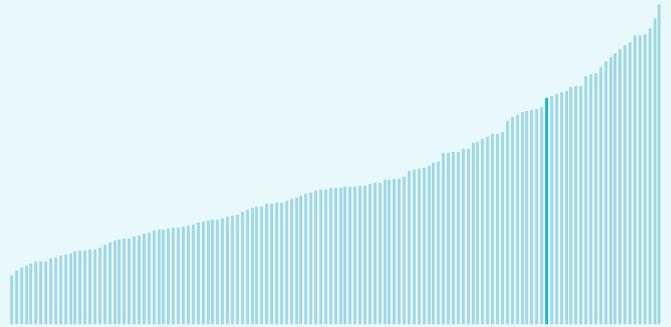


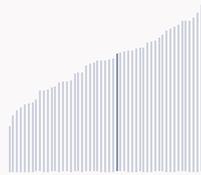
Belgium ranking in the Global Innovation Index 2024

Belgium ranks **24th** among the 133 economies featured in the GII 2024.

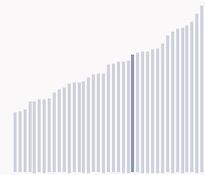
The Global Innovation Index (GII) ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GII aims to capture the multi-dimensional facets of innovation.



Belgium ranks **23rd** among the 51 high-income group economies.



Belgium ranks **15th** among the 39 economies in Europe.



> Belgium GII Ranking (2020-2024)

The table shows the rankings of Belgium 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 Belgium in the GII 2024 is between ranks 19 and 25.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	22nd	21st	25th
2021	22nd	21st	26th
2022	26th	26th	24th
2023	23rd	23rd	22nd
2024	24th	26th	22nd

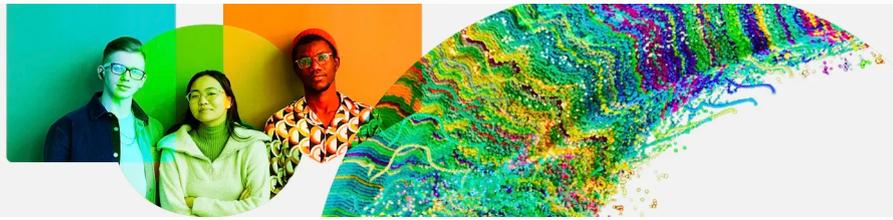
Belgium performs better in innovation outputs than innovation inputs in 2024.

This year Belgium ranks **26th** in innovation inputs. This position is lower than last year.

Belgium ranks **22nd** in innovation outputs. This position is the same as last year.

Belgium has 1 cluster 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 Belgium, how rapidly is technology being embraced and what are the resulting societal impacts.



For Belgium, 8 indicators have improved in the short-term and 5 indicators have worsened.

Science and innovation investment

Scientific publications	R&D investments	Venture capital		International patent filings
		Deal numbers	Deal values	
▼ -4.6% 2022 - 2023	▲ 3.4% 2021 - 2022	▼ -22.6% 2022 - 2023	▼ -55.4% 2022 - 2023	▲ 1.4% 2022 - 2023
▲ 2.2% 2013 - 2023	▲ 5.7% 2012 - 2022	▲ 6.6% 2013 - 2023	▲ 8.9% 2013 - 2023	▲ 2% 2013 - 2023

Technology adoption

Safe sanitation	Connectivity		Robots	Electric vehicles
	Fixed broadband	5G		
▲ 0.4% 2021 - 2022	▲ 1.5% 2021 - 2022	▲ 588.4% 2021 - 2022	▲ 9.6% 2021 - 2022	▲ 74.1% 2022 - 2023
▲ 1.5% 2012 - 2022	▲ 2.7% 2012 - 2022		▲ 5.8% 2012 - 2022	▲ 74.6% 2013 - 2023
94.9 per 100 inhabitants in 2022	43.5 per 100 inhabitants in 2022	29.6 per 100 inhabitants in 2022		8.2 per 100 inhabitants in 2023

Socioeconomic impact

Labor productivity	Life expectancy	Temperature change
▲ 0.2% 2022 - 2023	▼ -0.1% 2021 - 2022	▲ 2.4°C 2023
▲ 0.5% 2013 - 2023	▲ 0.2% 2012 - 2022	n/a
150,832 USD in 2023	81.7 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.



