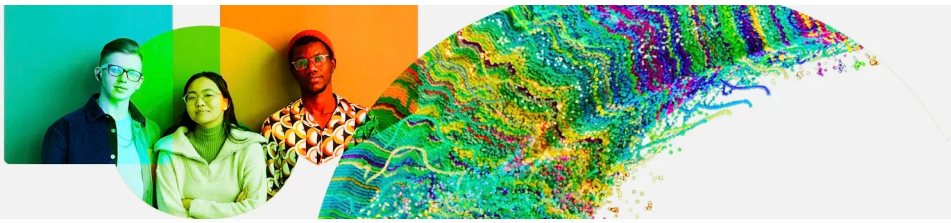
Global Innovation Index 2024



Burundi ranking in the Global Innovation Index 2024

Burundi ranks 127th 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.

Burundi ranks 5th among the 10 low-income group economies.

Burundi ranks 21st among the 27 economies in Sub-Saharan Africa.

Burundi GII Ranking (2020-2024)

The table shows the rankings of Burundi 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 Burundi in the GII 2024 is between ranks 124 and 131.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	n/a	n/a	n/a
2021	n/a	n/a	n/a
2022	130th	127th	130th
2023	130th	126th	130th
2024	127th	124th	128th

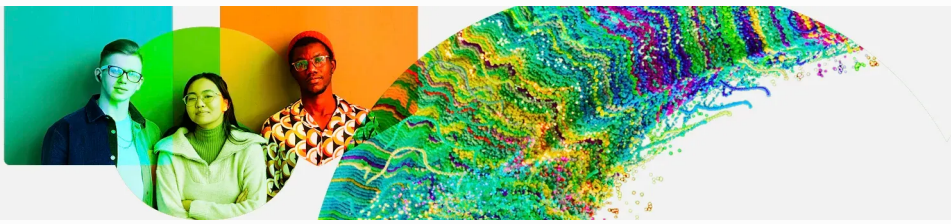
Burundi performs worse in innovation outputs than innovation inputs in 2024.

This year **Burundi ranks 124th in innovation inputs.** This position is higher than last year.

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

Burundi 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 Burundi, how rapidly is technology being embraced and what are the resulting societal impacts.

For Burundi, 1 indicator has improved in the short-term and 2 indicators have worsened.

Science and innovation investment

Scientific publications	R&D investments	Venture capital		International patent filings
		Deal numbers	Deal values	
▼ -19.3% 2022 - 2023	n/a	n/a	n/a	n/a
▲ 14.7% 2013 - 2023	▲ 5.7% 2008 - 2018	n/a	n/a	▼ -100% 2013 - 2023

Technology adoption

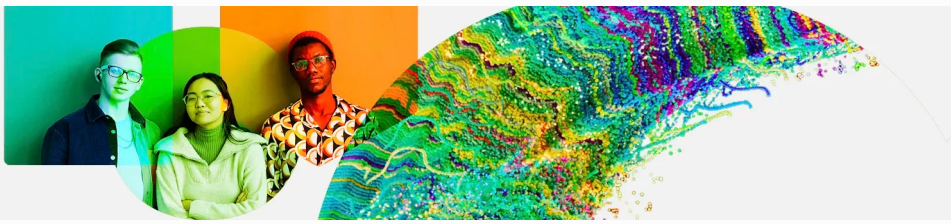
Safe sanitation	Connectivity		Robots	Electric vehicles
	Fixed broadband	5G		
n/a	▼ -1.3% 2021 - 2022	n/a	n/a	n/a
n/a	▲ 15.8% 2012 - 2022		n/a	n/a
n/a	0.03 per 100 inhabitants in 2022	n/a		n/a

Socioeconomic impact

Labor productivity	Life expectancy	Temperature change
n/a	▲ 0.5% 2021 - 2022	n/a
n/a	▲ 0.6% 2012 - 2022	n/a
	62 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.

