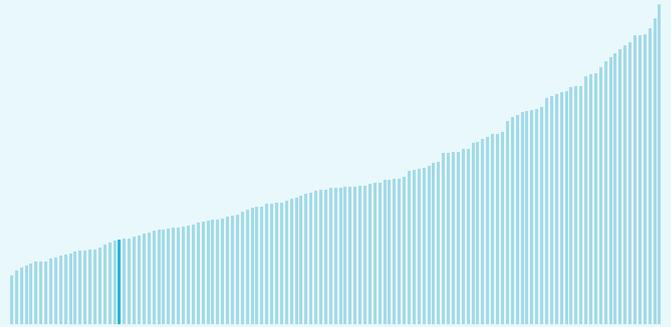


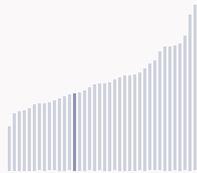
## Lao People's Democratic Republic ranking in the Global Innovation Index 2024

Lao PDR ranks **111st** among the 133 economies featured in the GII 2024.

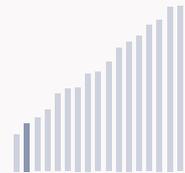
The Global Innovation Index (GII) ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GII aims to capture the multi-dimensional facets of innovation.



Lao PDR ranks **25th** among the 38 lower-middle-income group economies.



Lao PDR ranks **16th** among the 17 economies in South East Asia, East Asia, and Oceania.



### > Lao PDR GII Ranking (2020-2024)

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 2024 is between ranks 106 and 116.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	113rd	127th	95th
2021	117th	123rd	112nd
2022	112nd	98th	122nd
2023	110th	100th	120th
2024	111st	99th	121st

Lao PDR performs worse in innovation outputs than innovation inputs in 2024.

This year Lao PDR ranks **99th** in innovation inputs. This position is higher than last year.

Lao PDR ranks **121st** in innovation outputs. This position is lower than last year.

Lao People's Democratic Republic has no clusters in the top 100 S&T clusters of the Global Innovation Index.

# Global Innovation Index 2024



## > Global Innovation Tracker

The Global Innovation Tracker 2024 shows what is the current state of innovation in Lao People's Democratic Republic, how rapidly is technology being embraced and what are the resulting societal impacts.



For Lao People's Democratic Republic, 2 indicators have improved in the short-term and 3 indicators have worsened.

### Science and innovation investment

Scientific publications	R&D investments	Venture capital		International patent filings
		Deal numbers	Deal values	
▼ <b>-21.1%</b> 2022 - 2023	n/a	n/a	n/a	▼ <b>-100%</b> 2022 - 2023
▲ <b>2.5%</b> 2013 - 2023	n/a	n/a	n/a	▼ <b>-100%</b> 2013 - 2023

### Technology adoption

Safe sanitation	Connectivity		Robots	Electric vehicles
	Fixed broadband	5G		
<b>0%</b> 2021 - 2022	▲ <b>21%</b> 2020 - 2021	n/a	n/a	n/a
▲ <b>2.4%</b> 2012 - 2022	▲ <b>34.9%</b> 2011 - 2021		n/a	n/a
<b>61.1</b> per 100 inhabitants in 2022	<b>2</b> per 100 inhabitants in 2021	<b>8.1</b> per 100 inhabitants in 2021		n/a

### Socioeconomic impact

Labor productivity	Life expectancy	Temperature change
n/a	▲ <b>1.4%</b> 2021 - 2022	▲ <b>1.5°C</b> 2023
n/a	▲ <b>0.5%</b> 2012 - 2022	n/a
	<b>69</b> years in 2022	

Notes: Not all indicators of the Global Innovation Tracker are used to calculate the Global Innovation Index. Long-term annual growth refers to the compound annual growth rate (CAGR) over the indicated period. For each variable, a one-year growth rate is set for the short run, and ten-year CAGR is set for the long run; time windows might differ when gaps exist in data availability. The end period corresponds to the most recent available observation, which may differ among countries. Temperature change is an exception: it indicates the change in degrees Celsius with respect to the average temperature in the country from 1951–1980. Figures are rounded.



