

# Global Innovation Index 2022

## CÔTE D'IVOIRE

**109th**

Côte d'Ivoire ranks 109th 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 Côte d'Ivoire 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 Côte d'Ivoire in the GII 2022 is between ranks 107 and 121.

### Rankings for Côte d'Ivoire (2020–2022)

GIIYR	GII	Innovation inputs	Innovation outputs
2020	112	105	115
2021	114	107	121
2022	109	109	106

- Côte d'Ivoire performs better in innovation outputs than innovation inputs in 2022.
- This year Côte d'Ivoire ranks 109th in innovation inputs, lower than both 2021 and 2020.
- As for innovation outputs, Côte d'Ivoire ranks 106th. This position is higher than both 2021 and 2020.

**25th**

Côte d'Ivoire ranks 25th among the 36 lower-middle-income group economies.

**12th**

Côte d'Ivoire ranks 12th among the 27 economies in Sub-Saharan Africa.

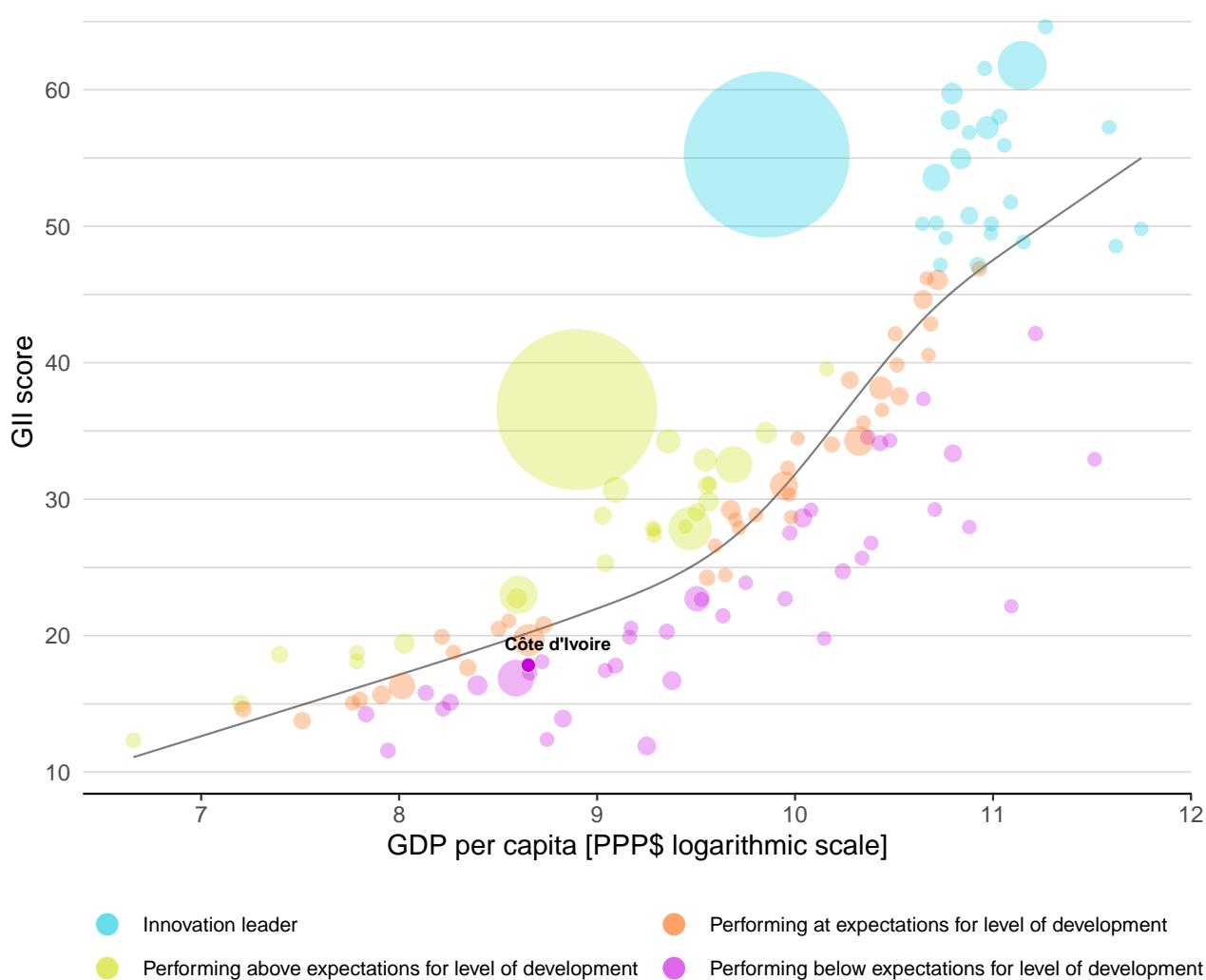


## EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

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, Côte d'Ivoire's performance is below expectations for its level of development.

