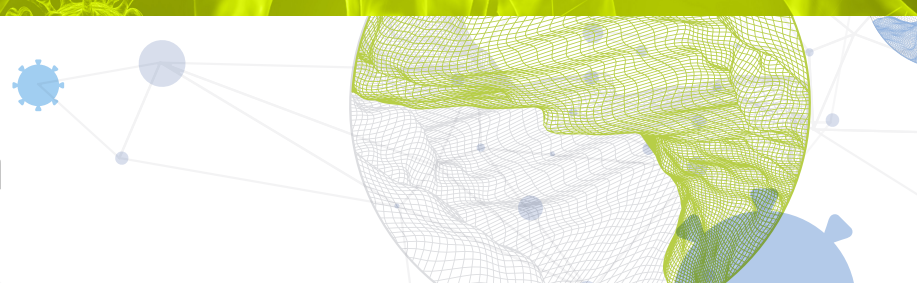




# Global Innovation Index 2021



## BELARUS

**62nd** Belarus ranks 62nd 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 Belarus 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 Belarus in the GII 2021 is between ranks 49 and 64.

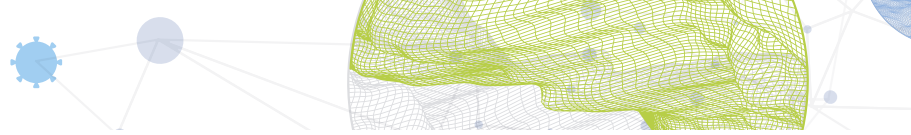
### Rankings for Belarus (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	62	68	62
2020	64	67	61
2019	72	50	95

- Belarus performs better in innovation outputs than innovation inputs in 2021.
- This year Belarus ranks 68th in innovation inputs, lower than both 2020 and 2019.
- As for innovation outputs, Belarus ranks 62nd. This position is lower than last year but higher than 2019.

