About Society 5.0

What is Society 5.0? One definition: "A human-centered society that balances economic advancement with the resolution of social problems by a system that highly integrates cyberspace and physical space." | Achieving Society 5.0 ~ In the information society (Society 4.0), cross-sectional sharing of knowledge and information was not enough, and cooperation was difficult. Because there is a limit to what people can do, the task of finding the necessary information from overflowing information and analyzing it was a burden, and the labor and scope of action were restricted due to age and varying degrees of ability. Also, due to various restrictions on issues such as a decreasing birthrate and aging population and local depopulation, it was difficult to respond adequately. Social reform (innovation) in Society 5.0 will achieve a forward-looking society that breaks down the existing sense of stagnation, a society whose members have mutual respect for each other, transcending the generations, and a society in which each and every person can lead an active and enjoyable life.

How Society 5.0 works ~ Society 5.0 achieves a high degree of convergence between cyberspace (virtual space) and physical space (real space). In the past information society (Society 4.0), people would access a cloud service (databases) in cyberspace via the Internet and search for, retrieve, and analyze information or data. In Society 5.0, a huge amount of information from sensors in physical space is accumulated in cyberspace. In cyberspace, this big data is analyzed by artificial intelligence (AI), and the analysis results are fed back to humans in physical space in various forms. In the past information society, the common practice was to collect information via the network and have it analyzed by humans. In Society 5.0, however, people, things, and systems are all connected in cyberspace and optimal results obtained by AI exceeding the capabilities of humans are fed back to physical space. This process brings new value to industry and society in ways not previously possible.

Contents

Cabinet Office, Government of Japan (COGP)

Stakeholder(s):

Japan :
Society 5.0 was proposed in the 5th Science and Technology Basic Plan as a future society that Japan should aspire to. It follows the hunting society (Society 1.0), agricultural society (Society 2.0), industrial society (Society 3.0), and information society (Society 4.0).

Vision

Each and every person can lead an active and enjoyable life

Mission

To balance economic advancement with the resolution of social problems

Values

Human Centricity: Society 5.0 Will Bring About a Human-centered Society ~ In society up to now, a priority has generally been placed on social, economic, and organizational systems with the result that gaps have arisen in products and services that individuals receive based on individual abilities and other reasons.

Convergence: In contrast, Society 5.0 achieves advanced convergence between cyberspace and physical space, enabling AI-based on big data and robots to perform or support as an agent the work and adjustments that humans have done up to now. This frees humans from everyday cumbersome work and tasks that they are not particularly good at, and through the creation of new value, it enables the provision of only those products and services that are needed to the people that need them at the time they are needed, thereby optimizing the entire social and organizational system. This is a society centered on each and every person and not a future controled and monitored by AI and robots.

Economic Development: Achieving Society 5.0 with these attributes would enable not just Japan but the world as well to realize economic development while solving key social problems. It would also contribute to meeting the Sustainable Development Goals (SDGs) established by the United Nations.

Sustainability

Quality of Life: Japan aims to become the first country in the world to achieve a human-centered society (Society 5.0) in which anyone can enjoy a high quality of life full of vigor.

Technology: It intends to accomplish this by incorporating advanced technologies in diverse industries and social activities and fostering innovation to create new value.

Development & Society

Balance economic development and solve social issues

Society 5.0 Balances Economic Development and Solves Social Issues ~ It can be said that the environment surrounding Japan and the world is in an era of drastic change. As the economy grows, life is becoming prosperous and convenient, the demand for energy and foodstuffs is increasing, lifespan is becoming longer, and the aging society is advancing. In addition, the globalization of the economy is progressing, international competition is becoming increasingly severe, and problems such as the concentration of wealth and regional inequality are growing. Social problems that must be solved in opposition (as a tradeoff) to such economic development have become increasingly complex. Here, a variety of measures have become necessary such as the reduction of greenhouse gas (GHG) emissions, increased production and reduced loss of foodstuffs, mitigation of costs associated with the aging society, support of sustainable industrialization, redistribution of wealth, and correction of regional inequality, but achieving both economic development and solutions to social problems at the same time has proven to be difficult in the present social system. In the face of such major changes in the world, new technologies such as IoT, robotics, AI, and big data, all of which can affect the course of a society, are continuing to progress. Japan seeks to make Society 5.0 a reality as a new society that incorporates these new technologies in all industries and social activities and achieves both economic development and solutions to social problems in parallel.

1. Gaps

Eliminate regional, age, gender, and language gaps

Economic Development and Solutions to Social Problems in Society 5.0 ~ In Society 5.0, new value created through innovation will eliminate regional, age, gender, and language gaps and enable the provision of products and services finely tailored to diverse individual needs and latent needs. In this way, it will be possible to achieve a society that can both promote economic development and find solutions to social problems. Achieving such a society, however, will not be without its difficulties, and Japan intends to face them head-on with the aim of being the first in the world as a country facing challenging issues to present a model future society.

2. Products & Services

Enable the provision of products and services finely tailored to diverse individual needs and latent needs

Stakeholder(s):

Mobility Sector :
New value in the field of mobility ~ In Society 5.0, new value can be generated in the following ways through AI analysis of big data in a database spanning diverse types of information including sensor data from automobiles, real-time information on the weather, traffic, accommodations, and food and drink, and personal history, and the following will be realized.

