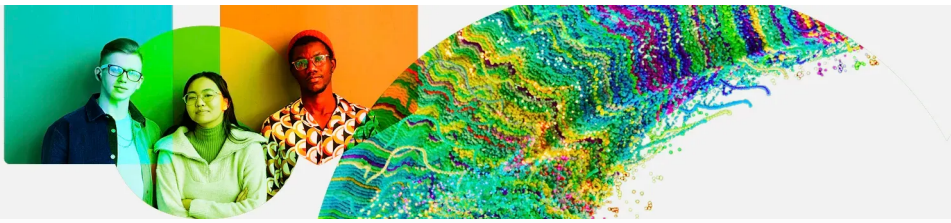
Global Innovation Index 2024



United Arab Emirates ranking in the Global Innovation Index 2024

United Arab Emirates ranks 32nd 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.

United Arab Emirates ranks 31st among the 51 high-income group economies.

United Arab Emirates ranks 3rd among the 18 economies in Northern Africa and Western Asia.

United Arab Emirates GII Ranking (2020-2024)

The table shows the rankings of United Arab Emirates 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 United Arab Emirates in the GII 2024 is between ranks 30 and 37.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	34th	22nd	55th
2021	33rd	23rd	47th
2022	31st	18th	52nd
2023	32nd	19th	54th
2024	32nd	19th	50th

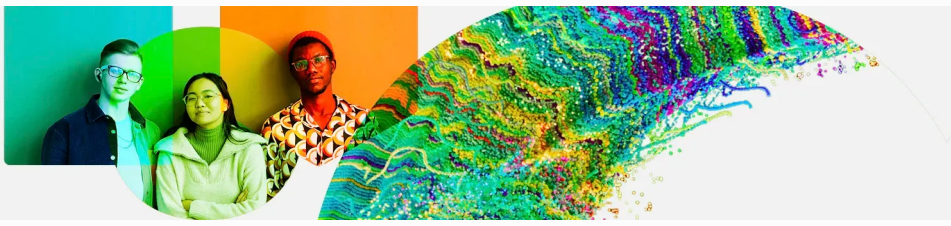
United Arab Emirates performs worse in innovation outputs than innovation inputs in 2024.

This year **United Arab Emirates ranks 19th in innovation inputs.** This position is the same as last year.

United Arab Emirates ranks 50th in innovation outputs. This position is higher than last year.

United Arab Emirates 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 United Arab Emirates, how rapidly is technology being embraced and what are the resulting societal impacts.

For United Arab Emirates, 9 indicators have 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	
▲ 8.7% 2022 - 2023	▲ 4.8% 2020 - 2021	▲ 3.2% 2022 - 2023	▼ -56.5% 2022 - 2023	▲ 24.8% 2022 - 2023
▲ 19.9% 2013 - 2023	▲ 14.7% 2011 - 2021	▲ 24.2% 2013 - 2023	▲ 35.5% 2013 - 2023	▲ 9.3% 2013 - 2023

Technology adoption

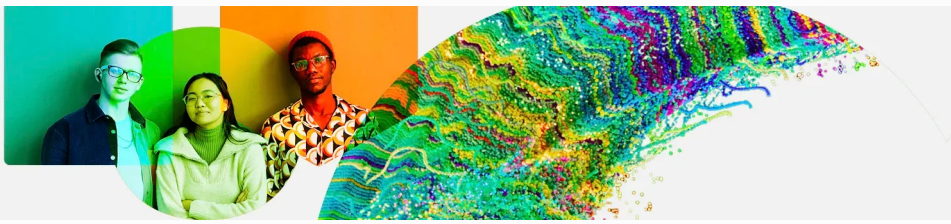
Safe sanitation	Connectivity		Robots	Electric vehicles
	Fixed broadband	5G		
0% 2021 - 2022	▲ 4.8% 2021 - 2022	▲ 6.9% 2021 - 2022	▲ 18.7% 2021 - 2022	n/a
0% 2012 - 2022	▲ 13.8% 2012 - 2022		▲ 27% 2012 - 2022	n/a
98.5 per 100 inhabitants in 2022	40 per 100 inhabitants in 2022	97 per 100 inhabitants in 2022		n/a

Socioeconomic impact

Labor productivity	Life expectancy	Temperature change
▲ 2.3% 2022 - 2023	▲ 0.6% 2021 - 2022	▲ 1.8°C 2023
▲ 2.1% 2013 - 2023	▲ 0.1% 2012 - 2022	n/a
138,165 USD in 2023	79.2 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



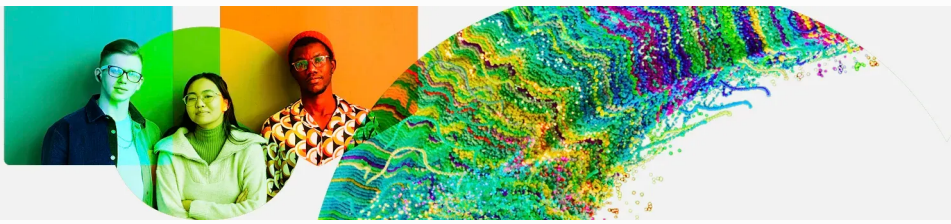
Expected vs. observed innovation performance

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, United Arab Emirates's performance is below expectations for its level of development.

