GLOBAL INNOVATION INDEX 2019

SLOVENIA

31st Slovenia ranks 31st among the 129 economies featured in the GII 2019.

The Global Innovation Index (GII) is a ranking of world economies based on 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 Slovenia over the past three years, noting that data availability and the GII model influence year-on-year comparisons of the GII ranks. The confidence interval for Slovenia's ranking in the GII 2019 is between 31 and 32.

Slovenia's Rankings, 2017 - 2019

	GII	Innovation Inputs	Innovation Outputs
2019	31	33	30
2018	30	31	29
2017	32	30	34

- Slovenia performs better in Innovation Outputs than Inputs in 2019.
- This year Slovenia ranks 33rd in Innovation Inputs, worse than last year and compared to 2017.
- As for Innovation Outputs, Slovenia ranks 30th. This position is worse than last year but better compared to 2017.

30th Slovenia ranks 30th among the 50 high-income economies.

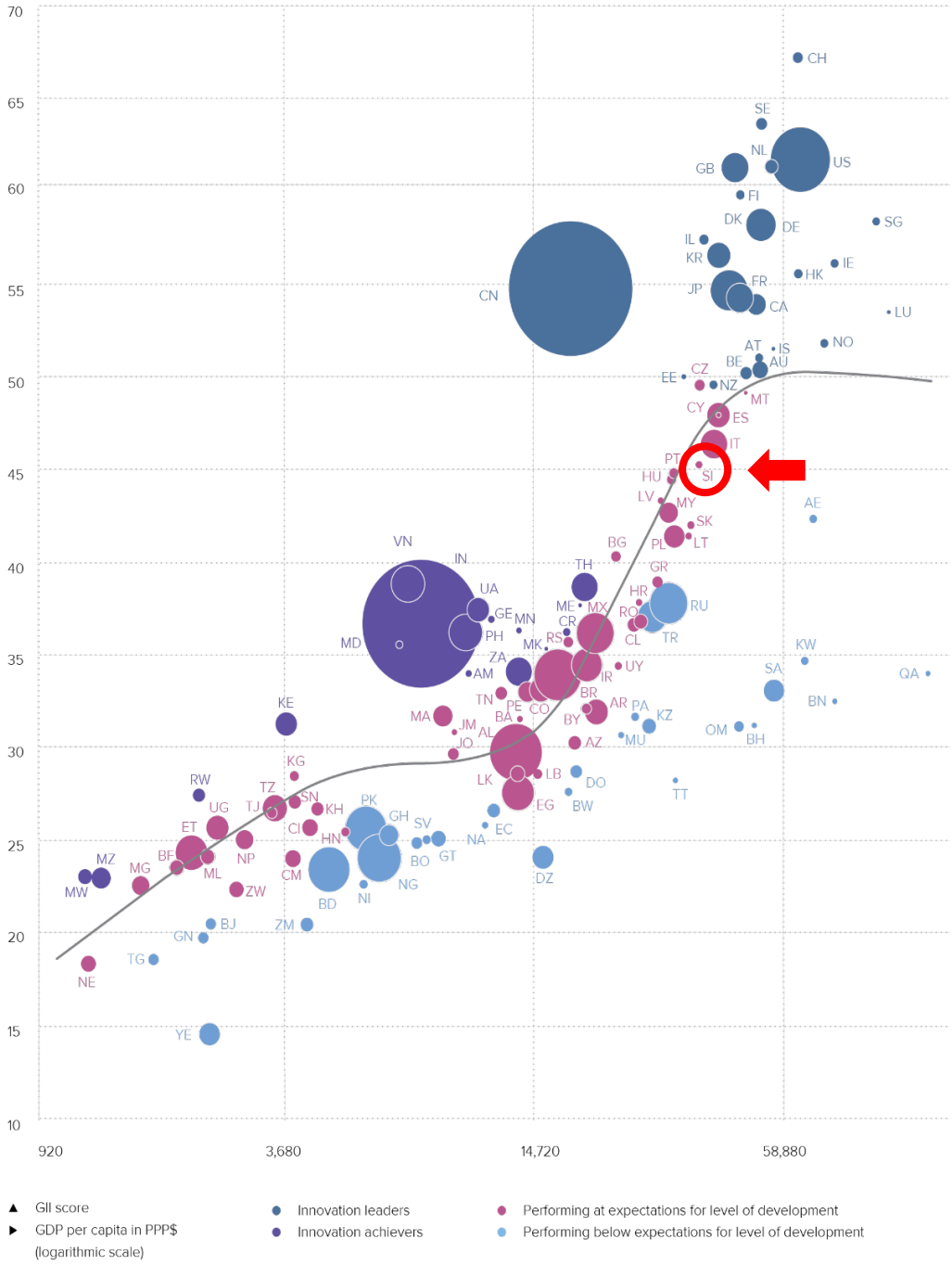
20th Slovenia ranks 20th among the 39 economies in Europe.

