

Global Innovation Index 2023

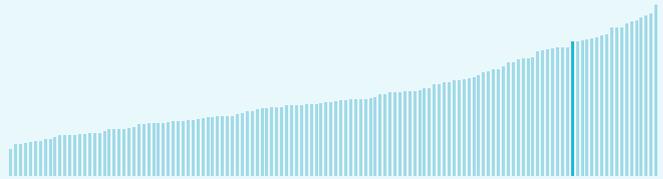


The Global Innovation Index (GII) **ranks world economies according to their innovation capabilities.**

Consisting of **roughly 80 indicators**, grouped into innovation inputs and outputs, the GII **aims to capture the multi-dimensional facets of innovation.**

Austria ranking in the Global Innovation Index 2023

> Austria ranks **18th** among the 132 economies featured in the GII 2023.



> Austria ranks **17th** among the 50 high-income group economies.



> Austria ranks **10th** among the 39 economies in Europe.



> Austria GII Ranking (2020-2023)

The table shows the rankings of Austria 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 Austria in the GII 2023 is between ranks 14 and 18.

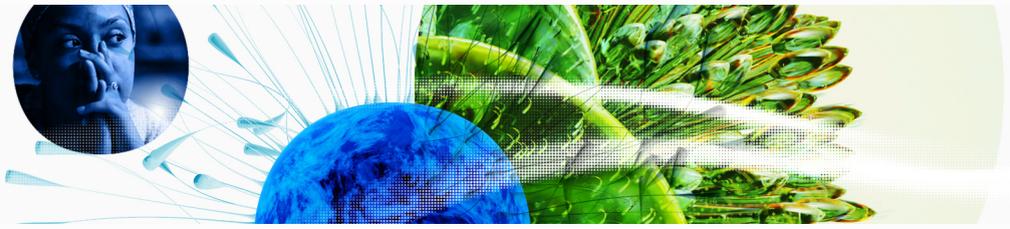
	GII Position	Innovation Inputs	Innovation Outputs
2020	19th	18th	23rd
2021	18th	16th	24th
2022	17th	17th	21st
2023	18th	18th	15th

Austria performs better in innovation outputs than innovation inputs in 2023.

This year Austria ranks **18th in innovation inputs**. This position is lower than last year.

Austria ranks **15th in innovation outputs**. This position is higher than last year.

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→ Expected vs. observed innovation performance

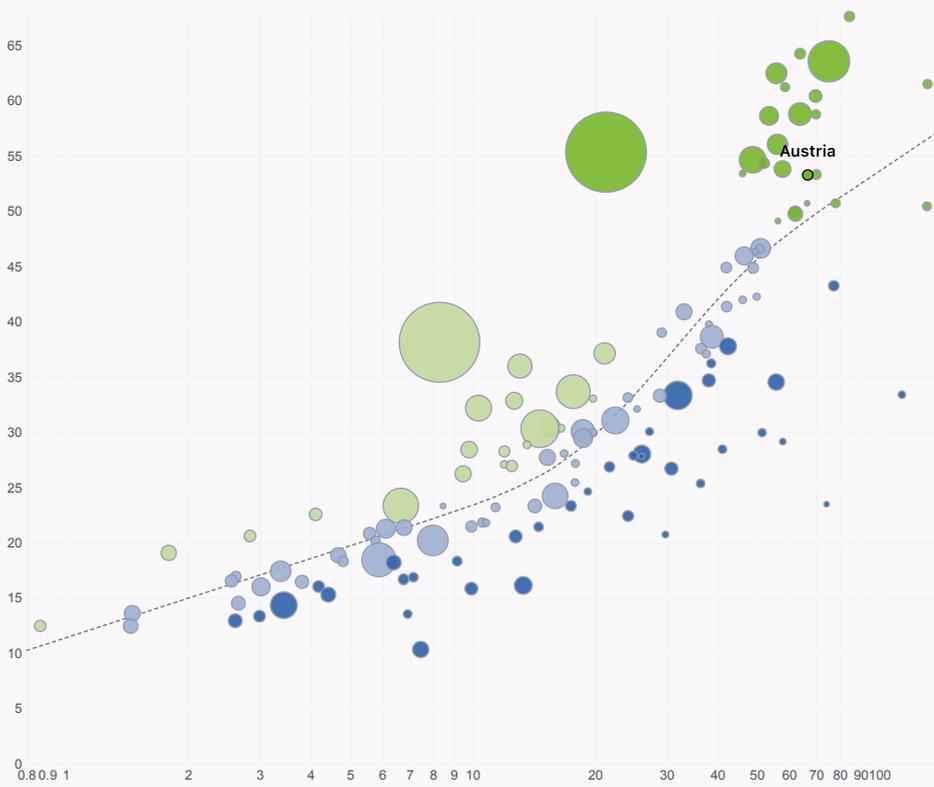
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected and those below are performing below expectations.



> Austria is an innovation leader, ranking in the top 25 of the GII.

> Innovation overperformers relative to their economic development

↑ GII Score



- Innovation leader
- Performing above expectations for level of development
- Performing at expectations for level of development
- Performing below expectations for level of development

Size legend (Population)



→ GDP per capita, PPP logarithmic scale (thousands of \$)

