Costa Rica ranks 56th 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 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 2020 is between ranks 52 and 61.

<table>
<thead>
<tr>
<th></th>
<th>GII</th>
<th>Innovation inputs</th>
<th>Innovation outputs</th>
</tr>
</thead>
<tbody>
<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>
<tr>
<td>2018</td>
<td>54</td>
<td>64</td>
<td>51</td>
</tr>
</tbody>
</table>

- Costa Rica performs better in innovation outputs than innovation inputs in 2020.
- This year Costa Rica ranks 66th in innovation inputs, higher than last year and lower compared to 2018.
- As for innovation outputs, Costa Rica ranks 51st. This position is lower than last year and the same as 2018.

Costa Rica ranks 12th among the 37 upper middle-income group economies.

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 is performing above 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.

**Innovation input to output performance, 2020**

<table>
<thead>
<tr>
<th>Output score</th>
<th>High income group</th>
<th>Lower middle-income group</th>
<th>Fitted values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input score</td>
<td>Upper middle-income group</td>
<td>Low income group</td>
<td></td>
</tr>
</tbody>
</table>

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  MY Malaysia  NL Netherlands  NO Norway  OM Oman  PH Philippines  QA Qatar  SA Saudi Arabia  SG Singapore  SE Sweden  CH Switzerland  UA Ukraine  AE United Arab Emirates  GB United Kingdom  US United States of America  VN Viet Nam  ZW Zimbabwe
BENCHMARKING COSTA RICA AGAINST OTHER UPPER MIDDLE-INCOME GROUP ECONOMIES AND LATIN AMERICA AND THE CARIBBEAN

Costa Rica’s scores in the seven GII pillars

Upper middle-income group economies

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

Conversely, Costa Rica scores below average for its income group in one pillar: Market sophistication.

Latin America and the Caribbean

Compared to other economies in Latin America and the Caribbean, Costa Rica performs:

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

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

INNOVATION STRENGTHS AND WEAKNESSES

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

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Code</strong></td>
<td><strong>Code</strong></td>
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<tr>
<td>2.1.1</td>
<td>1.3</td>
</tr>
<tr>
<td>3.3.1</td>
<td>1.3.1</td>
</tr>
<tr>
<td>4.1.1</td>
<td>1.3.2</td>
</tr>
<tr>
<td>5.1.2</td>
<td>2.2.2</td>
</tr>
<tr>
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<tr>
<td>5.3.1</td>
<td>3.2</td>
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<tr>
<td>6.2.3</td>
<td>3.2.3</td>
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<td>6.3.2</td>
<td>4.2</td>
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<td>6.3.3</td>
<td>4.2.2</td>
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<tr>
<td>7.1.1</td>
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<tr>
<td>7.2</td>
<td>6.1.1</td>
</tr>
<tr>
<td>7.2.1</td>
<td>6.2.1</td>
</tr>
<tr>
<td>7.2.4</td>
<td>7.1.3</td>
</tr>
</tbody>
</table>

*The highest possible ranking in each pillar is 1.
STRENGTHS

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

- Human capital & research (66): the indicator Expenditure on education (6) demonstrates a strength.
- Infrastructure (62): exhibits strength in the indicator GDP/unit of energy use (13).
- Market sophistication (98): the indicator Ease of getting credit (14) reveals a strength.
- Business sophistication (48): displays strengths in the sub-pillar Knowledge absorption (23) and in the indicators Firms offering formal training (11) and Intellectual property payments (7).
- Knowledge & technology outputs (53): reveals strengths in the sub-pillar Knowledge diffusion (19) and in the indicators High-tech net exports (28) and ICT services exports (6).
- Creative outputs (53): shows strengths in the sub-pillar Creative goods and services (23) and in the indicators Trademarks by origin (22), Cultural & creative services exports (1) and Printing & other media (12).

WEAKNESSES

GII weaknesses for Costa Rica are found in all seven of the GII pillars.

- Institutions (66): exhibits weaknesses in the sub-pillar Business environment (112) and in the indicators Ease of starting a business (110) and Ease of resolving insolvency (114).
- Human capital & research (66): shows weaknesses in the indicators Graduates in science & engineering (92) and Global R&D companies (42).
- Infrastructure (62): displays weaknesses in the sub-pillar General infrastructure (113) and in the indicator Gross capital formation (110).
- Market sophistication (98): shows weaknesses in the sub-pillar Investment (128) and in the indicator Market capitalization (69).
- Business sophistication (48): the indicator GERD financed by business (88) demonstrates a weakness.
- Knowledge & technology outputs (53): displays weaknesses in the indicators Patents by origin (120) and Growth rate of PPP (98).
- Creative outputs (53): the indicator Industrial designs by origin (110) reveals a weakness.
## COSTA RICA