> Innovation overperformers relative to their economic development

Global Innovation Index 2024

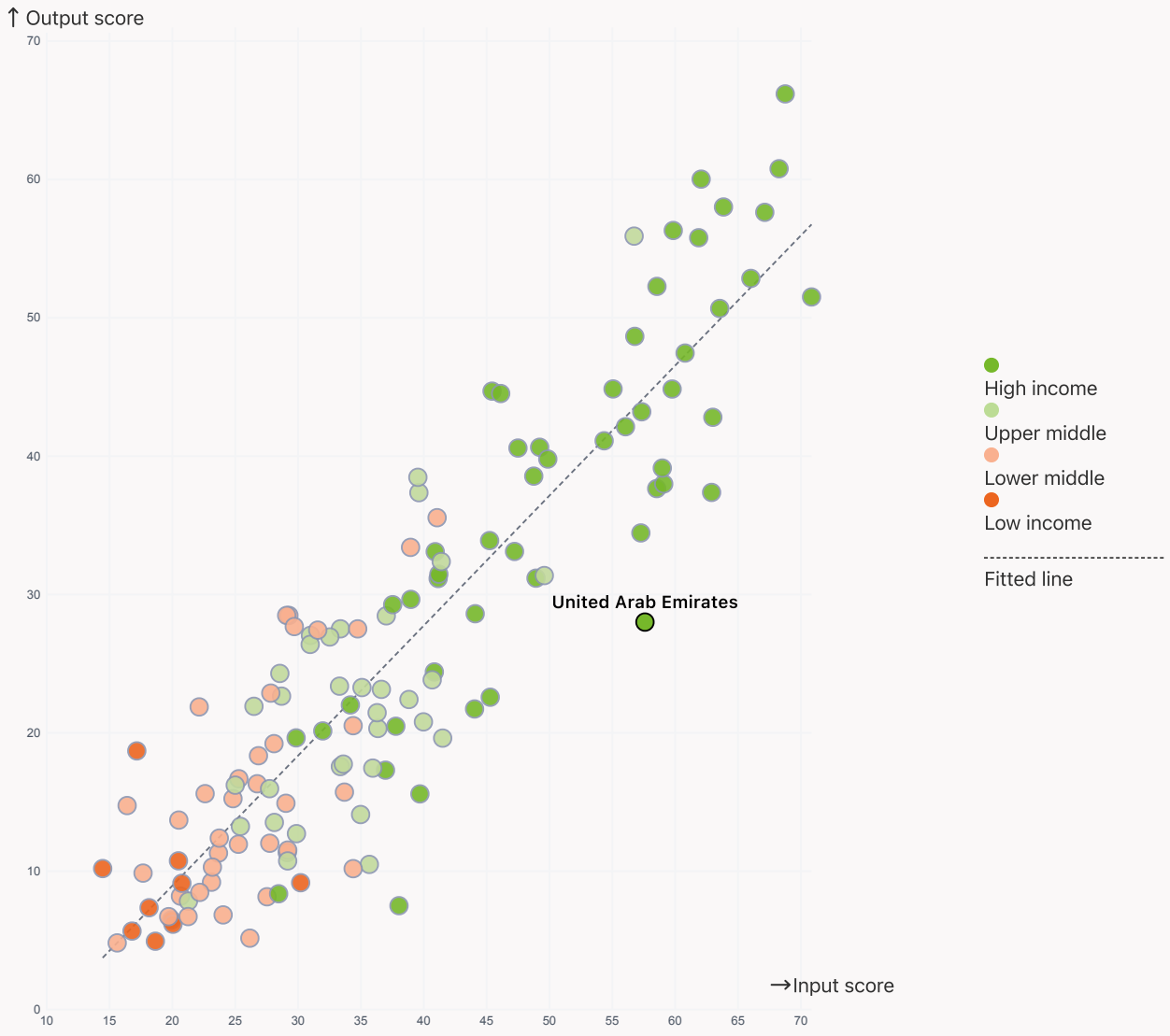


Effectively translating innovation investments into innovation outputs

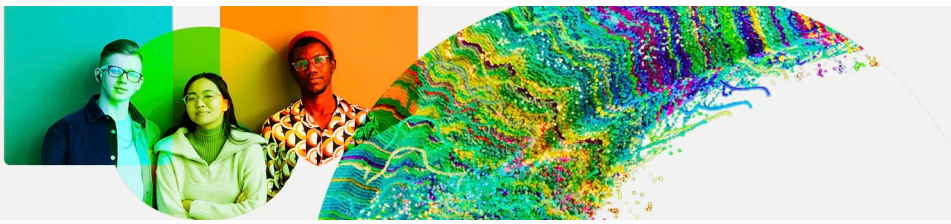
The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

