

防衛省

Ministry of Defense

Defense Programs and Budget of Japan

Overview of FY2021 Budget Request



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Concept of FY2021 Budget Request

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Defense Programs and Budget of Japan

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Concept of FY2021 Budget Request

- 1 Japan will steadily improve its defense capabilities as the third year of the "Medium Term Defense Program (FY2019 – FY2023)" (MTDP) (approved by the Cabinet on December 18, 2018) based on the "National Defense Program Guidelines for FY2019 and beyond" (approved by the Cabinet on December 18, 2018) in order to build a truly effective defense capability, "Multi-Domain Defense Force."
- 2 Japan will prioritize reinforcement of the human resource base in the face of an aging population with declining birth rates. In order to realize cross-domain operations, the Self-Defense Forces (SDF) will acquire and strengthen capabilities in new domains, which are space, cyberspace and the electromagnetic spectrum, by focusing resources and leveraging Japan's superb science and technology. In addition, the SDF will enhance capabilities in the maritime and air domains, stand-off defense capability, comprehensive air and missile defense capability and maneuvering and deployment capability to effectively respond to various situations during cross-domain operations in close combination with capabilities in new domains. Furthermore, to be able to sustain a range of requisite activities at all stages from peacetime to armed contingencies, the sustainability and resiliency of defense capability including logistics support will be enhanced. Moreover, Japan will reinforce the technology base regarding advances in military technology, as well as strengthen the Japan-U.S. Alliance and security cooperation with other countries in light of changes in the security environment.
- 3 In order to adapt to increasingly rapid changes in the security environment, Japan will strengthen its defense capability at speeds that are fundamentally different from the past. Japan will strengthen its defense capability effectively by allocating resources flexibly and intensively without necessarily adhering to the existing budget and human resource allocation. Furthermore, the SDF will further promote joint-ness of the Ground, Maritime and Air Self-Defense Forces (GSDF/MSDF/ASDF) in all areas, avoid a stove-piped approach and optimize their organizations and equipment.
- 4 Considering the increasingly severe fiscal conditions and the importance of other budgets related to people's daily life, Japan will work to achieve greater efficiency and streamlining through various measures to streamline procurements while harmonizing with other policies and measures of the Government.

I Defense-Related Expense

Overall Defense-Related Expense

[Expenditures (three categories)]

(Unit: ¥100 million)

Categories	FY2020 Budget	YoY change	FY2021 Budget request	YoY change
Defense-related expenses	50,688 (53,133)	618[1.2] (559 [1.1])	54,897 (54,898)	4,210 [8.3] (1,764 [3.3])
Personnel and provisions expenses	21,426	△405 [△1.9]	22,167	741 [3.5]
Material expenses	29,262 (31,708)	1,023 [3.6] (964 [3.1])	32,730 (32,731)	3,468 [11.9] (1,023 [3.2])
Obligatory outlay expenses	19,336 (20,326)	905 [4.9] (651 [3.3])	22,337 (22,338)	3,001 [15.5] (2,012 [9.9])
General material expenses *(activity expenses)	9,926 (11,382)	118 [1.2] (314 [2.8])	10,393 (10,393)	467 [4.7] (△989 [△8.7])

(Note)

- []: growth rate (%).
- Figures may not add up to the total due to rounding (the same hereafter).
- The upper figures in each cell do not include SACO-related expenses, U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities) and expenses related to the three-year emergency measures for disaster prevention/mitigation and building national resilience. The lower figures in parentheses indicate the expenses that include those above.

The amount of the SACO-related expenses is:

FY2020: ¥13.8 billion; FY2021: [Item Request without specific amount of budget]

The U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities) are:

FY2020: ¥179.9 billion; FY2021: [Item Request without specific amount of budget]

Expenses related to the three-year emergency measures for disaster prevention/mitigation and building national resilience (FY2018 to FY2020) are:
FY2020: ¥50.8 billion.

- The abovementioned SACO-related expenses and the U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities), and Aegis Ashore alternatives-related expenses and expenses related to counter-terrorism measures for the Tokyo Olympic and Paralympic Games are listed as Item Requests without a specific amount of budget.

[Future Obligation Concerning New Contracts]

(Unit: ¥100 million)

Categories	FY2020 Budget	YoY change	FY2021 Budget request	YoY change
Future obligations concerning new contracts	24,050 (25,633)	37 [0.2] (△149 [△0.6])	26,712 (26,712)	2,662 [11.1] (1,079 [4.2])

(Note)

- []: growth rate (%).
- The upper figures in each cell do not include SACO-related expenses and U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities). The lower figures in parentheses indicate the expenses that include those above.

The amount of the SACO-related expenses is:

FY2020: ¥6.9 billion; FY2021: [Item Request without specific amount of budget]

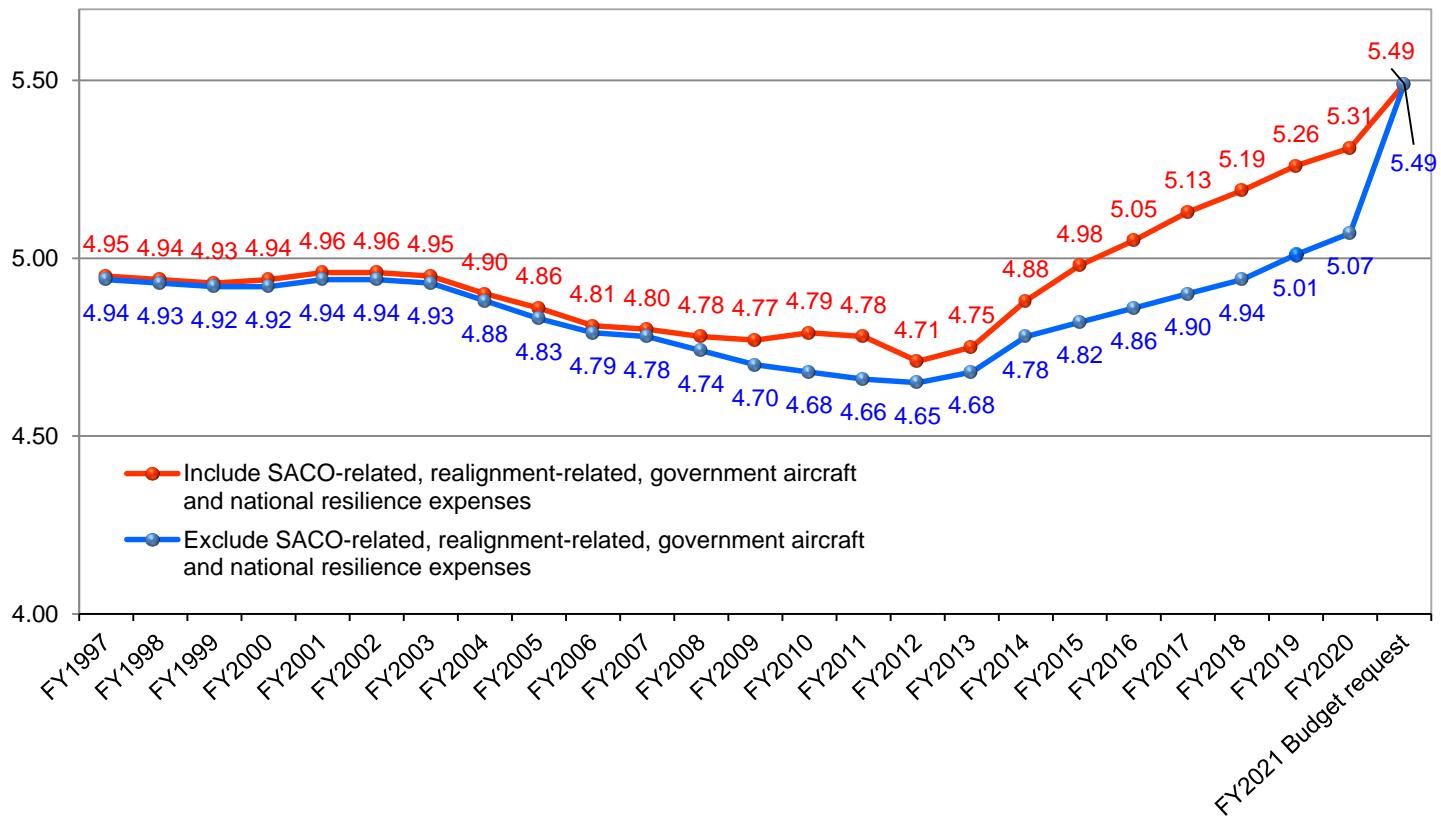
The U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities) are:

FY2020: ¥151.3 billion; FY2021: [Item Request without specific amount of budget].

Changes in the Defense-Related Expense

Changes in the Total Amount

(Unit: ¥1 trillion)



Changes in the Growth Rate

(Unit: %)

Categories	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010
Include SACO-related, realignment-related, government aircraft and national resilience expenses	2.1	△0.2	△0.2	0.1	0.4	0.0	△0.1	△1.0	△1.0	△0.9	△0.3	△0.5	△0.1	
Exclude SACO-related, realignment-related, government aircraft and national resilience expenses	2.0	△0.3	△0.2	0.0	0.3	0.0	△0.3	△1.0	△1.0	△0.8	△0.2	△0.8	△0.8	

区分	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021
Include SACO-related, realignment-related, government aircraft and national resilience expenses	△0.3	△0.3	△1.3	0.8	2.8	2.0	1.5	1.4	1.3	1.3	1.1	3.3
Exclude SACO-related, realignment-related, government aircraft and national resilience expenses	△0.4	△0.4	△0.4	0.8	2.2	0.8	0.8	0.8	0.8	1.4	1.2	8.3

Note: The above figures are on an expenditure basis.

Notes 1: Numbers in the text represent [expenses, excluding non-recurring costs](#), that are required for the production of equipment, unless otherwise specified.

2: Numbers in the text are [on a contract base](#), unless otherwise specified.

3: [Blue text](#) indicates [new programs](#).

II Initiatives to Improve the Attractiveness of the SDF

As equipment becomes more advanced and complex and missions become more varied and internationalized while the population is rapidly shrinking and aging with declining birth rate, the Ministry of Defense (MOD)/SDF will strive to secure diverse, high-quality talents from a wider range of people and also promote initiatives on a priority basis towards the establishment of an environment that enables all SDF personnel to maintain high morale and continue to fully exercise their abilities.

