

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
24	21	High	EUR	11.5	549.7	48,244.7	25
				Score/Value	Rank		
INSTITUTIONS				82.0	21		
1.1	Political environment		77.0	28	◇		
1.1.1	Political and operational stability*.....		80.7	35	◇		
1.1.2	Government effectiveness*.....		75.2	24	◇		
1.2	Regulatory environment		80.4	30			
1.2.1	Regulatory quality*.....		75.3	24			
1.2.2	Rule of law*.....		81.9	21			
1.2.3	Cost of redundancy dismissal, salary weeks.....		19.7	81	○		
1.3	Business environment		88.5	9	●		
1.3.1	Ease of starting a business*.....		93.0	30			
1.3.2	Ease of resolving insolvency*.....		83.9	8	●		
HUMAN CAPITAL & RESEARCH				55.0	13	●	
2.1	Education		68.6	5	●◆		
2.1.1	Expenditure on education, % GDP.....		6.6	14			
2.1.2	Government funding/pupil, secondary, % GDP/cap.Ⓞ		24.5	26			
2.1.3	School life expectancy, years.....		19.7	2	●◆		
2.1.4	PISA scales in reading, maths, & science.....		502.5	18			
2.1.5	Pupil-teacher ratio, secondary.Ⓞ		9.1	18	◆		
2.2	Tertiary education		37.2	44			
2.2.1	Tertiary enrolment, % gross.Ⓞ		75.9	22			
2.2.2	Graduates in science & engineering, %.....		17.1	78	○◇		
2.2.3	Tertiary inbound mobility, %.....		12.0	13			
2.3	Research & development (R&D)		59.2	16			
2.3.1	Researchers, FTE/mn pop.....		4,905.5	14			
2.3.2	Gross expenditure on R&D, % GDP.....		2.6	11	●		
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$.....		66.8	21			
2.3.4	QS university ranking, average score top 3*.....		54.2	16			
INFRASTRUCTURE				57.2	29	◇	
3.1	Information & communication technologies (ICTs)		77.1	38	◇		
3.1.1	ICT access*.....		81.5	21			
3.1.2	ICT use*.....		75.6	27			
3.1.3	Government's online service*.....		75.7	55	◇		
3.1.4	E-participation*.....		75.8	59	○◇		
3.2	General infrastructure		50.5	16			
3.2.1	Electricity output, kWh/mn pop.....		7,496.2	29			
3.2.2	Logistics performance*.....		92.4	3	●		
3.2.3	Gross capital formation, % GDP.....		24.9	47			
3.3	Ecological sustainability		44.1	46			
3.3.1	GDP/unit of energy use.....		8.5	68	○		
3.3.2	Environmental performance*.....		77.4	15			
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP..		2.0	47			
MARKET SOPHISTICATION				55.3	37		
4.1	Credit		47.8	36			
4.1.1	Ease of getting credit*.....		65.0	54	○		
4.1.2	Domestic credit to private sector, % GDP.....		66.3	46	◇		
4.1.3	Microfinance gross loans, % GDP.....		n/a	n/a			
4.2	Investment		45.0	56			
4.2.1	Ease of protecting minority investors*.....		61.7	54			
4.2.2	Market capitalization, % GDP.....		86.9	17			
4.2.3	Venture capital deals/bn PPP\$ GDP.....		0.1	21			
4.3	Trade, competition, & market scale		73.2	25			
4.3.1	Applied tariff rate, weighted avg., %.....		1.8	23			
4.3.2	Intensity of local competition*.....		78.6	14			
4.3.3	Domestic market scale, bn PPP\$.....		549.7	37			
BUSINESS SOPHISTICATION				54.1	17		
5.1	Knowledge workers		73.1	7	●		
5.1.1	Knowledge-intensive employment, %.....		47.6	9	●		
5.1.2	Firms offering formal training, % firms.....		n/a	n/a			
5.1.3	GERD performed by business, % GDP.....		1.8	11			
5.1.4	GERD financed by business, %..Ⓞ		58.6	12			
5.1.5	Females employed w/advanced degrees, %.....		25.0	11	●		
5.2	Innovation linkages		46.0	19			
5.2.1	University/industry research collaboration*.....		68.7	12	●		
5.2.2	State of cluster development*.....		64.9	16			
5.2.3	GERD financed by abroad, %..Ⓞ		16.5	22			
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....		0.1	26			
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....		2.8	16			
5.3	Knowledge absorption		43.2	31			
5.3.1	Intellectual property payments, % total trade.....		0.8	46			
5.3.2	High-tech imports, % total trade.....		7.4	67	○		
5.3.3	ICT services imports, % total trade.....		2.3	20			
5.3.4	FDI net inflows, % GDP.....		-1.3	126	○		
5.3.5	Research talent, % in business enterprise.....		54.1	21			
KNOWLEDGE & TECHNOLOGY OUTPUTS				40.8	21		
6.1	Knowledge creation		49.1	14	●		
6.1.1	Patents by origin/bn PPP\$ GDP.....		6.0	19			
6.1.2	PCT patents by origin/bn PPP\$ GDP.....		2.4	15			
6.1.3	Utility models by origin/bn PPP\$ GDP.....		n/a	n/a			
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....		23.1	18			
6.1.5	Citable documents H-index.....		53.4	14	●		
6.2	Knowledge impact		43.1	39			
6.2.1	Growth rate of PPP\$ GDP/worker, %.....		0.2	83	○		
6.2.2	New businesses/th pop. 15-64.....		3.7	34			
6.2.3	Computer software spending, % GDP.....		0.7	7	●		
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....		5.9	53			
6.2.5	High- & medium-high-tech manufactures, %.....		0.4	29			
6.3	Knowledge diffusion		30.2	31			
6.3.1	Intellectual property receipts, % total trade.....		0.9	20			
6.3.2	High-tech net exports, % total trade.....		8.1	20			
6.3.3	ICT services exports, % total trade.....		3.0	34			
6.3.4	FDI net outflows, % GDP.....		-0.1	119	○◇		
CREATIVE OUTPUTS				38.5	33	◇	
7.1	Intangible assets		49.1	38			
7.1.1	Trademarks by origin/bn PPP\$ GDP.....		45.8	55			
7.1.2	Industrial designs by origin/bn PPP\$ GDP.....		2.4	47			
7.1.3	ICTs & business model creation*.....		74.9	18			
7.1.4	ICTs & organizational model creation*.....		72.2	16			
7.2	Creative goods & services		30.9	27			
7.2.1	Cultural & creative services exports, % total trade.....		1.4	18			
7.2.2	National feature films/mn pop. 15-69.....		10.9	14			
7.2.3	Entertainment & Media market/th pop. 15-69.....		53.9	14			
7.2.4	Printing & other media, % manufacturing.Ⓞ		1.3	38			
7.2.5	Creative goods exports, % total trade.....		1.6	34			
7.3	Online creativity		24.9	29	◇		
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....		21.2	27			
7.3.2	Country-code TLDs/th pop. 15-69.....		56.0	13	●		
7.3.3	Wikipedia edits/mn pop. 15-69.....		30.7	39			
7.3.4	Mobile app creation/bn PPP\$ GDP.....		1.8	62	○◇		

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.