United Arab Emirates produces less innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

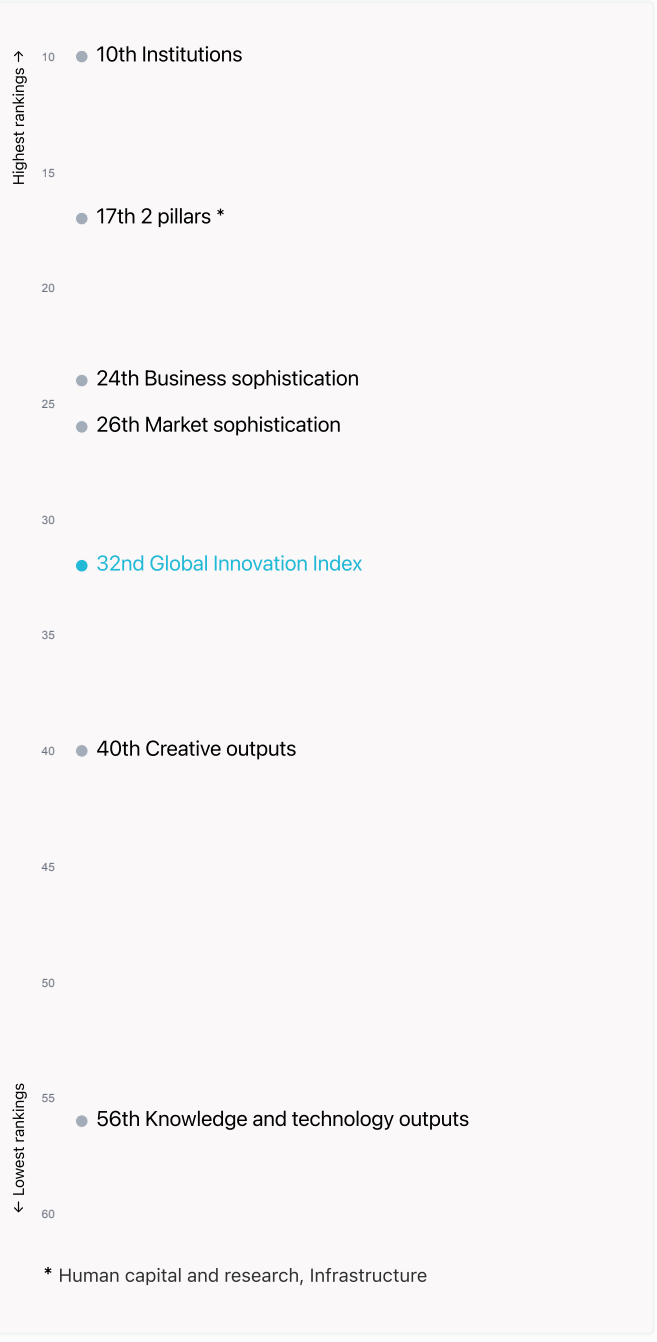


Global Innovation Index 2024



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



Highest rankings

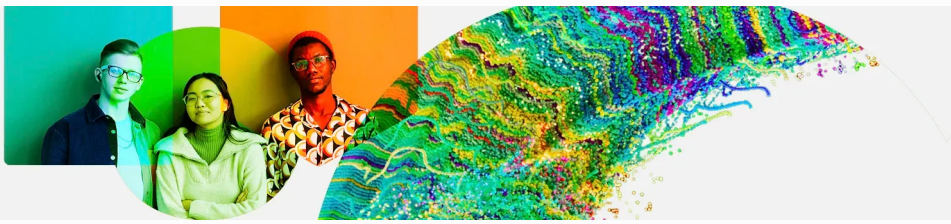
United Arab Emirates ranks highest in Institutions (10th), Human capital and research, Infrastructure (17th) and Business sophistication (24th).

Lowest rankings

United Arab Emirates ranks lowest in Knowledge and technology outputs (56th), Creative outputs (40th) and Market sophistication (26th).

The full WIPO Intellectual Property Statistics profile for United Arab Emirates can be found on this link.

Global Innovation Index 2024



Benchmark of United Arab Emirates against other economy groupings for each of the seven areas of the GII Index

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

High-Income economies

United Arab Emirates performs above the high-income group average in Institutions, Human capital and research, Infrastructure, Market sophistication, Business sophistication.

Northern Africa And Western Asia

United Arab Emirates performs above the regional average in all pillars.