1 Promotion of Measures to Secure Highly-Qualified Personnel

Enhancement of Recruitment Programs

- Recruitment advertising videos (¥300 million)
Promote recruitment advertisement targeted at potential applicants and their parents, by means of creating appealing recruitment videos that can be popular on social media and utilizing advertising banners.
- Holding web seminars (¥2 million)
Hold online recruiting sessions to have more students understand the attractiveness to work as a the SDF personnel, so that MOD can secure human resources in a stable manner even in the times of self quarantine due to novel coronavirus disease (COVID-19).
- Recruitment of female SDF personnel (¥2 million)



Recruitment advertising videos



Web seminar (conceptual image)

Enhancement of Re-employment Support Programs

- Financial support for higher education for the uniformed SDF personnel in fixed term system after completing tenure(¥80 million)
In order to maintain and increase the number of fixed-term, reserve, and ready reserve personnel, MOD established a grant-type scholarship to cover a part of the enrollment fee and tuition for the uniformed SDF personnel in fixed term system who enters university in Japan after completing their tenure, upon a condition that they serve as reserve or ready reserve personnel while in university.
- Establishment of new vocational training courses (¥4 million)
 - In order to expand re-employment opportunities for female SDF personnel, MOD established new courses that allow participants to obtain qualifications for registered sales clerk, financial planner, or dispensing pharmacy clerk.
 - As the raise in upper age limit for employment created more needs, to expand re-employment opportunities for those who already have certain qualifications, MOD established new courses that allow participants to obtain qualification for electrical work construction management engineer, fire fighting equipment inspector, or gas welding operations chief.
- Vocational training for female uniformed SDF personnel (¥10 million)



Vocational training (field draining)

Others

- Promotion of measures to prevent harassment (¥20 million)
 - Provide consultation services by lawyers
 - Group education on harassment prevention

2 Promotion of Further Participation of Female Personnel and Working Style Reform and Improvement of Living and Work Environment

Further promoting greater engagement of female personnel through expanding recruitment and appointment, while implementing and enhancing measures concerning the work-life balance and improvement of living and work environment

Promotion of Further Participation of Female Personnel

- Development of foundation of education/living/work environment for female uniformed SDF personnel (¥5 billion)
 - Improve secured sections for female personnel in barracks
 - Make renovations to improve living and work environments for female SDF personnel (renovations of lavatory and bathing facilities)
 - Improve education infrastructure for female uniformed SDF personnel
 - Improve sections for female personnel on ships (MSDF)



Image after the renovation

Improvement of section for female personnel (barracks; installation of a door to separate section for female personnel)



Image after the renovation

Improvement of section for female personnel (turning men's lavatory into women's)

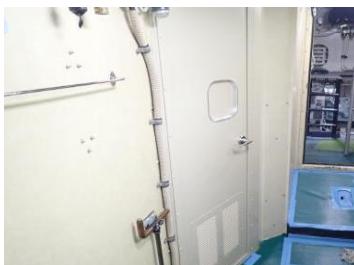


Image after the renovation

Improvement of section for female personnel (submarines; installation of a passage door in front of the shower room)

- Mentor training, inviting external counselors for female SDF personnel, and securing consumable supplies for women in the event of a disaster, etc. (¥70 million)
- Reorganization of the Female SDF Personnel Training Unit
Improve the education system of the Female SDF Personnel Training Unit for the promotion of the activities of women in the GSDF

Promotion of Female Personnel's Engagement in International Cooperation, etc.

- Dispatch personnel to NATO gender-related annual meeting
Dispatch female SDF personnel to the gender-related annual meeting and other occasion hosted by NATO for developing the system and human resources to bring the perspective of gender into PKO activity, etc.

* Gender: Distinction between men and women formed historically, socially, and culturally, such as the “male image” and “female image,” different from sex that shows the biological difference between males and females

Improvement of Work Environment for Working Style Reform

- Procurement of remote-work terminals to prevent the spread of infectious diseases such as COVID-19 and to ensure the continuity of operations in the event of the spread of such diseases (¥500 million)
- Improvement of the work environment by promoting a paperless office and space-saving operations to create a better workplace (¥40 million)

Support for Work-Life Balance

- Improvement of workplace nurseries (¥80 million)
Improve workplace nurseries corresponding to working patterns of SDF so that the child rearing personnel can engage in their duties without concerns
 - Improvement of workplace nurseries (GSDF and ASDF)
 - Provision of supplies in workplace nurseries

- Provision of supplies for temporary child-care service in case of emergency operations (¥20 million)
 - Provide supplies (safety mats, cribs, etc.) for temporary child-care service in case of emergency operation
 - Implement temporary child-care service drills, assuming emergency operations
 - Participate in courses designed to improve child-care skills for temporary child-care service in case of emergency operations



Children playing in the garden of the workplace nursery



Scene of temporary child-care service drill assuming emergency operations

Implementation of Education and Training for Raising Awareness

- Effort to eliminate conventional mindset about gender roles in the workplace and create a work environment that enables all personnel, including those under time constraint due to child-care or nursing care, to make full use of their ability (¥30 million)
 - Conduct seminars for raising awareness, etc.
 - Collective training for promoting gender equality, etc.
 - Production and distribution of pamphlets featuring roles played by female personnel and supporting for work-life balance, etc.



A scene of the collective training

Improvement of Living and Work Environment

- Construct and maintain SDF facilities and secure equipment and daily necessities to improve the living and work environment for SDF personnel, including those necessary for adapting to the “New Normal”, so that they can focus on their duties with high morale
 - Constructing and maintaining SDF facilities (¥57.4 billion)
 - Procurement of fixtures and daily necessities, etc. (¥4.4 billion)
 - Procurement of uniforms, etc. (¥13.9 billion)
 - Development of foundation of education/living/work environment for female SDF personnel (¥5 billion; repost)



Provision of supplies

III Priorities for Strengthening Capabilities Necessary for Cross-Domain Operations

Japan will build a defense capability, which organically fuses capabilities in all domains including space, cyberspace and electromagnetic spectrum; and is capable of sustained conduct of flexible and strategic activities during all phases from peacetime to armed contingencies, as the security environment surrounding Japan becomes more severe and uncertain at remarkably fast speeds.

1 Acquiring and Strengthening Capabilities in Space, Cyber and Electromagnetic Domains

In order to realize cross-domain operations, the SDF will acquire and strengthen capabilities in new domains, which are space, cyberspace and electromagnetic spectrum, by focusing resources and leveraging Japan's superb science and technology.

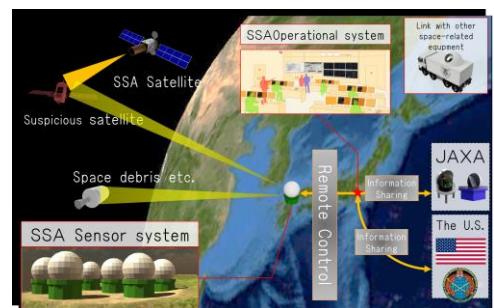
(1) Capabilities in Space Domain

Space-related budget: ¥72.4 billion*

* Excluding the portion related to ballistic missile defense (BMD) allocated for space

Enhancement of SSA (*)

- Procurement of SSA satellite (space-based optical telescope) (¥21.1 billion)
 - Start to design the SSA satellite that is scheduled to be launched in FY2026
 - Conceptual study on operation of multiple SSA satellites
 - Research on On-orbit satellite servicing
- Development of SSA systems (¥11.8 billion)
 - Procure necessary related components to perform SSA in cooperation with the U.S. and the relevant domestic organizations



Enhancement of SSA (conceptual image)

* SSA: Space Situational Awareness

Study on utilization of satellite constellations for missile defense

- Study on concept of HGV detection and tracking systems utilizing satellite constellation (¥200 million)
 - * HGV: Hypersonic Glide Vehicle
- Research on infrared sensor with high sensitivity and broad detection range (¥1.5 billion)

Enhancing Space Resilience

- Enhance resiliency of satellite communication system (¥1 billion)
 - Develop a system that enables seamless interoperability between X-band defense communication satellites and other commercial communication satellites
- Enhance resiliency of satellite positioning capability by utilizing “QZSS” (¥400 million)
 - Research on multi-GNSS (= Global Navigation Satellite System) receiver

Research on a common receiver for positioning signals from Michibiki (including dedicated public signals*), GPS, and Galileo in order to improve the resilience of satellite positioning capability

* Dedicated public signals: Signals that can only be used by government-approved users

Strengthening Information-Gathering Capability Using Outer Space

- Use of data from imagery satellites (¥15.2 billion)
 - Procurement of data for image analysis (various commercial satellites, including small satellite constellations which allow frequent imaging)
 - Acquiring satellite information which contributes to maritime surveillance
- Utilize of satellite communication (¥11.3 billion)
 - Development and maintenance of X-band defense communication satellite
 - Leasing of commercial communication satellite lines, development and maintenance, etc. of satellite communication equipment



*X-band defense communication satellite
(conceptual image)*

Enhancement of the System

- Establish “Space Operations Group (tentative name)”
Establish a new command and control unit in the space domain, and create the Space Operation Group (tentative name) with this unit and the Space Operation Squadron as subordinate units
- Establish “Outer Space Project Management Section (tentative name)” under the Project Management Division(Communications and Electronic Systems, Ordnance and Vehicles),and changing the division name to “Project Management Division (Outer Space and Land Equipment(tentative name)” of the ATLA for the management of space-related projects



Logo for Space Operations Squadron

Other Measures Related to Space Policy

- International cooperation with other countries (¥200 million)
 - Acquire knowledge concerning matters related to outer space by dispatching personnel to “Space 100” or other courses provided at a U.S. Air Force base in the U.S. state of Colorado
 - Participate in multilateral table-top exercises in the field of outer space

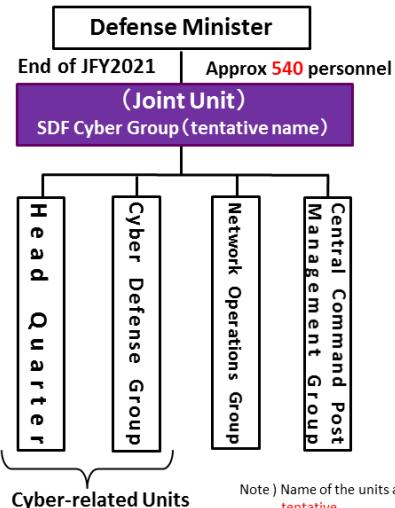
* Budget related to BMD (only the space-related portion): ¥51.3 billion

Cyber-related budget: ¥35.7 billion

(2) Capabilities in Cyber Domain

Enhance Posture of Cyber Defense Group, etc.

- Establish the JSDF Cyber Defense Command (tentative name)
Abolish the SDF C4SC (Command, Control, Communication & Computers Systems Command) and establish the Japan Self Defense Force Cyber Defense Command- (tentative name).
Integrate the cyber protection functions by transferring personnel from the cyber-related units of the GSDF, MSDF, and ASDF to the JSDF Cyber Defense Command, with a view to fundamentally strengthening cyber defense capabilities and enabling more effective and efficient mission execution.



