

SINGAPORE

KEY INDICATORS

GDP US\$ billions	528.757
Population	5,850,343
HDI	0.938

GKI
RANK

6/154

GKI
SCORE

69.3

WORLD
AVERAGE

48.4

COUNTRY PERFORMANCE SUMMARY

Singapore is a leading performer in terms of its knowledge infrastructure. It ranks 6th out of 154 countries in the Global Knowledge Index 2021 and 6th out of the 61 countries with very high human development.

AREAS OF STRENGTH

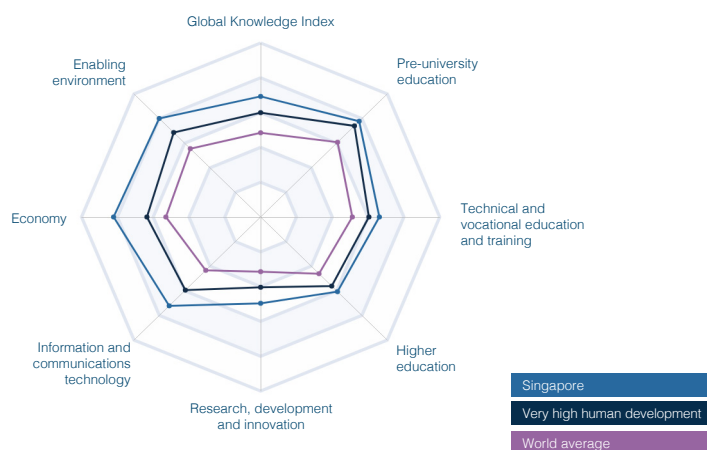
- + Learning-adjusted years of schooling
- + Fixed-broadband upload and download speeds
- + Medium- and high-tech activities value added
- + Government effectiveness
- + Peace and stability

AREAS OF IMPROVEMENT

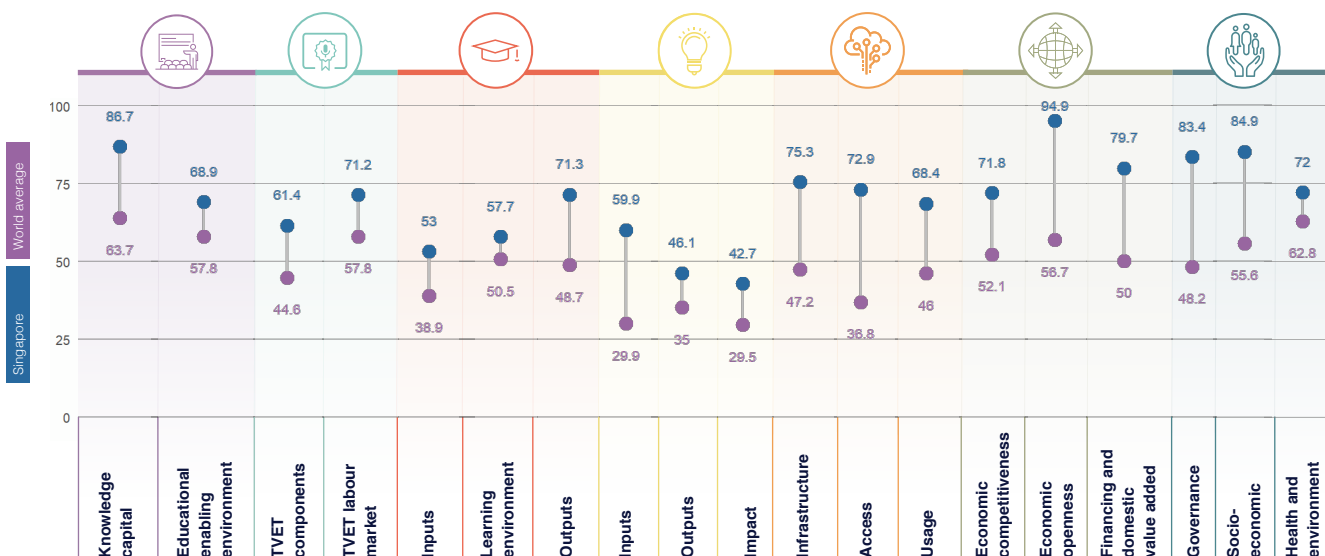
- Years of compulsory education in primary and secondary
- Renewable energy consumption (%)
- Ratio of high-skill TVET occupations earnings to average wage
- Ratio of medium-skill TVET occupations earnings to average wage
- Printing and publishing output (% manufactured output)