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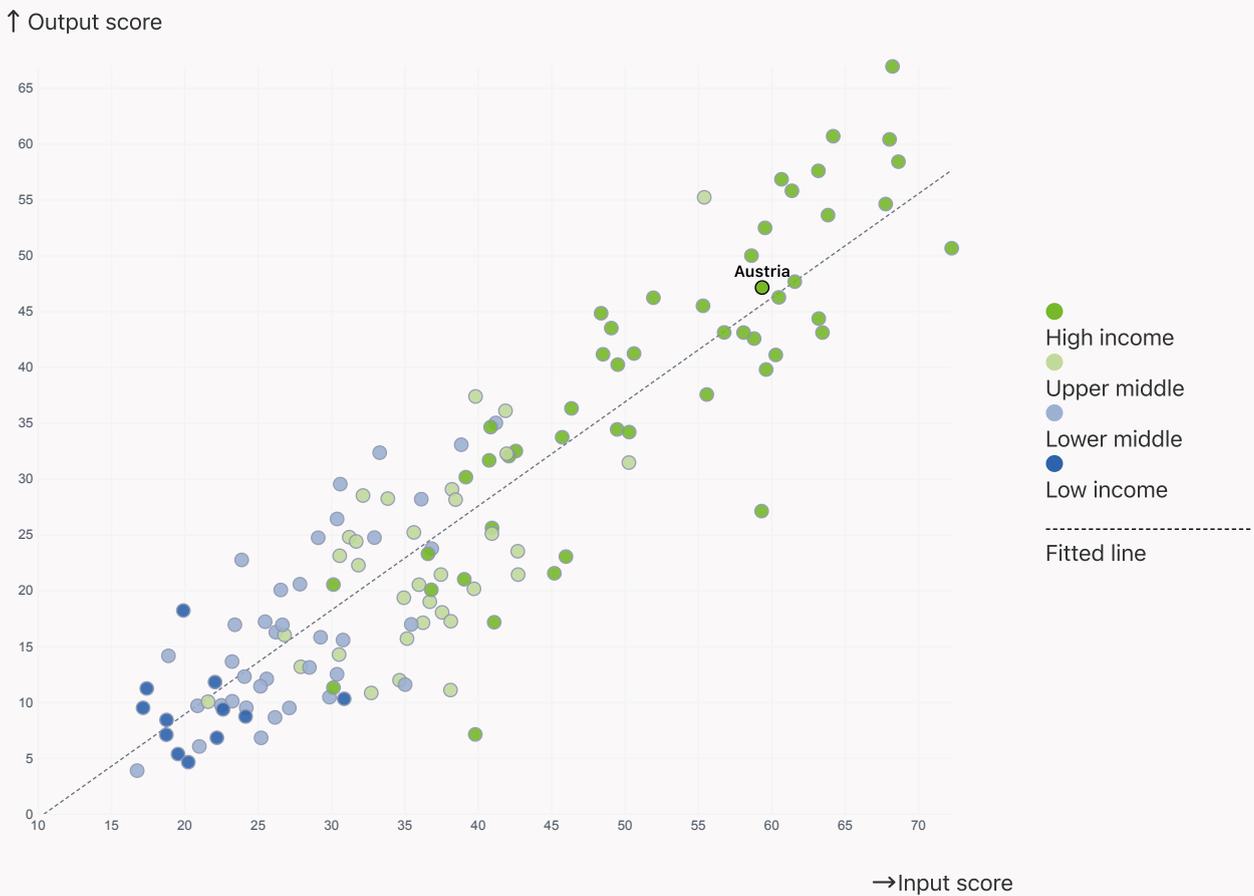
→ Effectively translating innovation investments into innovation outputs

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.



> Austria produces more innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

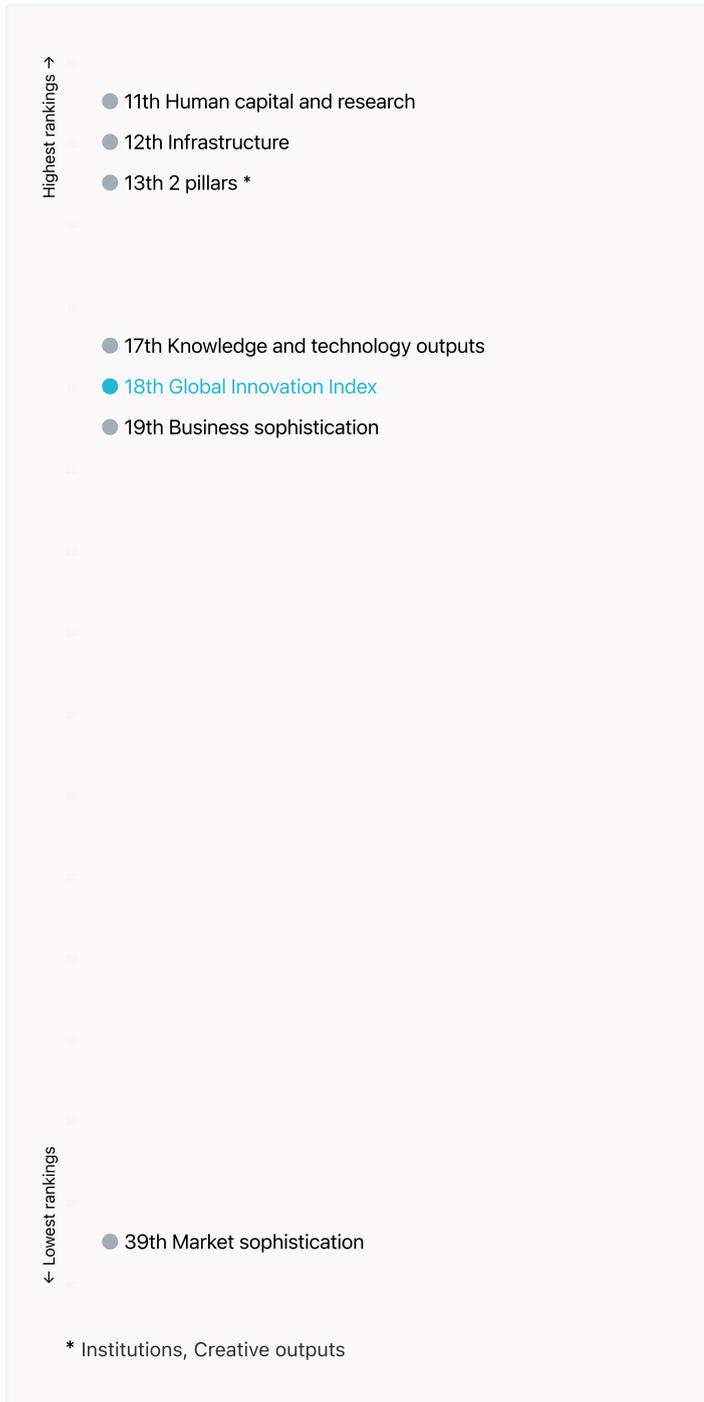


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→ Overview of Austria's rankings in the seven areas of the GII in 2023

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



> Highest rankings



Austria ranks highest in Human capital and research (11th), Infrastructure (12th), Institutions, Creative outputs (13th) and Knowledge and technology outputs (17th).

> Lowest rankings



Austria ranks lowest in Market sophistication (39th), Business sophistication (19th) and Knowledge and technology outputs (17th).



The full WIPO Intellectual Property Statistics profile for Austria can be found on [this link](#).

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→ Benchmark of Austria against other country groupings for each of the seven areas of the GII Index

The charts show the relative position of Austria (blue bar) against other country groupings (grey bars), for each of the seven areas of the GII Index.

> High-Income economies

Austria performs above the high-income group average in Knowledge and technology outputs, Creative outputs, Business sophistication, Human capital and research, Infrastructure, Institutions.

