Global Innovation Index 2025

Zambia ranking in the Global Innovation Index 2025

Zambia ranks 112nd among the 139 economies featured in the GII 2025.

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.

Zambia ranks 25th among the 37 Lower middle-income group economies.

Zambia ranks 13th among the 32 economies in Sub-Saharan Africa.

Zambia GII Ranking (2020-2025)

The table shows the rankings of Zambia over the past six 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 Zambia in the GII 2025 is between ranks 107 and 119.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	122nd	109th	128th
2021	121st	111st	127th
2022	118th	118th	115th
2023	118th	111st	122nd
2024	116th	103rd	131st
2025	112nd	90th	128th

Zambia performs worse in innovation outputs than innovation inputs in 2025.

This year **Zambia ranks 90th in innovation inputs.** This position is higher than last year.

Zambia ranks 128th in innovation outputs. This position is higher than last year.

Zambia has no clusters in the world's top innovation clusters of the Global Innovation Index.

Global Innovation Index 2025

> Global Innovation Tracker

The Global Innovation Tracker 2025 shows what is the current state of innovation in Zambia, how rapidly is technology being embraced and what are the resulting societal impacts.

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

Science and innovation investment

	Scientific publications	R&D investments	Venture capital deal numbers	International patent filings
Short term	▲ 2.6 % 2023 - 2024	n/a	▼ -41.7 % 2023 - 2024	n/a
Long term (annual growth)	▲ 8.7 % 2014 - 2024	n/a	▼ -3.3 % 2020 - 2024	n/a

Technology adoption

	Safe sanitation	Connectivity		Robots	Electric vehicles
		Fixed broadband	5G		
Short term	n/a	▲ 63.4% 2022 - 2023	n/a	n/a	n/a
Long term (annual growth)	n/a	▲ 26.5% 2013 - 2023	n/a	n/a	n/a
Penetration	n/a	0.7 per 100 inhabitants in 2023	n/a	n/a	n/a

Socioeconomic impact

	Labor productivity	Life expectancy	Temperature change
Short term	▼ -1.2 % 2023 - 2024	▲ 1.6 % 2022 - 2023	+ 1.6 °C 2024
Long term (annual growth)	▼ -1.4 % 2014 - 2024	▲ 1.1 % 2013 - 2023	+ 0.8 °C 2014
Level	14,568.1 USD in 2024	66.3 years in 2023	n/a

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 countries. from 1951–1980. Figures are rounded.

