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.

Mozambique ranking in the Global Innovation Index 2023

> Mozambique ranks **126th** among the 132 economies featured in the GII 2023.

> Mozambique ranks **8th** among the 12 low-income group economies.

> Mozambique ranks **22nd** among the 28 economies in Sub-Saharan Africa.

**Mozambique GII Ranking (2020-2023)**

The table shows the rankings of Mozambique over the past four years. 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 Mozambique in the GII 2023 is between ranks 123 and 131.

<table>
<thead>
<tr>
<th>Year</th>
<th>GII Position</th>
<th>Innovation Inputs</th>
<th>Innovation Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>124th</td>
<td>122nd</td>
<td>125th</td>
</tr>
<tr>
<td>2021</td>
<td>122nd</td>
<td>122nd</td>
<td>118th</td>
</tr>
<tr>
<td>2022</td>
<td>123rd</td>
<td>123rd</td>
<td>119th</td>
</tr>
<tr>
<td>2023</td>
<td>128th</td>
<td>128th</td>
<td>124th</td>
</tr>
</tbody>
</table>

Mozambique performs better in innovation outputs than innovation inputs in 2023.

- This year Mozambique ranks 128th in innovation inputs. This position is lower than last year.
- Mozambique ranks 124th in innovation outputs. This position is lower than last year.
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, Mozambique's performance is at expectations for its level of development.

Innovation overperformers relative to their economic development

GDP per capita, PPP logarithmic scale (thousands of $)
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.

Mozambique produces more innovation outputs relative to its level of innovation investments.

Relationship between innovation inputs and outputs

Output score

Input score

High income
Upper middle
Lower middle
Low income
Fitted line
Overview of Mozambique's rankings in the seven areas of the GII in 2023

The chart shows the ranking for each of the seven areas that the GII comprises. The strongest areas for Mozambique are those that rank above the GII (shown in blue) and the weakest are those that rank below.

- **Highest rankings**
  - Mozambique ranks highest in Infrastructure (103rd), Creative outputs (115th), Human capital and research (116th) and Market sophistication (122nd).

- **Lowest rankings**
  - Mozambique ranks lowest in Institutions, Business sophistication (129th), Knowledge and technology outputs (127th) and Market sophistication (122nd).

* Institutions, Business sophistication
Benchmark of Mozambique against other country groupings for each of the seven areas of the GII Index

The charts show the relative position of Mozambique (blue bar) against other country groupings (grey bars), for each of the seven areas of the GII Index.

**Low-Income economies**
Mozambique performs below the low-income group average in Knowledge and technology outputs, Creative outputs, Business sophistication, Market sophistication, Human capital and research, Institutions.

**Sub-Saharan Africa**
Mozambique performs below the regional average in Knowledge and technology outputs, Creative outputs, Business sophistication, Market sophistication, Human capital and research, Institutions.

### Knowledge and technology outputs
- **Top 10 | Score:** 58.96
- **Sub-Saharan Africa | Score:** 12.16
- **Low income | Score:** 11.03
- **Mozambique | Score:** 9.52

### Creative outputs
- **Top 10 | 56.09**
- **Sub-Saharan Africa | 10.36**
- **Low income | 7.48**
- **Mozambique | 7.25**

### Business sophistication
- **Top 10 | 64.39**
- **Sub-Saharan Africa | 19.85**
- **Low income | 16.81**
- **Mozambique | 14.72**

### Market sophistication
- **Top 10 | 61.93**
- **Sub-Saharan Africa | 20.00**
- **Low income | 15.67**
- **Mozambique | 14.43**

### Human capital and research
- **Top 10 | 60.28**
- **Sub-Saharan Africa | 17.80**
- **Low income | 15.55**
- **Mozambique | 14.80**

### Infrastructure
- **Top 10 | 62.83**
- **Mozambique | 27.17**
- **Sub-Saharan Africa | 23.36**
- **Low income | 19.43**

### Institutions
- **Top 10 | 79.85**
- **Sub-Saharan Africa | 43.27**
- **Low income | 38.42**
- **Mozambique | 22.88**
## Innovation strengths and weaknesses in Mozambique

The table below gives an overview of the indicator strengths and weaknesses of Mozambique in the GII 2023.

> Mozambique’s main innovation strengths are **Gross capital formation, % GDP** (rank 1), **FDI net inflows, % GDP** (rank 5) and **Expenditure on education, % GDP** (rank 8).