Global Innovation Index 2024



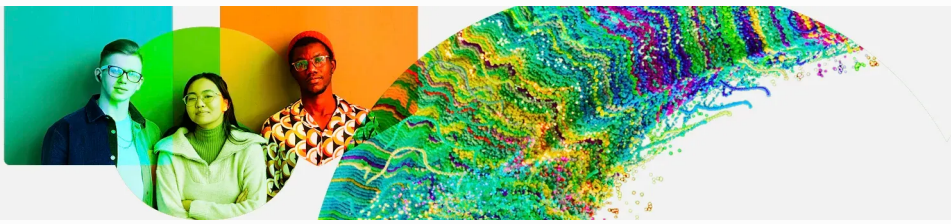
Expected vs. observed innovation performance

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, Burundi is performing above expectations for its level of development.

> Innovation overperformers relative to their economic development

Global Innovation Index 2024



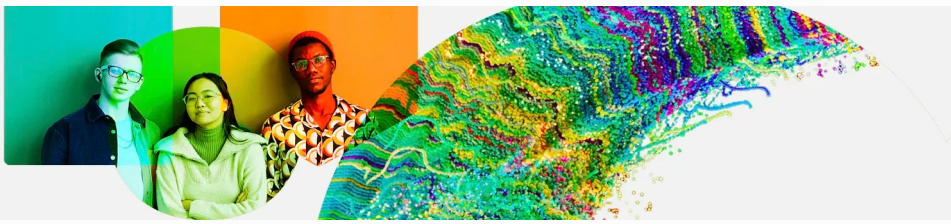
Effectively translating innovation investments into innovation outputs

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.

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

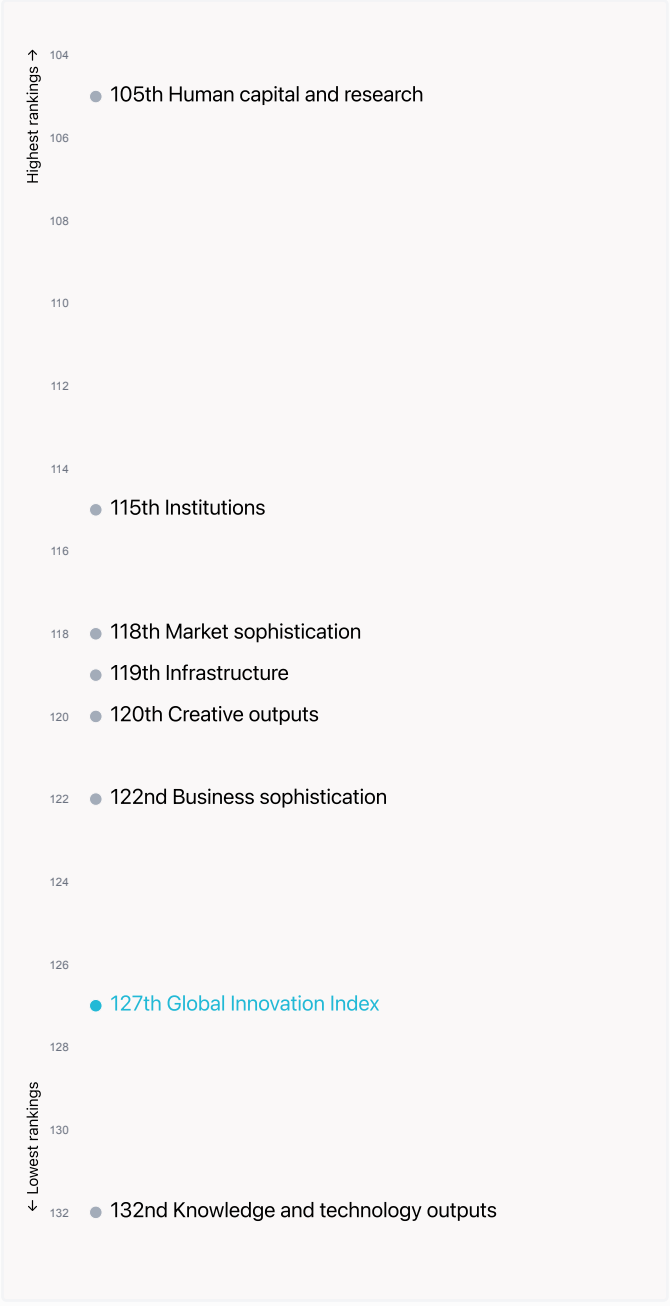
> Relationship between innovation inputs and outputs