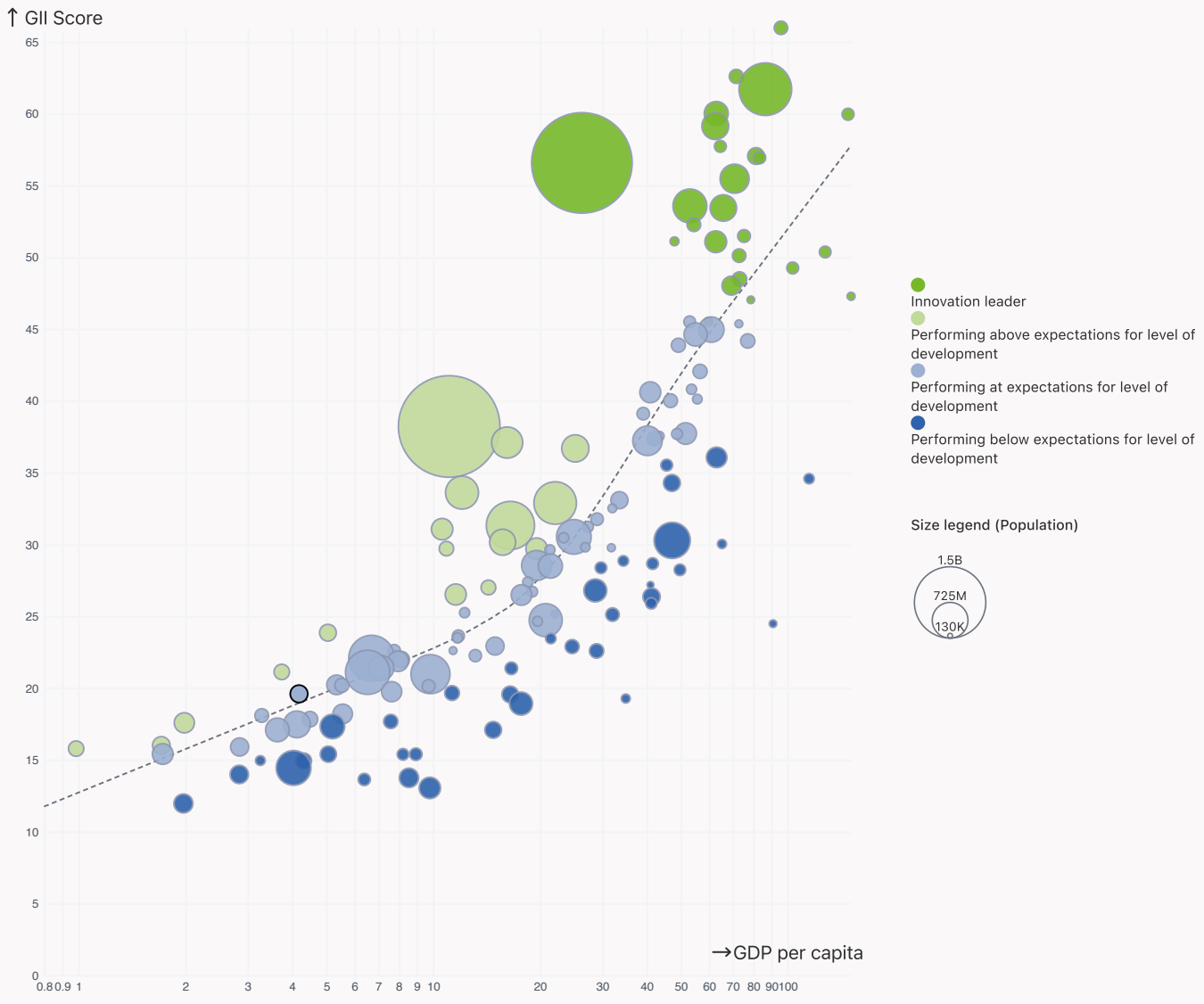
Global Innovation Index 2025

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 Zambia performs at expectations for its level of development.

> Innovation overperformers relative to their economic development



Global Innovation Index 2025

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.

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

> Relationship between innovation inputs and outputs

Global Innovation Index 2025

Overview of Zambia's rankings in the seven areas of the GII in 2025

The chart shows the ranking for each of the seven areas that the GII comprises. The strongest areas for Zambia are those that rank above the GII (shown in blue) and the weakest are those that rank below.

Highest Rankings

Zambia ranks highest in Business sophistication (66th), Institutions (69th), Infrastructure (91st) and Human capital and research (103rd).

Lowest Rankings

Zambia ranks lowest in Knowledge and technology outputs (125th), Creative outputs (123rd) and Market sophistication (116th).

The full WIPO Intellectual Property Statistics profile for Zambia can be found on https://www.wipo.int/edocs/statistics-country-profile/en/zm.pdf

Global Innovation Index 2025

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

Lower middle-income economies

Zambia performs above the Lower middle-income group average in Institutions, Infrastructure, Business sophistication.

Sub-Saharan Africa

Zambia performs above the regional average in Institutions, Human capital and research, Infrastructure, Business sophistication.

