



LAO PEOPLE'S DEMOCRATIC REPUBLIC

112th Laos ranks 112th among the 132 economies featured in the GII 2022.

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 Laos 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 Laos in the GII 2022 is between ranks 105 and 116.

Rankings for Laos (2020–2022)

GIIYR	GII	Innovation inputs	Innovation outputs
2020	113	127	95
2021	117	123	112
2022	112	98	122

- Laos performs better in innovation inputs than innovation outputs in 2022.
- This year Laos ranks 98th in innovation inputs, higher than both 2021 and 2020.
- As for innovation outputs, Laos ranks 122nd. This position is lower than both 2021 and 2020.

27th Laos ranks 27th among the 36 lower-middle-income group economies.

16th Laos ranks 16th among the 17 economies in South East Asia, East Asia, and Oceania.

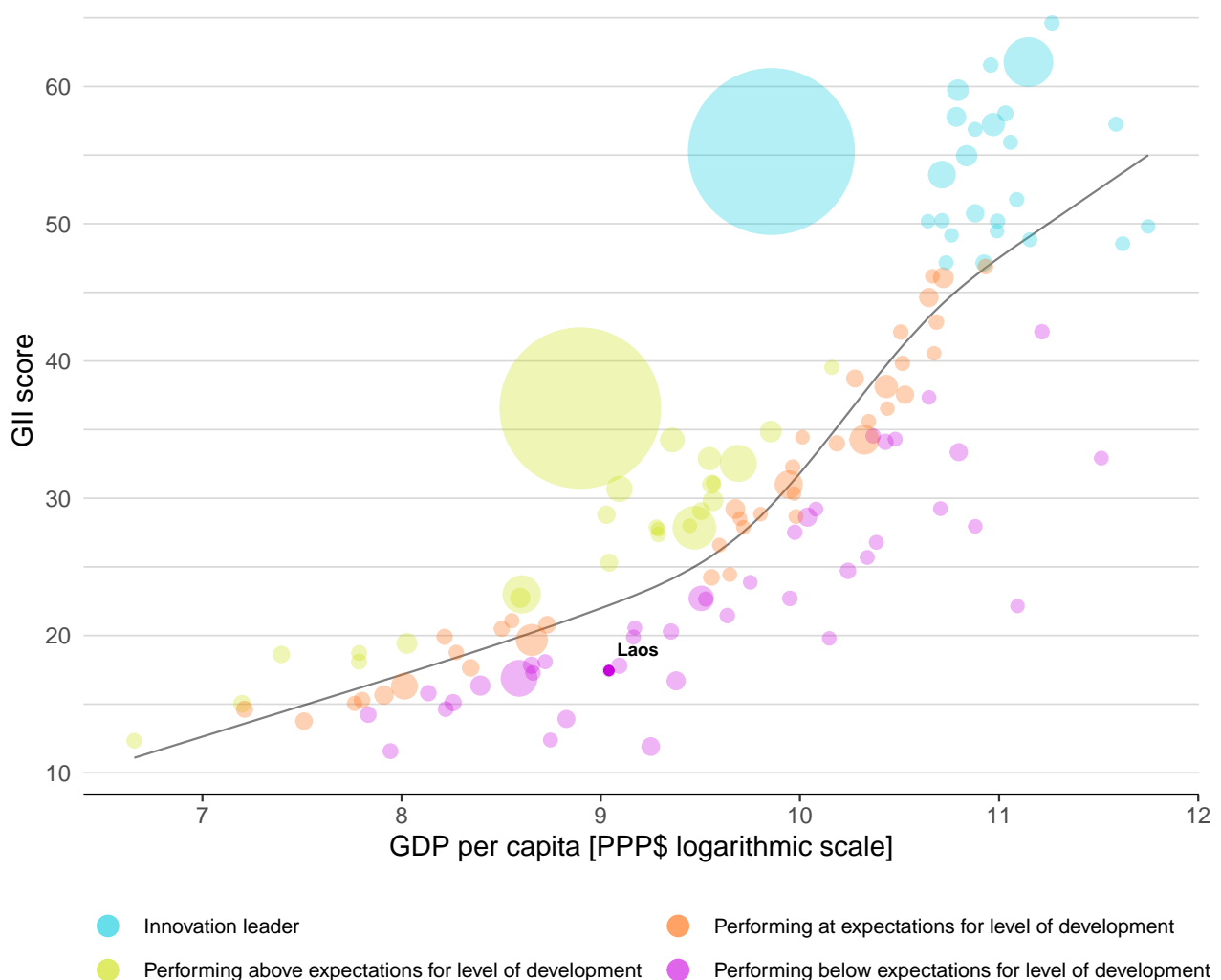


EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

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, Laos's performance is below expectations for its level of development.

