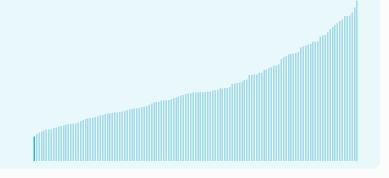


# Angola ranking in the Global Innovation Index 2024

# Angola ranks 133rd 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.



Angola ranks 38th among the 38 lower-middle-income group economies.



Angola ranks 27th among the 27 economies in Sub-Saharan Africa.



### > Angola GII Ranking (2020-2024)

The table shows the rankings of Angola 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 Angola in the GII 2024 is between ranks 131 and 133.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	n/a	n/a	n/a
2021	132nd	131st	131st
2022	127th	129th	117th
2023	132nd	132nd	132nd
2024	133rd	132nd	133rd

Angola performs worse in innovation outputs than innovation inputs in 2024.

This year Angola ranks 132nd in innovation inputs. This position is the same as last year.

Angola ranks 133rd in innovation outputs. This position is lower than last year.

Angola has no clusters in the top 100 S&T clusters of the Global Innovation Index.



## > Global Innovation Tracker

The Global Innovation Tracker 2024 shows what is the current state of innovation in Angola, how rapidly is technology being embraced and what are the resulting societal impacts.



For Angola, 2 indicators have improved in the short-term and 3 indicators have worsened.

### Science and innovation investment

Scientific publications	R&D investments	Venture	International patent filings		
		Deal numbers	Deal values		
<b>▲ 7.1%</b> 2022 - 2023	n/a	n/a	n/a	n/a	
▲ <b>14.8%</b> 2013 - 2023	n/a	n/a	n/a	▼ -100% 2013 - 2023	

### Technology adoption

Safe sanitation	Conne	ctivity	Robots	Electric vehicles
	Fixed broadband	5G		
n/a	▼ <b>-1%</b> 2021 - 2022	n/a	n/a	n/a
n/a	▲ <b>16.9%</b> 2012 - 2022		n/a	n/a
n/a	<b>0.4</b> per 100 inhabitants in 2022	n/a		n/a

### Socioeconomic impact

Labor productivity	Life expectancy	Temperature change		
<b>▼ -2.2%</b> 2022 - 2023	▲ <b>0.5%</b> 2021 - 2022	▲ 1.2°C 2023		
▼ -3.5% 2013 - 2023	▲ 0.6% 2012 - 2022	n/a		
<b>19,914</b> USD in 2023	<b>61.9</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.