Securing/Developing Cyber Workforce

- Recruit the chief cyber security advisors (high-level cyber security personnel) (¥20 million)
Employ private-sector talents with advanced knowledge in cyber security, including the latest cyber technologies and trends in cyber domain
- Development of a highly skilled workforce in cyber security (¥7 million)
Conduct training at external educational institutions to accelerate the development of a highly skilled workforce with advanced cyber security knowledge and skills
- Expand and improve the common cyber course at the GSDF Signal School
(¥80 million)
Expanding the scale of the common cyber education program that has been implemented for the GSDF, MSDF, and ASDF since FY2019 to promote human resources development in an integrated manner
- Participate in the U.S. Cyber Commander Education Courses (¥30 million)
Participate in courses at the U.S. educational institutions such as National Defense University (NDU) to learn knowledge required for the commanders of cyber warfare



Common cyber course
(conceptual image)

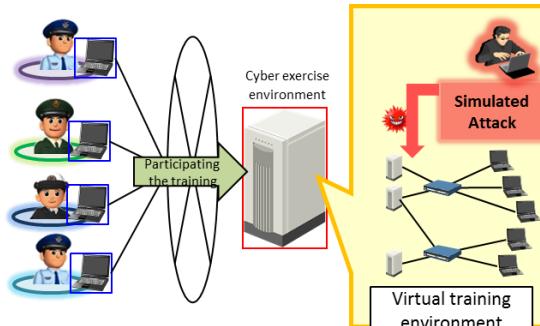
Utilizing Cutting-Edge Technology in the Field of Cyberspace

- Study technology for responding to cyber attacks targeting information processing system on equipment (¥2.1 billion)
Conduct research on cyber resilience* technology for equipment to ensure continuous operation by information processing systems of the MOD/SDF's equipment even under cyber attacks

*Cyber resilience: The ability to flexibly respond to recover to an operational state in the event of a partial functional failure of a system or network due to a cyber attack, etc.

Development of Practical Training Environment

- Development of cyber training environment (¥1.6 billion)
Install shared equipment for all cyber-related units of the SDF and conduct practical training on response to cyber attacks



Operation of cyber training environment (conceptual image)

Improving Security of System Network

- Improve cyber protection analyzing devices (¥5.4 billion)
Improve devices in order to gather and analyze information on the tactics, techniques and procedures (TTPs) of cyber attacks, and respond to cyber attacks against the MOD/SDF
- Utilize of external resources in dealing with cyber attacks (¥2.7 billion)
Leverage external resources for tasks requiring a high level of expertise in dealing with cyber attacks
- Improvement of the Defense Information Infrastructure (DII) (closed) (¥8.1 billion)
Improve the closed system of the DII to prevent cyber attacks by intruders.

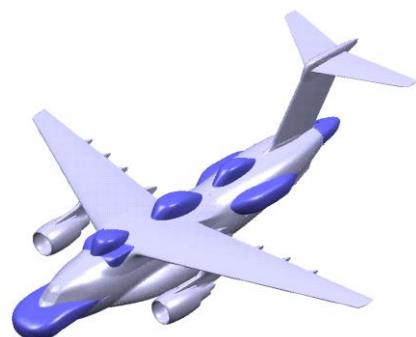
Reinforcement of Measures on Information Security

- Establish the Industrial Cybersecurity Office (tentative name) in the Equipment Security Management Division of the ATLA in order to promote various information security measures for the defense industry

(3) Capabilities in Electromagnetic Domain

Reinforcement of Capabilities for Neutralizing the Radar of an Opponent Invading Japan

- Development of stand-off electronic warfare aircraft (¥15.3 billion)
Develop stand-off electronic warfare aircraft to support SDF air operation by conducting effective communication jamming
- Procure network electronic warfare system (1 set: ¥8.8 billion)
Procure the GSDF's network electronic warfare system to have an advantage in operations by collecting and analyzing signals and neutralizing communication.
- Study naval vessels' radio detection and jamming capabilities (¥20 million)
Demonstrate and verify the improved capabilities of radio detection and jamming devices, which detect and emit radio waves from aircraft and missiles to neutralize them.



Development of stand-off electronic warfare aircraft



Network electronic warfare system

Strengthening capability to minimize electromagnetic jamming from opponent attempting to invade Japan

- Procure fighters (F-35A) (4 fighters: ¥40.2 billion)
Procure F-35A with superior electronic protection capability and secure air superiority.
Include another ¥59.1 billion in the request as other related cost (maintenance equipment, etc.)



Fighter (F-35A)

- Procure fighters (F-35B) (2 fighters: 26.4 billion)
Procure F-35Bs with superior electronic protection capability and STOVL capability to improve flexibility of fighter operation
Include another ¥10.6 billion as other related cost (maintenance equipment, etc.)



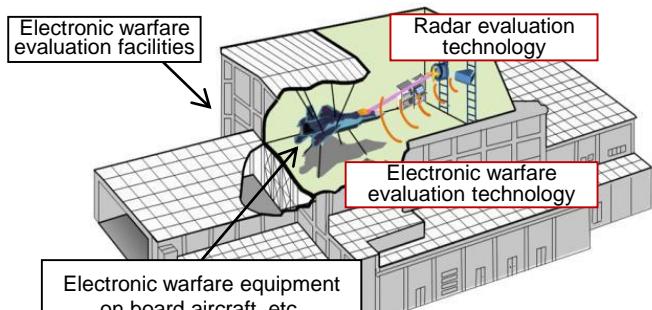
Fighter (F-35B)

- Improve capability of fighters (F-15)
Perform the modifications necessary to improve the capabilities of the F-15, including those for electronic warfare
*See p.14 for the detail of the program



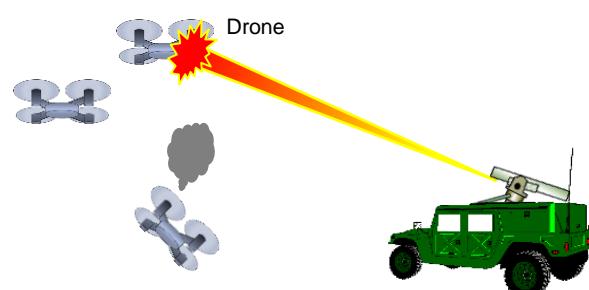
Improvement of capability of fighters (F-15)

- Research on decoy systems for naval vessels (¥30 million)
Conduct research on future naval pseudo-wave generators (decoys) to respond to the threat of high-performance anti-ship missiles



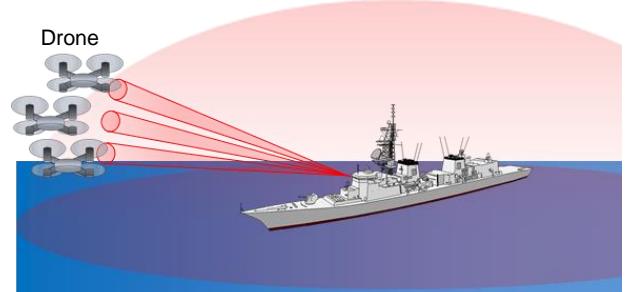
Research on electronic warfare evaluation technology (conceptual image)

- Research on electronic warfare evaluation technology (¥3.5 billion)
Study future electronic warfare evaluation systems to accurately understand and evaluate the performance of increasingly sophisticated electronic warfare devices and equipment



Demonstrate vehicle-mounted Counter drone laser system (conceptual image)

- Demonstrate vehicle-mounted counter drone laser system (¥3.3 billion)
Demonstrate high-power laser system which can effectively counter future threat such as drones.



Research on high power microwave (HPM) generator (envisioned image of the ship)

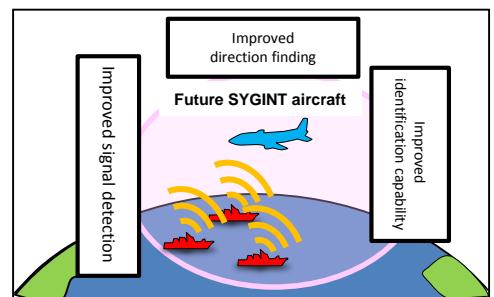
- Research on HPM generator (¥1.1 billion)
Conduct research on miniaturization and enhancement of high-powered microwave (HPM) generators for future practical use

Strengthening Intelligence Capability Related to Electromagnetic Spectrum

- Procure devices mounted on radio wave information gathering aircraft (RC-2) (¥7.1 billion)
Enhance the information gathering function, obtain a radio information collector with improved capabilities, including an expanded frequency range of received radio waves and enhanced long-distance target collection capability, as a successor to the current radio information collector (YS-11EB)
- Research on information gathering system for the next generation electronic intelligence gathering aircraft (¥5 billion)
Conduct research to improve the signal detection, direction finding, and identification capabilities of the information-gathering system for aircraft systems towards development of a successor (next-generation electronic information-gathering system) to the EP-3, which is expected to be decommissioned in the future.



Radio wave information gathering aircraft ((RC-2))



Research on information gathering system for next generation electronic intelligence gathering aircraft (conceptual image)

Strengthening Posture of Communication and Information Sharing

- Improve the Tactical Datalink (¥10.8 billion)
Improve the tactical datalink of aircraft and vessels for swift forwarding/sharing of the target information

Protection of Facilities from Electromagnetic Pulse (EMP) Attacks, etc.

- Study maintenance methods to stably keep and maintain the electromagnetic pulse (EMP) protection of SDF facilities (¥40 million)

Training/Exercise, Developing Personnel

- Joint electronic warfare training (¥20 million)
Conduct joint electronic warfare training among the GSDF, MSDF, and ASDF to enhance operational capabilities in the electromagnetic domain
- Participate in table-top exercise hosted by the Royal Navy (¥4 million)
Participate in comprehensive exercise including electromagnetic domain hosted by the Royal Navy
- Dispatch personnel to an educational course of electronic warfare in the U.S. (¥4 million)
Dispatch personnel from the ASDF to the electronic warfare operation course for officers conducted in the U.S. and acquire command and control capability regarding operation in electronic warfare
- Participate in electronic warfare symposium held in the U.S., etc. (¥2 million)
Dispatch personnel to electronic warfare symposia held in the United States and other countries to collect information on the latest electronic warfare technologies



Joint electronic warfare training (conceptual image)

2 Enhancing Capabilities in Traditional Domains

The SDF will enhance capabilities in maritime and air domains, stand-off defense capability, comprehensive air and missile defense capability and maneuvering and deployment capability to effectively counter attacks by aircraft, ships and missiles during cross-domain operations in close combination with capabilities in space, cyber and electromagnetic domains.

