

# Global Innovation Index 2023

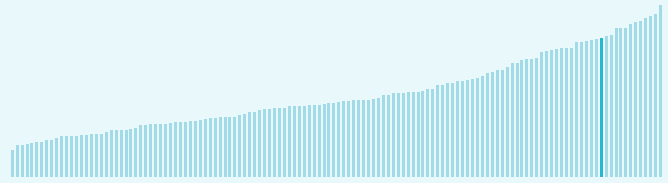


The Global Innovation Index (GII) ranks world economies according to their innovation capabilities.

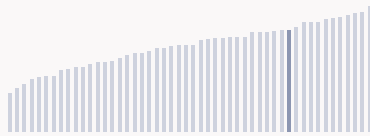
Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GII aims to capture the multi-dimensional facets of innovation.

## Japan ranking in the Global Innovation Index 2023

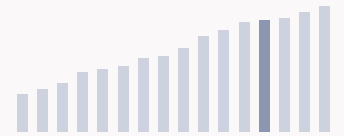
> Japan ranks **13th** among the 132 economies featured in the GII 2023.



> Japan ranks **12th** among the 50 high-income group economies.



> Japan ranks **4th** among the 16 economies in South East Asia, East Asia, and Oceania.



### > Japan GII Ranking (2020-2023)

The table shows the rankings of Japan over the past four 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 Japan in the GII 2023 is between ranks 13 and 15.

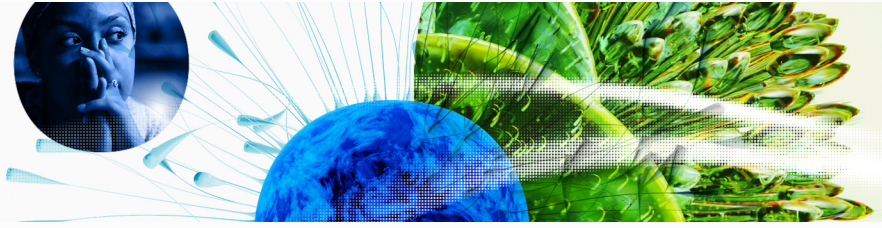
|      | GII Position | Innovation Inputs | Innovation Outputs |
|------|--------------|-------------------|--------------------|
| 2020 | 16th         | 12th              | 18th               |
| 2021 | 13th         | 11th              | 14th               |
| 2022 | 13th         | 11th              | 12th               |
| 2023 | 13th         | 11th              | 14th               |

Japan performs worse in innovation outputs than innovation inputs in 2023.

This year Japan ranks **11th** in innovation inputs. This position is the same as last year.

Japan ranks **14th** in innovation outputs. This position is lower than last year.

# Global Innovation Index 2023



## → Expected vs. observed innovation performance

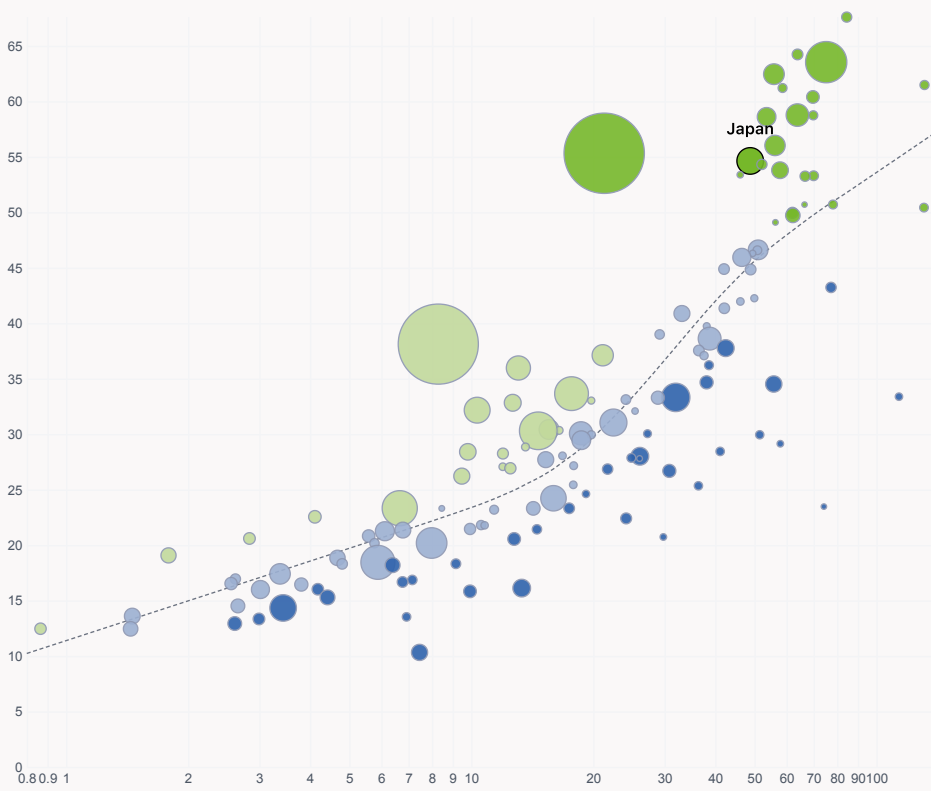
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected and those below are performing below expectations.



> Japan is an innovation leader, ranking in the top 25 of the GII.

## > Innovation overperformers relative to their economic development

↑ GII Score



- Innovation leader
- Performing above expectations for level of development
- Performing at expectations for level of development
- Performing below expectations for level of development

Size legend (Population)



→ GDP per capita, PPP logarithmic scale (thousands of \$)

# Global Innovation Index 2023



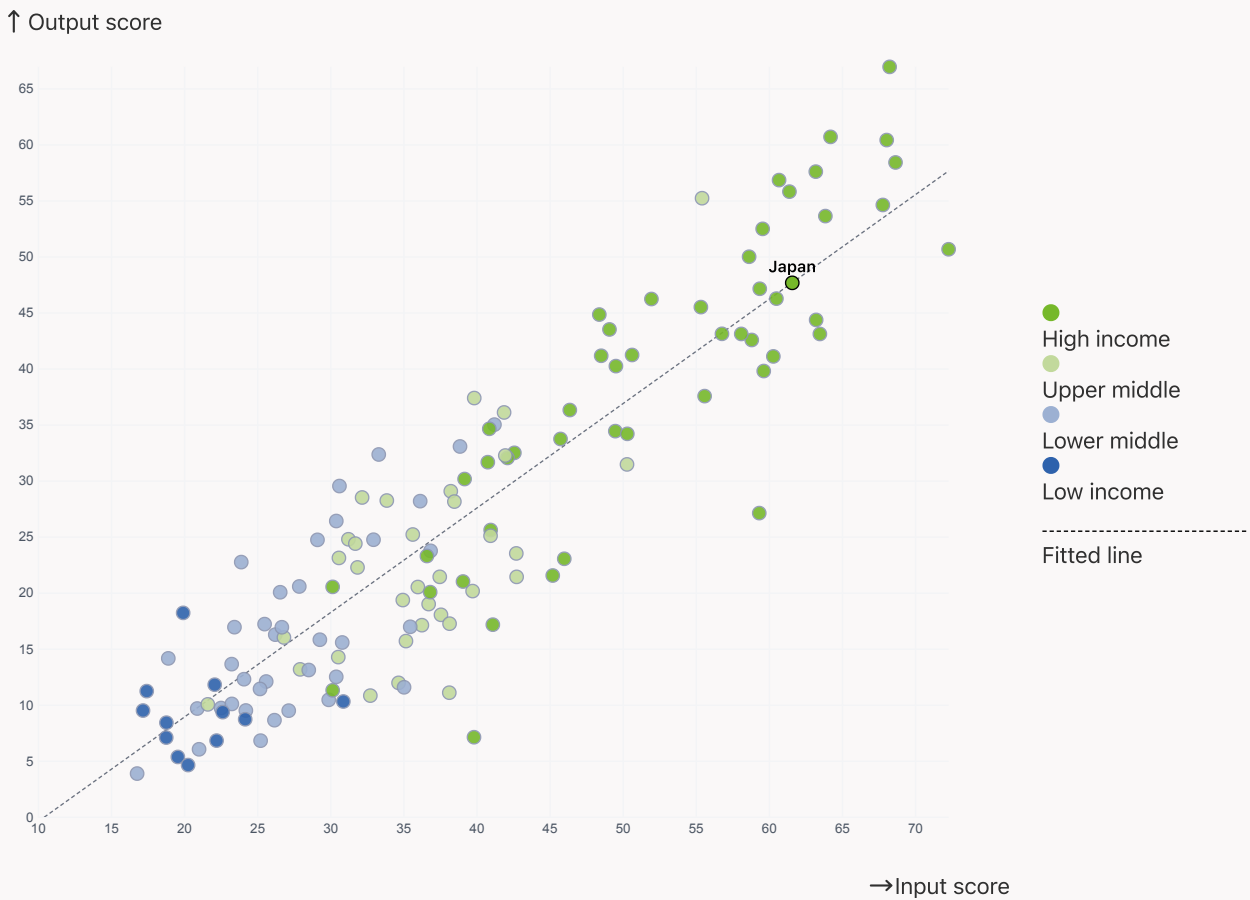
## → Effectively translating innovation investments into innovation outputs