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rank</strong></td>
<td><strong>Code</strong></td>
</tr>
<tr>
<td>1</td>
<td>3.2.3</td>
</tr>
<tr>
<td>5</td>
<td>5.3.4</td>
</tr>
<tr>
<td>8</td>
<td>2.1.1</td>
</tr>
<tr>
<td>32</td>
<td>5.2.3</td>
</tr>
<tr>
<td>54</td>
<td>5.3.3</td>
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<tr>
<td>56</td>
<td>5.2.4</td>
</tr>
<tr>
<td>67</td>
<td>7.1.2</td>
</tr>
<tr>
<td>70</td>
<td>6.1.1</td>
</tr>
<tr>
<td>71</td>
<td>7.1.4</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
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</tr>
</tbody>
</table>
Mozambique’s innovation system

As far as practicable, the plots below present unscaled indicator data.

Innovation inputs in Mozambique

2.1.1 Expenditure on education, % GDP
was equal to 6.89% GDP in 2021, up by 0.19 percentage points from the year prior – and equivalent to an indicator rank of 8.

2.2.2 Graduates in science and engineering, %
was equal to 9.56% of total tertiary graduates in 2018, up by 0.53 percentage points from the year prior – and equivalent to an indicator rank of 110.

2.3.1 Researchers, FTE/mn pop.
was equal to 42.97 FTE/mn pop. in 2015, equivalent to an indicator rank of 96.

2.3.2 Gross expenditure on R&D, % GDP
was equal to 0.313 % GDP in 2015, equivalent to an indicator rank of 74.

2.3.4 QS university ranking, top 3
was equal to an average score of 0 for the top 3 universities in 2022, equivalent to an indicator rank of 71.

3.1.1 ICT access
was equal to a score of 4.47 in 2021, down by 3.66% from the year prior – and equivalent to an indicator rank of 126.
4.1.1 Finance for startups and scaleups was equal to an average perception score of 2.23 in 2018, equivalent to an indicator rank of 85.

4.2.4 VC received, value, % GDP was equal to 0.00011 % GDP in 2020, equivalent to an indicator rank of 81.

5.1.1 Knowledge-intensive employment, % was equal to 3.85 % in 2015, equivalent to an indicator rank of 122.
Innovation outputs in Mozambique

6.1.1 Patents by origin
was equal to 0.03 Thousands in 2021, up by 15.38% from the year prior – and equivalent to an indicator rank of 70.

6.1.5 Citable documents H-index
was equal to an index value of 143 in 2022, up by 10% from the year prior – and equivalent to an indicator rank of 96.

6.2.2 Unicorn valuation, % GDP
was equal to 0% GDP in 2023 – and equivalent to an indicator rank of 48.

6.2.3 Software spending, % GDP
was equal to 0.025% GDP in 2022, down by 0.00015 percentage points from the year prior – and equivalent to an indicator rank of 117.

6.3.1 Intellectual property receipts, % total trade
was equal to 0% total trade in 2021 – and equivalent to an indicator rank of 114.

6.3.2 Production and export complexity
was equal to a score of –0.976 in 2020, up by 5.79% from the year prior – and equivalent to an indicator rank of 110.
6.3.3 High-tech exports
was equal to 8,132,855 USD in 2021, up by 261.41% from the year prior – and equivalent to an indicator rank of 120.

7.1.3 Global brand value, top 5,000
was equal to 0 bn USD in 2023 – and equivalent to an indicator rank of 74.

7.3.4 Mobile app creation/bn PPP$ GDP
was equal to 1.35 Apps/bn PPP$ GDP in 2022 – and equivalent to an indicator rank of 123.
Global Innovation Index 2023