### The positive relationship between innovation and development



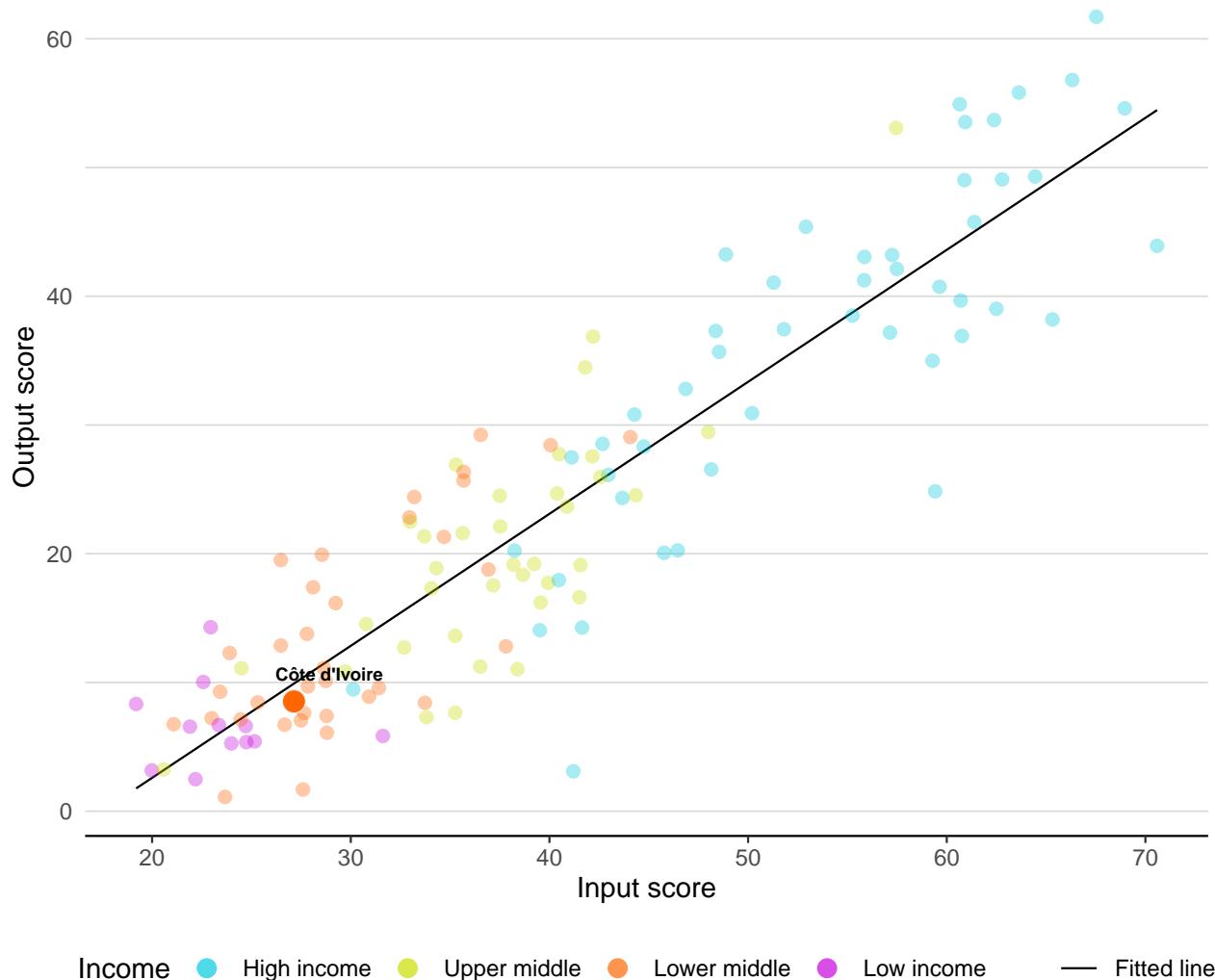


## EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

Côte d'Ivoire produces less innovation outputs relative to its level of innovation investments.