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.



> Japan produces less innovation outputs relative to its level of innovation investments.

### > Relationship between innovation inputs and outputs



# Global Innovation Index 2023



## → Overview of Japan's rankings in the seven areas of the GII in 2023

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



### > Highest rankings



Japan ranks highest in Market sophistication (8th), Business sophistication (11th) and Infrastructure, Knowledge and technology outputs (13th).

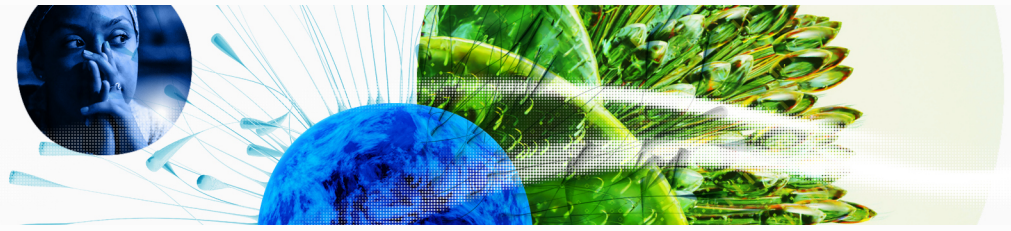
### > Lowest rankings



Japan ranks lowest in Creative outputs (25th), Institutions (21st) and Human capital and research (18th).

The full WIPO Intellectual Property Statistics profile for Japan can be found on [this link](#).

# Global Innovation Index 2023



## → Benchmark of Japan against other country groupings for each of the seven areas of the GII Index

The charts show the relative position of Japan (blue bar) against other country groupings (grey bars), for each of the seven areas of the GII Index.

### > High-Income economies

Japan performs above the high-income group average in all the pillars.

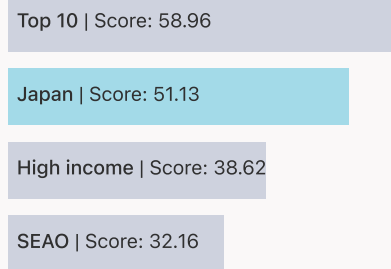


### > South East Asia, East Asia, And Oceania

Japan performs above the regional average in all the pillars.

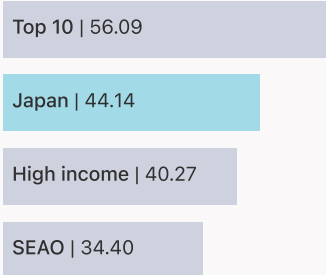


### Knowledge and technology outputs

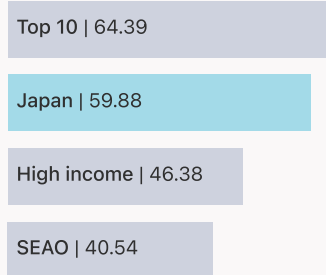


\* South East Asia, East Asia, and Oceania

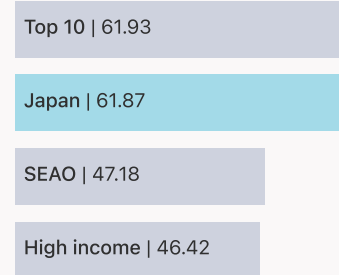
### Creative outputs



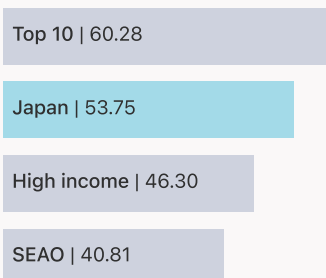
### Business sophistication



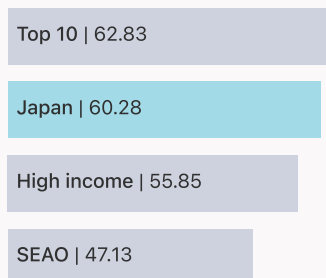
### Market sophistication



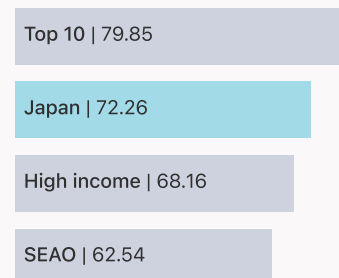
### Human capital and research



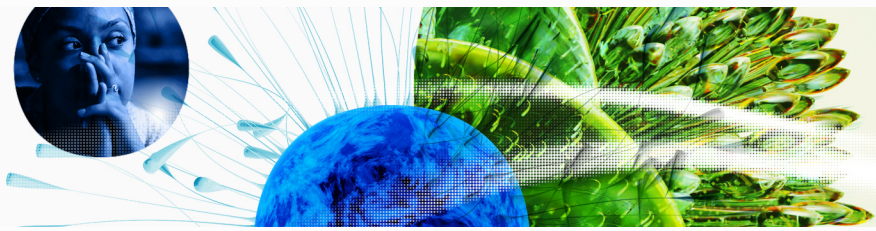
### Infrastructure



### Institutions



# Global Innovation Index 2023



## → Innovation strengths and weaknesses in Japan

The table below gives an overview of the indicator strengths and weaknesses of Japan in the GII 2023.



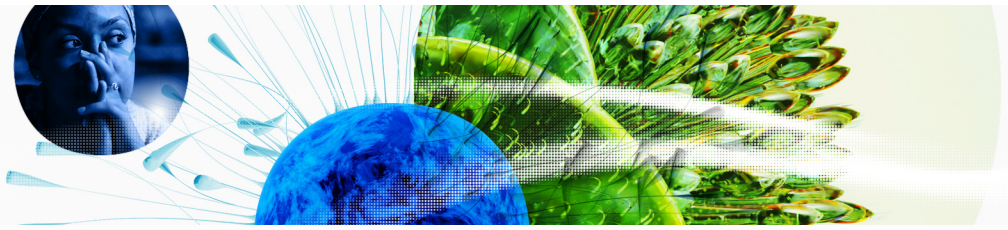
> Japan's main innovation strengths are **Cost of redundancy dismissal (rank 1)**, **Domestic market scale, bn PPP\$ (rank 1)** and **Production and export complexity (rank 1)**.

