

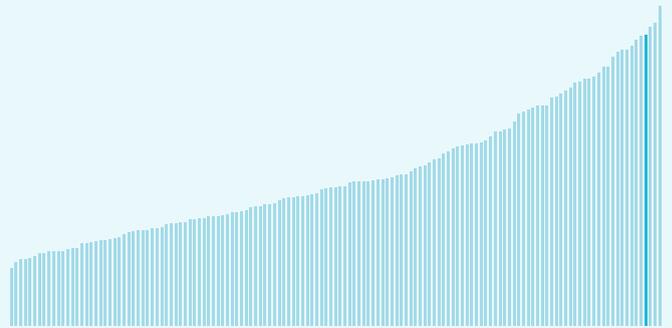
Global Innovation Index 2025



Republic of Korea ranking in the Global Innovation Index 2025

Republic of Korea ranks **4th** among the 139 economies featured in the GII 2025.

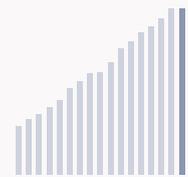
The Global Innovation Index (GII) ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GII aims to capture the multi-dimensional facets of innovation.



Republic of Korea ranks 4th among the 54 High-income group economies.



Republic of Korea ranks 1st among the 17 economies in South East Asia, East Asia, and Oceania.



Republic of Korea GII Ranking (2020-2025)

The table shows the rankings of Republic of Korea over the past six years. Data availability and changes to the GII model framework influence year-on-year comparisons of the GII rankings. The statistical confidence interval for the ranking of Republic of Korea in the GII 2025 is between ranks 4 and 5.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	10th	10th	10th
2021	5th	9th	5th
2022	6th	16th	4th
2023	10th	12th	7th
2024	6th	6th	4th
2025	4th	4th	6th

Republic of Korea performs worse in innovation outputs than innovation inputs in 2025.

This year Republic of Korea ranks 4th in innovation inputs. This position is higher than last year.

Republic of Korea ranks 6th in innovation outputs. This position is lower than last year.

Republic of Korea has 3 clusters in the world's top innovation clusters of the Global Innovation Index.

Global Innovation Index 2025



> Global Innovation Tracker

The Global Innovation Tracker 2025 shows what is the current state of innovation in Republic of Korea, how rapidly is technology being embraced and what are the resulting societal impacts.



For Republic of Korea, 9 indicators have improved in the short-term and 2 indicators have worsened.

Science and innovation investment

	Scientific publications	R&D investments	Venture capital deal numbers	International patent filings
Short term	▲ 4.2 % 2023 - 2024	▲ 3.6 % 2022 - 2023	▼ -18.2 % 2023 - 2024	▲ 7.1 % 2023 - 2024
Long term (annual growth)	▲ 2.9 % 2014 - 2024	▲ 5.6 % 2013 - 2023	▼ -4.6 % 2020 - 2024	▲ 6.2 % 2014 - 2024

Technology adoption

	Safe sanitation	Connectivity		Robots	Electric vehicles
		Fixed broadband	5G		
Short term	0% 2023 - 2024	▲ 2.4% 2022 - 2023	▲ 1.5% 2020 - 2023	▲ 1.6% 2022 - 2023	▲ 26.2% 2023 - 2024
Long term (annual growth)	▲ 0.4% 2014 - 2024	▲ 2.5% 2013 - 2023	n/a	▲ 9.3% 2013 - 2023	▲ 72.1% 2014 - 2024
Penetration	99.3 per 100 inhabitants in 2024	46.6 per 100 inhabitants in 2023	94 per 100 inhabitants in 2023	n/a	2.8 per 100 cars in 2024

Socioeconomic impact

	Labor productivity	Life expectancy	Temperature change
Short term	▲ 6.7 % 2023 - 2024	▲ 1.9 % 2022 - 2023	+ 2.5 °C 2024
Long term (annual growth)	▲ 2.8 % 2014 - 2024	▲ 0.3 % 2013 - 2023	+ 1.1 °C 2014
Level	113,657.7 USD in 2024	84.3 years in 2023	n/a

Notes: Not all indicators of the Global Innovation Tracker are used to calculate the Global Innovation Index. Long-term annual growth refers to the compound annual growth rate (CAGR) over the indicated period. For each variable, a one-year growth rate is set for the short run, and ten-year CAGR is set for the long run; time windows might differ when gaps exist in data availability. The end period corresponds to the most recent available observation, which may differ among countries. Temperature change is an exception: it indicates the change in degrees Celsius with respect to the average temperature in the countries, from 1951–1980. Figures are rounded.