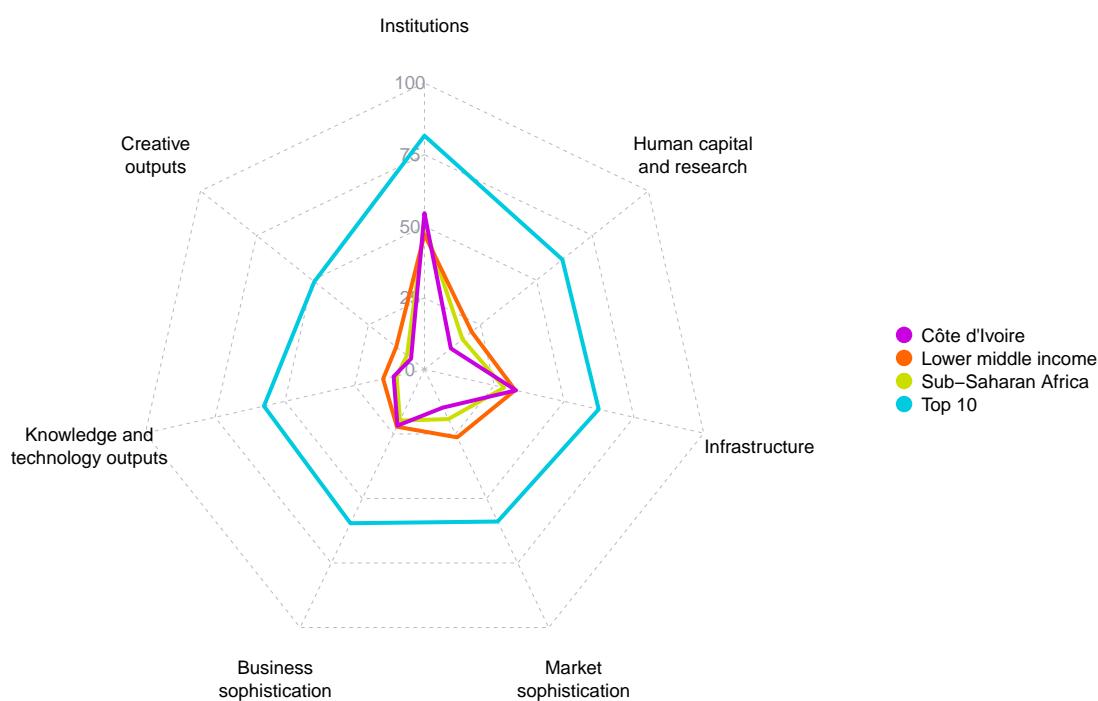
**Innovation input to output performance**





## BENCHMARKING AGAINST OTHER LOWER MIDDLE-INCOME GROUP ECONOMIES AND SUB-SAHARAN AFRICA

### The seven GII pillar scores for Côte d'Ivoire



### Lower-middle-income group economies

Côte d'Ivoire performs above the lower-middle-income group average in two pillars, namely: Institutions; and, Infrastructure.

### Sub-Saharan Africa

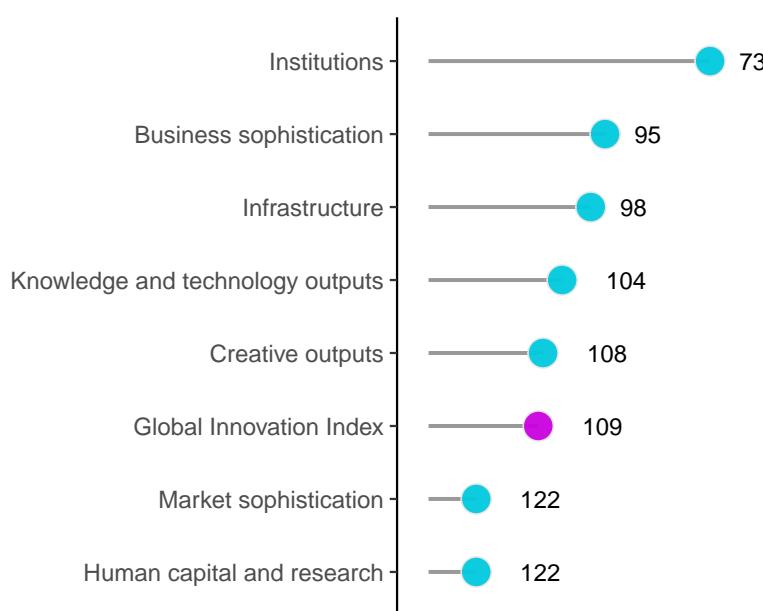
Côte d'Ivoire performs above the regional average in four pillars, namely: Institutions; Infrastructure; Business sophistication; and, Knowledge and technology outputs.



## OVERVIEW OF RANKINGS IN THE SEVEN GII 2022 AREAS

Côte d'Ivoire performs best in Institutions and its weakest performance is in Human capital and research and Market sophistication.

### The seven GII pillar ranks for Côte d'Ivoire



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

**The full WIPO Intellectual Property Statistics profile for Côte d'Ivoire can be found at:**

[https://www.wipo.int/ipstats/en/statistics/country\\_profile/profile.jsp?code=CI](https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=CI).



## INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the indicator strengths and weaknesses of Côte d'Ivoire in the GII 2022.

