GLOBAL INNOVATION INDEX 2020

ICELAND

21st Iceland ranks 21st among the 131 economies featured in the GII 2020.

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 Iceland 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 Iceland in the GII 2020 is between ranks 20 and 27.

Rankings of Iceland (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	21	23	19
2019	20	22	18
2018	23	22	19

- Iceland performs better in innovation outputs than innovation inputs in 2020.
- This year Iceland ranks 23rd in innovation inputs, lower than last year and lower compared to 2018.
- As for innovation outputs, Iceland ranks 19th. This position is lower than last year and the same compared to 2018.

20th Iceland ranks 20th among the 49 high-income group economies.

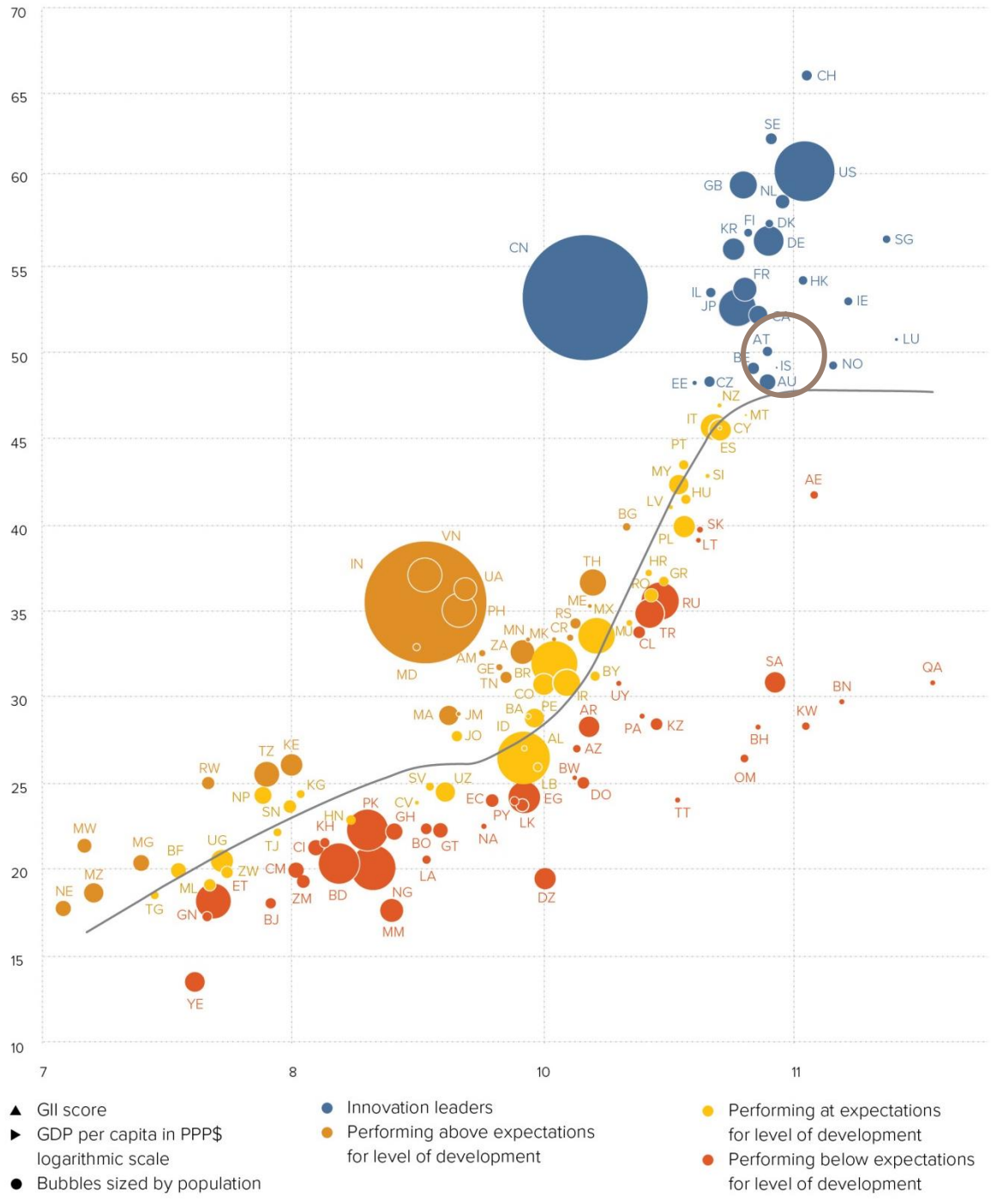
13th Iceland ranks 13th among the 39 economies in Europe.