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.



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

> Innovation overperformers relative to their economic 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.

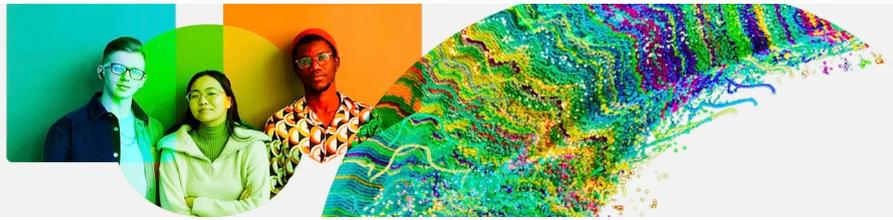


Belgium produces less innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

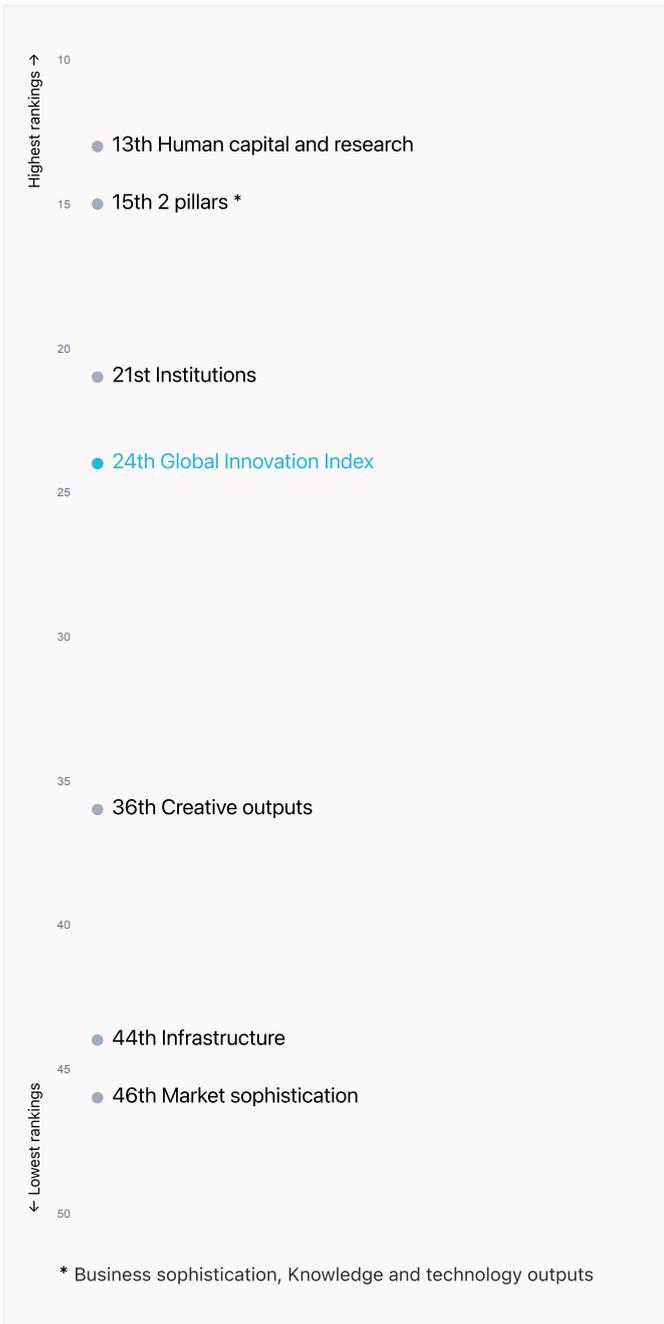


Global Innovation Index 2024



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



Highest rankings



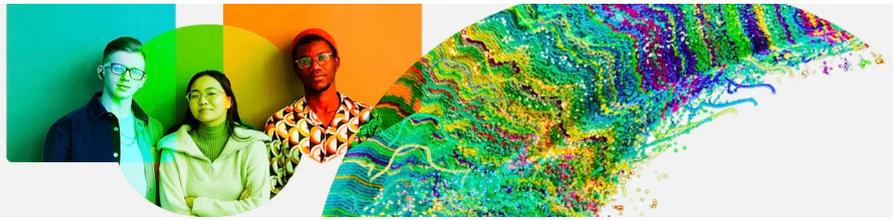
Belgium ranks highest in Human capital and research (13th), Business sophistication, Knowledge and technology outputs (15th) and Institutions (21st).