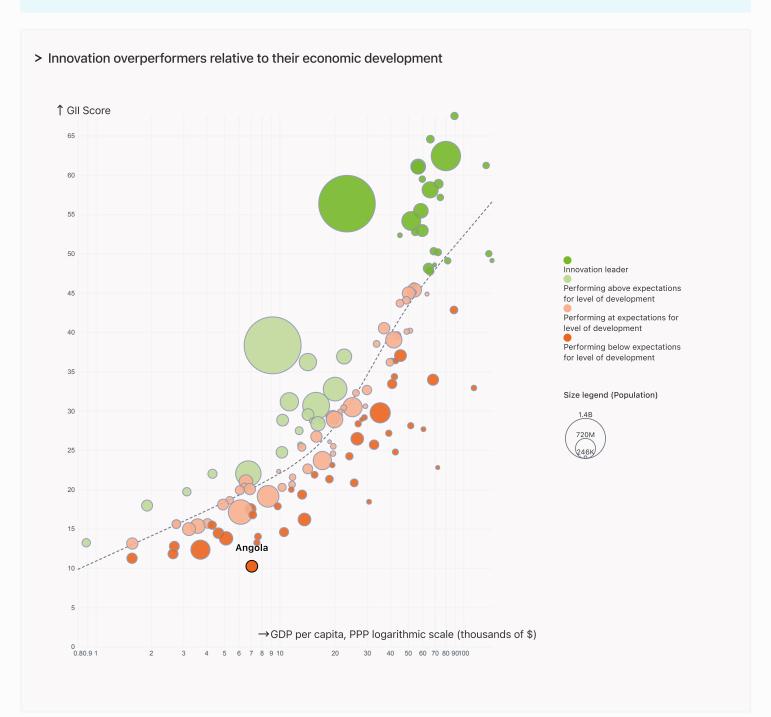


## Expected vs. observed innovation performance

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



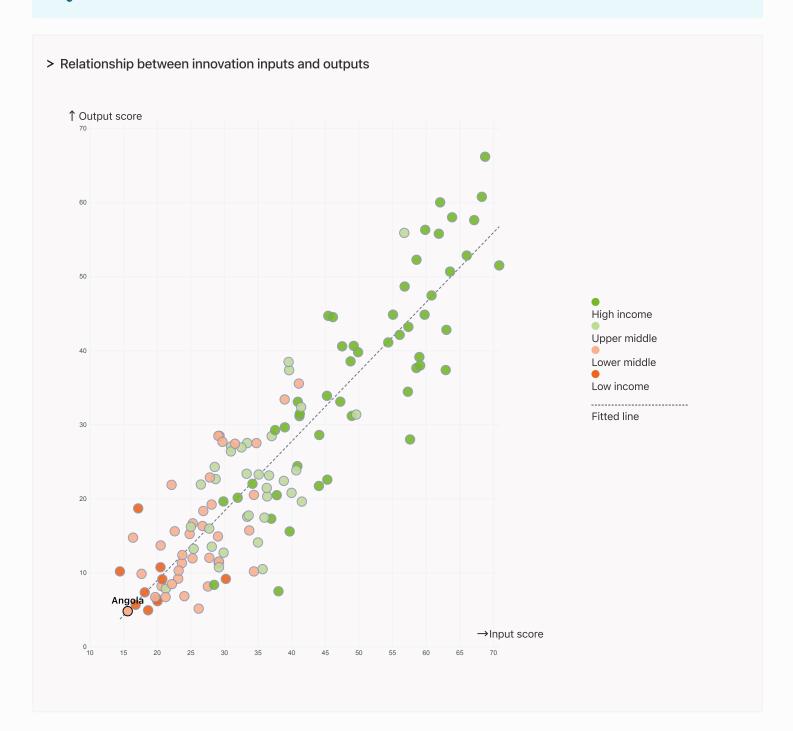


# Effectively translating innovation investments into innovation outputs

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.



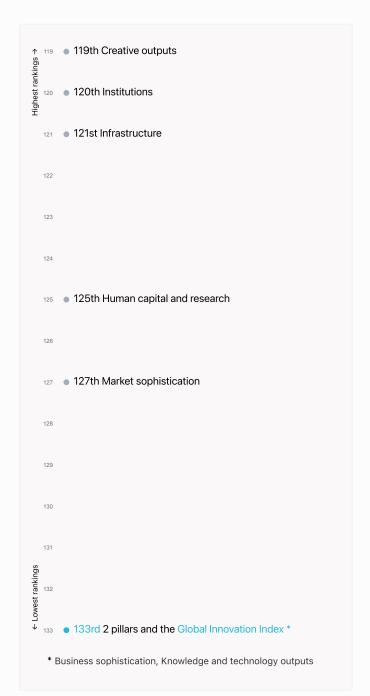
Angola produces less innovation outputs relative to its level of innovation investments.





# Overview of Angola'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 Angola are those that rank above the GII (shown in blue) and the weakest are those that rank below.



Highest rankings



Angola ranks highest in Creative outputs (119th), Institutions (120th) and Infrastructure (121st).

### Lowest rankings



Angola ranks lowest in Business sophistication, Knowledge and technology outputs, GII Index (133rd), Market sophistication (127th) and Human capital and research (125th).

The full WIPO Intellectual Property

Statistics profile for Angola can be found on <a href="mailto:this.link.">this link.</a>



# Benchmark of Angola against other economy groupings for each of the seven areas of the GII Index

The charts shows the relative position of Angola (blue bar) against other economy groupings (grey bars), for each of the seven areas of the GII Index.



### Lower-Middle-Income economies

Angola performs below the lower-middle-income group average in all pillars.



### Sub-Saharan Africa

Angola performs below the regional average in all pillars.