The positive relationship between innovation and development

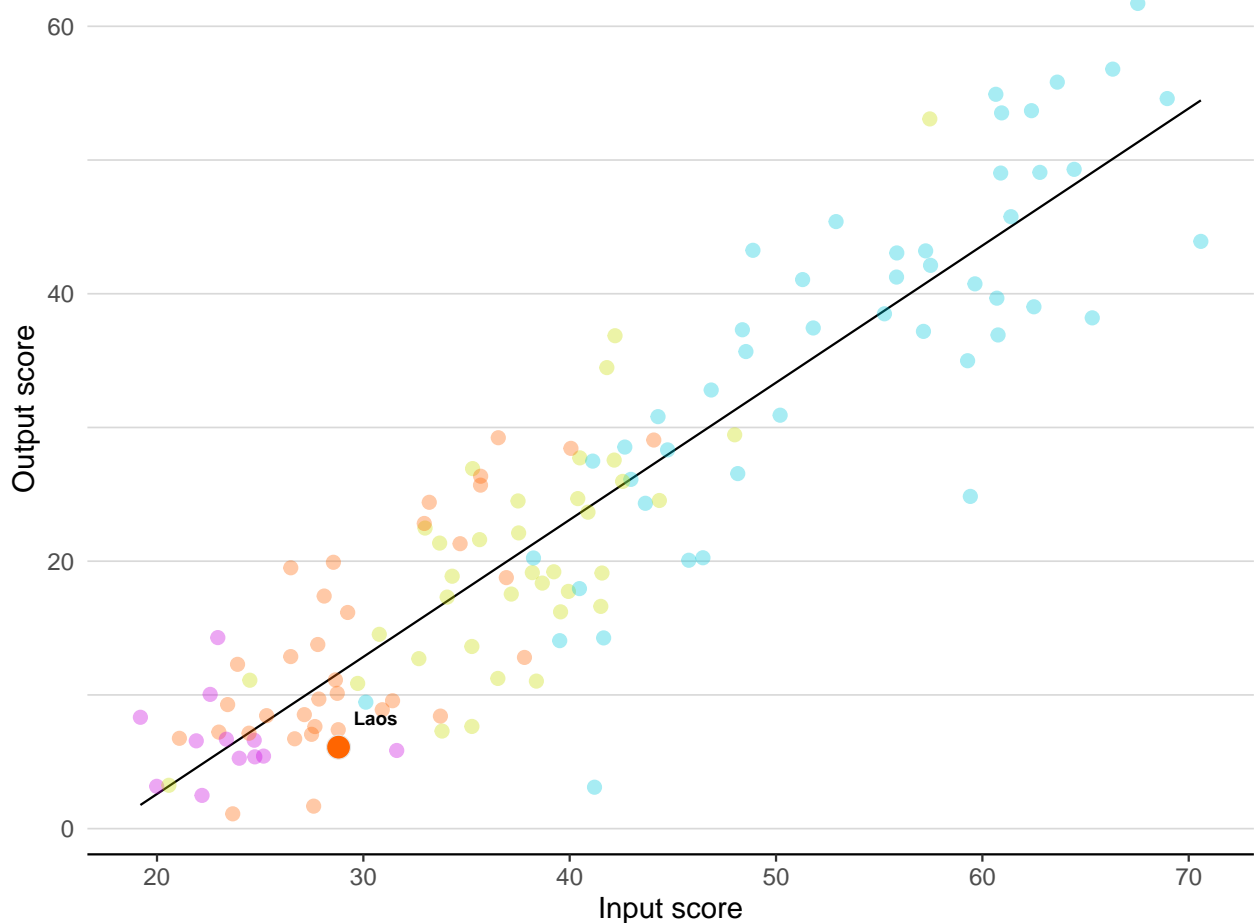


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

Laos produces less innovation outputs relative to its level of innovation investments.

