COSTA RICA

56th Costa Rica ranks 56th 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 Costa Rica 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 Costa Rica in the GII 2021 is between ranks 51 and 58.

### Rankings for Costa Rica (2019–2021)

<table>
<thead>
<tr>
<th></th>
<th>GII</th>
<th>Innovation inputs</th>
<th>Innovation outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>56</td>
<td>66</td>
<td>49</td>
</tr>
<tr>
<td>2020</td>
<td>56</td>
<td>66</td>
<td>51</td>
</tr>
<tr>
<td>2019</td>
<td>55</td>
<td>68</td>
<td>48</td>
</tr>
</tbody>
</table>

- Costa Rica performs better in innovation outputs than innovation inputs in 2021.
- This year Costa Rica ranks 66th in innovation inputs, the same as last year but higher than 2019.
- As for innovation outputs, Costa Rica ranks 49th. This position is higher than last year but lower than 2019.

10th Costa Rica ranks 10th among the 34 upper middle-income group economies.

3rd Costa Rica ranks 3rd among the 18 economies in Latin America and the Caribbean.
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, Costa Rica’s performance is at expectations for its level of development.

The positive relationship between innovation and 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.

Costa Rica produces more innovation outputs relative to its level of innovation investments.
Upper middle-income group economies

Costa Rica performs above the upper middle-income group average in six pillars, namely: Institutions; Human capital and research; Infrastructure; Business sophistication; Knowledge and technology outputs; and, Creative outputs.

Latin America and the Caribbean

Costa Rica performs above the regional average in six pillars, namely: Institutions; Human capital and research; Infrastructure; Business sophistication; Knowledge and technology outputs; and, Creative outputs.
OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Costa Rica performs best in Creative outputs and its weakest performance is in Market sophistication.

The seven GII pillar ranks for Costa Rica

- Creative outputs: 45
- Business sophistication: 49
- Knowledge and technology outputs: 56
- Global Innovation Index 2021: 56
- Human capital and research: 61
- Institutions: 66
- Infrastructure: 71
- Market sophistication: 85

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 Costa Rica in the GII 2021.

**Strengths and weaknesses for Costa Rica**

<table>
<thead>
<tr>
<th>Code</th>
<th>Indicator name</th>
<th>Rank</th>
<th>Code</th>
<th>Indicator name</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Education</td>
<td>18</td>
<td>1.3</td>
<td>Business environment</td>
<td>112</td>
</tr>
<tr>
<td>2.1.1</td>
<td>Expenditure on education, % GDP</td>
<td>6</td>
<td>1.3.1</td>
<td>Ease of starting a business</td>
<td>110</td>
</tr>
<tr>
<td>3.3.1</td>
<td>GDP/unit of energy use</td>
<td>14</td>
<td>1.3.2</td>
<td>Ease of resolving insolvency</td>
<td>114</td>
</tr>
<tr>
<td>4.1.1</td>
<td>Ease of getting credit</td>
<td>14</td>
<td>2.2.2</td>
<td>Graduates in science and engineering, %</td>
<td>99</td>
</tr>
<tr>
<td>4.3.1</td>
<td>Applied tariff rate, weighted avg., %</td>
<td>20</td>
<td>2.3.3</td>
<td>Global corporate R&amp;D investors, top 3, mn US$</td>
<td>41</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Firms offering formal training, %</td>
<td>12</td>
<td>3.2</td>
<td>General infrastructure</td>
<td>115</td>
</tr>
<tr>
<td>5.3</td>
<td>Knowledge absorption</td>
<td>22</td>
<td>3.2.3</td>
<td>Gross capital formation, % GDP</td>
<td>114</td>
</tr>
<tr>
<td>5.3.1</td>
<td>Intellectual property payments, % total trade</td>
<td>7</td>
<td>4.2</td>
<td>Investment</td>
<td>125</td>
</tr>
<tr>
<td>6.3.4</td>
<td>ICT services exports, % total trade</td>
<td>7</td>
<td>4.2.2</td>
<td>Market capitalization, % GDP</td>
<td>72</td>
</tr>
<tr>
<td>7.1.1</td>
<td>Trademarks by origin/bn PPP$ GDP</td>
<td>16</td>
<td>4.2.3</td>
<td>Venture capital investors, deals/bn PPP$ GDP</td>
<td>73</td>
</tr>
<tr>
<td>7.2</td>
<td>Creative goods and services</td>
<td>22</td>
<td>5.1.4</td>
<td>GERD financed by business, %</td>
<td>93</td>
</tr>
<tr>
<td>7.2.1</td>
<td>Cultural and creative services exports, % total trade</td>
<td>1</td>
<td>7.1.2</td>
<td>Global brand value, top 5,000, % GDP</td>
<td>80</td>
</tr>
<tr>
<td>7.2.4</td>
<td>Printing and other media, % manufacturing</td>
<td>13</td>
<td>7.1.3</td>
<td>Industrial designs by origin/bn PPP$ GDP</td>
<td>109</td>
</tr>
</tbody>
</table>
### Costa Rica

