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.

Lao People’s Democratic Republic ranking in the Global Innovation Index 2023

> Lao PDR ranks **110th** among the 132 economies featured in the GII 2023.

> Lao PDR ranks **26th** among the 37 lower-middle-income group economies.

> Lao PDR ranks **16th** among the 16 economies in South East Asia, East Asia, and Oceania.

**Lao PDR GII Ranking (2020-2023)**

The table shows the rankings of Lao PDR 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 Lao PDR in the GII 2023 is between ranks 106 and 117.

<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>113rd</td>
<td>127th</td>
<td>95th</td>
</tr>
<tr>
<td>2021</td>
<td>117th</td>
<td>123rd</td>
<td>112nd</td>
</tr>
<tr>
<td>2022</td>
<td>112nd</td>
<td>98th</td>
<td>122nd</td>
</tr>
<tr>
<td>2023</td>
<td>110th</td>
<td>100th</td>
<td>120th</td>
</tr>
</tbody>
</table>

Lao PDR performs worse in innovation outputs than innovation inputs in 2023.

This year Lao PDR ranks **100th** in innovation inputs. This position is lower than last year.

Lao PDR ranks **120th** in innovation outputs. This position is higher 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, Lao People’s Democratic Republic’s performance is below expectations for its level of development.

Innovation overperformers relative to their economic development

GII Score

🔗 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.

Lao People’s Democratic Republic produces less innovation outputs relative to its level of innovation investments.

Relationship between innovation inputs and outputs

Input score

Output score

High income
Upper middle
Lower middle
Low income
Fitted line

Lao People’s Democratic Republic
Overview of Lao People's Democratic Republic'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 Lao People's Democratic Republic are those that rank above the GII (shown in blue) and the weakest are those that rank below.

- 65th Market sophistication
- 95th Institutions
- 97th Knowledge and technology outputs
- 102nd Business sophistication
- 109th Infrastructure
- 119th Human capital and research
- 124th Creative outputs

> Highest rankings
Lao People’s Democratic Republic ranks highest in Market sophistication (65th), Institutions (95th), Knowledge and technology outputs (97th), Business sophistication (102nd) and Infrastructure (109th).

> Lowest rankings
Lao People’s Democratic Republic ranks lowest in Creative outputs (124th), Human capital and research (115th) and Infrastructure (109th).

The full WIPO Intellectual Property Statistics profile for Lao People's Democratic Republic can be found on this link.
Benchmark of Lao PDR against other country groupings for each of the seven areas of the GII Index

The charts show the relative position of Lao People's Democratic Republic (blue bar) against other country groupings (grey bars), for each of the seven areas of the GII Index.

### Knowledge and technology outputs
- Top 10 | Score: 58.96
- SEAO | Score: 32.16
- Lower middle income | Score: 17.21
- Lao People's Democratic Republic | Score: 1
* South East Asia, East Asia, and Oceania

### Lower-Middle-Income economies
Lao PDR performs below the lower-middle-income group average in Knowledge and technology outputs, Creative outputs, Business sophistication, Human capital and research, Infrastructure.

### Creative outputs
- Top 10 | 56.09
- SEAO | 34.40
- Lower middle income | 16.35
- Lao People's Democratic Republic

### Business sophistication
- Top 10 | 64.39
- SEAO | 40.54
- Lower middle income | 22.71
- Lao People's Democratic Republic

### Market sophistication
- Top 10 | 61.93
- SEAO | 47.18
- Lower middle income | 28.01
- Lao People's Democratic Republic

### Human capital and research
- Top 10 | 60.28
- SEAO | 40.81
- Lower middle income | 21.73
- Lao People's Democratic Republic

### Infrastructure
- Top 10 | 62.83
- SEAO | 47.13
- Lower middle income | 27.83
- Lao People's Democratic Republic

### Institutions
- Top 10 | 79.85
- SEAO | 62.54
- Lower middle income | 39.43
- Lao People's Democratic Republic
Innovation strengths and weaknesses in Lao People's Democratic Republic

The table below gives an overview of the indicator strengths and weaknesses of Lao People's Democratic Republic in the GII 2023.

Lao People’s Democratic Republic’s main innovation strengths are **Applied tariff rate, weighted avg., **% (rank 11), **FDI net inflows, % GDP (rank 22) and **Creative goods exports, % total trade (rank 36).