Institutions

Top 10 | Score: 80.81

Sub-Saharan Africa | Score: 37.83

Lower middle income | Score: 34.0

Angola | Score: 24.97

Human capital and research

Top 10 | Score: 61.30

Lower middle income | Score: 22.1

Sub-Saharan Africa | Score: 17.86

Angola | Score: 12.36

Infrastructure

Top 10 | Score: 58.57

Lower middle income | Score: 29.8

Sub-Saharan Africa | Score: 25.40

Angola | Score: 22.62

Market sophistication

Top 10 | Score: 62.12

Lower middle income | Score: 25.9

Sub-Saharan Africa | Score: 18.79

Angola | Score: 11.62

Business sophistication

Top 10 | Score: 63.64

Lower middle income | Score: 20.8

Sub-Saharan Africa | Score: 18.73

Angola | Score: 6.81

Knowledge and technology outputs

Top 10 | Score: 57.29

Lower middle income | Score: 15.6

Sub-Saharan Africa | Score: 10.99

Angola | Score: 3.63

Creative outputs

Top 10 | Score: 56.54

Lower middle income | Score: 15.7

Sub-Saharan Africa | Score: 10.35

Angola | Score: 5.88



# Innovation strengths and weaknesses in Angola

The table below gives an overview of the indicator strengths and weaknesses of Angola in the GII 2024.



Angola's main innovation strengths are Low-carbon energy use, % (rank 29), GDP/unit of energy use (rank 48) and Gross capital formation, % GDP (rank 58).

Weaknesses

### Strengths

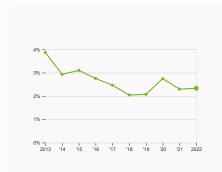
Rank	Code	Indicator name	Rank	Code	Indicator name
29	3.3.2	Low-carbon energy use, %	132	6.1.4	Scientific and technical articles/bn PPP\$ GDP
48	3.3.1	GDP/unit of energy use	130	4.1.2	Domestic credit to private sector, % GDP
58	3.2.3	Gross capital formation, % GDP	130	5.2.3	State of cluster development <sup>†</sup>
62	6.1.3	Utility models by origin/bn PPP\$ GDP	116	6.3.1	Intellectual property receipts, % total trade
64	4.3.3	Domestic market scale, bn PPP\$	110	3.2.2	Logistics performance*
65	5.3.1	Intellectual property payments, % total trade	109	4.3.2	Domestic industry diversification
89	6.2.3	Software spending, % GDP	102	5.2.5	Patent families/bn PPP\$ GDP
92	1.1.1	Operational stability for businesses*	99	6.1.2	PCT patents by origin/bn PPP\$ GDP
105	6.3.3	High-tech exports, % total trade	75	2.3.4	QS university ranking, top 3*
105	1.2.1	Regulatory quality*	62	4.1.3	Loans from microfinance institutions, % GDP
			49	6.2.2	Unicorn valuation, % GDP
			41	2.3.3	Global corporate R&D investors, top 3, mn USD



## Angola's innovation system

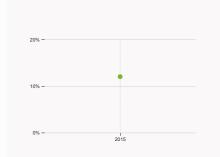
As far as practicable, the plots below present unscaled indicator data.

### > Innovation inputs in Angola



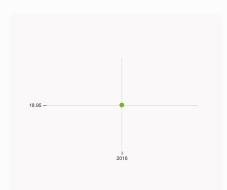
### 2.1.1 Expenditure on education

was equal to 2.33 % GDP in 2022, up by 0.04 percentage points from the year prior – and equivalent to an indicator rank of 117.



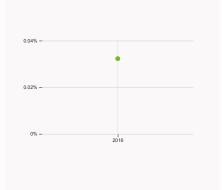
# 2.2.2 Graduates in science and engineering

was equal to 12.01 % of total graduates in 2015 – and equivalent to an indicator rank of 107.



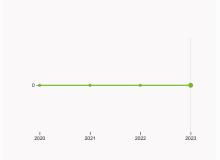
#### 2.3.1 Researchers

was equal to 18.95 FTE per million population in 2016 – and equivalent to an indicator rank of 108.



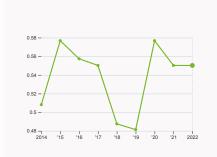
### 2.3.2 Gross expenditure on R&D

was equal to 0.03 % GDP in 2016 – and equivalent to an indicator rank of 112.