Institutions

- Top 10 | Score: 78.63
- Zambia | Score: 49.06
- Sub-Saharan Africa | Score: 40.29
- Lower middle-income | Score: 37.2

Human capital and research

- Top 10 | Score: 59.30
- Lower middle-income | Score: 20.9
- Zambia | Score: 20.60
- Sub-Saharan Africa | Score: 18.06

Infrastructure

- Top 10 | Score: 61.36
- Zambia | Score: 36.24
- Lower middle-income | Score: 32.1
- Sub-Saharan Africa | Score: 27.58

Market sophistication

- Top 10 | Score: 61.82
- Lower middle-income | Score: 28.1
- Sub-Saharan Africa | Score: 22.67
- Zambia | Score: 21.82

Business sophistication

- Top 10 | Score: 59.10
- Zambia | Score: 28.45
- Lower middle-income | Score: 25.3
- Sub-Saharan Africa | Score: 25.36

Knowledge and technology outputs

- Top 10 | Score: 54.93
- Lower middle-income | Score: 15.4
- Sub-Saharan Africa | Score: 11.53
- Zambia | Score: 8.61

Creative outputs

- Top 10 | Score: 55.98
- Lower middle-income | Score: 13.8
- Sub-Saharan Africa | Score: 10.61
- Zambia | Score: 7.24

Global Innovation Index 2025

Innovation strengths and weaknesses in Zambia

The table below gives an overview of the indicator strengths and weaknesses of Zambia in the GII 2025.

Zambia's best-ranked innovation strengths are **Low-carbon energy use, %** (rank 8), **Youth demographic dividend, %** (rank 11) and **Policy stability for doing business†** (rank 21).

Strengths

Rank	Code	Indicator name
8	3.3.2	Low-carbon energy use, %
11	5.1.3	Youth demographic dividend, %
21	1.3.1	Policy stability for doing business†
23	4.1.3	Loans from microfinance institutions, % GDP
25	3.2.3	Gross capital formation, % GDP
36	5.2.1	Public research–industry co-publications, %
37	5.2.4	State of cluster development†
38	7.1.4	Industrial designs by origin/bn PPP$ GDP
47	5.2.2	University–industry R&D collaboration†
54	4.2.2	Venture capital (VC) received, deal count/bn PPP$ GDP

Weaknesses

Rank	Code	Indicator name
131	7.3.1	Top-level domains (TLDs)/th pop. 15–69
130	6.3.5	ISO 9001 quality/bn PPP$ GDP
127	6.3.1	Intellectual property receipts, % total trade
126	4.1.2	Domestic credit to private sector, % GDP
125	3.3.1	GDP/unit of energy use
100	5.2.5	Patent families/bn PPP$ GDP
81	7.1.3	Global brand value, top 5,000, % GDP
80	2.3.4	QS university ranking, top 3*
53	6.2.2	Unicorn valuation, % GDP
44	2.3.3	Global corporate R&D investors, top 3, mn USD

Global Innovation Index 2025

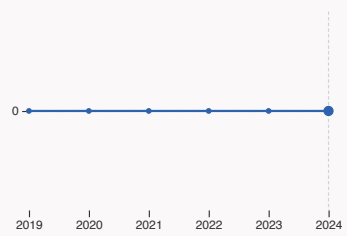
Zambia's innovation system

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

Innovation inputs in Zambia

2.1.1 **Expenditure on education**

was equal to 4.07 % GDP in 2023, up by 0.41 percentage points from the year prior – and equivalent to an indicator rank of 72.



2.3.4 **QS university ranking**

The country does not have any universities in the QS world universities ranking in 2024.

5.1.1 **Knowledge-intensive employment**

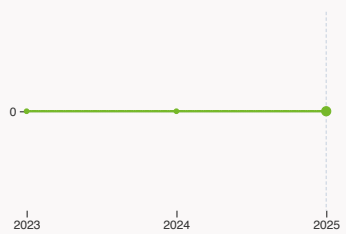
was equal to 11.31 % of total workforce in 2023, down by 1.12 percentage points from the year prior – and equivalent to an indicator rank of 98.