### Strengths and weaknesses for Côte d'Ivoire

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
1.2.3	Cost of redundancy dismissal	47	2.3.2	Gross expenditure on R&D, % GDP	108
1.3.1	Policies for doing business	67	2.3.3	Global corporate R&D investors, top 3, mn USD	38
3.2.2	Logistics performance	49	2.3.4	QS university ranking, top 3	72
3.3.1	GDP/unit of energy use	36	5.1.1	Knowledge-intensive employment, %	115
4.1.3	Loans from microfinance institutions, % GDP	25	5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	120
4.2.2	Venture capital investors, deals/bn PPP\$ GDP	44	6.1.2	PCT patents by origin/bn PPP\$ GDP	101
4.2.3	Venture capital recipients, deals/bn PPP\$ GDP	39	6.2.3	Software spending, % GDP	117
5.1.2	Firms offering formal training, %	45	6.3.2	Production and export complexity	112
5.3.3	ICT services imports, % total trade	26	7.1.1	Intangible asset intensity, top 15, %	73
6.2.1	Labor productivity growth, %	17	7.3.4	Mobile app creation/bn PPP\$ GDP	109

## Côte d'Ivoire

109

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$		
106	109	Lower middle	SSA	27.1	158.3	5,724		
				Score/ Value	Rank	Score/ Value		
				Rank		Rank		
<b>Institutions</b>		54.6	73	◆	<b>Business sophistication</b>		21.8	95
1.1 Political environment		53.3	86		5.1 Knowledge workers		17.2	[107]
1.1.1 Political and operational stability*		67.3	71		5.1.1 Knowledge-intensive employment, %	⊖	7.1	115 ○
1.1.2 Government effectiveness*		39.4	97		5.1.2 Firms offering formal training, %	⊖	35.5	45 ●
1.2 Regulatory environment		62.1	73	◆	5.1.3 GERD performed by business, % GDP		n/a	n/a
1.2.1 Regulatory quality*		38.0	90		5.1.4 GERD financed by business, %		n/a	n/a
1.2.2 Rule of law*		30.5	99		5.1.5 Females employed w/advanced degrees, %	⊖	1.2	113
1.2.3 Cost of redundancy dismissal		13.1	47	●	5.2 Innovation linkages		21.2	81
1.3 Business environment		48.3	[63]		5.2.1 University-industry R&D collaboration <sup>†</sup>		38.5	88
1.3.1 Policies for doing business <sup>†</sup>		48.3	67	●	5.2.2 State of cluster development and depth <sup>†</sup>		44.1	83
1.3.2 Entrepreneurship policies and culture*		n/a	n/a		5.2.3 GERD financed by abroad, % GDP		n/a	n/a
<b>Human capital and research</b>		11.8	122	○ ◇	5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP		0.0	120 ○
2.1 Education		29.9	121	○	5.2.5 Patent families/bn PPP\$ GDP		0.0	94
2.1.1 Expenditure on education, % GDP		3.4	96		5.3 Knowledge absorption		26.9	82
2.1.2 Government funding/pupil, secondary, % GDP/cap		13.6	85		5.3.1 Intellectual property payments, % total trade	⊖	0.1	106
2.1.3 School life expectancy, years		10.7	98		5.3.2 High-tech imports, % total trade	⊖	5.9	110
2.1.4 PISA scales in reading, maths and science		n/a	n/a		5.3.3 ICT services imports, % total trade	⊖	2.4	26 ● ◆
2.1.5 Pupil-teacher ratio, secondary		26.4	110	◇	5.3.4 FDI net inflows, % GDP		1.1	98
2.2 Tertiary education		5.2	120	○ ◇	5.3.5 Research talent, % in businesses		n/a	n/a
2.2.1 Tertiary enrolment, % gross		9.9	114		<b>Knowledge and technology outputs</b>		11.0	104
2.2.2 Graduates in science and engineering, %		n/a	n/a		6.1 Knowledge creation		2.1	123 ○
2.2.3 Tertiary inbound mobility, %		2.4	73		6.1.1 Patents by origin/bn PPP\$ GDP		0.1	111
2.3 Research and development (R&D)		0.2	112		6.1.2 PCT patents by origin/bn PPP\$ GDP		0.0	101 ○ ◇
2.3.1 Researchers, FTE/mn pop.		n/a	n/a	⊖	6.1.3 Utility models by origin/bn PPP\$ GDP	⊖	0.0	74
2.3.2 Gross expenditure on R&D, % GDP		0.1	108	○	6.1.4 Scientific and technical articles/bn PPP\$ GDP		3.4	118
2.3.3 Global corporate R&D investors, top 3, mn USD		0.0	38	○ ◇	6.1.5 Citable documents H-index		5.1	96
2.3.4 QS university ranking, top 3*		0.0	72	○ ◇	6.2 Knowledge impact		20.4	90
<b>Infrastructure</b>		32.8	98		6.2.1 Labor productivity growth, %		3.2	17 ●
3.1 Information and communication technologies (ICTs)		47.9	108		6.2.2 New businesses/th pop. 15-64		0.8	87
3.1.1 ICT access*		65.2	105		6.2.3 Software spending, % GDP		0.0	117 ○ ◇
3.1.2 ICT use*		40.5	101		6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP		1.6	90
3.1.3 Government's online service*		45.3	112		6.2.5 High-tech manufacturing, %		n/a	n/a
3.1.4 E-participation*		40.5	113		6.3 Knowledge diffusion		10.7	102
3.2 General infrastructure		26.9	73		6.3.1 Intellectual property receipts, % total trade	⊖	0.0	97
3.2.1 Electricity output, GWh/mn pop.		421.2	112		6.3.2 Production and export complexity		15.5	112 ○
3.2.2 Logistics performance*		47.9	49	● ◆	6.3.3 High-tech exports, % total trade	⊖	1.1	71
3.2.3 Gross capital formation, % GDP		22.9	69		6.3.4 ICT services exports, % total trade	⊖	1.2	83
3.3 Ecological sustainability		23.7	78		<b>Creative outputs</b>		6.0	108
3.3.1 GDP/unit of energy use		13.4	36	●	7.1 Intangible assets		11.3	96
3.3.2 Environmental performance*		32.8	98		7.1.1 Intangible asset intensity, top 15, %		3.6	73 ○ ◇
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP		0.2	102		7.1.2 Trademarks by origin/bn PPP\$ GDP		8.9	113
<b>Market sophistication</b>		14.8	122	○ ◇	7.1.3 Global brand value, top 5,000, % GDP		6.6	65
4.1 Credit		11.0	109		7.1.4 Industrial designs by origin/bn PPP\$ GDP		0.7	79
4.1.1 Finance for startups and scaleups*		n/a	n/a		7.2 Creative goods and services		1.2	[121]
4.1.2 Domestic credit to private sector, % GDP		21.1	112		7.2.1 Cultural and creative services exports, % total trade		0.1	87
4.1.3 Loans from microfinance institutions, % GDP		1.1	25	●	7.2.2 National feature films/mn pop. 15-69		n/a	n/a
4.2 Investment		6.4	67		7.2.3 Entertainment and media market/th pop. 15-69		n/a	n/a
4.2.1 Market capitalization, % GDP		13.5	70		7.2.4 Printing and other media, % manufacturing		n/a	n/a
4.2.2 Venture capital investors, deals/bn PPP\$ GDP		0.1	44	● ◆	7.2.5 Creative goods exports, % total trade	⊖	0.0	114
4.2.3 Venture capital recipients, deals/bn PPP\$ GDP		0.0	39	●	7.3 Online creativity		0.2	118
4.2.4 Venture capital received, value, % GDP		0.0	89		7.3.1 Generic top-level domains (TLDs)/th pop. 15-69		0.4	110
4.3 Trade, diversification, and market scale		27.0	118		7.3.2 Country-code TLDs/th pop. 15-69		0.3	107
4.3.1 Applied tariff rate, weighted avg, %		7.6	104		7.3.3 GitHub commit pushes received/mn pop. 15-69		0.3	117
4.3.2 Domestic industry diversification		n/a	n/a		7.3.4 Mobile app creation/bn PPP\$ GDP		0.0	109 ○
4.3.3 Domestic market scale, bn PPP\$		158.3	74					