## 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





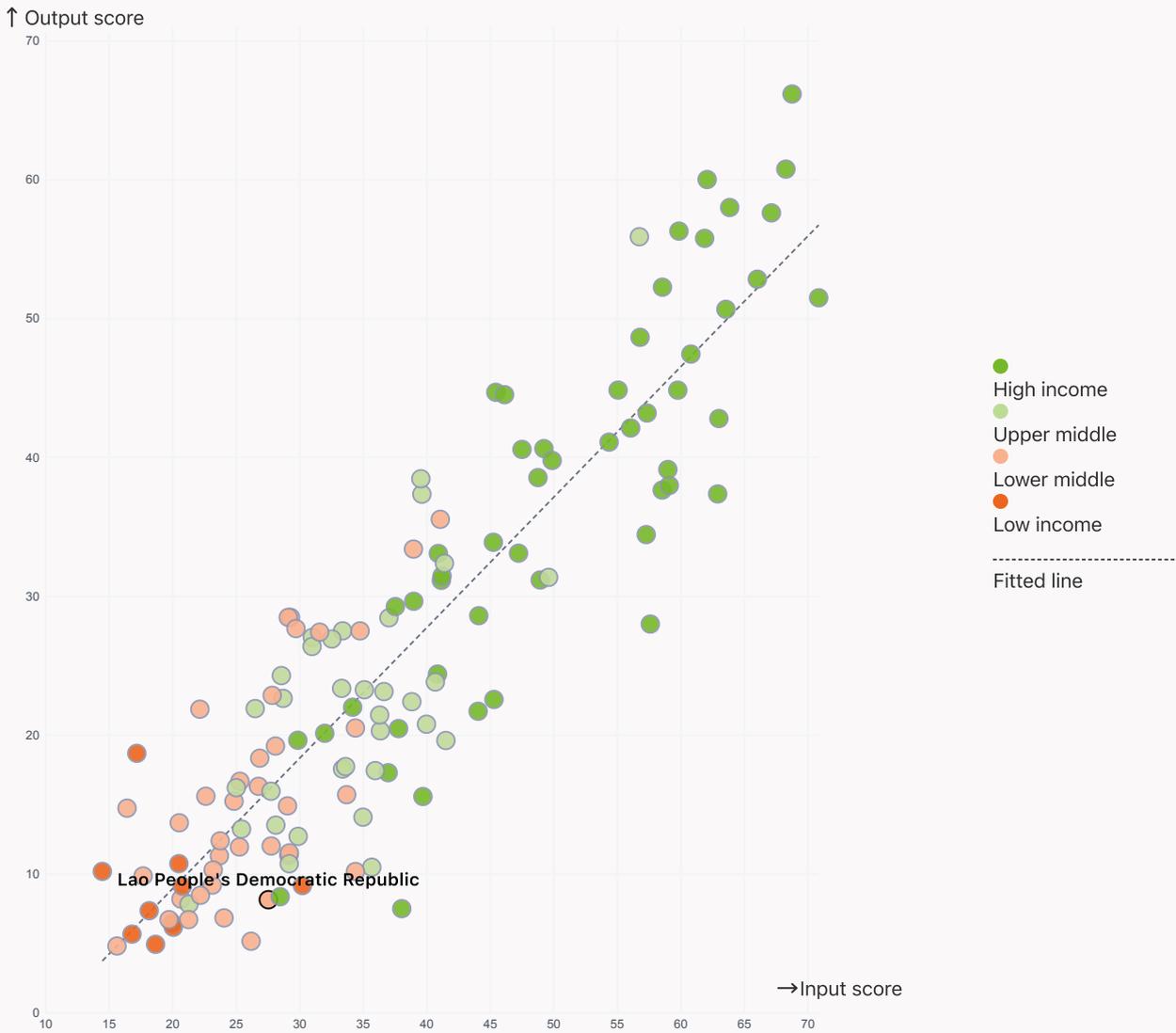
## Effectively translating innovation investments into innovation outputs

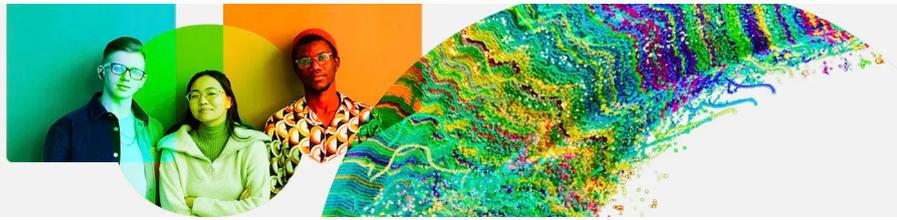
The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.