(1) Capabilities in Maritime and Air Domains

Strengthening a Posture for Persistent ISR (Intelligence, Surveillance and Reconnaissance)

- Improvement of capability of the Japan Aerospace Defense Ground Environment (JADGE) (¥22.4 billion)
Improve detection/identification and information processing capabilities to respond to airborne threats through centralized command and control



Fixed-wing patrol aircraft (P-1)

- Procurement of fixed-wing patrol aircraft (P-1)
(3 aircraft: ¥68 billion)
In response to decommissioning of existing fixed-wing patrol aircraft (P-3), procure P-1s as its successor



Fixed-wing patrol aircraft (P-3C)

- Life extension of fixed-wing patrol aircraft (P-3C)
(4 aircraft: ¥1.6 billion)
Implement life extension measures for P-3Cs to maintain the number of fixed-wing patrol aircraft



Patrol helicopter (SH-60K)

- Refurbishment of a patrol helicopter (SH-60K) to rescue specification (1 helicopter: ¥1 billion)
Refurbish an SH-60K to rescue specification to maintain rescue capability

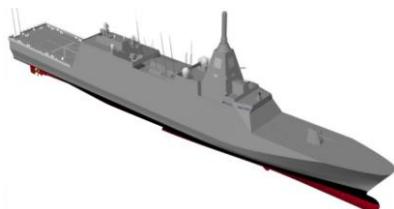
- Life extension of patrol helicopters (3 helicopters: ¥7.3 billion)
Implement life extension measures for SH-60Ks to maintain the number of patrol helicopters

- Procurement of a search and rescue amphibian (US-2)
(1 amphibian: ¥13.9 billion)
Procure US-2 to maintain rescue capability at sea



Search and rescue amphibian (US-2)

- Construction of destroyers (2 ships: ¥9.9 billion)
Construct two destroyers (seventh and eighth ships of FFM (3,900 t class) built in FY2018), equipped with compact hulls and improved multirole capability (such as mine countermeasures, which were conventionally served by minesweeping vessels); bringing the total number of destroyers to 54.



FY2021 destroyer (3,900 t)
(conceptual image)

- Life extension of destroyers
(life extension for 4 ships and parts procurement for 4 ships: ¥12.4 billion)
Implement life extension measures for the Murasame-class, Kongo-class and Abukuma-class destroyers to maintain the number of destroyers

- Construction of a submarine (1 ship: ¥69.1 billion)
Conduct information gathering in the waters around Japan with 22 submarines
 - Construct a submarine (fifth ship of new class ship (3,000 t class) built in FY2017) with enhanced capability (detection, etc.) to effectively carry out warning and surveillance activities



FY2021 submarine (3,000 t)
(conceptual image)

- Life extension of submarines (life extension for 9 ships and parts procurement for 4 ships: ¥6.5 billion)
Implement life extension measure for Oyashio-class and Soryu-class submarine to increase the total number of submarines from 16 to 22



Soryu-class submarine
(2,900 t)

Obtaining and Maintaining Air Superiority

- Procurement of fighters (F-35A) (4 fighters: ¥40.2 billion; repost)
- Procurement of fighters (F-35B) (2 fighters: 26.4 billion; repost)
- Improvement of capability of fighters (F-15) (¥21.3 billion)
Upgrade to integrate stand-off missiles, increase ammunition payload, and improve electronic warfare capability in order to provide effective defense against surrounding countries' enhanced air forces as well as fulfilling various duties including air defense

- Improvement of capability of fighters (F-2) (¥3 billion)
Designing to upgrade current fighter, improve anti-ship capability and networking capability in order to provide effective defense against surrounding countries' modernized maritime and air forces as well as fulfilling various duties



Fighter (F-2)

- Procurement of rescue helicopters (UH-60J)
(5 helicopters: ¥27.9 billion)
Dealing with decreasing number of UH-60Js in the ASDF, and to maintain/improve the number of rescue helicopters as well as improve the posture to practically cope with various situations



Rescue helicopter (UH-60J)

- Refurbishment of Izumo-class destroyers (¥23.1 billion)
For the safe operation of the F-35B, apply high temperature resistant coating on the flight deck and change the shape of the bow to square



Destroyer "Kaga"

- Procurement of Type-03 Medium-Range Surface-to-Air Missile (modified) (1 set: ¥12.2 billion)
Procure the Type-03 Medium-Range Surface-to-Air Missile (modified) with enhanced capability to respond to low-altitude and high-speed targets in order to strengthen air defense capability



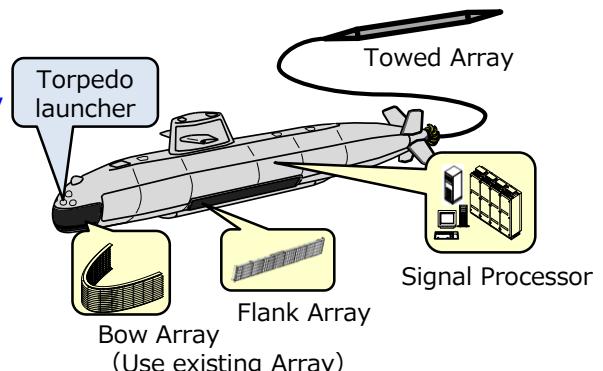
Type-03 Middle-Range Surface-to-Air Missile (modified)

F-X (approx. ¥77.2 billion [including related expenses])

- Development of F-X, etc. (¥58.7 billion)
Steadily develop F-X, continuing the conceptual design of the aircraft and starting on the design of the engine, etc.
- Research on the integration of the mission system of a fighters aircraft (¥6.3billion)
Conduct research the integration technology of the mission system ,which is a basis operation / mission execution capabilities, to control mission system freely through the life cycle.
- Research on technologies used for remotely-operated control-support aircraft (¥1.6 billion)
Conduct research related human machine interface technology necessary to formation flight technology and ,remote-control ,which are required for future remote-control support aircraft that can assist manned aircraft.
- Research on advanced radar technology (¥4.1 billion)
Establish future high performance radar technology for use in airborne applications, which can operate over a wide frequency range and simultaneously provide wide angular coverage, through UK-Japan joint research

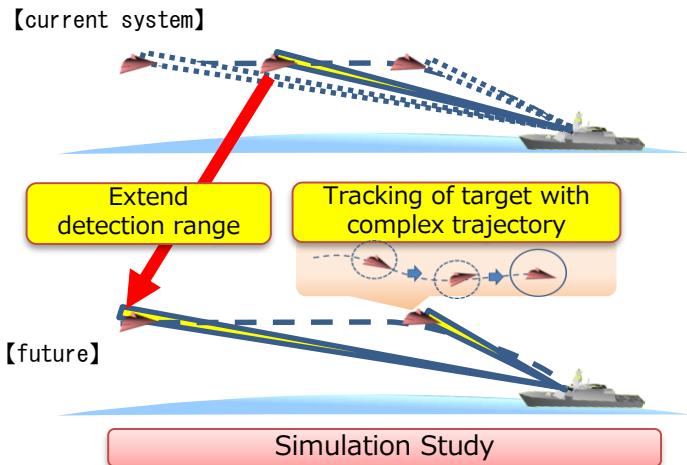
Obtaining and Maintaining Maritime Superiority

- Development of sonar system for future submarines (¥4.8 billion)
Develop sonar system with improved detection capability to ensure and maintain the advantage of the SDF submarines in the underwater domain for the future
- Research on a noise-reducing torpedo-launcher(¥2.3 billion)
Research on reducing sound of torpedo-launcher to make submarines even quieter



Sonar system for future submarines and
noise-reducing torpedo launcher
(conceptual image)

- Research on high-speed, high-maneuvering radar technology (¥1 billion)
Promote simulational research for the improvement of radar detection and tracking and extension of the detection range of high-speed, high-maneuvering targets, such as low RCS* targets and hypersonic missiles
- * RCS: Radar Cross Section



- Procurement of Type-12 surface-to-ship guided missiles (1 set: ¥5.5 billion)
To enhance the anti-ship combat capability, acquire Type-12 surface-to-ship guided missiles with improved capabilities compared to the current Type-88 surface-to-ship guided missiles

High-speed, high-maneuvering radar technology (conceptual image)



Type-12 surface-to-ship guided missiles

(2) Stand-off Defense Capability

- Procurement of stand-off missile (¥17.2 billion)
Procure stand-off missile (JSM) which can react from outside of the opponent's threat range and can be mounted on F-35A
- Procurement of fighters (F-35A) (4 fighters: ¥40.2 billion; repost)
- Improvement of capability of fighters (F-15) (¥21.3 billion; repost)
- Research on Hyper Velocity Gliding Projectile (HVGP) for defense of remote islands (¥22.9 billion)
Continue research on HVGP which glide at high speed and hit the target with high accuracy aiming for early practical use

(3) Comprehensive Air and Missile Defense Capability

BMD-related budget: ¥124.7 billion

Enhancement of Network Functions

- Improvement of capability of electronic warfare information of the Japan Aerospace Defense Ground Environment (JADGE) (¥22.4 billion; repost)
Enhance capabilities to deal with ballistic missiles that fly at low altitudes in an irregular orbit, etc.
- Research on the feasibility of linking FC networks to CEC (¥200 million)
Conduct technical verification of the feasibility of interconnection between the FC network to be installed on Japanese general-purpose destroyers and the CEC to be installed on Maya-type destroyers, etc.

Enhancement and Increase in the Number of Shooters and Guided Missiles

- Procurement of enhanced capability type PAC-3 missiles (PAC-3MSEs) (¥39.1 billion)
Procure PAC-3MSEs capable of both BMD and response to cruise missiles and aircraft, as well as with extended shooting range
- Research on improvement of capability of Type-03 Medium-Range Surface-to-Air Missile (modified) (¥100 million)
Conduct research on the destruct effect of ballistic missile warheads through direct hit-to-kill technology.