Global Innovation Index 2025

Innovation outputs in Zambia

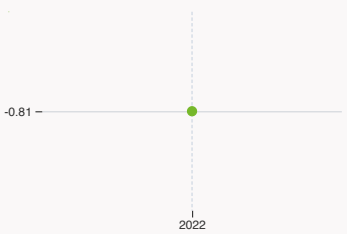
6.1.1 Patents by origin

was equal to 5 patents in 2023, down by 50% from the year prior – and equivalent to an indicator rank of 122.



6.2.2 Unicorn valuation

The country does not have unicorns in 2025.

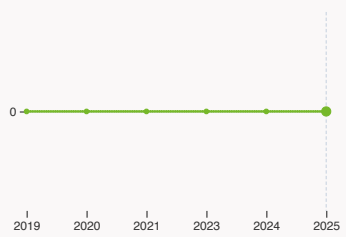


6.3.2 Production and export complexity

was equal to a score of -0.81 in 2022 – and equivalent to an indicator rank of 108.

6.3.3 High-tech exports

was equal to 20.77 million USD in 2023, up by 68.72% from the year prior – and equivalent to an indicator rank of 117.



7.1.3 Global brand value, top 5,000

The country does not have any brands that make the top 5,000 ranking in 2025.

Zambia

GII 2025 rank **112**

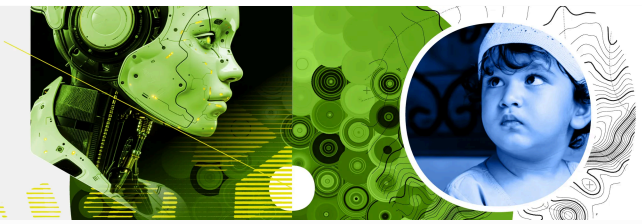
Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
128	90	Lower middle	Sub-Saharan Africa	21.3	88.6	4,190.3

	Score / Value	Rank	
Institutions	**49.1**	**69**	
1.1 Institutional environment	**37.8**	**105**	
1.1.1 Operational stability for businesses*	48.7	101	
1.1.2 Government effectiveness*	26.9	109	
1.2 Regulatory environment	**37.3**	**103**	
1.2.1 Regulatory quality*	35.3	100	
1.2.2 Rule of law*	39.4	102	
1.3 Business environment	**72.1**	**[15]**	
1.3.1 Policy stability for doing business†	72.1	21	●◆
1.3.2 Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research	**20.6**	**[103]**	
2.1 Education	**41.2**	**[100]**	
2.1.1 Expenditure on education, % GDP	4.1	72	
2.1.2 Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3 School life expectancy, years	n/a	n/a	
2.1.4 PISA scales in reading, maths and science	n/a	n/a	
2.1.5 Pupil–teacher ratio, secondary	n/a	n/a	
2.2 Tertiary education	**n/a**	**[n/a]**	
2.2.1 Tertiary enrolment, % gross	n/a	n/a	
2.2.2 Graduates in science and engineering, %	n/a	n/a	
2.2.3 Tertiary inbound mobility, %	n/a	n/a	
2.3 Research and development (R&D)	**0**	**[124]**	
2.3.1 Researchers, FTE/mn pop.	n/a	n/a	
2.3.2 Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3 Global corporate R&D investors, top 3, mn USD	0	44	○◇
2.3.4 QS university ranking, top 3*	0	80	○◇
Infrastructure	**36.2**	**91**	
3.1 Information and communication technologies (ICTs)	**52.2**	**111**	
3.1.1 ICT access*	55.9	111	
3.1.2 ICT use*	61.2	101	
3.1.3 Government's online service*	39.3	107	
3.2 General infrastructure	**30**	**82**	
3.2.1 Electricity output, GWh/mn pop.	945.6	100	
3.2.2 Logistics performance*	n/a	n/a	
3.2.3 Gross capital formation, % GDP	30.1	25	●
3.3 Ecological sustainability	**26.6**	**49**	◆
3.3.1 GDP/unit of energy use	4.2	125	○◇
3.3.2 Low-carbon energy use, %	60.9	8	●◆
3.3.3 ISO 14001 environment/bn PPP$ GDP	0.2	123	
Market sophistication	**21.8**	**116**	
4.1 Credit	**9.3**	**116**	
4.1.1 Finance for startups and scaleups†	n/a	n/a	
4.1.2 Domestic credit to private sector, % GDP	13	126	○
4.1.3 Loans from microfinance institutions, % GDP	1.6	23	●
4.2 Investment	**3.8**	**78**	
4.2.1 Market capitalization, % GDP	15.7	68	
4.2.2 Venture capital (VC) received, deal count/bn PPP$ GDP	0.1	54	●
4.2.3 Late-stage VC deal count, % global VC	0.008	78	
4.2.4 VC investors, deal count/bn PPP$ GDP	0.04	89	
4.2.5 VC investor co-participation/bn PPP$ GDP	0.04	71	
4.3 Trade, diversification and market scale	**52.4**	**106**	
4.3.1 Applied tariff rate, weighted avg., %	6.5	109	
4.3.2 Domestic industry diversification	65.3	85	
4.3.3 Domestic market scale, bn PPP$	88.6	96	

