

Global Innovation Index 2023

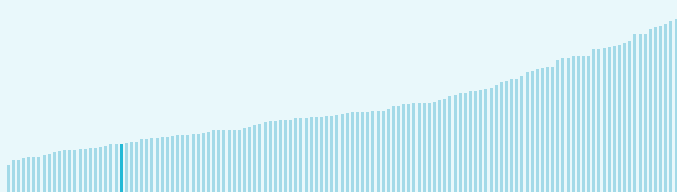


The Global Innovation Index (GII) **ranks world economies according to their innovation capabilities.**

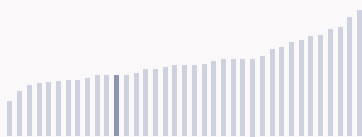
Consisting of **roughly 80 indicators**, grouped into innovation inputs and outputs, the GII **aims to capture the multi-dimensional facets of innovation.**

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

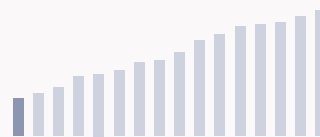
> Lao PDR ranks **110th** among the 132 economies featured in the GII 2023.



> 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.

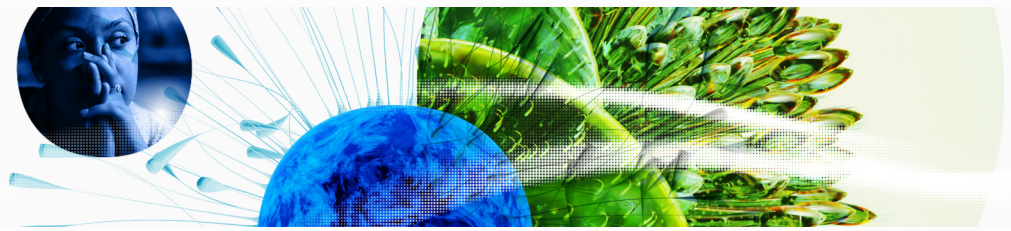
	GII Position	Innovation Inputs	Innovation Outputs
2020	113rd	127th	95th
2021	117th	123rd	112nd
2022	112nd	98th	122nd
2023	110th	100th	120th

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.

Global Innovation Index 2023



→ Expected vs. observed innovation performance

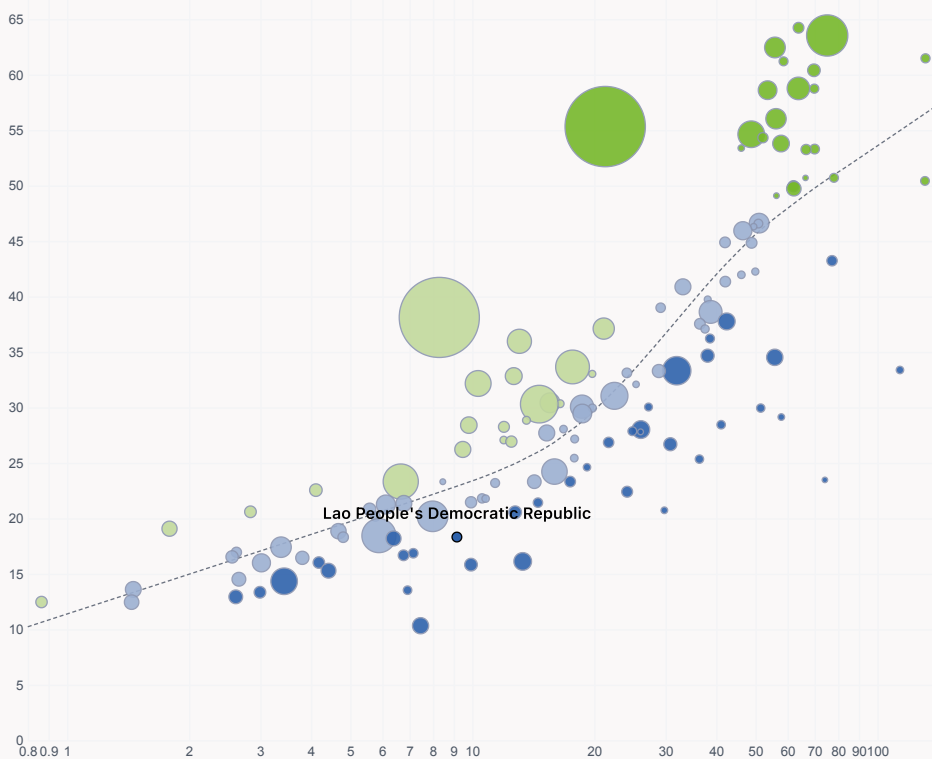
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected 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