### 2.3.4 QS university ranking

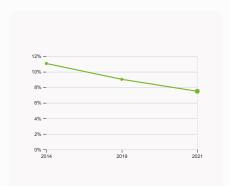
was equal to an average score of 0 for the top three universities in 2023 with no change from the year prior – and equivalent to an indicator rank of 75.



### 4.3.2 Domestic industry diversification

was equal to an index score of 0.55 in 2022 with no change from the year prior – and equivalent to an indicator rank of 109.



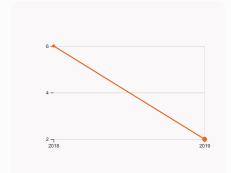


### 5.1.1 Knowledge-intensive employment

was equal to 7.5 % in 2021, down by 1.54 percentage points from the year prior – and equivalent to an indicator rank of 114.

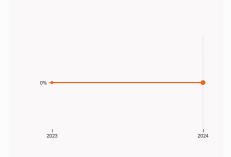


## > Innovation outputs in Angola



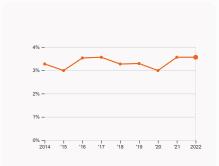
### 6.1.1 Patents by origin

was equal to 2 patents in 2019, down by 66.67% from the year prior – and equivalent to an indicator rank of 126.



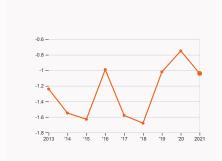
#### 6.2.2 Unicorn valuation

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



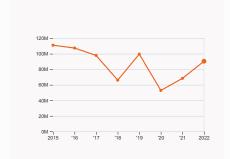
### 6.2.4 High-tech manufacturing

was equal to 3.56 % of total manufacturing output in 2022 with no change from the year prior – and equivalent to an indicator rank of 103.



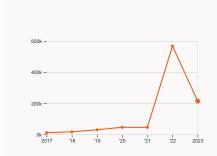
### 6.3.2 Production and export complexity

was equal to a score of -1.04 in 2021, down by 38.67% from the year prior – and equivalent to an indicator rank of 112.



### 6.3.3 High-tech exports

was equal to 90.41 million USD in 2022, up by 32.24% from the year prior – and equivalent to an indicator rank of 105.



### 7.3.3 Mobile app creation

was equal to 215.13 thousand global downloads of mobile apps in 2023, down by 62.2% from the year prior – and equivalent to an indicator rank of 119.



