

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
93	70	Upper middle	EUR	2.9	38.3	13,344.5	83
				Score/Value	Rank		
INSTITUTIONS				65.8	56		
1.1	Political environment		56.8	63			
1.1.1	Political and operational stability*.....		73.7	50			
1.1.2	Government effectiveness*.....		48.4	66			
1.2	Regulatory environment		61.1	79			
1.2.1	Regulatory quality*.....		47.9	60			
1.2.2	Rule of law*.....		35.7	85			
1.2.3	Cost of redundancy dismissal, salary weeks.....		20.8	88			
1.3	Business environment		79.5	35	◆		
1.3.1	Ease of starting a business*.....		91.6	44			
1.3.2	Ease of resolving insolvency*.....		67.4	36	●		
HUMAN CAPITAL & RESEARCH				22.7	88		
2.1	Education		40.1	85			
2.1.1	Expenditure on education, % GDP.....		4.0	80			
2.1.2	Government funding/pupil, secondary, % GDP/cap... ..		9.8	98	○	◇	
2.1.3	School life expectancy, years.....		15.2	48			
2.1.4	PISA scales in reading, maths, & science.....		415.2	57			
2.1.5	Pupil-teacher ratio, secondary.....		11.6	45			
2.2	Tertiary education		26.7	76			
2.2.1	Tertiary enrolment, % gross.....		57.0	51			
2.2.2	Graduates in science & engineering, %.....		19.2	69			
2.2.3	Tertiary inbound mobility, %.....		1.5	81			
2.3	Research & development (R&D)		1.2	103			
2.3.1	Researchers, FTE/mn pop.Ⓞ.....		156.1	82			
2.3.2	Gross expenditure on R&D, % GDP.Ⓞ.....		0.2	94			
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$.....		0.0	43	○	◇	
2.3.4	QS university ranking, average score top 3*.....		0.0	78	○	◇	
INFRASTRUCTURE				46.2	66		
3.1	Information & communication technologies (ICTs)		63.8	72			
3.1.1	ICT access*.....		53.1	82			
3.1.2	ICT use*.....		52.8	69			
3.1.3	Government's online service*.....		73.6	57			
3.1.4	E-participation*.....		75.8	59			
3.2	General infrastructure		26.6	94			
3.2.1	Electricity output, kWh/mn pop.....		2,702.1	67			
3.2.2	Logistics performance*.....		27.9	85			
3.2.3	Gross capital formation, % GDP.....		21.7	78			
3.3	Ecological sustainability		48.2	38	●	◆	
3.3.1	GDP/unit of energy use.....		14.1	16	●	◆	
3.3.2	Environmental performance*.....		65.5	36	●	◆	
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP..		1.9	48			
MARKET SOPHISTICATION				53.4	42	●	
4.1	Credit		30.9	89			
4.1.1	Ease of getting credit*.....		70.0	40			
4.1.2	Domestic credit to private sector, % GDP.....		35.0	88			
4.1.3	Microfinance gross loans, % GDP.Ⓞ.....		0.5	31			
4.2	Investment		71.7	[8]			
4.2.1	Ease of protecting minority investors*.....		71.7	24	●		
4.2.2	Market capitalization, % GDP.....		n/a	n/a			
4.2.3	Venture capital deals/bn PPP\$ GDP.....		n/a	n/a			
4.3	Trade, competition, & market scale		57.6	77			
4.3.1	Applied tariff rate, weighted avg., %.....		0.9	7	●		
4.3.2	Intensity of local competition*.....		67.4	72			
4.3.3	Domestic market scale, bn PPP\$.....		38.3	107	◇		
BUSINESS SOPHISTICATION				24.0	105		
5.1	Knowledge workers		24.5	97			
5.1.1	Knowledge-intensive employment, %.....		17.4	85			
5.1.2	Firms offering formal training, % firms.....		23.8	66			
5.1.3	GERD performed by business, % GDP.....		n/a	n/a			
5.1.4	GERD financed by business, %.....Ⓞ		3.3	85	◇		
5.1.5	Females employed w/advanced degrees, %.....		9.9	66			
5.2	Innovation linkages		17.9	108			
5.2.1	University/industry research collaboration*.....		38.8	73			
5.2.2	State of cluster development*.....		34.3	112	◇		
5.2.3	GERD financed by abroad, %.....Ⓞ		7.4	53			
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....		0.0	68			
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....		0.0	93	○	◇	
5.3	Knowledge absorption		29.5	85			
5.3.1	Intellectual property payments, % total trade.....		0.5	66			
5.3.2	High-tech imports, % total trade.....		1.5	128	○	◇	
5.3.3	ICT services imports, % total trade.....		1.5	42	●		
5.3.4	FDI net inflows, % GDP.....		8.4	16	●	◆	
5.3.5	Research talent, % in business enterprise.....		n/a	n/a			
KNOWLEDGE & TECHNOLOGY OUTPUTS				12.2	114		
6.1	Knowledge creation		2.2	121	○		
6.1.1	Patents by origin/bn PPP\$ GDP.....		0.6	75			
6.1.2	PCT patents by origin/bn PPP\$ GDP.....		0.0	99	○	◇	
6.1.3	Utility models by origin/bn PPP\$ GDP.....		0.0	62	○		
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....		3.2	98			
6.1.5	Citable documents H-index.....		1.5	122	○		
6.2	Knowledge impact		23.3	109			
6.2.1	Growth rate of PPP\$ GDP/worker, %.....		-1.6	104	◇		
6.2.2	New businesses/th pop. 15-64.....		1.4	62			
6.2.3	Computer software spending, % GDP.....		0.1	88			
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....		7.8	39	●		
6.2.5	High- & medium-high-tech manufactures, %.....		0.0	99	○	◇	
6.3	Knowledge diffusion		10.9	99			
6.3.1	Intellectual property receipts, % total trade.....		0.1	53			
6.3.2	High-tech net exports, % total trade.....		0.0	125	○		
6.3.3	ICT services exports, % total trade.....		2.0	56			
6.3.4	FDI net outflows, % GDP.....		0.0	116			
CREATIVE OUTPUTS				24.4	74		
7.1	Intangible assets		30.1	107			
7.1.1	Trademarks by origin/bn PPP\$ GDP.....		34.2	71			
7.1.2	Industrial designs by origin/bn PPP\$ GDP.Ⓞ.....		0.4	87			
7.1.3	ICTs & business model creation*.....		51.3	100			
7.1.4	ICTs & organizational model creation*.....		39.5	113	◇		
7.2	Creative goods & services		30.7	29	●	◆	
7.2.1	Cultural & creative services exports, % total trade.....		1.2	22	●		
7.2.2	National feature films/mn pop. 15-69.Ⓞ.....		3.3	54			
7.2.3	Entertainment & Media market/th pop. 15-69.....		n/a	n/a			
7.2.4	Printing & other media, % manufacturing.....		3.4	5	●	◆	
7.2.5	Creative goods exports, % total trade.Ⓞ.....		0.2	89			
7.3	Online creativity		6.6	59			
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....		6.6	48			
7.3.2	Country-code TLDs/th pop. 15-69.....		2.4	63			
7.3.3	Wikipedia edits/mn pop. 15-69.Ⓞ.....		16.0	57			
7.3.4	Mobile app creation/bn PPP\$ GDP.....		n/a	n/a			

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.