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, Iceland is performing above expectations for its level of development.

The positive relationship between innovation and development



▲ GII score
▶ GDP per capita in PPP$ logarithmic scale
● Bubbles sized by population

● Innovation leaders
● Performing above expectations for level of development

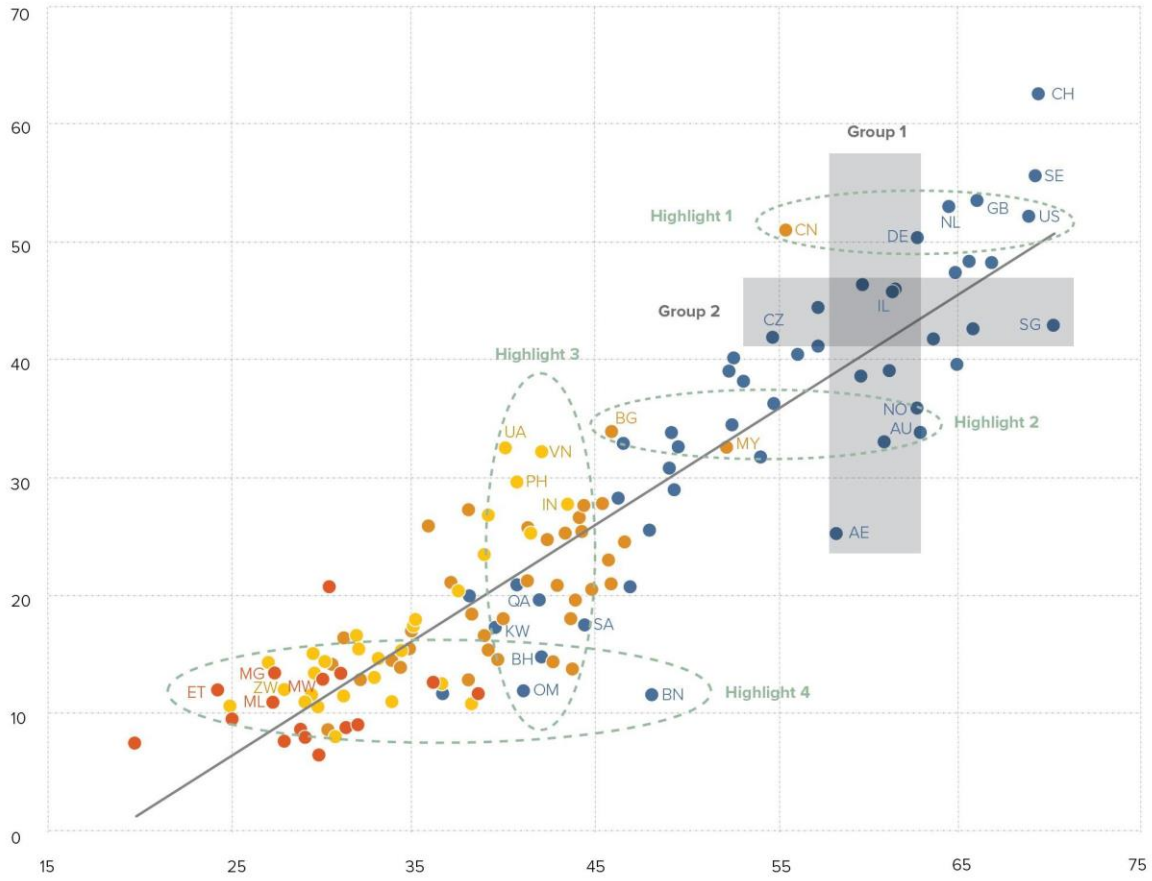
● Performing at expectations for level of development
● Performing below expectations for level of development

EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

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

Innovation input to output performance, 2020



▲ Output score
► Input score

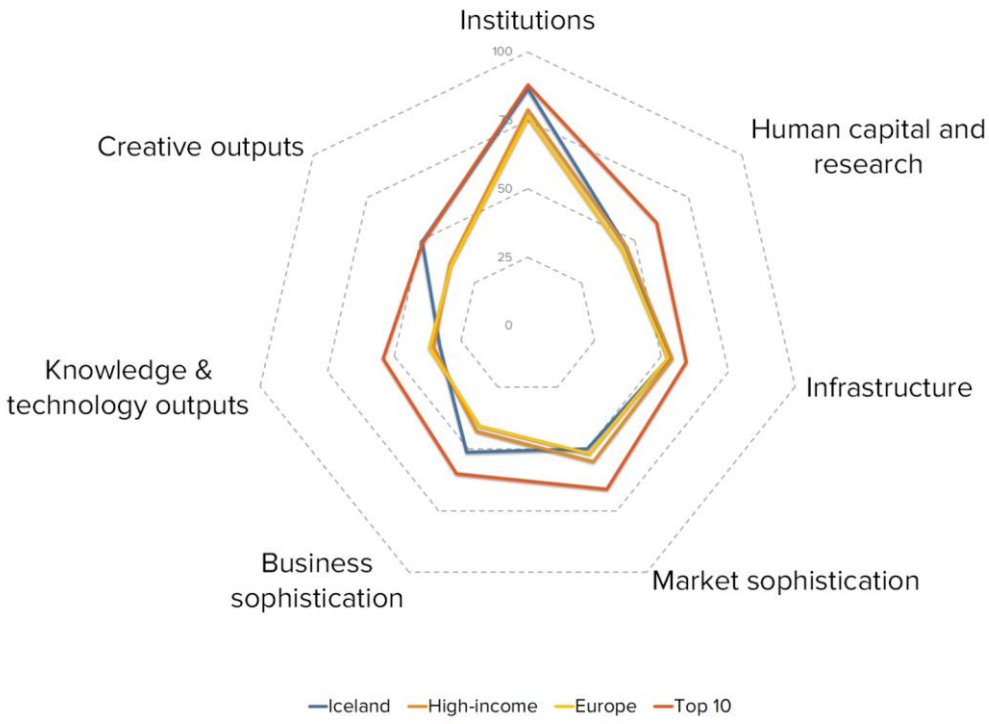
● High income group
● Upper middle-income group
● Lower middle-income group
● Low income group

— Fitted values

AU	Australia	IN	India	NL	Netherlands	CH	Switzerland
BH	Bahrain	IL	Israel	NO	Norway	UA	Ukraine
BN	Brunei Darussalam	KW	Kuwait	OM	Oman	AE	United Arab Emirates
BG	Bulgaria	MG	Madagascar	PH	Philippines	GB	United Kingdom
CN	China	MW	Malawi	QA	Qatar	US	United States of America
CZ	Czech Republic	ML	Mali	SA	Saudi Arabia	VN	Viet Nam
ET	Ethiopia	MY	Malaysia	SG	Singapore	ZW	Zimbabwe
DE	Germany			SE	Sweden		

BENCHMARKING ICELAND AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND EUROPE

Iceland's scores in the seven GII pillars



High-income group economies

Iceland has high scores in three out of the seven GII pillars: Institutions, Business sophistication and Creative outputs, which are above average for the high-income group.

Conversely, Iceland scores below average for its the income group in four pillars: Human capital & research, Infrastructure, Market sophistication and Knowledge & technology outputs.