Global Innovation Index 2025



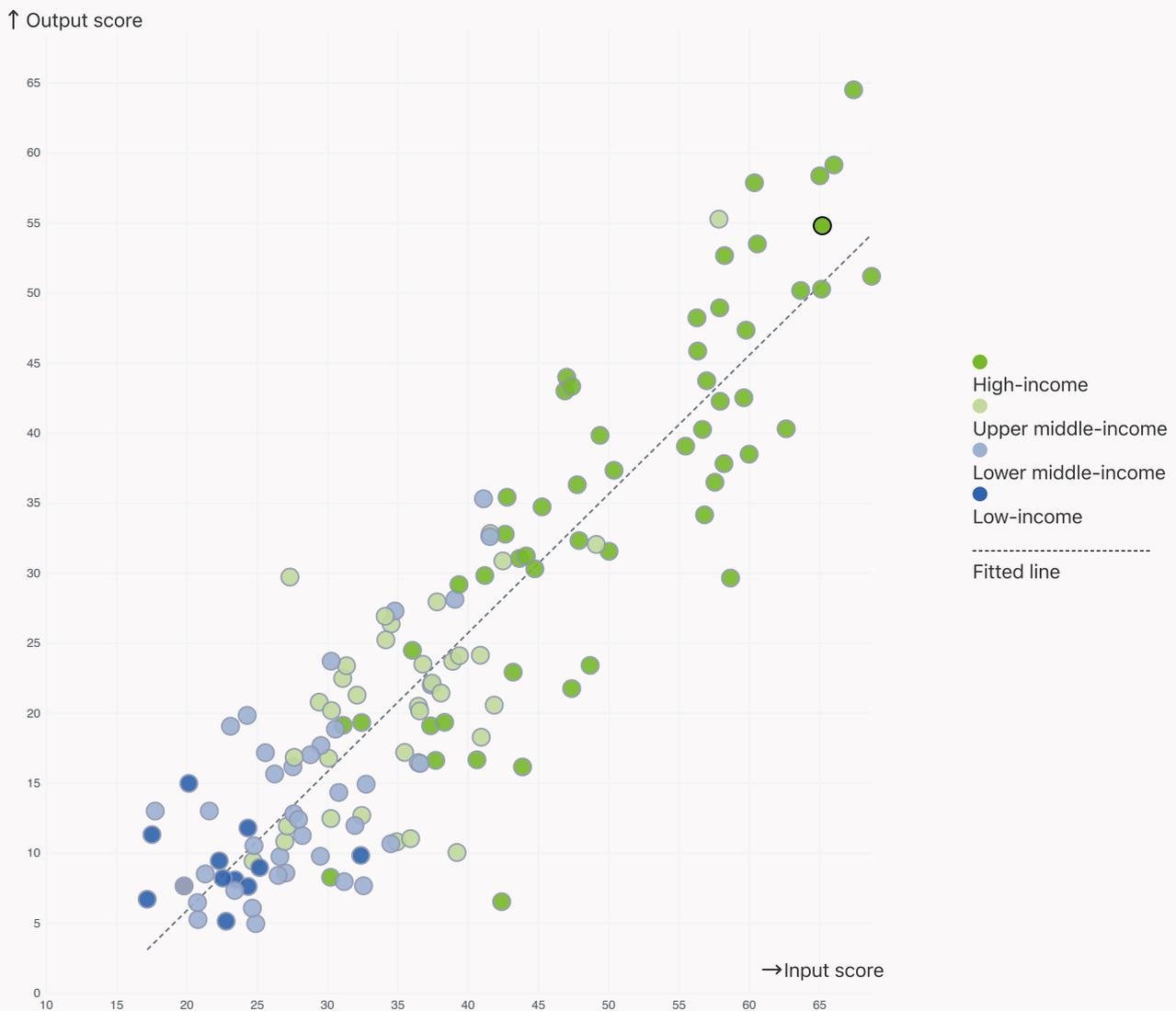
Effectively translating innovation investments into innovation outputs

The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.



Republic of Korea produces more innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

