

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
27	13	High	EUR	5.4	398.3	74,356.1	19
				Score/Value	Rank		
INSTITUTIONS				93.9	2	◆	
1.1	Political environment		94.7	3	◆		
1.1.1	Political and operational stability*.....		94.7	4	●		
1.1.2	Government effectiveness*.....		94.6	3	◆		
1.2	Regulatory environment		97.1	4	●		
1.2.1	Regulatory quality*.....		90.6	9			
1.2.2	Rule of law*.....		99.8	2	●		
1.2.3	Cost of redundancy dismissal, salary weeks.....		8.7	21			
1.3	Business environment		89.9	3	●		
1.3.1	Ease of starting a business*.....		94.3	19			
1.3.2	Ease of resolving insolvency*.....		85.4	5	●		
HUMAN CAPITAL & RESEARCH				53.9	15		
2.1	Education		70.1	3	◆		
2.1.1	Expenditure on education, % GDP.....		7.6	4	◆		
2.1.2	Government funding/pupil, secondary, % GDP/cap... ..		26.4	20	◆		
2.1.3	School life expectancy, years.....		18.1	10			
2.1.4	PISA scales in reading, maths, & science.....		504.5	15			
2.1.5	Pupil-teacher ratio, secondary.....		8.7	14	◆		
2.2	Tertiary education		35.8	50			
2.2.1	Tertiary enrolment, % gross.....		82.0	16			
2.2.2	Graduates in science & engineering, %.....		20.5	61	○		
2.2.3	Tertiary inbound mobility, %.....		3.9	55			
2.3	Research & development (R&D)		55.8	19			
2.3.1	Researchers, FTE/mn pop.....		6,407.5	7			
2.3.2	Gross expenditure on R&D, % GDP.....		2.1	16			
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$.....		57.2	24			
2.3.4	QS university ranking, average score top 3*.....		42.9	26			
INFRASTRUCTURE				69.9	1	◆	
3.1	Information & communication technologies (ICTs)		89.6	9			
3.1.1	ICT access*.....		77.6	35			
3.1.2	ICT use*.....		88.1	5	◆		
3.1.3	Government's online service*.....		95.1	9			
3.1.4	E-participation*.....		97.8	11			
3.2	General infrastructure		68.5	1	◆		
3.2.1	Electricity output, kWh/mn pop.....		28,078.2	1	◆		
3.2.2	Logistics performance*.....		76.4	21			
3.2.3	Gross capital formation, % GDP.....		28.2	27			
3.3	Ecological sustainability		51.5	24			
3.3.1	GDP/unit of energy use.....		11.8	32			
3.3.2	Environmental performance*.....		77.5	14			
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP..		3.5	29			
MARKET SOPHISTICATION				58.6	22		
4.1	Credit		63.0	18			
4.1.1	Ease of getting credit*.....		55.0	77	○		
4.1.2	Domestic credit to private sector, % GDP.....		146.3	10			
4.1.3	Microfinance gross loans, % GDP.....		n/a	n/a			
4.2	Investment		45.3	54			
4.2.1	Ease of protecting minority investors*.....		75.0	14			
4.2.2	Market capitalization, % GDP.....		61.5	27			
4.2.3	Venture capital deals/bn PPP\$ GDP.....		0.0	40	○		◆
4.3	Trade, competition, & market scale		67.4	44			
4.3.1	Applied tariff rate, weighted avg., %.....		3.1	65	○		
4.3.2	Intensity of local competition*.....		69.3	65	○		◆
4.3.3	Domestic market scale, bn PPP\$.....		398.3	45			
BUSINESS SOPHISTICATION				50.2	21		
5.1	Knowledge workers		69.4	10			
5.1.1	Knowledge-intensive employment, %.....		52.5	4	●		
5.1.2	Firms offering formal training, % firms.....		n/a	n/a			
5.1.3	GERD performed by business, % GDP.....		1.1	20			
5.1.4	GERD financed by business, %.....		43.2	40	◇		
5.1.5	Females employed w/advanced degrees, %.....		25.2	10			
5.2	Innovation linkages		38.3	31			
5.2.1	University/industry research collaboration*.....		61.7	22			
5.2.2	State of cluster development*.....		64.6	18			
5.2.3	GERD financed by abroad, %.....		9.5	45			
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....		0.1	22			
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....		1.7	24	◇		
5.3	Knowledge absorption		42.7	33			
5.3.1	Intellectual property payments, % total trade.....		0.4	69	○		◆
5.3.2	High-tech imports, % total trade.....		6.6	80	○		
5.3.3	ICT services imports, % total trade.....		2.8	10			
5.3.4	FDI net inflows, % GDP.....		-0.9	125	○		
5.3.5	Research talent, % in business enterprise.....		48.1	26			
KNOWLEDGE & TECHNOLOGY OUTPUTS				33.7	30	◇	
6.1	Knowledge creation		38.0	22			
6.1.1	Patents by origin/bn PPP\$ GDP.....		4.4	26			
6.1.2	PCT patents by origin/bn PPP\$ GDP.....		1.9	18			
6.1.3	Utility models by origin/bn PPP\$ GDP.....		n/a	n/a			
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....		19.3	26			
6.1.5	Citable documents H-index.....		39.3	20			
6.2	Knowledge impact		41.0	45			
6.2.1	Growth rate of PPP\$ GDP/worker, %.....		0.6	71	○		
6.2.2	New businesses/th pop. 15-64.....		8.2	18			
6.2.3	Computer software spending, % GDP.....		0.6	16			
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....		6.5	48			
6.2.5	High- & medium-high-tech manufactures, %.....		0.2	58	○		◆
6.3	Knowledge diffusion		22.1	43	◇		
6.3.1	Intellectual property receipts, % total trade.....		0.4	28	◇		
6.3.2	High-tech net exports, % total trade.....		3.0	45			
6.3.3	ICT services exports, % total trade.....		1.7	63			
6.3.4	FDI net outflows, % GDP.....		2.8	26			
CREATIVE OUTPUTS				43.2	20		
7.1	Intangible assets		48.0	45	◇		
7.1.1	Trademarks by origin/bn PPP\$ GDP.....		33.9	72	○		
7.1.2	Industrial designs by origin/bn PPP\$ GDP.....		1.5	57			
7.1.3	ICTs & business model creation*.....		73.2	24			
7.1.4	ICTs & organizational model creation*.....		77.4	10			
7.2	Creative goods & services		28.5	33			
7.2.1	Cultural & creative services exports, % total trade.....		0.6	45			
7.2.2	National feature films/mn pop. 15-69.....		10.1	18			
7.2.3	Entertainment & Media market/th pop. 15-69.....		92.3	3	◆		
7.2.4	Printing & other media, % manufacturing.....		1.2	52			
7.2.5	Creative goods exports, % total trade.....		0.5	60			
7.3	Online creativity		48.4	13			
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....		50.7	15			
7.3.2	Country-code TLDs/th pop. 15-69.....		56.5	12			
7.3.3	Wikipedia edits/mn pop. 15-69.....		104.3	5	◆		
7.3.4	Mobile app creation/bn PPP\$ GDP.....		16.0	30			

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.