Innovation input to output performance



Income ● High income ● Upper middle ● Lower middle ● Low income — Fitted line

BENCHMARKING AGAINST OTHER LOWER MIDDLE-INCOME GROUP ECONOMIES AND SOUTH EAST ASIA, EAST ASIA, AND OCEANIA

The seven GII pillar scores for Laos



Lower-middle-income group economies

Laos performs above the lower-middle-income group average in Market sophistication.

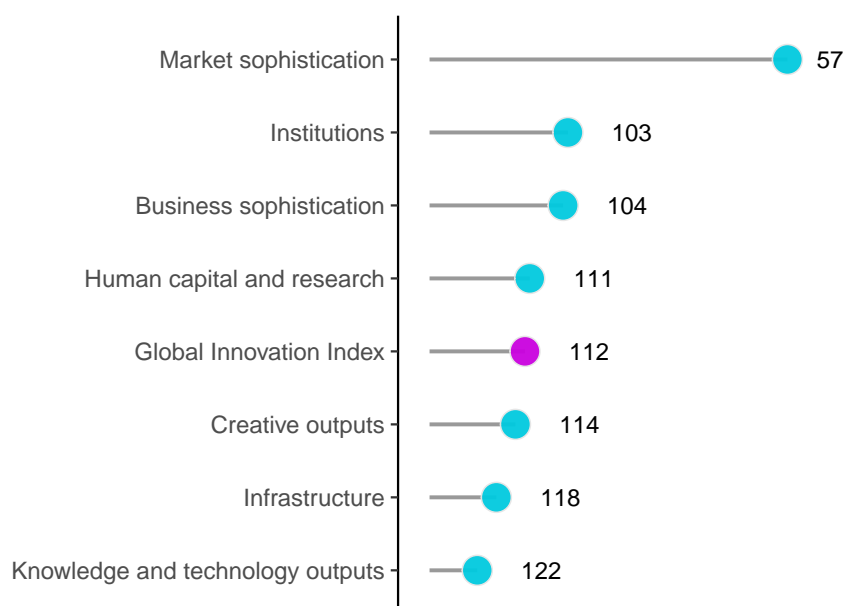
South East Asia, East Asia, and Oceania

Laos performs below the regional average in all GII pillars.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2022 AREAS

Laos performs best in Market sophistication and its weakest performance is in Knowledge and technology outputs.

The seven GII pillar ranks for Laos



Note: The highest possible ranking in each pillar is 1.

The full WIPO Intellectual Property Statistics profile for Laos can be found at:

https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=LA.

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the indicator strengths and weaknesses of Laos in the GII 2022.








Strengths and weaknesses for Laos

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
1.1.1	Political and operational stability	46	2.3.3	Global corporate R&D investors, top 3, mn USD	38
1.3.1	Policies for doing business	61	2.3.4	QS university ranking, top 3	72
2.2.2	Graduates in science and engineering, %	49	3.1.3	Government's online service	130
3.2.1	Electricity output, GWh/mn pop.	38	3.1.4	E-participation	129
4.3.1	Applied tariff rate, weighted avg., %	11	5.3.1	Intellectual property payments, % total trade	122
5.2.1	University-industry R&D collaboration	63	5.3.3	ICT services imports, % total trade	128
5.2.2	State of cluster development and depth	50	6.1.2	PCT patents by origin/bn PPP\$ GDP	101
5.3.4	FDI net inflows, % GDP	17	6.3.1	Intellectual property receipts, % total trade	113
6.3.3	High-tech exports, % total trade	45	7.1.4	Industrial designs by origin/bn PPP\$ GDP	121
7.2.5	Creative goods exports, % total trade	20	7.2.4	Printing and other media, % manufacturing	98

Lao People's Democratic Republic

112

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
122	98	Lower middle	SEAO	7.4	62.3	8,444