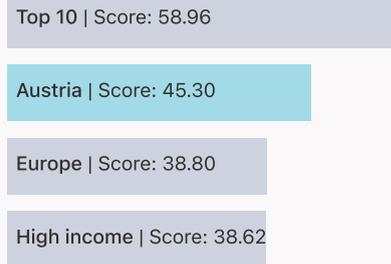


> Europe

Austria performs above the regional average in all the pillars.



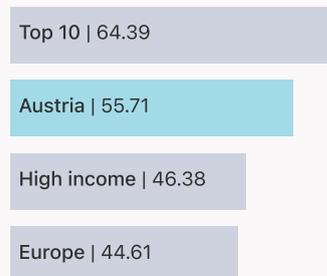
Knowledge and technology outputs



Creative outputs



Business sophistication



Market sophistication



Human capital and research



Infrastructure



Institutions



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→ Innovation strengths and weaknesses in Austria

The table below gives an overview of the indicator strengths and weaknesses of Austria in the GII 2023.



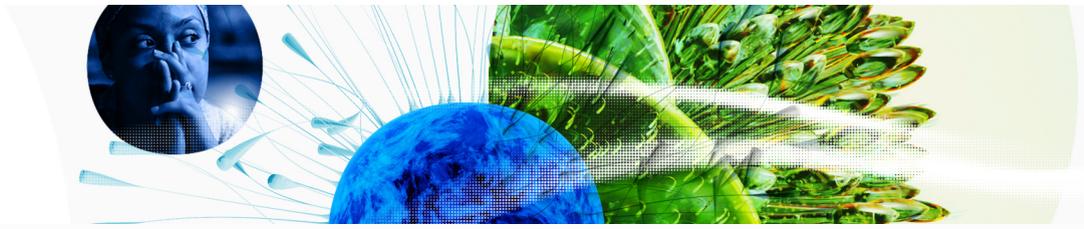
> Austria's main innovation strengths are **Cost of redundancy dismissal** (rank 1), **Domestic industry diversification** (rank 3) and **GERD financed by abroad, % GDP** (rank 5).

Strengths

Weaknesses

Rank	Code	Indicator name	Rank	Code	Indicator name
1	1.2.3	Cost of redundancy dismissal	125	5.3.4	FDI net inflows, % GDP
3	4.3.2	Domestic industry diversification	93	6.2.1	Labor productivity growth, %
5	5.2.3	GERD financed by abroad, % GDP	56	5.1.5	Females employed w/advanced degrees, %
6	1.3.1	Policies for doing business	52	5.3.1	Intellectual property payments, % total trade
7	6.3.2	Production and export complexity	50	5.3.2	High-tech imports, % total trade
7	5.1.3	GERD performed by business, % GDP	48	7.3.4	Mobile app creation/bn PPP\$ GDP
7	1.2.2	Rule of law	48	4.2.1	Market capitalization, % GDP
8	6.2.3	Software spending, % GDP	46	7.1.1	Intangible asset intensity, top 15, %
8	3.3.2	Environmental performance	35	1.3.2	Entrepreneurship policies and culture
8	2.3.2	Gross expenditure on R&D, % GDP	31	6.1.3	Utility models by origin/bn PPP\$ GDP
9	7.3.2	Country-code TLDs/th pop. 15-69			

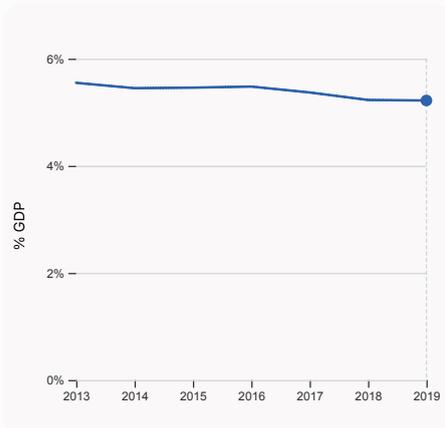
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→ Austria's innovation system

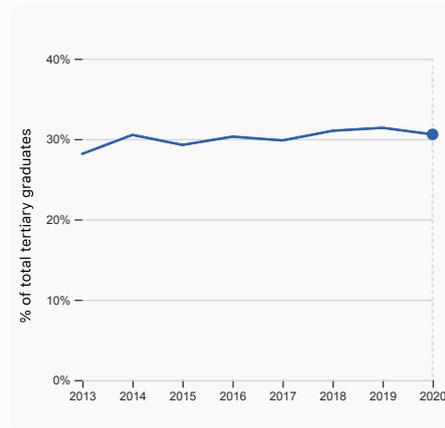
As far as practicable, the plots below present unscaled indicator data.

> Innovation inputs in Austria



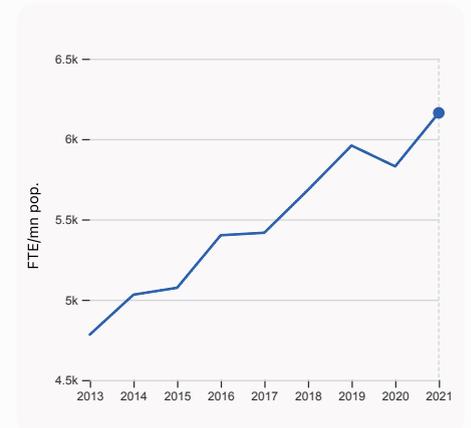
2.1.1 Expenditure on education, % GDP

was equal to 5.22% GDP in 2019, down by 0.01 percentage points from the year prior – and equivalent to an indicator rank of 30.



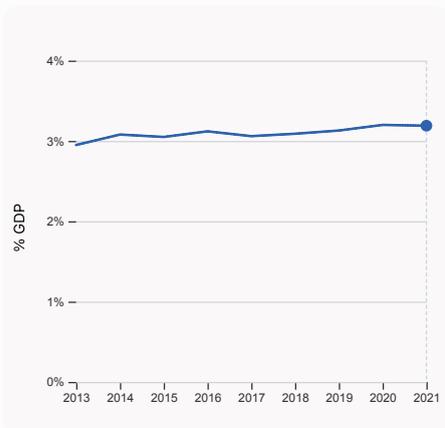
2.2.2 Graduates in science and engineering, %

was equal to 30.58% of total tertiary graduates in 2020, down by 0.82 percentage points from the year prior – and equivalent to an indicator rank of 16.