SECTORAL INDICES

	RANK	VALUE
PRE-UNIVERSITY EDUCATION	27	77.8
TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING	17	66.3
HIGHER EDUCATION	23	60.7
RESEARCH, DEVELOPMENT AND INNOVATION	11	49.6
INFORMATION AND COMMUNICATIONS TECHNOLOGY	4	72.2
ECONOMY	1	82.1
ENABLING ENVIRONMENT	11	80.1



GKI PILLARS





SINGAPORE

	Rank	Value
PRE-UNIVERSITY EDUCATION	27	77.8
Knowledge capital	10	86.7
Enrolment	1	99.7
Net enrolment rate in primary education	9	99.7
Net enrolment rate in lower secondary education	13	99.6
Net enrolment rate in upper secondary education	3	99.9
Completion	95	64.9
Years of compulsory education in primary and secondary	132	46.2
Completion rate in upper secondary education	n/a	n/a
Gross intake ratio to the last grade of lower secondary education	28	83.7
Outcomes	1	95.4
Assessment of 15-year-old students in math, science and reading	2	90.8
Learning-adjusted years of schooling	1	100
Educational enabling environment	48	68.9
Expenditure	40	40
Government expenditure on primary education (% GDP)	35	43
Government expenditure on secondary education (% GDP)	41	35.1
Government funding per primary student (% GDP per capita)	35	49.6
Government funding per secondary student (% GDP per capita)	58	32.4
Resources	24	97.9
Pupil-trained teacher ratio in primary education	13	95.6
Pupil-trained teacher ratio in secondary education	11	95.8
Schools with access to computers in primary education (%)	1	100
Schools with access to computers in secondary education (%)	1	100
Early learning	n/a	n/a
Gross enrolment ratio in early childhood education	n/a	n/a
Proportion of children who are developmentally on track	n/a	n/a
Proportion of children with stimulating home learning environments	n/a	n/a
Pupil-trained teacher ratio in pre-primary education	n/a	n/a
Equity and inclusiveness	n/a	n/a
Completion rate in upper secondary education, gender parity	n/a	n/a
Completion rate in upper secondary education, wealth parity	n/a	n/a
Completion rate in upper secondary education, location parity	n/a	n/a
TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING	17	66.3
TVET components	16	61.4
Continuous training and skilling	15	76.7
Firms offering formal training (%)	n/a	n/a
Labour force with short-cycle tertiary education (%)	n/a	n/a
Participation rate in formal and non-formal education and training	9	76.7
TVET structure	19	65.4
Government expenditure on vocational education (%)	n/a	n/a
Share of students enrolled in secondary vocational programmes	n/a	n/a
Share of students enrolled in post-secondary vocational programmes	77	65.4
TVET quality and qualifications	96	42.1
Extent of staff training	4	73.3
Quality of vocational training	6	73.3
Ratio of high-skill TVET occupations earnings to average wage	111	8.3
Ratio of medium-skill TVET occupations earnings to average wage	114	13.6
TVET labour market	29	71.2
Efficiency of the labour market	n/a	n/a
Firms constrained with inadequately educated workforce (%)	n/a	n/a
Employment educational mismatch (%)	n/a	n/a
Proportion of skilled production workers	n/a	n/a
Unemployment rate with vocational education	n/a	n/a
Post-TVET employment	53	51.4
Share of TVET occupations	21	70.8
Manufacturing employment (%)	89	31.9
Equity and inclusiveness	10	91.1
Enrolment in vocational education, gender parity	24	91.9
Vulnerable employment rate	29	90.4