Institutions

- Top 10 | Score: 80.81
- United Arab Emirates | Score: 79.8
- High income | Score: 67.41
- NAWA | Score: 51.34

Human capital and research

- Top 10 | Score: 61.30
- United Arab Emirates | Score: 54.3
- High income | Score: 46.99
- NAWA | Score: 34.27

Infrastructure

- Top 10 | Score: 58.57
- United Arab Emirates | Score: 55.3
- High income | Score: 51.96
- NAWA | Score: 39.94

Market sophistication

- Top 10 | Score: 62.12
- United Arab Emirates | Score: 48.8
- High income | Score: 44.90
- NAWA | Score: 33.58

Business sophistication

- Top 10 | Score: 63.64
- United Arab Emirates | Score: 49.8
- High income | Score: 44.71
- NAWA | Score: 27.20

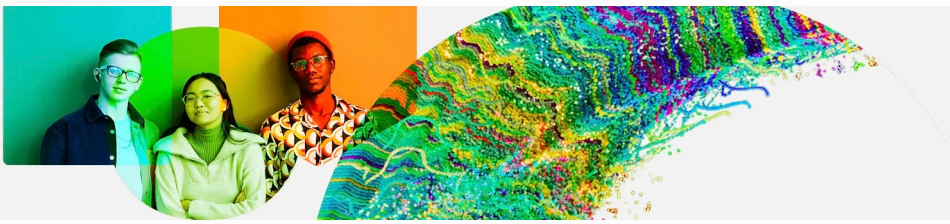
Knowledge and technology outputs

- Top 10 | Score: 57.29
- High income | Score: 35.79
- United Arab Emirates | Score: 23.1
- NAWA | Score: 22.11

Creative outputs

- Top 10 | Score: 56.54
- High income | Score: 39.44
- United Arab Emirates | Score: 32.7
- NAWA | Score: 26.23

Global Innovation Index 2024



Innovation strengths and weaknesses in United Arab Emirates

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

United Arab Emirates's main innovation strengths are **Entrepreneurship policies and culture†** (rank 1), **Tertiary inbound mobility, %** (rank 1) and **Research talent, % in businesses** (rank 3).

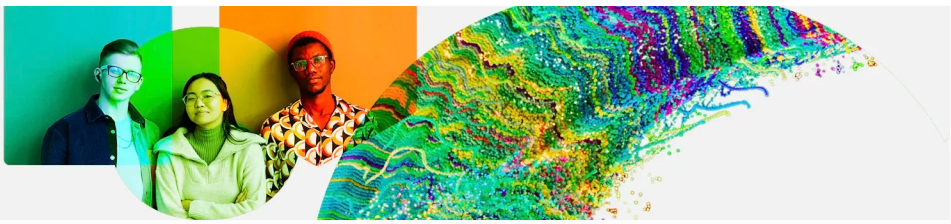
Strengths

Rank	Code	Indicator name
1	1.3.2	Entrepreneurship policies and culture†
1	2.2.3	Tertiary inbound mobility, %
3	5.3.5	Research talent, % in businesses
4	4.1.1	Finance for startups and scaleups†
4	5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP
5	1.3.1	Policy stability for doing business†
5	5.2.3	State of cluster development†
8	3.2.1	Electricity output, GWh/mn pop.
10	7.2.4	Creative goods exports, % total trade
10	3.1.1	ICT access*

Weaknesses

Rank	Code	Indicator name
114	7.1.4	Industrial designs by origin/bn PPP$ GDP
110	7.1.2	Trademarks by origin/bn PPP$ GDP
106	3.3.2	Low-carbon energy use, %
105	6.1.1	Patents by origin/bn PPP$ GDP
96	3.3.1	GDP/unit of energy use
81	4.3.1	Applied tariff rate, weighted avg., %
77	2.1.1	Expenditure on education, % GDP
73	6.1.3	Utility models by origin/bn PPP$ GDP
68	7.2.1	Cultural and creative services exports, % total trade
58	7.2.2	National feature films/mn pop. 15–69

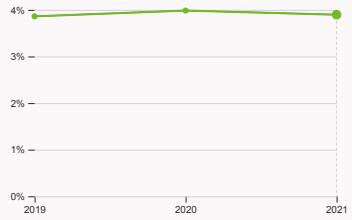
Global Innovation Index 2024



United Arab Emirates's innovation system

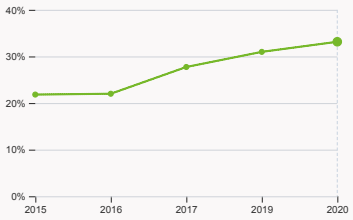
As far as practicable, the plots below present unscaled indicator data.

Innovation inputs in United Arab Emirates



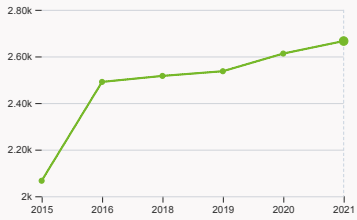
2.1.1 **Expenditure on education**

was equal to 3.9 % GDP in 2021, down by 0.09 percentage points from the year prior – and equivalent to an indicator rank of 77.



2.2.2 **Graduates in science and engineering**

was equal to 33.15 % of total graduates in 2020, up by 2.17 percentage points from the year prior – and equivalent to an indicator rank of 11.



2.3.1 **Researchers**

was equal to 2666.02 FTE per million population in 2021, up by 2.06% from the year prior – and equivalent to an indicator rank of 35.

