Chapter 4

Build-up of Defense Capability, etc.

Section 1 Build-Up of Defense Capability in FY2020

In FY2020, the Ministry of Defense (MOD)/Self-Defense Forces (SDF) will steadily implement initiatives toward building a Multi-domain Defense Force based on the National Defense Program Guidelines for FY2019 and beyond (NDPG) and the Mid-Term Defense Program (FY2019-FY2023; MTDP).

In particular, in order to realize cross-domain operations, the MOD/SDF will acquire and strengthen more capabilities in new domains, which are space, cyberspace and electromagnetic spectrum. In addition, the MOD/SDF will continue to enhance capabilities in maritime and air domains, stand-off defense capability, comprehensive air and missile defense capability, and maneuver and deployment capability, in order to effectively deal with various situations by employing them in combination with the capabilities in the new domains. Moreover, in addition to enhancing the sustainability and resiliency of defense capability including logistics support, Japan gives priority to reinforcing the human resource base in light of the aging population with a declining birth rate and reinforcing the technology base due to advances in military technologies. The MOD/SDF will also strengthen the Japan-U.S. Alliance as well as security cooperation with other countries in view of changes in the security environment.

At the same time, in this process, the MOD/SDF will strengthen its defense capability at speeds that are fundamentally different from the past and by allocating resources flexibly and intensively. Furthermore, the MOD/SDF will further promote jointness of the Ground, Maritime and Air Self-Defense Forces in all areas and, avoiding a stove-piped approach, optimize their organizations and equipment.

In addition, considering the increasingly severe fiscal conditions and other factors, Japan will strictly work to achieve greater efficiency and streamlining.

See Fig. II-4-1-1 (Main Projects of Build-up of Defense Capabilities for FY2020 [Priorities in Strengthening Capabilities Necessary for Cross-domain Operations])

Column Capability Enhancement regarding Space, Cyberspace and Electromagnetic Domains as Part of the Buildup of Defense Capability in 2020

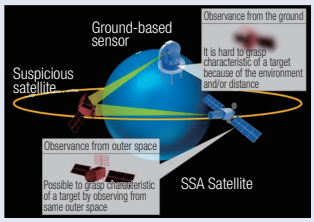
Under the fiscal year 2020 budget, the SDF will steadily acquire and enhance capabilities in new domains, such as the space, cyberspace and electromagnetic domains, in light of the National Defense Program Guidelines and the Mid-Term Defense Program.

Regarding the space domain, in order to secure stable use of space, the SDF will proceed with activities such as (i) the development of the organizational structure, including the establishment of the new Space Operations Squadron, (ii) the development of the Space Situational Awareness (SSA) System and SSA satellites (space-based optical telescopes), and (iii) acquisition of equipment capable of identifying the status of electromagnetic interference against Japanese satellites.

Regarding the cyberspace domain, in order to technologically enhance the cyberspace defense capability, the SDF will implement projects to secure and foster highly skilled personnel, including projects to (i) strengthen the organizational structure, including by increasing the staff of the Cyber Defense Group, (ii) make use of the most advanced technology concerning cyberspace, including the use of artificial intelligence and the development of information gathering equipment, and (iii) dispatch SDF personnel to study in special courses at the U.S. National War College and develop an organizational structure of cyberspace education at the GSDF Signal School and High Technical School.

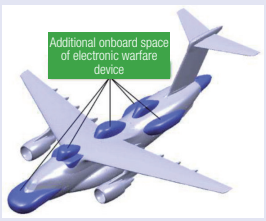
Regarding the electromagnetic domain, in order to acquire superiority in the domain, the SDF will implement projects related to training, exercises and human resource development, including projects to (i) enhance the organizational structure, such as the establishment of a new electronic warfare unit, (ii) conduct research and development of the equipment, such as stand-off electronic warfare aircraft, (iii) strengthen capability of electromagnetic spectrum management through study on technology to support the management of electromagnetic spectrum, and (iv) participate in international exercises.