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

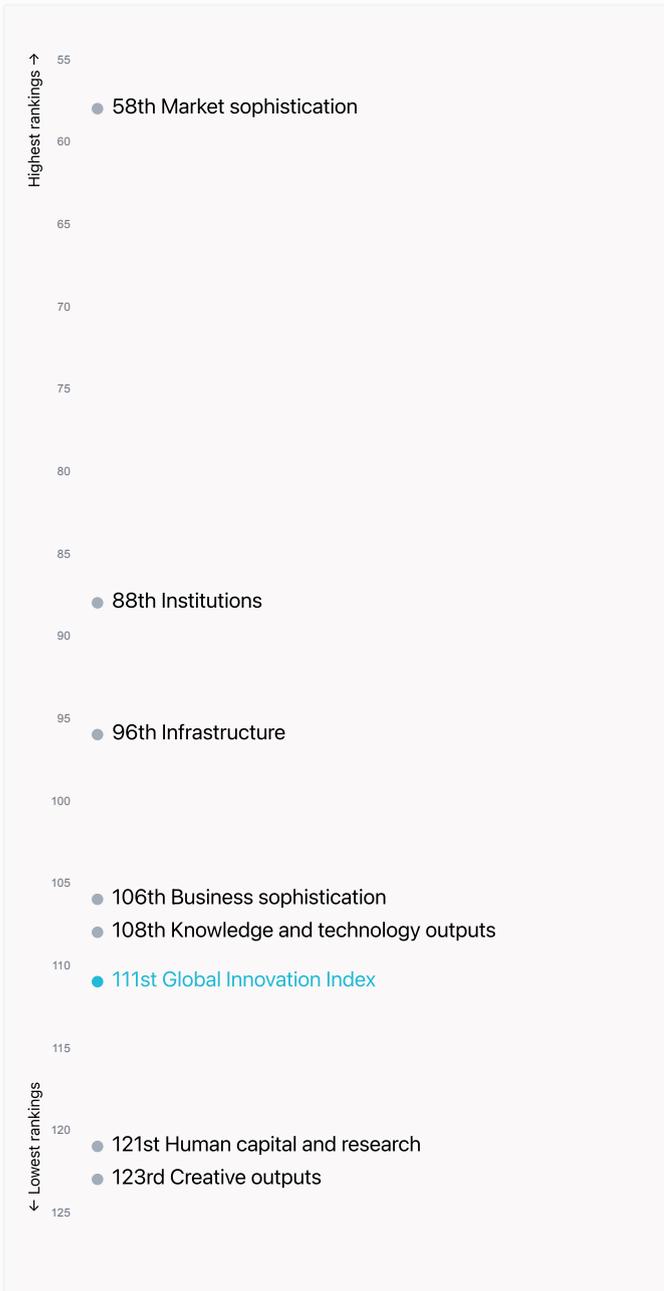
### > Relationship between innovation inputs and outputs





## Overview of Lao People's Democratic Republic's rankings in the seven areas of the GII in 2024

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 (58th), Institutions (88th), Infrastructure (96th) and Business sophistication (106th).

### Lowest rankings



Lao People's Democratic Republic ranks lowest in Creative outputs (123rd), Human capital and research (121st) and Knowledge and technology outputs (108th).

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 economy 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 economy groupings (grey bars), for each of the seven areas of the GII Index.



### Lower-Middle-Income economies

Lao PDR performs above the lower-middle-income group average in Institutions, Market sophistication.



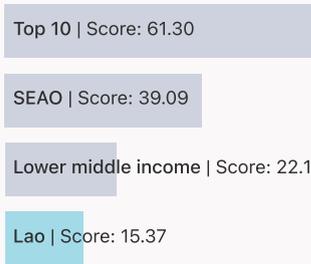
### South East Asia, East Asia, And Oceania

Lao PDR performs below the regional average in all pillars.