- Innovation leader
- Performing above expectations for level of development
- Performing at expectations for level of development
- Performing below expectations for level of development

Size legend (Population)



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

Global Innovation Index 2023



→ Effectively translating innovation investments into innovation outputs

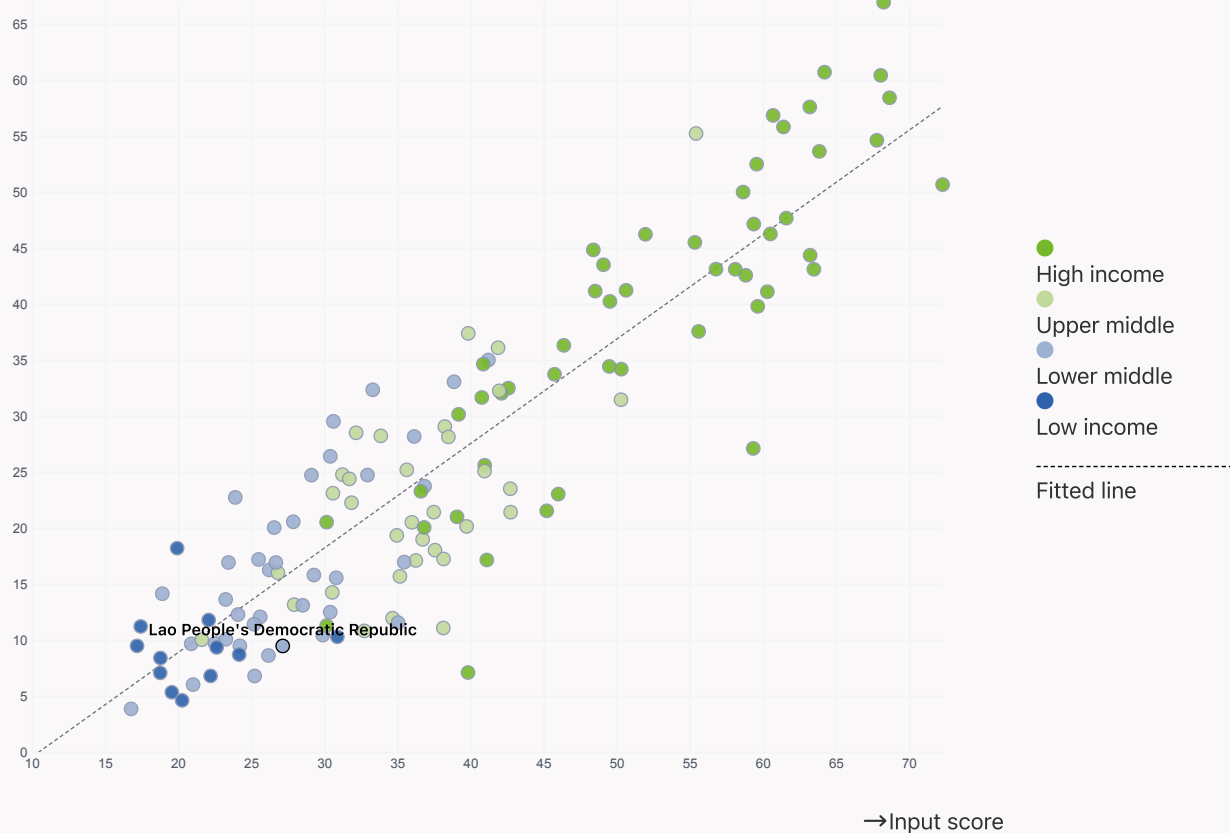
The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.