Global Innovation Index 2024



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



Highest rankings

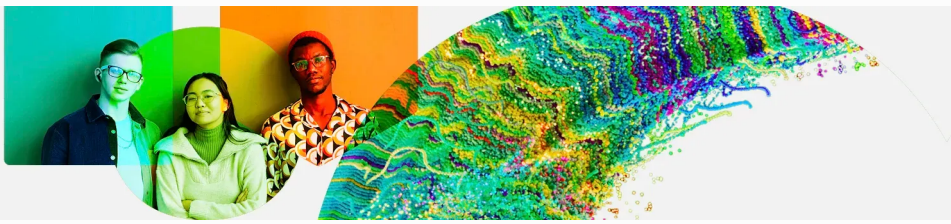
Burundi ranks highest in Human capital and research (105th), Institutions (115th), Market sophistication (118th) and Infrastructure (119th).

Lowest rankings

Burundi ranks lowest in Knowledge and technology outputs (132nd), Business sophistication (122nd) and Creative outputs (120th).

The full WIPO Intellectual Property Statistics profile for Burundi can be found on this link.

Global Innovation Index 2024



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

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

Low-Income economies

Burundi performs above the low-income group average in Human capital and research, Infrastructure, Business sophistication.

Sub-Saharan Africa

Burundi performs above the regional average in Human capital and research.

Institutions

- Top 10 | Score: 80.81
- Sub-Saharan Africa | Score: 37.83
- Low income | Score: 31.64
- Burundi | Score: 27.13

Human capital and research

- Top 10 | Score: 61.30
- Burundi | Score: 18.71
- Sub-Saharan Africa | Score: 17.86
- Low income | Score: 15.48

Infrastructure

- Top 10 | Score: 58.57
- Sub-Saharan Africa | Score: 25.40
- Burundi | Score: 23.62
- Low income | Score: 20.65

Market sophistication

- Top 10 | Score: 62.12
- Sub-Saharan Africa | Score: 18.79
- Low income | Score: 15.81
- Burundi | Score: 15.32

Business sophistication

- Top 10 | Score: 63.64
- Sub-Saharan Africa | Score: 18.73
- Burundi | Score: 15.20
- Low income | Score: 15.07

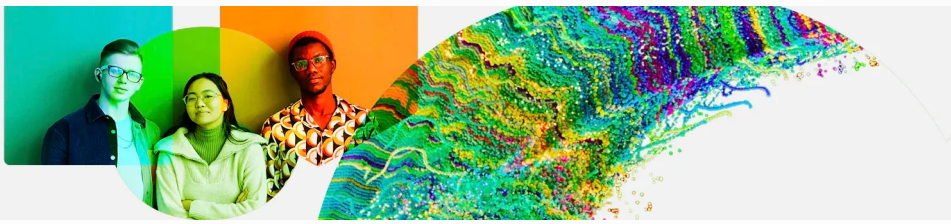
Knowledge and technology outputs

- Top 10 | Score: 57.29
- Sub-Saharan Africa | Score: 10.99
- Low income | Score: 10.02
- Burundi | Score: 7.05

Creative outputs

- Top 10 | Score: 56.54
- Sub-Saharan Africa | Score: 10.35
- Low income | Score: 7.56
- Burundi | Score: 5.78

Global Innovation Index 2024



Innovation strengths and weaknesses in Burundi

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

Burundi's main innovation strengths are **Utility models by origin/bn PPP$ GDP** (rank 36), **Low-carbon energy use, %** (rank 38) and **Expenditure on education, % GDP** (rank 45).

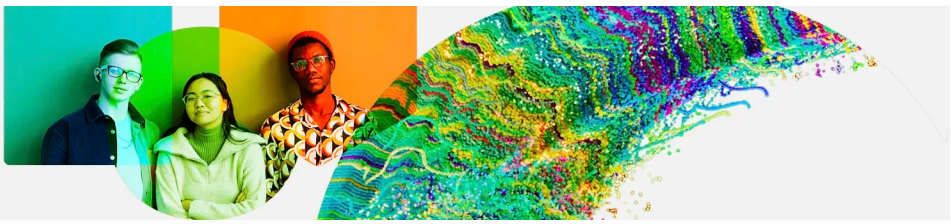
Strengths

Rank	Code	Indicator name
36	6.1.3	Utility models by origin/bn PPP$ GDP
38	3.3.2	Low-carbon energy use, %
45	2.1.1	Expenditure on education, % GDP
52	2.2.3	Tertiary inbound mobility, %
55	5.3.3	ICT services imports, % total trade
62	3.2.3	Gross capital formation, % GDP
66	7.2.1	Cultural and creative services exports, % total trade
68	1.3.1	Policy stability for doing business†
76	5.3.2	High-tech imports, % total trade