Lowest rankings



Belgium ranks lowest in Market sophistication (46th), Infrastructure (44th) and Creative outputs (36th).

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



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

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



High-Income economies

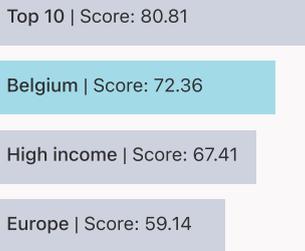
Belgium performs above the high-income group average in Institutions, Human capital and research, Business sophistication, Knowledge and technology outputs.



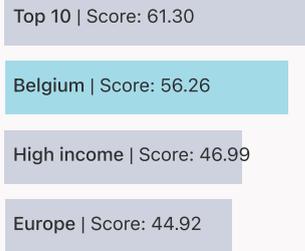
Europe

Belgium performs above the regional average in Institutions, Human capital and research, Business sophistication, Knowledge and technology outputs.

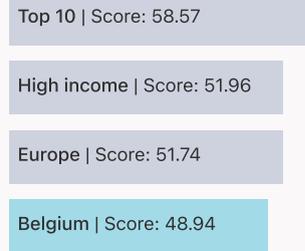
Institutions



Human capital and research



Infrastructure



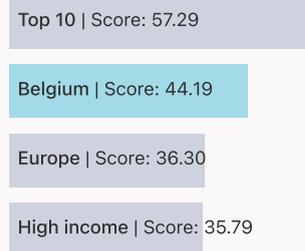
Market sophistication



Business sophistication



Knowledge and technology outputs



Creative outputs





Innovation strengths and weaknesses in Belgium

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



Belgium's main innovation strengths are **Gross expenditure on R&D, % GDP (rank 4)**, **GERD performed by business, % GDP (rank 5)** and **Researchers, FTE/mn pop. (rank 7)**.

Strengths

Weaknesses

Rank	Code	Indicator name	Rank	Code	Indicator name
4	2.3.2	Gross expenditure on R&D, % GDP	115	5.3.4	FDI net inflows, % GDP
5	5.1.3	GERD performed by business, % GDP	87	2.2.2	Graduates in science and engineering, %
7	2.3.1	Researchers, FTE/mn pop.	83	3.1.4	E-participation*
8	5.1.4	GERD financed by business, %	79	6.2.1	Labor productivity growth, %
9	6.2.3	Software spending, % GDP	78	7.3.3	Mobile app creation/bn PPP\$ GDP
9	5.1.2	Firms offering formal training, %	73	7.1.2	Trademarks by origin/bn PPP\$ GDP
10	2.1.3	School life expectancy, years	67	3.1.3	Government's online service*
11	5.1.5	Females employed w/advanced degrees, %	67	6.3.5	ISO 9001 quality/bn PPP\$ GDP
12	5.1.1	Knowledge-intensive employment, %	63	3.1.2	ICT use*
13	7.3.2	GitHub commits/mn pop. 15-69	46	7.1.1	Intangible asset intensity, top 15, %

Global Innovation Index 2024



Belgium's innovation system

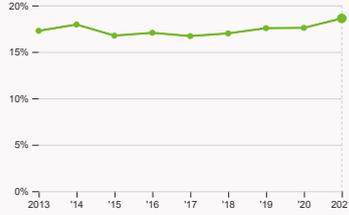
As far as practicable, the plots below present unscaled indicator data.

> Innovation inputs in Belgium



2.1.1 Expenditure on education

was equal to 6.21 % GDP in 2021, down by 0.6 percentage points from the year prior – and equivalent to an indicator rank of 13.