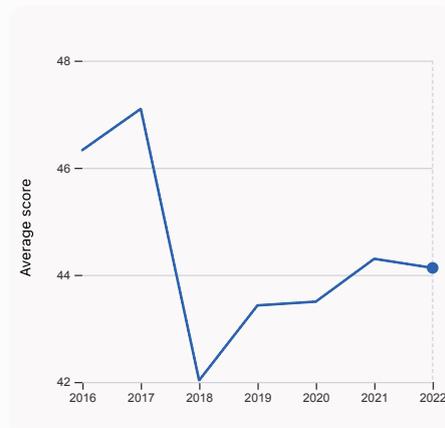
2.3.1 Researchers, FTE/mn pop.

was equal to 6,163 FTE/mn pop. in 2021, up by 5.71% from the year prior – and equivalent to an indicator rank of 9.



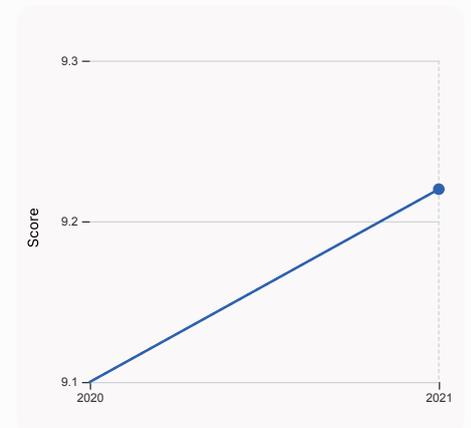
2.3.2 Gross expenditure on R&D, % GDP

was equal to 3.19% GDP in 2021, down by 0.01 percentage points from the year prior – and equivalent to an indicator rank of 8.



2.3.4 QS university ranking, top 3

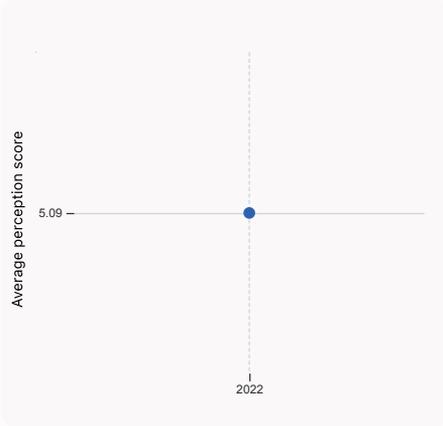
was equal to an average score of 44.13 for the top 3 universities in 2022, down by 0.38% from the year prior – and equivalent to an indicator rank of 27.



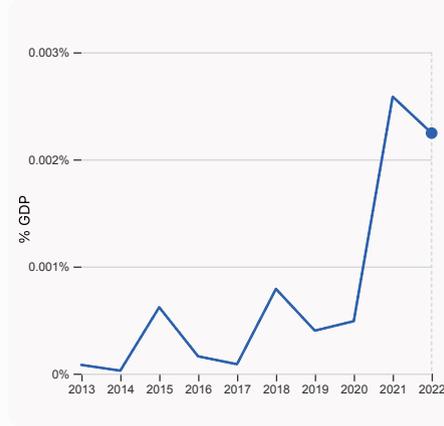
3.1.1 ICT access

was equal to a score of 9.22 in 2021, up by 1.32% from the year prior – and equivalent to an indicator rank of 31.

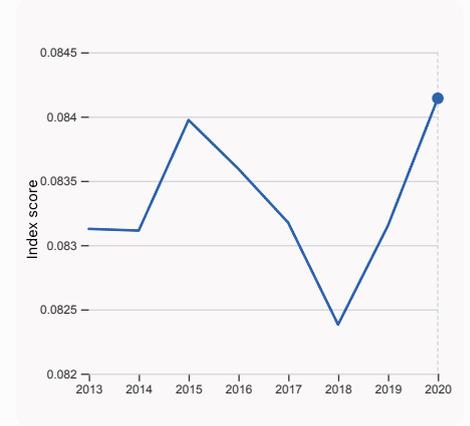
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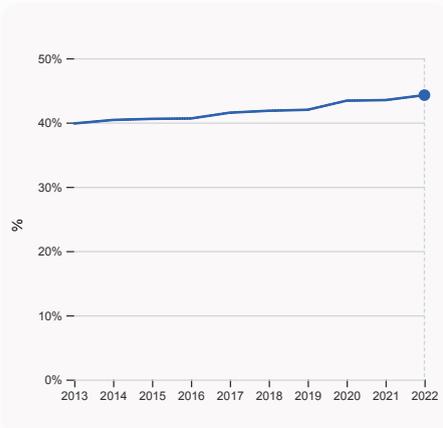
4.1.1 Finance for startups and scaleups was equal to an average perception score of 5.09 in 2022, equivalent to an indicator rank of 31.



4.2.4 VC received, value, % GDP was equal to 0.00225% GDP in 2022, down by 0.00034 percentage points from the year prior – and equivalent to an indicator rank of 35.



4.3.2 Domestic industry diversification was equal to an index score of 0.084 in 2020, up by 1.19% from the year prior – and equivalent to an indicator rank of 3.

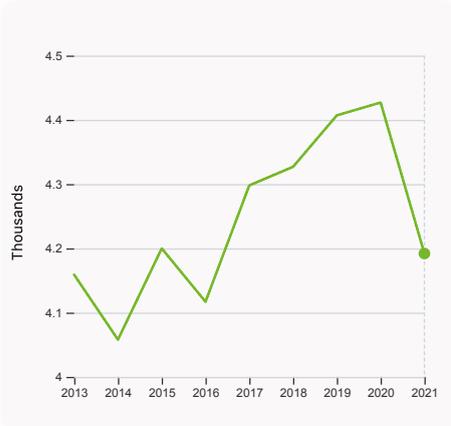


5.1.1 Knowledge-intensive employment, % was equal to 44.26% in 2022, up by 0.77 percentage points from the year prior – and equivalent to an indicator rank of 24.

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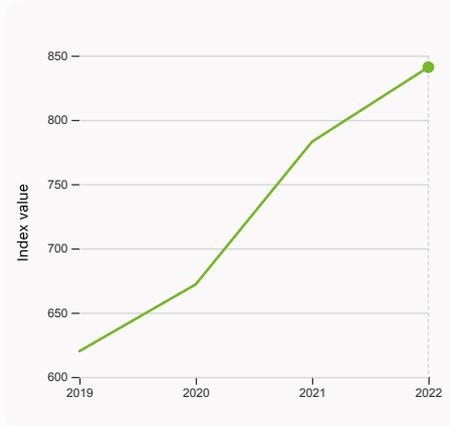


> Innovation outputs in Austria



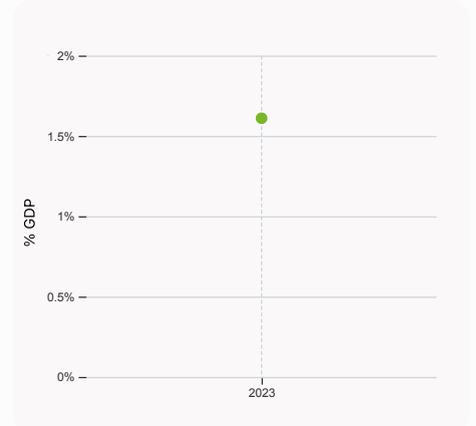
6.1.1 Patents by origin

was equal to 4.19 Thousands in 2021, down by 5.31% from the year prior – and equivalent to an indicator rank of 11.