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

> Relationship between innovation inputs and outputs

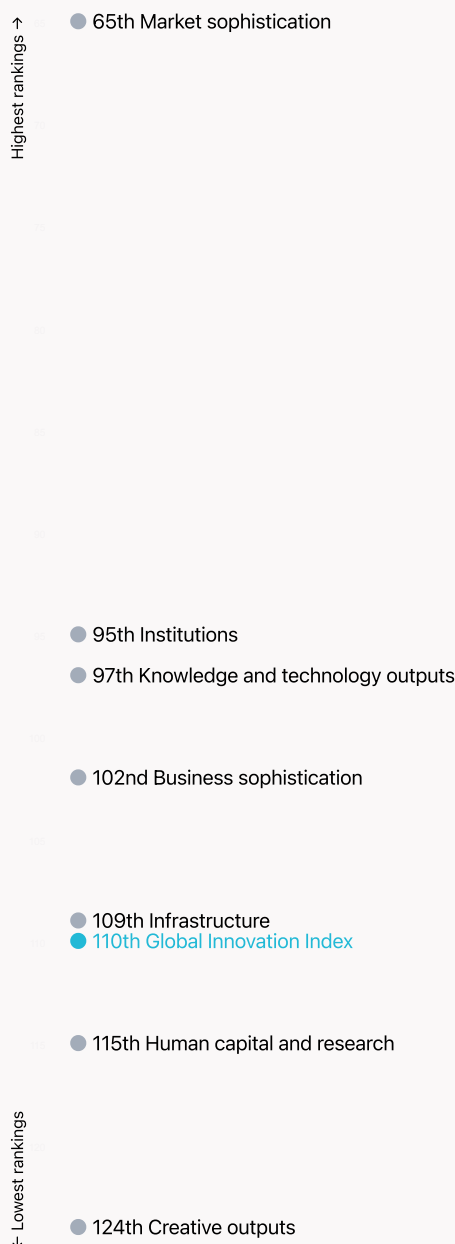
↑ Output score





→ 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.



> 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](#).

Global Innovation Index 2023



→ 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.

> 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.



> South East Asia, East Asia, And Oceania

Lao PDR performs below the regional average in all the pillars.



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

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

Lao People's Democratic Republic

Lower middle income | 28.01

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

Lao People's Democratic Republic

Lower middle income | 39.43

Global Innovation Index 2023



→ 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).

Strengths

Weaknesses

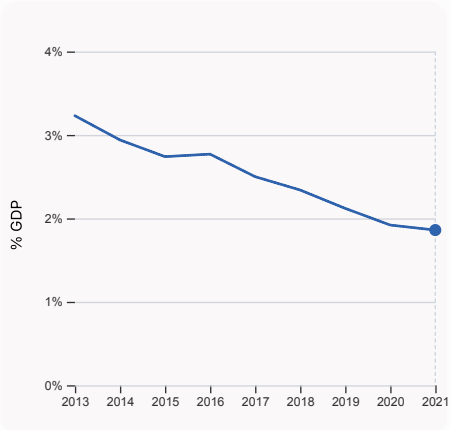
Rank	Code	Indicator name	Rank	Code	Indicator name
11	4.3.1	Applied tariff rate, weighted avg., %	128	3.1.3	Government's online service
22	5.3.4	FDI net inflows, % GDP	125	7.1.2	Trademarks by origin/bn PPP\$ GDP
36	7.2.4	Creative goods exports, % total trade	120	7.1.4	Industrial designs by origin/bn PPP\$ GDP
41	3.2.1	Electricity output, GWh/mn pop.	118	5.3.1	Intellectual property payments, % total trade
44	6.2.1	Labor productivity growth, %	114	6.3.1	Intellectual property receipts, % total trade
46	6.2.3	Software spending, % GDP	95	5.2.5	Patent families/bn PPP\$ GDP
46	6.3.3	High-tech exports, % total trade	74	7.1.3	Global brand value, top 5,000
49	1.1.1	Operational stability for businesses	71	2.3.4	QS university ranking, top 3
53	5.2.2	State of cluster development	48	6.2.2	Unicorn valuation, % GDP
56	5.2.1	University-industry R&D collaboration	40	2.3.3	Global corporate R&D investors, top 3, mn US\$



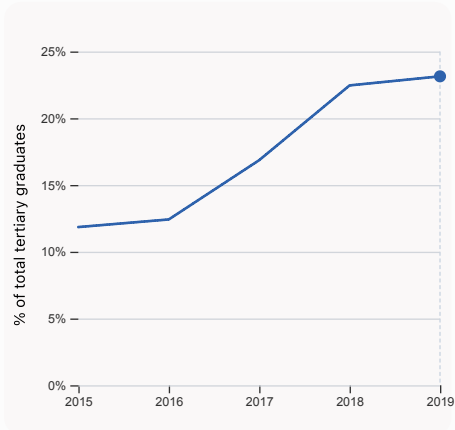
→ Lao People's Democratic Republic's innovation system