### Strengths

### Weaknesses

| Rank | Code  | Indicator name                                 | Rank | Code  | Indicator name  |
|------|-------|--|------|-------|---|
| 1    | 1.2.3 | Cost of redundancy dismissal                   | 111  | 6.2.1 | Labor productivity growth, %                          |
| 1    | 4.3.3 | Domestic market scale, bn PPP\$                | 104  | 2.1.1 | Expenditure on education, % GDP                       |
| 1    | 6.3.2 | Production and export complexity               | 100  | 5.3.4 | FDI net inflows, % GDP                                |
| 1    | 3.1.4 | E-participation                                | 83   | 6.3.4 | ICT services exports, % total trade                   |
| 1    | 6.3.1 | Intellectual property receipts, % total trade  | 77   | 2.2.2 | Graduates in science and engineering, %               |
| 1    | 5.2.5 | Patent families/bn PPP\$ GDP                   | 73   | 5.1.1 | Knowledge-intensive employment, %                     |
| 1    | 6.1.2 | PCT patents by origin/bn PPP\$ GDP             | 64   | 1.3.2 | Entrepreneurship policies and culture                 |
| 2    | 5.1.4 | GERD financed by business, %                   | 62   | 5.2.3 | GERD financed by abroad, % GDP                        |
| 3    | 4.1.2 | Domestic credit to private sector, % GDP       | 58   | 7.2.1 | Cultural and creative services exports, % total trade |
| 3    | 6.1.1 | Patents by origin/bn PPP\$ GDP                 | 51   | 4.2.4 | VC received, value, % GDP                             |
| 4    | 5.1.3 | GERD performed by business, % GDP              |      |       |   |
| 5    | 2.3.2 | Gross expenditure on R&D, % GDP                |      |       |   |
| 6    | 2.3.3 | Global corporate R&D investors, top 3, mn US\$ |      |       |   |

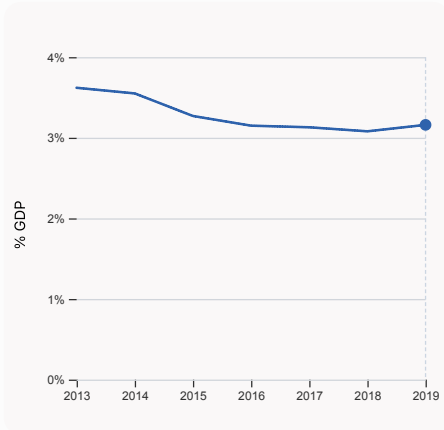
# Global Innovation Index 2023



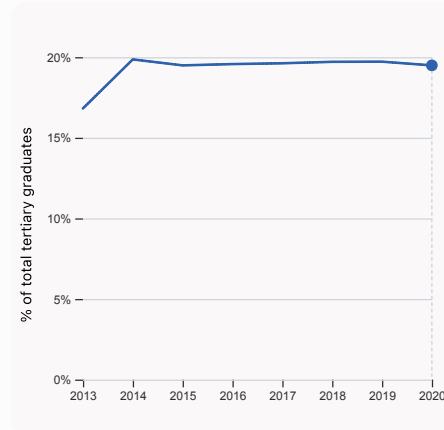
## → Japan's innovation system

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

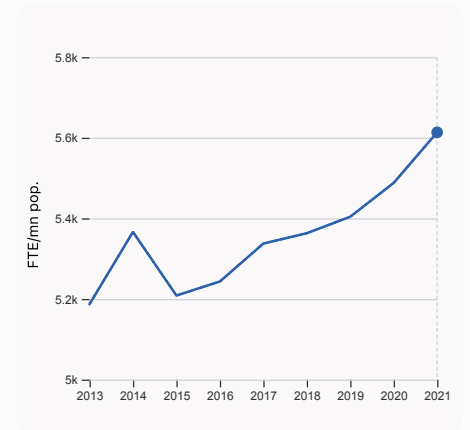
### > Innovation inputs in Japan



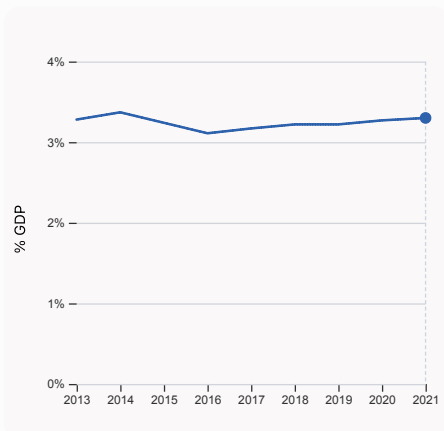
**2.1.1 Expenditure on education, % GDP** was equal to 3.16% GDP in 2019, up by 0.08 percentage points from the year prior – and equivalent to an indicator rank of 104.



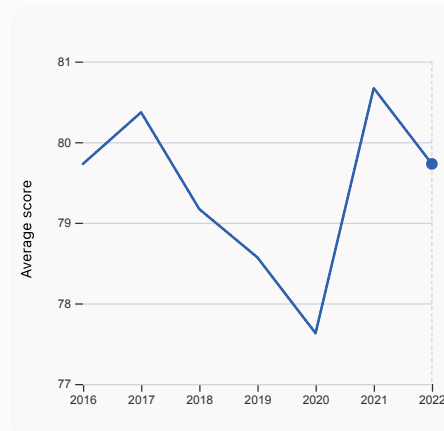
**2.2.2 Graduates in science and engineering, %** was equal to 19.49% of total tertiary graduates in 2020, down by 0.23 percentage points from the year prior – and equivalent to an indicator rank of 77.



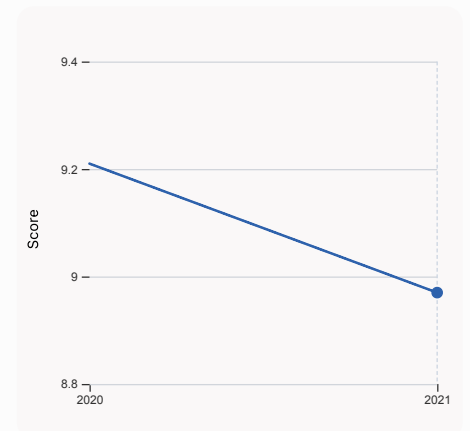
**2.3.1 Researchers, FTE/mn pop.** was equal to 5,613.47 FTE/mn pop. in 2021, up by 2.29% from the year prior – and equivalent to an indicator rank of 11.



**2.3.2 Gross expenditure on R&D, % GDP** was equal to 3.3% GDP in 2021, up by 0.03 percentage points from the year prior – and equivalent to an indicator rank of 5.