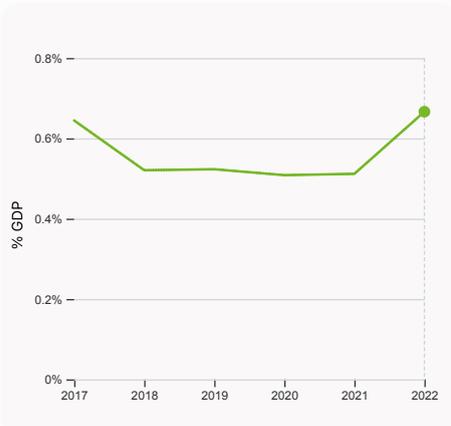
6.1.5 Citable documents H-index

was equal to an index value of 841 in 2022, up by 7.41% from the year prior – and equivalent to an indicator rank of 18.



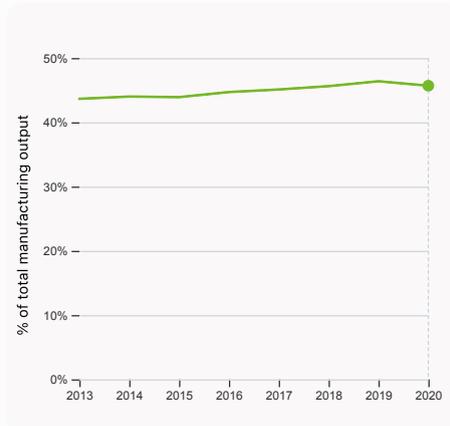
6.2.2 Unicorn valuation, % GDP

was equal to 1.61 % GDP in 2023 – and equivalent to an indicator rank of 27.



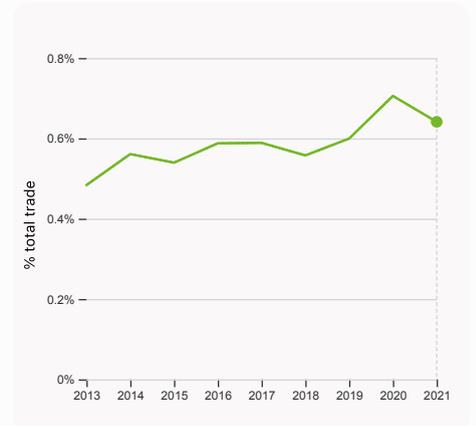
6.2.3 Software spending, % GDP

was equal to 0.666% GDP in 2022, up by 0.15 percentage points from the year prior – and equivalent to an indicator rank of 8.



6.2.4 High-tech manufacturing, %

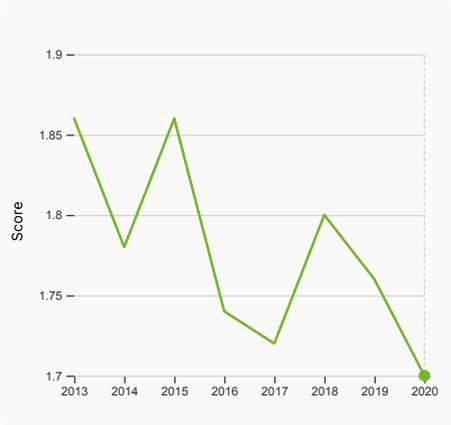
was equal to 45.7% of total manufacturing output in 2020, down by 0.69 percentage points from the year prior – and equivalent to an indicator rank of 19.



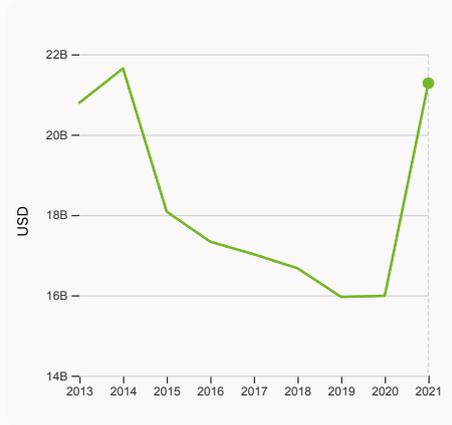
6.3.1 Intellectual property receipts, % total trade

was equal to 0.641% total trade in 2021, down by 0.064 percentage points from the year prior – and equivalent to an indicator rank of 26.

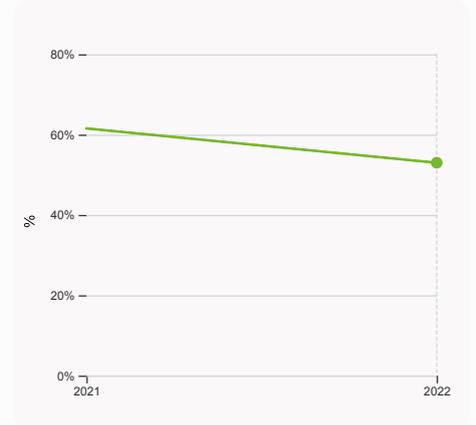
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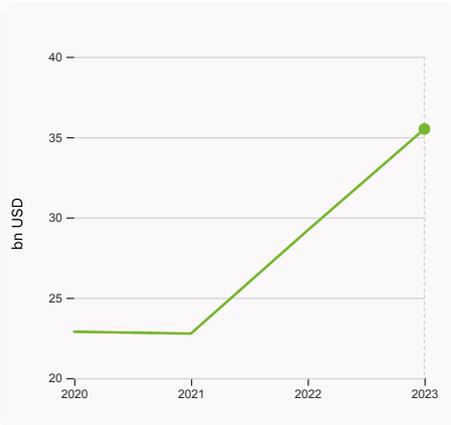
6.3.2 Production and export complexity was equal to a score of 1.7 in 2020, down by 3.41% from the year prior – and equivalent to an indicator rank of 7.