**15th** Belarus ranks 15th among the 34 upper middle-income group economies.

**36th** Belarus ranks 36th among the 39 economies in Europe.

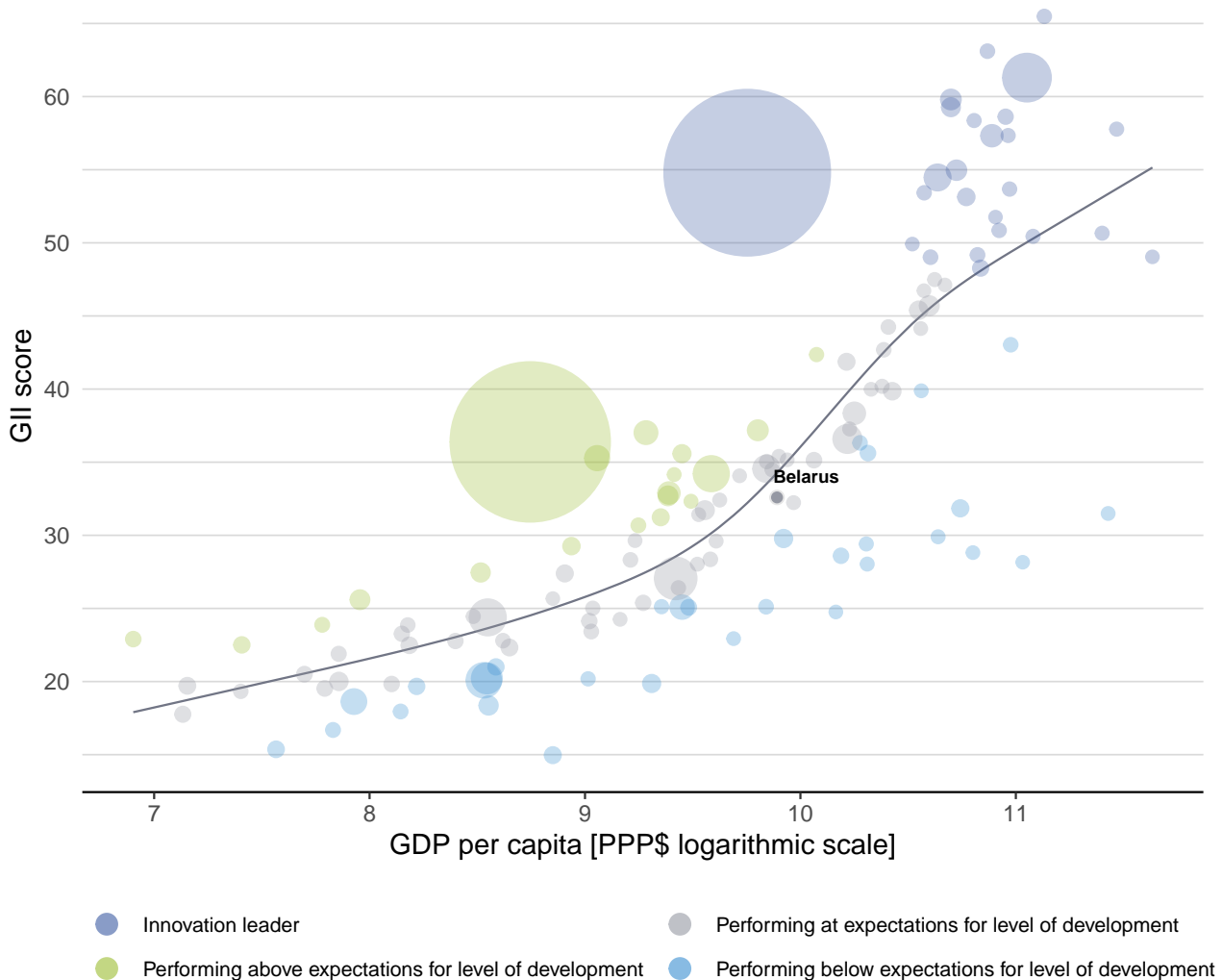


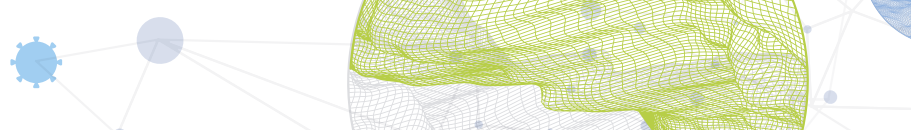
## EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

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, Belarus's performance is at expectations for its level of development.