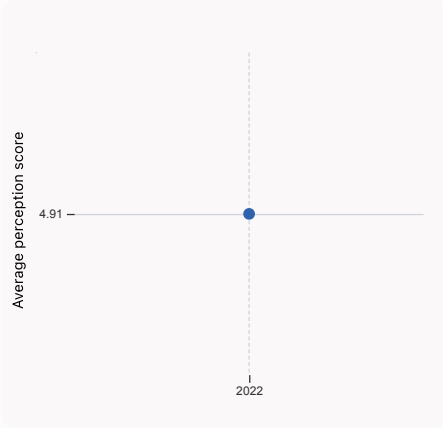
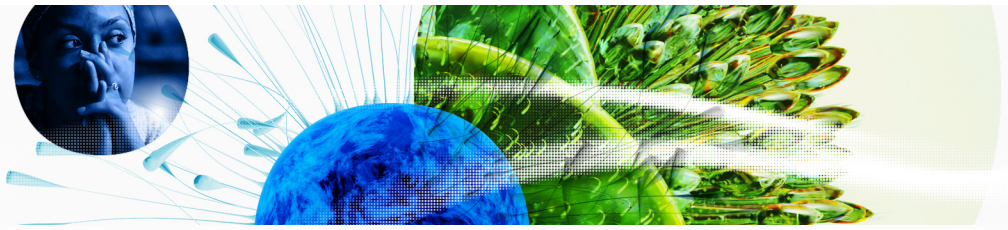


**2.3.4 QS university ranking, top 3** was equal to an average score of 79.73 for the top 3 universities in 2022, down by 1.17% from the year prior – and equivalent to an indicator rank of 8.

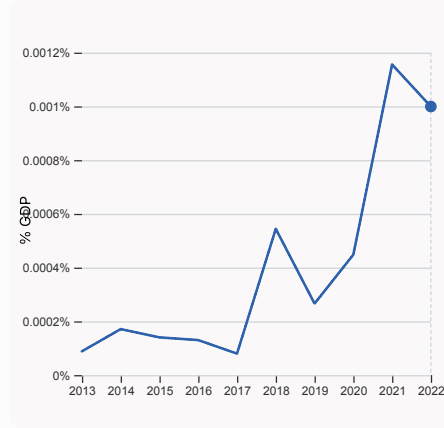


**3.1.1 ICT access** was equal to a score of 8.97 in 2021, down by 2.61% from the year prior – and equivalent to an indicator rank of 54.

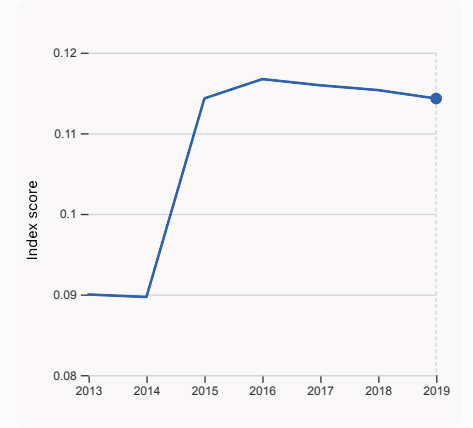
# Global Innovation Index 2023



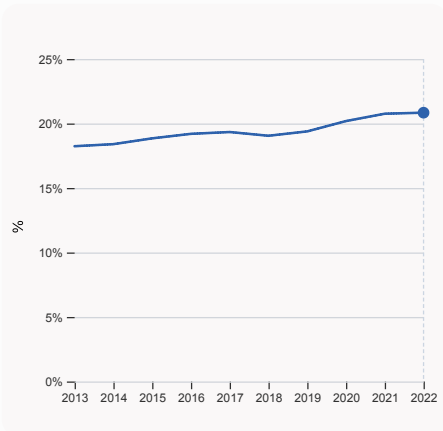
**4.1.1 Finance for startups and scaleups** was equal to an average perception score of 4.91 in 2022, equivalent to an indicator rank of 36.



**4.2.4 VC received, value, % GDP** was equal to 0.001% GDP in 2022, down by 0.00016 percentage points from the year prior – and equivalent to an indicator rank of 51.



**4.3.2 Domestic industry diversification** was equal to an index score of 0.114 in 2019, down by 0.91% from the year prior – and equivalent to an indicator rank of 28.

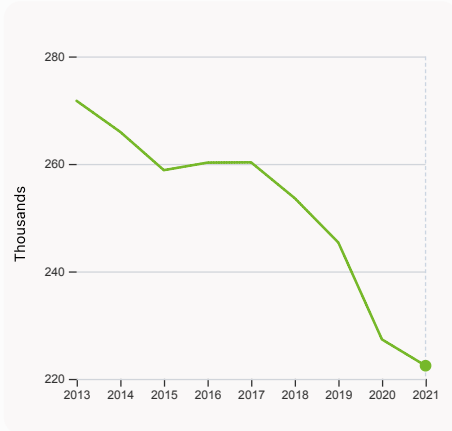


**5.1.1 Knowledge-intensive employment, %** was equal to 20.84% in 2022, up by 0.08 percentage points from the year prior – and equivalent to an indicator rank of 73.

# Global Innovation Index 2023

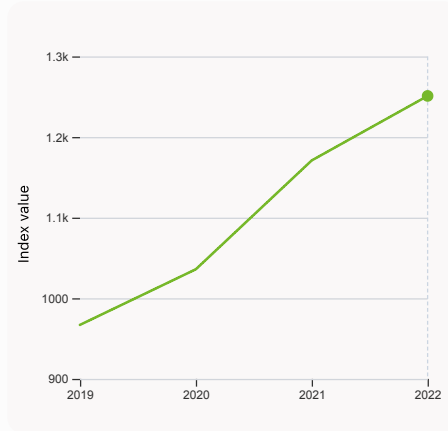


## > Innovation outputs in Japan



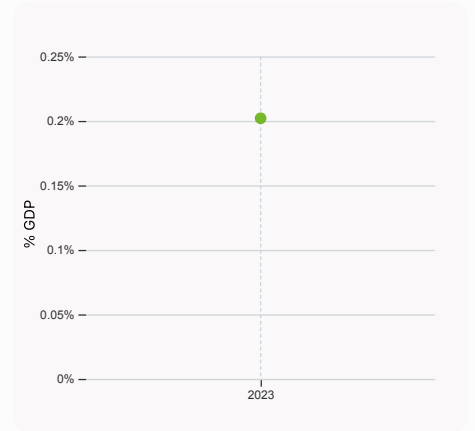
### 6.1.1 Patents by origin

was equal to 222.45 Thousands in 2021, down by 2.15% from the year prior – and equivalent to an indicator rank of 3.



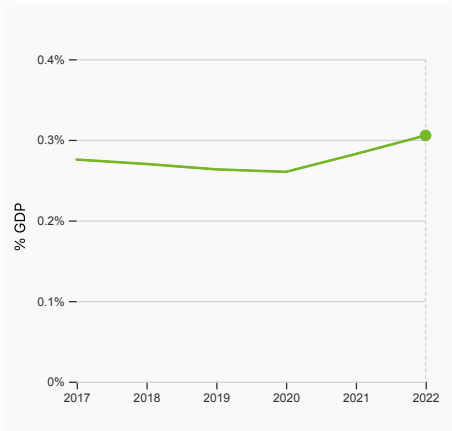
### 6.1.5 Citable documents H-index

was equal to an index value of 1,251 in 2022, up by 6.83% from the year prior – and equivalent to an indicator rank of 9.



