







Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2019 rank
37	71	Lower middle	EUR	44.0	409.3	8,533.5	47
		Score/Value	Rank				
 INSTITUTIONS.....		55.6	93	 BUSINESS SOPHISTICATION.....		29.5	54
1.1	Political environment.....	44.5	105	5.1	Knowledge workers.....	39.0	47
1.1.1	Political and operational stability*.....	51.8	123	5.1.1	Knowledge-intensive employment, %.....	37.7	32
1.1.2	Government effectiveness*.....	40.9	93	5.1.2	Firms offering formal training, %.....	24.3	63
1.2	Regulatory environment.....	61.0	76	5.1.3	GERD performed by business, % GDP.....	0.3	48
1.2.1	Regulatory quality*.....	36.0	88	5.1.4	GERD financed by business, %.....	30.5	58
1.2.2	Rule of law*.....	28.0	109	5.1.5	Females employed w/advanced degrees, %.....	30.4	3
1.2.3	Cost of redundancy dismissal, salary weeks.....	13.0	41	5.2	Innovation linkages.....	18.8	81
1.3	Business environment.....	61.2	104	5.2.1	University/industry research collaboration*.....	45.5	50
1.3.1	Ease of starting a business*.....	91.1	52	5.2.2	State of cluster development*.....	40.9	91
1.3.2	Ease of resolving insolvency*.....	31.4	117	5.2.3	GERD financed by abroad, % GDP.....	0.1	36
 HUMAN CAPITAL & RESEARCH.....		40.5	39	5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....	0.0	113
2.1	Education.....	56.9	23	5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....	0.1	52
2.1.1	Expenditure on education, % GDP.....	5.4	26	5.3	Knowledge absorption.....	30.6	59
2.1.2	Government funding/pupil, secondary, % GDP/cap.....	30.3	12	5.3.1	Intellectual property payments, % total trade.....	0.8	48
2.1.3	School life expectancy, years.....	14.9	54	5.3.2	High-tech imports, % total trade.....	9.9	33
2.1.4	PISA scales in reading, maths, & science.....	462.7	40	5.3.3	ICT services imports, % total trade.....	1.0	74
2.1.5	Pupil-teacher ratio, secondary.....	7.3	3	5.3.4	FDI net inflows, % GDP.....	2.7	63
2.2	Tertiary education.....	43.9	32	5.3.5	Research talent, % in business enterprise.....	27.3	47
2.2.1	Tertiary enrolment, % gross.....	82.7	14	 KNOWLEDGE & TECHNOLOGY OUTPUTS.....		35.1	25
2.2.2	Graduates in science & engineering, %.....	25.3	35	6.1	Knowledge creation.....	41.6	23
2.2.3	Tertiary inbound mobility, %.....	3.1	65	6.1.1	Patents by origin/bn PPP\$ GDP.....	5.4	20
2.3	Research & development (R&D).....	20.5	44	6.1.2	PCT patents by origin/bn PPP\$ GDP.....	0.5	36
2.3.1	Researchers, FTE/mn pop.....	988.1	52	6.1.3	Utility models by origin/bn PPP\$ GDP.....	23.0	1
2.3.2	Gross expenditure on R&D, % GDP.....	0.5	69	6.1.4	Scientific & technical articles/bn PPP\$ GDP.....	9.5	55
2.3.3	Global R&D companies, avg. exp. top 3, mn \$US.....	39.8	38	6.1.5	Citable documents H-index.....	16.8	50
2.3.4	QS university ranking, average score top 3*.....	21.2	49	6.2	Knowledge impact.....	28.7	45
 INFRASTRUCTURE.....		33.1	94	6.2.1	Growth rate of PPP\$ GDP/worker, %.....	2.4	39
3.1	Information & communication technologies (ICTs).....	58.8	82	6.2.2	New businesses/th pop. 15-64.....	1.7	61
3.1.1	ICT access*.....	65.9	65	6.2.3	Computer software spending, % GDP.....	0.0	19
3.1.2	ICT use*.....	43.7	89	6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	4.5	58
3.1.3	Government's online service*.....	56.9	93	6.2.5	High- and medium-high-tech manufacturing, %.....	16.8	61
3.1.4	E-participation*.....	68.5	74	6.3	Knowledge diffusion.....	35.0	32
3.2	General infrastructure.....	20.2	95	6.3.1	Intellectual property receipts, % total trade.....	0.1	46
3.2.1	Electricity output, kWh/mn pop.....	3,445.5	58	6.3.2	High-tech net exports, % total trade.....	1.9	56
3.2.2	Logistics performance*.....	35.7	65	6.3.3	ICT services exports, % total trade.....	5.4	9
3.2.3	Gross capital formation, % GDP.....	19.3	102	6.3.4	FDI net outflows, % GDP.....	0.2	96
3.3	Ecological sustainability.....	20.2	99	 CREATIVE OUTPUTS.....		29.9	44
3.3.1	GDP/unit of energy use.....	3.7	117	7.1	Intangible assets.....	42.8	23
3.3.2	Environmental performance*.....	49.5	57	7.1.1	Trademarks by origin/bn PPP\$ GDP.....	131.1	5
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....	0.7	68	7.1.2	Global brand value, top 5,000, % GDP.....	1.3	79
 MARKET SOPHISTICATION.....		42.1	99	7.1.3	Industrial designs by origin/bn PPP\$ GDP.....	13.5	8
4.1	Credit.....	35.3	86	7.1.4	ICTs & organizational model creation*.....	55.6	58
4.1.1	Ease of getting credit*.....	75.0	34	7.2	Creative goods and services.....	6.6	95
4.1.2	Domestic credit to private sector, % GDP.....	34.1	88	7.2.1	Cultural & creative services exports, % total trade.....	0.5	48
4.1.3	Microfinance gross loans, % GDP.....	0.0	78	7.2.2	National feature films/mn pop. 15-69.....	0.6	99
4.2	Investment.....	23.8	121	7.2.3	Entertainment & Media market/th pop. 15-69.....	n/a	n/a
4.2.1	Ease of protecting minority investors*.....	68.0	44	7.2.4	Printing and other media, % manufacturing.....	0.8	70
4.2.2	Market capitalization, % GDP.....	4.0	71	7.2.5	Creative goods exports, % total trade.....	0.2	80
4.2.3	Venture capital deals/bn PPP\$ GDP.....	0.0	64	7.3	Online creativity.....	27.3	39
4.3	Trade, competition, and market scale.....	67.2	45	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....	4.5	56
4.3.1	Applied tariff rate, weighted avg., %.....	1.6	18	7.3.2	Country-code TLDs/th pop. 15-69.....	5.1	54
4.3.2	Intensity of local competition*.....	64.4	83	7.3.3	Wikipedia edits/mn pop. 15-69.....	67.7	43
4.3.3	Domestic market scale, bn PPP\$.....	409.3	48	7.3.4	Mobile app creation/bn PPP\$ GDP.....	33.8	15