	Score/Value	Rank		Score/Value	Rank
 Institutions	46.7	103	 Business sophistication	20.0	104
1.1 Political environment	53.0	88	5.1 Knowledge workers	18.6	[102]
1.1.1 Political and operational stability*	72.7	46 ● ◆	5.1.1 Knowledge-intensive employment, %	13.6	95
1.1.2 Government effectiveness*	33.2	114	5.1.2 Firms offering formal training, %	24.4	65
1.2 Regulatory environment	36.3	126 ◇	5.1.3 GERD performed by business, % GDP	n/a	n/a
1.2.1 Regulatory quality*	24.9	116	5.1.4 GERD financed by business, %	n/a	n/a
1.2.2 Rule of law*	24.0	112	5.1.5 Females employed w/advanced degrees, %	3.8	97
1.2.3 Cost of redundancy dismissal	34.2	124	5.2 Innovation linkages	24.5	61 ●
1.3 Business environment	50.8	[55]	5.2.1 University-industry R&D collaboration†	44.4	63 ●
1.3.1 Policies for doing business†	50.8	61 ●	5.2.2 State of cluster development and depth†	50.1	50 ●
1.3.2 Entrepreneurship policies and culture*	n/a	n/a	5.2.3 GERD financed by abroad, % GDP	n/a	n/a
			5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP	0.0	108
			5.2.5 Patent families/bn PPP\$ GDP	0.0	83
 Human capital and research	16.4	111	5.3 Knowledge absorption	16.9	130 ◇ ◇
2.1 Education	31.0	118	5.3.1 Intellectual property payments, % total trade	0.0	122 ◇ ◇
2.1.1 Expenditure on education, % GDP	2.2	120 ◇	5.3.2 High-tech imports, % total trade	4.0	123
2.1.2 Government funding/pupil, secondary, % GDP/cap	12.5	89	5.3.3 ICT services imports, % total trade	0.2	128 ◇ ◇
2.1.3 School life expectancy, years	10.1	103	5.3.4 FDI net inflows, % GDP	5.5	17 ●
2.1.4 PISA scales in reading, maths and science	n/a	n/a	5.3.5 Research talent, % in businesses	n/a	n/a
2.1.5 Pupil-teacher ratio, secondary	17.0	83			
2.2 Tertiary education	18.0	95	 Knowledge and technology outputs	7.2	122
2.2.1 Tertiary enrolment, % gross	13.5	106	6.1 Knowledge creation	1.8	124
2.2.2 Graduates in science and engineering, %	23.1	49 ●	6.1.1 Patents by origin/bn PPP\$ GDP	0.0	127
2.2.3 Tertiary inbound mobility, %	0.6	96	6.1.2 PCT patents by origin/bn PPP\$ GDP	0.0	101 ◇ ◇
2.3 Research and development (R&D)	0.0	[120]	6.1.3 Utility models by origin/bn PPP\$ GDP	0.0	72
2.3.1 Researchers, FTE/mn pop.	n/a	n/a	6.1.4 Scientific and technical articles/bn PPP\$ GDP	4.1	115
2.3.2 Gross expenditure on R&D, % GDP	n/a	n/a	6.1.5 Citable documents H-index	3.4	111
2.3.3 Global corporate R&D investors, top 3, mn USD	0.0	38 ◇ ◇	6.2 Knowledge impact	2.3	[129]
2.3.4 QS university ranking, top 3*	0.0	72 ◇ ◇	6.2.1 Labor productivity growth, %	n/a	n/a
			6.2.2 New businesses/th pop. 15–64	0.2	116
 Infrastructure	26.1	118 ◇	6.2.3 Software spending, % GDP	n/a	n/a
3.1 Information and communication technologies (ICTs)	31.3	125 ◇	6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP	0.8	111
3.1.1 ICT access*	54.5	118 ◇	6.2.5 High-tech manufacturing, %	4.7	100 ◇
3.1.2 ICT use*	29.8	114 ◇	6.3 Knowledge diffusion	17.5	80
3.1.3 Government's online service*	19.4	130 ◇ ◇	6.3.1 Intellectual property receipts, % total trade	0.0	113 ◇ ◇
3.1.4 E-participation*	21.4	129 ◇ ◇	6.3.2 Production and export complexity	26.4	90
3.2 General infrastructure	28.5	68	6.3.3 High-tech exports, % total trade	3.8	45 ●
3.2.1 Electricity output, GWh/mn pop.	5,490.4	38 ● ◆	6.3.4 ICT services exports, % total trade	0.5	101
3.2.2 Logistics performance*	30.2	79			
3.2.3 Gross capital formation, % GDP	n/a	n/a	 Creative outputs	5.0	114
3.3 Ecological sustainability	18.5	102	7.1 Intangible assets	1.8	123 ◇
3.3.1 GDP/unit of energy use	9.3	76	7.1.1 Intangible asset intensity, top 15, %	n/a	n/a
3.3.2 Environmental performance*	30.7	104	7.1.2 Trademarks by origin/bn PPP\$ GDP	4.5	122
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP	0.2	112	7.1.3 Global brand value, top 5,000, % GDP	11.5	57
			7.1.4 Industrial designs by origin/bn PPP\$ GDP	0.0	121 ◇ ◇
 Market sophistication	34.8	[57]	7.2 Creative goods and services	14.7	[66]
4.1 Credit	10.7	[110]	7.2.1 Cultural and creative services exports, % total trade	n/a	n/a
4.1.1 Finance for startups and scaleups*	n/a	n/a	7.2.2 National feature films/mn pop. 15–69	n/a	n/a
4.1.2 Domestic credit to private sector, % GDP	n/a	n/a	7.2.3 Entertainment and media market/th pop. 15–69	n/a	n/a
4.1.3 Loans from microfinance institutions, % GDP	0.7	33	7.2.4 Printing and other media, % manufacturing	0.1	98 ◇ ◇
4.2 Investment	n/a	[n/a]	7.2.5 Creative goods exports, % total trade	2.5	20 ●
4.2.1 Market capitalization, % GDP	n/a	n/a	7.3 Online creativity	1.5	93
4.2.2 Venture capital investors, deals/bn PPP\$ GDP	n/a	n/a	7.3.1 Generic top-level domains (TLDs)/th pop. 15–69	1.9	78
4.2.3 Venture capital recipients, deals/bn PPP\$ GDP	n/a	n/a	7.3.2 Country-code TLDs/th pop. 15–69	2.4	66
4.2.4 Venture capital received, value, % GDP	n/a	n/a	7.3.3 GitHub commit pushes received/mn pop. 15–69	0.3	114
4.3 Trade, diversification, and market scale	58.9	58 ●	7.3.4 Mobile app creation/bn PPP\$ GDP	n/a	n/a
4.3.1 Applied tariff rate, weighted avg., %	1.0	11 ● ◆			
4.3.2 Domestic industry diversification	81.8	66			
4.3.3 Domestic market scale, bn PPP\$	62.3	96			

