

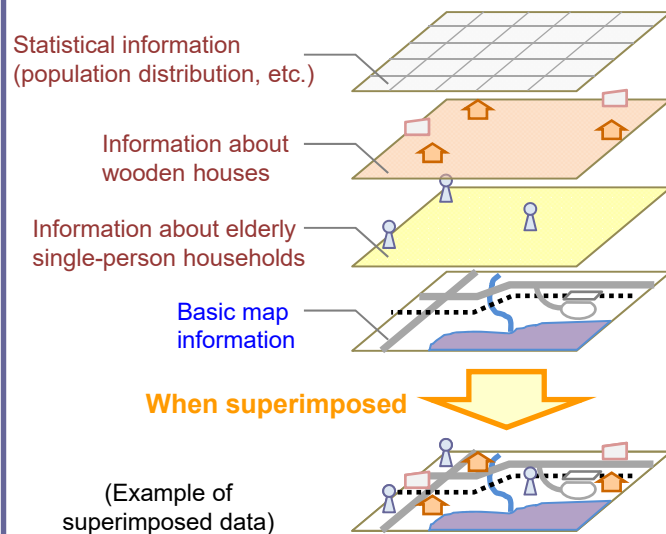
Description of geospatial information

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- Geospatial information is those pieces of information that shows specific positions in spaces and other relevant information, and there are various types of geospatial information, including map data such as topographical maps and city planning maps, aerial photograph data, register data such as roads and rivers, position information observed by satellites such as vehicles and cellular phones.
- In 2007, Basic Act on the Advancement of Utilizing Geospatial Information was approved by lawmaker-initiated legislation and basic plans based on the law have been made to the third phase.

Description of Geospatial Information System (GIS)

The system processes various pieces of geospatial information on electronic maps, grasps mutual positional relations, analyzes relationships between data, and makes it possible to utilize geospatial information in a sophisticated manner.



History of promotion of geospatial information utilization

2007 Establishment of Basic Act on Advancement of Utilizing Geospatial Information

2008 Development of Basic Plan for the Advancement of Utilizing Geospatial Information (1st Phase)

- Establishment of basic maps as the basics of GIS
- Development and launching of the first satellite of Japan's unique quasi-zenith satellite named "Michibiki"

2012 Development of Basic Plan for the Advancement of Utilizing Geospatial Information (2nd Phase)

- Promotion of utilization for disaster prevention and mitigation in consideration of the Great East Japan Earthquake
- Various demonstration tests by the first quasi-zenith satellite
- Preparation for positioning and creation of G-spatial Information Center

2017 Development of Basic Plan for the Advancement of Utilizing Geospatial Information (3rd Phase)

- Provision of high-precision positioning service by a system of four quasi-zenith satellites
- Creation of common information base with G-spatial Information Center as the core
- 2020 Tokyo Olympic and Paralympic Games as showcase of G-spatial society

Outline of Basic Plan for the Advancement of Utilizing Geospatial Information (3rd Phase)

3rd-Phase Basic Plan for the Advancement of Utilizing Geospatial Information (5-year plan)
was developed based on Basic Act on Advancement of Utilizing Geospatial Information (2007)

1st Phase Basic Plan (Apr. 2008–Mar. 2012)

- Establishment of basic map information→1-2,500th of city planning areas and 1-25,000th of others are established.
- Development and launching of quasi-zenith satellite “Michibiki”
- Establishment of promotion system of relevant entities and reinforcement of cooperation
→Formation of industry-academia-government conference

2nd Phase Basic Plan (Apr. 2012–Mar. 2017)

- With lessons learned from the Great East Japan Earthquake (2011), measures for disaster prevention and mitigation are reinforced.
- Creation of “G-spatial Information Center as the hub of geospatial information
- Progress of demonstration test on positioning of position information by “Michibiki”

Changes in social conditions, progress of services and technologies, wave of the “4th industrial revolution”

- Depopulation & graying, increase in disaster risk, aging infrastructure, increase in foreign visitors to Japan, widespread use of smart phones and others, innovation, etc.