2.3.2 **Gross expenditure on R&D**

was equal to 1.5 % GDP in 2021, up by 0.007 percentage points from the year prior – and equivalent to an indicator rank of 25.

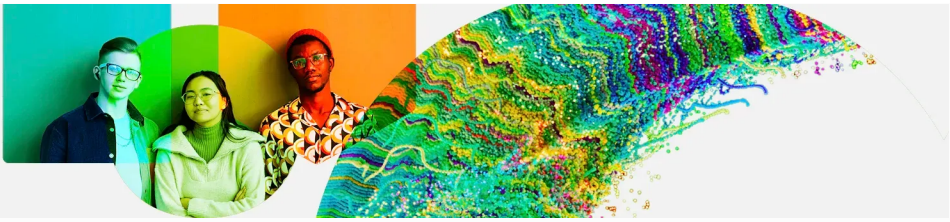
2.3.4 **QS university ranking**

was equal to an average score of 35.93 for the top three universities in 2023, down by 2.81% from the year prior – and equivalent to an indicator rank of 36.

4.2.4 **VC received, value**

was equal to 701.65 thousand USD in 2023, down by 56.45% from the year prior – and equivalent to an indicator rank of 28.

Global Innovation Index 2024



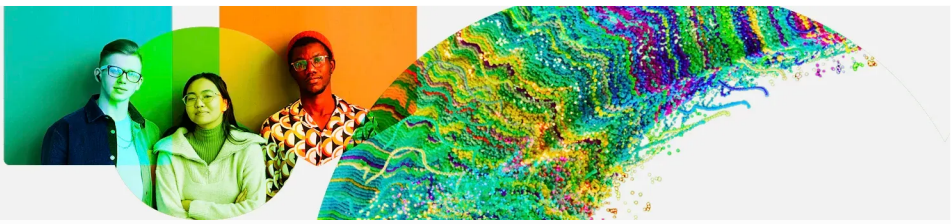
4.3.2 Domestic industry diversification

was equal to an index score of 0.12 in 2021, up by 20.58% from the year prior – and equivalent to an indicator rank of 41.

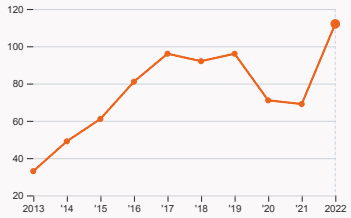
5.1.1 Knowledge-intensive employment

was equal to 37.79 % in 2022, up by 2.67 percentage points from the year prior – and equivalent to an indicator rank of 38.

Global Innovation Index 2024

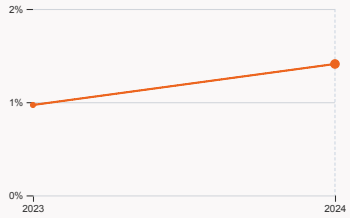


Innovation outputs in United Arab Emirates



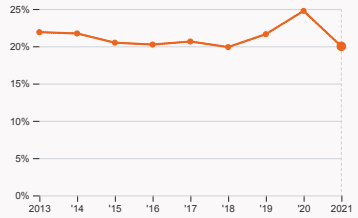
6.1.1 Patents by origin

was equal to 112 patents in 2022, up by 62.32% from the year prior – and equivalent to an indicator rank of 105.



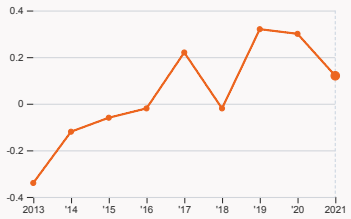
6.2.2 Unicorn valuation

was equal to 1.41 % GDP in 2024, up by 0.44 percentage points from the year prior – and equivalent to an indicator rank of 26.



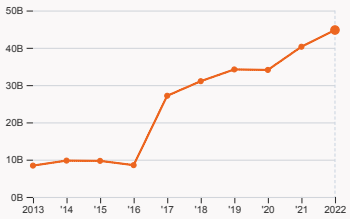
6.2.4 High-tech manufacturing

was equal to 19.99 % of total manufacturing output in 2021, down by 4.75 percentage points from the year prior – and equivalent to an indicator rank of 62.



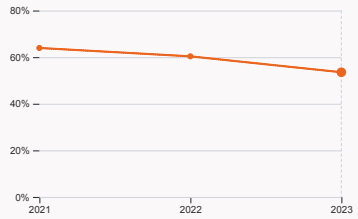
6.3.2 Production and export complexity

was equal to a score of 0.12 in 2021, down by 60% from the year prior – and equivalent to an indicator rank of 56.



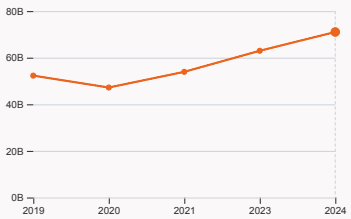
6.3.3 High-tech exports

was equal to 44.77 billion USD in 2022, up by 11.12% from the year prior – and equivalent to an indicator rank of 21.