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 considered Innovation under-performers relative to GDP.

Relative to GDP, Slovenia performs at its expected level of development.

GII scores and GDP per capita in PPP US$
(bubbles sized by population)



▲ GII score
► GDP per capita in PPP$ (logarithmic scale)

● Innovation leaders
● Innovation achievers

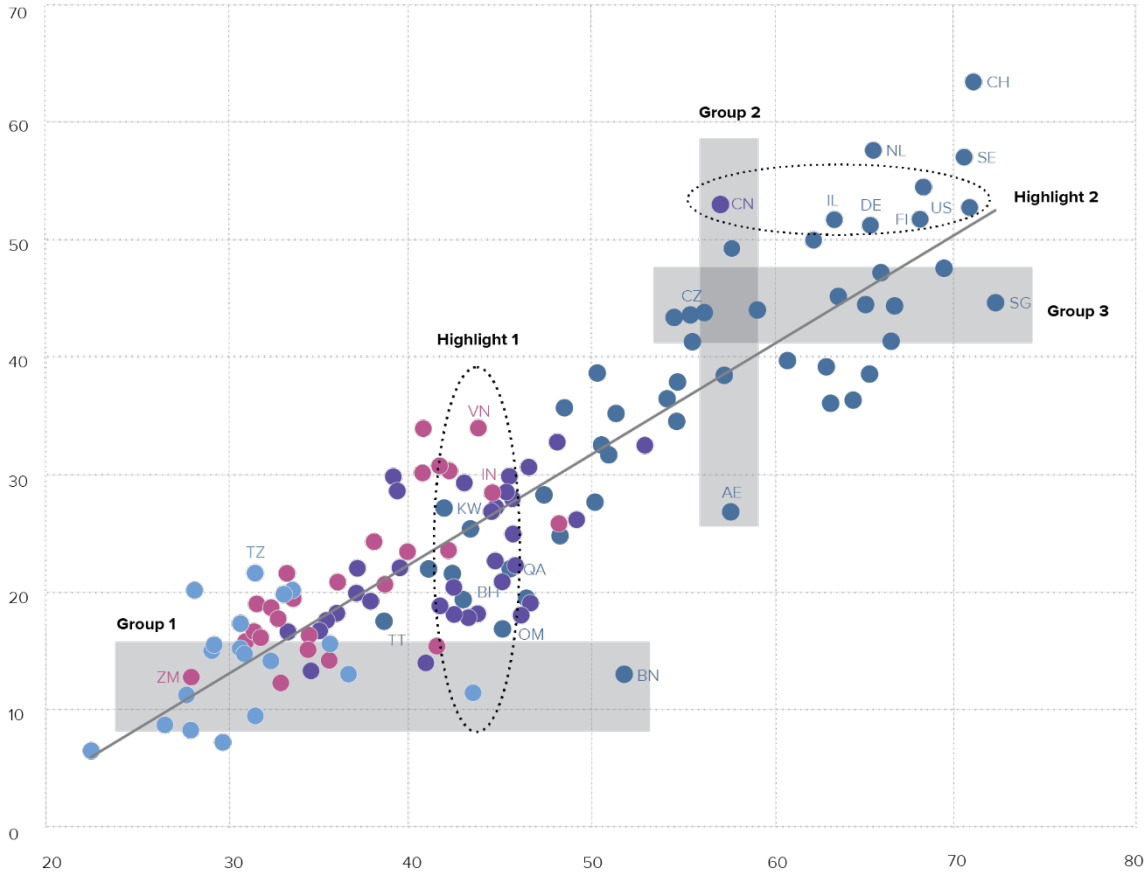
● Performing at expectations for level of development
● Performing below expectations for level of development

EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

The chart below shows the relationship between innovation inputs and innovation outputs, indicating which economies best translate innovation inputs into innovation outputs. Economies appearing above the line are effectively translating their costly innovation investments into more and higher-quality outputs. In contrast, those below the line are not effectively translating innovation inputs into outputs.

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

Innovation input/output performance by income group, 2019



▲ Output score
▶ Input score

● High income
● Upper-middle income

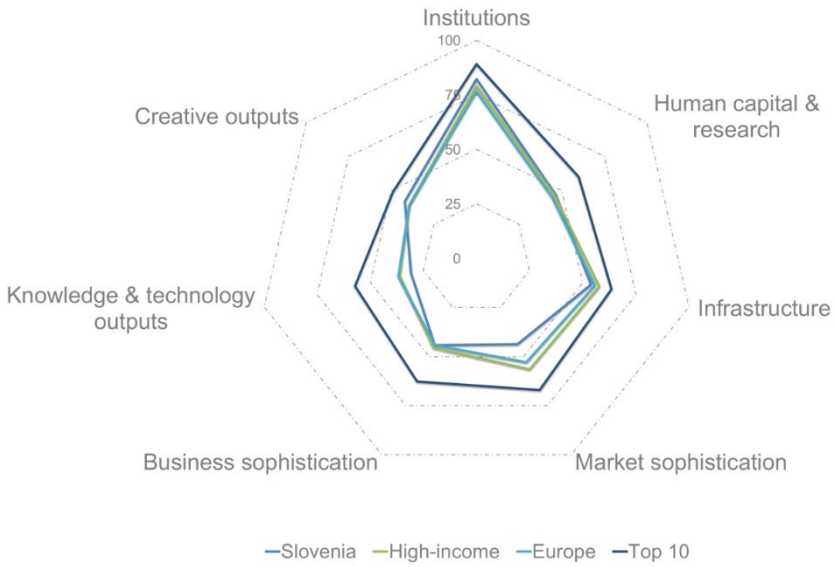
● Lower-middle income
● Low income

— Fitted values

AE	United Arab Emirates	CZ	Czech Republic	NL	Netherlands	TZ	United Republic of Tanzania
BH	Bahrain	DE	Germany	OM	Oman	US	United States of America
BN	Brunei Darussalam	FI	Finland	QA	Qatar	VN	Viet Nam
CH	Switzerland	IL	Israel	SE	Sweden	ZM	Zambia
CN	China	IN	India	SG	Singapore		
		KW	Kuwait	TT	Trinidad and Tobago		

BENCHMARKING SLOVENIA TO OTHER HIGH-INCOME ECONOMIES AND THE EUROPE REGION

Slovenia's scores in the seven GII pillars



High-income economies

Slovenia has high scores in 3 out of the 7 GII pillars: Institutions, Human capital & research, and Creative outputs, which are above the average of the high-income group.