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; \* an index; <sup>†</sup> 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](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 Côte d'Ivoire.

### Missing data for Côte d'Ivoire

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
2.2.2	Graduates in science and engineering, %	n/a	2020	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	n/a	2020	UNESCO Institute for Statistics
4.1.1	Finance for startups and scaleups	n/a	2021	Global Entrepreneurship Monitor
4.3.2	Domestic industry diversification	n/a	2019	United Nations Industrial Development Organization
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
6.2.5	High-tech manufacturing, %	n/a	2019	United Nations Industrial Development Organization
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
7.2.4	Printing and other media, % manufacturing	n/a	2019	United Nations Industrial Development Organization

### Outdated data for Côte d'Ivoire

Code	Indicator name	Economy year	Model year	Source
2.3.2	Gross expenditure on R&D, % GDP	2016	2020	UNESCO Institute for Statistics
5.1.1	Knowledge-intensive employment, %	2019	2021	International Labour Organization
5.1.2	Firms offering formal training, %	2016	2019	World Bank Enterprise Surveys
5.1.5	Females employed w/advanced degrees, %	2019	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
5.3.2	High-tech imports, % total trade	2019	2020	United Nations Comtrade Database
5.3.3	ICT services imports, % total trade	2019	2020	World Trade Organization and United Nations Conference on Trade and Development