3rd Phase Basic Plan (April 2017–March 2022)

—“Solution of social issues and creation of new industries and new services”
by advanced utilization of geospatial information—

Five “forms to be aimed for” in plan

Reinforcement of disaster response capability

Safe, worry-free and high-quality livelihood

Creation of new industries and new services

Creation of new transportation and distribution services

Overseas expansion of technology and international contribution

Highly precise and real-time geospatial information of high use value

Utilization

Innovative technologies such as IoT, AI and big data

Outdoor and indoor positioning environment (Establishment of 4-quasi-zenith-satellite system, etc.)

G-spatial Information Center (Promotion of distribution of geospatial information)

Literacy education and human resource development for geospatial information

While promoting measures for establishment of above-mentioned basics and environment to support realization of forms to be aimed for, various measures are taken.

Missions of basic plans and symbol projects

(1) Protect the country and save each and every one of life

- Reinforcement of disaster prevention functions at shelters and others by utilizing the quasi-zenith satellite system
- Operation of system to estimate tsunami flood damage
- Promotion of proliferation of G-spatial disaster prevention system

(2) Realize epoch-making transportation and distribution systems

- Promotion of development and proliferation of advanced self-driving system
- Promotion of unmanned aircraft physical distribution business by utilizing quasi-zenith satellites

(3) Create diverse and affluent society

- Promotion of creation of highly precise positioning environment in indoor spaces
- Support of movement of visitors to large-scale events by utilizing G-spatial Information Center
- Formation of recycling system for geospatial information

(4) Accelerate regional revitalization

- Promotion of development and proliferation of self-driving technology for agricultural machinery, etc.
- Promotion to turn forestry into a growth sector by utilizing geospatial information and ICT
- Promotion of utilization of 3-dimensional data by promotion of i-Construction
- Promotion of research and development by small-to-medium businesses and small entities and development of service models

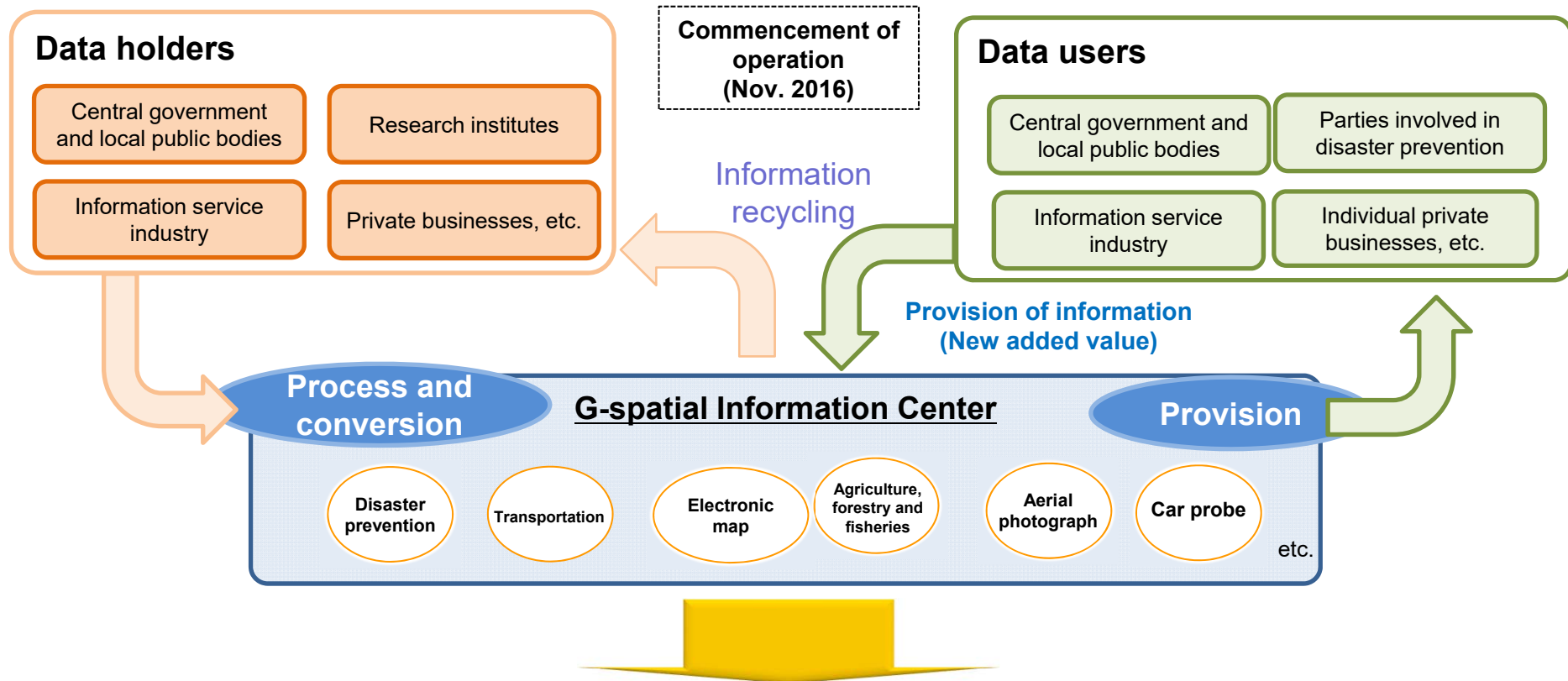
(5) Expand G-spatial society to the world