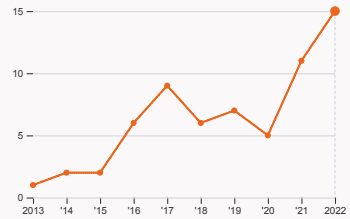
7.1.1 Intangible asset intensity

was equal to 53.52 % for the top 15 companies in 2023, down by 6.82 percentage points from the year prior – and equivalent to an indicator rank of 41.



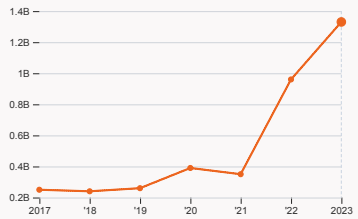
7.1.3 Global brand value

was equal to 71.02 billion USD for the brands in the top 5,000 in 2024, up by 12.78% from the year prior – and equivalent to an indicator rank of 12.



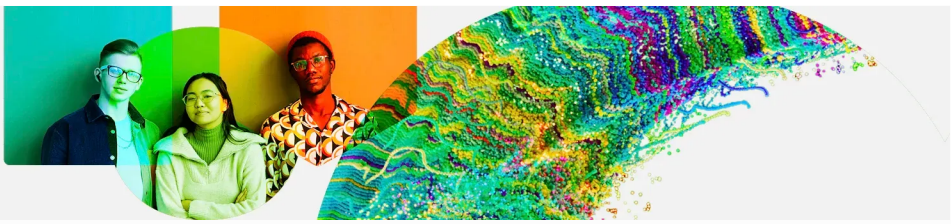
7.2.2 National feature films

was equal to 15 films in 2022, up by 36.36% from the year prior – and equivalent to an indicator rank of 58.



7.3.3 Mobile app creation

was equal to 1.33 billion global downloads of mobile apps in 2023, up by 38.54% from the year prior – and equivalent to an indicator rank of 16.



United Arab Emirates's innovation top performers

2.3.4 QS university ranking of United Arab Emirates's top universities

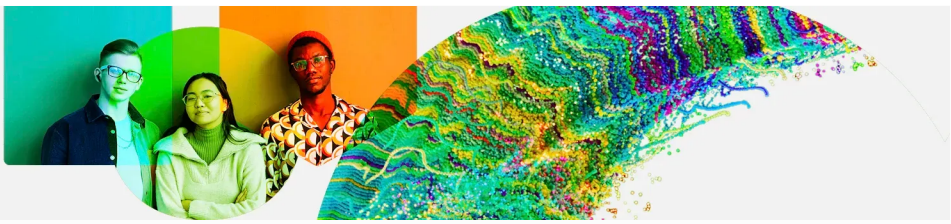
Rank	University	Score
230	KHALIFA UNIVERSITY OF SCIENCE AND TECHNOLOGY	41.60
290	UNITED ARAB EMIRATES UNIVERSITY	35.90
364	AMERICAN UNIVERSITY OF SHARJAH	30.30

Source: QS Quacquarelli Symonds Ltd (https://www.topuniversities.com/university-rankings/world-university-rankings/2023).
Note: QS Quacquarelli Symonds Ltd annually assesses over 1,200 universities across the globe and scores them between [0,100].
Ranks can represent a single value "x", a tie "x=" or a range "x-y".

6.2.2 Top Unicorn Companies in United Arab Emirates

Rank	Unicorn Company	Industry	City	Valuation, bn USD
1	VISTA GLOBAL	Industrials	Dubai	3
2	KITOPI	Consumer & Retail	Dubai	2
3	TABBY	Financial Services	Dubai	2

Source: CBInsights, Tracker – The Complete List of Unicorn Companies: https://www.cbinsights.com/research-unicorn-companies



7.1.1 Top 15 intangible-asset intensive companies in United Arab Emirates

Rank	Firm	Intensity, %
1	ALPHA DHABI HOLDING PJSC	76.61
2	EMIRATES TELECOMMUNICATIONS GROUP COMPANY PJSC	74.03
3	BOROUGE PLC	67.07

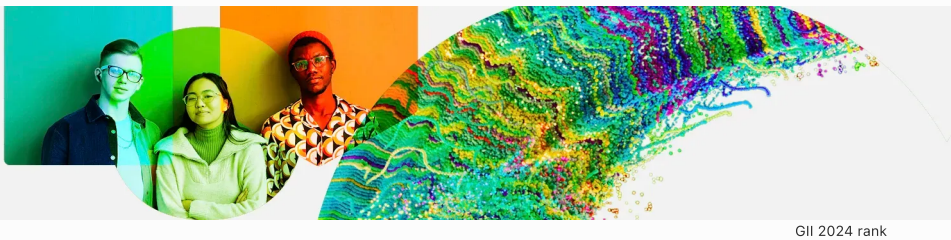
Source: Brand Finance (https://brandirectory.com/reports/gift-2022).
Note: Brand Finance only provides within economy ranks.