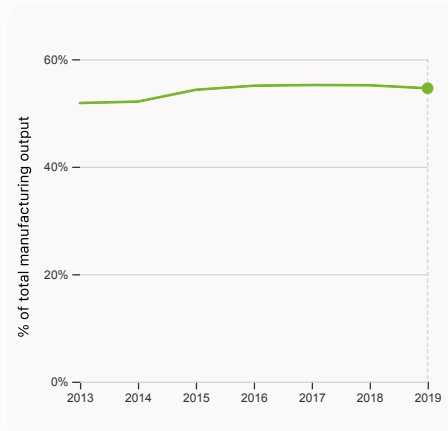
### 6.2.2 Unicorn valuation, % GDP

was equal to 0.202 % GDP in 2023 – and equivalent to an indicator rank of 46.



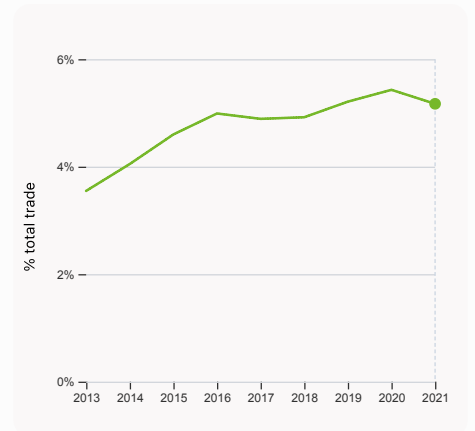
### 6.2.3 Software spending, % GDP

was equal to 0.305% GDP in 2022, up by 0.023 percentage points from the year prior – and equivalent to an indicator rank of 42.



### 6.2.4 High-tech manufacturing, %

was equal to 54.59% of total manufacturing output in 2019, down by 0.56 percentage points from the year prior – and equivalent to an indicator rank of 8.



### 6.3.1 Intellectual property receipts, % total trade

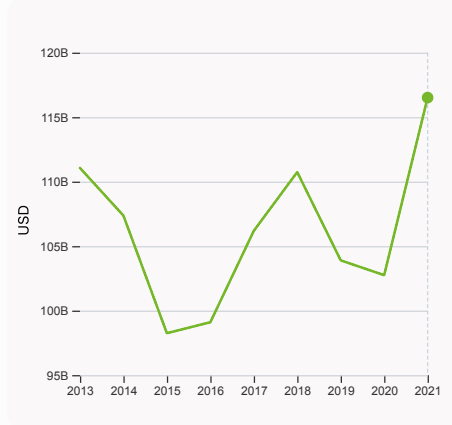
was equal to 5.17% total trade in 2021, down by 0.26 percentage points from the year prior – and equivalent to an indicator rank of 1.

# Global Innovation Index 2023



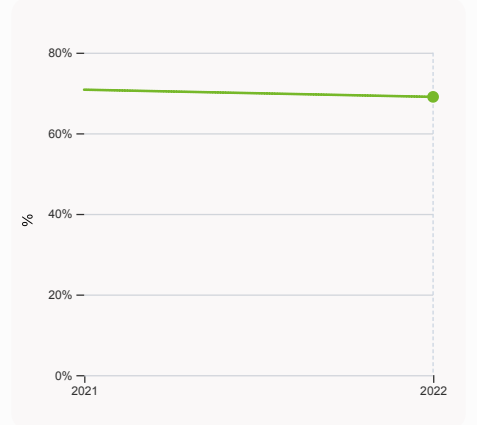
### 6.3.2 Production and export complexity

was equal to a score of 2.27 in 2020, down by 8.47% from the year prior – and equivalent to an indicator rank of 1.



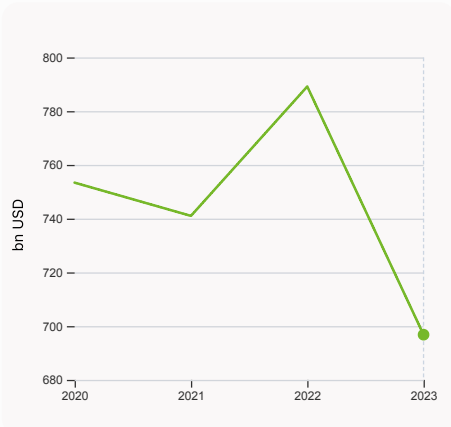
### 6.3.3 High-tech exports

was equal to 116,513,860,930 USD in 2021, up by 13.39% from the year prior – and equivalent to an indicator rank of 11.



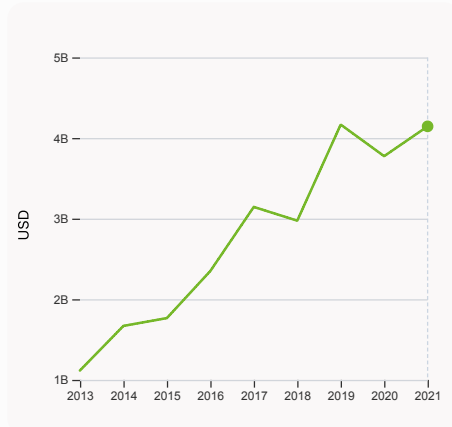
### 7.1.1 Intangible asset intensity, top 15, %

was equal to 69.03% in 2022, down by 1.78 percentage points from the year prior – and equivalent to an indicator rank of 20.



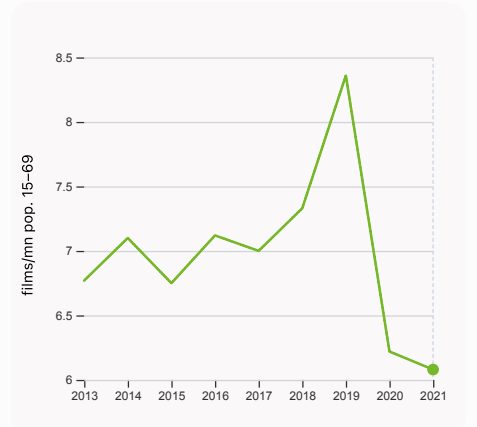
### 7.1.3 Global brand value, top 5,000

was equal to 696.814 bn USD in 2023, down by 11.7% from the year prior – and equivalent to an indicator rank of 7.



### 7.2.1 Cultural and creative services exports

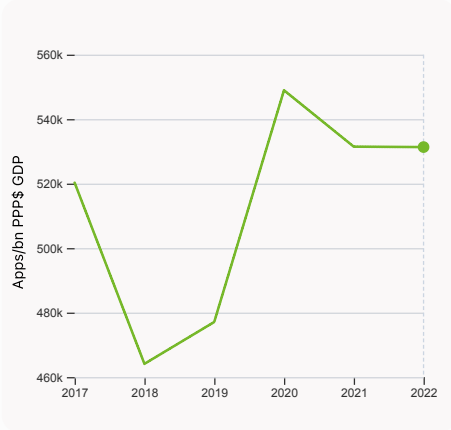
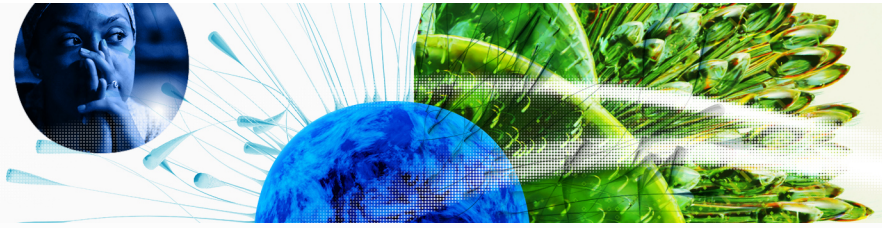
was equal to 4,144,976,000 USD in 2021, up by 9.8% from the year prior – and equivalent to an indicator rank of 58.