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

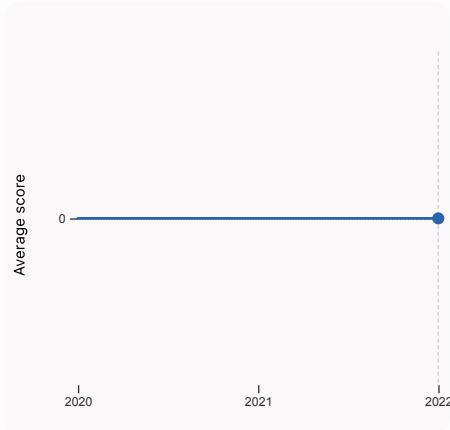
> Innovation inputs in Lao People's Democratic Republic



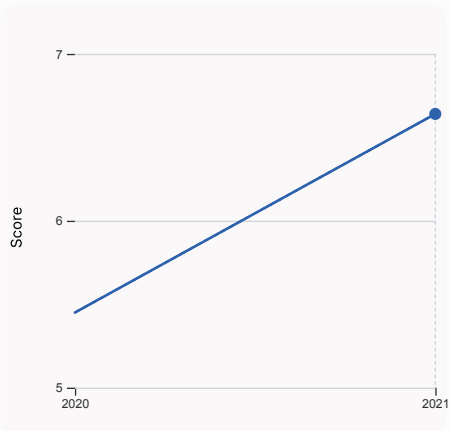
2.1.1 Expenditure on education, % GDP
was equal to 1.86% GDP in 2021, down by 0.06 percentage points from the year prior – and equivalent to an indicator rank of 121.



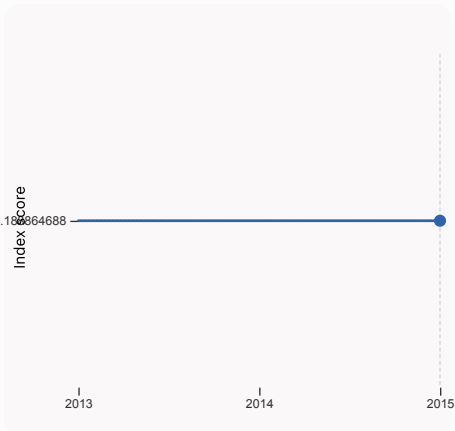
2.2.2 Graduates in science and engineering, %
was equal to 23.14% of total tertiary graduates in 2019, up by 0.68 percentage points from the year prior – and equivalent to an indicator rank of 54.



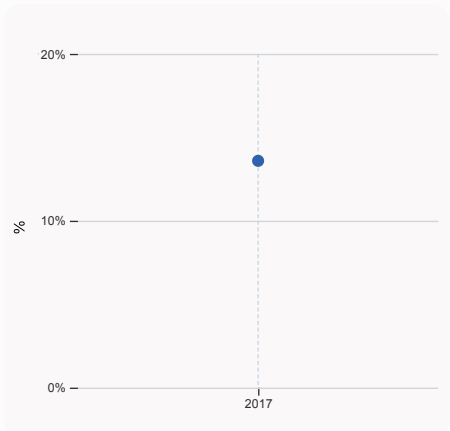
2.3.4 QS university ranking, top 3
was equal to an average score of 0 for the top 3 universities in 2022, equivalent to an indicator rank of 71.



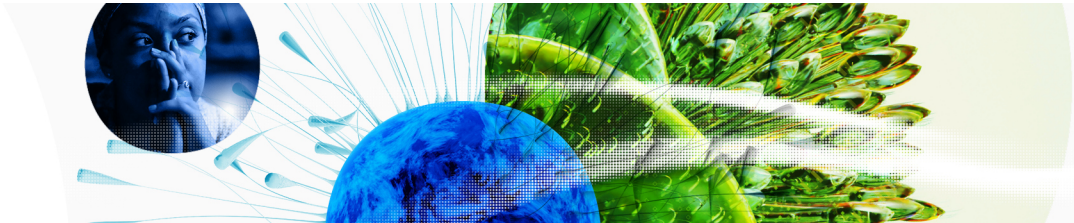
3.1.1 ICT access
was equal to a score of 6.64 in 2021, up by 21.83% from the year prior – and equivalent to an indicator rank of 109.



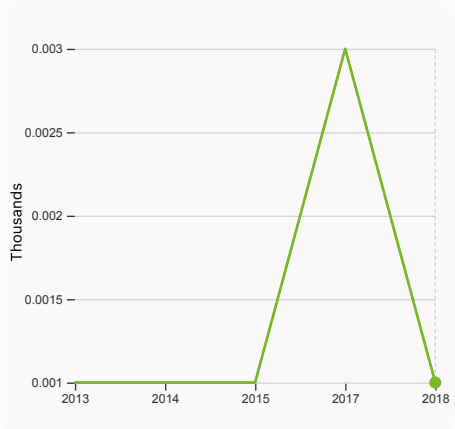
4.3.2 Domestic industry diversification
was equal to an index score of 0.189 in 2015, with no change from the year prior – and equivalent to an indicator rank of 65.