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applied tariff rate, weighted avg., %</strong></td>
<td><strong>Government’s online service</strong></td>
</tr>
<tr>
<td><strong>FDI net inflows, % GDP</strong></td>
<td><strong>Trademarks by origin/bn PPP$ GDP</strong></td>
</tr>
<tr>
<td><strong>Creative goods exports, % total trade</strong></td>
<td><strong>Industrial designs by origin/bn PPP$ GDP</strong></td>
</tr>
<tr>
<td><strong>Electricity output, GWh/mn pop.</strong></td>
<td><strong>Intellectual property payments, % total trade</strong></td>
</tr>
<tr>
<td><strong>Labor productivity growth, %</strong></td>
<td><strong>Intellectual property receipts, % total trade</strong></td>
</tr>
<tr>
<td><strong>Software spending, % GDP</strong></td>
<td><strong>Patent families/bn PPP$ GDP</strong></td>
</tr>
<tr>
<td><strong>High-tech exports, % total trade</strong></td>
<td><strong>Global brand value, top 5,000</strong></td>
</tr>
<tr>
<td><strong>Operational stability for businesses</strong></td>
<td><strong>QS university ranking, top 3</strong></td>
</tr>
<tr>
<td><strong>State of cluster development</strong></td>
<td><strong>Unicorn valuation, % GDP</strong></td>
</tr>
<tr>
<td><strong>University-industry R&amp;D collaboration</strong></td>
<td><strong>Global corporate R&amp;D investors, top 3, mn US$</strong></td>
</tr>
</tbody>
</table>
Lao People’s Democratic Republic’s innovation system

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

Innovation inputs in Lao People’s Democratic Republic

2.1.1 Expenditure on education, % GDP
was equal to 1.86% GDP in 2021, down by 0.06 percentage points from the year prior – and equivalent to an indicator rank of 121.

2.2.2 Graduates in science and engineering, %
was equal to 23.14% of total tertiary graduates in 2019, up by 0.68 percentage points from the year prior – and equivalent to an indicator rank of 64.

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 6.64 in 2021, up by 21.83% from the year prior – and equivalent to an indicator rank of 109.

4.3.2 Domestic industry diversification
was equal to an index score of 0.189 in 2015, with no change from the year prior – and equivalent to an indicator rank of 65.

5.1.1 Knowledge-intensive employment, %
was equal to 13.59 % in 2017, equivalent to an indicator rank of 96.
6.1.1 Patents by origin
was equal to 0.001 Thousands in 2018, down by 66.67% from the year prior – and equivalent to an indicator rank of 128.

6.1.5 Citable documents H-index
was equal to an index value of 113 in 2022, up by 5.61% from the year prior – and equivalent to an indicator rank of 117.

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 0.285% GDP in 2022, up by 0.0024 percentage points from the year prior – and equivalent to an indicator rank of 46.

6.2.4 High-tech manufacturing, %
was equal to 4.68% of total manufacturing output in 2015, up by with no change from the year prior – and equivalent to an indicator rank of 103.

6.3.1 Intellectual property receipts, % total trade
was equal to 0% total trade in 2020 – and equivalent to an indicator rank of 114.
6.3.2 Production and export complexity
was equal to a score of -0.488 in 2020, up by
22.82% from the year prior – and equivalent
to an indicator rank of 88.

6.3.3 High-tech exports
was equal to 223,027,536 USD in 2021, down
by 5.4% from the year prior – and equivalent
to an indicator rank of 46.

7.1.3 Global brand value, top 5,000
was equal to 0 bn USD in 2023, down by 100%
from the year prior – and equivalent to an
indicator rank of 74.
## Global Innovation Index 2023

### Lao People's Democratic Republic

<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>120</td>
<td>100</td>
<td>Lower middle</td>
<td>SEAO</td>
<td>7.5</td>
<td>68.6</td>
<td>4,196.3</td>
</tr>
</tbody>
</table>

### Institutions

<table>
<thead>
<tr>
<th>Score / Value Rank</th>
<th>40.8 / 95</th>
</tr>
</thead>
</table>

1.1 Institutional environment
- 11.1 Operational stability for businesses*
- 11.2 Government effectiveness*
- 12.1 Regulatory environment
- 12.2 Rule of law*
- 12.3 Cost of redundancy dismissal

1.2 Business environment
- 13.1 Policies for doing business*
- 13.2 Entrepreneurship policies and culture*

### Human capital and research

<table>
<thead>
<tr>
<th>Score / Value Rank</th>
<th>15.1 / 115</th>
</tr>
</thead>
</table>

2.1 Education
- 2.1.1 Expenditure on education, % GDP
- 2.1.2 Government funding/pupil, secondary, % GDP/cap
- 2.1.3 School life expectancy, years
- 2.1.4 PISA scales in reading, maths and science
- 2.1.5 Pupil-teacher ratio, secondary