2.2.2 Graduates in science and engineering

was equal to 18.6 % of total graduates in 2021, up by 1.02 percentage points from the year prior – and equivalent to an indicator rank of 87.



2.3.1 Researchers

was equal to 6963.9 FTE per million population in 2022, up by 5.55% from the year prior – and equivalent to an indicator rank of 7.



2.3.2 Gross expenditure on R&D

was equal to 3.43 % GDP in 2022 with no change from the year prior – and equivalent to an indicator rank of 4.



2.3.4 QS university ranking

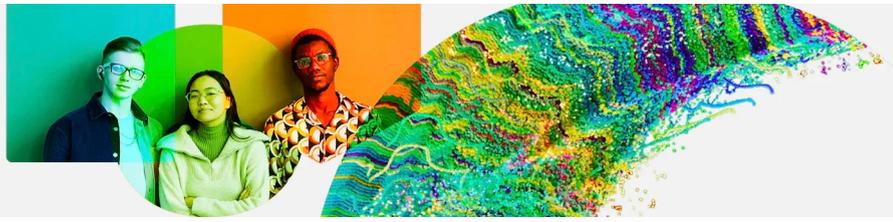
was equal to an average score of 56.1 for the top three universities in 2023, up by 4.02% from the year prior – and equivalent to an indicator rank of 16.



4.2.4 VC received, value

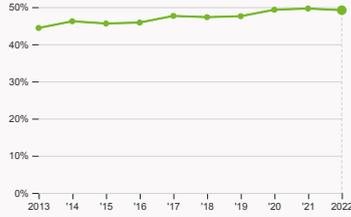
was equal to 548.54 thousand USD in 2023, down by 55.36% from the year prior – and equivalent to an indicator rank of 39.

Global Innovation Index 2024



4.3.2 Domestic industry diversification

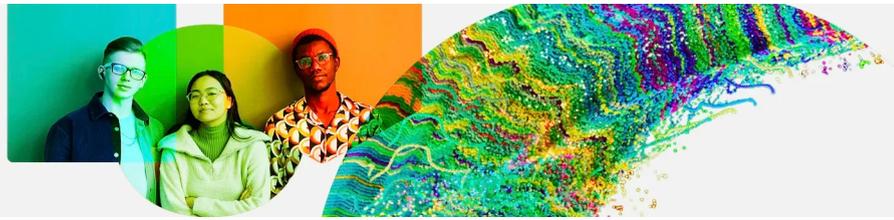
was equal to an index score of 0.11 in 2021, up by 13.87% from the year prior – and equivalent to an indicator rank of 40.



5.1.1 Knowledge-intensive employment

was equal to 49.17 % in 2022, down by 0.45 percentage points from the year prior – and equivalent to an indicator rank of 12.

Global Innovation Index 2024

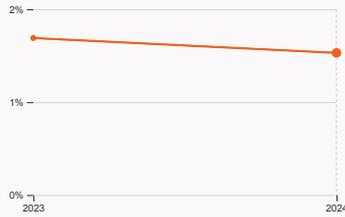


› Innovation outputs in Belgium



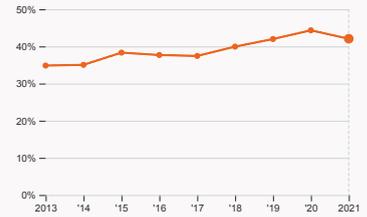
6.1.1 Patents by origin

was equal to 3.28 thousand patents in 2022, down by 0.3% from the year prior – and equivalent to an indicator rank of 17.



6.2.2 Unicorn valuation

was equal to 1.53 % GDP in 2024, down by 0.16 percentage points from the year prior – and equivalent to an indicator rank of 25.



6.2.4 High-tech manufacturing

was equal to 42.06 % of total manufacturing output in 2021, down by 2.27 percentage points from the year prior – and equivalent to an indicator rank of 23.



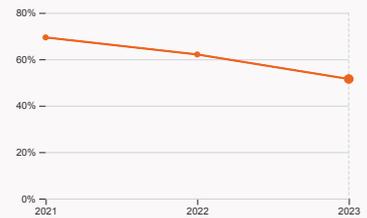
6.3.2 Production and export complexity

was equal to a score of 1.18 in 2021, up by 0.85% from the year prior – and equivalent to an indicator rank of 20.