PAC-3 MSE (Photo: same model)

- Procurement of Type-03 Middle-Range Surface-to-Air Missile (modified) (1 set: ¥12.2 billion; repost)

- Development of surface-to-air Missile System for Base-air-defense (Improved) and new close-range surface-to-air missile (¥4.5 billion)
Efficiently develop as family missiles the Surface-to-air Missile System for Base-air-defense (Improved), which have improved simultaneous multi-targeting capability and reduced cost, and the new close-range surface-to-air missile, which have improved maneuverability and ability to deal with low-altitude targets



Projectile (common)



Surface-to-air guided missiles for air base defense (modified)



New close-range surface-to-air guided missiles

- Research on HGV intercept system (¥40 million)
Conduct research on the design of interceptor missiles to effectively deal with hypersonic glide weapons

Improvement of Capability of Sensors

- Study on concept of HGV detection and tracking systems utilizing satellite constellation (¥200 million; repost)
- Research on infrared sensor with high sensitivity and broad detection range (¥1.5 billion; repost)
- Research on high-speed, high-maneuvering radar technology (¥1 billion; repost)

Others

- BMD exercises
Maintain and improve SDF's capabilities of BMD and Japan-U.S. bilateral response capabilities
- Aegis Ashore alternatives-related projects (item request without specific amount of budget)

Although it is difficult to determine the budget to be appropriated for the abovementioned expenses in advance at this point in time, it is necessary to reflect the results of discussions in the budget compilation process in view of the importance of the early realization of alternative measures for Aegis Ashore.

(4) Maneuvering and Deployment Capability

- Enhancement of readiness for joint transportation using PFI ships

Enhance the readiness for joint transportation by improving the operational effectiveness of PFI ships through the implementation of an exercise using such ships to transport units and equipment and verification of port entry



Training of joint transportation using PFI ships

- Joint exercises for amphibious operations

Aim to improve SDF's tactical skill in amphibious operation and contribute to joint operation



Joint exercise for amphibious operations

- Procurement of transport aircraft (C-2)
(2 aircraft: ¥51.5 billion)

In view of the decreasing number of current transport aircraft (C-1), procure transport aircraft (C-2) that contribute to the large-scale deployment by improving flight range and payload



Transport aircraft (C-2)

- Research on succeeding equipment to light armored vehicles (¥1.4 billion)

Acquire references that help the selection of a vehicle to replace the light armored mobile vehicle that will ensure the unit's mobility and deployment capabilities



Succeeding equipment to light armored vehicles (conceptual image)

- Procurement of Type-16 mobile combat vehicles
(25 vehicles: ¥19.1 billion)
Strengthen rapid deployment capability of the basic operational units (rapid deployment division and brigade) by deploying Type-16 mobile combat vehicles suitable for rapid and agile operation in various situations



Type-16 mobile combat vehicle

- Procurement of new utility helicopter (UH-2)
(7 helicopters: ¥12.7 billion)
As the successor utility helicopter (UH-1J), procure new utility helicopters (UH-2) which can conduct airborne maneuver and transport, and deploy units immediately



New utility helicopter (UH-2)

- Development of facilities related to deployment of area security unit in the southwestern (¥43.2 billion)
In order to enhance the initial response readiness in the defense of remote islands, develop barrack and other SDF facilities related to the deployment of guard unit in Ishigaki Island, roads etc. within the Bora area in Miyako Island, and ammunition depot in Amami Island (Setouchi-detachment)



Key facilities related to deployment of units (conceptual image)

- Development of facilities related to deployment of Tactical Airlift Wing (¥6.1 billion)
Expenses for the construction of a new site for the Saga Garrison (tentative name)

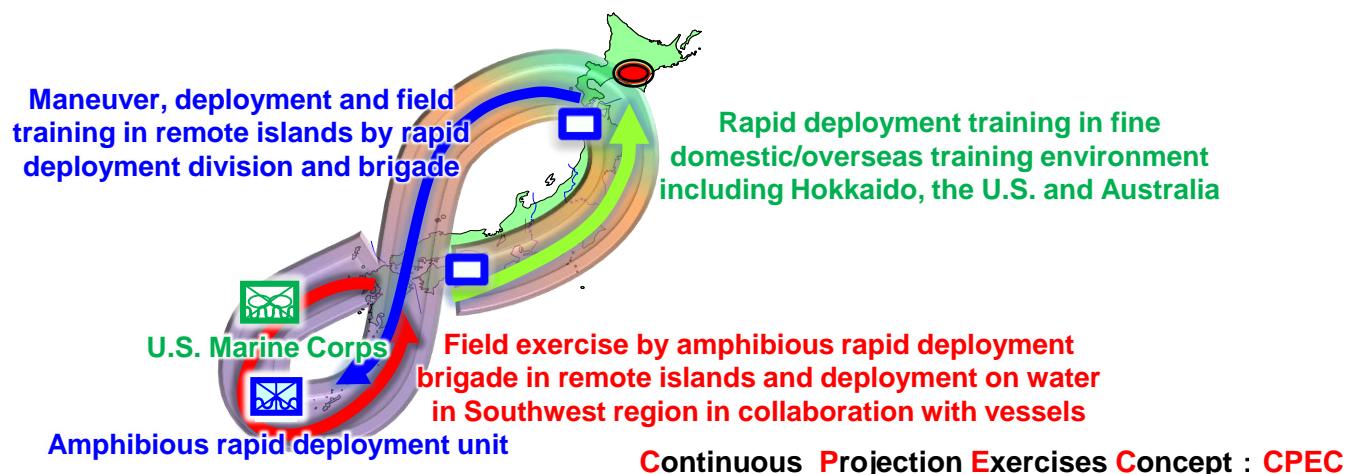
- Development of facilities in Sasebo
(Sakibe East Area [tentative name]) (¥13.8 billion)
Develop a large-scale wharf and logistical support facilities in the Sakibe East area (tentative name), positioned as the base for logistical support in the southwest.



Sakibe East Area (tentative name)
(conceptual image)

- Continuous Projection Exercises Concept (CPEC)

Improve deterrence and response capabilities by deploying highly trained GSDF units to the southwest and other areas to conduct training exercises



~ Training & exercise related to CPEC ~

- Rapid deployment training in fine domestic/overseas training environment including Hokkaido, the U.S. and Australia

- Operation of Hokkaido Training Center (¥700 million)

Conduct a field exercise for ordinary regiments and other units of various professions to qualitatively evaluate command and staff activities as well as objectively and numerically evaluate battles to improve the skill level required for cooperation among various professions



Training utilizing fine environment in Hokkaido (conceptual image)

- Field exercises with the U.S. Force in the U.S., etc. (¥800 million)
Maintain and improve tactical skills to enhance the capability to swiftly respond to various situations by dispatching units to the U.S. and other countries which have effective training facilities and practicing mutual coordination procedures



Field exercises with the U.S. Force overseas

- Field exercises with the U.S. and Australian Forces in Australia (¥200 million)

Contribute to peace and stability in the Indo-Pacific region by conducting Japan-U.S.-Australia multilateral field training to improve the tactical skill of personnel/units and strengthen cooperation among the three countries

- Maneuver, deployment and field training in remote islands by rapid deployment division and brigade

- Field exercises with the U.S. Force in Japan (¥40 million)

Improve the Japan-U.S. joint response capability through field training according to the mutual cooperation guidelines in which the GSDF and U.S. military units are to jointly carry out an operation following instructions from their respective command systems



Maneuver and deployment by rapid deployment division and brigade

- Field exercises by amphibious rapid deployment brigade in remote islands and deployment on water in Southwest region in collaboration with vessels

- Exercises for amphibious rapid deployment brigade (¥50 million)

To effectively react to various situations such as attacks on remote islands, make efforts to further enhance the capability of the amphibious rapid deployment brigade



Maneuver exercise on the water in Southwest region

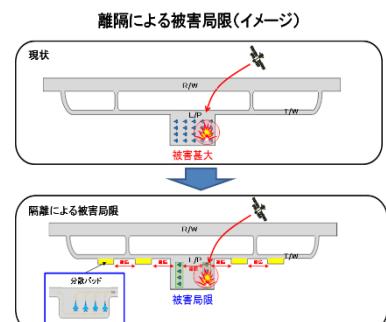
3 Strengthening Sustainability and Resiliency

In order to be able to operate units continuously in all stages from peacetime to armed contingencies, the SDF will promote measures necessary for securing ammunition and fuel and protecting infrastructure and other foundations for SDF operations. Moreover, in order to swiftly and effectively respond to various situations, the MOD/SDF will promote measures to ensure high operational availability of equipment.

(1) Securing Continuous Operations

- Procurement of various ammunition necessary for continuous unit operation (¥251.4 billion)
 - Procurement of anti-air missiles that contribute to air superiority as well as torpedoes needed to secure maritime superiority (¥39.5 billion)
 - Procurement of stand-off missile (¥17.2 billion; repost)
 - Procurement of PAC-3MSEs (¥39.1 billion; repost)

- Development of dispersion pads (¥3 billion)
Development of dispersal pads that allow parked aircraft to be dispersed at air bases to enhance resiliency



Dispersion pads

- Procurement of equipment necessary to improve capabilities to restore damaged runways (¥700 million)
Procure equipment which enables faster restoration of damaged runways of airbase



Equipment to restore
damage to runways

- Promotion of measures against aging and earthquake proofing of SDF facilities (¥62 billion)
Ensure the SDF's stable operational readiness by renovating SDF facilities such as office buildings and barracks, which undermine operations of the SDF

(2) Promoting Measures Regarding Sustainment and Maintenance of Equipment

- Ensure necessary expenses for sustainment and maintenance of equipment (¥1,198.5 billion)

Promotion of comprehensive contract including PBL (Performance Based Logistics)*

(* PBL)

Realize timely supply/repair of parts through PBL contracts, in which contract procedures are no longer required for every procurement, and estimating demands and controlling inventory are left at the discretion of suppliers, while also taking advantage of global supply chains as an option

- PBL contract for GSDF special transport helicopters (EC-225LP) (¥7.1 billion)

Expand the number of parts subject to the PBL contract for EC-225LP, which has been in place since FY2012



*Special transport helicopter
(EC-225LP)*

- PBL contract for gas turbine units of MSDF destroyers (¥1.3 billion)



Hyuga-class destroyer

- PBL contract for parts of MSDF fixed-wing patrol aircraft (P-3C) (¥900 million)



*Fixed-wing patrol aircraft
(P-3C)*

- PBL contract for MSDF training helicopters (TH-135) (¥11.9 billion)

Expanding the number of parts subject to the PBL contract for the TH-135, which has been in place since FY 2016



*Training helicopter
(TH-135)*

- Comprehensive contract for parts of ASDF fighters (¥5.9 billion)

- Procurement of components of F-2 (wings)
- Repair of components of landing gear systems of F-15



Fighter (F-2)

IV Priorities in Strengthening Core Elements of Defense Capability

As equipment becomes more advanced and complex and missions become more varied and internationalized against the context of the rapidly shrinking and aging population with a declining birth rate, the MOD/SDF will strive to secure diverse, high-quality talents from a wider range of people and also promote initiatives on a priority basis towards the establishment of an environment that enables all SDF personnel to maintain high morale and continue to fully exercise their abilities.

