance gross loans (73) and Venture capital deals (77).
- In Knowledge & technology outputs (47), indicator ISO 9001 quality certificates (111) is a relative weakness for the country.
- In Creative outputs (72), GII weaknesses are two indicators: ICTs & business model creation (91) and Printing & other media (78).
- Human capital & research (23) and Business sophistication (35), the best ranked pillars for the Russian Federation, do not present any relative weakness.
The following tables list data that are missing or are outdated for the Russian Federation.

### Missing data

<table>
<thead>
<tr>
<th>Code</th>
<th>Indicator name</th>
<th>Country year</th>
<th>Model year</th>
<th>Source</th>
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</thead>
<tbody>
<tr>
<td>2.1.2</td>
<td>Government funding/pupil, secondary, % GDP/cap</td>
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<td>UNESCO Institute for Statistics</td>
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### Outdated data

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<td>2.1.5</td>
<td>Pupil-teacher ratio, secondary</td>
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<td>2.2.1</td>
<td>Tertiary enrolment, % gross</td>
<td>2016</td>
<td>2017</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Firms offering formal training, % firms</td>
<td>2012</td>
<td>2013</td>
<td>World Bank</td>
</tr>
</tbody>
</table>
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 2019, the GII presents its 12th edition devoted to the theme **Creating Healthy Lives—The Future of Medical Innovation**.

Recognizing that innovation is a key driver of economic development, the GII aims to provide a rich innovation ranking and 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 countries 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 includes 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 containing three sub-pillars.