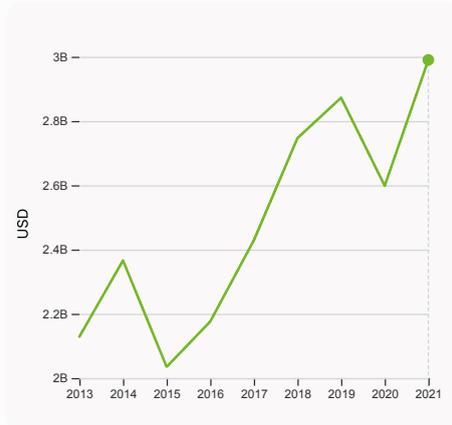
6.3.3 High-tech exports was equal to 21,281,208,725 USD in 2021, up by 33.12% from the year prior – and equivalent to an indicator rank of 23.



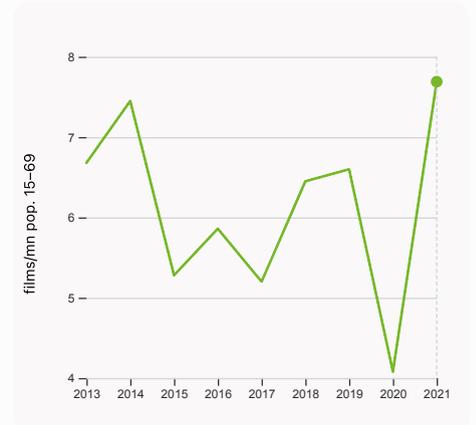
7.1.1 Intangible asset intensity, top 15, % was equal to 53% in 2022, down by 8.55 percentage points from the year prior – and equivalent to an indicator rank of 46.



7.1.3 Global brand value, top 5,000 was equal to 35.506 bn USD in 2023, up by 21.6% from the year prior – and equivalent to an indicator rank of 29.

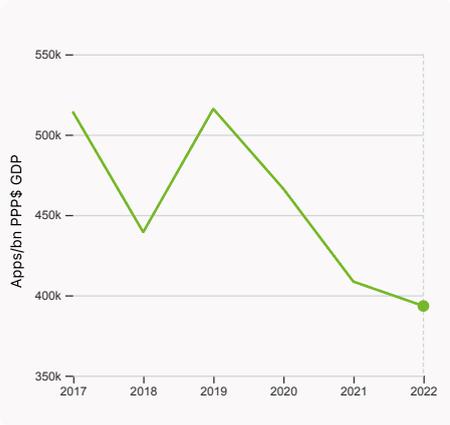
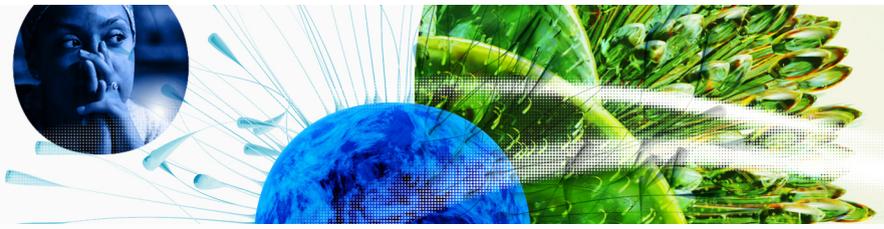


7.2.1 Cultural and creative services exports was equal to 2,990,227,000 USD in 2021, up by 15.075% from the year prior – and equivalent to an indicator rank of 24.



7.2.2 National feature films/mn pop. 15-69 was equal to 7.69 films/mn pop. 15-69 in 2021, up by 88.48% from the year prior – and equivalent to an indicator rank of 11.

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7.3.4 Mobile app creation/bn PPP\$ GDP

was equal to 393,345.9 Apps/bn PPP\$ GDP in 2022, down by 3.72% from the year prior – and equivalent to an indicator rank of 48.



→ Austria's innovation top performers

> 2.3.3 Global corporate R&D investors from Austria

Rank	Firm	Industry	R&D	R&D Growth	R&D Intensity
			[mn EUR]	[%]	[%]
277	AMS-OSRAM	Technology Hardware & Equipment	688	45	14
762	KONTRON	Technology Hardware & Equipment	211	15	16
851	AT&S AUSTRIA TECHNOLOGIE & SYSTEMTECHNIK	Electronic & Electrical Equipment	187	42	12
903	VOESTALPINE	Industrial Metals & Mining	174	13	1

Source: European Commission's Joint Research Centre (<https://iri.jrc.ec.europa.eu/scoreboard/2022-eu-industrial-rd-investment-scoreboard>).

Note: European Commission's Joint Research Centre ranks the top 2,500 firms by R&D investment annually.

> 2.3.4 QS university ranking of Austria's top universities

Rank	University	Score
151	UNIVERSITY OF VIENNA	50.60
179	TECHNISCHE UNIVERSITAT WIEN	45.70
284	GRAZ UNIVERSITY OF TECHNOLOGY	36.10

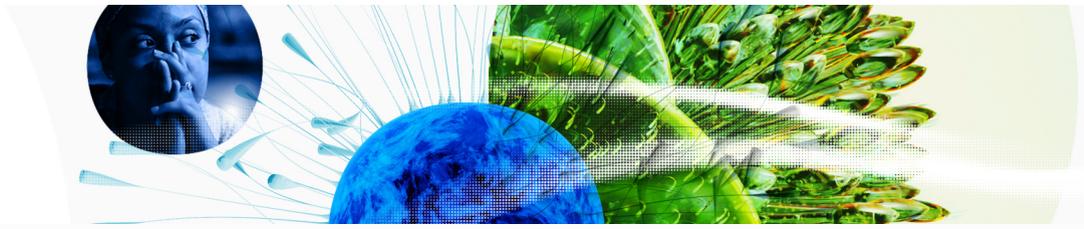
Source: QS Quacquarelli Symonds Ltd (<https://www.topuniversities.com/university-rankings/world-university-rankings/2023>).

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 Austria

Rank	Unicorn Company	Industry	City	Valuation, bn USD
1	BITPANDA	Fintech	Vienna	4
2	GOSTUDENT	Edtech	Vienna	4

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 Austria

Rank	Firm	Intensity, %
1	VERBUND AG	70.55
2	OMV AG	14.69
3	ANDRITZ AG	72.16

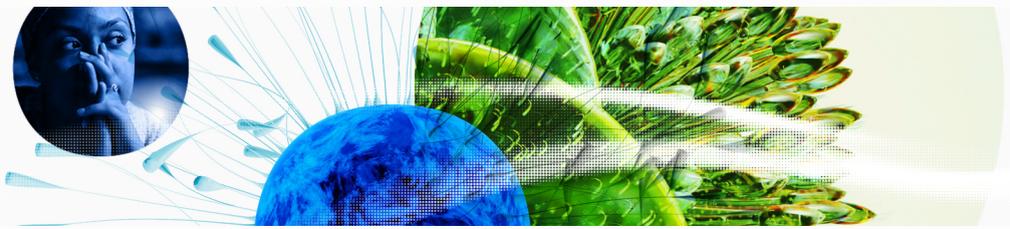
Source: Brand Finance (<https://brandirectory.com/reports/gift-2022>).
Note: Brand Finance only provides within economy ranks.