### The positive relationship between innovation and development



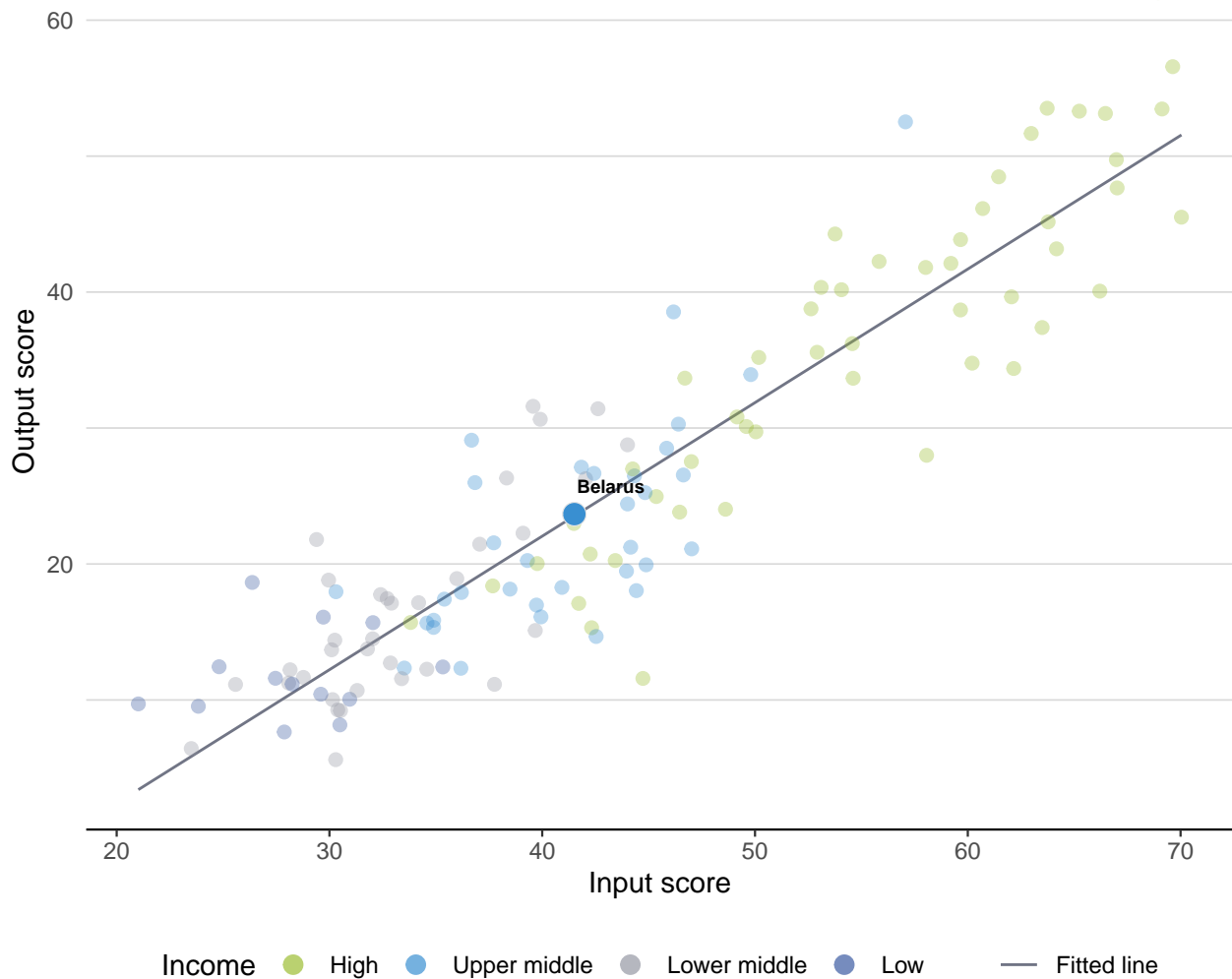


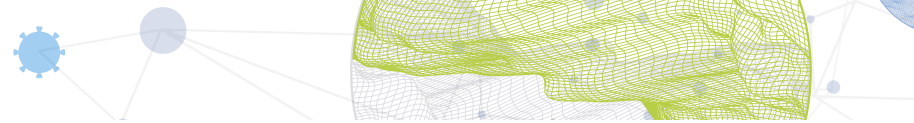
## EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

Belarus produces more innovation outputs relative to its level of innovation investments.

### Innovation input to output performance





## BENCHMARKING AGAINST OTHER UPPER MIDDLE-INCOME GROUP ECONOMIES AND EUROPE

### The seven GII pillar scores for Belarus

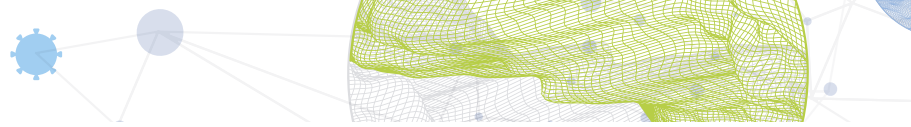


### Upper middle-income group economies

Belarus performs above the upper middle-income group average in three pillars, namely: Human capital and research; Infrastructure; and, Knowledge and technology outputs.

