Thailand

GII 2021 rank
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Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$	GII 2020 rank
46	**47**	**Upper middle**	**SEAO**	**69.8**	**1,261.5**	**18,073**	**44**

		Score/ Value	Rank	
Institutions		**64.2**	**64**	
1.1	**Political environment**	**61.7**	**54**	
1.1.1	Political and operational stability*	67.9	71	
1.1.2	Government effectiveness*	58.6	52	
1.2	**Regulatory environment**	**46.3**	**112**	○ ◇
1.2.1	Regulatory quality*	46.5	63	
1.2.2	Rule of law*	49.4	57	
1.2.3	Cost of redundancy dismissal	36.0	124	○ ◇
1.3	**Business environment**	**84.6**	**20**	◆
1.3.1	Ease of starting a business*	92.4	43	
1.3.2	Ease of resolving insolvency*	76.8	22	◆
Human capital and research		**31.7**	**63**	
2.1	**Education**	**42.4**	**86**	
2.1.1	Expenditure on education, % GDP	4.1	64	
2.1.2	Government funding/pupil, secondary, % GDP/cap	18.0	59	
2.1.3	School life expectancy, years	15.4	45	
2.1.4	PISA scales in reading, maths and science	412.4	61	
2.1.5	Pupil-teacher ratio, secondary	26.2	109	○ ◇
2.2	**Tertiary education**	**35.4**	**57**	
2.2.1	Tertiary enrolment, % gross	49.3	64	
2.2.2	Graduates in science and engineering, %	27.9	25	
2.2.3	Tertiary inbound mobility, %	1.3	85	
2.3	**Research and development (R&D)**	**17.4**	**47**	
2.3.1	Researchers, FTE/mn pop.	1,350.3	48	
2.3.2	Gross expenditure on R&D, % GDP	1.0	39	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	41	○ ◇
2.3.4	QS university ranking, top 3*	33.4	37	
Infrastructure		**43.0**	**61**	
3.1	**Information and communication technologies (ICTs)**	**68.4**	**60**	
3.1.1	ICT access*	57.8	81	
3.1.2	ICT use*	59.2	63	
3.1.3	Government's online service*	79.4	42	
3.1.4	E-participation*	77.4	51	
3.2	**General infrastructure**	**33.1**	**48**	
3.2.1	Electricity output, GWh/mn pop.	2,738.5	69	
3.2.2	Logistics performance*	63.3	31	◆
3.2.3	Gross capital formation, % GDP	24.0	54	
3.3	**Ecological sustainability**	**27.6**	**68**	
3.3.1	GDP/unit of energy use	9.2	78	
3.3.2	Environmental performance*	45.4	70	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	2.4	35	
Market sophistication		**55.6**	**27**	◆
4.1	**Credit**	**52.0**	**24**	◆
4.1.1	Ease of getting credit*	70.0	44	
4.1.2	Domestic credit to private sector, % GDP	143.4	10	● ◆
4.1.3	Microfinance gross loans, % GDP	0.0	81	○
4.2	**Investment**	**31.8**	**64**	
4.2.1	Ease of protecting minority investors*	86.0	3	● ◆
4.2.2	Market capitalization, % GDP	108.0	11	●
4.2.3	Venture capital investors, deals/bn PPP$ GDP	0.0	66	
4.2.4	Venture capital recipients, deals/bn PPP$ GDP	0.0	85	○
4.3	**Trade, diversification, and market scale**	**83.1**	**19**	◆
4.3.1	Applied tariff rate, weighted avg., %	3.5	69	
4.3.2	Domestic industry diversification	97.0	16	●
4.3.3	Domestic market scale, bn PPP$	1,261.5	21	

		Score/ Value	Rank	
Business sophistication		**34.7**	**36**	◆
5.1	**Knowledge workers**	**37.3**	**51**	
5.1.1	Knowledge-intensive employment, %	13.8	98	○ ◇
5.1.2	Firms offering formal training, %	18.0	84	○
5.1.3	GERD performed by business, % GDP	0.8	27	◆
5.1.4	GERD financed by business, %	80.8	1	● ◆
5.1.5	Females employed w/advanced degrees, %	9.9	70	
5.2	**Innovation linkages**	**20.2**	**67**	
5.2.1	University-industry R&D collaboration†	54.4	30	◆
5.2.2	State of cluster development and depth†	52.2	41	
5.2.3	GERD financed by abroad, % GDP	0.0	83	○
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	56	
5.2.5	Patent families/bn PPP$ GDP	0.1	60	
5.3	**Knowledge absorption**	**46.4**	**18**	● ◆
5.3.1	Intellectual property payments, % total trade	1.7	18	◆
5.3.2	High-tech imports, % total trade	14.2	14	●
5.3.3	ICT services imports, % total trade	0.3	116	○ ◇
5.3.4	FDI net inflows, % GDP	1.8	85	
5.3.5	Research talent, % in businesses	60.8	10	● ◆
Knowledge and technology outputs		**29.7**	**40**	
6.1	**Knowledge creation**	**22.9**	**47**	
6.1.1	Patents by origin/bn PPP$ GDP	0.6	75	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.1	57	
6.1.3	Utility models by origin/bn PPP$ GDP	2.4	9	● ◆
6.1.4	Scientific and technical articles/bn PPP$ GDP	8.9	93	
6.1.5	Citable documents H-index	21.2	39	
6.2	**Knowledge impact**	**35.0**	**44**	
6.2.1	Labor productivity growth, %	–0.1	66	
6.2.2	New businesses/th pop. 15–64	1.1	80	
6.2.3	Software spending, % GDP	0.2	55	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	6.8	39	
6.2.5	High-tech manufacturing, %	45.1	17	◆
6.3	**Knowledge diffusion**	**31.2**	**33**	◆
6.3.1	Intellectual property receipts, % total trade	0.1	69	
6.3.2	Production and export complexity	70.9	22	◆
6.3.3	High-tech exports, % total trade	13.4	11	● ◆
6.3.4	ICT services exports, % total trade	0.2	118	○
Creative outputs		**27.3**	**55**	
7.1	**Intangible assets**	**30.2**	**68**	
7.1.1	Trademarks by origin/bn PPP$ GDP	24.2	85	
7.1.2	Global brand value, top 5,000, % GDP	62.5	31	
7.1.3	Industrial designs by origin/bn PPP$ GDP	2.6	41	
7.1.4	ICTs and organizational model creation†	60.3	43	◆
7.2	**Creative goods and services**	**37.1**	**15**	● ◆
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a	
7.2.2	National feature films/mn pop. 15–69	1.5	74	
7.2.3	Entertainment and media market/th pop. 15–69	10.7	35	◆
7.2.4	Printing and other media, % manufacturing	0.8	71	
7.2.5	Creative goods exports, % total trade	6.9	8	● ◆
7.3	**Online creativity**	**11.9**	**84**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	5.5	52	
7.3.2	Country-code TLDs/th pop. 15–69	0.4	102	
7.3.3	Wikipedia edits/mn pop. 15–69	39.3	86	
7.3.4	Mobile app creation/bn PPP$ GDP	3.9	61	

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 appendices 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.