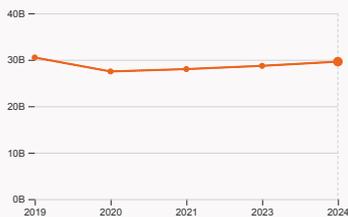
6.3.3 High-tech exports

was equal to 71.28 billion USD in 2022, down by 2.62% from the year prior – and equivalent to an indicator rank of 14.



7.1.1 Intangible asset intensity

was equal to 51.49 % for the top 15 companies in 2023, down by 10.57 percentage points from the year prior – and equivalent to an indicator rank of 46.



7.1.3 Global brand value

was equal to 29.6 billion USD for the brands in the top 5,000 in 2024, up by 3.14% from the year prior – and equivalent to an indicator rank of 33.



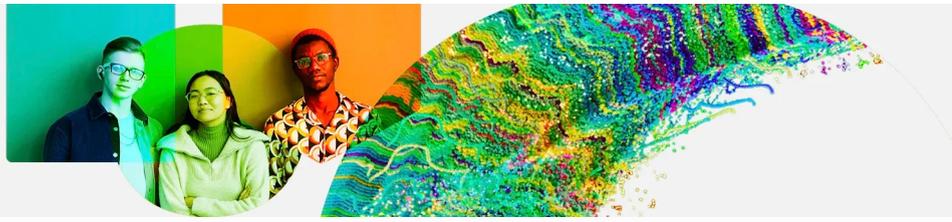
7.2.2 National feature films

was equal to 40 films in 2022, up by 48.15% from the year prior – and equivalent to an indicator rank of 24.



7.3.3 Mobile app creation

was equal to 81.68 million global downloads of mobile apps in 2023, up by 38.07% from the year prior – and equivalent to an indicator rank of 78.



Belgium's innovation top performers

2.3.3 Global corporate R&D investors from Belgium

Rank	Firm	Industry	R&D	R&D Growth	R&D Intensity
			[mn EUR]	[%]	[%]
151	UCB	Pharmaceuticals & Biotechnology	1,513	-0.4	29
578	SOLVAY	Chemicals	326	19	2
594	UMICORE	Industrial Metals & Mining	316	29	1
705	KBC	Banks	262	12	3

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 Belgium's top universities

Rank	University	Score
61	KU LEUVEN	70.10
159	GHENT UNIVERSITY	50.20
180	UNIVERSITE CATHOLIQUE DE LOUVAIN (UCLouvain)	48.00

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 Belgium

Rank	Unicorn Company	Industry	City	Valuation, bn USD
1	COLLIBRA	Enterprise Tech	Brussels	5
2	ODOO	Enterprise Tech	Louvain-la-Neuve	3
3	DELIVERECT	Consumer & Retail	Ghent	1

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 Belgium

Rank	Firm	Intensity, %
1	ANHEUSER-BUSCH INBEV SA/NV	98.33
2	UCB SA	92.35
3	D'IETEREN GROUP SA	74.69

Source: Brand Finance (<https://brandirectory.com/reports/gif-2022>).

Note: Brand Finance only provides within economy ranks.

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

Rank	Brand	Industry	Brand Value, mn USD
1	KBC	Banking	6,132
2	BDO GLOBAL	Commercial Services	4,070.5
3	AB INBEV	Beers	2,184.2

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

Note: Rank corresponds to within economy ranks.