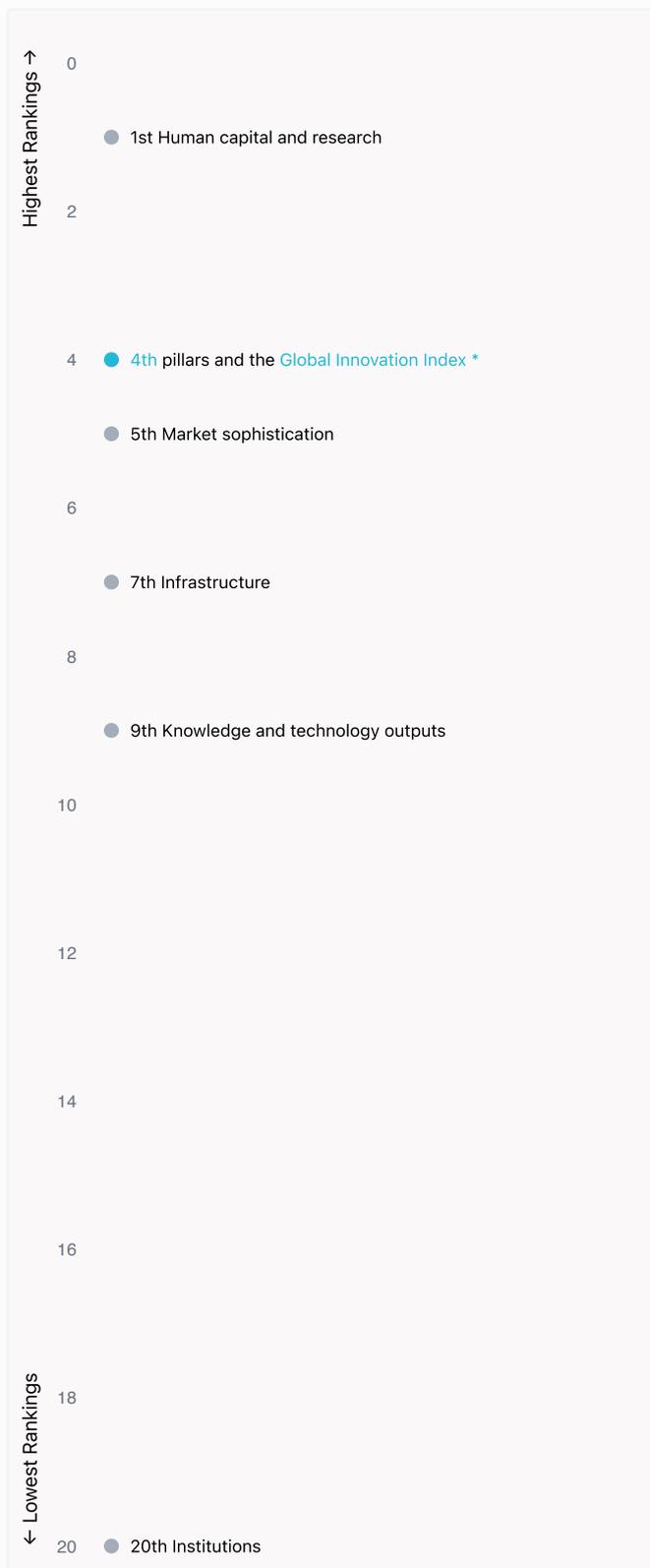


Global Innovation Index 2025



Overview of Republic of Korea's rankings in the seven areas of the GII in 2025

The chart shows the ranking for each of the seven areas that the GII comprises. The strongest areas for Republic of Korea are those that rank above the GII (shown in blue) and the weakest are those that rank below.



Highest Rankings

Republic of Korea ranks highest in Human capital and research (1st) and Business sophistication, Creative outputs (4th).



Lowest Rankings

Republic of Korea ranks lowest in Institutions (20th), Knowledge and technology outputs (9th) and Infrastructure (7th).

* Business sophistication, Creative outputs



The full WIPO Intellectual Property Statistics profile for Republic of Korea can be found on <https://www.wipo.int/edocs/statistics-country-profile/en/kr.pdf>

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Benchmark of Republic of Korea against other economy groupings for each of the seven areas of the GII Index



High-income economies

Republic of Korea performs above the High-income group average in all pillars.



South East Asia, East Asia, and Oceania

Republic of Korea performs above the regional average in all pillars.

Institutions

Top 10 | Score: 78.63

Republic of Korea | Score: 72.51

High-income | Score: 65.99

SEAO | Score: 60.86

Human capital and research

Republic of Korea | Score: 66.99

Top 10 | Score: 59.30

High-income | Score: 45.45

SEAO | Score: 39.16

Infrastructure

Republic of Korea | Score: 63.58

Top 10 | Score: 61.36

High-income | Score: 54.18

SEAO | Score: 48.25

Market sophistication

Republic of Korea | Score: 61.94

Top 10 | Score: 61.82

SEAO | Score: 48.50

High-income | Score: 47.12

Business sophistication

Republic of Korea | Score: 61.20

Top 10 | Score: 59.10

High-income | Score: 42.22

SEAO | Score: 39.02

Knowledge and technology outputs

Top 10 | Score: 54.93

Republic of Korea | Score: 51.85

High-income | Score: 33.94

SEAO | Score: 29.47

Creative outputs

Republic of Korea | Score: 57.65

Top 10 | Score: 55.98

High-income | Score: 38.68

SEAO | Score: 32.64



Innovation strengths and weaknesses in Republic of Korea

The table below gives an overview of the indicator strengths and weaknesses of Republic of Korea in the GII 2025.



Republic of Korea's best-ranked innovation strengths are **GERD performed by business, % GDP** (rank 1), **Government's online service*** (rank 1) and **Patents by origin/bn PPP\$ GDP** (rank 1).