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/global_innovation_index/en/2022. 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 Laos.

Missing data for Laos

Code	Indicator name	Economy year	Model year	Source
1.3.2	Entrepreneurship policies and culture	n/a	2021	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	2020	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	n/a	2020	UNESCO Institute for Statistics
3.2.3	Gross capital formation, % GDP	n/a	2021	International Monetary Fund
4.1.1	Finance for startups and scaleups	n/a	2021	Global Entrepreneurship Monitor
4.1.2	Domestic credit to private sector, % GDP	n/a	2020	International Monetary Fund
4.2.1	Market capitalization, % GDP	n/a	2020	World Federation of Exchanges
4.2.2	Venture capital investors, deals/bn PPP\$ GDP	n/a	2021	Refinitiv
4.2.3	Venture capital recipients, deals/bn PPP\$ GDP	n/a	2021	Refinitiv
4.2.4	Venture capital received, value, % GDP	n/a	2021	Refinitiv
5.1.3	GERD performed by business, % GDP	n/a	2020	UNESCO Institute for Statistics
5.1.4	GERD financed by business, %	n/a	2019	UNESCO Institute for Statistics
5.2.3	GERD financed by abroad, % GDP	n/a	2019	UNESCO Institute for Statistics
5.3.5	Research talent, % in businesses	n/a	2020	UNESCO Institute for Statistics
6.2.1	Labor productivity growth, %	n/a	2021	The Conference Board
6.2.3	Software spending, % GDP	n/a	2021	IHS Markit
7.1.1	Intangible asset intensity, top 15, %	n/a	2021	Brand Finance
7.2.1	Cultural and creative services exports, % total trade	n/a	2020	World Trade Organization and United Nations Conference on Trade and Development
7.2.2	National feature films/mn pop. 15–69	n/a	2019	OMDIA
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2021	PwC, GEMO
7.3.4	Mobile app creation/bn PPP\$ GDP	n/a	2021	data.ia