5.1.1 Knowledge-intensive employment, %
was equal to 13.59 % in 2017, equivalent to an indicator rank of 96.

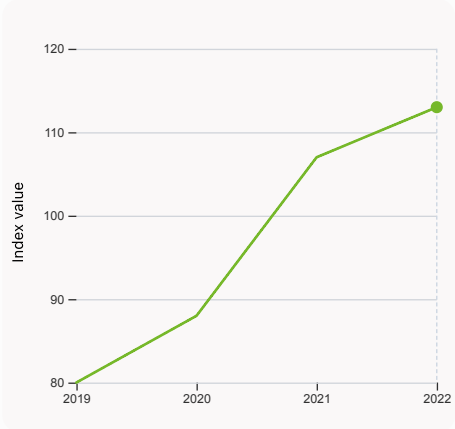


> Innovation outputs in Lao People's Democratic Republic



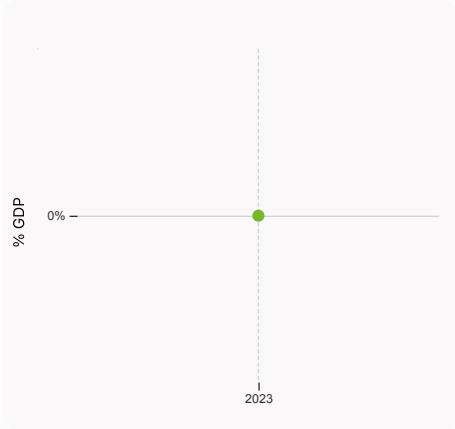
6.1.1 Patents by origin

was equal to 0.001 Thousands in 2018, down by 66.67% from the year prior – and equivalent to an indicator rank of 128.



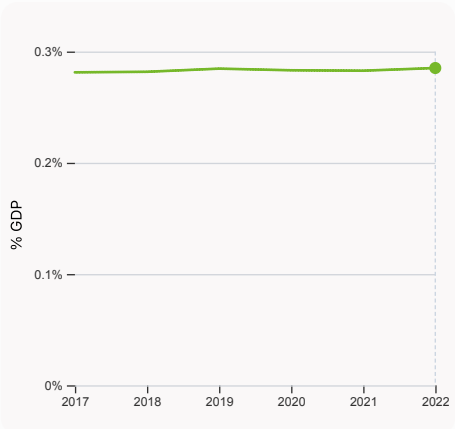
6.1.5 Citable documents H-index

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.



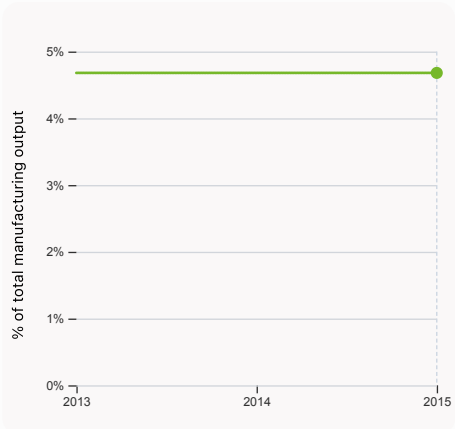
6.2.2 Unicorn valuation, % GDP

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



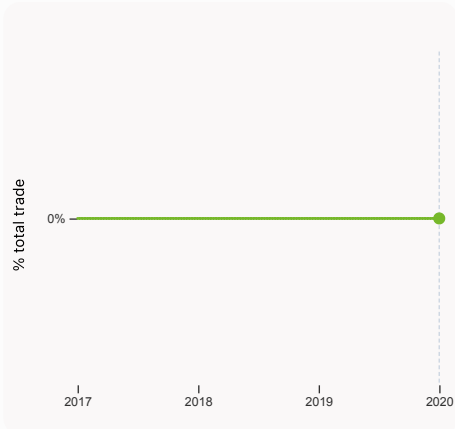
6.2.3 Software spending, % GDP

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, %

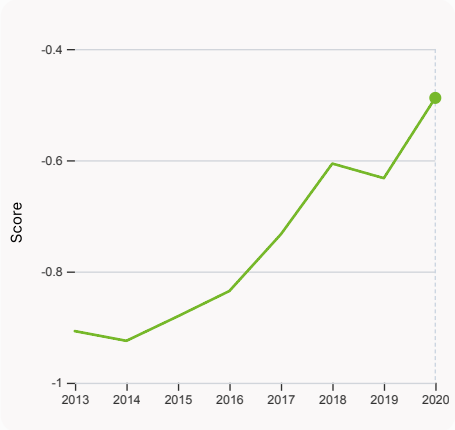
was equal to 4.68% of total manufacturing output in 2015, up by with no change from the year prior – and equivalent to an indicator rank of 103.