7.1.3 Top 5,000 companies in United Arab Emirates with highest global brand value

Rank	Brand	Industry	Brand Value, mn USD
1	ADNOC	Oil & Gas	15,225.5
2	ETISALAT BY E&	Telecoms	11,689.2
3	EMIRATES	Airlines	6,610.2

Source: Brand Finance (https://brandirectory.com).
Note: Rank corresponds to within economy ranks.

Global Innovation Index 2024



United Arab Emirates

GII 2024 rank **32**

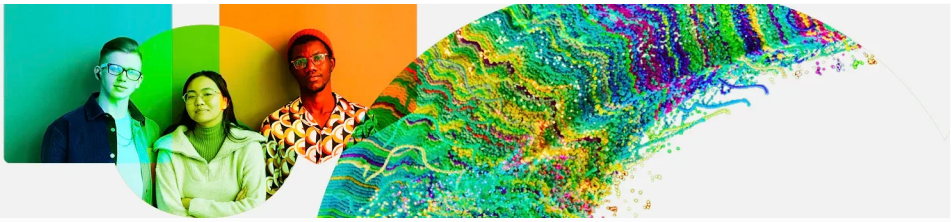
Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
50	19	High	NAWA	10.7	895.2	88,961.8

	Score / Value	Rank	
Institutions	**79.9**	**10**	●◆
1.1 Institutional environment	**78.3**	**22**	
1.1.1 Operational stability for businesses*	78.7	25	
1.1.2 Government effectiveness*	77.9	20	
1.2 Regulatory environment	**68.4**	**31**	
1.2.1 Regulatory quality*	69	30	
1.2.2 Rule of law*	67.8	32	
1.3 Business environment	**92.9**	**2**	●◆
1.3.1 Policy stability for doing business†	85.8	5	●◆
1.3.2 Entrepreneurship policies and culture†	100	1	●◆
Human capital and research	**54.4**	**17**	
2.1 Education	**56.2**	**53**	
2.1.1 Expenditure on education, % GDP	3.9	77	○
2.1.2 Government funding/pupil, secondary, % GDP/cap	25.6	19	
2.1.3 School life expectancy, years	17.2	20	
2.1.4 PISA scales in reading, maths and science	426.8	48	◇
2.1.5 Pupil–teacher ratio, secondary	9.6	29	
2.2 Tertiary education	**70.2**	**3**	●◆
2.2.1 Tertiary enrolment, % gross	52.7	69	◇
2.2.2 Graduates in science and engineering, %	33.1	11	◆
2.2.3 Tertiary inbound mobility, %	73	1	●◆
2.3 Research and development (R&D)	**36.7**	**28**	
2.3.1 Researchers, FTE/mn pop.	2,666	35	
2.3.2 Gross expenditure on R&D, % GDP	1.5	25	
2.3.3 Global corporate R&D investors, top 3, mn USD	58.8	24	
2.3.4 QS university ranking, top 3*	36.4	36	
Infrastructure	**55.3**	**17**	
3.1 Information and communication technologies (ICTs)	**89.8**	**13**	
3.1.1 ICT access*	100	10	●◆
3.1.2 ICT use*	92.2	13	
3.1.3 Government's online service*	89.1	12	
3.1.4 E-participation*	77.9	18	
3.2 General infrastructure	**60.3**	**9**	●◆
3.2.1 Electricity output, GWh/mn pop.	15,915.6	8	●◆
3.2.2 Logistics performance*	86.4	7	◆
3.2.3 Gross capital formation, % GDP	25.2	47	
3.3 Ecological sustainability	**15.9**	**87**	○◇
3.3.1 GDP/unit of energy use	7.8	96	○
3.3.2 Low-carbon energy use, %	4.9	106	○
3.3.3 ISO 14001 environment/bn PPP$ GDP	3.4	28	
Market sophistication	**48.9**	**26**	
4.1 Credit	**53.5**	**20**	
4.1.1 Finance for startups and scaleups†	84.4	4	●◆
4.1.2 Domestic credit to private sector, % GDP	66	49	
4.1.3 Loans from microfinance institutions, % GDP	n/a	n/a	
4.2 Investment	**32.2**	**25**	
4.2.1 Market capitalization, % GDP	130.1	9	
4.2.2 Venture capital (VC) investors, deals/bn PPP$ GDP	0.4	18	
4.2.3 VC recipients, deals/bn PPP$ GDP	0.1	34	
4.2.4 VC received, value, % GDP	0.002	28	
4.3 Trade, diversification and market scale	**61**	**47**	
4.3.1 Applied tariff rate, weighted avg., %	3	81	○
4.3.2 Domestic industry diversification	89.4	41	
4.3.3 Domestic market scale, bn PPP$	895.2	33	

