



Reason2. Innovation Ecosystem Open to the World

Technology intensive economy with world's leading R&D capabilities



Research & Development

(Evaluated on R&D expenditures as a percentage of GDP, the number of scientific publications and citations, etc.)

World **No.1**

No.	Country / Region
1	Japan
2	Germany
3	US
4	South Korea
5	France
6	UK
7	Taiwan

Source: "The Global Competitiveness Report 2019" (World Economic Forum)

Science and Technology Clusters

Tokyo-Yokohama

World **No.1**

Osaka-Kyoto-Kobe

World **No.6**

Nagoya

World **No.12**

Source: "Global Innovation Index 2021"
(World Intellectual Property Organization)

What business leaders say

"Japan has a phenomenal wealth of hidden technologies, whether it is physics, chemistry, or biology. If one can rightly explore it, it is going to be giving a phenomenal array of solutions for the entire humanity. "

Samuel JK Abraham. M.D., Ph.D., GN Corporation Co., Ltd.

Source: Invest in Japan: Testimonials from Global Business Leaders (Prime Minister's Office of Japan)

Abundant IP assets and relentless pursuit of innovation generate new value creation opportunities



R&D Expenditures

World **No.4**
No.1 among G7

No.	Country	% of GDP
1	Israel	4.9%
2	South Korea	4.6%
3	Sweden	3.4%
4	Japan	3.2%
5	Austria	3.2%

Source: "Global Innovation Index 2021"
(World Intellectual Property Organization)

Patent Applications

World **No.1**

No.	Country	Number of applications per billion USD GDP
1	Japan	9.6%
2	South Korea	8.7%
3	Switzerland	8.3%
4	Finland	6.1%
5	Israel	5.4%

Source: "Global Innovation Index 2021"
(World Intellectual Property Organization)

Research Talent in Business

World **No.3**
No.1 among G7

No.	Country	% in business enterprise
1	South Korea	82.3%
2	UAE	77.9%
3	Japan	74.4%
4	US	72.5%
5	Sweden	71.5%

Source: "Global Innovation Index 2021"
(World Intellectual Property Organization)

Mission-oriented Economic and Industrial Policy



Japan has set the following six missions based on the necessity of solving problems in Japan and the rest of the world and Japan's possible contribution. The government promotes the "Mission-oriented Economic and Industrial Policy," aiming to solve socio-economic issues while achieving economic growth.

1. Carbon Neutral Society

Vision: Carbon neutrality by 2050

- Creating new industries by Green Transformation (GX)
- Structural transformation of the industry

2. Digital Society

Vision: Realizing a Digital Garden City Nation

- Accelerating digital investment by fostering human resources for digital promotion, digitalizing social infrastructure, etc.
- Digital-oriented regulatory, institutional, and system reforms

3. Economic Security

Vision: Achieving comprehensive economic security

- Building a resilient supply chain
- Responding to the globalization of corporate activities and expanding risk factors.

4. New Healthy Society

Vision: Future healthy society using digital technologies

- Developing Personal Health Record and promoting health-related data sharing between patients, doctors, and businesses
- Creating new markets in emerging countries, mainly in Asia, with the growing need for lifestyle disease prevention

5. Disaster-Resilient Society

Vision: Resilient society against natural disasters and climate change

- Creating new markets, supporting international expansion, developing infrastructure to enhance resilience

6. Biomanufacturing Revolution

Vision: Increasing public and private investments in biomanufacturing

- Designing and developing new microorganisms
- Product development using microorganisms
- Collaboration with like-minded countries to ensure demand for products

Source: "Interim Report for Committee on New Direction of Economic and Industrial Policies," June 2022 (METI)

14 Sectors with Growth Prospects



- Japan aims to achieve carbon neutrality by 2050 under its “Green Growth Strategy” with a focus on the following 14 priority fields with growth prospects and is working towards reducing greenhouse gas emissions to net zero.
- The 2 trillion yen “Green Innovation Fund” established in 2021 will provide continuous support for ten years to businesses and others for their research and development, demonstrations, to implementation.