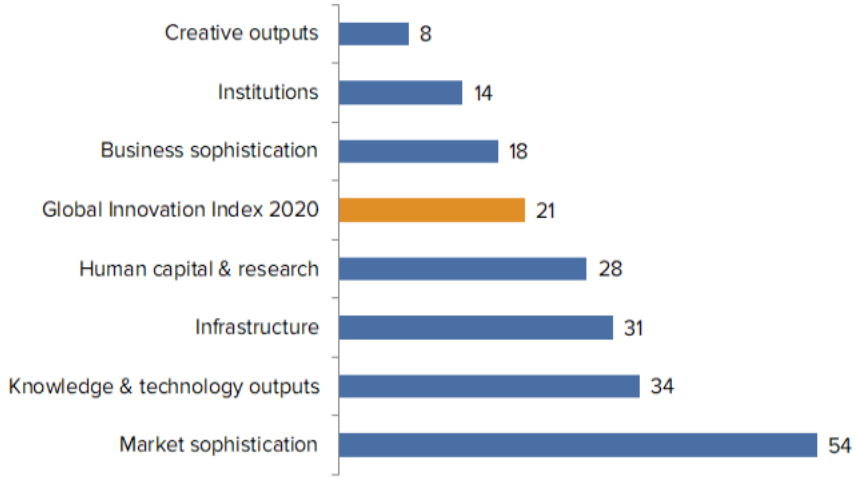
Europe

Compared to other economies in Europe, Iceland performs:

- above average in five out of the seven GII pillars: Institutions, Human capital & research, Infrastructure, Business sophistication and Creative outputs; and
- below average in two out of the seven GII pillars: Market sophistication and Knowledge & technology outputs.

OVERVIEW OF ICELAND RANKINGS IN THE SEVEN GII AREAS

Iceland performs best in Creative outputs and its weakest performance is in Market sophistication.



*The highest possible ranking in each pillar is 1.

INNOVATION STRENGTHS AND WEAKNESSES

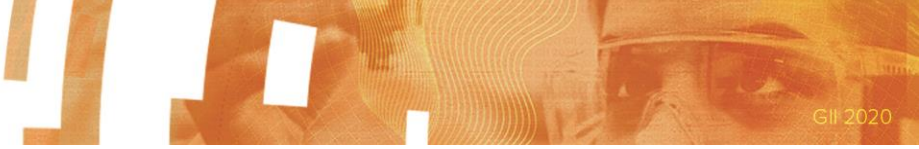
The table below gives an overview of the strengths and weaknesses of Iceland in the GII 2020.

Strengths

Code	Indicator name	Rank
2.1.1	Expenditure on education, % GDP	5
3.1.1	ICT access*	3
3.1.2	ICT use*	2
3.2.1	Electricity output, GWh/mn pop	1
5.2	Innovation linkages	4
5.2.3	GERD financed by abroad, % GDP	4
5.2.4	JV–strategic alliance deals/bn PPP$ GDP	6
6.1.4	Scientific & technical articles/bn PPP$ GDP	4
7.2.2	National feature films/mn pop. 15–69	1
7.3	Online creativity	3
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	1
7.3.2	Country-code TLDs/th pop. 15–69	5

Weaknesses

Code	Indicator name	Rank
2.2.2	Graduates in science & engineering, %	91
2.3.4	QS university ranking, average score top 3*	77
3.2.3	Gross capital formation, % GDP	91
3.3.1	GDP/unit of energy use	121
4.1.1	Ease of getting credit*	88
4.3.3	Domestic market scale, bn PPP$	128
5.3.2	High-tech imports, % total trade	96
5.3.4	FDI net inflows, % GDP	131
6.3.4	FDI net outflows, % GDP	130
7.2.5	Creative goods exports, % total trade	101



STRENGTHS

GII strengths for Iceland are found in five of the seven GII pillars.

- Human capital & research (28): the indicator Expenditure on education (5) is a strength.
- Infrastructure (31): demonstrates strengths in the indicators ICT access (3), ICT use (2) and Electricity output (1).
- Business sophistication (18): displays strengths in the sub-pillar Innovation linkages (4) and in the indicators GERD financed by abroad (4) and JV–strategic alliance deals (6).
- Knowledge & technology outputs (34): the indicator Scientific & technical articles (4) is a strength.
- Creative outputs (8): has strengths in the sub-pillar Online creativity (3) and in the indicators National feature films (1), Generic top-level domains (TLDs) (1) and Country-code TLDs (5).

WEAKNESSES

GII weaknesses for Iceland are found in six of the seven GII pillars.