Strengths

Rank	Code	Indicator name
1	5.1.4	GERD performed by business, % GDP
1	3.1.3	Government's online service*
1	6.1.1	Patents by origin/bn PPP\$ GDP
1	5.3.5	Research talent, % in businesses
2	6.3.2	Production and export complexity
2	2.1.2	Government funding/pupil, secondary, % GDP/cap
2	2.3.2	Gross expenditure on R&D, % GDP
2	2.3.1	Researchers, FTE/mn pop.
3	7.1.4	Industrial designs by origin/bn PPP\$ GDP
3	5.2.5	Patent families/bn PPP\$ GDP
3	6.1.2	PCT patents by inventor origin/bn PPP\$ GDP

Weaknesses

Rank	Code	Indicator name
138	5.1.3	Youth demographic dividend, %
108	5.3.4	FDI net inflows, % GDP
93	3.3.1	GDP/unit of energy use
92	4.3.1	Applied tariff rate, weighted avg., %
82	5.3.3	ICT services imports, % total trade
74	3.3.2	Low-carbon energy use, %
66	6.3.4	ICT services exports, % total trade
65	6.2.1	Labor productivity growth, %
58	1.3.1	Policy stability for doing business [†]
57	2.2.3	Tertiary inbound mobility, %

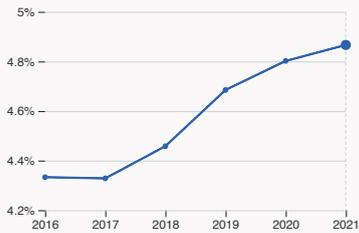
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Republic of Korea's innovation system

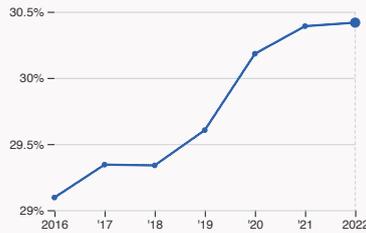
As far as practicable, the plots below present unscaled indicator data.

› Innovation inputs in Republic of Korea



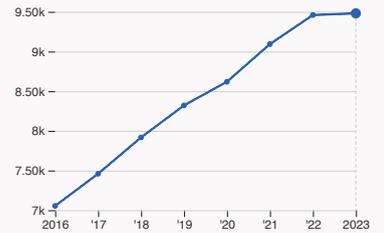
2.1.1 Expenditure on education

was equal to 4.87 % GDP in 2021, up by 0.07 percentage points from the year prior – and equivalent to an indicator rank of 44.



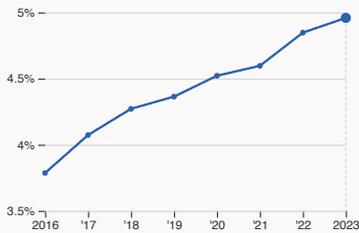
2.2.2 Graduates in science and engineering

was equal to 30.42 % of total graduates in 2022, up by 0.03 percentage points from the year prior – and equivalent to an indicator rank of 20.



2.3.1 Researchers

was equal to 9480.32 FTE per million population in 2023, up by 0.23% from the year prior – and equivalent to an indicator rank of 2.



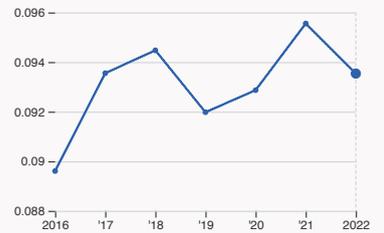
2.3.2 Gross expenditure on R&D

was equal to 4.96 % GDP in 2023, up by 0.11 percentage points from the year prior – and equivalent to an indicator rank of 2.



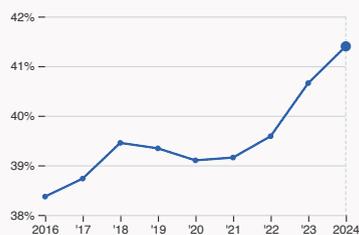
2.3.4 QS university ranking

was equal to an average score of 76.97 for the top three universities in 2024, up by 6.95% from the year prior – and equivalent to an indicator rank of 9.



4.3.2 Domestic industry diversification

was equal to an index score of 0.094 in 2022, down by 2.11% from the year prior – and equivalent to an indicator rank of 23.



5.1.1 Knowledge-intensive employment

was equal to 41.4 % of total workforce in 2024, up by 0.74 percentage points from the year prior – and equivalent to an indicator rank of 30.

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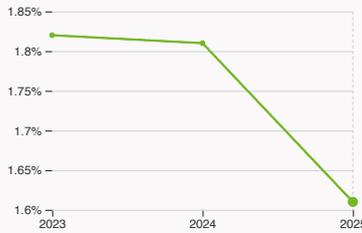


› Innovation outputs in Republic of Korea



6.1.1 Patents by origin

was equal to 191.14 thousand patents in 2023, up by 4.02% from the year prior – and equivalent to an indicator rank of 1.