### 7.2.2 National feature films/mn pop. 15-69

was equal to 6.08 films/mn pop. 15-69 in 2021, down by 2.25% from the year prior – and equivalent to an indicator rank of 18.

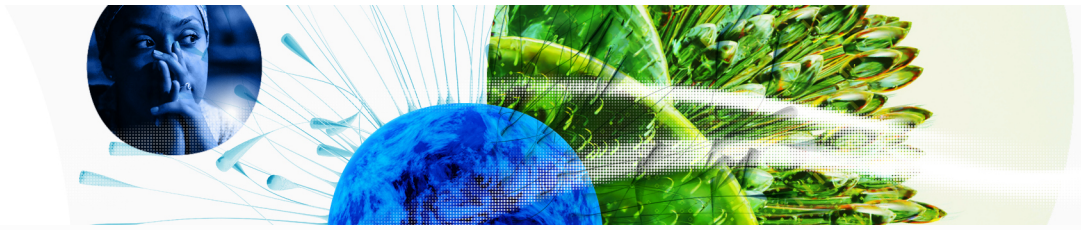
# Global Innovation Index 2023



## 7.3.4 Mobile app creation/bn PPP\$ GDP

was equal to 531,338.93 Apps/bn PPP\$ GDP in 2022, down by 0.023% from the year prior – and equivalent to an indicator rank of 42.

# Global Innovation Index 2023



## → Japan's innovation top performers

### > 2.3.3 Global corporate R&D investors from Japan

| Rank | Firm         | Industry                      | R&D      | R&D Growth | R&D Intensity |
|------|--------------|-------------------------------|----------|------------|---------------|
|      |              |                               | [mn EUR] | [%]        | [%]           |
| 15   | TOYOTA MOTOR | Automobiles & Parts           | 8,691    | 3          | 4             |
| 24   | HONDA MOTOR  | Automobiles & Parts           | 6,373    | 4          | 6             |
| 31   | NTT          | Fixed Line Telecommunications | 5,732    | 5          | 6             |
| 39   | SONY         | Leisure Goods                 | 4,902    | 21         | 6             |

Source: European Commission's Joint Research Centre (<https://iri.jrc.ec.europa.eu/scoreboard/2022-eu-industrial-rd-investment-scoreboard>).

Note: European Commission's Joint Research Centre ranks the top 2,500 firms by R&D investment annually.

### > 2.3.4 QS university ranking of Japan's top universities

| Rank | University                    | Score |
|------|-------------------------------|-------|
| 23   | THE UNIVERSITY OF TOKYO       | 85.30 |
| 36   | KYOTO UNIVERSITY              | 81.40 |
| 55   | TOKYO INSTITUTE OF TECHNOLOGY | 72.50 |

Source: QS Quacquarelli Symonds Ltd (<https://www.topuniversities.com/university-rankings/world-university-rankings/2023>).

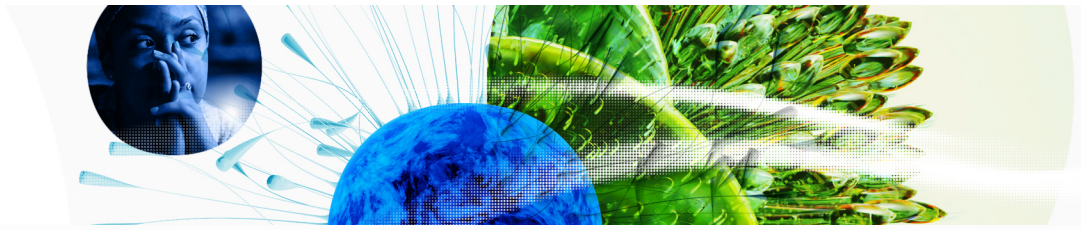
Note: QS Quacquarelli Symonds Ltd annually assesses over 1,200 universities across the globe and scores them between [0,100]. Ranks can represent a single value "x", a tie "x=" or a range "x-y".

### > 6.2.2 Top Unicorn Companies in Japan

| Rank | Unicorn Company    | Industry                    | City  | Valuation, bn USD |
|------|--------------------|-----------------------------|-------|-------------------|
| 1    | PREFERRED NETWORKS | Artificial intelligence     | Tokyo | 2                 |
| 1    | SMARTNEWS          | Mobile & telecommunications | Tokyo | 2                 |
| 3    | SMARTHR            | Fintech                     | Tokyo | 2                 |

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

# Global Innovation Index 2023



## > 7.1.1 Top 15 intangible-asset intensive companies in Japan

| Rank | Firm                         | Intensity, % |
|------|------------------------------|--------------|
| 1    | KEYENCE CORP                 | 74.15        |
| 2    | TAKEDA PHARMACEUTICAL CO LTD | 97.51        |
| 3    | SOFTBANK CORP                | 73.30        |

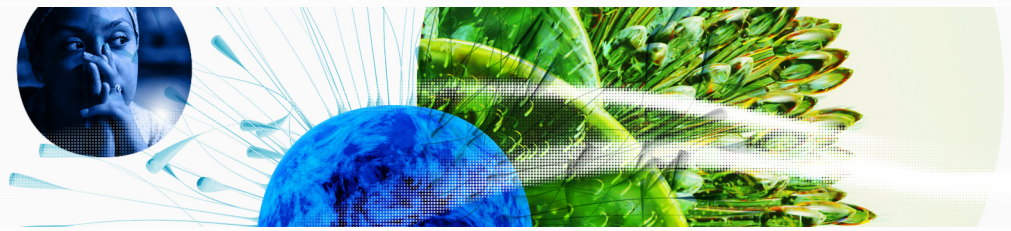
Source: Brand Finance (<https://brandirectory.com/reports/gift-2022>).  
Note: Brand Finance only provides within economy ranks.

## > 7.1.3 Top 5,000 companies in Japan with highest global brand value

| Rank | Brand            | Industry    | Brand Value, mn USD |
|------|------------------|-------------|---------------------|
| 1    | TOYOTA           | Automobiles | 52,493.1            |
| 2    | NTT GROUP        | Telecoms    | 36,590.8            |
| 3    | MITSUBISHI GROUP | Automobiles | 34,962.1            |