- Human capital & research (28): has weaknesses in the indicators Graduates in science & engineering (91) and QS university ranking (77).
- Infrastructure (31): displays weaknesses in the indicators Gross capital formation (91) and GDP per unit of energy use (121).
- Market sophistication (54): shows weaknesses in the indicators Ease of getting credit (88) and Domestic market scale (128).
- Business sophistication (18): demonstrates weaknesses in the indicators High-tech (96) and FDI net inflows (131).
- Knowledge & technology outputs (34): the indicator FDI net outflows (130) is a weakness.
- Creative outputs (8): the indicator Creative goods exports (101) is a weakness.

ICELAND

GII 2020 rank

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Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2019 rank
19	23	High	EUR	0.3	20.0	48,947.5	20

		Score/Value	Rank	
	INSTITUTIONS	**86.6**	**14**	
1.1	**Political environment**	**85.6**	**15**	
1.1.1	Political and operational stability*	91.1	5	
1.1.2	Government effectiveness*	82.9	17	
1.2	**Regulatory environment**	**87.7**	**16**	
1.2.1	Regulatory quality*	79.2	19	
1.2.2	Rule of law*	91.5	13	
1.2.3	Cost of redundancy dismissal, salary weeks	13.0	41	
1.3	**Business environment**	**86.3**	**15**	
1.3.1	Ease of starting a business*	90.6	54	
1.3.2	Ease of resolving insolvency*	82.0	11	
	HUMAN CAPITAL & RESEARCH	**46.1**	**28**	◇
2.1	**Education**	**64.6**	**11**	
2.1.1	Expenditure on education, % GDP ⊙	7.5	5	● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	19.4	52	
2.1.3	School life expectancy, years	19.1	6	
2.1.4	PISA scales in reading, maths, & science	481.4	30	◇
2.1.5	Pupil-teacher ratio, secondary ⊙	9.9	33	
2.2	**Tertiary education**	**33.6**	**63**	◇
2.2.1	Tertiary enrolment, % gross	71.8	25	
2.2.2	Graduates in science & engineering, % ⊙	15.7	91	○ ◇
2.2.3	Tertiary inbound mobility, %	6.9	36	
2.3	**Research & development (R&D)**	**40.1**	**24**	◇
2.3.1	Researchers, FTE/mn pop	6,088.3	8	
2.3.2	Gross expenditure on R&D, % GDP	2.0	16	
2.3.3	Global R&D companies, avg. exp. top 3, mn $US	46.3	32	◇
2.3.4	QS university ranking, average score top 3*	0.0	77	○ ◇
	INFRASTRUCTURE	**52.8**	**31**	◇
3.1	**Information & communication technologies (ICTs)**	**80.5**	**33**	◇
3.1.1	ICT access*	91.6	3	● ◆
3.1.2	ICT use*	88.9	2	● ◆
3.1.3	Government's online service*	72.9	64	◇
3.1.4	E-participation*	68.5	74	◇
3.2	**General infrastructure**	**47.8**	**7**	
3.2.1	Electricity output, kWh/mn pop	56,656.6	1	● ◆
3.2.2	Logistics performance*	54.2	39	◇
3.2.3	Gross capital formation, % GDP	20.7	91	○
3.3	**Ecological sustainability**	**30.0**	**62**	◇
3.3.1	GDP/unit of energy use	2.9	121	○ ◇
3.3.2	Environmental performance*	72.3	17	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	1.9	46	
	MARKET SOPHISTICATION	**49.8**	**54**	◇
4.1	**Credit**	**47.8**	**45**	
4.1.1	Ease of getting credit*	55.0	88	○
4.1.2	Domestic credit to private sector, % GDP	92.2	28	
4.1.3	Microfinance gross loans, % GDP	n/a	n/a	
4.2	**Investment**	**44.8**	**34**	
4.2.1	Ease of protecting minority investors*	72.0	27	
4.2.2	Market capitalization, % GDP	n/a	n/a	
4.2.3	Venture capital deals/bn PPP$ GDP	0.1	28	
4.3	**Trade, competition, and market scale**	**57.0**	**90**	◇
4.3.1	Applied tariff rate, weighted avg., % ⊙	1.6	19	
4.3.2	Intensity of local competition+	70.0	61	◇
4.3.3	Domestic market scale, bn PPP$	20.0	128	○ ◇