	Rank	Value
HIGHER EDUCATION	23	60.7
Inputs	25	53
Expenditure	4	79.4
Government expenditure per tertiary student	7	79.4
Teaching staff compensation (% tertiary expenditure)	n/a	n/a
Enrolment	77	17
Enrolment in bachelor's or equivalent level (%)	70	22.3
Enrolment in master's, doctoral or equivalent (%)	75	11.8
Resources	73	62.6
Pupil-teacher ratio in tertiary education	44	81.1
Researchers in higher education (%)	57	44
Learning environment	52	57.7
Diversity and academic freedom	58	57.7
Teachers in tertiary education, gender parity	74	58.8
Inbound mobility rate	6	67.5
Academic freedom	110	46.6
Equity and inclusiveness	n/a	n/a
Gross attendance ratio for tertiary education, gender parity	n/a	n/a
Gross attendance ratio for tertiary education, wealth parity	n/a	n/a
Gross attendance ratio for tertiary education, location parity	n/a	n/a
Outputs	9	71.3
Attainment	2	84.6
Educational attainment rate, bachelor's or equivalent	14	84.6
Educational attainment rate, master's or equivalent	n/a	n/a
Educational attainment rate, doctorate or equivalent	n/a	n/a
Employment	n/a	n/a
Labour force participation rate with advanced education	n/a	n/a
Unemployment rate with advanced education	n/a	n/a
Impact	24	58
University-industry collaboration in R&D	6	71.3
Citable documents per R&D personnel in higher education	40	44.7
RESEARCH, DEVELOPMENT AND INNOVATION	11	49.6
Inputs	10	59.9
Inputs of R&D institutions	10	57.3
GERD (% GDP)	19	38.8
GERD per researcher	13	54.6
Researchers per thousand labour force	8	70.4
Tertiary graduates from STEM programmes (%)	10	65.4
Inputs of RDI in business enterprises	17	52.3
GERD performed by business enterprises (%)	20	31.6
GERD financed by business enterprises (%)	22	64.6
Researchers in business enterprises (%)	20	60.7
Firms that spend on R&D (%)	n/a	n/a
Inputs of societal innovation	8	72.7
High-skilled employment (%)	n/a	n/a
Intellectual property payments (% total trade)	10	76.3
State of cluster development	9	69.2
Outputs	34	46.1
Outputs of R&D institutions	18	58.2
Average documents per researcher	52	59.4
Citations per document	15	50
Patent applications (per 100 billion GDP)	24	65.1
Outputs of RDI in business enterprises	32	45.4
Intellectual property receipts (% total trade)	18	47.3
Industrial design applications (per 100 billion GDP)	74	4.4
PCT applications (per 100 billion GDP)	17	84.6
Firms producing new goods and services (%)	n/a	n/a