Moreover, to reinforce the technological base that has bearing on defense equipment by leveraging Japan's superb science and technology, as the character of warfare changes dramatically due to advances in military technologies, Japan will promote measures to shorten research and development timelines and to obtain technological superiority, and improve cost-effectiveness through measures such as strengthening project management, to efficiently secure defense capability in the necessary and sufficient "quality" and "quantity."

1 Reinforcing Human Resource Base

(1) Enhancement of Educational and Research System

Implement measures to enhance the education and research systems at the National Institute for Defense Studies, the National Defense Academy, and the National Defense Medical College, and develop an environment enabling personnel to devote themselves to their duties.

National Institute for Defense Studies

- Publication of *Security & Strategy*
 - Enhance the content of *Security & Strategy* (newly published in 2020 in Japanese), as a professional journal open to the public
 - Contribute to academic research and dissemination of knowledge on national security

National Defense Academy

- Maintenance and enhancement of research capability and education standard (¥100 million)
 - Develop the equipment necessary to conduct research in new areas from an academic point of view

National Defense Medical College

- Improvement the governance of the National Defense Medical College
 - As an institution for clinical education and a regional medical center for training doctors and nurses who are to become executive and technical officers of the SDF, install medical equipment necessary to qualitatively and quantitatively secure cases necessary for education and research (¥400 million)
- Strength research function related to defense medicine
 - Conduct advanced research on defense medicine which contribute to the operation of SDF units and education at the National Defense Medical College (¥300 million)
 - Develop educational and research equipment necessary to improve the ability to cope with infectious diseases (¥40 million)



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(2) Promotion of Effort Related to SDF Reserve Personnel Who Support Sustainable Unit Operation

Promote efforts to increase the number of SDF Reserve Personnel as well as have SDF Ready Reserve and Reserve Personnel in action for a wider variety of opportunities.

- Development of a system to confirm response to a call-up (¥10 million)
Develop a response confirmation system utilizing external services to quickly and accurately confirm the call-up status of SDF Ready Reserve and Reserve Personnel in the event of a disaster
- Procurement of uniforms, accoutrements , etc. (¥100 million)
In order to improve the effectiveness of SDF Reserve Personnel, implement procurement of uniforms, accoutrements, as well as containers and shelves to store them
- Financial support for higher education for the uniformed SDF personnel in fixed term system after completing tenure (¥80 million; repost)

(3) Enhancement of Medical Functions

In order to respond to various situations, the SDF will strive to enhance measures such as frontline first aid capabilities and the capacity to conduct Damage Control Surgery (DCS) at field medical facilities to stabilize the symptoms of patients and the capacity to manage patients being sent back as part of strengthening the system to seamlessly cover the entire stretch between the frontline and final medical evacuation facilities. Moreover, the SDF will establish an efficient and high-quality medical care regime through further endeavors including upgrading of SDF hospitals into medical hubs with enhanced functions. For improving the capability of battle injury treatment, the SDF will build up training and the educational foundation. It will also strengthen the necessary foundation for operations for the capability of international cooperation activities.

- Strengthen the posture of seamless medical care and evacuation from the frontline to the final medical evacuation destination
 - Procure equipment required for DCS and post-surgery patient management (¥200 million)
 - Procure necessary equipment and supply for managing patients during medical evacuation (¥1 million)



*Field surgical system(for divisions and brigades)
(left: outside, right: inside)*

- Demonstration of emergency armoring of ambulances (¥300 million)
Conduct demonstration of emergency attachment of additional armor to quickly and easily provide protection to unarmored vehicles



*Emergency armoring of ambulances
(conceptual image)*

- Initiatives toward upgrading SDF hospitals to hubs with enhanced functions
 - Construction of the new SDF Iruma Hospital (tentative name)(*1) and the education building associated with the construction (¥300 million)
 - Preparatory work associated with the reconstruction of the SDF Fukuoka Hospital (¥30 million)
 - Investigation work for the reconstruction of the SDF Yokosuka Hospital (*2) (¥10 million)
 - Procurement of medical equipment in line with transfer of management of SDF Naha Hospital from the ASDF to the GSDF (*3) (¥200 million)
- *1 The SDF Misawa Hospital and the SDF Gifu Hospital will be abolished (converted to medical offices) at the end of FY2021 with the establishment of the SDF Iruma Hospital (tentative name).
- *2 The SDF Ominato Hospital, the SDF Maizuru Hospital, and the SDF Sasebo Hospital will be abolished at the end of FY2021 (converted to medical offices) in line with the functional enhancement of the SDF Yokosuka Hospital.
- *3 The SDF Beppu Hospital will be abolished at the end of FY2021.



SDF Iruma Hospital (tentative name) (conceptual image)

- Education and training for improving the capability to respond to battle injury, and development of the foundation for such educational training
 - Develop training system for aviation medicine (¥600 million)
 - Procure educational material for improving first-aid skill (¥60 million)
 - Develop personnel for DCS section (¥20 million)
- Image of aviation medicine training

Human-body simulator for improving first-aid skill in frontline

Improving skill of DCS (DCS section)
- Enhance capabilities in response to infectious diseases which can be an international threat
 - Procurement and maintenance of various equipment necessary to transfer patients with Ebola hemorrhagic fever (¥30 million)
 - Strengthen posture of prevention for severe infectious disease (¥200 million)
 - Measures to prevent the spread of COVID-19
 - Measures to prevent the spread of COVID-19 for units dispatched overseas (¥200 million)



Image of transfer of patients

Equipment necessary for transfer of patients with infectious disease

COVID-19 antigen test kit

(4) Increase the Number of Defense Officials

Request increase of the number of defense officials at the MOD in order to improve the structure to execute what the NDPG and the MTDP stipulate and to respond to various situations including infectious disease, given the fact that the decision by the Prime Minister which directs personnel expenses and organization and quota of staff change request (Directive for organization and allocation of personnel expense in JFY2021 to proceed with core issue of the Cabinet [July 21st, 2020]) includes development of security arrangement

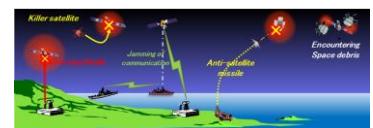
Strengthen Necessary Capability for Cross-Domain Operations and Advanced Technologies (178 personnel)

(Including: Strengthen Organizations Related to New Domains and Advanced Technologies (120 personnel))

- Increase the number of defense officials involved in strengthening defense functions against cyber attacks on the SDF and enhancing the security standards for defense procurement to improve cyber security of the defense and other industries.
- Increase the number of defense officials for human resource development in conjunction with the expansion of the space sector in the SDF and for strengthening the team for acquiring equipment necessary for SSA systems, such as SSA satellites
- Increase the number of defense officials to promote the early identification, protection, and development of innovative and emerging technologies that can have a significant impact on future security



Defense official engaging in cyber security work
(conceptual image)



Space affairs
(conceptual image)



Nurses working in the medical field
(conceptual image)



Defense officials engaged in a disaster relief operation
(conceptual image)



Defense official in construction of defense facility (supervising)
(conceptual image)

Strengthen Response Capability to Various Situations Including Infectious Disease (92 personnel)

- Increase the number of defense officials to strengthen the system for dealing with infectious diseases at the National Defense Medical College Hospital and the SDF hospitals
- Increase the number of defense officials to plan and study infectious disease control plans and develop operational systems
- Increase the number of defense officials to strengthen coordination with local governments and improve the readiness, resilience, and response capabilities of the SDF in response to various contingencies, including infectious diseases and disasters that are becoming more intense, frequent and diverse

Improve Security Cooperation, Strengthen Japan-U.S. Alliance (78 personnel)

- Increase the number of defense officials to promote security cooperation based on the concept of "Free and Open Indo-Pacific" and to promote Japan-U.S. defense cooperation
- Increase the number of defense officials to promote projects to reduce local burdens, such as relocation and maintenance related to the return of land south of Kadena Air Base, consolidation of U.S. military facilities in Kanagawa Prefecture, and new environmental issues.

Increase the Number of Defense Officials to Build Truly Effective Defense Capability (61 personnel)

- Increase the number of defense officials for building a viable defense force through strengthening the human resource base (by means such as the active recruitment of new personnel), the intelligence function, the technological base, the industrial base, and cooperation with local communities.

< Reference: Changes in the number of defense officials >

	JFY2016	JFY2017	JFY2018	JFY2019	JFY2020	JFY2021
The 13th rationalization plan						
Rationalization	△262	△262	△261	△261	△266	△266
Increase	169	182	209	204	299	409
Net Increase and decrease	△93	△80	△52	△57	33	—
Decrease due to the arrival of temporary post's deadline, etc.	△7	△7	△15	△12	△12	△13
Number at the end of FY	21,061	20,974	20,931	20,903	20,924	21,054

* Doesn't include a special component of the organizational quota for promoting employment of persons with disabilities, etc.

2 Reinforcing Technology Base

(1) Reinforcing Technology Base

To secure technical superiority in the field of strategically important equipment and technology, make concentrated investment for core technology such as technology in new domains and cutting-edge, game-changing technology such as artificial intelligence (AI).

Efforts for F-X

- Development of F-X (¥58.7 billion; repost)
- Research related to F-X
 - Research on the integration of the mission system of a fighter aircraft (¥6.3 billion; repost)
 - Research on technologies used for remotely-operated support aircraft technology (¥1.6 billion; repost)
 - Research on advanced radar technology (¥4.1 billion; repost)

Efforts in Electromagnetic Domain

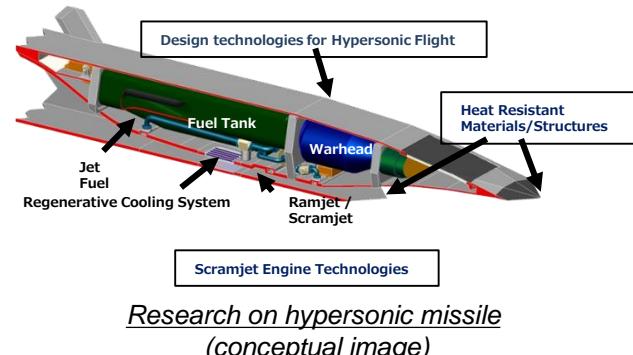
- Development of stand-off electronic warfare aircraft (¥15.3 billion; repost)
- Demonstrate of vehicle-mounted counter drone (¥3.3 billion; repost)
- Research on HPM generator (¥1.1 billion; repost)
- Research on multi-GNSS receiver (¥400 million; repost)

Efforts for Stand-off Defense Capability, etc.