Weaknesses

Rank	Code	Indicator name
131	4.3.3	Domestic market scale, bn PPP$
131	1.1.2	Government effectiveness*
131	3.1.1	ICT access*
130	6.1.5	Citable documents H-index
127	5.1.1	Knowledge-intensive employment, %
102	5.2.5	Patent families/bn PPP$ GDP
75	7.1.3	Global brand value, top 5,000, % GDP
75	2.3.4	QS university ranking, top 3*
49	6.2.2	Unicorn valuation, % GDP
41	2.3.3	Global corporate R&D investors, top 3, mn USD

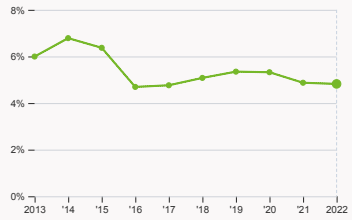
Global Innovation Index 2024



Burundi's innovation system

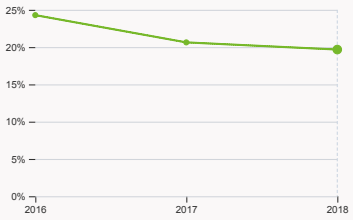
As far as practicable, the plots below present unscaled indicator data.

Innovation inputs in Burundi



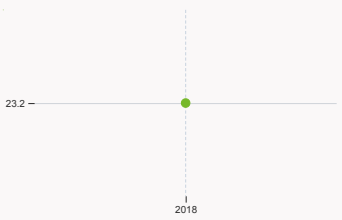
2.1.1 Expenditure on education

was equal to 4.82 % GDP in 2022, down by 0.05 percentage points from the year prior – and equivalent to an indicator rank of 45.



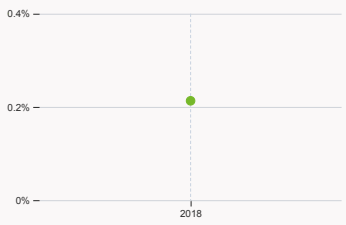
2.2.2 Graduates in science and engineering

was equal to 19.67 % of total graduates in 2018, down by 0.96 percentage points from the year prior – and equivalent to an indicator rank of 77.



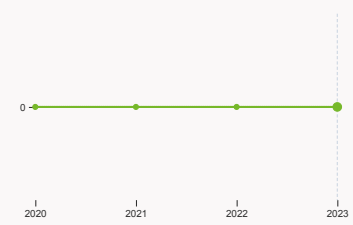
2.3.1 Researchers

was equal to 23.2 FTE per million population in 2018 – and equivalent to an indicator rank of 105.



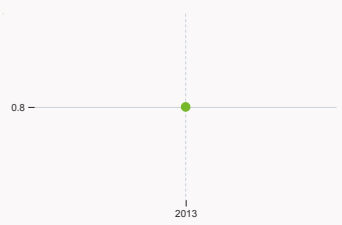
2.3.2 Gross expenditure on R&D

was equal to 0.21 % GDP in 2018 – and equivalent to an indicator rank of 84.



2.3.4 QS university ranking

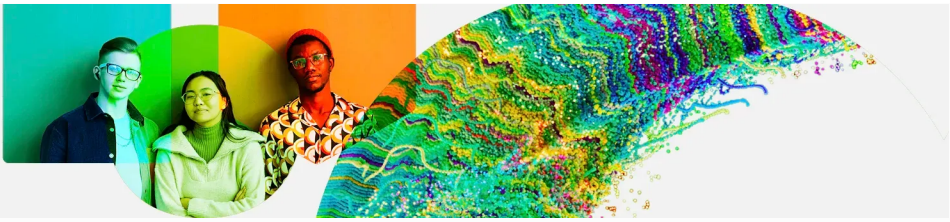
was equal to an average score of 0 for the top three universities in 2023 with no change from the year prior – and equivalent to an indicator rank of 75.