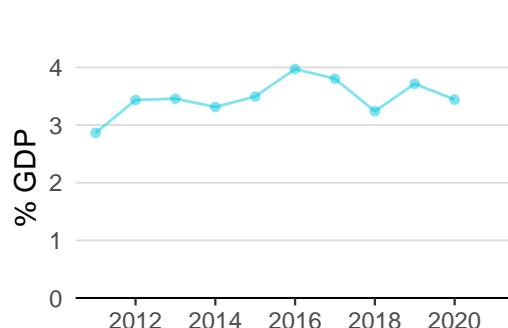
Code	Indicator name	Economy year	Model year	Source
6.1.3	Utility models by origin/bn PPP\$ GDP	2019	2020	World Intellectual Property Organization
6.3.1	Intellectual property receipts, % total trade	2019	2020	World Trade Organization and United Nations Conference on Trade and Development
6.3.3	High-tech exports, % total trade	2019	2020	United Nations Comtrade Database
6.3.4	ICT services exports, % total trade	2019	2020	World Trade Organization and United Nations Conference on Trade and Development
7.2.5	Creative goods exports, % total trade	2019	2020	United Nations Comtrade Database



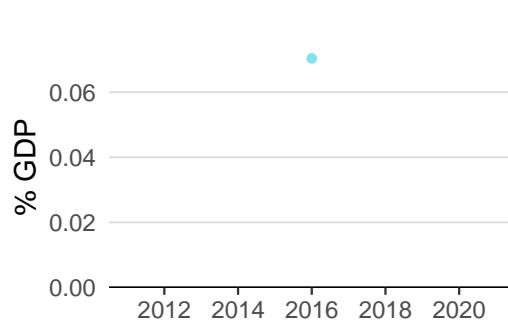
## CÔTE D'IVOIRE'S INNOVATION SYSTEM

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

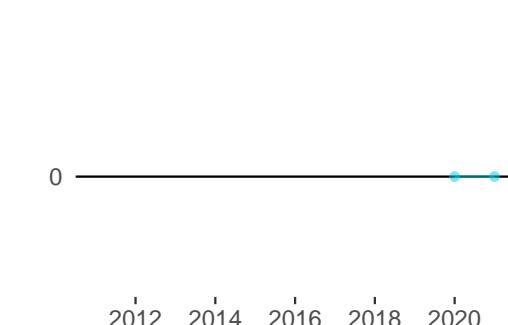
### Innovation inputs



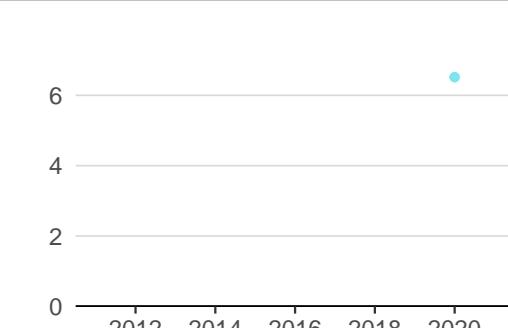
**2.1.1 Expenditure on education** was equal to 3.4% GDP in 2020—down by 7 percentage points from the year prior—and equivalent to an indicator rank of 96.