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	Rank	Value
Outputs of societal innovation	84	22.5
Trademark applications (per 100 billion GDP)	85	16.3
Cultural goods exports (% exports)	19	42.6
Printing and publishing output (% manufactured output)	97	8.6
Impact	20	42.7
Quality	42	37.2
Research institutions prominence	19	45.5
Growth of innovative companies	14	66.3
ISO 9001 quality certificates (% GDP)	52	24.6
ISO 14001 environmental certificates (% GDP)	62	12.4
Linkages	16	41.2
GERD financed from abroad (%)	59	13.5
Joint ventures per strategic alliance deals (% GDP)	4	87.3
Computer software spending (% GDP)	51	22.7
Business development	34	49.8
New business density per thousand population	13	49.8
Firms with new product/service (%)	n/a	n/a
INFORMATION AND COMMUNICATIONS TECHNOLOGY	4	72.2
Infrastructure	6	75.3
Coverage	9	61.4
3G/4G mobile network coverage (% population)	1	100
Secure Internet servers per 1 million population	5	68
Investment in telecommunication services (% GDP)	124	16.2
Quality	8	71.7
Mobile upload and download speeds	10	59.9
Fixed-broadband upload and download speeds	1	100
Fixed-broadband subscriptions by speed per hundred people	40	55.3
Affordability	5	92.7
Fixed broadband basket (% GNI per capita)	8	92.1
Mobile broadband basket (% GNI per capita)	15	86.1
Internet and telephony competition	1	100
Access	2	72.9
Subscriptions	4	77.4
Active mobile-broadband subscriptions per hundred inhabitants	7	63.8
International Internet bandwidth per user	4	69.7
Households with Internet access at home (%)	6	98.6
Skills and employment	5	68.5
Individuals with standard ICT skills (%)	25	57.3
Tertiary graduates from ICT programmes (%)	9	66
ICT employment (%)	6	82.2
Usage	19	68.4
Services	31	62.2
Government online services	5	96.5
Fixed broadband Internet traffic per subscription	n/a	n/a
Mobile broadband Internet traffic per subscription	48	15.7
Internet users (%)	66	74.6
Outcomes	16	74.5
ICT PCT patent applications (per 100 billion GDP)	10	78.8
E-participation	6	97.6
Internet activities by individuals (%)	39	55.9
Trade in digitally deliverable services (% total trade)	17	65.6
ECONOMY	1	82.1
Economic competitiveness	10	71.8
Infrastructure investment	7	66.9
Gross fixed capital formation (% GDP)	85	46.3
Logistics performance	7	74.9
Transport productive capacity	10	59.6
Building quality control	22	86.7

	Rank	Value
Business agility	16	76.8
Ease of starting a business	3	98.2
Insolvency recovery rate	6	96.3
Entrepreneurial employee activity rate	25	41.1
Extent of corporate transparency	50	71.4
Economic openness	1	94.9
Trade and diversification	2	89.9
Trade (% GDP)	1	100
High-technology trade (% total trade)	2	91
Product concentration	69	75.7
Market concentration	42	93.1
Financial openness	2	99.8
Chinn-Ito financial openness	1	100
Foreign direct investment, net inflows (% GDP)	1	100
Debt dynamics	37	99.5
Financing and domestic value added	1	79.7
Financing and taxes	7	77.6
Domestic credit to private sector (% GDP)	17	50.7
MSME financing gap (% GDP)	n/a	n/a
Tax and contribution rate (% profit)	17	86.8
Bank non-performing loans (%)	14	95.4
Domestic value added	1	81.8
Medium- and high-tech activities value added	1	100
Industry and services value added (% GDP)	13	76.9
Labour underutilization rate	21	84.7
Output per worker	3	65.8
ENABLING ENVIRONMENT	11	80.1
Governance	18	83.4
Political environment	35	67.7
Peace and stability	2	97.2
Voice and accountability	93	38.2
Quality of institutions	2	99.2
Rule of law	4	98.6
Control of corruption	3	99
Government effectiveness	1	100
Socio-economic	3	84.9
Gender equity	48	72.4
Female-to-male ratio in parliament	54	42.5
Female-to-male labour force participation	70	77.1
Female-to-male ratio in Internet usage	54	97.6
Social inclusion	2	98.1
Social protection coverage (% population)	1	100
Adult literacy rate	37	96.8
Youth not in employment, education or training (%)	3	97.5
Standard of living	2	84.2
Poverty headcount ratio (% population)	n/a	n/a
GDP per capita	2	84.2
Health and environment	13	72
Health	1	94.6
Universal health coverage	5	86
Healthy life expectancy (years)	2	98.2
Under-five mortality rate	9	99.5
Environmental performance	101	49.5
Renewable energy consumption (%)	145	0.8
Ecological footprint per capita	131	56.8
Natural hazard exposure	4	91

*All values are normalized to a scale from 0 (worst) to 100 (best).