6.3.1 Intellectual property receipts, % total trade

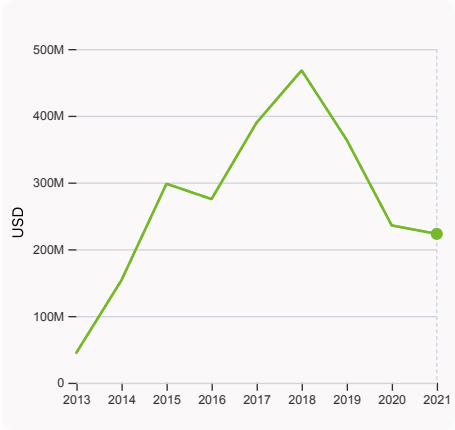
was equal to 0% total trade in 2020 – and equivalent to an indicator rank of 114.

Global Innovation Index 2023



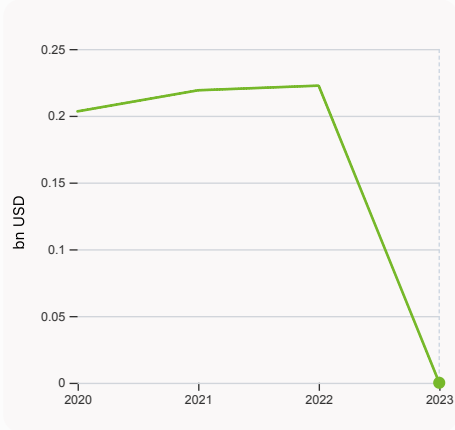
6.3.2 Production and export complexity

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



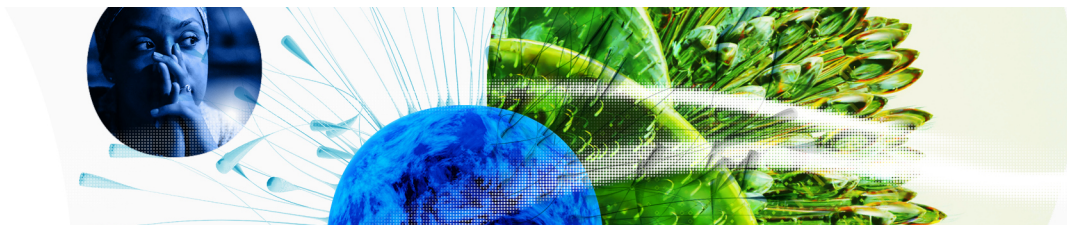
GII 2023 rank

Lao People's Democratic Republic

110

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
120	100	Lower middle	SEAO	7.5	68.6	9,166.3
Score / Value Rank						
Institutions				Business sophistication		
40.8 95				21.2 102		
1.1 Institutional environment				5.1 Knowledge workers		
39.0 80				18.3 105		
1.1.1 Operational stability for businesses*				5.1.1 Knowledge-intensive employment, %		
58.3 49 ●				● 13.6 96		
1.1.2 Government effectiveness*				5.1.2 Firms offering formal training, %		
19.7 105				● 24.4 66		
1.2 Regulatory environment				5.1.3 GERD performed by business, % GDP		
34.1 126				n/a n/a		
1.2.1 Regulatory quality*				5.1.4 GERD financed by business, %		
19.1 120				n/a n/a		
1.2.2 Rule of law*				5.1.5 Females employed w/advanced degrees, %		
20.9 105				● 3.8 97		
1.2.3 Cost of redundancy dismissal				5.2 Innovation linkages		
34.2 123				24.2 57		
1.3 Business environment				5.2.1 University-industry R&D collaboration†		
49.4 56				47.6 56 ●		
1.3.1 Policies for doing business†				5.2.2 State of cluster development†		
49.4 61				46.5 53 ●		
1.3.2 Entrepreneurship policies and culture†				5.2.3 GERD financed by abroad, % GDP		
n/a n/a				n/a n/a		
Human capital and research				5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP		
15.1 115				0.0 108		
2.1 Education				5.2.5 Patent families/bn PPP\$ GDP		
29.1 122				0.0 95 ○ ◇		
2.1.1 Expenditure on education, % GDP				5.3 Knowledge absorption		
1.9 121 ◇				21.3 123		
2.1.2 Government funding/pupil, secondary, % GDP/cap				5.3.1 Intellectual property payments, % total trade		
● 12.6 84				● 0.0 118 ○ ◇		
2.1.3 School life expectancy, years				5.3.2 High-tech imports, % total trade		
10.1 104 ◇				3.7 128		
2.1.4 PISA scales in reading, maths and science				5.3.3 ICT services imports, % total trade		
n/a n/a				● 0.6 104		
2.1.5 Pupil-teacher ratio, secondary				5.3.4 FDI net inflows, % GDP		
16.8 85				4.9 22 ●		
2.2 Tertiary education				5.3.5 Research talent, % in businesses		
16.1 99				n/a n/a		
2.2.1 Tertiary enrolment, % gross				Knowledge and technology outputs		
13.0 108				13.9 97		
2.2.2 Graduates in science and engineering, %				6.1 Knowledge creation		
● 23.1 54				2.0 124 ◇		
2.2.3 Tertiary inbound mobility, %				6.1.1 Patents by origin/bn PPP\$ GDP		
0.6 99				● 0.0 128		
2.3 Research and development (R&D)				6.1.2 PCT patents by origin/bn PPP\$ GDP		
0.0 119				0.0 94		
2.3.1 Researchers, FTE/mn pop.				6.1.3 Utility models by origin/bn PPP\$ GDP		
n/a n/a				● 0.0 69		
2.3.2 Gross expenditure on R&D, % GDP				6.1.4 Scientific and technical articles/bn PPP\$ GDP		