> 7.1.3 Top 5,000 companies in Austria with highest global brand value

Rank	Brand	Industry	Brand Value, mn USD
1	RED BULL	Soft Drinks	6,961.6
2	ERSTE	Banking	3,677.8
3	A1	Telecoms	2,165.5

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

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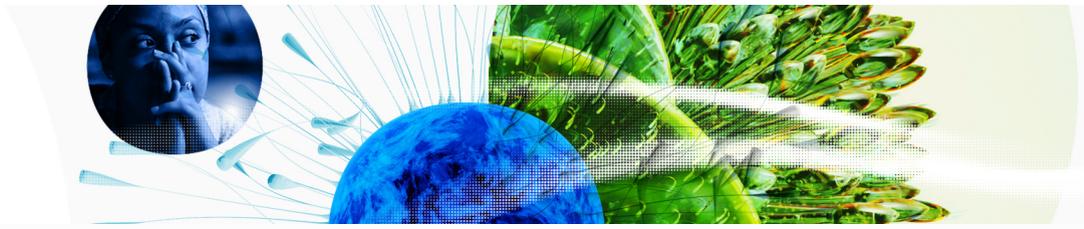
GII 2023 rank

18

Austria

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
15	18	High	EUR	8.9	599.5	66,680.1
Score / Value Rank				Score / Value Rank		
Institutions 78.5 13				Business sophistication 55.7 19		
1.1 Institutional environment 76.2 15				5.1 Knowledge workers 54.0 25		
1.1.1 Operational stability for businesses* 72.2 22				5.1.1 Knowledge-intensive employment, % 44.3 24		
1.1.2 Government effectiveness* 80.1 11				5.1.2 Firms offering formal training, % 42.6 29		
1.2 Regulatory environment 92.3 6				5.1.3 GERD performed by business, % GDP 2.2 7		
1.2.1 Regulatory quality* 77.1 20				5.1.4 GERD financed by business, % 50.6 27		
1.2.2 Rule of law* 92.1 7				5.1.5 Females employed w/advanced degrees, % 13.4 56		
1.2.3 Cost of redundancy dismissal 8.0 1				5.2 Innovation linkages 63.6 9		
1.3 Business environment 66.9 25				5.2.1 University-industry R&D collaboration+ 68.3 26		
1.3.1 Policies for doing business* 82.4 6				5.2.2 State of cluster development+ 81.1 10		
1.3.2 Entrepreneurship policies and culture* 51.5 35				5.2.3 GERD financed by abroad, % GDP 0.5 5		
Human capital and research 58.0 11				5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP 0.0 36		
2.1 Education 62.0 24				5.2.5 Patent families/bn PPP\$ GDP 3.5 11		
2.1.1 Expenditure on education, % GDP 5.2 30				5.3 Knowledge absorption 49.5 22		
2.1.2 Government funding/pupil, secondary, % GDP/cap 25.4 18				5.3.1 Intellectual property payments, % total trade 0.7 52		
2.1.3 School life expectancy, years 16.0 37				5.3.2 High-tech imports, % total trade 9.1 50		
2.1.4 PISA scales in reading, maths and science 491.0 27				5.3.3 ICT services imports, % total trade 3.4 11		
2.1.5 Pupil-teacher ratio, secondary 9.4 23				5.3.4 FDI net inflows, % GDP -1.0 125		
2.2 Tertiary education 55.6 5				5.3.5 Research talent, % in businesses 63.3 9		
2.2.1 Tertiary enrolment, % gross 87.2 15				Knowledge and technology outputs 45.3 17		
2.2.2 Graduates in science and engineering, % 30.6 16				6.1 Knowledge creation 45.2 18		
2.2.3 Tertiary inbound mobility, % 18.0 10				6.1.1 Patents by origin/bn PPP\$ GDP 7.8 11		
2.3 Research and development (R&D) 56.3 17				6.1.2 PCT patents by origin/bn PPP\$ GDP 2.4 12		
2.3.1 Researchers, FTE/mn pop. 6,163.0 9				6.1.3 Utility models by origin/bn PPP\$ GDP 0.5 31		
2.3.2 Gross expenditure on R&D, % GDP 3.2 8				6.1.4 Scientific and technical articles/bn PPP\$ GDP n/a n/a		
2.3.3 Global corporate R&D investors, top 3, mn US\$ 59.2 25				6.1.5 Citable documents H-index 44.4 18		
2.3.4 QS university ranking, top 3* 44.7 27				6.2 Knowledge impact 48.9 19		
Infrastructure 60.4 12				6.2.1 Labor productivity growth, % 0.2 93		
3.1 Information and communication technologies (ICTs) 86.3 17				6.2.2 Unicorn valuation, % GDP 1.6 27		
3.1.1 ICT access* 88.4 31				6.2.3 Software spending, % GDP 0.7 8		
3.1.2 ICT use* 93.1 13				6.2.4 High-tech manufacturing, % 45.7 19		
3.1.3 Government's online service* 87.0 19				6.3 Knowledge diffusion 41.9 30		
3.1.4 E-participation* 76.7 21				6.3.1 Intellectual property receipts, % total trade 0.6 26		
3.2 General infrastructure 49.8 18				6.3.2 Production and export complexity 88.1 7		
3.2.1 Electricity output, GWh/mn pop. 7,480.7 23				6.3.3 High-tech exports, % total trade 7.9 23		
3.2.2 Logistics performance* 86.4 7				6.3.4 ICT services exports, % total trade 3.6 31		
3.2.3 Gross capital formation, % GDP 27.1 36				6.3.5 ISO 9001 quality/bn PPP\$ GDP 7.1 40		
3.3 Ecological sustainability 45.0 26				Creative outputs 48.9 13		
3.3.1 GDP/unit of energy use 13.7 33				7.1 Intangible assets 50.1 25		
3.3.2 Environmental performance* 80.7 8				7.1.1 Intangible asset intensity, top 15, % 53.0 46		
3.3.3 ISO 14001 environment/bn PPP\$ GDP 2.6 34				7.1.2 Trademarks by origin/bn PPP\$ GDP 58.2 39		
Market sophistication 44.4 39				7.1.3 Global brand value, top 5,000 7.5 29		
4.1 Credit 47.9 32				7.1.4 Industrial designs by origin/bn PPP\$ GDP 5.9 17		
4.1.1 Finance for startups and scaleups+ 61.3 31				7.2 Creative goods and services 37.3 17		
4.1.2 Domestic credit to private sector, % GDP 92.8 32				7.2.1 Cultural and creative services exports, % total trade 1.1 24		
4.1.3 Loans from microfinance institutions, % GDP n/a n/a				7.2.2 National feature films/mn pop. 15-69 7.7 11		
4.2 Investment 17.8 41				7.2.3 Entertainment and media market/th pop. 15-69 63.2 7		
4.2.1 Market capitalization, % GDP 28.7 48				7.2.4 Creative goods exports, % total trade 1.2 42		
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP 0.3 23				7.3 Online creativity 58.0 15		
4.2.3 VC recipients, deals/bn PPP\$ GDP 0.1 33				7.3.1 Generic top-level domains (TLDs)/th pop. 15-69 42.1 18		
4.2.4 VC received, value, % GDP 0.0 35				7.3.2 Country-code TLDs/th pop. 15-69 68.2 9		
4.3 Trade, diversification, and market scale 67.5 24				7.3.3 GitHub commits/mn pop. 15-69 50.7 20		
4.3.1 Applied tariff rate, weighted avg., % 1.5 20				7.3.4 Mobile app creation/bn PPP\$ GDP 71.0 48		
4.3.2 Domestic industry diversification 99.4 3						
4.3.3 Domestic market scale, bn PPP\$ 599.5 41						