### Europe

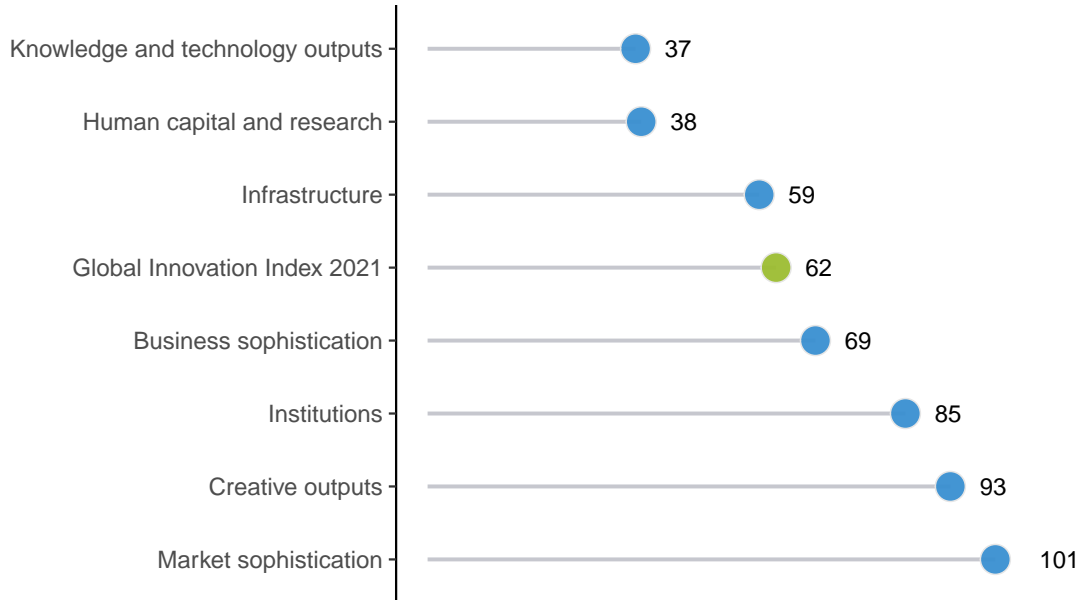
Belarus performs below the regional average in all GII pillars.



## OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Belarus performs best in Knowledge and technology outputs and its weakest performance is in Market sophistication.

### The seven GII pillar ranks for Belarus



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 Belarus in the GII 2021.

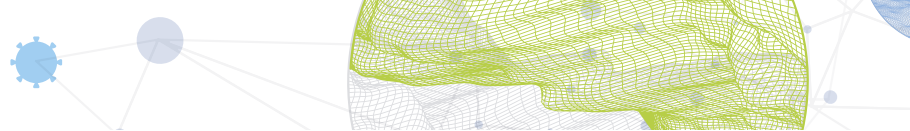
### Strengths and weaknesses for Belarus

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
2.1	Education	16	1.1.1	Political and operational stability	106
2.1.2	Government funding/pupil, secondary, % GDP/cap	5	1.2.2	Rule of law	112
2.1.5	Pupil-teacher ratio, secondary	17	2.3.3	Global corporate R&D investors, top 3, mn US\$	41
2.2	Tertiary education	7	3.3.1	GDP/unit of energy use	103
2.2.1	Tertiary enrolment, % gross	12	4.1	Credit	118
2.2.2	Graduates in science and engineering, %	11	4.1.3	Microfinance gross loans, % GDP	83
3.1.1	ICT access	16	4.2	Investment	112
5.1.5	Females employed w/advanced degrees, %	1	4.2.3	Venture capital investors, deals/bn PPP\$ GDP	86
6.1.3	Utility models by origin/bn PPP\$ GDP	16	5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	111
6.2	Knowledge impact	16	7.1	Intangible assets	129
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP	3	7.1.2	Global brand value, top 5,000, % GDP	80
6.3.4	ICT services exports, % total trade	11	7.2.2	National feature films/mn pop. 15–69	106
7.3.4	Mobile app creation/bn PPP\$ GDP	1	7.2.4	Printing and other media, % manufacturing	90

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$	GI 2020 rank
62	68	Upper middle	EUR	9.4	185.9	19,759	64