		Score/Value	Rank	
	BUSINESS SOPHISTICATION	**51.1**	**18**	
5.1	**Knowledge workers**	**58.0**	**20**	
5.1.1	Knowledge-intensive employment, %	50.0	6	
5.1.2	Firms offering formal training, %	n/a	n/a	
5.1.3	GERD performed by business, % GDP	1.3	16	
5.1.4	GERD financed by business, %	40.2	45	◇
5.1.5	Females employed w/advanced degrees, %	26.2	9	
5.2	**Innovation linkages**	**67.2**	**4**	● ◆
5.2.1	University/industry research collaboration+	59.1	25	◇
5.2.2	State of cluster development+	52.2	44	◇
5.2.3	GERD financed by abroad, % GDP	0.4	4	● ◆
5.2.4	JV-strategic alliance deals/bn PPP$ GDP	0.3	6	● ◆
5.2.5	Patent families 2+ offices/bn PPP$ GDP	5.2	10	
5.3	**Knowledge absorption**	**28.2**	**66**	◇
5.3.1	Intellectual property payments, % total trade	1.1	31	
5.3.2	High-tech imports, % total trade	6.1	96	○
5.3.3	ICT services imports, % total trade	2.5	16	
5.3.4	FDI net inflows, % GDP	-11.8	131	○ ◇
5.3.5	Research talent, % in business enterprise	42.7	32	◇
	KNOWLEDGE & TECHNOLOGY OUTPUTS	**33.0**	**34**	◇
6.1	**Knowledge creation**	**48.0**	**16**	
6.1.1	Patents by origin/bn PPP$ GDP	4.6	24	
6.1.2	PCT patents by origin/bn PPP$ GDP	2.1	16	
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific & technical articles/bn PPP$ GDP	35.1	4	● ◆
6.1.5	Citable documents H-index	19.6	41	◇
6.2	**Knowledge impact**	**24.8**	**64**	◇
6.2.1	Growth rate of PPP$ GDP/worker, %	1.1	61	
6.2.2	New businesses/th pop. 15-64	9.9	17	
6.2.3	Computer software spending, % GDP	0.0	35	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	4.0	62	
6.2.5	High- and medium-high-tech manufacturing, %	15.4	65	◇
6.3	**Knowledge diffusion**	**26.2**	**54**	◇
6.3.1	Intellectual property receipts, % total trade	2.1	10	
6.3.2	High-tech net exports, % total trade	1.2	65	◇
6.3.3	ICT services exports, % total trade	2.6	39	
6.3.4	FDI net outflows, % GDP	-12.7	130	○ ◇
	CREATIVE OUTPUTS	**49.3**	**8**	
7.1	**Intangible assets**	**48.9**	**14**	
7.1.1	Trademarks by origin/bn PPP$ GDP	100.1	12	
7.1.2	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.3	Industrial designs by origin/bn PPP$ GDP ⊙	0.8	76	
7.1.4	ICTs & organizational model creation+	75.5	13	
7.2	**Creative goods and services**	**29.5**	**28**	
7.2.1	Cultural & creative services exports, % total trade	0.6	42	
7.2.2	National feature films/mn pop. 15-69	55.3	1	● ◆
7.2.3	Entertainment & Media market/th pop. 15-69	n/a	n/a	
7.2.4	Printing and other media, % manufacturing	1.6	27	
7.2.5	Creative goods exports, % total trade	0.1	101	○ ◇
7.3	**Online creativity**	**70.1**	**3**	● ◆
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	100.0	1	● ◆
7.3.2	Country-code TLDs/th pop. 15-69	91.0	5	● ◆
7.3.3	Wikipedia edits/mn pop. 15-69	89.0	8	
7.3.4	Mobile app creation/bn PPP$ GDP	1.0	68	◇

NOTES: ● indicates a strength; ○ a weakness; ◆ a strength relative to the other top 25-ranked GII economies; ◇ a weakness relative to the other top 25-ranked GII economies; * 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 either missing or outdated for Iceland.