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; + 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/gii-ranking>. 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 Austria.



> Austria has missing data for one indicator and outdated data for one indicator.

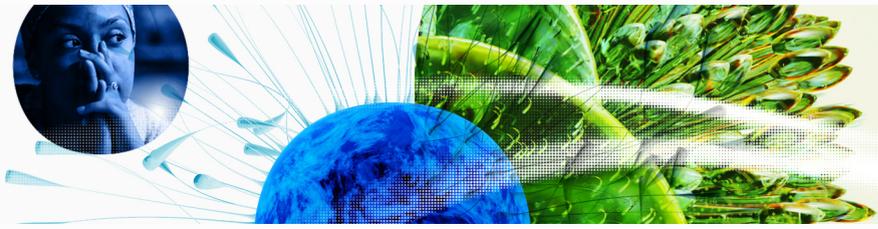
> Missing data for Austria

Code	Indicator name	Economy Year	Model Year	Source
4.1.3	Loans from microfinance institutions, % GDP	n/a	2021	International Monetary Fund, Financial Access Survey (FAS)

> Outdated data for Austria

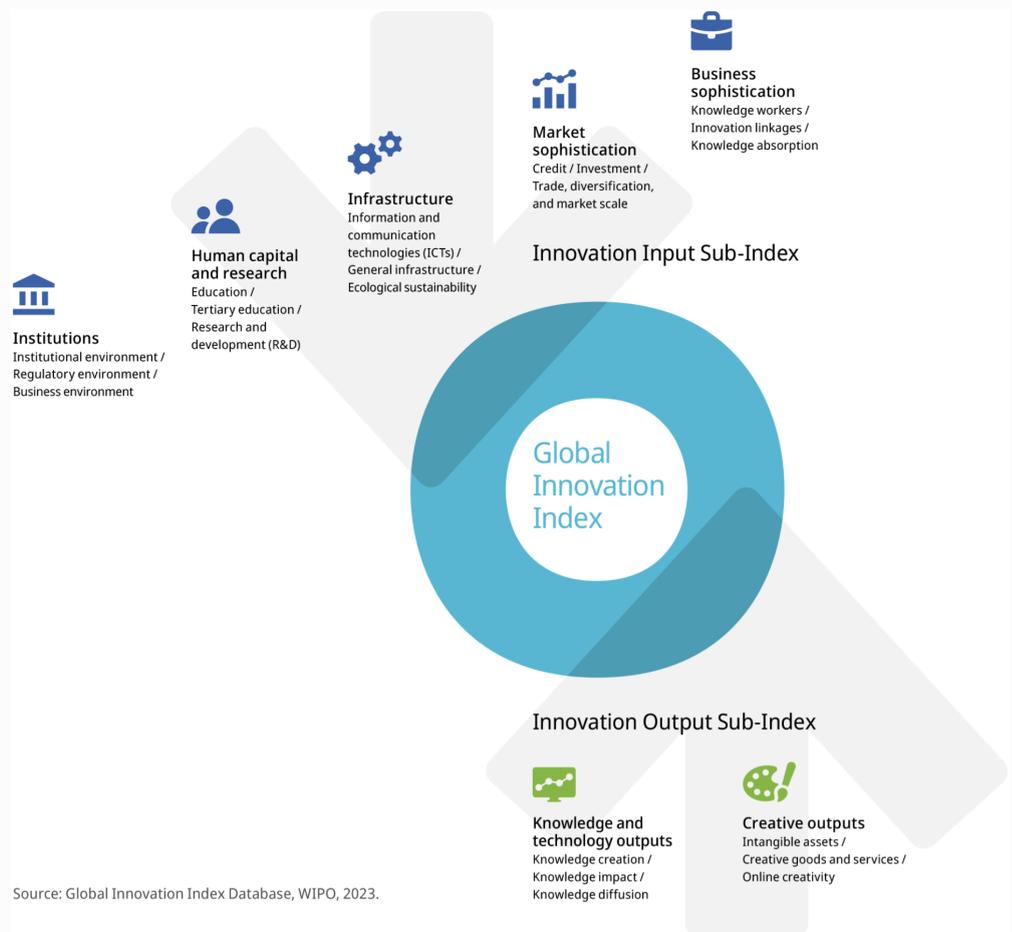
Code	Indicator name	Economy Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2019	2021	UNESCO Institute for Statistics

Global Innovation Index 2023



→ About the Global Innovation Index

- The Global Innovation Index (GII) is published by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations.
- Recognizing that innovation is a key driver of economic development, the GII aims to provide an innovation ranking and rich analysis referencing around 130 economies. Over the last decade, the GII has established itself as both a leading reference on innovation and a “tool for action” for economies that incorporate the GII into their innovation agendas.



The Index is a ranking of the innovation capabilities and results of world economies. It measures innovation based on criteria that include institutions, human capital and research, infrastructure, credit, investment, linkages; the creation, absorption and diffusion of knowledge; and creative outputs.

The GII has two sub-indices: the Innovation Input Sub-Index and the Innovation Output Sub-Index, and seven pillars, each consisting of three sub-pillars.