#### Institutions



#### Human capital and research



#### Infrastructure



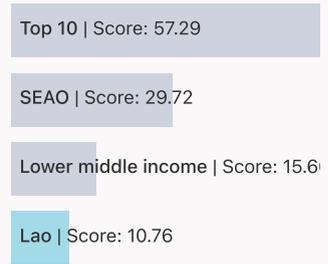
#### Market sophistication



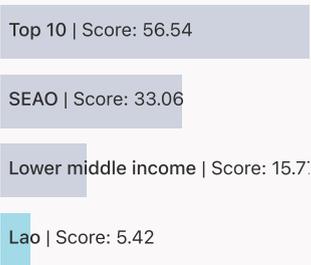
#### Business sophistication



#### Knowledge and technology outputs



#### Creative outputs





## 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 2024.

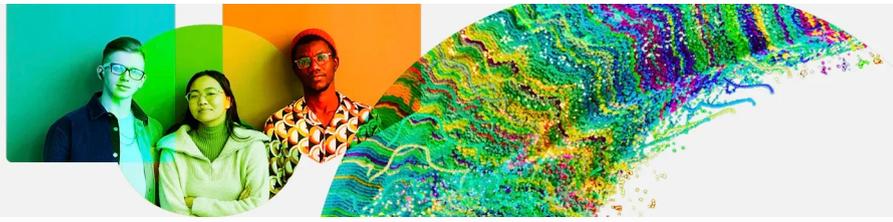


Lao People's Democratic Republic's main innovation strengths are **Applied tariff rate, weighted avg., % (rank 9)**, **Low-carbon energy use, % (rank 9)** and **FDI net inflows, % GDP (rank 23)**.

### Strengths

### Weaknesses

Rank	Code	Indicator name	Rank	Code	Indicator name
9	4.3.1	Applied tariff rate, weighted avg., %	128	6.1.1	Patents by origin/bn PPP\$ GDP
9	3.3.2	Low-carbon energy use, %	126	2.1.1	Expenditure on education, % GDP
23	5.3.4	FDI net inflows, % GDP	121	5.3.1	Intellectual property payments, % total trade
33	7.2.4	Creative goods exports, % total trade	116	6.3.1	Intellectual property receipts, % total trade
35	3.2.1	Electricity output, GWh/mn pop.	102	5.2.5	Patent families/bn PPP\$ GDP
39	5.2.3	State of cluster development <sup>†</sup>	99	6.1.2	PCT patents by origin/bn PPP\$ GDP
42	5.2.2	University-industry R&D collaboration <sup>†</sup>	75	7.1.3	Global brand value, top 5,000, % GDP
48	6.3.3	High-tech exports, % total trade	75	2.3.4	QS university ranking, top 3*
51	6.2.1	Labor productivity growth, %	49	6.2.2	Unicorn valuation, % GDP
51	1.3.1	Policy stability for doing business <sup>†</sup>	41	2.3.3	Global corporate R&D investors, top 3, mn USD



## Lao People's Democratic Republic's innovation system

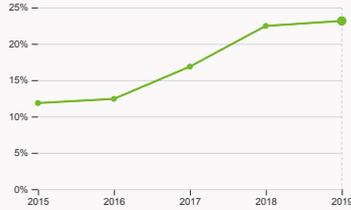
As far as practicable, the plots below present unscaled indicator data.

### > Innovation inputs in Lao People's Democratic Republic



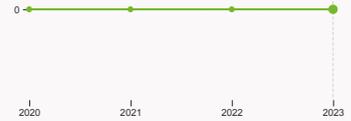
#### 2.1.1 Expenditure on education

was equal to 1.39 % GDP in 2022, down by 0.47 percentage points from the year prior – and equivalent to an indicator rank of 126.



#### 2.2.2 Graduates in science and engineering

was equal to 23.14 % of total graduates in 2019, up by 0.68 percentage points from the year prior – and equivalent to an indicator rank of 59.



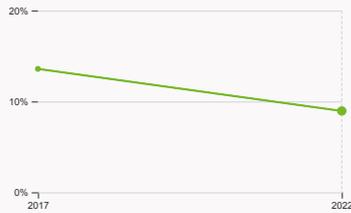
#### 2.3.4 QS university ranking

was equal to an average score of 0 for the top three universities in 2023 with no change from the year prior – and equivalent to an indicator rank of 75.