<table>
<thead>
<tr>
<th>Output rank</th>
<th>Input rank</th>
<th>Income Rank</th>
<th>Region</th>
<th>Population (m)</th>
<th>GDP, PPP$</th>
<th>GDP per capita, PPP$</th>
<th>GII 2020 rank</th>
<th>GII 2019 rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>66</td>
<td>Upper middle</td>
<td>LCN</td>
<td>5.0</td>
<td>91.6</td>
<td>15,747.5</td>
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<td>56</td>
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</table>

### INSTITUTIONS

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>62.6</td>
<td>66</td>
</tr>
</tbody>
</table>

#### 1.1 Political environment

- 1.1.1 Political and operational stability*: 62.9 | 50
- 1.1.2 Government effectiveness*: 58.6 | 46

#### 1.2 Regulatory environment

- 1.2.1 Regulatory quality*: 67.8 | 56
- 1.2.2 Rule of law*: 59.1 | 42
- 1.2.3 Cost of redundancy dismissal, salary weeks*: 18.7 | 76

#### 1.3 Business environment

- 1.3.1 Ease of starting a business*: 79.9 | 110
- 1.3.2 Ease of resolving insolvency*: 34.6 | 144

### HUMAN CAPITAL & RESEARCH

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.6</td>
<td>66</td>
</tr>
</tbody>
</table>

#### 2.1 Education

- 2.1.1 Expenditure on education, % GDP*: 7.0 | 6
- 2.1.2 Government funding/pupil, secondary, % GDP/pupil*: 261 | 45
- 2.1.3 School life expectancy, years*: 15.9 | 37
- 2.1.4 PISA scales in reading, maths, & science*: 419 | 59
- 2.1.5 Pai student-teacher ratio, secondary*: 12.4 | 57

#### 2.2 Tertiary education

- 2.2.1 Tertiary enrolment, % gross*: 55.2 | 51
- 2.2.2 Graduates in science & engineering, %*: 45.5 | 92
- 2.2.3 Tertiary inbound mobility, %*: n/a | n/a

#### 2.3 Research & development (R&D)

- 2.3.1 Researchers, FTE/million pop*: 388 | 73
- 2.3.2 Gross expenditure on R&D, % GDP*: 0.4 | 71
- 2.3.3 Global R&D companies, avg. exp. top 5, mn $US*: 0.0 | 42
- 2.3.4 QS university ranking, average score top 5*: 15.9 | 56

### INFRASTRUCTURE

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>41.1</td>
<td>62</td>
</tr>
</tbody>
</table>

#### 3.1 Information & communication technologies (ICTs)

- 3.1.1 ICT access*: 66.8 | 64
- 3.1.2 ICT use*: 66.4 | 50
- 3.1.3 Government's online service*: 67.4 | 75
- 3.1.4 E-participation*: 77.0 | 57

#### 3.2 General infrastructure

- 3.2.1 Electricity output, kWh/mn pop: 2,033 | 74
- 3.2.2 Logistics performance*: 39.9 | 72
- 3.2.3 Gross capital formation, % GDP*: 48.3 | 70

#### 3.3 Ecological sustainability

- 3.3.1 Greenhouse gas emissions, t CO2eq/mn pop*: 4,106 | 88
- 3.3.2 Environmental performance*: 52.5 | 50
- 3.3.3 ISO 14001 environmental certificates/bn PPP$: 0.9 | 63

### MARKET SOPHISTICATION

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>42.1</td>
<td>98</td>
</tr>
</tbody>
</table>

#### 4.1 Credit

- 4.1.1 Ease of getting credit*: 85.0 | 14
- 4.1.2 Domestic credit to private sector, % GDP*: 62.6 | 54

#### 4.2 Investment

- 4.2.1 Exports of protecting minority investors*: 40.0 | 96
- 4.2.2 Market capitalization, % GDP*: 5.1 | 69
- 4.2.3 Venture capital deals/bn PPP$: 0.0 | 66

#### 4.3 Trade, competition, and market scale

- 4.3.1 Applied tariff rate, weighted avg., %*: 18 | 53
- 4.3.2 Intensity of local competition*: 72.9 | 39
- 4.3.3 Domestic market scale, bn PPP$: 59.6 | 86

### BUSINESS SOPHISTICATION

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.1</td>
<td>48</td>
</tr>
</tbody>
</table>

#### 5.1 Knowledge workers

- 5.1.1 Knowledge-intensive employment, %*: 27.4 | 52
- 5.1.2 Firms offering formal training, %*: 54.7 | 11
- 5.1.3 GERD performed by business, % GDP*: 0.1 | 56
- 5.1.4 GERD financed by business, %*: 3.7 | 88
- 5.1.5 Firms involved in international R&D: 11.6 | 60

#### 5.2 Innovation linkages

- 5.2.1 University-industry research collaboration*: 42.5 | 62
- 5.2.2 State of cluster development*: 47.9 | 62
- 5.2.3 GERD financed by abroad, % GDP*: 0.0 | 63
- 5.2.4 JV-strategic alliance deals/bn PPP$: 0.0 | 70
- 5.2.5 Patent families 2+ offices/bn PPP$: 0.0 | 76