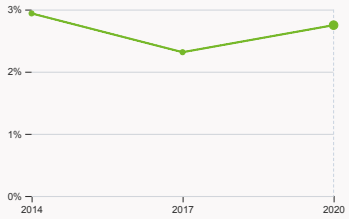


4.3.2 Domestic industry diversification

was equal to an index score of 0.8 in 2013 – and equivalent to an indicator rank of NA.

Global Innovation Index 2024

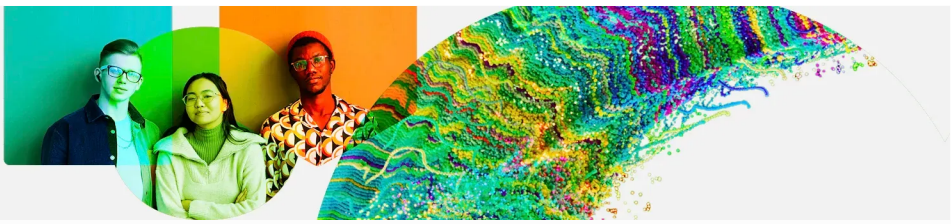




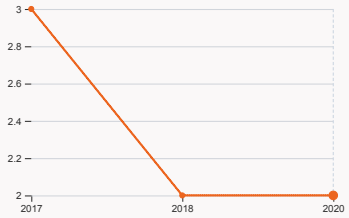
5.1.1 **Knowledge-intensive employment**

was equal to 2.75 % in 2020, up by 0.44 percentage points from the year prior – and equivalent to an indicator rank of 127.

Global Innovation Index 2024

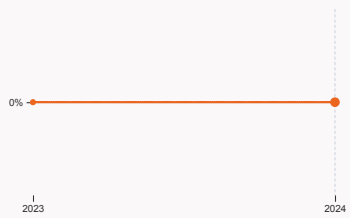


Innovation outputs in Burundi



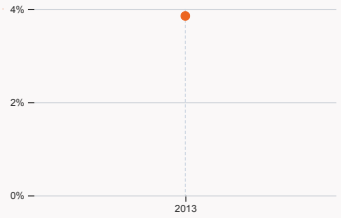
6.1.1 Patents by origin

was equal to 2 patents in 2020 with no change from the year prior – and equivalent to an indicator rank of 95.



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.

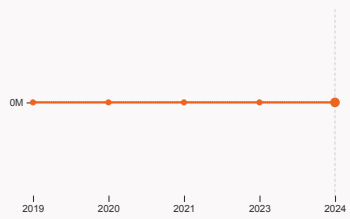


6.2.4 High-tech manufacturing

was equal to 3.85 % of total manufacturing output in 2013 – and equivalent to an indicator rank of NA.

6.3.3 High-tech exports

was equal to 348.99 thousands USD in 2022, down by 55.95% from the year prior – and equivalent to an indicator rank of 128.



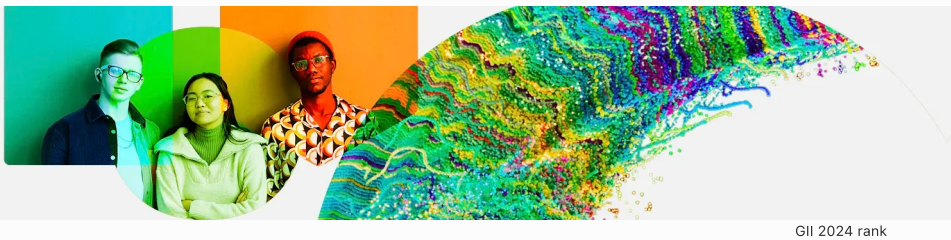
7.1.3 Global brand value

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.

7.3.3 Mobile app creation

was equal to 40.93 thousand global downloads of mobile apps in 2023, down by 14.68% from the year prior – and equivalent to an indicator rank of 111.