#### 4.3.2 Domestic industry diversification

was equal to an index score of 0.14 in 2015 – and equivalent to an indicator rank of 53.



#### 5.1.1 Knowledge-intensive employment

was equal to 8.95 % in 2022, down by 4.63 percentage points from the year prior – and equivalent to an indicator rank of 111.

# Global Innovation Index 2024

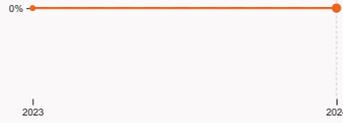


## > Innovation outputs in Lao People's Democratic Republic



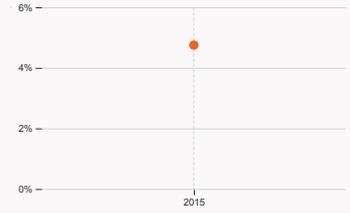
### 6.1.1 Patents by origin

was equal to 0 patents in 2022, down by 100% from the year prior – and equivalent to an indicator rank of 128.



### 6.2.2 Unicorn valuation

was equal to 0 % GDP in 2024 with no change from the year prior – and equivalent to an indicator rank of 49.



### 6.2.4 High-tech manufacturing

was equal to 4.75 % of total manufacturing output in 2015 – and equivalent to an indicator rank of 99.



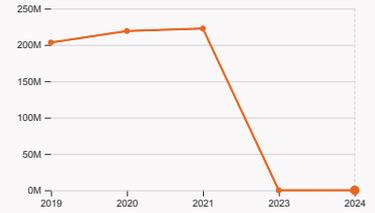
### 6.3.2 Production and export complexity

was equal to a score of -0.41 in 2021, up by 32.79% from the year prior – and equivalent to an indicator rank of 83.



### 6.3.3 High-tech exports

was equal to 230.04 million USD in 2021, down by 4.1% from the year prior – and equivalent to an indicator rank of 48.



### 7.1.3 Global brand value

was equal to 0 million USD for the brands in the top 5,000 in 2024 with no change from the year prior – and equivalent to an indicator rank of 75.