# Angola

133

Institutions	DP per cap <b>7,077</b>	_		PΡ
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1.2. Regulatory environment	<b>G</b> 7.5		114	
12. Regulatory environment   20.2   114   145   151	n/a	a r	n/a	
1.2.1 Regulatory quality*   2.5 miles   4 miles   5.1 miles   5	n/a	a r	n/a	
1.3 Business senironment   21   18   0   5.2 Innovation linkages   1.3 Policy stability for Johing business*   27   100   1	n/a	a r	n/a	
3.3 Performantally policies and cultural  1.24 125	<b>1</b> .3	3 1	115	
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2.1 Tertrary enrolment, % gross   1.1   114   114   116   117   114   117		a r	n/a	
1.2.2 Graduates in science and engineering, %   1/2   107	•		133	
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1.1.2   CT use*	0	0 4	49	С
4.1.4 Government's online service* 4.1.4 E-participation* 4.1.4 E-participation* 4.1.5 I 129 4.1.2 Edetricity output, GWh/mn pop. 4.1.2 Electricity output, GWh/mn pop. 4.1.2 Lectricity output, GWh/mn pop. 4.2.2 Logistics performance* 4.2.3 Gross capital formation, % GDP 4.3.4 GROSP GDP 4.4 S 111 4.5 Evaluation of the structure 4.1.5 I 129 4.1.1 Finance for startups and scaleups* 4.1.2 I Domestic credit to private sector, % GDP 4.1.3 Loans from microfinance institutions, % GDP 4.1.4 Industrial designs by origin/ph PPP\$ GDP 4.1.5 I Market capitalization, % GDP 4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP 4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP 4.3.4 VC received, value, % GDP 4.5.5 Government's online service with substantial files of the structure of t	0.1	.1 8	89	•
1.1   E-participation*	3.6	6 1	103	
3.2. General infrastructure  11.5   122   6.3.2 Intenectical property receipts, % total trade 3.2.1 Electricity output, GWh/mn pop. 3.2.2 Logistics performance* 3.2.3 Gross capital formation, % GDP 3.3.3 Gross capital formation, % GDP 3.3.1 GDP/unit of energy use 3.3.2 Low-carbon energy use, % 3.3.3 ISO 14001 environment/bn PPP\$ GDP 3.3.3 ISO 14001 environment/bn PPP\$ GDP 3.4   Market sophistication 3.5   11.6   127   ∞    1.6   127   ∞    1.7   1.7   1.7   1.7   1.7    1.8   1.8   1.9   1.9    1.9   1.1   1.1   1.1   1.1    1.1   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1   1.1    1.2   1.1   1.1   1.1   1.1   1.1   1.1   1.1    1.2   1.1	3.8	8 1	124	٠
486.3   111	0	0 1	116	С
3.2.2 Logistics performance*  0 110 ○ ♦ 3.2.3 Gross capital formation, % GDP  24.5 58 3.3 Ecological sustainability 21.7 60 3.3.1 GDP/unit of energy use 3.2.2 Low-carbon energy use, % 3.3.2 Low-carbon energy use, % 3.3.3 ISO 14001 environment/bn PPP\$ GDP  1.1 Credit  1.1.1 Finance for startups and scaleups†  1.1.2 Domestic credit to private sector, % GDP  1.1.3 Loans from microfinance institutions, % GDP  1.1.4 Investment  1.2.1 Market capitalization, % GDP  1.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP  1.2.3 VC received, value, % GDP  1.2.4 VC received, value, % GDP  1.3.5 Investment  1.4.5 Investment  1.5 Investment  1.6 Investment  1.7 Investment  1.7 Investment  1.8 Investment  1.9 Investment  1.9 Investment  1.1.1 Investment  1.1.2 Venture capital (VC) investors, deals/bn PPP\$ GDP  1.2.3 VC received, value, % GDP  1.3.4 VC received, value, % GDP  1.4.5 S8  4.5 Investment  4.5 Investment  4.6 Investment  4.7 Investment  4.8 Investment  4.9 Investment  4.1 Investment  4.1 Investment  4.2 Investment  4.3 Investment  4.4 Investment  4.5 Investment  4.5 Investment  4.6 Investment  4.7 Investment  4.8 Investment  4.9 Investment  4.1 Investment  4.1 Investment  4.2 Investment  4.3 Investment  4.4 Investment  4.5 Investment  4.6 Investment  4.7 Investment  4.8 Investment  4.9 Investment  4.1 Investment  4.1 Investment  4.1 Investment  4.2 Investment  4.3 Investment  4.4 Investment  4.5 Investment  4.6 Investment  4.7 Intangible assets  4.1 Intangible assets  4.1 Intangible assets  4.1 Intangible asset  4.1	16.9	9 1	112	
1.2.3 Gross capital formation, % GDP  2.4.5 58	0.2	2 1	105	•
3.3 Ecological sustainability  3.4 Secological sustainability  3.5 GDP/unit of energy use  3.6 DP/unit of energy use, %  3.7 Low-carbon energy use, %  3.8 SD 14001 environment/bn PPP\$ GDP  3.9 Market sophistication  3.1 GPB/unit of energy use, %  3.2 Low-carbon energy use, %  3.3 ISO 14001 environment/bn PPP\$ GDP  3.1 Intangible assets  3.1.1 Intangible asset intensity, top 15, %  3.1.2 Intangible asset intensity, top 15, %  3.1.3 Ioans from startups and scaleups *  3.1.4 Industrial designs by origin/bn PPP\$ GDP  3.1.5 Intangible assets  3.1.6 Intangible assets  3.1.1 Intangible assets  3.1.1 Intangible assets  3.1.2 Intangible assets  3.1.1 Intangible assets  3.1.1 Intangible assets  3.1.2 Intangible assets  3.1.1 Intangible asset  3.1.1 Intangible	0.06	6 1	132	
.3.1 GDP/unit of energy use  3.2 Low-carbon energy use, %  3.3 ISO 14001 environment/bn PPP\$ GDP  3.1 Intangible assets  7.1.1 Intangible assets  7.1.1 Intangible asset intensity, top 15, %  7.1.2 Trademarks by origin/bn PPP\$ GDP  7.1.3 Global brand value, top 5,000, % GDP  7.1.4 Industrial designs by origin/bn PPP\$ GDP  7.1.5 Creative goods and services  7.2 Creative goods and services  7.2.1 Cultural and creative services exports, % total trade  7.2.2 National feature films/mn pop. 15-69  7.2.3 Entertainment and media market/th pop. 15-69  7.3 Online creativity  7.3.1 Top-level domains (TLDs)/th pop. 15-69  7.3.2 GitHub commits/mn pop. 15-69  7.3.2 GitHub commits/mn pop. 15-69	0.5	5 1	127	