Global Innovation Index 2024



Burundi

GII 2024 rank **127**

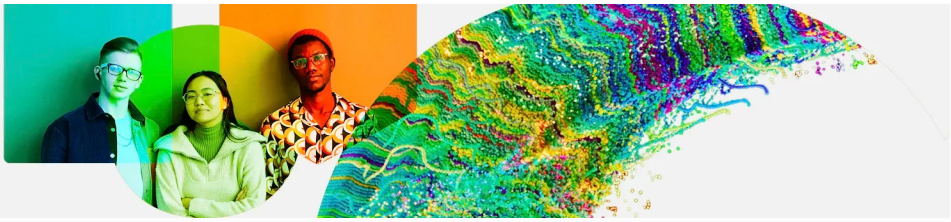
Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
128	124	Low	SSA	13.7	11.6	890.2

	Score / Value	Rank	
Institutions	**27.1**	**115**	
1.1 Institutional environment	**21.2**	**126**	
1.1.1 Operational stability for businesses*	31.3	118	
1.1.2 Government effectiveness*	11	131	○ ◇
1.2 Regulatory environment	**12.1**	**125**	◇
1.2.1 Regulatory quality*	16.9	120	◇
1.2.2 Rule of law*	7.2	130	◇
1.3 Business environment	**48.1**	**[62]**	
1.3.1 Policy stability for doing business†	48.1	68	● ◆
1.3.2 Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research	**18.7**	**105**	
2.1 Education	**39.2**	**[101]**	
2.1.1 Expenditure on education, % GDP	4.8	45	● ◆
2.1.2 Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3 School life expectancy, years	10.2	103	
2.1.4 PISA scales in reading, maths and science	n/a	n/a	
2.1.5 Pupil–teacher ratio, secondary	26.4	112	
2.2 Tertiary education	**16**	**106**	
2.2.1 Tertiary enrolment, % gross	6.5	122	
2.2.2 Graduates in science and engineering, %	19.7	77	
2.2.3 Tertiary inbound mobility, %	4.8	52	● ◆
2.3 Research and development (R&D)	**0.9**	**101**	
2.3.1 Researchers, FTE/mn pop.	23.2	105	◇
2.3.2 Gross expenditure on R&D, % GDP	0.2	84	
2.3.3 Global corporate R&D investors, top 3, mn USD	0	41	○ ◇
2.3.4 QS university ranking, top 3*	0	75	○ ◇
Infrastructure	**23.6**	**119**	
3.1 Information and communication technologies (ICTs)	**20.5**	**129**	
3.1.1 ICT access*	1.2	131	○
3.1.2 ICT use*	21.5	119	
3.1.3 Government's online service*	26.8	127	
3.1.4 E-participation*	32.6	101	
3.2 General infrastructure	**30.9**	**[68]**	
3.2.1 Electricity output, GWh/mn pop.	n/a	n/a	
3.2.2 Logistics performance*	n/a	n/a	
3.2.3 Gross capital formation, % GDP	23.9	62	● ◆
3.3 Ecological sustainability	**19.4**	**69**	● ◆
3.3.1 GDP/unit of energy use	n/a	n/a	
3.3.2 Low-carbon energy use, %	29.2	38	● ◆
3.3.3 ISO 14001 environment/bn PPP$ GDP	0.6	92	
Market sophistication	**15.3**	**118**	
4.1 Credit	**8.5**	**116**	
4.1.1 Finance for startups and scaleups†	n/a	n/a	
4.1.2 Domestic credit to private sector, % GDP	42.2	77	◆
4.1.3 Loans from microfinance institutions, % GDP	0.3	47	
4.2 Investment	**n/a**	**[n/a]**	
4.2.1 Market capitalization, % GDP	n/a	n/a	
4.2.2 Venture capital (VC) investors, deals/bn PPP$ GDP	n/a	n/a	
4.2.3 VC recipients, deals/bn PPP$ GDP	n/a	n/a	
4.2.4 VC received, value, % GDP	n/a	n/a	
4.3 Trade, diversification and market scale	**22.1**	**123**	
4.3.1 Applied tariff rate, weighted avg., %	7.1	112	
4.3.2 Domestic industry diversification	n/a	n/a	
4.3.3 Domestic market scale, bn PPP$	11.6	131	○