Mozambique

Output rank Input rank Income Region SSA

Score / Value Rank
124 128 Low SSA

Population (mn) GDP, PPP ($ (bn) GDP per capita, PPP
33.0 48.0 1,457.1

Business sophistication 14.7 129

6.1 Knowledge workers 4.8 130
6.1.1 Knowledge-intensive employment, % 3.9 122
6.1.2 Firms offering formal training, % 20.7 79
6.1.3 GERD performed by business, % GDP 0.9 91
6.1.4 GERD financed by business, % 0.5 95
6.1.5 Females employed w/advanced degrees, % 0.7 121
6.2 Innovation linkages 13.1 107
6.2.1 University-industry R&D collaboration* 23.5 107
6.2.2 State of cluster development* 13.3 123
6.2.3 GERD financed by abroad, % GDP 0.1 32
6.2.4 Joint venture/strategic alliance deals/bn PPP $ GDP 0.0 56
6.2.5 Patent families/bn PPP $ GDP 0.0 95
6.3 Knowledge absorption 26.3 99
6.3.1 Intellectual property payments, % total trade 0.0 118
6.3.2 High-tech imports, % total trade 5.6 107
6.3.3 ICT services imports, % total trade 1.6 54
6.3.4 FD net inflows, % GDP 26.1 9
6.3.5 Research talent, % in businesses 0.3 84

Knowledge and technology outputs 9.5 127

6.1 Knowledge creation 7.6 94
6.1.1 Patents by origin/bn PPP $ GDP 0.7 90
6.1.2 PCT patents by origin/bn PPP $ GDP 0.0 101
6.1.3 Utility models by origin/bn PPP $ GDP 0.1 59
6.1.4 Scientific and technical articles/bn PPP $ GDP 0.0 73
6.1.5 Citable documents H-index 5.6 96
6.2 Knowledge impact 13.1 123
6.2.1 Labor productivity growth, % 0.8 114
6.2.2 Unicorn valuations, % GDP 0.0 48
6.2.3 Software spending, % GDP 0.0 117
6.2.4 High-tech manufacturing, % GDP 0.0 126
6.3 Knowledge diffusion 7.9 119
6.3.1 Intellectual property receipts, % total trade 0.0 114
6.3.2 Production and export complexity 32.1 110
6.3.3 High-tech exports, % total trade 0.1 120
6.3.4 ICT services exports, % total trade 0.2 119
6.3.5 ISIC 4001 quality/bn PPP $ GDP 1.5 95

Creative outputs 7.2 115

7.1 Intangible assets 13.6 101
7.1.1 Intangible asset intensity, % 15 91
7.1.2 Trademarks by origin/bn PPP $ GDP 34.7 67
7.1.3 Global brand value, top 5,000 0.0 74
7.1.4 Industrial designs by origin/bn PPP $ GDP 0.9 71
7.2 Creative goods and services 0.5 124
7.2.1 Cultural and creative services exports, % total trade 0.0 76
7.2.2 National feature films/mn pop. 15-69 0.0 79
7.2.3 Entertainment and media market/th pop. 15-69 0.0 82
7.2.4 Creative goods exports, % total trade 0.0 112
7.3 Online creativity 1.3 127
7.3.1 Generic top-level domains (TLDs)/th pop. 15-69 0.0 129
7.3.2 Country-code TLD/th pop. 15-69 0.2 112
7.3.3 GitHub commits/mn pop. 15-69 0.2 125
7.3.4 Mobile app creation/bn PPP $ GDP 4.6 123

NOTES: ● indicates a strength; ○ a weakness; ● an income group strength; ○ an income group weakness; * an index; * survey question, ● indicates that the economy’s data are older than the base year; see appendices for details, including the year of the data, at https://www.wip.int/gii-ranking. 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 indicators that are either missing or outdated for Mozambique.

Mozambique has missing data for ten indicators and outdated data for twenty two indicators.

Missing data for Mozambique

<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>2.1.4</td>
<td>PISA scales in reading, maths and science</td>
<td>n/a</td>
<td>2018</td>
<td>OECD, PISA</td>
</tr>
<tr>
<td>4.2.1</td>
<td>Market capitalization, % GDP</td>
<td>n/a</td>
<td>2020</td>
<td>World Federation of Exchanges; World Bank</td>
</tr>
<tr>
<td>4.2.2</td>
<td>Venture capital (VC) investors, deals/bn PPP$ GDP</td>
<td>n/a</td>
<td>2022</td>
<td>Refinitiv; International Monetary Fund</td>
</tr>
<tr>
<td>4.3.2</td>
<td>Domestic industry diversification</td>
<td>n/a</td>
<td>2020</td>
<td>United Nations Industrial Development Organization</td>
</tr>
<tr>
<td>6.2.4</td>
<td>High-tech manufacturing, %</td>
<td>n/a</td>
<td>2020</td>
<td>United Nations Industrial Development Organization</td>
</tr>
<tr>
<td>7.1.1</td>
<td>Intangible asset intensity, top 15, %</td>
<td>n/a</td>
<td>2022</td>
<td>Brand Finance</td>
</tr>
<tr>
<td>7.2.1</td>
<td>Cultural and creative services exports, % total trade</td>
<td>n/a</td>
<td>2021</td>
<td>World Trade Organization and United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>7.2.2</td>
<td>National feature films/mn pop. 15–69</td>
<td>n/a</td>
<td>2021</td>
<td>OMDIA; United Nations, World Population Prospects</td>
</tr>
<tr>
<td>7.2.3</td>
<td>Entertainment and media market% pop. 15–69</td>
<td>n/a</td>
<td>2022</td>
<td>PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund</td>
</tr>
</tbody>
</table>