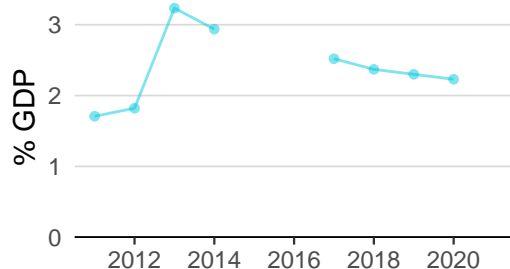
Outdated data for Laos

Code	Indicator name	Economy year	Model year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	2014	2018	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2019	2020	UNESCO Institute for Statistics
4.1.3	Loans from microfinance institutions, % GDP	2019	2020	International Monetary Fund, Financial Access Survey (FAS)
4.3.2	Domestic industry diversification	2015	2019	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	2017	2021	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	2021	International Labour Organization
5.3.1	Intellectual property payments, % total trade	2019	2020	World Trade Organization and United Nations Conference on Trade and Development
5.3.3	ICT services imports, % total trade	2019	2020	World Trade Organization and United Nations Conference on Trade and Development
6.1.1	Patents by origin/bn PPP\$ GDP	2018	2020	World Intellectual Property Organization
6.1.3	Utility models by origin/bn PPP\$ GDP	2018	2020	World Intellectual Property Organization
6.2.5	High-tech manufacturing, %	2015	2019	United Nations Industrial Development Organization
6.3.1	Intellectual property receipts, % total trade	2019	2020	World Trade Organization and United Nations Conference on Trade and Development
6.3.4	ICT services exports, % total trade	2019	2020	World Trade Organization and United Nations Conference on Trade and Development
7.1.2	Trademarks by origin/bn PPP\$ GDP	2018	2020	World Intellectual Property Organization
7.2.4	Printing and other media, % manufacturing	2015	2019	United Nations Industrial Development Organization

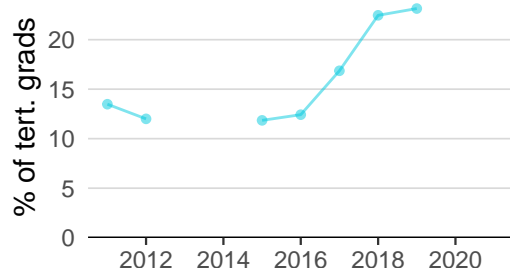
LAOS'S INNOVATION SYSTEM

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

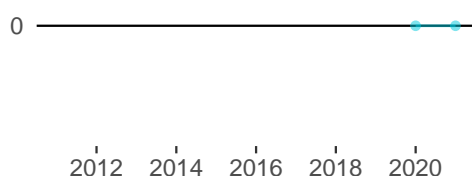
Innovation inputs



2.1.1 Expenditure on education was equal to 2.2% GDP in 2020—down by 3 percentage points from the year prior—and equivalent to an indicator rank of 120.



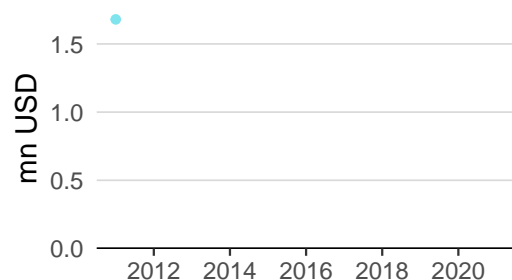
2.2.2 Graduates in science and engineering was equal to 23.1% of tert. grads in 2019—up by 3 percentage points from the year prior—and equivalent to an indicator rank of 49.



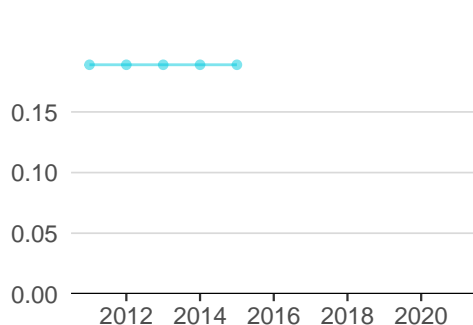
2.3.4 QS university ranking was equal to 0.0 in 2021—effectively unchanged from the year prior—and equivalent to an indicator rank of 72.