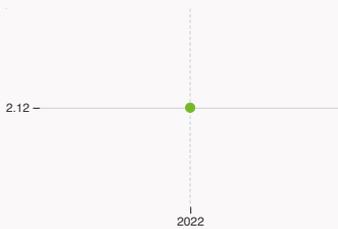
6.2.2 Unicorn valuation

was equal to 1.61 % GDP in 2025, down by 0.2 percentage points from the year prior – and equivalent to an indicator rank of 27.



6.2.4 High-tech manufacturing

was equal to 911.98 high-tech manufacturing output in billion USD in 2022, up by 0.02% from the year prior – and equivalent to an indicator rank of 4.



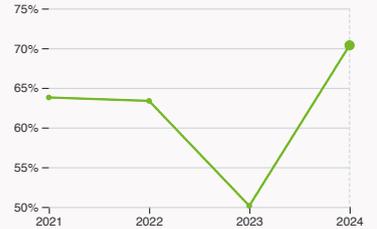
6.3.2 Production and export complexity

was equal to a score of 2.12 in 2022 – and equivalent to an indicator rank of 2.



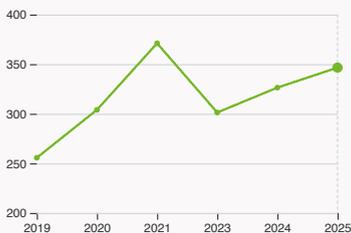
6.3.3 High-tech exports

was equal to 150.23 billion USD in 2023, down by 23.78% from the year prior – and equivalent to an indicator rank of 7.



7.1.1 Intangible asset intensity, top 15

was equal to 70.36 % for the top 15 companies in 2024, up by 20.22 percentage points from the year prior – and equivalent to an indicator rank of 15.



7.1.3 Global brand value, top 5,000

was equal to 346.54 billion USD in 2025, up by 6.18% from the year prior – and equivalent to an indicator rank of 6.



7.2.2 National feature films

was equal to 210 films in 2023, up by 6.6% from the year prior – and equivalent to an indicator rank of 32.



7.3.3 Mobile app creation

was equal to 3.04 billion global downloads of mobile apps in 2024, up by 4.83% from the year prior – and equivalent to an indicator rank of 19.

Global Innovation Index 2025



Republic of Korea's innovation top performers

Disclaimer: This section contains only the top performers per country. For the complete list, please visit the GII Innovation Ecosystems and Data Explorer website.

2.3.3 Global corporate R&D investors from Republic of Korea

Rank	Firm	Industry	R&D [mn EUR]	R&D Growth [%]	R&D Intensity [%]
1	SAMSUNG ELECTRONICS	Electronic & Electrical Equipment	19,890	14	11
2	SK HYNIX	Technology Hardware & Equipment	5,308	69	23
3	LG ELECTRONICS	Leisure Goods	2,815	9	5
4	HYUNDAI MOTOR	Automobiles & Parts	2,786	20	2

Source: WIPO, based on European Commission's Joint Research Centre (<https://iri.jrc.ec.europa.eu/scoreboard/2024-eu-industrial-rd-investment-scoreboard>) and Orbis database (<https://www.moodys.com/web/en/us/capabilities/company-reference-data/orbis.html>).

Note: Data is based on the 2024 EU Industrial R&D Investment Scoreboard from the European Commission's Joint Research Centre, which ranks the top 2,000 firms by R&D investment annually. For countries not represented in the Scoreboard, companies from Orbis with R&D expenditure above USD 50 million were identified and used to complement the dataset.

2.3.4 QS university ranking of Republic of Korea's top universities

Rank	University	Score
31	SEOUL NATIONAL UNIVERSITY	82.30
53	KAIST - KOREA ADVANCED INSTITUTE OF SCIENCE & TECHNOLOGY	75.70
56	YONSEI UNIVERSITY	72.90

Source: QS Quacquarelli Symonds Ltd (<https://www.topuniversities.com/university-rankings/world-university-rankings/2024>).

Note: QS Quacquarelli Symonds Ltd annually assesses over 1,200 universities across the globe and scores them between [0,100].

Ranks can represent a single value 'x', a tie 'x-' or a range 'x-y'.

5.2.3 University industry and international engagement, top 5 universities

Rank	University	Score
1	KYUNG HEE UNIVERSITY	86.00
2	HANYANG UNIVERSITY	84.10
3	KOREA UNIVERSITY	82.75

Source: Times Higher Education (THE), World University Rankings 2025.

Note: Rank corresponds to within economy ranks. The score is calculated as the average of the International Outlook score (encompassing international staff, students, and co-authorship) and the industry score (reflecting industry income and patent citations). The 2025 ranking corresponds to data from the academic year that ended in 2022.

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6.2.2 Top Unicorn Companies in Republic of Korea

Rank	Unicorn Company	Industry	City	Valuation, bn USD
1	TOSS	Financial Services	Seoul	7
2	YELLO MOBILE	Consumer & Retail	Seoul	4
3	KURLY	Consumer & Retail	Seoul	3

Source: CBInsights, Tracker – The Complete List of Unicorn Companies: <https://www.cbinsights.com/research-unicorn-companies>.