- Research on HVGP (Hyper Velocity Gliding Projectile) for defense of remote islands (¥22.9 billion; repost)
- Research on hypersonic missile (¥9.3 billion)

Continue research on component technologies for the scramjet engine (*1), which can cruise at hypersonic speeds (*2), with the aim of putting it into use as soon as possible

 - *1 Scramjet engine: An engine that uses combustion in a supersonic airflow
 - *2 Hypersonic speed: Speed range of five times or more than the speed of sound
- Development of Type-12 Surface-to-ship Missile (Improved) (¥2.7 billion)

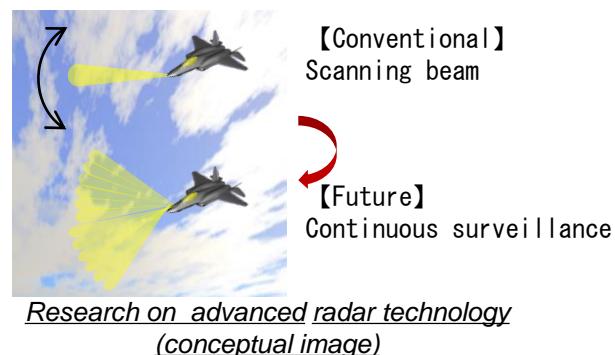


Efforts for Cyber Defense

- Study on technologies for responding to cyber attacks targeting intelligence processing systems within equipment (¥2.1 billion; repost)

Efforts for Wide-Area Persistent Surveillance

- Research advanced radar technology (¥4.1 billion; repost)
- Research on infrared sensor with high sensitivity and broad detection range (¥1.5 billion; repost)



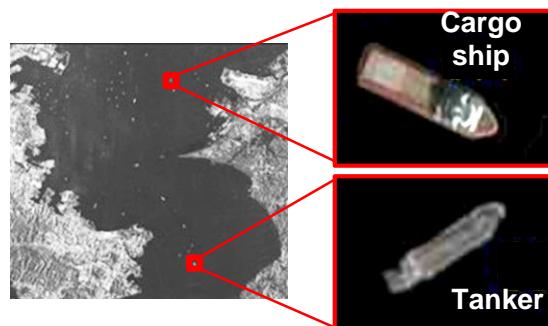
Efforts for Underwater Defense

- Continue test and evaluation of unmanned underwater vehicles (UUVs) and initiate research on technology to prevent unauthorized analysis with software (¥600 million)
- Establish “Iwakuni Branch (tentative name)” in the Naval Systems Research Center to promote efficient and effective research on UUVs

Promotion of Rapid Prototyping of Evolving Cutting-Edge Civilian Technologies

- Discovering and fostering innovative and emerging technologies (¥10.8 billion)
 - Promote the “Innovative Science & Technology Initiative for Security” program regarding basic research at universities, etc. on innovative and emerging technologies
 - Conduct “Bridging Research” for leading innovative and emerging technologies in basic research into defense applications
- Efforts for rapid practical application of new technologies(¥1 billion)

Achieve rapid practical application (in approx. three to five years) of advanced commercial technologies that has a fast innovation cycle, such as artificial intelligence (AI) technology while keeping operational needs in mind



Example of efforts for rapid practical application of new technologies
(Application of AI for the construction of a satellite image database)

Improvement of the Efficiency of Research and Development (Using Test Submarines)

- Improve the efficiency of test and evaluation by means such as carrying out measurements in the real environment at an early stage by installing a prototype on a test submarine (converted from an existing submarine)
 - Development of sonar system for future submarines (¥4.8 billion; repost)
 - Research on a noise-reducing torpedo-launcher(¥2.3 billion; repost)

Enhancement of the Research System for Advanced Technologies

- Merge the Electronic Systems Research Center and the Advanced Technology Center to establish the “Next-Generation Systems Research Center (tentative name)” for increasing necessity on prioritization research projects to catch up with technological advances

Strengthening of Research, Analysis, and Collaboration on Advanced Technologies

- Establish “Senior Director for Technology Policy (tentative name)” to enhance capabilities to survey and analyze international and domestic trends of advanced technologies and establish “Technology Collaboration Support Division (tentative name)” to support collaboration for incorporating advanced technologies into defense applications

(2) Promoting Optimized Acquisition

Improve effectiveness and flexibility of project management through lifecycle to further promote effective and efficient procurement of equipment, and promote the effort to rationalize FMS procurement given that the importance of managing price and delivery date in FMS is increasing.

Improvement of Effectiveness and Flexibility of Project Management through Lifecycle of Equipment

- Establish the Outer Space Project Management Section (tentative name) under the Project Management Division(Communications and Electronic Systems, Ordnance and Vehicles),and changing the division name to “Project Management Division (Outer Space and Land Equipment('tentative name)of the ATLA for the management of space-related projects (repost)

Rationalization of FMS Procurement

- Strengthening the implementation management system of FMS procurement
Establish “Implementation Management/Promotion Section (tentative name) within FMS Office, Import Division to strengthen the implementation management system of FMS procurement to the appropriate level

Streamlining Sustainment of Equipment

- Promotion of PBL (Performance Based Logistics)
Realize timely supply/repair of parts through PBL contracts, in which contract procedures are no longer required for every procurement, and estimating demands and controlling inventory are left at the discretion of suppliers, while also taking advantage of global supply chains as an option
 - Repair of GSDF special transport helicopters (EC-225LP) (¥7.1 billion; repost)
 - Repair of gas turbine units of MSDF destroyers (¥1.3 billion; repost)
 - Repair of parts of MSDF fixed-wing patrol aircraft (P-3C) (¥900 million; repost)
 - Repair of MSDF training helicopters (TH-135) (¥11.9 billion; repost)



Special transport helicopter
(EC-225LP)



Hyuga-class destroyer



Fixed-wing patrol aircraft
(P-3C)



Training helicopter
(TH-135)

(3) Strengthening Defense Industrial Base

In order to strengthen the resilience of Japan's defense industrial base, which is an essential foundation for production, operation and maintenance of equipment, the government will actively take measures to strengthen the supply chain. Also, the government as a whole will promote appropriate overseas transfer of defense equipment under the Three Principles on Transfer of Defense Equipment and Technology, which permits transfer of defense equipment in cases such as when the transfer contributes to Japan's security. In addition, the ATLA will enhance the information security measures to prevent compromise of information held by Japan's defense industry.

Strengthening of Supply Chain

- Support for companies to maintain and strengthen defense industrial base
Conduct initiatives to support companies' smooth business succession in the case of their withdrawal from defense business (¥100 million)
- Discover and utilize innovative technology, and technology of SMEs
 - Organize exhibitions for matching with the MOD/SDF, U.S. Forces in Japan and Japanese and U.S. defense industry (¥20 million)
 - Study the possibility of AI technologies to be applied to production processes of defense equipment (¥40 million)

Promotion of Participation in the Maintenance of Imported Equipment



Osprey (V-22)

Promote Appropriate Overseas Transfer of Defense Equipment

- Efforts related to defense equipment and technology cooperation to promote overseas transfer of defense equipment
 - Conduct Feasibility Studies to grasp the potential needs of target countries and to carry out proposals with private sectors (¥200 million)
 - Conduct a study to achieve the overseas transfer of aircraft developed by the MOD based on the characteristics of each model (¥300 million)
 - Participation in international defense equipment exhibitions to display defense equipment developed in Japan and superior technology possessed by SMEs (¥300 million)
- Promote cooperation and information sharing between the public and private sectors
 - Create a Portal-Site as a platform for sharing information in order to promote public-private collaboration for overseas transfer. At the same time, produce a promotional video and other materials for overseas transfer to strengthen information dissemination (¥20 million)

Reinforcement of Measures on Information Security

- Establish the Industrial Cybersecurity Office (tentative name) in the Equipment Security Management Division of the ATLA in order to promote various information security measures for the defense industry (repost)

3 Enhancing Intelligence Capabilities

In order to be able to provide timely and effective intelligence support to policy decision and SDF operations, the MOD/SDF will enhance intelligence capabilities at all stages, including intelligence collection and analysis.

- Enhancement of the Defense Attaché system
Newly dispatch one defense attaché to New Zealand and Spain respectively, and dispatch one additional attaché in Israel
- Establish Senior Coordinator for Intelligence on Economic Security (tentative title) in the Defense Intelligence Division, Bureau of Defense Policy
Establish a position responsible for both collecting/analyzing and securing information on advanced technologies (e.g., quantum science and technology, lasers, 3D printers, and AI) since other countries are competing to acquire such advanced technologies, which has a significant impact on the security environment.
- Reinforcement of intelligence collection and analysis capability
Establish necessary arrangements at the Defense Intelligence Headquarters, etc. to enhance capabilities of intelligence collection and analysis of international military situations, etc.
- Procurement of data for image analysis (repost)
Collect information in the region surrounding Japan using various commercial satellites, including optical satellites with high resolution and [a small satellite constellation constellations which allow frequent imaging](#)

V Response to Large-Scale Disasters

In the event of natural disasters, the SDF will respond by immediately transporting and deploying sufficient numbers of SDF units based on a joint operational approach, and also will promote measures to strengthen the response posture.

1 Maintenance/Enhancement of Function of Military Camps/Bases to Serve as Hubs for Disaster Response

- Development of disaster response hub areas (Iruma) (¥200 million)
- Promotion of seismic retrofitting and tsunami defense measures to maintain and enhance functions in preparation for disasters (¥16.3 billion)



Seismic retrofitting of barracks
(conceptual image)

2 Implementation of Exercises to Respond to Large-Scale and Unconventional Disasters

- SDF Joint Exercise for Rescue (JXR)
Implement the SDF Joint Exercise for Rescue to maintain and improve the SDF's joint operation capabilities to respond to large-scale domestic disasters, in order to minimize damage through smooth and effective responses in the event of large-scale domestic disasters



JXR

- Joint Disaster Response Exercise with U.S. Forces (TREX: Tomodachi Rescue Exercise)
Implement Joint Disaster Response Exercise with U.S. Forces to establish procedures on coordination with U.S. Forces in Japan in the event of large-scale domestic disasters, and to maintain and enhance the disaster response capabilities



TREX

- Remote Island Disaster Relief Exercise (RIDEX)
Implement drills to maintain and enhance capabilities to ensure smooth joint disaster response operations in response to sudden large-scale disasters on remote islands



RIDEX

3 Procurement of Equipment Contributing to Disaster Response

- Type-07 mobility support bridge (1 set: ¥1.3 billion)
Procure a Type-07 mobility support bridge in order to temporarily restore bridges damaged by earthquakes, floods, etc., conduct emergency evacuation of disaster-affected people and enable relief activities by the SDF and local governments



Type-07 mobility support bridge
(disaster management exercise on
passage of fire engines)

- Type-18 personal protective equipment (5,000 sets: ¥1.2 billion)
Procure Type-18 personal protective equipment to protect SDF personnel from hazardous materials such as chemical agents



Type-18 personal protective equipment

- Decontamination set (decontamination vehicle)
(1 vehicle: ¥100 million)
Procure a decontamination set (decontamination vehicle) to decontaminate areas and facilities contaminated by chemical agents



Decontamination set
(decontamination vehicle)

- Water purification kit (1 set: ¥100 million)
Acquire water purification kits to ensure a stable supply of drinking water in the event of a disaster, etc.