32. Low-carbon energy use, % 32.5 29	5.9	9 [	[119	9]
.3.3 ISO 14001 environment/bn PPP\$ GDP  1.6 In Market sophistication  1.6 In Market sophistication  1.6 In Market sophistication  1.7 In Market sophistication  1.8 In Market sophistication  1.9 In Market sophistication  1.1 Finance for startups and scaleups				
Market sophistication	4.9		[113	
7.1.3 Global brand value, top 5,000, % GDP  7.1.4 Industrial designs by origin/bn PPP\$ GDP  7.1.5 Greative goods and services  7.2 Creative goods and services  7.2.1 Cultural and creative services exports, % total trade  7.2.2 National feature films/mn pop. 15–69  7.2.3 Entertainment and media market/th pop. 15–69  7.2.4 Creative goods exports, % total trade  7.2.5 Entertainment and media market/th pop. 15–69  7.2.4 Creative goods exports, % total trade  7.2.5 Entertainment and media market/th pop. 15–69  7.2.6 Creative goods exports, % total trade  7.2.7 Creative goods exports, % total trade  7.2.8 Creative goods exports, % total trade  7.2.9 Creative goods exports, % total trade  7.2.1 Creative goods exports, % total trade  7.2.2 Creative goods exports, % total trade  7.2.3 Creative goods exports, % total trade  7.2.4 Creative goods exports, % total trade  7.2.5 Creative goods exports, % total trade  7.2.6 Creative goods exports, % total trade  7.2.7 Creative goods exports, % total trade  7.2.8 Creative goods exports, % total trade  7.2.9 Creative goods exports, % total trade  7.2.9 Creative goods exports, % total trade  7.2.1 Cultural and creative services exports, % total trade  7.2.2 Creative goods exports, % total trade  7.2.3 Creative goods exports, % total trade  7.2.4 Creative goods exports, % total trade  7.2.5 Creative goods exports, % total trade  7.2.6 Creative goods exports, % total trade  7.2.7 Creative goods exports, % total trade  7.2.8 Creative goods exports, % total trade  7.2.9 Creative goods exports, % total trade  7.2.1 Cultural and creative services exports, % total trade  7.2.9 Creative goods exports, % total trade  7.2.1 Cultural and creative services exports, % total trade  7.2.1 Cultural and creative services exports, % total trade  7.2.2 Creative goods exports, % total trade  7.2.3 Creative good	_	a r		
.1.1 Finance for startups and scaleups † 20.8   20			106	
1.1.1 Finance for startups and scaleups 1 20.8 78 3 72.2 Creative goods and services exports, % total trade 20.8 78 72.2 National feature films/mn pop. 15–69 72.2 National feature films/mn pop. 15–69 72.4 Creative goods exports, % total trade 72.2 National feature films/mn pop. 15–69 72.3 Entertainment and media market/th pop. 15–69 72.4 Creative goods exports, % total trade 72.2 National feature films/mn pop. 15–69 72.3 Entertainment and media market/th pop. 15–69 72.4 Creative goods exports, % total trade 73.4 Creative goods exports,		a r		
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1.3 Loans from microfinance institutions, % GDP  2 lovestment  3 loans from microfinance institutions, % GDP  4 loans from microfinance institutions, % GDP  5 loans from microfinance institutions, % GDP  7.2.2 National feature films/mn pop. 15–69  7.2.3 Entertainment and media market/th pop. 15–69  7.2.4 Creative goods exports, % total trade  7.2.4 Creative goods exports, % total trade  7.2.5 Intertainment and media market/th pop. 15–69  7.2.6 Creative goods exports, % total trade  7.2.7 Online creativity  7.2.8 VC received, value, % GDP  7.2.9 VC received, value, % GDP  7.2.1 Cultura and creative services exports, % total trade  7.2.2 National feature films/mn pop. 15–69  7.2.3 Entertainment and media market/th pop. 15–69  7.2.4 Creative goods exports, % total trade  7.2.5 Online creativity  7.2.6 Intertainment and reative services exports, % total trade  7.2.7 Creative goods exports, % total trade  7.2.8 Total trade  7.2.8 Intertainment and reative services exports, % total trade  7.2.9 Creative goods exports, % total trade  7.2.9 Creative goods exports, % total trade  7.2.9 Creative goods exports, % total trade  7.2.1 Cultura and creative services exports, % total trade  7.2.2 VC received, value, % GDP			[133	
.2.1 Market capitalization, % GDP  .2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP  n/a  .2.3 VC recipients, deals/bn PPP\$ GDP  n/a  n/a  n/a  n/a  n/a  n/a  n/a  n/		a r		
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2.2 Venture capital (VC) investors, deals/bn PPP\$GDP n/a n/a n/a 7.3 <b>Online creativity</b> 2.3 VC recipients, deals/bn PPP\$GDP n/a n/a 7.3.1 Top-level domains (TLDs)/th pop. 15–69 2.4 VC received, value, % GDP n/a n/a 7.3.2 GitHub commits/mn pop. 15–69		a r		
2.3 VC recipients, deals/bn PPP\$ GDP n/a n/a 7.3.1 Top-level domains (TLDs)/th pop. 15–69 7.3.2 GitHub commits/mn pop. 15–69 7.3.2 GitHub commits/mn pop. 15–69	0.008		127	
2.4 VC received, value, % GDP n/a n/a 7.3.2 GitHub commits/mn pop. 15–69	13.5			
7.3.2 Github Collinits/iiii pop. 15-69	0.07			
.3 Trade, diversification and market scale 16.3 126 💠 73.3 Makila and creation/ha DDD# CDD	0.4		125	
7.3.3 Mobile app creation/bit PPP\$ GDP	40.1	.1 1	119	
3.1 Applied tariff rate, weighted avg., % 7.1 113				
.3.2 Domestic industry diversification 0 109 ○ ♦				