7.1.1 Top 15 intangible-asset intensive companies in Republic of Korea

Rank	Firm	Intensity, %
1	SAMSUNG ELECTRONICS CO., LTD.	18.06
2	SK HYNIX INC.	51.94
3	SAMSUNG BIOLOGICS CO.,LTD.	89.50

Source: Brand Finance (<https://brandirectory.com/reports/gift-2024>).
Note: Brand Finance only provides within economy ranks.

7.1.3 Top 5,000 companies in Republic of Korea with highest global brand value

Rank	Brand	Industry	Brand Value, mn USD
1	SAMSUNG GROUP	Diversified	110,593.3
2	HYUNDAI GROUP	Diversified	46,258.7
3	SK GROUP	Diversified	27,122.4

Source: Brand Finance (<https://brandirectory.com>).
Note: Rank corresponds to within economy ranks.

Republic of Korea

Output rank	Input rank	Income High	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
6	4		South East Asia, East Asia, and Oceania	51.7	3,258.4	62,960.5
			Score / Value Rank			
Institutions			72.5 20	Business sophistication 61.2 4		
1.1 Institutional environment			79.1 18	5.1 Knowledge workers 66.6 5		
1.1.1 Operational stability for businesses*			80.7 20	5.1.1 Knowledge-intensive employment, % 41.4 30		
1.1.2 Government effectiveness*			77.6 17	5.1.2 Females employed w/advanced degrees, % 23.1 23		
1.2 Regulatory environment			77.6 24	5.1.3 Youth demographic dividend, % 19.9 138		
1.2.1 Regulatory quality*			72.6 26	5.1.4 GERD performed by business, % GDP 3.9 1		
1.2.2 Rule of law*			82.6 23	5.1.5 GERD financed by business, % 76.1 4		
1.3 Business environment			60.8 34	5.2 Innovation linkages 68.6 5		
1.3.1 Policy stability for doing business*			53.7 58	5.2.1 Public research–industry co-publications, % 7 5		
1.3.2 Entrepreneurship policies and culture*			67.9 16	5.2.2 University–industry R&D collaboration† 57.5 24		
Human capital and research			67 1	5.2.3 University industry & international engagement, top 5* 79.3 17		
2.1 Education			71 5	5.2.4 State of cluster development† 70.1 33		
2.1.1 Expenditure on education, % GDP			4.9 44	5.2.5 Patent families/bn PPP\$ GDP 12.1 3		
2.1.2 Government funding/pupil, secondary, % GDP/cap			38.2 2	5.3 Knowledge absorption 48.4 9		
2.1.3 School life expectancy, years			16.6 28	5.3.1 Intellectual property payments, % total trade 1.5 22		
2.1.4 PISA scales in reading, maths and science			523.5 4	5.3.2 High-tech imports, % total trade 17.7 12		
2.1.5 Pupil–teacher ratio, secondary			11.5 47	5.3.3 ICT services imports, % total trade 1.2 82		
2.2 Tertiary education			46 19	5.3.4 FDI net inflows, % GDP 1.2 108		
2.2.1 Tertiary enrolment, % gross			102.8 7	5.3.5 Research talent, % in businesses 81.9 1		
2.2.2 Graduates in science and engineering, %			30.4 20	Knowledge and technology outputs 51.8 9		
2.2.3 Tertiary inbound mobility, %			4.4 57	6.1 Knowledge creation 61.6 4		
2.3 Research and development (R&D)			84 1	6.1.1 Patents by origin/bn PPP\$ GDP 61.6 1		
2.3.1 Researchers, FTE/mn pop.			9,480.3 2	6.1.2 PCT patents by inventor origin/bn PPP\$ GDP 6.6 3		
2.3.2 Gross expenditure on R&D, % GDP			5 2	6.1.3 Utility models by origin/bn PPP\$ GDP 0.8 23		
2.3.3 Global corporate R&D investors, top 3, mn USD			87.8 4	6.1.4 Scientific and technical articles/bn PPP\$ GDP 21.2 30		
2.3.4 QS university ranking, top 3*			78.8 9	6.1.5 Citable documents H-index 47.7 16		
Infrastructure			63.6 7	6.2 Knowledge impact 42.8 19		
3.1 Information and communication technologies (ICTs)			96.2 5	6.2.1 Labor productivity growth, % 1 65		
3.1.1 ICT access*			99.4 10	6.2.2 Unicorn valuation, % GDP 1.6 27		
3.1.2 ICT use*			89.3 24	6.2.3 Software spending, % GDP 0.3 51		
3.1.3 Government's online service*			100 1	6.2.4 High-tech manufacturing, % 57 4		
3.2 General infrastructure			62.5 10	6.3 Knowledge diffusion 51.1 11		
3.2.1 Electricity output, GWh/mn pop.			11,623.1 12	6.3.1 Intellectual property receipts, % total trade 1.1 18		
3.2.2 Logistics performance*			77.3 16	6.3.2 Production and export complexity 96.4 2		
3.2.3 Gross capital formation, % GDP			32.2 19	6.3.3 High-tech exports, % total trade 19.7 7		
3.3 Ecological sustainability			32 38	6.3.4 ICT services exports, % total trade 1.8 66		
3.3.1 GDP/unit of energy use			8.4 93	6.3.5 ISO 9001 quality/bn PPP\$ GDP 12.5 20		
3.3.2 Low-carbon energy use, %			17.5 74	Creative outputs 57.7 4		
3.3.3 ISO 14001 environment/bn PPP\$ GDP			7 11	7.1 Intangible assets 75.6 2		
Market sophistication			61.9 5	7.1.1 Intangible asset intensity, top 15, % 70.4 15		
4.1 Credit			69.6 5	7.1.2 Trademarks by origin/bn PPP\$ GDP 85.3 10		
4.1.1 Finance for startups and scaleups†			69.4 20	7.1.3 Global brand value, top 5,000, % GDP 17.8 6		
4.1.2 Domestic credit to private sector, % GDP			176.1 5	7.1.4 Industrial designs by origin/bn PPP\$ GDP 16.5 3		
4.1.3 Loans from microfinance institutions, % GDP			n/a n/a	7.2 Creative goods and services 32.6 22		
4.2 Investment			37.3 14	7.2.1 Cultural and creative services exports, % total trade 1 28		
4.2.1 Market capitalization, % GDP			117.5 11	7.2.2 National feature films/mn pop. 15–69 5.3 32		
4.2.2 Venture capital (VC) received, deal count/bn PPP\$ GDP			0.6 13	7.2.3 Entertainment and media market/th pop. 15–69 47.4 15		
4.2.3 Late-stage VC deal count, % global VC			1.1 6	7.2.4 Creative goods exports, % total trade 2.7 22		
4.2.4 VC investors, deal count/bn PPP\$ GDP			0.7 18	7.3 Online creativity 46.8 32		
4.2.5 VC investor co-participation/bn PPP\$ GDP			0.5 13	7.3.1 Top-level domains (TLDs)/th pop. 15–69 8.7 49		
4.3 Trade, diversification and market scale			78.9 35	7.3.2 GitHub commits/mn pop. 15–69 57.1 20		
4.3.1 Applied tariff rate, weighted avg., %			4.4 92	7.3.3 Mobile app creation/bn PPP\$ GDP 74.7 19		
4.3.2 Domestic industry diversification			94.5 23			
4.3.3 Domestic market scale, bn PPP\$			3,258.4 14			