**GII 2021 rank**: 56

<table>
<thead>
<tr>
<th>Output rank</th>
<th>Input rank</th>
<th>Income</th>
<th>Region</th>
<th>Population (mn)</th>
<th>GDP, PPP$ (bn)</th>
<th>GDP per capita, PPP$</th>
</tr>
</thead>
<tbody>
<tr>
<td>49</td>
<td>66</td>
<td>Upper middle</td>
<td>5.1</td>
<td>99.0</td>
<td>19,309</td>
<td>56</td>
</tr>
</tbody>
</table>

#### Institutions

<table>
<thead>
<tr>
<th>Score/ Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>63.1</td>
<td>66</td>
</tr>
</tbody>
</table>

- **Political environment**: 63.2 | 51
- **Political and operational stability**: 69.6 | 60
- **Government effectiveness**: 60.1 | 48
- **Regulatory environment**: 68.8 | 52
  - **Regulatory quality**: 56.5 | 50
  - **Rule of law**: 61.1 | 42
  - **Cost of redundancy dismissal**: 18.7 | 77
- **Business environment**: 57.3 | 112
  - **Ease of starting a business**: 79.9 | 110
  - **Ease of resolving insolvency**: 34.6 | 114

#### Human capital and research

<table>
<thead>
<tr>
<th>Score/ Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.4</td>
<td>61</td>
</tr>
</tbody>
</table>

- **Education**: 62.5 | 18
  - **Expenditure on education, % GDP**: 7.0 | 6
  - **Government funding/pupil, secondary, % GDP/cap**: 24.1 | 19
  - **School life expectancy, years**: 18.5 | 24
  - **PISA scales in reading, maths and science**: 414.8 | 59
  - **Pupil-teacher ratio, secondary**: 13.3 | 58
- **Tertiary education**: 26.2 | 80
  - **Tertiary enrolment, % population**: 57.7 | 62
  - **Graduates in science and engineering, % population**: 15.1 | 99
  - **Tertiary inobud mobility, %**: n/a | n/a
- **Research and development (R&D)**: 6.6 | 72
  - **Researchers, FTE/mn pop.**: 345.0 | 74
  - **Gross expenditure on R&D, % GDP**: 0.4 | 72
  - **Global corporate R&D investors, top 3, mn US$**: 0.0 | 41
  - **QS university ranking, top 3**: 15.1 | 59

#### Infrastructure

<table>
<thead>
<tr>
<th>Score/ Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>40.7</td>
<td>71</td>
</tr>
</tbody>
</table>

- **Information and communication/technologies (ICTs)**: 67.7 | 64
  - **ICT access**: 69.4 | 63
  - **ICT use**: 67.8 | 51
  - **Government’s online service**: 68.2 | 72
  - **E-participation**: 65.5 | 77
- **General infrastructure**: 18.2 | 115
  - **Electricity output, GWh/mn pop.**: 2,268.5 | 77
  - **Logistics performance**: 34.6 | 72
  - **Gross capital formation, % GDP**: 15.4 | 114
- **Ecological sustainability**: 36.3 | 43
  - **GDP/unit of energy use**: 17.2 | 14
- **Environmental performance**: 52.5 | 50
  - **ISO 14001 environmental certificates/bn PPP$ GDP**: 1.1 | 65

#### Market sophistication

<table>
<thead>
<tr>
<th>Score/ Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>43.0</td>
<td>85</td>
</tr>
</tbody>
</table>

- **Credit**: 43.5 | 54
  - **Ease of getting credit**: 85.0 | 14
  - **Domestic credit to private sector, % GDP**: 58.8 | 57
  - **Microfinance gross loans, % GDP**: 0.1 | 64
- **Investment**: 17.0 | 125
  - **Ease of protecting minority investors**: 48.0 | 96
  - **Market capitalization, % GDP**: 4.4 | 72
  - **Venture capital investors, deals/bn PPP$ GDP**: 0.0 | 73
  - **Venture capital recipients, deals/bn PPP$ GDP**: n/a | n/a
- **Trade, diversification, and market scale**: 68.4 | 67
  - **Applied tariff rate, weighted avg., %**: 1.6 | 20
  - **Domestic industry diversification**: 80.2 | 77
  - **Domestic market scale, bn PPP$**: 99.0 | 84

### Business sophistication

<table>
<thead>
<tr>
<th>Score/ Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.0</td>
<td>49</td>
</tr>
</tbody>
</table>