	Score/ Value	Rank		Score/ Value	Rank
 <b>Institutions</b>	57.8	85	 <b>Business sophistication</b>	24.4	69
<b>1.1 Political environment</b>	50.1	89	<b>5.1 Knowledge workers</b>	47.7	28 ◆
1.1.1 Political and operational stability*	57.1	106 ○	5.1.1 Knowledge-intensive employment, %	40.6	26 ◆
1.1.2 Government effectiveness*	46.6	85	5.1.2 Firms offering formal training, %	31.5	49 ○
<b>1.2 Regulatory environment</b>	50.2	103	5.1.3 GERD performed by business, % GDP	0.4	42 ○
1.2.1 Regulatory quality*	29.3	104 ◇	5.1.4 GERD financed by business, %	45.0	34
1.2.2 Rule of law*	25.8	112 ○ ◇	5.1.5 Females employed w/advanced degrees, %	32.6	1 ◆ ◆
1.2.3 Cost of redundancy dismissal	21.7	93	<b>5.2 Innovation linkages</b>	5.3 [128]	
<b>1.3 Business environment</b>	73.2	58	5.2.1 University-industry R&D collaboration†	n/a	n/a
1.3.1 Ease of starting a business*	93.5	28	5.2.2 State of cluster development and depth†	n/a	n/a
1.3.2 Ease of resolving insolvency*	52.9	68	5.2.3 GERD financed by abroad, % GDP	0.1	44
			5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP	0.0	111 ○
			5.2.5 Patent families/bn PPP\$ GDP	0.1	52
 <b>Human capital and research</b>	42.1	38 ◆	<b>5.3 Knowledge absorption</b>	20.2	91
<b>2.1 Education</b>	63.2	16 ◆ ◆	5.3.1 Intellectual property payments, % total trade	0.4	74
2.1.1 Expenditure on education, % GDP	4.8	47	5.3.2 High-tech imports, % total trade	6.4	91
2.1.2 Government funding/pupil, secondary, % GDP/cap	35.7	5 ◆ ◆	5.3.3 ICT services imports, % total trade	1.0	81
2.1.3 School life expectancy, years	15.4	46	5.3.4 FDI net inflows, % GDP	2.2	73
2.1.4 PISA scales in reading, maths and science	472.3	36 ◆	5.3.5 Research talent, % in businesses	n/a	n/a
2.1.5 Pupil-teacher ratio, secondary	8.6	17 ◆ ◆	 <b>Knowledge and technology outputs</b>	30.3	37
<b>2.2 Tertiary education</b>	54.0	7 ◆ ◆	<b>6.1 Knowledge creation</b>	16.9	61
2.2.1 Tertiary enrolment, % gross	87.4	12 ◆ ◆	6.1.1 Patents by origin/bn PPP\$ GDP	2.2	33
2.2.2 Graduates in science and engineering, %	33.2	11 ◆ ◆	6.1.2 PCT patents by origin/bn PPP\$ GDP	0.1	70
2.2.3 Tertiary inbound mobility, %	4.3	55	6.1.3 Utility models by origin/bn PPP\$ GDP	1.5	16 ●
<b>2.3 Research and development (R&amp;D)</b>	9.1	64	6.1.4 Scientific and technical articles/bn PPP\$ GDP	7.0	102
2.3.1 Researchers, FTE/mn pop.	n/a	n/a	6.1.5 Citable documents H-index	10.6	72
2.3.2 Gross expenditure on R&D, % GDP	0.6	57 ○	<b>6.2 Knowledge impact</b>	43.6	16 ◆ ◆
2.3.3 Global corporate R&D investors, top 3, mn US\$	0.0	41 ○ ◇	6.2.1 Labor productivity growth, %	1.2	38
2.3.4 QS university ranking, top 3*	15.3	58	6.2.2 New businesses/th pop. 15–64	1.3	74