- *Make travelling and sightseeing easy by providing sightseeing routes matching personal preferences and proposing optimal plans taking weather, congestion, etc. into account*
- *Make movement pleasant without congestion and reduce accidents through autonomous driving*
- *Make movement smooth by combining car sharing services, public transportation, etc.*

- *Enable the elderly and physically challenged to move about on their own through the use of self-driving wheelchairs*

Furthermore, for society on the whole, these solutions will help reduce CO2 emissions by public transportation institutions while promoting regional revitalization and stimulating consumption.

Healthcare Sector :
New value in the fields of healthcare and caregiving ~ In Society 5.0, new value can be generated in the following ways: through AI analysis of big data spanning diverse types of information, including personal real-time physiological data, healthcare-site information, treatment/infection information, and environmental information, and the following will be realized.

- *Enable a comfortable living on one's own by using robots to provide living support and conversation partners*
- *Promote healthy living and early detection of illnesses through real-time automatic health checkups*
- *Provide optimal treatment anywhere through the sharing of physiological and medical data*
- *Use robots to ease the on-site burden of healthcare and caregiving*

Furthermore, for society on the whole, these solutions will help reduce the social costs associated with healthcare and caregiving and solve labor-shortage problems at healthcare sites.

Caregiving Sector

Manufacturing Sector :
New value in the field of manufacturing ~ In Society 5.0, new value can be generated in the following ways: through AI analysis of big data spanning diverse types of information, including customer and consumer demand, supplier inventory information, and delivery information, and the following will be realized.

- *Perform flexible production planning and inventory management in response to current needs by establishing links with other fields and industry suppliers outside of one's usual business dealings*
- *Use AI and robots and apply inter-plant coordination to make production more efficient, save on labor, enable the inheritance of technical skills (master craftsmanship modeling), and achieve high-mix, low-volume production*
- *Make distribution more efficient by cross-industry cooperative shipping, truck platooning, etc. M Enable customers and consumers too to obtain low-priced goods without delivery delays in accordance with needs*

Furthermore, for society on the whole, these solutions can help strengthen industrial competitiveness, enhance responsiveness to disasters, mitigate the labor-shortage problem, deal with diverse needs, reduce GHG emissions and expenses, improve customer satisfaction, and stimulate consumption.

Agriculture Sector :
New value in the field of agriculture ~ In Society 5.0, new value can be generated in the following ways: through AI analysis of big data consisting of diverse information, such as meteorological data, crop-growth data, market conditions, and food trends and needs.

- *Achieve ultra-labor-saving and high-production "smart agriculture" by automating farm work and saving on labor through robot tractors, automating collection of crop data through drones,*

and automating and optimizing water management based on weather prediction, river data, etc.
- *Formulate a farming plan by setting crop yields tailored to needs, optimizing work plans together with weather predictions, sharing experience and know-how, and expanding the customer base*
- *Make farm produce desired by consumers available to them when desired*
- *Deliver farm produce to consumers when they need it through self-driving delivery vehicles*

Furthermore, for society on the whole, these solutions can help increase food production and stabilize supply, solve the labor-shortage problem in agricultural regions, reduce food waste, and stimulate consumption.

Food Sector :
New value in the field of food products ~ In Society 5.0, new value can be generated in the following ways: through AI analysis of big data consisting of diverse information, such as personal allergies, information on food products, food products stored in family refrigerators, retail store inventories, and market conditions.

- *Make purchasing of food convenient by providing consumers with proposals on food products tailored to allergy information and personal preferences*
- *Reduce waste by automating the management of food stored in refrigerators and enabling the ordering and purchasing of only the food needed*
- *Make eating pleasurable by providing cooking-related proposals based on family preferences or daily health conditions*
- *Enable farm producers and retail stores to manage production, orders, and inventory in accordance with customer needs*

For society on the whole, these solutions can help reduce food waste and make the food industry more competitive.

Disaster Prevention Sector :
New value in the field of disaster prevention ~ In Society 5.0, new value can be generated in the following ways: through AI analysis of big data consisting of diverse information, such as observations of disaster-affected areas by satellite, by terrestrial weather radar, or by drones, damage information based on structural sensors, and road-damage information from automobiles.

- *Provide each and every person with shelter and relief information via individual smartphones and other devices based on disaster conditions and move people safely to shelters*

Stakeholders (continued)

- *Discover victims immediately through assist suits, rescue robots, etc. and rescue them from disaster-affected buildings quickly*
- *Perform optimal delivery of relief materials through drones, self-driving delivery vehicles, etc.*

For society on the whole, these solutions can help reduce damage and achieve an early recovery.

Energy Sector :

New value in the field of energy ~ In Society 5.0, new value can be generated in the following ways: through AI analysis of big data consisting of diverse information such as meteorological data, operating status of power plants, discharge/charge status of electric vehicles (EV), and energy usage conditions of every household.

- *Provide a stable supply of energy through diverse energy means based on accurate demand forecasts and weather predictions*
- *Achieve local production for local consumption making use of EVs and hydrogen production and promote inter-regional accommodation*
- *Promote energy savings by each household by offering proposals on optimizing energy use based on supply predictions*

For society on the whole, these solutions can help provide a stable supply of energy and reduce our environmental load by decreasing GHG emissions.

Administrative Information

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