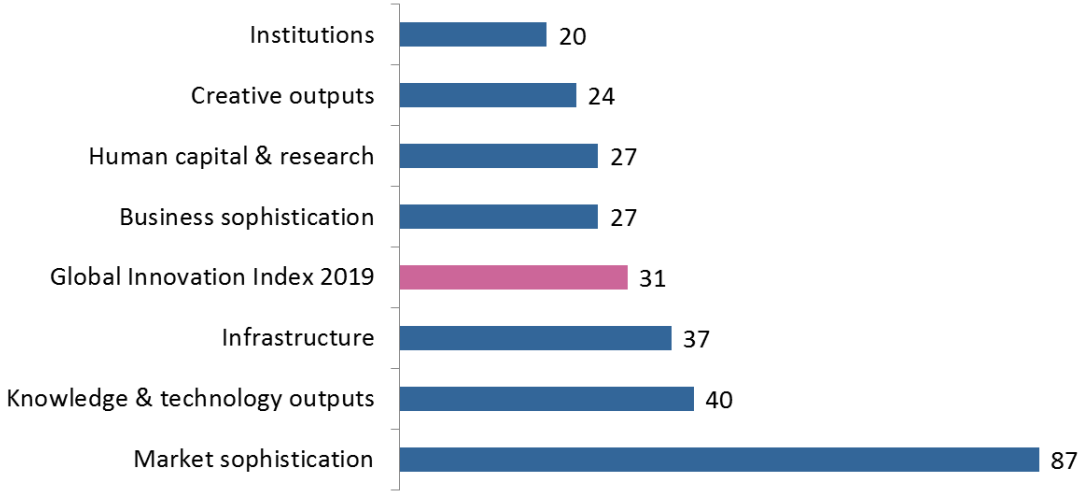
Europe Region

Compared to other economies in the Europe region, Slovenia performs above average in the same three GII pillars: Institutions, Human capital & research, and Creative outputs.

Top ranks are found in sub-pillars Business environment, Education, Research and development (R&D), Knowledge workers, Intangible assets, and Online creativity where the country ranks in the top 25 worldwide.

OVERVIEW OF SLOVENIA'S RANKINGS IN THE 7 GII AREAS

Slovenia performs the best in Institutions and its weakest performance is in Market sophistication.



*The highest possible ranking in each pillar is 1.

SLOVENIA'S INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of Slovenia's strengths and weaknesses in the GII 2019.

Strengths

Code	Indicator name	Rank
1.3	Business environment	10
1.3.2	Ease of resolving insolvency*	9
2.1.4	PISA scales in reading, maths & science	9
5.1.4	GERD financed by business, %	6
5.3.5	Research talent, % in business enterprise	10
6.1.1	Patents by origin/bn PPP$ GDP	11
6.1.4	Scientific & technical articles/bn PPP$ GDP	2
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	11
7.1.1	Trademarks by origin/bn PPP$ GDP	9
7.2.2	National feature films/mn pop. 15–69	8
7.3.3	Wikipedia edits/mn pop. 15–69	12

Weaknesses

Code	Indicator name	Rank
3.2.3	Gross capital formation, % GDP	92
4	Market sophistication	87
4.1	Credit	81
4.1.1	Ease of getting credit*	94
4.1.2	Domestic credit to private sector, % GDP	75
4.2	Investment	92
4.2.2	Market capitalization, % GDP	67
4.2.3	Venture capital deals/bn PPP$ GDP	50
4.3.3	Domestic market scale, bn PPP$	87
5.2.4	JV–strategic alliance deals/bn PPP$ GDP	66
5.3.2	High-tech imports, % total trade	103
6.1.3	Utility models by origin/bn PPP$ GDP	47
6.2.3	Computer software spending, % GDP	91

STRENGTHS

- GII strengths for Slovenia are found in five of the seven GII pillars.
- In Institutions (20), Slovenia's strengths are sub-pillar Business environment (10) and indicator Ease of resolving insolvency (9).
- In Human capital & research (27), indicators PISA results (9) is a GII strength of Slovenia.
- In Business sophistication (27), Slovenia's strengths are indicators R&D financed by business (6) and Research talent (10).
- In Knowledge & technology outputs (40), strengths are found in indicators Patents by origin (11), ISO 9001 quality certificates (11), and Scientific & technical articles, where Slovenia ranks 2nd worldwide.
- In Creative outputs (24), Slovenia's strengths are indicators Trademarks by origin (9), National feature films (8), and Wikipedia edits (12).