Energy related industries

1. Offshore windpower, Solar and geothermal industries
2. Hydrogen and fuel ammonia industry
3. Next-generation heat energy industry
4. Nuclear industry

Transport/manufacturing industries

5. Automobile and battery industries
6. Semiconductor and information and communication industries
7. Shipping industry
8. Logistics, people flow, and civil engineering infrastructure industries
9. Food, agriculture, forestry, and fisheries
10. Aircraft industry
11. Carbon Recycling and materials industry

Home/office related industries

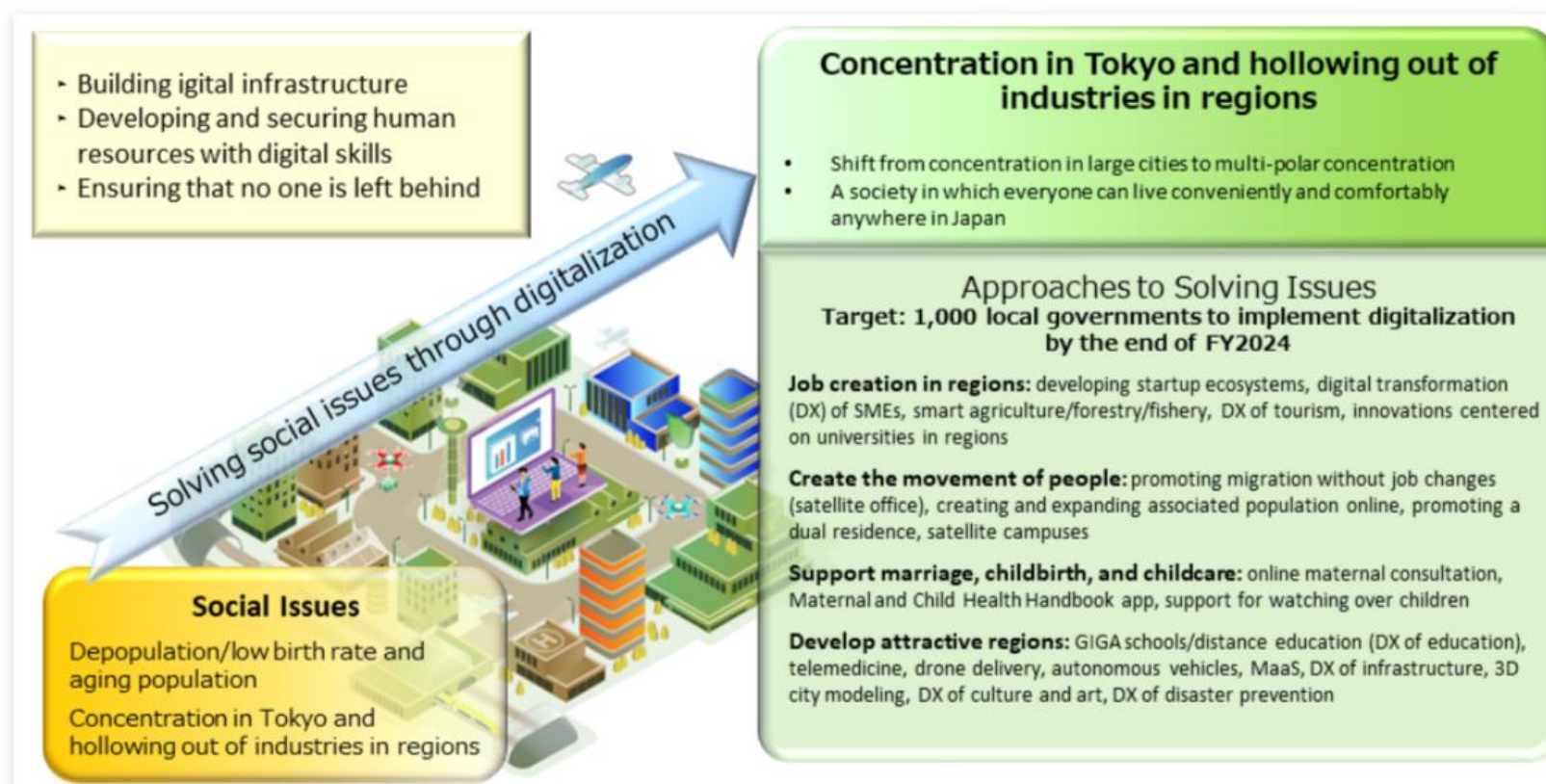
12. Housing and building industry and next-generation power management industry
13. Resource circulation-related industries
14. Lifestyle-related industries