	Score / Value	Rank	
Business sophistication	**28.5**	**66**	
5.1 Knowledge workers	**39.2**	**[56]**	
5.1.1 Knowledge-intensive employment, %	11.3	98	
5.1.2 Females employed w/advanced degrees, %	4.4	95	
5.1.3 Youth demographic dividend, %	61.7	11	●◆
5.1.4 GERD performed by business, % GDP	n/a	n/a	
5.1.5 GERD financed by business, %	n/a	n/a	
5.2 Innovation linkages	**30**	**53**	◆
5.2.1 Public research–industry co-publications, %	2.3	36	●◆
5.2.2 University–industry R&D collaboration†	42.9	47	●
5.2.3 University industry & international engagement, top 5*	16.6	75	
5.2.4 State of cluster development†	67	37	●◆
5.2.5 Patent families/bn PPP$ GDP	0	100	○◇
5.3 Knowledge absorption	**16.2**	**131**	
5.3.1 Intellectual property payments, % total trade	0.2	96	
5.3.2 High-tech imports, % total trade	5.2	118	
5.3.3 ICT services imports, % total trade	0.5	120	
5.3.4 FDI net inflows, % GDP	0.6	115	
5.3.5 Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs	**8.6**	**125**	
6.1 Knowledge creation	**5.5**	**111**	
6.1.1 Patents by origin/bn PPP$ GDP	0.06	122	
6.1.2 PCT patents by inventor origin/bn PPP$ GDP	0.01	95	
6.1.3 Utility models by origin/bn PPP$ GDP	-	-	
6.1.4 Scientific and technical articles/bn PPP$ GDP	7.2	88	
6.1.5 Citable documents H-index	5.9	95	
6.2 Knowledge impact	**13.5**	**127**	
6.2.1 Labor productivity growth, %	-0.2	103	
6.2.2 Unicorn valuation, % GDP	0	53	○◇
6.2.3 Software spending, % GDP	0.03	121	◇
6.2.4 High-tech manufacturing, %	10.1	87	
6.3 Knowledge diffusion	**6.9**	**127**	
6.3.1 Intellectual property receipts, % total trade	0	127	○◇
6.3.2 Production and export complexity	30.7	108	
6.3.3 High-tech exports, % total trade	0.2	117	
6.3.4 ICT services exports, % total trade	0.2	123	
6.3.5 ISO 9001 quality/bn PPP$ GDP	0.4	130	○
Creative outputs	**7.2**	**123**	
7.1 Intangible assets	**14**	**88**	
7.1.1 Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2 Trademarks by origin/bn PPP$ GDP	15.9	98	
7.1.3 Global brand value, top 5,000, % GDP	0	81	○◇
7.1.4 Industrial designs by origin/bn PPP$ GDP	2	38	●◆
7.2 Creative goods and services	**0.6**	**[131]**	
7.2.1 Cultural and creative services exports, % total trade	n/a	n/a	
7.2.2 National feature films/mn pop. 15–69	n/a	n/a	
7.2.3 Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4 Creative goods exports, % total trade	0.04	114	
7.3 Online creativity	**0.3**	**136**	◇
7.3.1 Top-level domains (TLDs)/th pop. 15–69	0.1	131	○
7.3.2 GitHub commits/mn pop. 15–69	0.5	123	
7.3.3 Mobile app creation/bn PPP$ GDP	n/a	n/a	