- **Knowledge workers**: 29.3 | 73
  - **Knowledge-intensive employment, %**: 27.4 | 56
  - **Firms offering formal training, %**: 54.7 | 12
  - **GERD performed by business, % GDP**: 0.1 | 58
  - **GERD financed by business, %**: 1.3 | 93
  - **Females employed with advanced degrees, %**: 12.2 | 62
- **Innovation linkages**: 16.9 | 97
  - **University-industry R&D collaboration**: 42.3 | 68
  - **State of cluster development and depth**: 49.2 | 51
  - **GERD financed by abroad, % GDP**: 0.0 | 81
  - **Joint venture/strategic alliance deals/bn PPP$ GDP**: 0.0 | 85
  - **Patent families/bn PPP$ GDP**: 0.0 | 83
- **Knowledge absorption**: 43.7 | 22
  - **Intellectual property payments, % total trade**: 2.8 | 7
  - **High-tech imports, % total trade**: 8.9 | 40
  - **ICT services imports, % total trade**: 1.3 | 58
  - **FDI net inflows, % GDP**: 4.5 | 24
  - **Research talent, % in businesses**: n/a | n/a

### Knowledge and technology outputs

<table>
<thead>
<tr>
<th>Score/ Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.9</td>
<td>56</td>
</tr>
</tbody>
</table>

- **Knowledge creation**: 6.1 | 100
  - **Patents by origin/bn PPP$ GDP**: 0.2 | 101
  - **PCT patents by origin/bn PPP$ GDP**: 0.1 | 63
  - **Utility models by origin/bn PPP$ GDP**: 0.0 | 63
  - **Scientific and technical articles/bn PPP$ GDP**: 9.0 | 92
  - **Citable documents H-index**: 10.8 | 71
- **Knowledge impact**: 27.4 | 73
  - **Labour productivity growth, %**: 1.6 | 83
  - **New businesses/th pop. 15–64**: 2.6 | 50
  - **Software spending, % GDP**: 0.3 | 31
  - **ISO 9001 quality certificates/bn PPP$ GDP**: 2.8 | 78
  - **High-tech manufacturing, % GDP**: 13.3 | 83
- **Knowledge diffusion**: 35.3 | 27
  - **Intellectual property receipts, % total trade**: 0.0 | 79
  - **Production and export complexity**: 51.6 | 47
  - **High-tech exports, % total trade**: 5.7 | 32
  - **ICT services exports, % total trade**: 6.6 | 7

### Creative outputs

<table>
<thead>
<tr>
<th>Score/ Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.3</td>
<td>45</td>
</tr>
</tbody>
</table>

- **Intangible assets**: 38.5 | 42
  - **Trademarks by origin/bn PPP$ GDP**: 85.8 | 16
  - **Global brand value, top 5,000, % GDP**: 0.0 | 80
  - **Industrial designs by origin/bn PPP$ GDP**: 0.1 | 109
  - **ICTs and organizational model creation**: 63.0 | 36
- **Creative goods and services**: 31.3 | 22
  - **Cultural and creative services exports, % total trade**: 5.1 | 1
  - **National feature films/th pop. 15–69**: 3.6 | 52
  - **Entertainment and media market/th pop. 15–69**: n/a | n/a
  - **Printing and other media, % manufacturing**: 2.2 | 13
  - **Creative goods exports, % total trade**: 0.1 | 93
  - **Mobile app creation/bn PPP$ GDP**: 4.1 | 60

### 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 Costa Rica.

### Missing data for Costa Rica

<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>2.2.3</td>
<td>Tertiary inbound mobility, %</td>
<td>n/a</td>
<td>2018</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>4.2.4</td>
<td>Venture capital recipients, deals/bn PPP$ GDP</td>
<td>n/a</td>
<td>2020</td>
<td>Refinitiv Eikon</td>
</tr>
<tr>
<td>5.3.5</td>
<td>Research talent, % in businesses</td>
<td>n/a</td>
<td>2019</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators</td>
</tr>
<tr>
<td>7.2.3</td>
<td>Entertainment and media market/th pop. 15–69</td>
<td>n/a</td>
<td>2020</td>
<td>PwC</td>
</tr>
</tbody>
</table>

### Outdated data for Costa Rica

<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>2.3.1</td>
<td>Researchers, FTE/mn pop.</td>
<td>2018</td>
<td>2019</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>2018</td>
<td>2019</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators</td>
</tr>
<tr>
<td>5.1.1</td>
<td>Knowledge-intensive employment, %</td>
<td>2010</td>
<td>2019</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Firms offering formal training, %</td>
<td>2010</td>
<td>2019</td>
<td>World Bank</td>
</tr>
<tr>
<td>5.1.3</td>
<td>GERD performed by business, % GDP</td>
<td>2018</td>
<td>2019</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators</td>
</tr>
<tr>
<td>7.2.4</td>
<td>Printing and other media, % manufacturing</td>
<td>2016</td>
<td>2018</td>
<td>United Nations Industrial Development Organization</td>
</tr>
</tbody>
</table>
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.