Global Innovation Index 2021

AUSTRIA

18th Austria ranks 18th among the 132 economies featured in the GII 2021.

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 Austria 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 Austria in the GII 2021 is between ranks 17 and 19.

Rankings for Austria (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	18	16	24
2020	19	18	23
2019	21	19	25

- Austria performs better in innovation inputs than innovation outputs in 2021.
- This year Austria ranks 16th in innovation inputs, higher than both 2020 and 2019.
- As for innovation outputs, Austria ranks 24th. This position is lower than last year but higher than 2019.

17th Austria ranks 17th among the 51 high-income group economies.

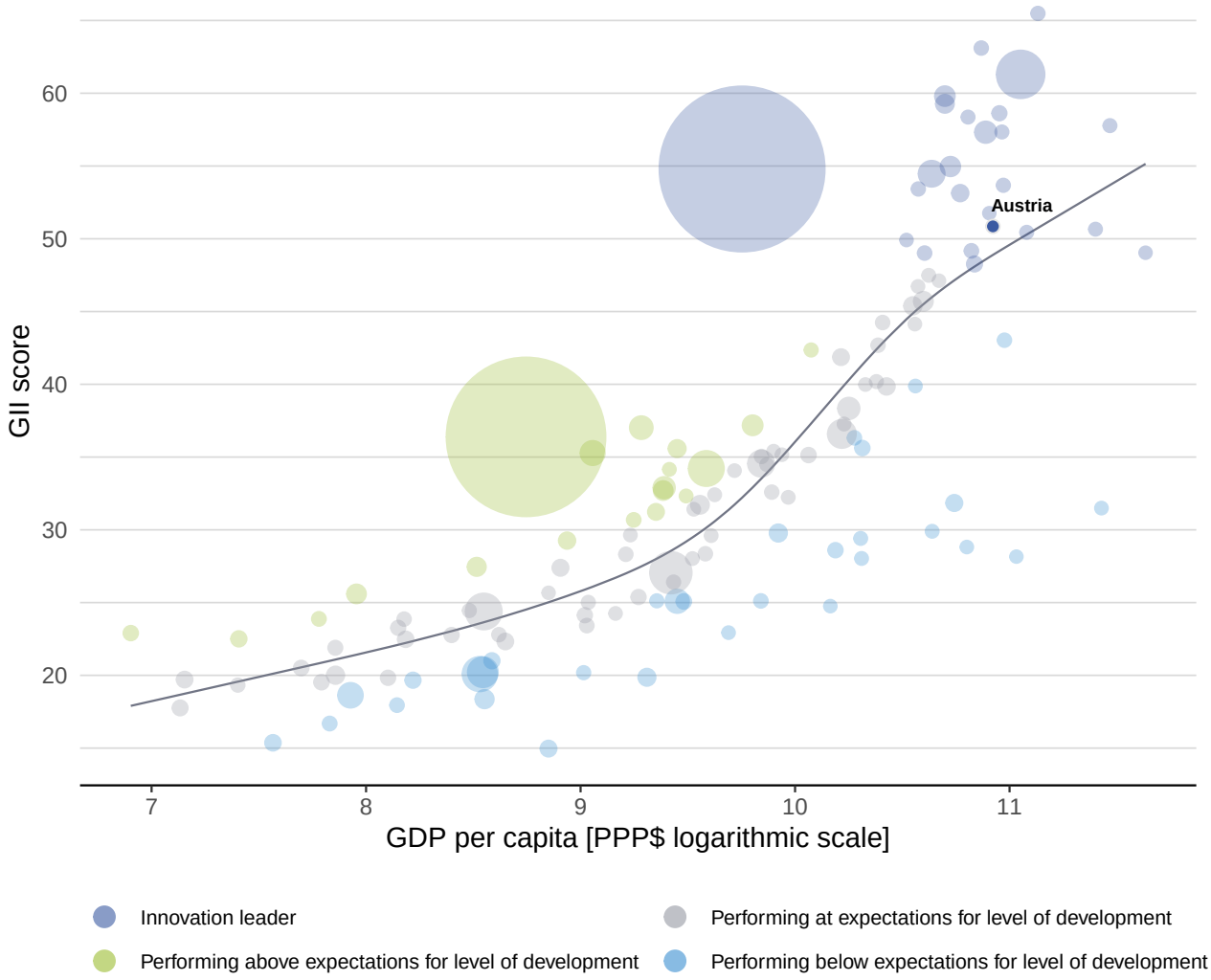
10th Austria ranks 10th among the 39 economies in Europe.