2.2 Tertiary education
- 2.2.1 Tertiary enrolment, % gross
- 2.2.2 Graduates in science and engineering, %
- 2.2.3 Tertiary indebted mobility, %

2.3 Research and development (R&D)
- 2.3.1 Researchers, FTE/mm pop.
- 2.3.2 Gross expenditure on R&D, % GDP
- 2.3.3 Global corporate R&D investors, top 3, mn US$
- 2.3.4 QS university ranking, top 3*

### Infrastructure

<table>
<thead>
<tr>
<th>Score / Value Rank</th>
<th>23.8 / 109</th>
</tr>
</thead>
</table>

3.1 Information and communication technologies (ICTs)
- 3.1.1 ICT access*
- 3.1.2 ICT use*
- 3.1.3 Government’s online service*
- 3.1.4 E-participation*

3.2 General infrastructure
- 3.2.1 Electricity output, GWh/mm pop.
- 3.2.2 Logistics performance*
- 3.2.3 Glass capital formation, % GDP

3.3 Ecological sustainability
- 3.3.1 GDP/unit of energy use
- 3.3.2 Environmental performance*
- 3.3.3 ISO 14001 environment/bn PPP$ GDP

### Market sophistication

<table>
<thead>
<tr>
<th>Score / Value Rank</th>
<th>34.9 / 65</th>
</tr>
</thead>
</table>

4.1 Credit
- 4.1.1 Finance for startups and scaleups*
- 4.1.2 Domestic credit to private sector, % GDP
- 4.1.3 Loans from microfinance institutions, % GDP

4.2 Investment
- 4.2.1 Market capitalization, % GDP
- 4.2.2 Venture capital (VC) investors, deals/bn PPP$ GDP
- 4.2.3 VC recipients, deals/bn PPP$ GDP

4.3 Trade, diversification, and market scale
- 4.3.1 Applied tariff rate, weighted avg, %
- 4.3.2 Domestic industry diversification
- 4.3.3 Domestic market scale, bn PPP$

### Business sophistication

<table>
<thead>
<tr>
<th>Score / Value Rank</th>
<th>21.2 / 102</th>
</tr>
</thead>
</table>

5.1 Knowledge workers
- 5.1.1 Knowledge-intensive employment, %
- 5.1.2 Firms offering formal training, %

5.2 Innovation linkages
- 5.2.1 University-industry R&D collaboration*
- 5.2.2 State of cluster development*

5.3 Knowledge absorption
- 5.3.1 Intellectual property payments, % total trade

5.4 Knowledge and technology outputs

<table>
<thead>
<tr>
<th>Score / Value Rank</th>
<th>13.9 / 97</th>
</tr>
</thead>
</table>

6.1 Knowledge creation
- 6.1.1 Patents by origin/bn PPP$ GDP

6.2 Knowledge diffusion
- 6.2.3 Software spending, % GDP

6.3 Creative outputs
- 7.1 Intangible assets
- 7.2 Creative goods and services
- 7.3 Online creativity

### Knowledge and technology outputs

<table>
<thead>
<tr>
<th>Score / Value Rank</th>
<th>13.9 / 97</th>
</tr>
</thead>
</table>

6.1 Knowledge creation
- 6.1.1 Patents by origin/bn PPP$ GDP

6.2 Knowledge diffusion
- 6.2.3 Software spending, % GDP

6.3 Creative outputs
- 7.1 Intangible assets
Global Innovation Index 2023

→ Data availability

The following tables list indicators that are either missing or outdated for Lao People's Democratic Republic.

> Lao People's Democratic Republic has missing data for twenty indicators and outdated data for sixteen indicators.