			6.2.3 Software spending, % GDP	0.0	103 ◇
 <b>Infrastructure</b>	43.4	59	6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP	34.1	3 ● ◆
<b>3.1 Information and communication technologies (ICTs)</b>	77.1	44 ◆ ◆	6.2.5 High-tech manufacturing, %	28.4	44
3.1.1 ICT access*	86.5	16 ◆ ◆	<b>6.3 Knowledge diffusion</b>	30.3	34 ◆
3.1.2 ICT use*	76.3	33 ◆	6.3.1 Intellectual property receipts, % total trade	0.2	44
3.1.3 Government's online service*	70.6	65	6.3.2 Production and export complexity	64.4	29 ◆
3.1.4 E-participation*	75.0	57	6.3.3 High-tech exports, % total trade	1.8	62
<b>3.2 General infrastructure</b>	26.6	74	6.3.4 ICT services exports, % total trade	5.7	11 ● ◆
3.2.1 Electricity output, GWh/mn pop.	4,110.3	55	 <b>Creative outputs</b>	17.0	93
3.2.2 Logistics performance*	24.5	99 ◇	<b>7.1 Intangible assets</b>	9.8	129 ○ ◇
3.2.3 Gross capital formation, % GDP	26.3	37	7.1.1 Trademarks by origin/bn PPP\$ GDP	26.1	79
<b>3.3 Ecological sustainability</b>	26.5	77	7.1.2 Global brand value, top 5,000, % GDP	0.0	80 ○ ◇
3.3.1 GDP/unit of energy use	6.7	103 ○ ◇	7.1.3 Industrial designs by origin/bn PPP\$ GDP	1.7	52
3.3.2 Environmental performance*	53.0	47	7.1.4 ICTs and organizational model creation†	n/a	n/a
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP	2.0	41	<b>7.2 Creative goods and services</b>	6.0	100
			7.2.1 Cultural and creative services exports, % total trade	0.4	56
 <b>Market sophistication</b>	39.8	101 ◇	7.2.2 National feature films/mn pop. 15–69	0.1	106 ○ ◇
<b>4.1 Credit</b>	24.1	118 ○ ◇	7.2.3 Entertainment and media market/th pop. 15–69	n/a	n/a
4.1.1 Ease of getting credit*	50.0	94 ◇	7.2.4 Printing and other media, % manufacturing	0.5	90 ○ ◇
4.1.2 Domestic credit to private sector, % GDP	29.4	96	7.2.5 Creative goods exports, % total trade	0.5	62
4.1.3 Microfinance gross loans, % GDP	0.0	83 ○ ◇	<b>7.3 Online creativity</b>	42.6	26 ◆
<b>4.2 Investment</b>	20.6	112 ○	7.3.1 Generic top-level domains (TLDs)/th pop. 15–69	1.7	83
4.2.1 Ease of protecting minority investors*	58.0	77	7.3.2 Country-code TLDs/th pop. 15–69	5.8	49
4.2.2 Market capitalization, % GDP	n/a	n/a	7.3.3 Wikipedia edits/mn pop. 15–69	61.4	49
4.2.3 Venture capital investors, deals/bn PPP\$ GDP	0.0	86 ○	7.3.4 Mobile app creation/bn PPP\$ GDP	100.0	1 ◆ ◆
4.2.4 Venture capital recipients, deals/bn PPP\$ GDP	0.0	69			
<b>4.3 Trade, diversification, and market scale</b>	74.7	45			
4.3.1 Applied tariff rate, weighted avg., %	2.8	60			
4.3.2 Domestic industry diversification	93.1	41			
4.3.3 Domestic market scale, bn PPP\$	185.9	67			