Global Innovation Index 2024

Belgium

GII 2024 rank

24

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
22	26	High	EUR	11.7	769.7	65,813.4
			Score / Value Rank			
Institutions			72.4 21	Business sophistication 56.3 15		
1.1 Institutional environment			76 24	5.1 Knowledge workers 77.1 5 ●◆		
1.1.1 Operational stability for businesses*			76 34	5.1.1 Knowledge-intensive employment, % 49.2 12 ●◆		
1.1.2 Government effectiveness*			76 25	5.1.2 Firms offering formal training, % 57.8 9 ●◆		
1.2 Regulatory environment			78.6 21	5.1.3 GERD performed by business, % GDP 2.5 5 ●◆		
1.2.1 Regulatory quality*			74.7 23	5.1.4 GERD financed by business, % 64.4 8 ●◆		
1.2.2 Rule of law*			82.5 20	5.1.5 Females employed w/advanced degrees, % 28 11 ●◆		
1.3 Business environment			62.4 [30]	5.2 Innovation linkages 49.5 22		
1.3.1 Policy stability for doing business*			62.4 38	5.2.1 Public Research-Industry co-publications, % 4.5 16		
1.3.2 Entrepreneurship policies and culture*			n/a n/a	5.2.2 University-industry R&D collaboration+ 78.2 16		
Human capital and research			56.3 13 ●◆	5.2.3 State of cluster development+ 69 35		
2.1 Education			70.2 4 ●◆	5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP 0.04 26		
2.1.1 Expenditure on education, % GDP 6.2 13 ◆				5.2.5 Patent families/bn PPP\$ GDP 2.7 17		
2.1.2 Government funding/pupil, secondary, % GDP/cap 26.1 17				5.3 Knowledge absorption 42.4 25		
2.1.3 School life expectancy, years 18.9 10 ●◆				5.3.1 Intellectual property payments, % total trade 0.7 55		
2.1.4 PISA scales in reading, maths and science 486.3 20				5.3.2 High-tech imports, % total trade 10.1 38		
2.1.5 Pupil-teacher ratio, secondary 8.7 19 ◆				5.3.3 ICT services imports, % total trade 2.8 16		
2.2 Tertiary education			36.7 53	5.3.4 FDI net inflows, % GDP 0.4 115 ○		
2.2.1 Tertiary enrolment, % gross 82.7 19				5.3.5 Research talent, % in businesses 62 9		
2.2.2 Graduates in science and engineering, % 18.6 87 ○◇				Knowledge and technology outputs 44.2 15		
2.2.3 Tertiary inbound mobility, % 9.8 27				6.1 Knowledge creation 48.2 14		
2.3 Research and development (R&D)			61.9 12 ●◆	6.1.1 Patents by origin/bn PPP\$ GDP 4.5 17		
2.3.1 Researchers, FTE/mn pop. 6,963.9 7 ●◆				6.1.2 PCT patents by origin/bn PPP\$ GDP 1.7 17		
2.3.2 Gross expenditure on R&D, % GDP 3.4 4 ●◆				6.1.3 Utility models by origin/bn PPP\$ GDP - -		
2.3.3 Global corporate R&D investors, top 3, mn USD 63.7 20				6.1.4 Scientific and technical articles/bn PPP\$ GDP 28.5 19		
2.3.4 QS university ranking, top 3* 56.8 16				6.1.5 Citable documents H-index 54.2 14		
Infrastructure			48.9 44 ◇	6.2 Knowledge impact 47.4 17		
3.1 Information and communication technologies (ICTs)			72 68 ○◇	6.2.1 Labor productivity growth, % 0.3 79 ○		
3.1.1 ICT access* 99.6 18				6.2.2 Unicorn valuation, % GDP 1.5 25		
3.1.2 ICT use* 78.6 63 ○◇				6.2.3 Software spending, % GDP 0.6 9 ●◆		
3.1.3 Government's online service* 65.7 67 ○◇				6.2.4 High-tech manufacturing, % 42.1 23		
3.1.4 E-participation* 44.2 83 ○◇				6.3 Knowledge diffusion 37 30		
3.2 General infrastructure			52.4 13 ●◆	6.3.1 Intellectual property receipts, % total trade 0.8 22		
3.2.1 Electricity output, GWh/mn pop. 8,032.5 19				6.3.2 Production and export complexity 72.8 20		
3.2.2 Logistics performance* 86.4 7				6.3.3 High-tech exports, % total trade 12.7 14		
3.2.3 Gross capital formation, % GDP 27.1 35				6.3.4 ICT services exports, % total trade 3.3 33		
3.3 Ecological sustainability			22.4 59	6.3.5 ISO 9001 quality/bn PPP\$ GDP 4.3 67 ○		
3.3.1 GDP/unit of energy use 11.4 58				Creative outputs 37.9 36 ◇		
3.3.2 Low-carbon energy use, % 25.4 50				7.1 Intangible assets 33.7 50 ◇		
3.3.3 ISO 14001 environment/bn PPP\$ GDP 1.7 60				7.1.1 Intangible asset intensity, top 15, % 51.5 46 ○◇		
Market sophistication			38.2 46 ◇	7.1.2 Trademarks by origin/bn PPP\$ GDP 26.5 73 ○		
4.1 Credit			25.5 [70]	7.1.3 Global brand value, top 5,000, % GDP 4.5 33 ◇		
4.1.1 Finance for startups and scaleups+ n/a n/a				7.1.4 Industrial designs by origin/bn PPP\$ GDP 1.9 41		
4.1.2 Domestic credit to private sector, % GDP 73.6 40				7.2 Creative goods and services 29.1 40 ◇		
4.1.3 Loans from microfinance institutions, % GDP n/a n/a				7.2.1 Cultural and creative services exports, % total trade 1.1 24		
4.2 Investment			23.8 34 ◇	7.2.2 National feature films/mn pop. 15-69 5 24		
4.2.1 Market capitalization, % GDP 75.2 24				7.2.3 Entertainment and media market/th pop. 15-69 45.1 17		
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP 0.4 16				7.2.4 Creative goods exports, % total trade 0.8 51		
4.2.3 VC recipients, deals/bn PPP\$ GDP 0.1 37 ◇				7.3 Online creativity 55.1 23		
4.2.4 VC received, value, % GDP 0.001 39 ◇				7.3.1 Top-level domains (TLDs)/th pop. 15-69 38.2 18		
4.3 Trade, diversification and market scale			65.3 28	7.3.2 GitHub commits/mn pop. 15-69 64.6 13 ●◆		
4.3.1 Applied tariff rate, weighted avg., % 1.1 21				7.3.3 Mobile app creation/bn PPP\$ GDP 62.5 78 ○◇		
4.3.2 Domestic industry diversification 89.8 40						
4.3.3 Domestic market scale, bn PPP\$ 769.7 36						