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, Austria's performance is above expectations for its level of development.

The positive relationship between innovation and development

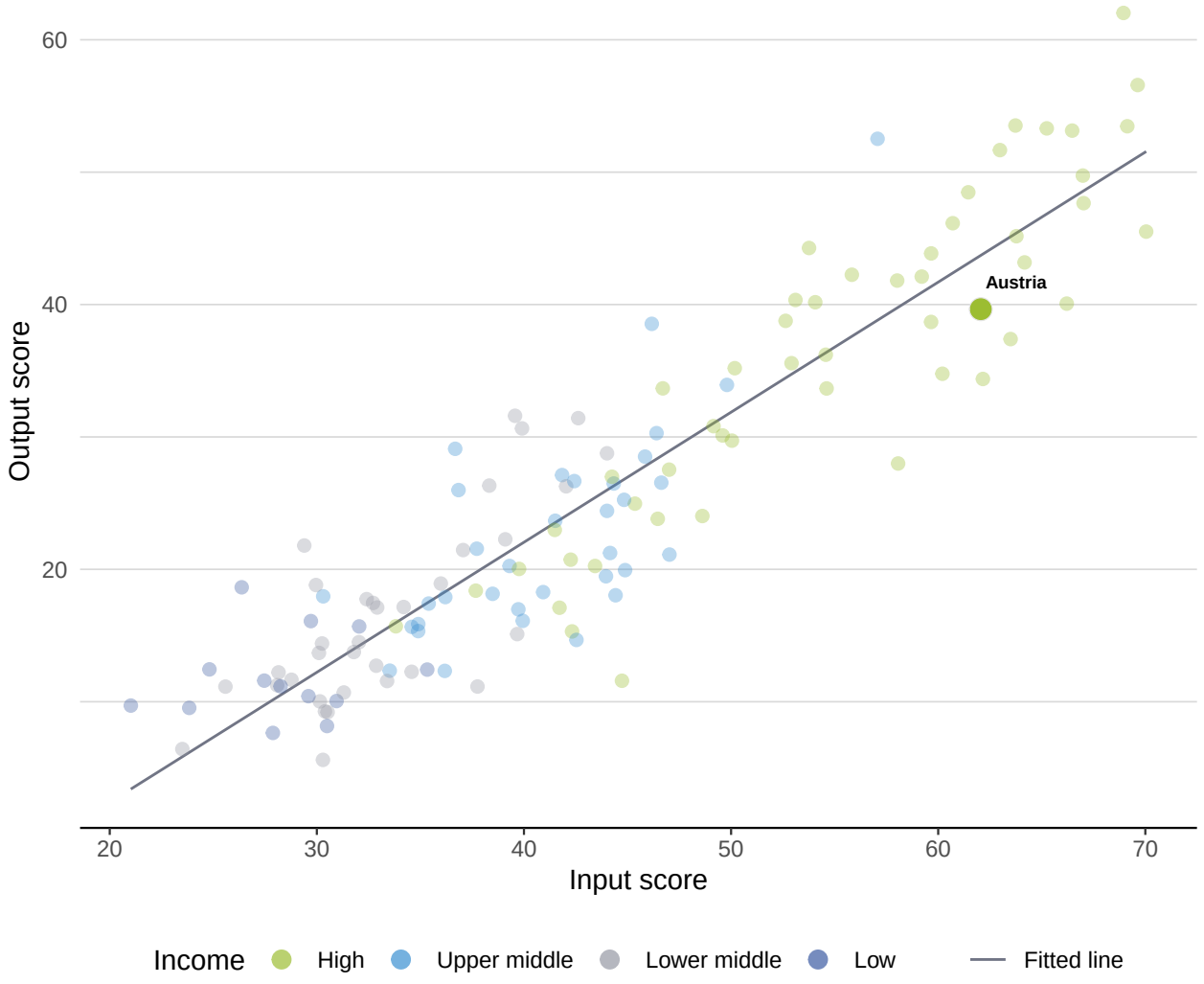


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

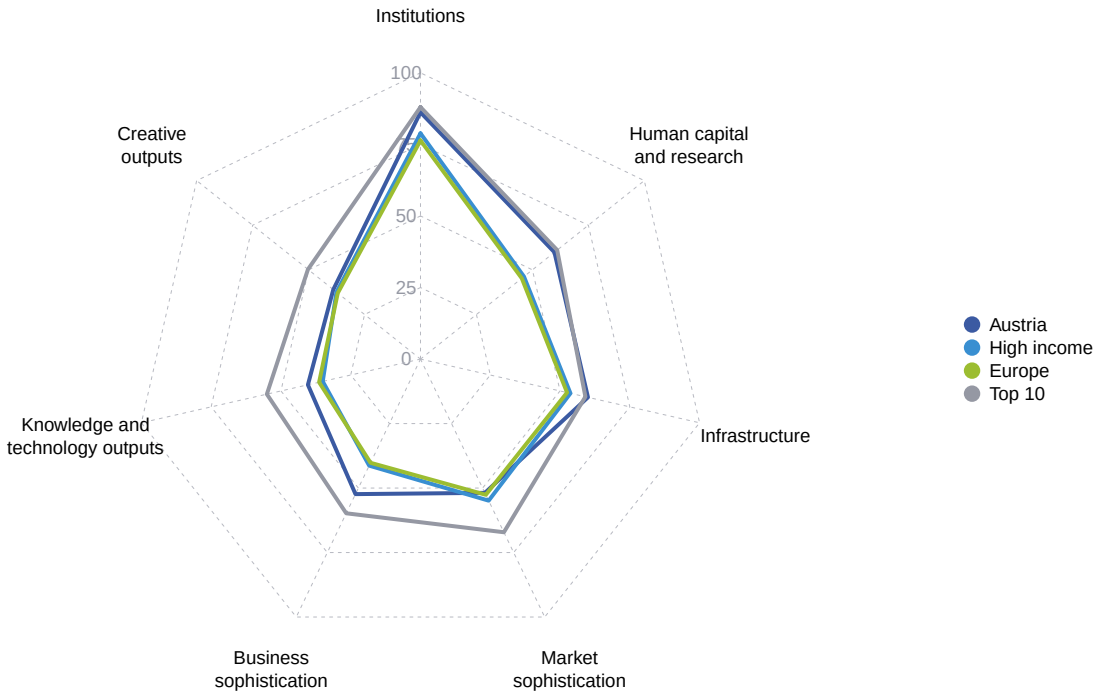
Austria produces less innovation outputs relative to its level of innovation investments.