### Missing data for Lao People's Democratic Republic

<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>1.3.2</td>
<td>Entrepreneurship policies and culture</td>
<td>n/a</td>
<td>2022</td>
<td>Global Entrepreneurship Monitor</td>
</tr>
<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>2.3.1</td>
<td>Researchers, FTE/mn pop.</td>
<td>n/a</td>
<td>2021</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD; RICYT</td>
</tr>
<tr>
<td>2.3.2</td>
<td>Gross expenditure on R&amp;D, % GDP</td>
<td>n/a</td>
<td>2021</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD; RICYT</td>
</tr>
<tr>
<td>3.2.3</td>
<td>Gross capital formation, % GDP</td>
<td>n/a</td>
<td>2022</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>4.1.1</td>
<td>Finance for startups and scaleups</td>
<td>n/a</td>
<td>2022</td>
<td>Global Entrepreneurship Monitor</td>
</tr>
<tr>
<td>4.1.2</td>
<td>Domestic credit to private sector, % GDP</td>
<td>n/a</td>
<td>2020</td>
<td>International Monetary Fund; World Bank and OECD GDP estimates.</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>4.2.3</td>
<td>VC recipients, deals/bn PPP$ GDP</td>
<td>n/a</td>
<td>2022</td>
<td>Refinitiv; International Monetary Fund</td>
</tr>
<tr>
<td>4.2.4</td>
<td>VC received, value, % GDP</td>
<td>n/a</td>
<td>2022</td>
<td>Refinitiv; International Monetary Fund</td>
</tr>
<tr>
<td>5.1.3</td>
<td>GERD performed by business, % GDP</td>
<td>n/a</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>n/a</td>
<td>2020</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD; RICYT</td>
</tr>
<tr>
<td>5.2.3</td>
<td>GERD financed by abroad, % GDP</td>
<td>n/a</td>
<td>2020</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD; RICYT</td>
</tr>
<tr>
<td>5.3.5</td>
<td>Research talent, % in businesses</td>
<td>n/a</td>
<td>2021</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD; RICYT</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>
</tbody>
</table>
## Global Innovation Index 2023

<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>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/mn pop. 15-69</td>
<td>n/a</td>
<td>2022</td>
<td>PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund</td>
</tr>
<tr>
<td>7.3.4</td>
<td>Mobile app creation/bn PPP$ GDP</td>
<td>n/a</td>
<td>2022</td>
<td>dataia; International Monetary Fund</td>
</tr>
</tbody>
</table>

> Outdated data for Lao People's Democratic Republic

<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>2.1.2</td>
<td>Government funding/pupil, secondary, % GDP/cap</td>
<td>2014</td>
<td>2019</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.2.2</td>
<td>Graduates in science and engineering, %</td>
<td>2019</td>
<td>2020</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD</td>
</tr>
<tr>
<td>3.2.1</td>
<td>Electricity output, GWh/mn pop.</td>
<td>2020</td>
<td>2021</td>
<td>International Energy Agency</td>
</tr>
<tr>
<td>4.3.2</td>
<td>Domestic industry diversification</td>
<td>2015</td>
<td>2020</td>
<td>United Nations Industrial Development Organization</td>
</tr>
<tr>
<td>5.1.1</td>
<td>Knowledge-intensive employment, %</td>
<td>2017</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>
</tr>
<tr>
<td>5.1.5</td>
<td>Females employed w/advanced degrees, %</td>
<td>2017</td>
<td>2022</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>5.3.1</td>
<td>Intellectual property payments, % total trade</td>
<td>2020</td>
<td>2021</td>
<td>World Trade Organization and United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>5.3.3</td>
<td>ICT services imports, % total trade</td>
<td>2020</td>
<td>2021</td>
<td>World Trade Organization and United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>6.1.1</td>
<td>Patents by origin/bn PPP$ GDP</td>
<td>2018</td>
<td>2021</td>
<td>World Intellectual Property Organization; International Monetary Fund</td>
</tr>
<tr>
<td>6.1.3</td>
<td>Utility models by origin/bn PPP$ GDP</td>
<td>2018</td>
<td>2021</td>
<td>World Intellectual Property Organization; International Monetary Fund</td>
</tr>
<tr>
<td>6.2.4</td>
<td>High-tech manufacturing, %</td>
<td>2015</td>
<td>2020</td>
<td>United Nations Industrial Development Organization</td>
</tr>
<tr>
<td>6.3.1</td>
<td>Intellectual property receipts, % total trade</td>
<td>2020</td>
<td>2021</td>
<td>World Trade Organization and United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>6.3.4</td>
<td>ICT services exports, % total trade</td>
<td>2020</td>
<td>2021</td>
<td>World Trade Organization and United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>7.1.2</td>
<td>Trademarks by origin/bn PPP$ GDP</td>
<td>2018</td>
<td>2021</td>
<td>World Intellectual Property Organization; International Monetary Fund</td>
</tr>
<tr>
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<td>Model Year</td>
<td>Source</td>
</tr>
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<td>------</td>
<td>-----------------------------------</td>
<td>--------------</td>
<td>------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>7.1.4</td>
<td>Industrial designs by originybn PPP$ GDP</td>
<td>2020</td>
<td>2021</td>
<td>World Intellectual Property Organization; International Monetary Fund</td>
</tr>
</tbody>
</table>
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.