Source: [NEDO Green Innovation Fund website](#) 

Vision for a Digital Garden City Nation



- Japan is working towards a vision for a Digital Garden City Nation, an initiative to shift from concentration in large cities to multi-polar concentration in rural and regional areas through digitalization.
- Working towards a "society in which everyone can live conveniently and comfortably anywhere in Japan," the initiative aims to solve social issues such as the hollowing out of industries, the aging population, and the depopulation in rural and regional areas.

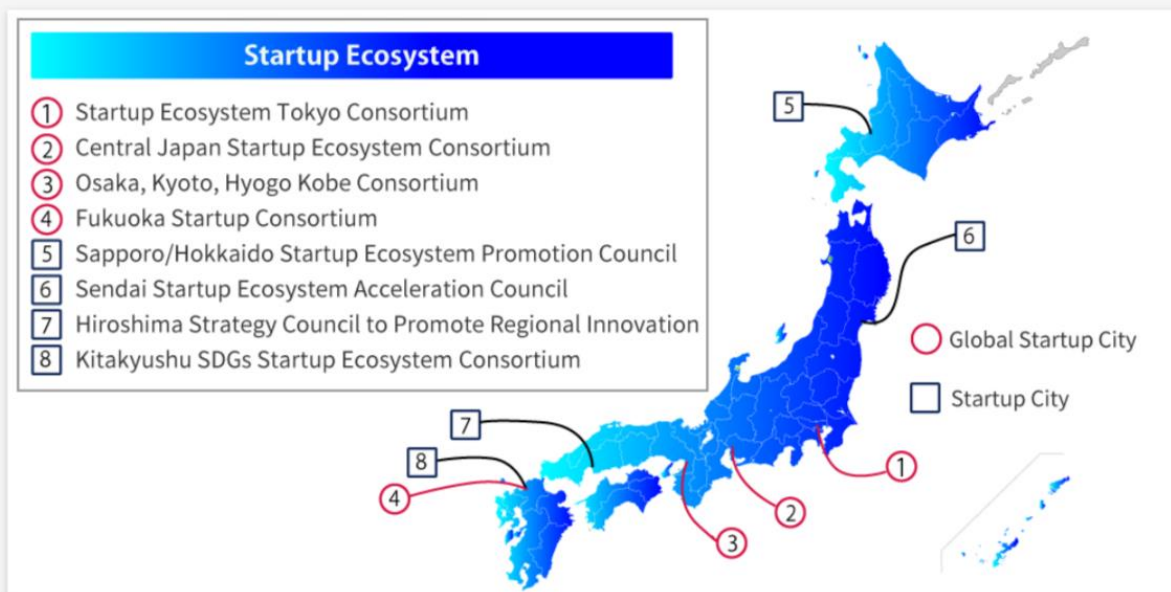


Source: Prepared from "Basic Policy for the Vision for a Digital Garden City Nation" June 2022
(The Council for the Realization of the Vision for a Digital Garden City Nation at the Prime Minister's Office)

Growing Startup Ecosystems throughout the Country



- Startups, with their agility, are key players in transforming society and solving social issues through innovation.
- The Japanese government has selected eight Startup Cities and is providing intensive support for ecosystem building through cooperation with local governments, universities, the private sector, and investors.
- Startup Cities are working on the creation of innovation leveraging industrial concentration and strengths of each region, commercialization of R&D at universities, development of startup bases, and entrepreneurship education.



Source: Compiled from "Startup Ecosystem Cities" September 2021
(Cabinet Office, Council for Science, Technology and Innovation)

What business leaders say

"We have found that there is a very vibrant ecosystem, in terms of support at the government level. There is a lot of venture capital, especially for early-stage companies. Japanese companies in general are a lot more receptive to innovative ideas." Tom Brooke, Founder & CEO, Qurate Inc.

Source: Invest in Japan: Testimonials from Global Business Leaders (Prime Minister's Office of Japan)