Innovation input to output performance



BENCHMARKING AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND EUROPE

The seven GII pillar scores for Austria



High-income group economies

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

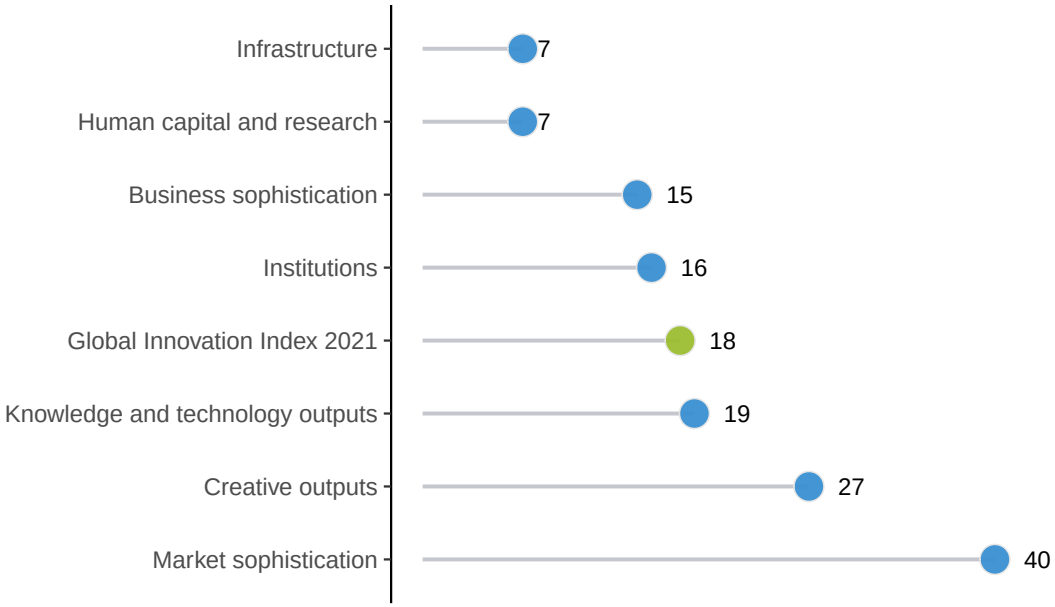
Europe

Austria performs above the regional average in six pillars, namely: Institutions; Human capital and research; Infrastructure; Business sophistication; Knowledge and technology outputs; and, Creative outputs.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Austria performs best in Human capital and research and Infrastructure and its weakest performance is in Market sophistication.

The seven GII pillar ranks for Austria



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

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Austria in the GII 2021.

Strengths and weaknesses for Austria

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
1.2	Regulatory environment	6	1.3.1	Ease of starting a business	98
1.2.2	Rule of law	7	4.1.1	Ease of getting credit	88
1.2.3	Cost of redudancy dismissal	1	4.2	Investment	71
2.2	Tertiary education	4	4.2.2	Market capitalization, % GDP	46
2.3.1	Researchers, FTE/mn pop.	8	4.2.4	Venture capital recipients, deals/bn PPP$ GDP	41
2.3.2	Gross expenditure on R&D, % GDP	5	5.3.2	High-tech imports, % total trade	61
3.1.3	Government's online service	7	5.3.4	FDI net inflows, % GDP	126
3.1.4	E-participation	6	6.1.3	Utility models by origin/bn PPP$ GDP	34
3.2.2	Logistics performance	4	6.2.1	Labor productivity growth, %	91
3.3.2	Environmental performance	6	6.2.2	New businesses/th pop. 15–64	91
4.3.2	Domestic industry diversification	5	7.2.4	Printing and other media, % manufacturing	52
5.2.3	GERD financed by abroad, % GDP	4			
6.3.2	Production and export complexity	6			

Austria

GII 2021 rank **18**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$	GII 2020 rank
24	16	High	EUR	9.0	493.2	55,406	19

		Score/ Value	Rank	
Institutions		**86.2**	**16**	
1.1	**Political environment**	**83.8**	**17**	
1.1.1	Political and operational stability*	83.9	13	
1.1.2	Government effectiveness*	83.8	16	
1.2	**Regulatory environment**	**94.5**	**6**	●
1.2.1	Regulatory quality*	81.6	17	
1.2.2	Rule of law*	96.3	7	●