Missing data

Code	Indicator name	Country year	Model year	Source
4.1.3	Microfinance gross loans, % GDP	n/a	2018	Microfinance Information Exchange
4.2.2	Market capitalization, % GDP	n/a	2018	World Federation of Exchanges
5.1.2	Firms offering formal training, %	n/a	2018	World Bank
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2018	World Intellectual Property Organization
7.1.2	Global brand value, top 5000, % GDP	n/a	2019	Brand Finance
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	2018	PwC

Outdated data

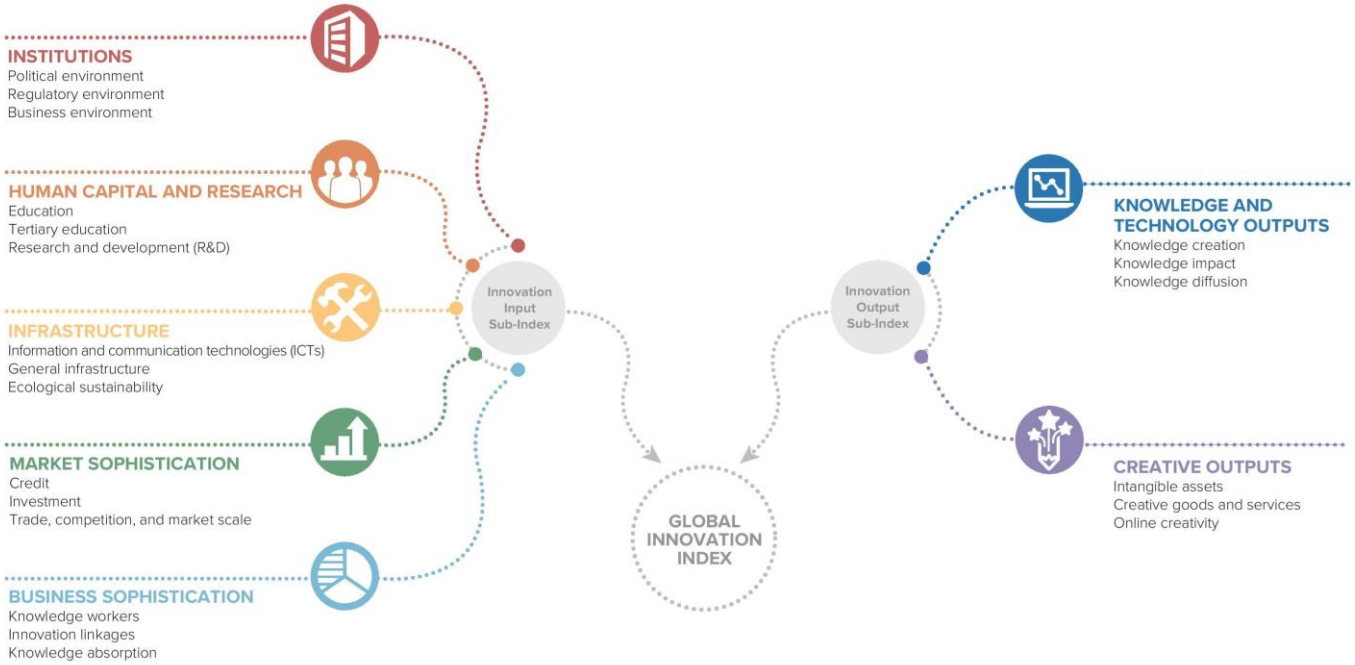
Code	Indicator name	Country year	Model year	Source
2.1.1	Expenditure on education, % GDP	2016	2018	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2015	2018	UNESCO Institute for Statistics
2.2.2	Graduates in science & engineering, %	2010	2017	UNESCO Institute for Statistics
4.3.1	Applied tariff rate, weighted mean, %	2017	2018	World Bank
7.1.3	Industrial designs by origin/bn PPP$ GDP	2017	2018	World Intellectual Property Organization

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 2020, the GII presents its 13th edition devoted to the theme *Who Will Finance Innovation?*

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.

Framework of the Global Innovation Index 2020



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.