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

# Global Innovation Index 2023



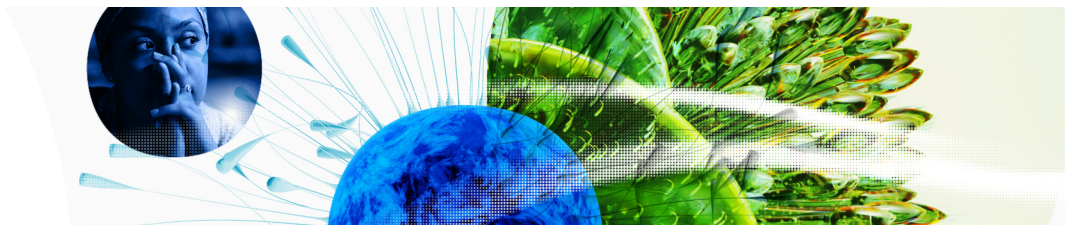
GII 2023 rank

# 13

## Japan

| Output rank  | Input rank | Income | Region | Population (mn)  | GDP, PPP\$ (bn) | GDP per capita, PPP\$ |
|--|------------|--------|--------|--|-----------------|-----------------------|
| 14   | 11         | High   | SEAO   | 124.0  | 6,110.0         | 48,812.8              |
| Score / Value Rank   |            |        |        | Score / Value Rank   |                 |                       |
| <b>Institutions</b> 72.3 21  |            |        |        | <b>Business sophistication</b> 59.9 11                               |                 |                       |
| <b>1.1 Institutional environment</b> 79.7 11                         |            |        |        | <b>5.1 Knowledge workers</b> 62.9 18                                 |                 |                       |
| 1.1.1 Operational stability for businesses* 84.0 7                   |            |        |        | 5.1.1 Knowledge-intensive employment, % 20.8 73 ○ ◇                  |                 |                       |
| 1.1.2 Government effectiveness* 75.5 17                              |            |        |        | 5.1.2 Firms offering formal training, % n/a n/a                      |                 |                       |
| <b>1.2 Regulatory environment</b> 90.9 8                             |            |        |        | 5.1.3 GERD performed by business, % GDP 2.6 4 ● ◆                    |                 |                       |
| 1.2.1 Regulatory quality* 77.8 19                                    |            |        |        | 5.1.4 GERD financed by business, % 78.1 2 ● ◆                        |                 |                       |
| 1.2.2 Rule of law* 86.0 15   |            |        |        | 5.1.5 Females employed w/advanced degrees, % 22.9 25                 |                 |                       |
| 1.2.3 Cost of redundancy dismissal 8.0 1 ● ◆                         |            |        |        | <b>5.2 Innovation linkages</b> 50.2 20                               |                 |                       |
| <b>1.3 Business environment</b> 46.1 64 ◇                            |            |        |        | 5.2.1 University-industry R&D collaboration+ 64.0 28                 |                 |                       |
| 1.3.1 Policies for doing business* 64.8 33                           |            |        |        | 5.2.2 State of cluster development+ 72.3 20                          |                 |                       |
| 1.3.2 Entrepreneurship policies and culture* 27.4 64 ○ ◇             |            |        |        | 5.2.3 GERD financed by abroad, % GDP 0.0 62 ○ ◇                      |                 |                       |
| <b>Human capital and research</b> 53.8 18                            |            |        |        | 5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP 0.0 42 ◇   |                 |                       |
| <b>2.1 Education</b> 60.7 33   |            |        |        | 5.2.5 Patent families/bn PPP\$ GDP 13.0 1 ● ◆                        |                 |                       |
| 2.1.1 Expenditure on education, % GDP 3.2 104 ○ ◇                    |            |        |        | <b>5.3 Knowledge absorption</b> 66.6 4 ● ◆                           |                 |                       |
| 2.1.2 Government funding/pupil, secondary, % GDP/cap n/a n/a         |            |        |        | 5.3.1 Intellectual property payments, % total trade 3.2 7            |                 |                       |
| 2.1.3 School life expectancy, years 15.1 48 ◇                        |            |        |        | 5.3.2 High-tech imports, % total trade 15.0 16                       |                 |                       |
| 2.1.4 PISA scales in reading, maths and science 520.0 5              |            |        |        | 5.3.3 ICT services imports, % total trade 2.7 23                     |                 |                       |
| 2.1.5 Pupil-teacher ratio, secondary 10.7 38                         |            |        |        | 5.3.4 FDI net inflows, % GDP 0.9 100 ○                               |                 |                       |
| <b>2.2 Tertiary education</b> 29.0 71 ○ ◇                            |            |        |        | 5.3.5 Research talent, % in businesses 75.1 5 ◆                      |                 |                       |
| 2.2.1 Tertiary enrolment, % gross 65.3 48                            |            |        |        | <b>Knowledge and technology outputs</b> 51.1 13                      |                 |                       |
| 2.2.2 Graduates in science and engineering, % 19.5 77 ○              |            |        |        | <b>6.1 Knowledge creation</b> 59.1 12                                |                 |                       |
| 2.2.3 Tertiary inbound mobility, % 5.7 44                            |            |        |        | 6.1.1 Patents by origin/bn PPP\$ GDP 39.7 3 ● ◆                      |                 |                       |
| <b>2.3 Research and development (R&amp;D)</b> 71.5 5 ● ◆             |            |        |        | 6.1.2 PCT patents by origin/bn PPP\$ GDP 8.2 1 ● ◆                   |                 |                       |
| 2.3.1 Researchers, FTE/mn pop. 5,613.5 11                            |            |        |        | 6.1.3 Utility models by origin/bn PPP\$ GDP 0.7 28                   |                 |                       |
| 2.3.2 Gross expenditure on R&D, % GDP 3.3 5 ● ◆                      |            |        |        | 6.1.4 Scientific and technical articles/bn PPP\$ GDP n/a n/a         |                 |                       |
| 2.3.3 Global corporate R&D investors, top 3, mn US\$ 88.0 6 ● ◆      |            |        |        | 6.1.5 Citable documents H-index 67.2 9                               |                 |                       |
| 2.3.4 QS university ranking, top 3* 80.8 8                           |            |        |        | <b>6.2 Knowledge impact</b> 35.0 41 ○ ◇                              |                 |                       |
| <b>Infrastructure</b> 60.3 13  |            |        |        | 6.2.1 Labor productivity growth, % -0.6 111 ○                        |                 |                       |
| <b>3.1 Information and communication technologies (ICTs)</b> 90.3 12 |            |        |        | 6.2.2 Unicorn valuation, % GDP 0.2 46 ◇                              |                 |                       |
| 3.1.1 ICT access* 84.6 54  |            |        |        | 6.2.3 Software spending, % GDP 0.3 42                                |                 |                       |
| 3.1.2 ICT use* 86.5 31 ◇   |            |        |        | 6.2.4 High-tech manufacturing, % 54.6 8                              |                 |                       |
| 3.1.3 Government's online service* 90.0 10                           |            |        |        | <b>6.3 Knowledge diffusion</b> 59.2 6 ● ◆                            |                 |                       |
| 3.1.4 E-participation* 100.0 1 ● ◆                                   |            |        |        | 6.3.1 Intellectual property receipts, % total trade 5.3 1 ● ◆        |                 |                       |
| <b>3.2 General infrastructure</b> 48.3 19                            |            |        |        | 6.3.2 Production and export complexity 100.0 1 ● ◆                   |                 |                       |
| 3.2.1 Electricity output, GWh/mn pop. 7,964.2 20                     |            |        |        | 6.3.3 High-tech exports, % total trade 12.6 11                       |                 |                       |
| 3.2.2 Logistics performance* 81.8 13                                 |            |        |        | 6.3.4 ICT services exports, % total trade 1.1 83 ○                   |                 |                       |
| 3.2.3 Gross capital formation, % GDP 25.7 47                         |            |        |        | 6.3.5 ISO 9001 quality/bn PPP\$ GDP 7.3 37                           |                 |                       |
| <b>3.3 Ecological sustainability</b> 42.3 28                         |            |        |        | <b>Creative outputs</b> 44.1 25                                      |                 |                       |
| 3.3.1 GDP/unit of energy use 12.9 37                                 |            |        |        | <b>7.1 Intangible assets</b> 55.7 14                                 |                 |                       |
| 3.3.2 Environmental performance* 64.9 25                             |            |        |        | 7.1.1 Intangible asset intensity, top 15, % 69.0 20                  |                 |                       |
| 3.3.3 ISO 14001 environment/bn PPP\$ GDP 3.9 24                      |            |        |        | 7.1.2 Trademarks by origin/bn PPP\$ GDP 48.1 48                      |                 |                       |
| <b>Market sophistication</b> 61.9 8                                  |            |        |        | 7.1.3 Global brand value, top 5,000 16.0 7                           |                 |                       |
| <b>4.1 Credit</b> 65.8 8   |            |        |        | 7.1.4 Industrial designs by origin/bn PPP\$ GDP 3.9 25               |                 |                       |
| 4.1.1 Finance for startups and scaleups+ 57.5 36 ◇                   |            |        |        | <b>7.2 Creative goods and services</b> 35.3 21                       |                 |                       |
| 4.1.2 Domestic credit to private sector, % GDP 193.5 3 ● ◆           |            |        |        | 7.2.1 Cultural and creative services exports, % total trade 0.4 58 ○ |                 |                       |
| 4.1.3 Loans from microfinance institutions, % GDP n/a n/a            |            |        |        | 7.2.2 National feature films/mn pop. 15-69 6.1 18                    |                 |                       |
| <b>4.2 Investment</b> 26.2 26  |            |        |        | 7.2.3 Entertainment and media market/th pop. 15-69 72.4 5            |                 |                       |
| 4.2.1 Market capitalization, % GDP 119.8 10                          |            |        |        | 7.2.4 Creative goods exports, % total trade 1.8 30                   |                 |                       |
| 4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP 0.2 27      |            |        |        | <b>7.3 Online creativity</b> 30.0 41 ◇                               |                 |                       |
| 4.2.3 VC recipients, deals/bn PPP\$ GDP 0.1 17                       |            |        |        | 7.3.1 Generic top-level domains (TLDs)/th pop. 15-69 19.1 31 ◇       |                 |                       |
| 4.2.4 VC received, value, % GDP 0.0 51 ○ ◇                           |            |        |        | 7.3.2 Country-code TLDs/th pop. 15-69 6.4 51 ◇                       |                 |                       |
| <b>4.3 Trade, diversification, and market scale</b> 93.6 4 ● ◆       |            |        |        | 7.3.3 GitHub commits/mn pop. 15-69 21.9 41 ◇                         |                 |                       |
| 4.3.1 Applied tariff rate, weighted avg., % 2.2 63                   |            |        |        | 7.3.4 Mobile app creation/bn PPP\$ GDP 72.6 42                       |                 |                       |
| 4.3.2 Domestic industry diversification 95.2 28                      |            |        |        |  |                 |                       |
| 4.3.3 Domestic market scale, bn PPP\$ 6,110.0 1 ● ◆                  |            |        |        |  |                 |                       |