3.1.1 ICT access was equal to 5.5 in 2020 and equivalent to an indicator rank of 118.



4.2.4 Venture capital received was equal to 1.7 mn USD in 2011 .

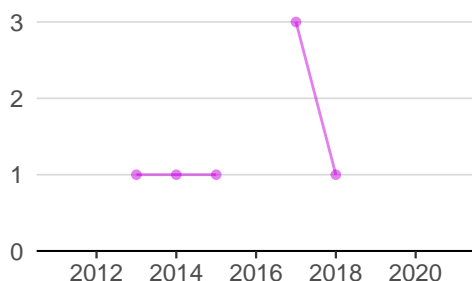


4.3.2 Domestic industry diversification was equal to 0.2 in 2015—effectively unchanged from the year prior—and equivalent to an indicator rank of 66.

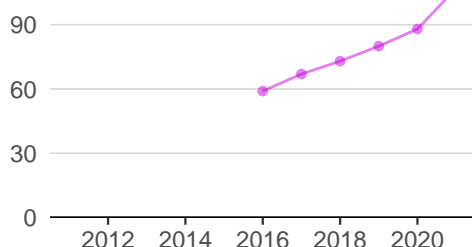


5.1.1 Knowledge-intensive employment was equal to 373.9 thsd people in 2017 and equivalent to an indicator rank of 95.

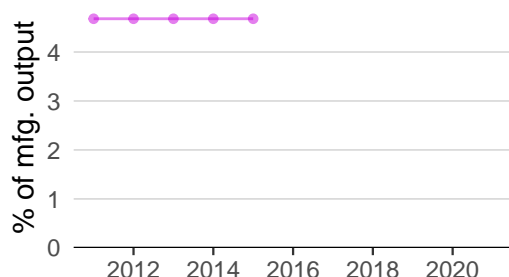
Innovation outputs



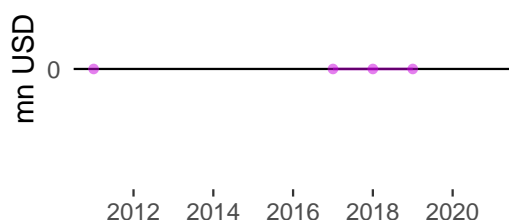
6.1.1 Patents by origin was equal to 1.0 in 2018—down by 67 percentage points from the year prior—and equivalent to an indicator rank of 127.



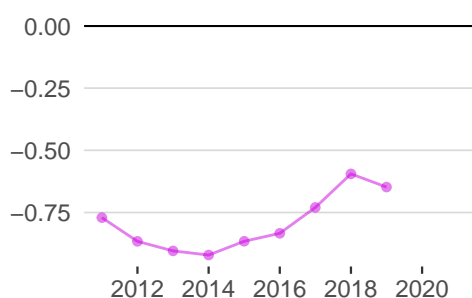
6.1.5 Citable documents H-index was equal to 107.0 in 2021—up by 22 percentage points from the year prior—and equivalent to an indicator rank of 111.



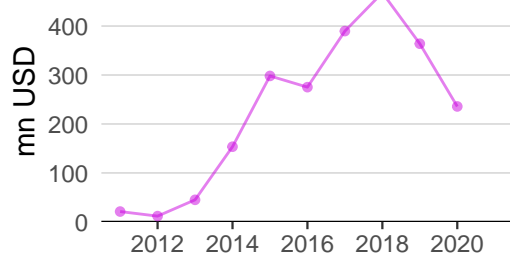
6.2.5 High-tech manufacturing was equal to 4.7% of mfg. output in 2015—effectively unchanged from the year prior—and equivalent to an indicator rank of 100.



6.3.1 Intellectual property receipts was equal to 0.0 mn USD in 2019—effectively unchanged from the year prior—and equivalent to an indicator rank of 113.



6.3.2 Production and export complexity was equal to -0.6 in 2019—down by 9 percentage points from the year prior—and equivalent to an indicator rank of 90.



6.3.3 High-tech exports was equal to 235.8 mn USD in 2020—down by 35 percentage points from the year prior—and equivalent to an indicator rank of 45.