1.2.3	Cost of redundancy dismissal	8.0	1	● ◆
1.3	**Business environment**	**80.3**	**32**	
1.3.1	Ease of starting a business*	83.2	98	○ ◇
1.3.2	Ease of resolving insolvency*	77.4	21	
Human capital and research		**59.9**	**7**	●
2.1	**Education**	**62.5**	**19**	
2.1.1	Expenditure on education, % GDP	5.4	26	
2.1.2	Government funding/pupil, secondary, % GDP/cap	27.1	12	◆
2.1.3	School life expectancy, years	16.1	35	
2.1.4	PISA scales in reading, maths and science	491.0	27	
2.1.5	Pupil-teacher ratio, secondary	9.3	22	◆
2.2	**Tertiary education**	**58.8**	**4**	● ◆
2.2.1	Tertiary enrolment, % gross	86.7	14	
2.2.2	Graduates in science and engineering, %	31.0	14	◆
2.2.3	Tertiary inbound mobility, %	17.5	10	
2.3	**Research and development (R&D)**	**58.3**	**16**	
2.3.1	Researchers, FTE/mn pop.	5,868.6	8	●
2.3.2	Gross expenditure on R&D, % GDP	3.2	5	●
2.3.3	Global corporate R&D investors, top 3, mn US$	55.5	25	
2.3.4	QS university ranking, top 3*	43.5	25	
Infrastructure		**60.0**	**7**	●
3.1	**Information and communication technologies (ICTs)**	**89.5**	**11**	
3.1.1	ICT access*	87.3	14	
3.1.2	ICT use*	78.2	26	
3.1.3	Government's online service*	94.7	7	●
3.1.4	E-participation*	97.6	6	●
3.2	**General infrastructure**	**46.8**	**14**	
3.2.1	Electricity output, GWh/mn pop.	7,979.3	23	
3.2.2	Logistics performance*	91.9	4	●
3.2.3	Gross capital formation, % GDP	26.2	38	
3.3	**Ecological sustainability**	**43.8**	**26**	
3.3.1	GDP/unit of energy use	14.2	30	
3.3.2	Environmental performance*	79.6	6	●
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	2.0	40	
Market sophistication		**51.9**	**40**	◇
4.1	**Credit**	**44.9**	**50**	
4.1.1	Ease of getting credit*	55.0	88	○
4.1.2	Domestic credit to private sector, % GDP	85.8	35	
4.1.3	Microfinance gross loans, % GDP	n/a	n/a	
4.2	**Investment**	**28.5**	**71**	○ ◇
4.2.1	Ease of protecting minority investors*	70.0	36	
4.2.2	Market capitalization, % GDP	30.6	46	○ ◇
4.2.3	Venture capital investors, deals/bn PPP$ GDP	0.1	28	◇
4.2.4	Venture capital recipients, deals/bn PPP$ GDP	0.0	41	○ ◇
4.3	**Trade, diversification, and market scale**	**82.2**	**22**	
4.3.1	Applied tariff rate, weighted avg., %	1.8	25	
4.3.2	Domestic industry diversification	99.2	5	●
4.3.3	Domestic market scale, bn PPP$	493.2	41	