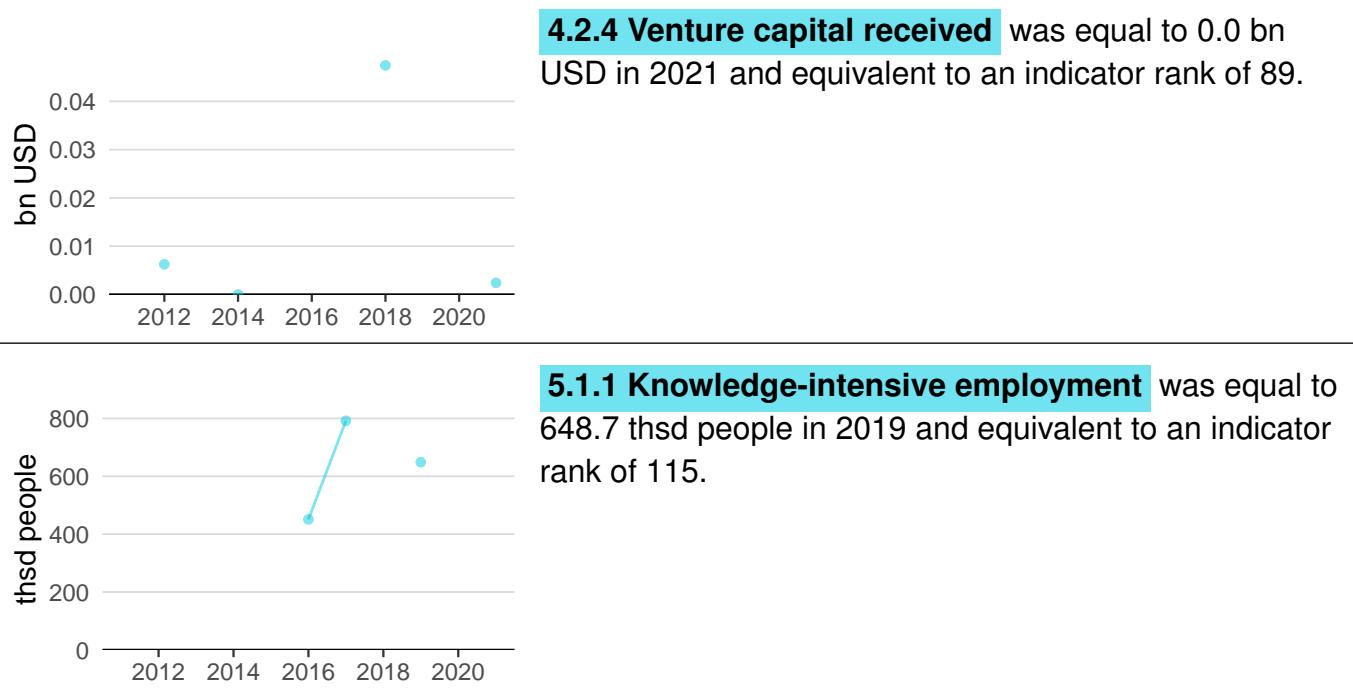
**2.3.2 Gross expenditure on R&D** was equal to 0.1% GDP in 2016 and equivalent to an indicator rank of 108.



**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.

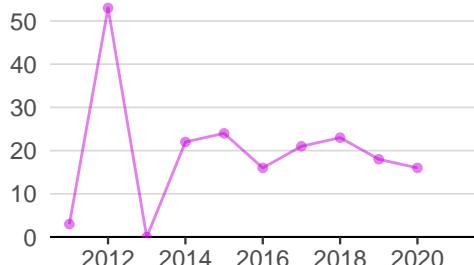


**3.1.1 ICT access** was equal to 6.5 in 2020 and equivalent to an indicator rank of 105.

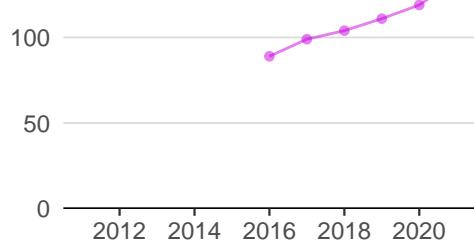




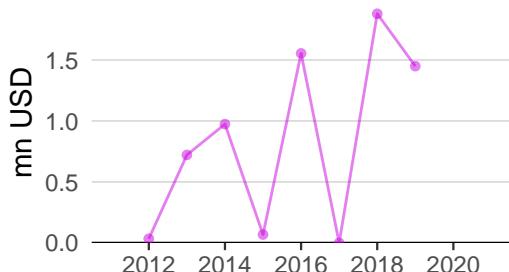
## Innovation outputs



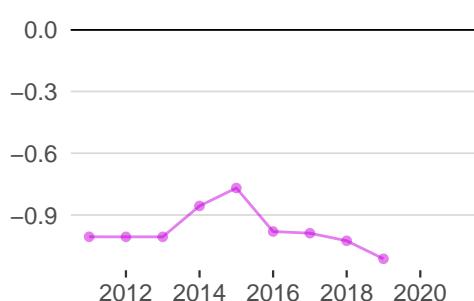
**6.1.1 Patents by origin** was equal to 16.0 in 2020—down by 11 percentage points from the year prior—and equivalent to an indicator rank of 111.



**6.1.5 Citable documents H-index** was equal to 134.0 in 2021—up by 13 percentage points from the year prior—and equivalent to an indicator rank of 96.



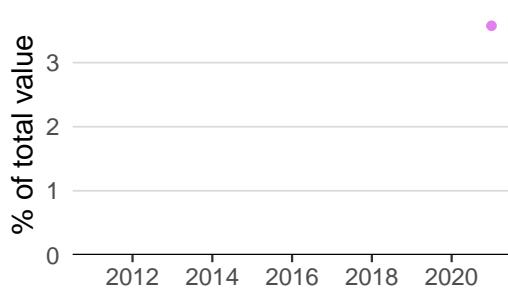
**6.3.1 Intellectual property receipts** was equal to 1.4 mn USD in 2019—down by 23 percentage points from the year prior—and equivalent to an indicator rank of 97.



**6.3.2 Production and export complexity** was equal to -1.1 in 2019—down by 9 percentage points from the year prior—and equivalent to an indicator rank of 112.