Outdated data for Mozambique

<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>1.3.1</td>
<td>Policies for doing business</td>
<td>2019</td>
<td>2022</td>
<td>World Economic Forum, Executive Opinion Survey (EOS)</td>
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<tr>
<td>1.3.2</td>
<td>Entrepreneurship policies and culture</td>
<td>2018</td>
<td>2022</td>
<td>Global Entrepreneurship Monitor</td>
</tr>
<tr>
<td>Code</td>
<td>Indicator name</td>
<td>Economy Year</td>
<td>Model Year</td>
<td>Source</td>
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<tr>
<td>2.1.2</td>
<td>Government funding/pupil, secondary, % GDP/cap</td>
<td>2013</td>
<td>2019</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.1.3</td>
<td>School life expectancy, years</td>
<td>2017</td>
<td>2020</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.2.1</td>
<td>Tertiary enrolment, % gross</td>
<td>2018</td>
<td>2020</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.2.2</td>
<td>Graduates in science and engineering, %</td>
<td>2018</td>
<td>2020</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD</td>
</tr>
<tr>
<td>2.2.3</td>
<td>Tertiary inbound mobility, %</td>
<td>2018</td>
<td>2020</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>3.1</td>
<td>Researchers, FTE/mn pop.</td>
<td>2015</td>
<td>2021</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD; RICYT</td>
</tr>
<tr>
<td>3.2.1</td>
<td>Gross expenditure on R&amp;D, % GDP</td>
<td>2015</td>
<td>2021</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD; RICYT</td>
</tr>
<tr>
<td>4.1.1</td>
<td>Electricity output, GWh/mn pop.</td>
<td>2020</td>
<td>2021</td>
<td>International Energy Agency</td>
</tr>
<tr>
<td>4.2.3</td>
<td>VC recipients, deals/bn PPP$ GDP</td>
<td>2020</td>
<td>2022</td>
<td>Refinitiv; International Monetary Fund</td>
</tr>
<tr>
<td>4.2.4</td>
<td>VC received, value, % GDP</td>
<td>2020</td>
<td>2022</td>
<td>Refinitiv; International Monetary Fund</td>
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<tr>
<td>4.2.5</td>
<td>VC invested, % GDP</td>
<td>2020</td>
<td>2022</td>
<td>Refinitiv; International Monetary Fund</td>
</tr>
<tr>
<td>5.1.1</td>
<td>Knowledge-intensive employment, %</td>
<td>2015</td>
<td>2022</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Firms offering formal training, %</td>
<td>2018</td>
<td>2019</td>
<td>World Bank Enterprise Surveys</td>
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<tr>
<td>5.1.3</td>
<td>GERD performed by business, % GDP</td>
<td>2015</td>
<td>2021</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD; RICYT</td>
</tr>
<tr>
<td>5.1.4</td>
<td>GERD financed by business, %</td>
<td>2015</td>
<td>2020</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD; RICYT</td>
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<td>5.1.5</td>
<td>Females employed w/advanced degrees, %</td>
<td>2015</td>
<td>2022</td>
<td>International Labour Organization</td>
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<td>5.2.1</td>
<td>University–industry R&amp;D collaboration</td>
<td>2019</td>
<td>2022</td>
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<td>5.2.2</td>
<td>State of cluster development</td>
<td>2019</td>
<td>2022</td>
<td>World Economic Forum, Executive Opinion Survey (EOS)</td>
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<td>5.2.3</td>
<td>GERD financed by abroad, % GDP</td>
<td>2015</td>
<td>2020</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD; RICYT</td>
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<tr>
<td>5.3.5</td>
<td>Research talent, % in businesses</td>
<td>2015</td>
<td>2021</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD; RICYT</td>
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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.