

Implementation Plan of the Basic Plan on Space Policy (revised FY2017) (Overview)

Policy Objectives: (1) Ensure space security, (2) Promote the use of civil space, (3) Maintain and strengthen the science and technology industrial base

An implementation plan aimed at achieving the goals of the space policy

Satellite positioning

- Promote utilization of the Quasi-Zenith Satellite System**
 Start positioning services using a 4-satellite constellation in FY2018; **Increase utilization through environmental improvements**
 Cooperate with like-minded countries for the use of positioning satellites, such as establishing the EU-Japan Satellite Positioning WG
- Establish a 7-satellite constellation of Quasi-Zenith Satellites**
 Consider **the specification of a 7-satellite constellation** in FY2018
 Steadily conduct development and arrangements for establishing a 7-satellite constellation by around FY2023

Satellite remote sensing

- Reflection of needs in respective projects**
 Share needs for satellite use among relevant ministries and agencies, and consider **a mechanism to continuously reflect such needs in satellite development, etc.**
- Information Gathering Satellites (optical/ radar)**
Start the operation of the 6th optical satellite and launch the 6th radar satellite in FY2018
- Advanced optical/radar satellites (ALOS-3 and 4)**
 Promote development toward the launch in FY2020
- Geostationary Meteorological Satellites**
 Begin the production of a successor by FY2023 at the latest
- Greenhouse Gas Observing satellites (GOSAT)**
 Launch the 2nd satellite and begin the development of the 3rd satellite in FY2018
- Other remote sensing satellites**
 R&D for a successor to the Advanced Microwave Scanning Radiometer (AMSR-2), aiming to piggyback on GOSAT-3

Space transportation systems

- Next Generation Mainstay Launch Vehicle (H3)**
Begin the production of the first real test rocket in FY2018
- Epsilon Launch Vehicle upgrades**
 Begin basic designing based on the plan for development in synergy with H3 in FY2018
- Launch sites**
 Smoothly take measures based on procedures under the space activities law
- Operationally responsive small satellites**
 Consider concrete operation scenarios and needs by around the end of FY2019

Space Situational Awareness (SSA)

- Begin studies for materializing the maintenance and operation of the system** in FY2018 and start the operation in or after FY2023
- Collect information on the trends of the **Space Traffic Management (STM)**

Maritime Domain Awareness (MDA)

- Develop a system for effective collection, sharing and provision of maritime information, including the utilization of ALOS-2 and other earth observation satellites

Early-warning functions, etc.

- Promote research on **dual-band infrared sensors**, and the piggyback on the advanced optical satellite, which is planned to be launched in FY2020

Strengthening of guarantee for functions of the overall space systems

- Continuously conduct vulnerability assessment of the space system while developing and updating the assessment methods.**
- Participate in the "Schriever Wargame" for the first time** in FY2018

Space science and exploration and manned space activity

- Host the 2nd International Space Exploration Forum (ISEF-2) in Tokyo** in March 2018
 - Consider new international cooperation systems, etc. in light of possible participation in the US initiative to establish a **manned base near the moon and exploration activities on the moon under international cooperation**
 - Conduct demonstration of technologies in which Japan has a competitive edge or which are expected to have spillover effects(*)
 - Promote designing and development aiming to launch the **X-ray astronomy satellite (ASTRO-H replacement) in FY2020 and an upgraded ISS transfer vehicle "HTV-X" in FY2021**
- * Technologies related to deep space supply, manned space stay, and takeoff and landing and surface exploration on a sphere with gravity

Satellite communications and satellite broadcasting

- Next-generation Engineering Test Satellite (9th satellite)**
 Promote detailed designing and various tests toward the launch in FY2021
- Optical Data Relay Test Satellite**
 Aim to launch the satellite in FY2019
- X-Band Satellite-Based Defense Communication Network**
 Aim to launch the 3rd satellite in FY2022

Measures and projects to strengthen the science and technology industrial base and infrastructure

Comprehensive initiatives to encourage new entrants to the space industry and expand space utilization

- Begin the development of a satellite data platform for disclosing and freeing the government's satellite data** in FY2018; Promote the development of a satellite data center also in consideration of the revitalization of local economies; Contribute to the achievement of the New Industrial Structure Vision, "Society 5.0"
- Based on the "Vision for the Space Industry 2030," consider means for creating stable demand such as by conducting demonstration of space data utilization models for creating new businesses, **seeking new ideas for space businesses, offering startup support ("S-Booster"), creating a framework for increasing the supply of risk money, and providing anchor tenancy**
- Regarding activities of the S-NET, promote business exchange among space ventures, businesses in other fields, universities and investors, and strengthen the functions of one-stop consultation offices
- Collaborate with activities under the Fundamental Plan for National Resilience, etc. and the Basic Plan for the Advancement of Utilizing Geospatial Information; **Consider ideal public organizations that facilitate the use of Geospatial information, and strengthen government functions and develop a system for promoting projects**

Environmental improvements for facilitating the stable supply of core components for space systems

- Start analysis of the trends of intellectual property concerning space systems in FY2018
- Conduct development and demonstration of the autonomous flight safety, and make strategies on components and component technologies focused on small satellites and rockets**
- Utilize NEDO's superior knowledge on R&D project management also for space components
- Launch the 1st innovative technologies demonstration satellite** in FY2018
- Provide on-orbit demonstration opportunities (microsatellites released from the ISS, piggyback on H-II A/B rockets, etc.)

Initiatives aimed at expanding future space utilization

- Conduct indoor-outdoor seamless navigation demonstration tests by FY2019 ahead of the Tokyo Olympics and Paralympics Games
- Perform **demonstration tests of LNG propulsion systems, R&D on reusable space transportation systems, and space solar power generation**, and promote the use of space weather forecast
- Regarding on-orbit compensation and exploration and development of space resources, promote deliberations and efforts necessary for environmental improvements to back up private businesses**
- Develop **a space debris removal system, etc.** and create international rules

Measures to strengthen systems and frameworks supporting the development and use of space as a whole

Comprehensive strengthening of the policy promotion framework

Strengthening of survey, analysis, and strategic planning functions

Comprehensive strengthening of domestic human capital and increase of public awareness

- Introduce a tenure-track system, making the most of international projects and other opportunities, in FY2018**
- Begin deliberations for strengthening human capital in the space industry and consider measures for increasing human resources mobility

Updating of the laws pertaining to space utilization

- Develop Cabinet Orders and Ministerial Orders for the enforcement and implementation of the space activities law in FY2018

Promotion of space diplomacy and strengthening of strategies for international outreach in space-related fields

Work to establish and strengthen the international rule of law in outer space

- Contribute to the rulemaking as part of the international community

Overseas sharing of space systems

- Promote utilization of satellite data for the management of the marine affairs and fishery resources in Indonesia
- Support dissemination of high-accuracy positioning services in the Asia-Pacific region, including the installation of a GNSS CORS network in Thailand

Strengthening of international space cooperation

- Promote initiatives for international space exploration by both public and private sectors based on achievements of the ISEF-2**
- Promote international space cooperation based on joint statements with the US and the UK leaders, etc.
- Promote space cooperation in collaboration with the APRSAF and the ERIA, etc.
- Contribute to the SDGs with space technologies