Through these activities, the SDF will promote the development of truly effective defense capability by acquiring and enhancing capabilities in these new domains.



SSA satellite (image)


Implementation of the common course of cyberspace education (image)



Stand-off electronic warfare aircraft (image)

Fig. II-4-1-1 Main Projects of Build-up of Defense Capabilities in FY2020 (Priorities in strengthening capabilities necessary for cross-domain operations)

Capabilities that should be acquired and strengthened	Outline
Capabilities in Space Domain	○Development of systems for Space Operations Squadron, etc. ・Establishment of Space Operations Squadron in the ASDF ・Establishment of Space Domain Planning Group (tentative name) in the Joint Staff ○Development of the SSA system ○Development of SSA satellites (space-based optical telescopes) ○Strengthening of information-gathering capability using outer space, etc.
Capabilities in Cyber Domain	○Enhancement of systems of Cyber Defense Group, etc. ・Expansion of the system of Cyber Defense Group (from about 220 personnel to about 290 personnel) ・Establishment of Cyber Protection Group (tentative name) in the GSDF ○Enhancement and strengthening of the system and network ○Securing and development of cyber talents ○Utilization of cutting-edge cyber technologies, etc.
Capabilities in the Electromagnetic Domain	○Research and development of devices to neutralize the radar of opponents who intend to invade Japan ・Development of stand-off electronic warfare aircraft ・Research on anti-air electronic war devices ○Strengthening of capabilities to minimize electromagnetic jamming from opponents who intend to invade Japan ・Procurement of fighters (F-35A/B) with superior electronic protection capability ・Improvement of electronic warfare capabilities of F-15 fighters ○Enhancement of systems of electronic warfare units ・Establishment of Electronic Warfare Unit in the GSDF ○Enhancement of electromagnetic information gathering and analysis capabilities ○Enhancement of capability of electromagnetic management, etc.
Capabilities in Maritime and Air Domains	○Procurement of P-1 patrol aircraft (× 3) ○Procurement of SH-60K patrol helicopters (× 7) ○Refurbishment of SH-60K patrol helicopters to rescue specification ○Life extension of EP-3 signal reconnaissance aircraft ○Construction of destroyers (× 2), a submarine, and a minesweeping vessel ○Establishment of Temporal Unmanned Aerial Vehicle Unit (tentative name) ○Establishment of Squadron for Aerial Refueling and Transport ○Partial refurbishment of Destroyer JS "Izumo" for takeoff and landing by F-35B ○Establishment of F-35A squadron in Misawa Air Base ○Japan-led development of F-X ○Introduction of small UUV for underwater defense, etc.
Stand-off defense capability	○Procurement of stand-off missiles, etc.
Comprehensive air and missile defense capability	○Procurement of SM-3 Block IIA ○Modification to the Patriot system ○Research and study on the concept of the comprehensive air and missile defense capability, etc.
Maneuver and deployment capability	○Procurement of type-16 mobile combat vehicles (× 33) ○Procurement of type-19 155mm wheeled self-propelled howitzers (× 7) ○Research on testing device for future amphibious technology ○Maneuver, deployment and field training in remote islands by rapid deployment division and brigade
Sustainability and resilience	○Procurement of Type-20 5.56-mm rifle (× 3,283) ○Procurement of 9mm pistol SFP9 (× 323), etc.

Type-20 5.56-mm rifle to be newly introduced to the GSDF

MSDF Destroyer JS "Izumo," which is to be partially renovated to enable landing and take-off of F-35B fighters

F-35B fighter aircraft

Video : Flight Test of ASDF F-35A (courtesy of Lockheed Martin)
URL : https://youtu.be/nuK38slHFfQ

Video : Landing of F-35B (STOVL) (courtesy of F-35 Lightning II Joint Program Office)
URL : https://youtu.be/iqupeS4VXoA