	Score / Value	Rank	
Business sophistication	**15.2**	**122**	
5.1 Knowledge workers	**10.7**	**117**	
5.1.1 Knowledge-intensive employment, %	2.7	127	○ ◇
5.1.2 Firms offering formal training, %	32	52	
5.1.3 GERD performed by business, % GDP	0.02	82	
5.1.4 GERD financed by business, %	8.8	78	◆
5.1.5 Females employed w/advanced degrees, %	0.7	122	
5.2 Innovation linkages	**17.8**	**92**	
5.2.1 Public Research-Industry co-publications, %	1.2	81	
5.2.2 University-industry R&D collaboration†	30.4	97	
5.2.3 State of cluster development†	29.4	108	
5.2.4 Joint venture/strategic alliance deals/bn PPP$ GDP	n/a	n/a	
5.2.5 Patent families/bn PPP$ GDP	0	102	○ ◇
5.3 Knowledge absorption	**17.1**	**108**	
5.3.1 Intellectual property payments, % total trade	0.005	117	
5.3.2 High-tech imports, % total trade	7.5	76	● ◆
5.3.3 ICT services imports, % total trade	1.5	55	● ◆
5.3.4 FDI net inflows, % GDP	0.4	113	
5.3.5 Research talent, % in businesses	1.5	81	
Knowledge and technology outputs	**7.1**	**132**	○ ◇
6.1 Knowledge creation	**6.9**	**101**	
6.1.1 Patents by origin/bn PPP$ GDP	0.2	95	
6.1.2 PCT patents by origin/bn PPP$ GDP	n/a	n/a	
6.1.3 Utility models by origin/bn PPP$ GDP	0.3	36	● ◆
6.1.4 Scientific and technical articles/bn PPP$ GDP	6.1	94	
6.1.5 Citable documents H-index	0.9	130	○ ◇
6.2 Knowledge impact	**12.5**	**126**	◇
6.2.1 Labor productivity growth, %	-1.6	125	◇
6.2.2 Unicorn valuation, % GDP	0	49	○ ◇
6.2.3 Software spending, % GDP	0.07	98	◆
6.2.4 High-tech manufacturing, %	n/a	n/a	
6.3 Knowledge diffusion	**1.8**	**130**	◇
6.3.1 Intellectual property receipts, % total trade	0.02	92	
6.3.2 Production and export complexity	n/a	n/a	
6.3.3 High-tech exports, % total trade	0.04	128	◇
6.3.4 ICT services exports, % total trade	0.3	114	
6.3.5 ISO 9001 quality/bn PPP$ GDP	1.6	100	
Creative outputs	**5.8**	**120**	
7.1 Intangible assets	**1.6**	**124**	
7.1.1 Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2 Trademarks by origin/bn PPP$ GDP	4.6	121	
7.1.3 Global brand value, top 5,000, % GDP	0	75	○ ◇
7.1.4 Industrial designs by origin/bn PPP$ GDP	0.2	98	
7.2 Creative goods and services	**4.7**	**[98]**	
7.2.1 Cultural and creative services exports, % total trade	0.3	66	● ◆
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	0.02	119	
7.3 Online creativity	**15.2**	**114**	
7.3.1 Top-level domains (TLDs)/th pop. 15–69	0.07	129	
7.3.2 GitHub commits/mn pop. 15–69	0.2	128	
7.3.3 Mobile app creation/bn PPP$ GDP	45.3	111	

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 2024



Data availability

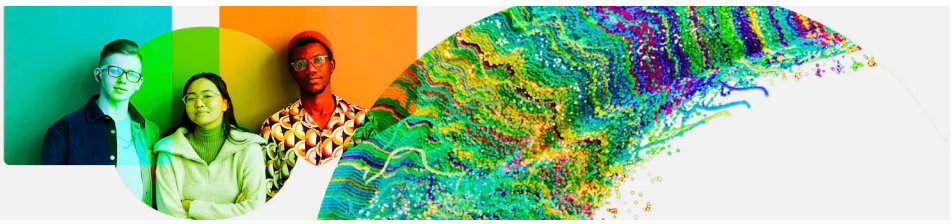
The following tables list indicators that are either missing or outdated for Burundi.

Burundi has missing data for nineteen indicators and outdated data for nineteen indicators.