		Score/ Value	Rank	
Business sophistication		**52.3**	**15**	
5.1	**Knowledge workers**	**60.4**	**17**	
5.1.1	Knowledge-intensive employment, %	42.0	24	
5.1.2	Firms offering formal training, %	n/a	n/a	
5.1.3	GERD performed by business, % GDP	2.2	7	
5.1.4	GERD financed by business, %	53.6	22	
5.1.5	Females employed w/advanced degrees, %	17.7	37	◇
5.2	**Innovation linkages**	**54.7**	**11**	
5.2.1	University-industry R&D collaboration†	62.7	17	
5.2.2	State of cluster development and depth†	65.0	14	
5.2.3	GERD financed by abroad, % GDP	0.5	4	● ◆
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	43	◇
5.2.5	Patent families/bn PPP$ GDP	3.8	11	
5.3	**Knowledge absorption**	**41.9**	**25**	
5.3.1	Intellectual property payments, % total trade	0.8	47	
5.3.2	High-tech imports, % total trade	7.8	61	○
5.3.3	ICT services imports, % total trade	2.7	13	
5.3.4	FDI net inflows, % GDP	–1.6	126	○
5.3.5	Research talent, % in businesses	63.0	7	
Knowledge and technology outputs		**40.3**	**19**	
6.1	**Knowledge creation**	**46.5**	**18**	
6.1.1	Patents by origin/bn PPP$ GDP	8.5	12	
6.1.2	PCT patents by origin/bn PPP$ GDP	3.1	11	
6.1.3	Utility models by origin/bn PPP$ GDP	0.6	34	○
6.1.4	Scientific and technical articles/bn PPP$ GDP	37.1	24	
6.1.5	Citable documents H-index	44.1	18	
6.2	**Knowledge impact**	**38.5**	**29**	
6.2.1	Labor productivity growth, %	–1.3	91	○
6.2.2	New businesses/th pop. 15–64	0.6	91	○ ◇
6.2.3	Software spending, % GDP	0.5	16	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	6.5	43	
6.2.5	High-tech manufacturing, %	45.4	16	
6.3	**Knowledge diffusion**	**36.0**	**26**	
6.3.1	Intellectual property receipts, % total trade	0.6	25	
6.3.2	Production and export complexity	85.7	6	●
6.3.3	High-tech exports, % total trade	6.7	26	
6.3.4	ICT services exports, % total trade	3.3	26	
Creative outputs		**39.0**	**27**	◇
7.1	**Intangible assets**	**41.1**	**38**	
7.1.1	Trademarks by origin/bn PPP$ GDP	53.7	41	
7.1.2	Global brand value, top 5,000, % GDP	52.6	35	◇
7.1.3	Industrial designs by origin/bn PPP$ GDP	7.4	17	
7.1.4	ICTs and organizational model creation†	64.9	29	◇
7.2	**Creative goods and services**	**26.2**	**34**	
7.2.1	Cultural and creative services exports, % total trade	1.2	23	
7.2.2	National feature films/mn pop. 15–69	7.0	30	
7.2.3	Entertainment and media market/th pop. 15–69	61.8	7	
7.2.4	Printing and other media, % manufacturing	1.0	52	○
7.2.5	Creative goods exports, % total trade	0.9	48	
7.3	**Online creativity**	**47.3**	**24**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	35.5	19	
7.3.2	Country-code TLDs/th pop. 15–69	63.3	11	
7.3.3	Wikipedia edits/mn pop. 15–69	73.8	26	
7.3.4	Mobile app creation/bn PPP$ GDP	13.4	40	