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 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.

Global Innovation Index 2025



Data Availability

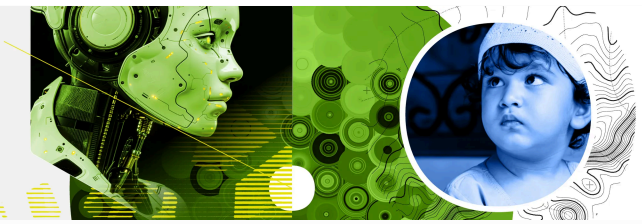
The following tables list indicators that are either missing or outdated for Zambia.

Zambia has missing data for twenty indicators and outdated data for six indicators.

Missing data for Zambia

Code	Indicator name	Economy year	Model year*	Source
1.3.2	Entrepreneurship policies and culture†	n/a	2024	Global Entrepreneurship Monitor
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2021	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	n/a	2023	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	n/a	2022	OECD, PISA
2.1.5	Pupil–teacher ratio, secondary	n/a	2023	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	n/a	2023	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD
2.2.3	Tertiary inbound mobility, %	n/a	2023	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	n/a	2023	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	n/a	2023	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.2	Logistics performance*	n/a	2023	World Bank, Logistics Performance Index 2023
4.1.1	Finance for startups and scaleups†	n/a	2024	Global Entrepreneurship Monitor
5.1.4	GERD performed by business, % GDP	n/a	2023	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	GERD financed by business, %	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.5	Research talent, % in businesses	n/a	2023	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
7.1.1	Intangible asset intensity, top 15, %	n/a	2024	Brand Finance
7.2.1	Cultural and creative services exports, % total trade	n/a	2023	World Trade Organization, Organisation for Economic Co-operation and Development; United Nations Conference on Trade and Development
7.2.2	National feature films/mn pop. 15–69	n/a	2023	OMDIA; United Nations, World Population Prospects

Global Innovation Index 2025



Code	Indicator name	Economy year	Model year*	Source
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2024	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund
7.3.3	Mobile app creation/bn PPP$ GDP	n/a	2024	data.ia (a Sensor Tower Company); International Monetary Fund

*Model year corresponds to the most frequent data year (the year that appears most often across all economies in the GII).

Outdated data for Zambia

Code	Indicator name	Economy year	Model year*	Source
4.1.2	Domestic credit to private sector, % GDP	2022	2023	International Monetary Fund; World Bank and OECD GDP estimates
4.1.3	Loans from microfinance institutions, % GDP	2022	2023	International Monetary Fund, Financial Access Survey (FAS)
4.3.2	Domestic industry diversification	2015	2022	United Nations Industrial Development Organization (UNIDO)
5.1.1	Knowledge-intensive employment, %	2023	2024	International Labour Organization
5.1.2	Females employed w/advanced degrees, %	2023	2024	International Labour Organization
6.2.4	High-tech manufacturing, %	2015	2022	United Nations Industrial Development Organization (UNIDO)

*Model year corresponds to the most frequent data year (the year that appears most often across all economies in the GII).

Global Innovation Index 2025

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 140 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.