NOTES: ● indicates a strength ○ a weakness ◆ an income group strength ◇ an income group weakness * an index † a survey question ● that the economy's data is outdated. Square brackets [] indicate the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level, n/a represents missing values, a dash - indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.

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Data Availability

The following tables list indicators that are either missing or outdated for Republic of Korea.



Republic of Korea has missing data for one indicator and outdated data for five indicators.

Missing data for Republic of Korea

Code	Indicator name	Economy year	Model year*	Source
4.1.3	Loans from microfinance institutions, % GDP	n/a	2023	International Monetary Fund, Financial Access Survey (FAS)

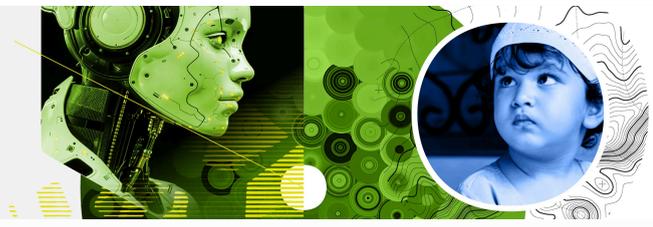
*Model year corresponds to the most frequent data year (the year that appears most often across all economies in the GII).

Outdated data for Republic of Korea

Code	Indicator name	Economy year	Model year*	Source
2.1.1	Expenditure on education, % GDP	2021	2023	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2022	2023	UNESCO Institute for Statistics
2.1.5	Pupil–teacher ratio, secondary	2022	2023	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2022	2023	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	2022	2023	UNESCO Institute for Statistics

*Model year corresponds to the most frequent data year (the year that appears most often across all economies in the GII).

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Top innovation clusters in Republic of Korea



Republic of Korea has 3 clusters in the world's top innovation clusters of the Global Innovation Index

The table and map below give an overview of the top innovation clusters in Republic of Korea.