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 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.



Data availability

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



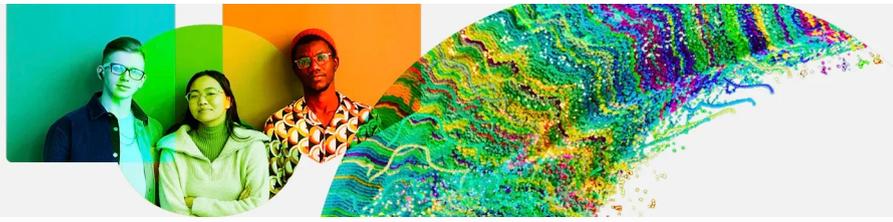
Belgium has missing data for four indicators and outdated data for seven indicators.

Missing data for Belgium

Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture [†]	n/a	2023	Global Entrepreneurship Monitor
4.1.1	Finance for startups and scaleups [†]	n/a	2023	Global Entrepreneurship Monitor
4.1.3	Loans from microfinance institutions, % GDP	n/a	2022	International Monetary Fund, Financial Access Survey (FAS)
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2022	World Intellectual Property Organization; International Monetary Fund

Outdated data for Belgium

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	2021	2022	UNESCO Institute for Statistics
2.1.5	Pupil–teacher ratio, secondary	2020	2022	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2021	2022	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	2021	2022	UNESCO Institute for Statistics
4.2.1	Market capitalization, % GDP	2018	2022	World Federation of Exchanges; World Bank
5.1.2	Firms offering formal training, %	2020	2023	World Bank Enterprise Surveys



Top science and technology clusters in Belgium



Belgium has 1 cluster in the top 100 S&T clusters of the Global Innovation Index, the same number as in 2023.

The table and map below give an overview of the top science and technology clusters in Belgium.