WEAKNESSES

- Slovenia's weaknesses in the GII are found in four of the seven GII pillars.
- Market sophistication (87) pillar is a notable weakness for this country. Most of Slovenia's relative weaknesses are in this pillar.
- In Market sophistication (87), weaknesses are two sub-pillars - Credit (81) and Investment (92) – and indicators Ease of getting credit (94), Domestic credit to private sector (75), Market capitalization (67), Venture capital deals (50), and Domestic market scale (87).
- In Infrastructure (37), Slovenia's only weakness is indicator Gross capital formation (92).
- In Business sophistication (27), relative weaknesses are found in two indicators: Joint Ventures - strategic alliance deals (66) and High-tech imports (103).
- In Knowledge & technology outputs (40), GII weaknesses for the country are indicators Utility models by origin (47) and Computer software spending (91).

SLOVENIA

GII 2019 rank

31

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2018 rank
30	33	High	EUR	2.1	76.1	36,745.9	30

		Score/Value	Rank	
INSTITUTIONS		**82.3**	**20**	
1.1	**Political environment**	**78.0**	**26**	
1.1.1	Political and operational stability*	84.2	25	
1.1.2	Government effectiveness*	74.9	25	
1.2	**Regulatory environment**	**80.7**	**29**	
1.2.1	Regulatory quality*	57.5	44	
1.2.2	Rule of law*	73.5	27	
1.2.3	Cost of redundancy dismissal, salary weeks	10.7	34	
1.3	**Business environment**	**88.3**	**10**	●
1.3.1	Ease of starting a business*	92.9	35	
1.3.2	Ease of resolving insolvency*	83.7	9	●
HUMAN CAPITAL & RESEARCH		**46.6**	**27**	
2.1	**Education**	**60.0**	**25**	
2.1.1	Expenditure on education, % GDP	4.9	51	
2.1.2	Government funding/pupil, secondary, % GDP/cap	23.9	29	
2.1.3	School life expectancy, years	17.4	16	
2.1.4	PISA scales in reading, maths, & science	509.3	9	●
2.1.5	Pupil-teacher ratio, secondary 🕘	9.7	25	
2.2	**Tertiary education**	**40.7**	**35**	
2.2.1	Tertiary enrolment, % gross 🕘	77.6	20	
2.2.2	Graduates in science & engineering, %	25.0	30	
2.2.3	Tertiary inbound mobility, %	3.3	61	
2.3	**Research & development (R&D)**	**39.3**	**25**	
2.3.1	Researchers, FTE/mn pop	4,467.8	17	
2.3.2	Gross expenditure on R&D, % GDP	1.9	19	
2.3.3	Global R&D companies, avg. exp. top 3, mn US$	52.3	28	
2.3.4	QS university ranking, average score top 3*	10.5	63	
INFRASTRUCTURE		**53.9**	**37**	
3.1	**Information & communication technologies(ICTs)**	**76.9**	**39**	
3.1.1	ICT access*	80.6	24	
3.1.2	ICT use*	65.7	43	
3.1.3	Government's online service*	79.9	45	
3.1.4	E-participation*	81.5	48	
3.2	**General infrastructure**	**37.2**	**56**	
3.2.1	Electricity output, kWh/mn pop	7,721.7	26	
3.2.2	Logistics performance*	58.5	34	
3.2.3	Gross capital formation, % GDP	20.3	92	○
3.3	**Ecological sustainability**	**47.5**	**41**	
3.3.1	GDP/unit of energy use	9.1	64	
3.3.2	Environmental performance*	67.6	33	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	6.3	16	
MARKET SOPHISTICATION		**43.6**	**87**	○ ◇
4.1	**Credit**	**32.4**	**81**	○ ◇
4.1.1	Ease of getting credit*	45.0	94	○
4.1.2	Domestic credit to private sector, % GDP	44.8	75	○ ◇
4.1.3	Microfinance gross loans, % GDP	n/a	n/a	
4.2	**Investment**	**36.7**	**92**	○
4.2.1	Ease of protecting minority investors*	70.0	27	
4.2.2	Market capitalization, % GDP	12.9	67	○
4.2.3	Venture capital deals/bn PPP$ GDP	0.0	50	○
4.3	**Trade, competition, & market scale**	**61.6**	**60**	
4.3.1	Applied tariff rate, weighted avg., %	1.8	23	
4.3.2	Intensity of local competition†	73.0	38	
4.3.3	Domestic market scale, bn PPP$	76.1	87	○ ◇