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 <https://www.wipo.int/gii-ranking>. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level.



## → Data availability

The following tables list indicators that are either missing or outdated for Japan.



> Japan has missing data for three indicators and outdated data for four indicators.

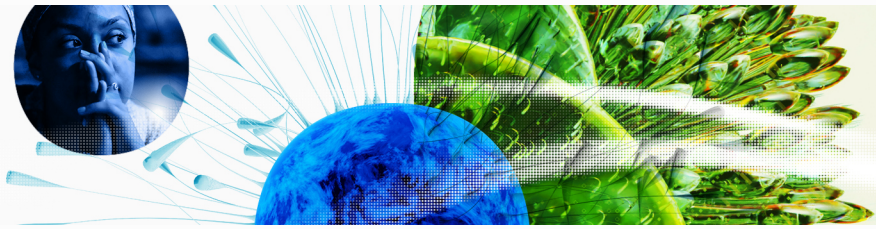
## > Missing data for Japan

| Code  | Indicator name                                 | Economy Year | Model Year | Source   |
|-------|--|--------------|------------|--|
| 2.1.2 | Government funding/pupil, secondary, % GDP/cap | n/a          | 2019       | UNESCO Institute for Statistics                            |
| 4.1.3 | Loans from microfinance institutions, % GDP    | n/a          | 2021       | International Monetary Fund, Financial Access Survey (FAS) |
| 5.1.2 | Firms offering formal training, %              | n/a          | 2019       | World Bank Enterprise Surveys                              |

## > Outdated data for Japan

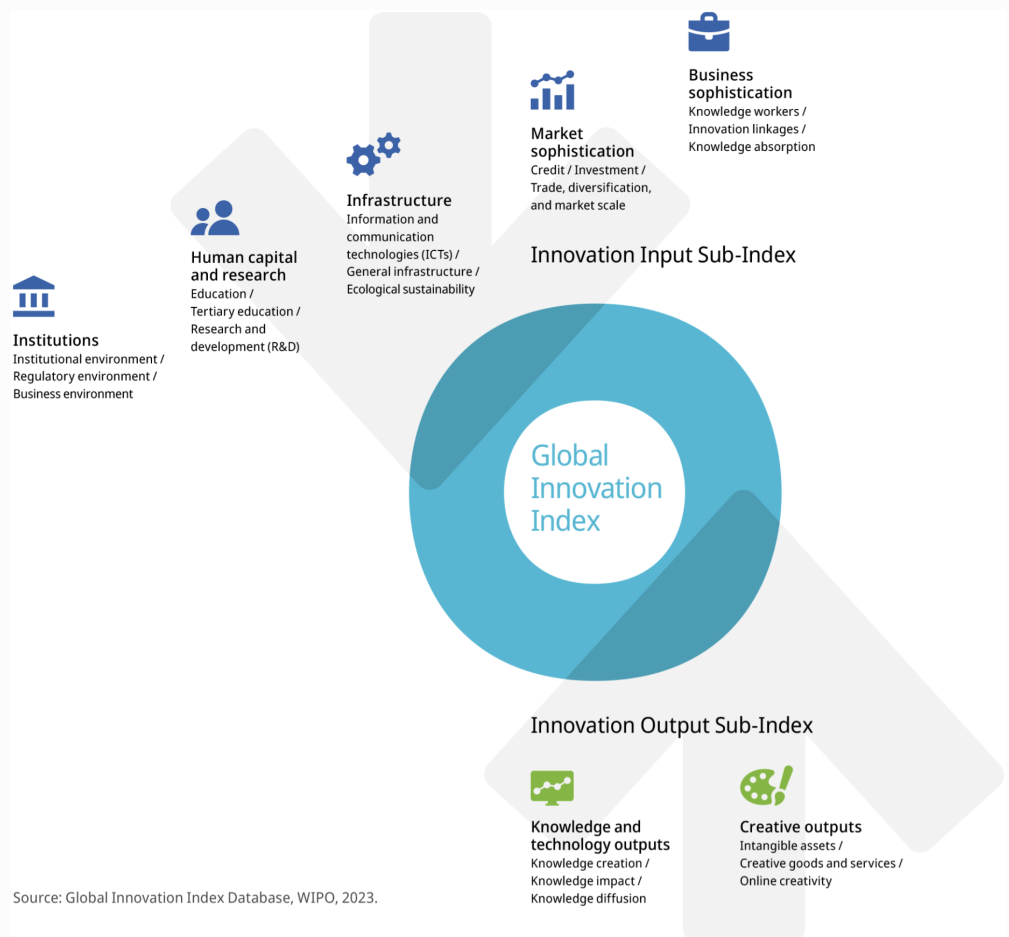
| Code  | Indicator name                         | Economy Year | Model Year | Source   |
|-------|--|--------------|------------|--|
| 2.1.1 | Expenditure on education, % GDP        | 2019         | 2021       | UNESCO Institute for Statistics                    |
| 4.3.2 | Domestic industry diversification      | 2019         | 2020       | United Nations Industrial Development Organization |
| 5.1.5 | Females employed w/advanced degrees, % | 2020         | 2022       | International Labour Organization                  |
| 6.2.4 | High-tech manufacturing, %             | 2019         | 2020       | United Nations Industrial Development Organization |

# Global Innovation Index 2023



## → 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 130 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.