Missing data for Burundi

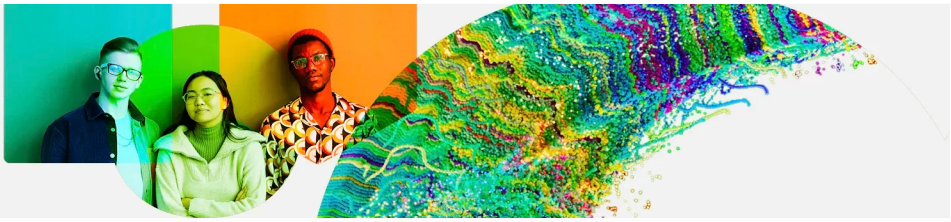
Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture†	n/a	2023	Global Entrepreneurship Monitor
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2020	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	n/a	2022	OECD, PISA
3.2.1	Electricity output, GWh/mn pop.	n/a	2022	International Energy Agency
3.2.2	Logistics performance*	n/a	2023	World Bank, Logistics Performance Index 2023 (https://lpi.worldbank.org/); and World Bank 2023, Connecting to Compete 2023: Trade Logistics in the Global Economy The Logistics Performance Index and its Indicators.
3.3.1	GDP/unit of energy use	n/a	2021	International Energy Agency
4.1.1	Finance for startups and scaleups†	n/a	2023	Global Entrepreneurship Monitor
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
4.3.2	Domestic industry diversification	n/a	2021	United Nations Industrial Development Organization (UNIDO), Industrial Statistics Database (INDSTAT) Rev.3 and 4
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	n/a	2023	LSEG Data & Analytics; International Monetary Fund
6.1.2	PCT patents by origin/bn PPP$ GDP	n/a	2023	World Intellectual Property Organization; International Monetary Fund
6.2.4	High-tech manufacturing, %	n/a	2021	United Nations Industrial Development Organization

Global Innovation Index 2024



Code	Indicator name	Economy Year	Model Year	Source
6.3.2	Production and export complexity	n/a	2021	Harvard University, Growth Lab
7.1.1	Intangible asset intensity, top 15, %	n/a	2023	Brand Finance
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

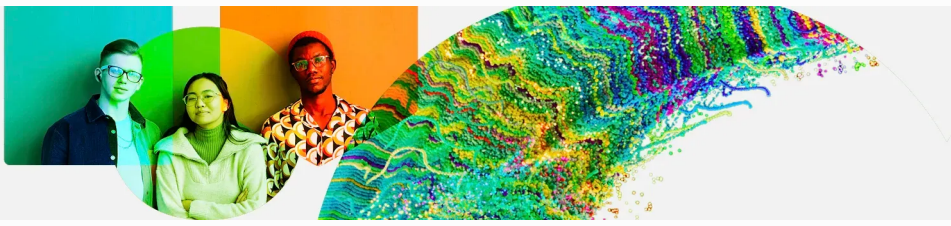
Global Innovation Index 2024



Outdated data for Burundi

Code	Indicator name	Economy Year	Model Year	Source
1.3.1	Policy stability for doing business[+]	2020	2023	World Economic Forum, Executive Opinion Survey (EOS)
2.1.3	School life expectancy, years	2018	2022	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2018	2021	UNESCO Institute for Statistics; Eurostat; OECD
2.2.3	Tertiary inbound mobility, %	2018	2022	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2018	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	2018	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
4.1.3	Loans from microfinance institutions, % GDP	2016	2022	International Monetary Fund, Financial Access Survey (FAS)
5.1.1	Knowledge-intensive employment, %	2020	2022	International Labour Organization
5.1.2	Firms offering formal training, %	2014	2023	World Bank Enterprise Surveys
5.1.3	GERD performed by business, % GDP	2018	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	2018	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	Females employed w/advanced degrees, %	2020	2023	International Labour Organization
5.2.2	University-industry R&D collaboration[+]	2020	2023	World Economic Forum, Executive Opinion Survey (EOS)
5.2.3	State of cluster development[+]	2020	2023	World Economic Forum, Executive Opinion Survey (EOS)
5.3.5	Research talent, % in businesses	2018	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.1.1	Patents by origin/bn PPP$ GDP	2020	2022	World Intellectual Property Organization; International Monetary Fund
6.1.3	Utility models by origin/bn PPP$ GDP	2020	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
7.1.4	Industrial designs by origin/bn PPP$ GDP	2017	2022	World Intellectual Property Organization; International Monetary Fund

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.

Source: Global Innovation Index Database, WIPO, 2024.

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.