n/a n/a				n/a n/a		
2.3.3 Global corporate R&D investors, top 3, mn US\$				6.1.5 Citable documents H-index		
0.0 40 ○ ◇				3.9 117		
2.3.4 QS university ranking, top 3*				6.2 Knowledge impact		
0.0 71 ○ ◇				22.4 93		
Infrastructure				6.2.1 Labor productivity growth, %		
23.8 109				1.6 44 ●		
3.1 Information and communication technologies (ICTs)				6.2.2 Unicorn valuation, % GDP		
36.1 112				0.0 48 ○ ◇		
3.1.1 ICT access*				6.2.3 Software spending, % GDP		
49.3 109				0.3 46 ●		
3.1.2 ICT use*				6.2.4 High-tech manufacturing, %		
48.0 104				● 4.7 103 ◇		
3.1.3 Government's online service*				6.3 Knowledge diffusion		
22.7 128 ○ ◇				17.1 88		
3.1.4 E-participation*				6.3.1 Intellectual property receipts, % total trade		
24.4 114				● 0.0 114 ○ ◇		
3.2 General infrastructure				6.3.2 Production and export complexity		
20.8 89				42.3 88		
3.2.1 Electricity output, GWh/mn pop.				6.3.3 High-tech exports, % total trade		
● 5,493.4 41 ●				3.1 46 ●		
3.2.2 Logistics performance*				6.3.4 ICT services exports, % total trade		
13.6 103				● 0.6 97		
3.2.3 Gross capital formation, % GDP				6.3.5 ISO 9001 quality/bn PPP\$ GDP		
n/a n/a				1.0 110		
3.3 Ecological sustainability				Creative outputs		
14.6 103				5.1 124 ◇		
3.3.1 GDP/unit of energy use				7.1 Intangible assets		
9.8 70				0.7 131 ◇		
3.3.2 Environmental performance*				7.1.1 Intangible asset intensity, top 15, %		
20.0 107				n/a n/a		
3.3.3 ISO 14001 environment/bn PPP\$ GDP				7.1.2 Trademarks by origin/bn PPP\$ GDP		
0.3 107				● 4.5 125 ○		
Market sophistication				7.1.3 Global brand value, top 5,000		
34.9 65				0.0 74 ○ ◇		
4.1 Credit				7.1.4 Industrial designs by origin/bn PPP\$ GDP		
9.8 112				● 0.0 120 ○ ◇		
4.1.1 Finance for startups and scaleups†				7.2 Creative goods and services		
n/a n/a				17.2 54		
4.1.2 Domestic credit to private sector, % GDP				7.2.1 Cultural and creative services exports, % total trade		
n/a n/a				n/a n/a		
4.1.3 Loans from microfinance institutions, % GDP				7.2.2 National feature films/mn pop. 15-69		
0.8 31				n/a n/a		
4.2 Investment				7.2.3 Entertainment and media market/th pop. 15-69		
n/a n/a				n/a n/a		
4.2.1 Market capitalization, % GDP				7.2.4 Creative goods exports, % total trade		
n/a n/a				1.5 36 ●		
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP				7.3 Online creativity		
n/a n/a				1.6 126 ◇		
4.2.3 VC recipients, deals/bn PPP\$ GDP				7.3.1 Generic top-level domains (TLDs)/th pop. 15-69		
n/a n/a				2.1 83		
4.2.4 VC received, value, % GDP				7.3.2 Country-code TLDs/th pop. 15-69		
n/a n/a				2.4 67		
4.3 Trade, diversification, and market scale				7.3.3 GitHub commits/mn pop. 15-69		
60.0 55				0.5 121		
4.3.1 Applied tariff rate, weighted avg., %				7.3.4 Mobile app creation/bn PPP\$ GDP		
1.0 11 ●				n/a n/a		
4.3.2 Domestic industry diversification						
● 84.8 65						
4.3.3 Domestic market scale, bn PPP\$						
68.6 99						