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 Appendix IV for details, including the year of the data, at http://globalinnovationindex.org. 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 data that are either missing or outdated for Austria.

Missing data for Austria

Code	Indicator name	Economy year	Model year	Source
4.1.3	Microfinance gross loans, % GDP	n/a	2018	Microfinance Information Exchange
5.1.2	Firms offering formal training, %	n/a	2019	World Bank

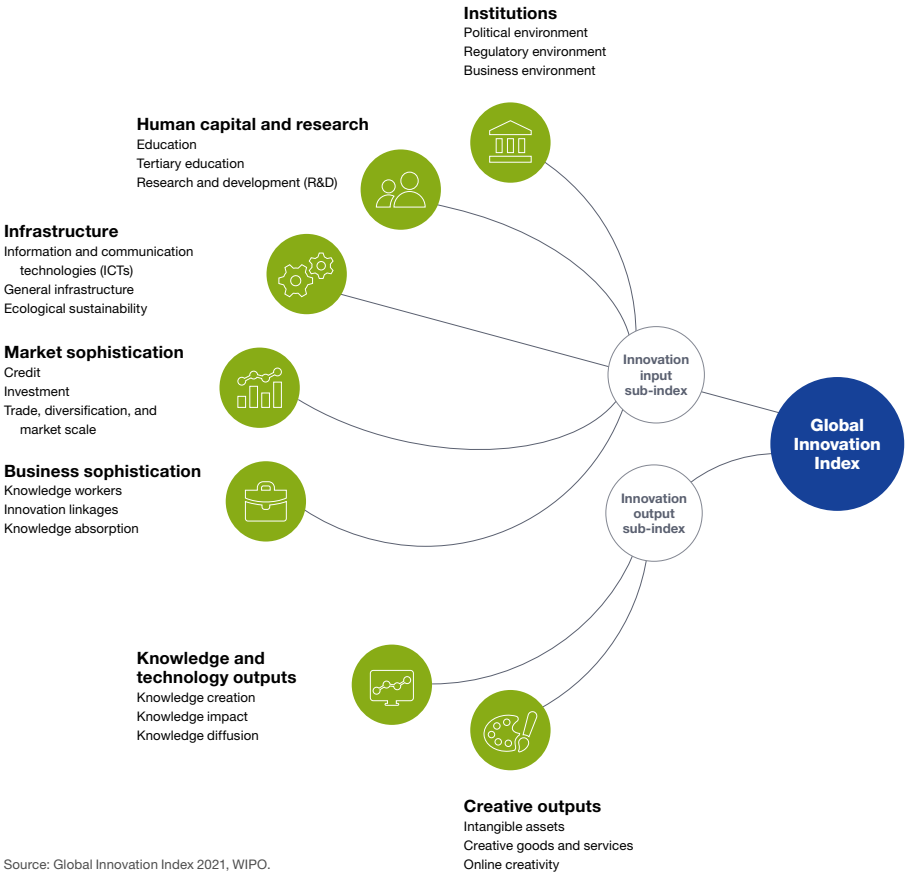
Outdated data for Austria

Code	Indicator name	Economy year	Model year	Source
2.1.5	Pupil-teacher ratio, secondary	2017	2019	UNESCO Institute for Statistics
4.3.2	Domestic industry diversification	2017	2018	United Nations Industrial Development Organization
7.1.3	Industrial designs by origin/bn PPP$ GDP	2016	2019	World Intellectual Property Organization

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 2021, WIPO.

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.