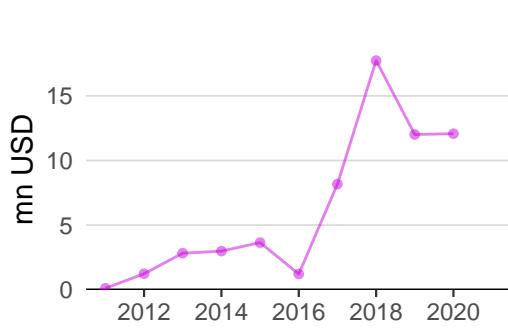
**6.3.3 High-tech exports** was equal to 141.8 mn USD in 2019—up by 80 percentage points from the year prior—and equivalent to an indicator rank of 71.



• **7.1.1 Intangible asset intensity** was equal to 3.6% of total value in 2021 and equivalent to an indicator rank of 73.



**7.1.3 Global brand value** was equal to 452.7 mn USD in 2021—up by 104 percentage points from the year prior—and equivalent to an indicator rank of 65.



**7.2.1 Cultural and creative services exports** was equal to 12.1 mn USD in 2020—up by 1 percentage point from the year prior—and equivalent to an indicator rank of 87.



## CÔTE D'IVOIRE'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
COMPAGNIE IVOIRIENNE D'ÉLECTRICITÉ	1
COMPAGNIE FRANCAISE AFRIQUE	2
NSIA BANQUE	3

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

Note: Brand Finance only provides within economy ranks.

### 7.1.3 Global brand value, top 5,000

Brand	Industry	Rank
MOOV	Telecoms	1

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

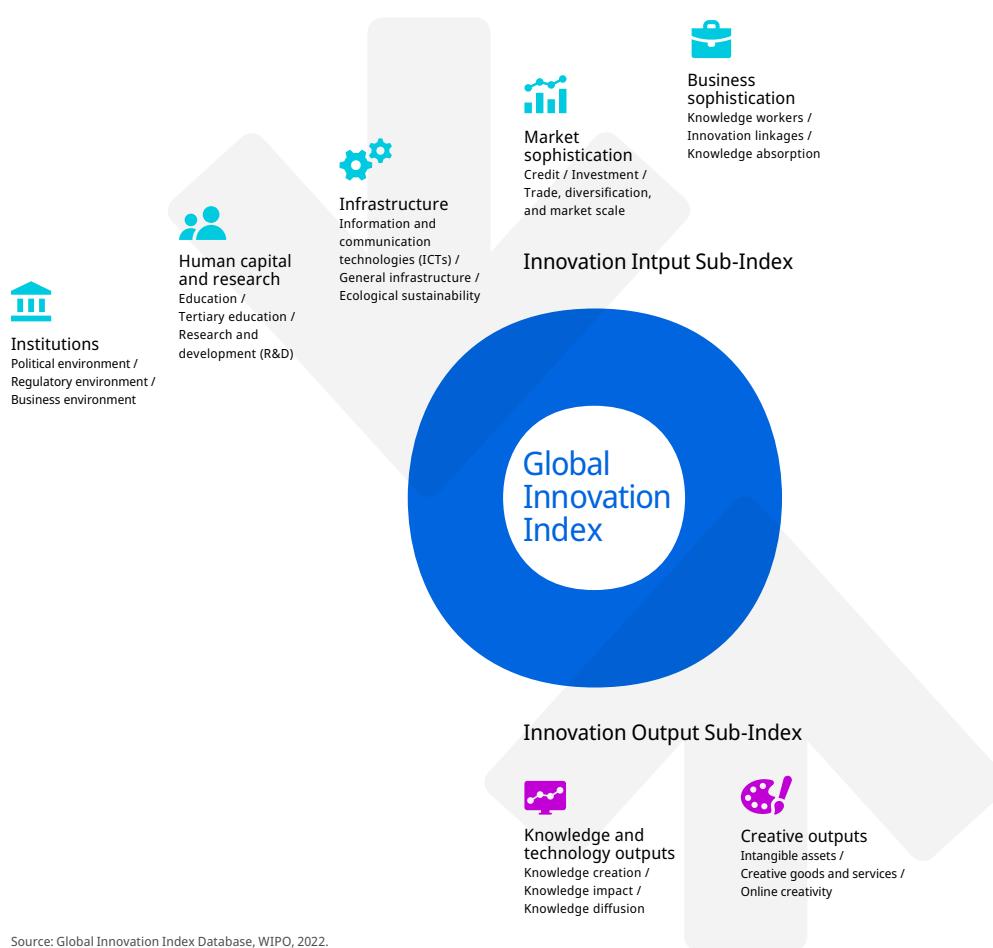
Note: Rank corresponds to within economy ranks.



## 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.



Source: Global Innovation Index Database, WIPO, 2022.

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.