	Score / Value	Rank	
Business sophistication	**49.9**	**24**	
5.1 Knowledge workers	**55.2**	**27**	
5.1.1 Knowledge-intensive employment, %	37.8	38	
5.1.2 Firms offering formal training, %	n/a	n/a	
5.1.3 GERD performed by business, % GDP	0.8	31	
5.1.4 GERD financed by business, %	74.3	5	
5.1.5 Females employed w/advanced degrees, %	16.1	46	
5.2 Innovation linkages	**51.9**	**19**	
5.2.1 Public Research-Industry co-publications, %	1.4	69	
5.2.2 University-industry R&D collaboration†	74.6	18	
5.2.3 State of cluster development†	94.8	5	●◆
5.2.4 Joint venture/strategic alliance deals/bn PPP$ GDP	0.2	4	●◆
5.2.5 Patent families/bn PPP$ GDP	0.1	53	
5.3 Knowledge absorption	**42.5**	**24**	
5.3.1 Intellectual property payments, % total trade	0.6	62	
5.3.2 High-tech imports, % total trade	12.8	20	
5.3.3 ICT services imports, % total trade	1.1	70	
5.3.4 FDI net inflows, % GDP	5.1	21	
5.3.5 Research talent, % in businesses	77.9	3	●◆
Knowledge and technology outputs	**23.1**	**56**	
6.1 Knowledge creation	**7.9**	**93**	○◇
6.1.1 Patents by origin/bn PPP$ GDP	0.1	105	○◇
6.1.2 PCT patents by origin/bn PPP$ GDP	0.2	53	
6.1.3 Utility models by origin/bn PPP$ GDP	0.002	73	○
6.1.4 Scientific and technical articles/bn PPP$ GDP	9.1	76	◇
6.1.5 Citable documents H-index	14.9	55	
6.2 Knowledge impact	**33.2**	**43**	
6.2.1 Labor productivity growth, %	1.6	36	◆
6.2.2 Unicorn valuation, % GDP	1.4	26	
6.2.3 Software spending, % GDP	0.2	57	
6.2.4 High-tech manufacturing, %	20	62	
6.3 Knowledge diffusion	**28.2**	**47**	
6.3.1 Intellectual property receipts, % total trade	0.9	20	
6.3.2 Production and export complexity	46.2	56	◇
6.3.3 High-tech exports, % total trade	9.4	21	
6.3.4 ICT services exports, % total trade	1.7	63	
6.3.5 ISO 9001 quality/bn PPP$ GDP	6.8	39	
Creative outputs	**32.8**	**40**	
7.1 Intangible assets	**35.5**	**47**	
7.1.1 Intangible asset intensity, top 15, %	53.5	41	
7.1.2 Trademarks by origin/bn PPP$ GDP	9.8	110	○◇
7.1.3 Global brand value, top 5,000, % GDP	13.2	12	
7.1.4 Industrial designs by origin/bn PPP$ GDP	0.07	114	○
7.2 Creative goods and services	**27.4**	**43**	
7.2.1 Cultural and creative services exports, % total trade	0.3	68	○
7.2.2 National feature films/mn pop. 15–69	1.8	58	○◇
7.2.3 Entertainment and media market/th pop. 15–69	22.4	28	
7.2.4 Creative goods exports, % total trade	5.4	10	●◆
7.3 Online creativity	**32.7**	**47**	
7.3.1 Top-level domains (TLDs)/th pop. 15–69	7.9	45	
7.3.2 GitHub commits/mn pop. 15–69	13.2	52	◇
7.3.3 Mobile app creation/bn PPP$ GDP	76.9	16	

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 United Arab Emirates.

United Arab Emirates has missing data for two indicators and outdated data for thirteen indicators.

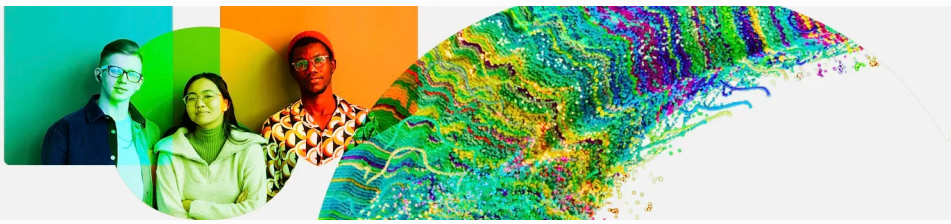
Missing data for United Arab Emirates

Code	Indicator name	Economy Year	Model Year	Source
4.1.3	Loans from microfinance institutions, % GDP	n/a	2022	International Monetary Fund, Financial Access Survey (FAS)
5.1.2	Firms offering formal training, %	n/a	2023	World Bank Enterprise Surveys

Outdated data for United Arab Emirates

Code	Indicator name	Economy Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2021	2022	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2020	2022	UNESCO Institute for Statistics
2.1.5	Pupil–teacher ratio, secondary	2020	2022	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2020	2022	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2020	2021	UNESCO Institute for Statistics; Eurostat; OECD
2.2.3	Tertiary inbound mobility, %	2020	2022	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2021	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	2021	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.1	Electricity output, GWh/mn pop.	2021	2022	International Energy Agency
5.1.3	GERD performed by business, % GDP	2018	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	2014	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	Females employed w/advanced degrees, %	2022	2023	International Labour Organization
5.3.5	Research talent, % in businesses	2018	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT

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.