7.1.3 Global brand value was equal to 222.6 mn USD in 2021—up by 2 percentage points from the year prior—and equivalent to an indicator rank of 57.



LAOS'S INNOVATION TOP PERFORMERS

2.3.3 Global corporate R&D investors

Firm	Industry	R&D	R&D Growth	R&D Intensity	Rank
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No observations

Source: European Commission's Joint Research Centre (<https://iri.jrc.ec.europa.eu/scoreboard/2021-eu-industrial-rd-investment-scoreboard>).

2.3.4 QS university ranking

University	Score	Rank
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No observations

Source: QS Quacquarelli Symonds Ltd (<https://www.topuniversities.com/university-rankings/world-university-rankings/2022>).

7.1.1 Intangible asset intensity, top 15

Firm	Rank
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No observations

Source: Brand Finance (<https://brandirectory.com/reports/gift-2021>).

7.1.3 Global brand value, top 5,000

Brand	Industry	Rank
BEERLAO	Beers	1

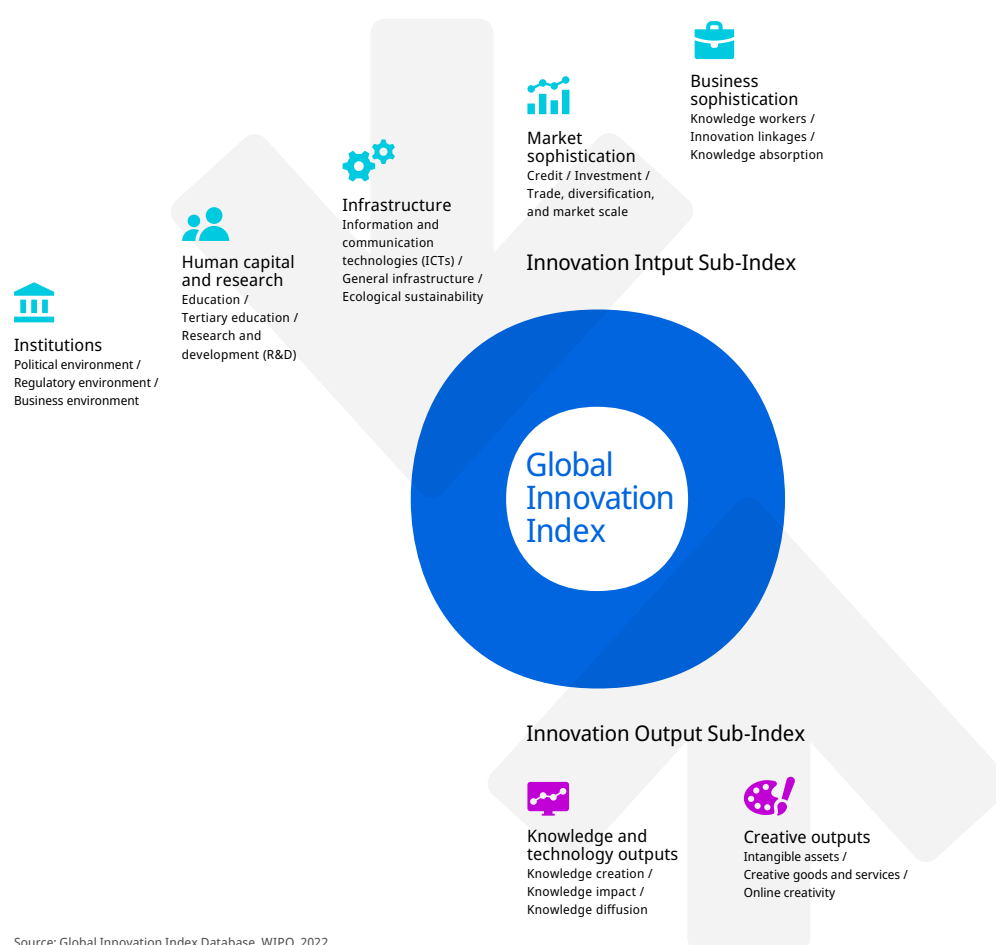
Source: Brand Finance (<https://brandirectory.com>).

Note: Rank corresponds to within economy ranks.

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.