## Lao People's Democratic Republic

GII 2024 rank

111

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
121	99	Lower middle	SEAO	7.7	74.2	9,787
			Score / Value Rank			
<b>Institutions</b>			38.5 88	<b>Business sophistication</b>		
<b>1.1 Institutional environment</b>			42.9 91	<b>5.1 Knowledge workers</b>		
1.1.1 Operational stability for businesses*			57.3 78	18.1 [108]		
1.1.2 Government effectiveness*			28.4 104	5.1.1 Knowledge-intensive employment, %		
<b>1.2 Regulatory environment</b>			18.3 119	5.1.2 Firms offering formal training, %		
1.2.1 Regulatory quality*			15.9 122	5.1.3 GERD performed by business, % GDP		
1.2.2 Rule of law*			20.7 109	5.1.4 GERD financed by business, %		
<b>1.3 Business environment</b>			54.3 [48]	5.1.5 Females employed w/advanced degrees, %		
1.3.1 Policy stability for doing business*			54.3 51	<b>5.2 Innovation linkages</b>		
1.3.2 Entrepreneurship policies and culture*			n/a n/a	5.2.1 Public Research-Industry co-publications, %		
<b>Human capital and research</b>			15.4 121	5.2.2 University-industry R&D collaboration+		
<b>2.1 Education</b>			28.6 125	5.2.3 State of cluster development*		
2.1.1 Expenditure on education, % GDP			1.4 126	5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP		
2.1.2 Government funding/pupil, secondary, % GDP/cap			12.6 80	5.2.5 Patent families/bn PPP\$ GDP		
2.1.3 School life expectancy, years			10.2 104	<b>5.3 Knowledge absorption</b>		
2.1.4 PISA scales in reading, maths and science			n/a n/a	5.3.1 Intellectual property payments, % total trade		
2.1.5 Pupil-teacher ratio, secondary			16.6 87	5.3.2 High-tech imports, % total trade		
<b>2.2 Tertiary education</b>			17.5 104	5.3.3 ICT services imports, % total trade		
2.2.1 Tertiary enrolment, % gross			12.5 112	5.3.4 FDI net inflows, % GDP		
2.2.2 Graduates in science and engineering, %			23.1 59	5.3.5 Research talent, % in businesses		
2.2.3 Tertiary inbound mobility, %			0.6 97	<b>Knowledge and technology outputs</b>		
<b>2.3 Research and development (R&amp;D)</b>			0 [120]	10.8 108		
2.3.1 Researchers, FTE/mn pop.			n/a n/a	<b>6.1 Knowledge creation</b>		
2.3.2 Gross expenditure on R&D, % GDP			n/a n/a	6.1.1 Patents by origin/bn PPP\$ GDP		
2.3.3 Global corporate R&D investors, top 3, mn USD			0 41	6.1.2 PCT patents by origin/bn PPP\$ GDP		
2.3.4 QS university ranking, top 3*			0 75	6.1.3 Utility models by origin/bn PPP\$ GDP		
<b>Infrastructure</b>			29.5 96	6.1.4 Scientific and technical articles/bn PPP\$ GDP		
<b>3.1 Information and communication technologies (ICTs)</b>			39.6 113	6.1.5 Citable documents H-index		
3.1.1 ICT access*			58.7 103	<b>6.2 Knowledge impact</b>		
3.1.2 ICT use*			52.5 104	6.2.1 Labor productivity growth, %		
3.1.3 Government's online service*			22.7 129	6.2.2 Unicorn valuation, % GDP		
3.1.4 E-participation*			24.4 115	6.2.3 Software spending, % GDP		
<b>3.2 General infrastructure</b>			18.1 102	6.2.4 High-tech manufacturing, %		
3.2.1 Electricity output, GWh/mn pop.			6,048.5 35	<b>6.3 Knowledge diffusion</b>		
3.2.2 Logistics performance*			13.6 102	6.3.1 Intellectual property receipts, % total trade		
3.2.3 Gross capital formation, % GDP			n/a n/a	6.3.2 Production and export complexity		
<b>3.3 Ecological sustainability</b>			30.8 39	6.3.3 High-tech exports, % total trade		
3.3.1 GDP/unit of energy use			9.6 76	6.3.4 ICT services exports, % total trade		
3.3.2 Low-carbon energy use, %			59.9 9	6.3.5 ISO 9001 quality/bn PPP\$ GDP		
3.3.3 ISO 14001 environment/bn PPP\$ GDP			0.3 109	<b>Creative outputs</b>		
<b>Market sophistication</b>			34.9 [58]	5.4 123		
<b>4.1 Credit</b>			9.5 [111]	<b>7.1 Intangible assets</b>		
4.1.1 Finance for startups and scaleups*			n/a n/a	7.1.1 Intangible asset intensity, top 15, %		
4.1.2 Domestic credit to private sector, % GDP			n/a n/a	7.1.2 Trademarks by origin/bn PPP\$ GDP		
4.1.3 Loans from microfinance institutions, % GDP			0.9 35	7.1.3 Global brand value, top 5,000, % GDP		
<b>4.2 Investment</b>			n/a [n/a]	7.1.4 Industrial designs by origin/bn PPP\$ GDP		
4.2.1 Market capitalization, % GDP			n/a n/a	<b>7.2 Creative goods and services</b>		
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP			n/a n/a	7.2.1 Cultural and creative services exports, % total trade		
4.2.3 VC recipients, deals/bn PPP\$ GDP			n/a n/a	7.2.2 National feature films/mn pop. 15-69		
4.2.4 VC received, value, % GDP			n/a n/a	7.2.3 Entertainment and media market/th pop. 15-69		
<b>4.3 Trade, diversification and market scale</b>			60.3 52	7.2.4 Creative goods exports, % total trade		
4.3.1 Applied tariff rate, weighted avg., %			0.7 9	<b>7.3 Online creativity</b>		
4.3.2 Domestic industry diversification			85.3 53	7.3.1 Top-level domains (TLDs)/th pop. 15-69		
4.3.3 Domestic market scale, bn PPP\$			74.2 100	7.3.2 GitHub commits/mn pop. 15-69		
				7.3.3 Mobile app creation/bn PPP\$ GDP		

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; \* an index; † a survey question, ● that the economy's data is outdated. Square brackets [ ] indicate the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash - indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.