		Score/Value	Rank	
BUSINESS SOPHISTICATION		**44.1**	**27**	
5.1	**Knowledge workers**	**63.3**	**20**	
5.1.1	Knowledge-intensive employment, %	43.1	20	
5.1.2	Firms offering formal training, % firms	41.5	32	
5.1.3	GERD performed by business, % GDP	1.4	15	
5.1.4	GERD financed by business, %	69.2	6	● ◆
5.1.5	Females employed w/advanced degrees, %	21.8	20	
5.2	**Innovation linkages**	**27.4**	**56**	
5.2.1	University/industry research collaboration†	47.1	46	
5.2.2	State of cluster development†	47.3	57	
5.2.3	GERD financed by abroad, %	10.2	41	
5.2.4	JV-strategic alliance deals/bn PPP$ GDP	0.0	66	○
5.2.5	Patent families 2+ offices/bn PPP$ GDP	1.1	26	
5.3	**Knowledge absorption**	**41.7**	**35**	
5.3.1	Intellectual property payments, % total trade	0.7	58	
5.3.2	High-tech imports, % total trade	5.4	103	○
5.3.3	ICT services imports, % total trade	1.5	41	
5.3.4	FDI net inflows, % GDP	3.2	53	
5.3.5	Research talent, % in business enterprise	61.8	10	●
KNOWLEDGE & TECHNOLOGY OUTPUTS		**30.7**	**40**	
6.1	**Knowledge creation**	**31.8**	**29**	
6.1.1	Patents by origin/bn PPP$ GDP 🕘	10.2	11	●
6.1.2	PCT patents by origin/bn PPP$ GDP	1.5	23	
6.1.3	Utility models by origin/bn PPP$ GDP 🕘	0.2	47	○
6.1.4	Scientific & technical articles/bn PPP$ GDP	35.4	2	● ◆
6.1.5	Citable documents H-index	17.5	42	
6.2	**Knowledge impact**	**41.1**	**44**	
6.2.1	Growth rate of PPP$ GDP/worker, %	1.5	49	
6.2.2	New businesses/th pop. 15-64	3.1	40	
6.2.3	Computer software spending, % GDP	0.1	91	○ ◇
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	24.1	11	● ◆
6.2.5	High- & medium-high-tech manufactures, %	0.3	46	
6.3	**Knowledge diffusion**	**19.3**	**52**	
6.3.1	Intellectual property receipts, % total trade	0.2	40	
6.3.2	High-tech net exports, % total trade	4.5	33	
6.3.3	ICT services exports, % total trade	1.6	66	
6.3.4	FDI net outflows, % GDP	1.0	53	
CREATIVE OUTPUTS		**42.1**	**24**	
7.1	**Intangible assets**	**55.3**	**18**	
7.1.1	Trademarks by origin/bn PPP$ GDP 🕘	111.2	9	● ◆
7.1.2	Industrial designs by origin/bn PPP$ GDP 🕘	6.4	23	
7.1.3	ICTs & business model creation†	68.0	36	
7.1.4	ICTs & organizational model creation†	61.9	38	
7.2	**Creative goods & services**	**27.3**	**36**	
7.2.1	Cultural & creative services exports, % total trade	0.9	32	
7.2.2	National feature films/mn pop. 15-69	14.2	8	●
7.2.3	Entertainment & Media market/th pop. 15-69	n/a	n/a	
7.2.4	Printing & other media, % manufacturing	1.7	27	
7.2.5	Creative goods exports, % total trade	1.0	44	
7.3	**Online creativity**	**30.3**	**25**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	21.0	28	
7.3.2	Country-code TLDs/th pop. 15-69	24.5	25	
7.3.3	Wikipedia edits/mn pop. 15-69 🕘	83.0	12	●
7.3.4	Mobile app creation/bn PPP$ GDP	19.9	22	

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 II 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 missing or are outdated for Slovenia.