Rank	Cluster name	Top patent field	Top academic subject
53	Brussels–Antwerp	Pharmaceuticals	Engineering



Global Innovation Index 2024

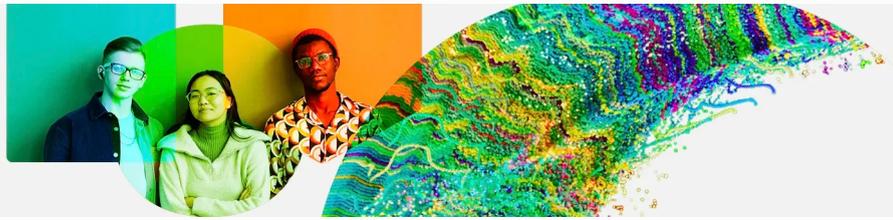


The table and map below give an overview of the top science and technology clusters by intensity in Belgium.

Rank	Cluster name	Top patent field	Top academic subject
58	Brussels–Antwerp	Pharmaceuticals	Engineering

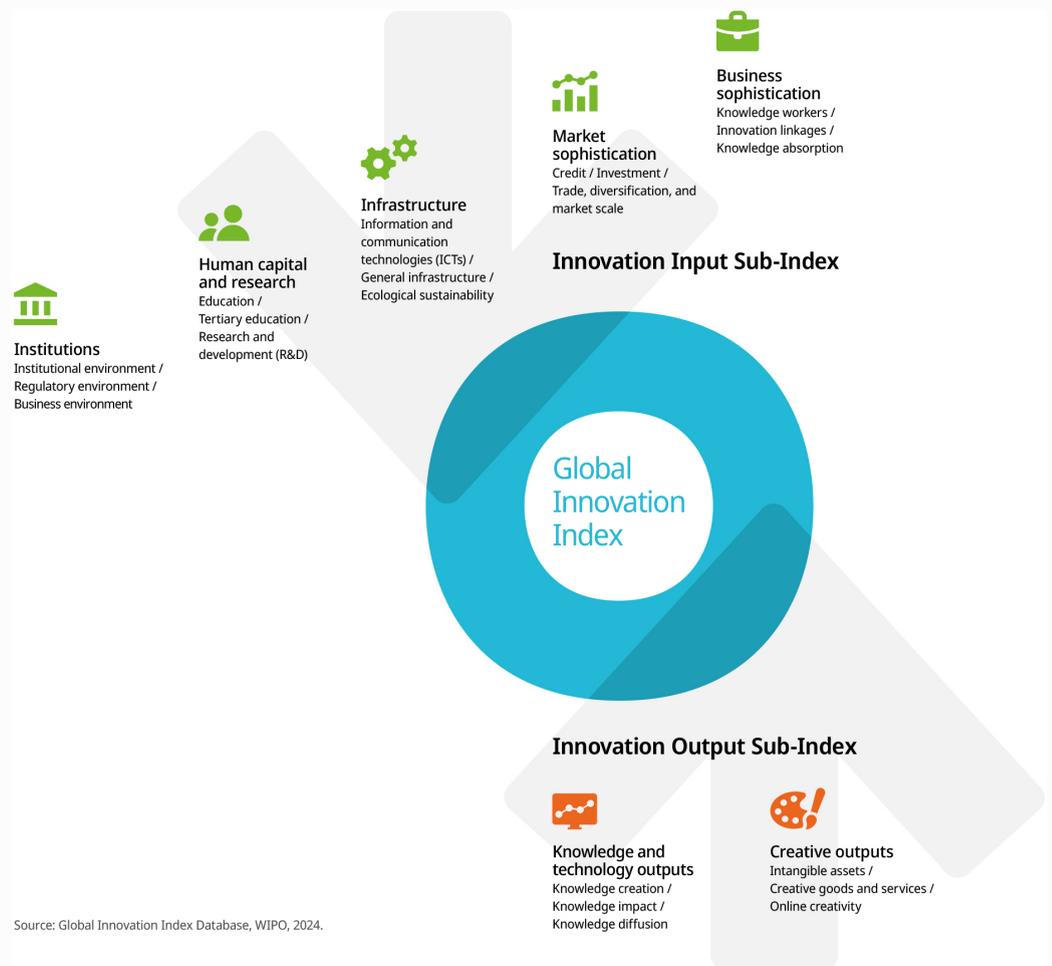


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About the Global Innovation Index

- 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.