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 appendices for details, including the year of the data, at <https://www.wipo.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 Lao People's Democratic Republic.

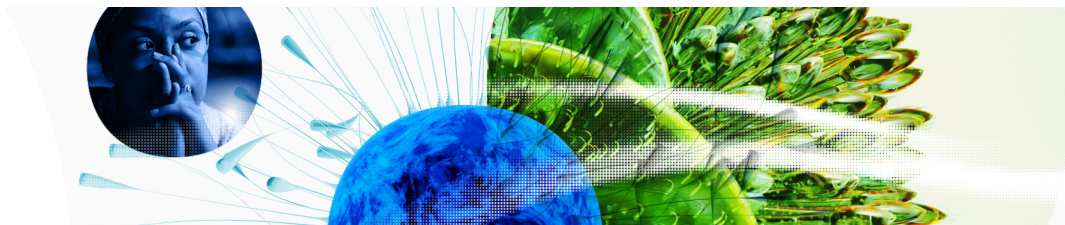


> Lao People's Democratic Republic has missing data for twenty indicators and outdated data for sixteen indicators.

> Missing data for Lao People's Democratic Republic

Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture	n/a	2022	Global Entrepreneurship Monitor
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
2.3.1	Researchers, FTE/mn pop.	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.3	Gross capital formation, % GDP	n/a	2022	International Monetary Fund
4.1.1	Finance for startups and scaleups	n/a	2022	Global Entrepreneurship Monitor
4.1.2	Domestic credit to private sector, % GDP	n/a	2020	International Monetary Fund; World Bank and OECD GDP estimates.
4.2.1	Market capitalization, % GDP	n/a	2020	World Federation of Exchanges; World Bank
4.2.2	Venture capital (VC) investors, deals/bn PPP\$ GDP	n/a	2022	Refinitiv; International Monetary Fund
4.2.3	VC recipients, deals/bn PPP\$ GDP	n/a	2022	Refinitiv; International Monetary Fund
4.2.4	VC received, value, % GDP	n/a	2022	Refinitiv; International Monetary Fund
5.1.3	GERD performed by business, % GDP	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	n/a	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.2.3	GERD financed by abroad, % GDP	n/a	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.5	Research talent, % in businesses	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
7.1.1	Intangible asset intensity, top 15, %	n/a	2022	Brand Finance
7.2.1	Cultural and creative services exports, % total trade	n/a	2021	World Trade Organization and United Nations Conference on Trade and Development

Global Innovation Index 2023



Code	Indicator name	Economy Year	Model Year	Source
7.2.2	National feature films/mn pop. 15-69	n/a	2021	OMDIA; United Nations, World Population Prospects
7.2.3	Entertainment and media market/th pop. 15-69	n/a	2022	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund
7.3.4	Mobile app creation/bn PPP\$ GDP	n/a	2022	data.ia; International Monetary Fund

> Outdated data for Lao People's Democratic Republic

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

Global Innovation Index 2023



Code	Indicator name	Economy Year	Model Year	Source
7.1.4	Industrial designs by origin/bn PPP\$ GDP	2020	2021	World Intellectual Property Organization; International Monetary Fund

Global Innovation Index 2023



→ 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.