- Overseas expansion of highly precise positioning service that utilizes electronic reference point network and quasi-zenith satellite system
- Formation of recycling system for geospatial information (see above)

Description of G-spatial Information Center

Position in basic plan for the Advancement of Utilizing Geospatial Information (3rd Phase)

The center has the functions as **the core of distribution and utilization of geospatial information** where geospatial information collected by respective entities are put together, processed and converted into information of higher utility value, and can be searched and obtained by everyone easily and anytime.

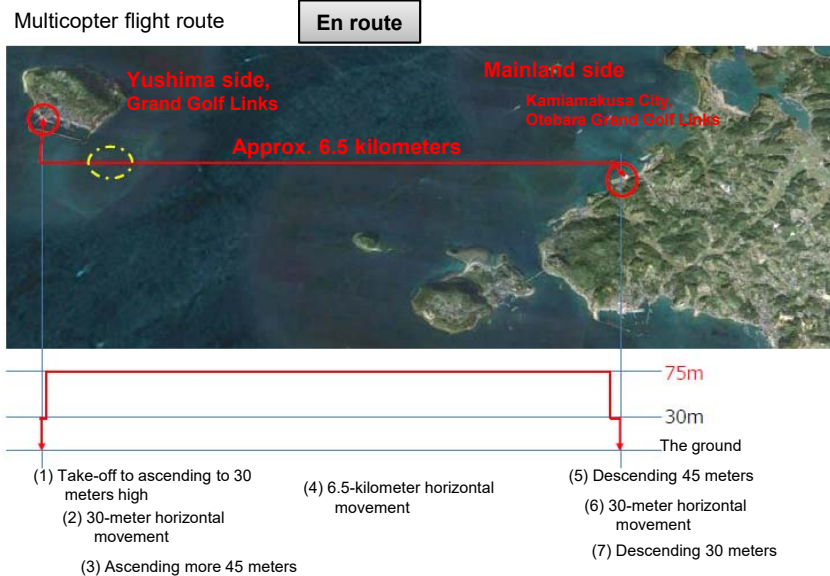


Improvement of safe and worry-free livelihood, convenience and productivity, and creation of new industries and new services

Promotion of unmanned aircraft physical distribution business by utilizing quasi-zenith satellites