Rank	Cluster name	Top patent field	Top academic subject
5	Seoul	Digital communication	Engineering
25	Daejeon	Electrical machinery, apparatus, energy	Engineering
95	Busan	Medical technology	Engineering



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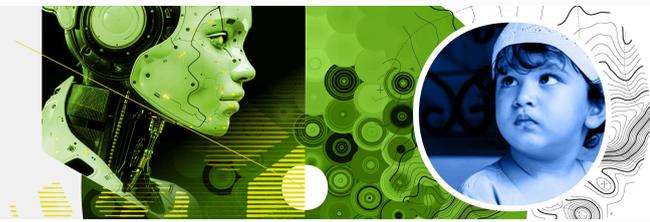


The table and map below give an overview by intensity of the top innovation clusters in Republic of Korea.

Rank	Cluster name	Top patent field	Top academic subject
15	Daejeon	Electrical machinery, apparatus, energy	Engineering
28	Seoul	Digital communication	Engineering
86	Busan	Medical technology	Engineering

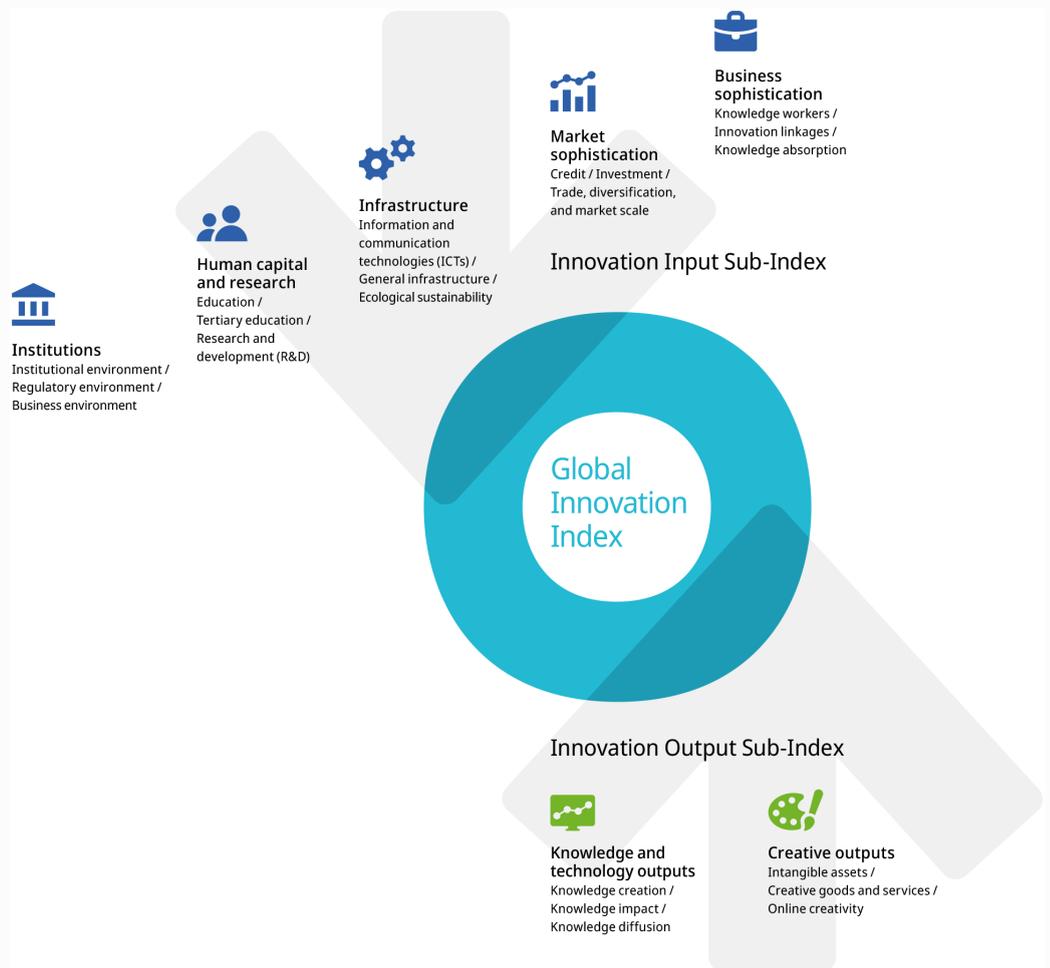


Global Innovation Index 2025



About the Global Innovation Index

- The Global Innovation Index (GII) is published by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations.
- Recognizing that innovation is a key driver of economic development, the GII aims to provide an innovation ranking and rich analysis referencing around 140 economies. Over the last decade, the GII has established itself as both a leading reference on innovation and a “tool for action” for economies that incorporate the GII into their innovation agendas.



The Index is a ranking of the innovation capabilities and results of world economies. It measures innovation based on criteria that include institutions, human capital and research infrastructure, credit, investment, linkages, the creation, absorption and diffusion of knowledge and creative outputs.

The GII has two sub-indices: the Innovation Input Sub-Index and the Innovation Output Sub-Index, and seven pillars, each consisting of three sub-pillars.