Missing data

Code	Indicator name	Country year	Model year	Source
4.1.3	Microfinance gross loans, % GDP	n/a	2017	Microfinance Information Exchange
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	2017	PwC

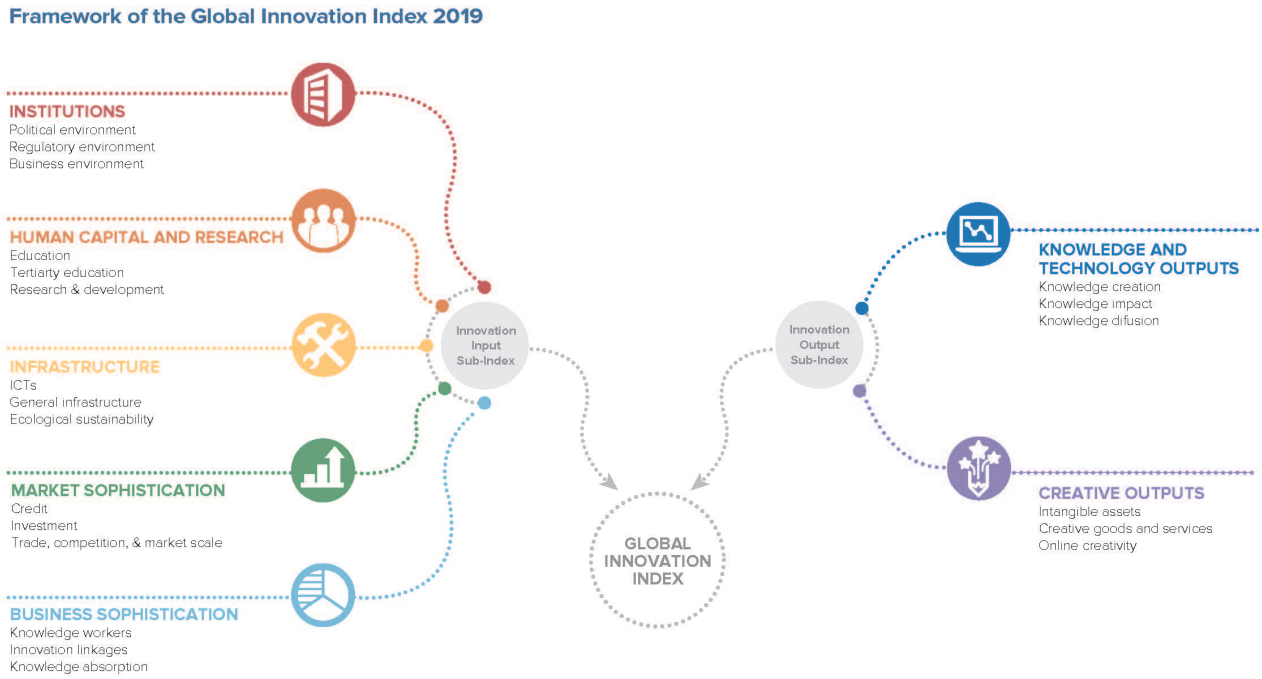
Outdated data

Code	Indicator name	Country year	Model year	Source
2.1.5	Pupil-teacher ratio, secondary	2016	2017	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2016	2017	UNESCO Institute for Statistics
6.1.1	Patents by origin/bn PPP$ GDP	2011	2017	World Intellectual Property Organization
6.1.3	Utility models by origin/bn PPP$ GDP	2010	2017	World Intellectual Property Organization
7.1.1	Trademarks by origin/bn PPP$ GDP	2010	2017	World Intellectual Property Organization
7.1.2	Industrial designs by origin/bn PPP$ GDP	2011	2017	World Intellectual Property Organization
7.3.3	Wikipedia edits/mn pop. 15–69	2016	2017	Wikimedia Foundation

ABOUT THE GLOBAL INNOVATION INDEX

The Global Innovation Index (GII) is co-published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations. In 2019, the GII presents its 12th edition devoted to the theme **Creating Healthy Lives—The Future of Medical Innovation**.

Recognizing that innovation is a key driver of economic development, the GII aims to provide a rich innovation ranking and 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 countries 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 includes 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 containing three sub-pillars.