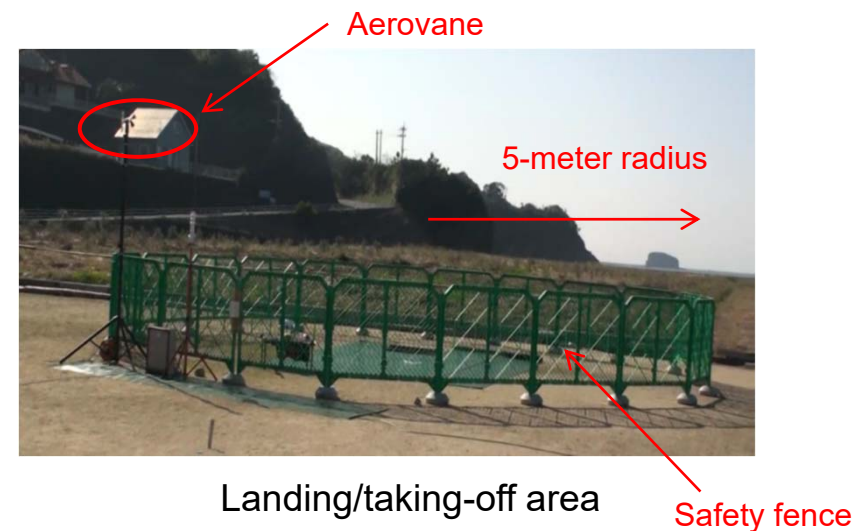
- Materials transportation by unmanned aircraft by utilizing highly precise positioning of quasi-zenith satellite system was demonstrated in the Amakusa Islands, Kumamoto Prefecture.
- While technical challenges become obvious, transportation was successfully performed and the demonstration was successful.
- In the future, demonstrations are repeatedly performed in other isolated islands both at home and abroad, including out-of-sight autonomous flights, to contribute to commercialization of physical distribution that utilizes quasi-zenith.

● Demonstration in the Amakusa Islands (Nov. 29/30, 2016)



Satellite communication equipment

Quasi-zenith satellite GNSS receiving antenna



■ Implementation system

Coordinated by: Hitachi Zosen Corp.
 Unmanned aircraft: enRoute Co., Ltd. and Yamaha Motor Co., Ltd.
 Communication/operation system: Hitachi Zosen Corp.
 Demonstration municipality: Kumamoto Prefecture and Kamiamakusa City

Promotion of development and proliferation of self-driving technology for agricultural machinery, etc.

- Introduction of driving assist devices that utilize satellite positioning information such as GPS is under way.
- Research and development is now promoted with the aim of (1) starting marketing of automatic driving systems of agricultural machines in farm fields by 2018, and (2) realizing unmanned systems under remote monitoring by 2020.

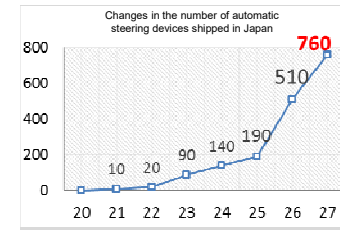
Targets

Matters directed by Prime Minister Shinzo Abe in “public-private dialogue for future investments (March 4, 2016)”

[By 2018]
Start of marketing of automatic driving system in farm fields under manned monitoring

[By 2020]
Realization of unmanned system under remote monitoring

(1) Widespread use of driving assist devices



- Straight travel assist devices are coming into wide use at an accelerated pace mainly in Hokkaido.
- Marketing of agricultural machines that incorporate assist devices such as tractors and rice planting machines also starts.

(2) Moves to start marketing of automatic driving systems in 2018



- Guidelines for ensuring of safety of robot agricultural machines are developed in March.
- Kubota Corporation announced on January 25 that test-marketing starts in June.

(3) Research and other moves for realization of unmanned systems in 2020



- Development of methodology of assessment of human detection technology is commenced for practical use.
- Inexpensive receivers for quasi-zenith satellites are now under development for widespread use throughout Japan.

(Basic Principles)

Article 3 (1) The advancement of Public and Private Sector Data Utilization must be done for the purpose of ensuring smooth circulation of information while protecting the rights and interests of individuals and corporations

Basic Plan for the Advancement of Utilizing Public and Private Sector Data

Article 8 (1) The government must establish a basic plan for the advancement of Public and Private Sector Data

Article 9 (1) Prefectures must establish a basic plan for measures for the advancement of Public and Private Sector Data

Article 9 (3) Municipalities (including special wards; hereinafter the same applies in this Article) are to endeavor to establish a basic plan for measures for the advancement of Public and Private Sector



Now

National Strategy office of Information and Communications Technology in Cabinet Secretariat is making a guideline of OPEN DATA.

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(2867)Ministry of Health,...
(1897)Ministry of Educati...
(1779)Ministry of the Env...
(1711)



Cabinet Office (1550)

Ministry of Finance (1279)

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