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 Belarus.

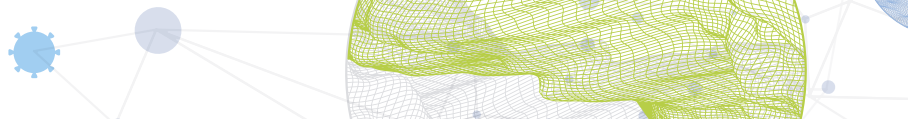
### Missing data for Belarus

Code	Indicator name	Economy year	Model year	Source
2.3.1	Researchers, FTE/mn pop.	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
4.2.2	Market capitalization, % GDP	n/a	2019	World Federation of Exchanges
5.2.1	University-industry R&D collaboration	n/a	2020	World Economic Forum
5.2.2	State of cluster development and depth	n/a	2020	World Economic Forum
5.3.5	Research talent, % in businesses	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
7.1.4	ICTs and organizational model creation	n/a	2018	World Economic Forum
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2020	PwC

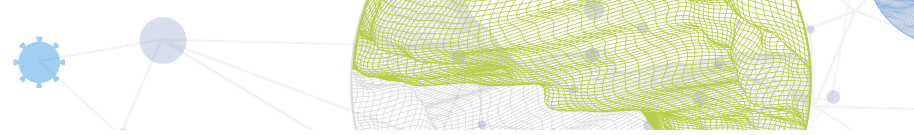
### Outdated data for Belarus

Code	Indicator name	Economy year	Model year	Source
2.1.5	Pupil-teacher ratio, secondary	2018	2019	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.2	Firms offering formal training, %	2018	2019	World Bank
5.1.3	GERD performed by business, % GDP	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.5	Females employed w/advanced degrees, %	2017	2019	International Labour Organization





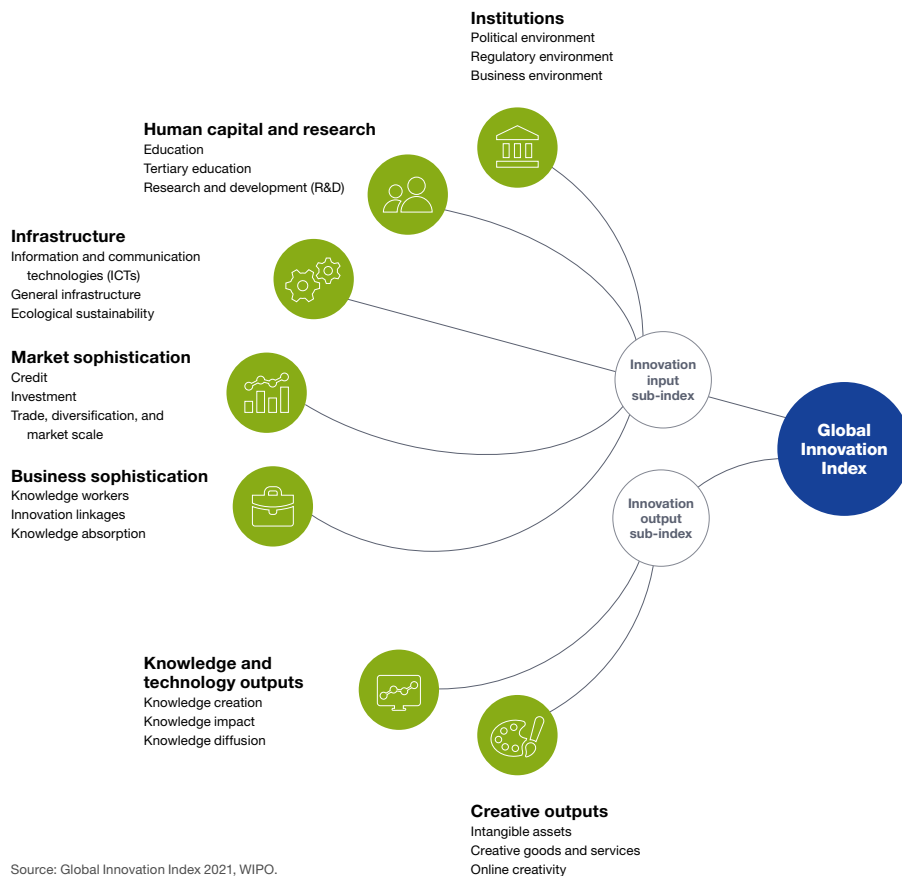
<b>Code</b>	<b>Indicator name</b>	<b>Economy year</b>	<b>Model year</b>	<b>Source</b>
7.2.2	National feature films/mn pop. 15–69	2011	2017	UNESCO Institute for Statistics



## 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.