## 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 nineteen indicators and outdated data for seventeen indicators.

## Missing data for Lao People's Democratic Republic

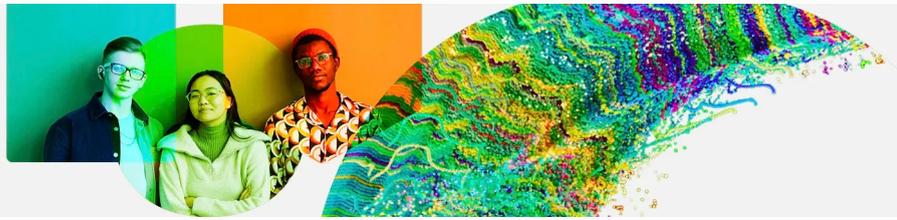
Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture <sup>†</sup>	n/a	2023	Global Entrepreneurship Monitor
2.1.4	PISA scales in reading, maths and science	n/a	2022	OECD, PISA
2.3.1	Researchers, FTE/mn pop.	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.3	Gross capital formation, % GDP	n/a	2023	International Monetary Fund
4.1.1	Finance for startups and scaleups <sup>†</sup>	n/a	2023	Global Entrepreneurship Monitor
4.1.2	Domestic credit to private sector, % GDP	n/a	2022	International Monetary Fund; World Bank and OECD GDP estimates.
4.2.1	Market capitalization, % GDP	n/a	2022	World Federation of Exchanges; World Bank
4.2.2	Venture capital (VC) investors, deals/bn PPP\$ GDP	n/a	2023	LSEG Data & Analytics; International Monetary Fund
4.2.3	VC recipients, deals/bn PPP\$ GDP	n/a	2023	LSEG Data & Analytics; International Monetary Fund
4.2.4	VC received, value, % GDP	n/a	2023	LSEG Data & Analytics; International Monetary Fund
5.1.3	GERD performed by business, % GDP	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.5	Research talent, % in businesses	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
7.1.1	Intangible asset intensity, top 15, %	n/a	2023	Brand Finance
7.2.1	Cultural and creative services exports, % total trade	n/a	2022	World Trade Organization Global Services Trade Data Hub
7.2.2	National feature films/mn pop. 15–69	n/a	2022	OMDIA; United Nations, World Population Prospects
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2023	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund
7.3.3	Mobile app creation/bn PPP\$ GDP	n/a	2023	data.ia (a Sensor Tower Company); 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	2020	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2020	2022	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2021	2022	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2019	2021	UNESCO Institute for Statistics; Eurostat; OECD
2.2.3	Tertiary inbound mobility, %	2020	2022	UNESCO Institute for Statistics
3.1.1	ICT access*	2021	2022	World Intellectual Property Organization; International Telecommunication Union ITU DataHub (accessed May 1st, 2024)
3.2.1	Electricity output, GWh/mn pop.	2021	2022	International Energy Agency
4.3.1	Applied tariff rate, weighted avg., %	2021	2022	World Trade Organization
4.3.2	Domestic industry diversification	2015	2021	United Nations Industrial Development Organization (UNIDO), Industrial Statistics Database (INDSTAT) Rev.3 and 4
5.1.2	Firms offering formal training, %	2018	2023	World Bank Enterprise Surveys
5.1.5	Females employed w/advanced degrees, %	2022	2023	International Labour Organization
5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	2022	2023	LSEG Data & Analytics; International Monetary Fund
5.3.2	High-tech imports, % total trade	2021	2022	United Nations Comtrade Database; World Trade Organization and United Nations Conference on Trade and Development
6.2.4	High-tech manufacturing, %	2015	2021	United Nations Industrial Development Organization
6.3.3	High-tech exports, % total trade	2021	2022	United Nations Comtrade Database; World Trade Organization and United Nations Conference on Trade and Development; Trade Data Monitor.
7.1.2	Trademarks by origin/bn PPP\$ GDP	2018	2022	World Intellectual Property Organization; International Monetary Fund
7.2.4	Creative goods exports, % total trade	2021	2022	United Nations Comtrade Database; World Trade Organization and United Nations Conference on Trade and Development

# Global Innovation Index 2024



## 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.