# Data availability

The following tables list indicators that are either missing or outdated for Angola.



Angola has missing data for seventeen indicators and outdated data for fourteen indicators.

## Missing data for Angola

Code	Indicator name	Economy Year	Model Year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2020	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	n/a	2022	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	n/a	2022	OECD, PISA
2.2.3	Tertiary inbound mobility, %	n/a	2022	UNESCO Institute for Statistics
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
5.1.2	Firms offering formal training, %	n/a	2023	World Bank Enterprise Surveys
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
7.1.3	Global brand value, top 5,000, % GDP	n/a	2024	Brand Finance; International Monetary Fund
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



# Outdated data for Angola

Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture <sup>†</sup>	2022	2023	Global Entrepreneurship Monitor
2.1.5	Pupil–teacher ratio, secondary	2016	2022	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2019	2022	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2015	2021	UNESCO Institute for Statistics; Eurostat; OECD
2.3.1	Researchers, FTE/mn pop.	2016	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	2016	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.1	Electricity output, GWh/mn pop.	2021	2022	International Energy Agency
4.1.1	Finance for startups and scaleups†	2022	2023	Global Entrepreneurship Monitor
4.1.3	Loans from microfinance institutions, % GDP	2020	2022	International Monetary Fund, Financial Access Survey (FAS)
5.1.1	Knowledge-intensive employment, %	2021	2022	International Labour Organization
5.1.5	Females employed w/advanced degrees, %	2021	2023	International Labour Organization
6.1.1	Patents by origin/bn PPP\$ GDP	2019	2022	World Intellectual Property Organization; International Monetary Fund
6.1.3	Utility models by origin/bn PPP\$ GDP	2019	2022	World Intellectual Property Organization; International Monetary Fund
7.1.2	Trademarks by origin/bn PPP\$ GDP	2020	2022	World Intellectual Property Organization; International Monetary Fund



### 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.