#### 5.3 Knowledge absorption

- 5.3.1 Intellectual property payments, % total trade*: 2.8 | 7
- 5.3.2 High-tech imports, % total trade*: 8.9 | 50
- 5.3.3 ICT services imports, % total trade*: 15.4 | 44
- 5.3.4 FDI net inflows, % GDP*: 4.7 | 31
- 5.3.5 Research talent, % in business enterprise*: n/a | n/a

### KNOWLEDGE & TECHNOLOGY OUTPUTS

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.4</td>
<td>53</td>
</tr>
</tbody>
</table>

#### 6.1 Knowledge creation

- 6.1.1 Patents by origin/bn PPP$: 0.1 | 120
- 6.1.2 PCT patents by origin/bn PPP$: 0.1 | 57
- 6.1.3 Utility models by origin/bn PPP$: 0.2 | 49
- 6.1.4 Scientific & technical articles/bn PPP$: 5.3 | 84
- 6.1.5 Copyright documents H-index*: 9.5 | 70

#### 6.2 Knowledge impact

- 6.2.1 Growth rate of PPP$ GDP/worker, %*: -0.3 | 98
- 6.2.2 New businesses/1k pop. 15-64*: 2.6 | 50
- 6.2.3 Computer software spending, % GDP*: 0.0 | 47
- 6.2.4 ISO 9001 quality certificates/bn PPP$: 2.8 | 77
- 6.2.5 High-end & medium-high-tech manufacturing, % GDP*: 25.6 | 43

#### 6.3 Knowledge diffusion

- 6.3.1 Intellectual property receipts, % total trade*: 0.0 | 75
- 6.3.2 High-tech net exports, % total trade*: 5.7 | 28
- 6.3.3 ICT services exports, % total trade*: 6.2 | 62
- 6.3.4 FDI outflows, % GDP*: 0.8 | 64

### CREATIVE OUTPUTS

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.8</td>
<td>53</td>
</tr>
</tbody>
</table>

#### 7.1 Intangible assets

- 7.1.1 Trademarks by origin/bn PPP$: 0.0 | 75
- 7.1.2 Global brand value, top 5000, % GDP*: 2.6 | 76
- 7.1.3 Industrial designs by origin/bn PPP$: 0.1 | 110
- 7.1.4 ICTs & organizational model creation*: 63.0 | 36

#### 7.2 Creative goods and services

- 7.2.1 Cultural & creative services exports, % total trade*: 3.7 | 1
- 7.2.2 National feature films/mn pop. 15-69*: 3.6 | 52
- 7.2.3 Entertainment & Media market/bn pop. 15-69*: 0.9 | 50
- 7.2.4 Painting and other media, % manufacturing*: 2.2 | 12
- 7.2.5 Creative goods exports, % total trade*: 0.1 | 96

#### 7.3 Online creativity

- 7.3.1 Generic top-level domains (TLD)/bn pop. 15-69*: 11.2 | 37
- 7.3.2 Country-code TLDs/bn pop. 15-69*: 1.5 | 75
- 7.3.3 Websites ed/million pop. 15-69*: 55.9 | 53
- 7.3.4 Mobile app creation/bn PPP$: 7.3 | 50

**NOTES:** ● indicates a strength; ○ a weakness; ● an income group strength; ○ an income group weakness; ▲ an indicator; □ a survey question; ○ indicators that the economy’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.
DATA AVAILABILITY

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

**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>2.2.3</td>
<td>Tertiary inbound mobility, %</td>
<td>n/a</td>
<td>2017</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>5.3.5</td>
<td>Research talent, % in business enterprise</td>
<td>n/a</td>
<td>2018</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators</td>
</tr>
<tr>
<td>7.2.3</td>
<td>Entertainment &amp; Media market/ths 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>2.3.1</td>
<td>Researchers, FTE/mn pop.</td>
<td>2017</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>4.2.2</td>
<td>Market capitalization, % GDP</td>
<td>2017</td>
<td>2018</td>
<td>World Federation of Exchanges</td>
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<tr>
<td>5.1.1</td>
<td>Knowledge-intensive employment, %</td>
<td>2010</td>
<td>2018</td>
<td>International Labour Organization</td>
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<tr>
<td>5.1.2</td>
<td>Firms offering formal training, %</td>
<td>2009</td>
<td>2018</td>
<td>World Bank</td>
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<tr>
<td>5.1.3</td>
<td>GERD performed by business, % GDP</td>
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<td>2018</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators</td>
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<tr>
<td>6.2.5</td>
<td>High- &amp; medium-high-tech manufacturing, %</td>
<td>2016</td>
<td>2017</td>
<td>United Nations Industrial Development Organization</td>
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<tr>
<td>7.2.1</td>
<td>Cultural &amp; creative services exports, % total trade</td>
<td>2013</td>
<td>2018</td>
<td>World Trade Organization</td>
</tr>
<tr>
<td>7.2.4</td>
<td>Printing &amp; other media, % manufacturing</td>
<td>2016</td>
<td>2017</td>
<td>United Nations Industrial Development Organization</td>
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</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.