Water purification kit

- Lifesaving systems
Equip each unit with lifesaving systems for swift and effective life saving activities in the event of a large-scale disaster



Lifesaving systems

- Drones for disaster
Install disaster drones in each unit to quickly collect information in the event of a large-scale disaster



Drones for disaster

- Procurement of rescue helicopters (UH-60J)
(5 helicopters: ¥27.9 billion; repost)
- Procurement of transport aircraft (C-2)
(2 aircraft: ¥51.5 billion; repost)
- Procurement of new utility helicopters (UH-2)
(7 helicopters: ¥12.7 billion; repost)

VI Strengthening Japan-U.S. Alliance and Measures for Bases, etc.

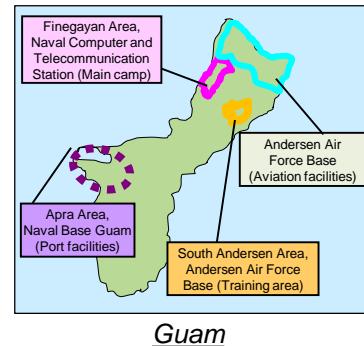
While maintaining the deterrence of the U.S. Forces, Japan will steadily implement specific measures, including the realignment of the U.S. Forces in Japan, to mitigate the impact on local communities such as those in Okinawa.

1 U.S. Forces Realignment-Related Expenses

[Measures for Mitigating the Impact on Local Communities] (Item Request without Specific Amount of the Budget)

Relocation of U.S. Marine Corps Stationed in Okinawa to Guam

- Projects concerning the relocation of the U.S. Marine Corps stationed in Okinawa to Guam



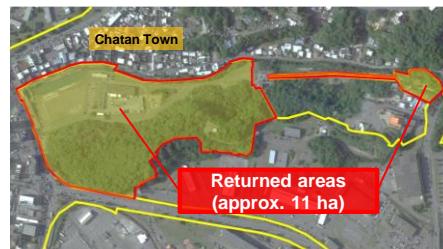
Guam

Realignment-Related Measures in Japan

- Project for the realignment in Okinawa
- Project for the relocation of the carrier-based aircraft
- Project for contingency use
- Project for the training relocation
- Project intended to facilitate smooth implementation of the realignment-related measures



MCAS Futenma



Return of portions of the Facilities and Engineering Compound in Camp Zukeran
(March 31, 2020)

2 SACO-Related Expenses (Item Request without Specific Amount of the Budget)

- Japan will continue to steadily implement the measures (mitigating the impact on local communities in Okinawa) in the Special Action Committee on Okinawa (SACO) Final Report except for changes made under the Japan-U.S. Security Consultative Committee ("2+2") Joint Statement.

Considering the importance of implementing the above measures as early as possible, the results of coordination with local communities and the U.S. Forces, etc., during the budget drafting process need to be reflected in the budget. The MOD will carefully consider during the budgetary process and take necessary measures.

3 Promotion of Measures for Bases, etc.

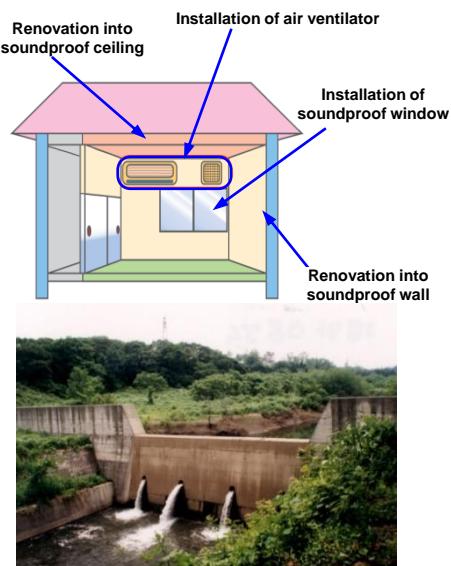
In order to balance the operational requirements of defense facilities and local communities, Japan will steadily implement measures for communities around bases, and promote measures to ensure smooth and effective stationing of the U.S. Forces in Japan.

(1) Expenses Related to Measures for Communities around Bases ¥117.7 billion

Including: Residential sound proofing: ¥51.9 billion
 Environment improvement in the neighboring communities : ¥65.8 billion

- Expenses for the prevention of disturbances resulting from SDF activities or the establishment and operations of defense facilities
 - Implementation of sound proofing projects for residences around air bases, etc.
 - Implementation of projects to improve the living environment of the neighboring communities (river and road restoration, sound proofing for schools, development of sand control dams and public welfare facilities, etc.)
 - Implementation of projects covered by Specified Defense Facilities Environs Improvement Adjustment Grants, which are strongly requested from municipalities around bases (development of public facilities and implementation of so-called soft projects such as medical cost subsidies)

[Example of residential sound proofing]



(2) Cost Sharing for the Stationing of U.S. Forces in Japan ¥202.9 billion

Including: Special Measures Agreement: ¥154.6 billion
 Facilities Improvement Program: ¥21.7 billion
 Measures for USFJ employees.: ¥26.5 billion

- Expenses of cost sharing based on the Special Measures Agreement and other measures to ensure the smooth and effective stationing of the U.S. Forces in Japan
 - Sharing of the labor costs of USFJ employees and costs of the utilities used at USFJ facilities
 - Facilities Improvement Program (barracks, family housing, etc.)
 - Payment of the employer's contribution parts for USFJ employees' social insurance premiums such as healthcare insurance and employees' pension insurance

As the Special Measures Agreement on the costs of stationing U.S. Forces in Japan expires at the end of FY2020, the estimated amount requested is based on the current agreement.



(3) Rents for Facilities, Compensation Expenses, etc. ¥150.6 billion

- Rents for land areas of defense facilities and compensation expenses for the losses of fishers' income due to training on water areas, etc.

VII Strengthening Security Cooperation

Japan will actively leverage its defense capability to work on defense cooperation and exchanges which include bilateral/multilateral exercises, defense equipment and technology cooperation, capacity building and interchanges among military branches to strategically promote multi-faceted and multi-layered security cooperation, based on the vision of “Free and Open Indo-Pacific.”

1 Contribution to Stabilization of the Indo-Pacific Region

Promotion of Capacity Building

- Promotion of initiatives emphasizing capacity building for the ASEAN as a whole
 - Implement capacity building concerning humanitarian assistance/disaster relief (HA/DR), maritime security and **cybersecurity**, while also promoting sharing of the recognition of international norms
- Promotion of capacity building in the Indo-Pacific region
 - Implement programs to improve capabilities and training of military personnel in Southeast and South Asia and Pacific island countries in fields such as HA/DR and PKO
 - Capacity building in collaboration with the U.S. and Australia



Japan-ASEAN Invitation Program on HA/DR



Field training on HA/DR

Promotion of Defense Cooperation and Exchanges

- Initiatives under the ASEAN Defence Ministers' Meeting-Plus (ADMM-Plus)
 - Proactively promote the enhancement of defense and security cooperation in the Indo-Pacific region through the ADMM Plus, which is the only official defense ministerial meeting in the region, by serving as Co-Chair of the Experts' Working Group on Peacekeeping Operations (2021-2023).
- Initiatives under the Vientiane Vision 2.0
 - Based on the Vientiane Vision 2.0, an updated guideline for future Japan-ASEAN defense cooperation, promote practical defense cooperation, which puts emphasis on ensuring the rule of law and strengthening maritime security in order to ensure the centrality, unity and resilience of ASEAN.
- Participation in Pacific Partnership 2021
 - By visiting countries in the Indo-Pacific region to provide medical services and conduct cultural exchanges, the Pacific Partnership strengthens partnerships among participating countries and facilitates international peace cooperation activities through cooperation with governments, militaries and other organizations



ADMM-Plus



Japan-ASEAN Ship Rider Cooperation Program



Pacific Partnership

- Indo-Pacific Deployment (IPD) 2021
Improve tactical skills of the MSDF and promote cooperation with navies of other countries, as well as contribute to regional peace and stability and enhance mutual understanding and confidence-building through bilateral/multilateral exercise with navies from the Indo-Pacific region



IPD

- Multilateral HA/DR Exercise in Micronesia
Enhance HA/DR capabilities through drills in which participating countries' aircraft drop donated goods into the waters of the Federated States of Micronesia



Multilateral HA/DR Exercise in Micronesia

- Field Exercise with Indian Army in India
Improve tactical skills by conducting bilateral exercise with the Indian Army, which has actual combat experience in the field of counter-terrorism



*Field exercise with
Indian Army in India*

2 Appropriate Response to Improve Global Security Challenges

International Cooperation with UN and Partners in the Areas of Strength

- Dispatch of instructors to PKO Training Centers in African and other countries
Dispatch SDF personnel as instructors to provide education for UN peacekeeper candidates, mainly in African countries, based on their request to improve their peacekeeping capabilities to maintain peace and stability of the region



*The instructor handing
over the curricula*

- Disaster response capacity building for the Djibouti Armed Forces
Promote mutual understanding and confidence building with the Republic of Djibouti in strengthening the relationship between defense authorities of two countries and contribute to the development and peace of Africa by providing trainings to build disaster response capabilities of the Djibouti Armed Forces upon a request from the Djibouti government



*Instruction concerning the
operation of engineering
equipment for the Djibouti Armed
Forces*

- UN Triangular Partnership Project (UNTPP)

Contribute to the deployment of UN peacekeeping missions by dispatching SDF personnel to UN peacekeeper candidates from African countries, Asian and surrounding regions, in the areas of engineering and medications



UNTPP

Ensuring Maritime Security

- Counter-piracy operations off the coast of Somalia and in the Gulf of Aden
 - Continue counter-piracy operations by a destroyer and P-3Cs off the coast of Somalia and in the Gulf of Aden
 - Carry out operations in Combined Task Force 151 (CTF151), a multinational counter-piracy task force
 - Conduct air transportation using KC-767 and other aircraft as necessary

Destroyer escorting vessels

Efforts to Ensure the Safety of Japan-Related Vessels

- Information gathering activities in the Middle East
 - Conduct information gathering activities by a destroyer and P-3Cs in three waters of high seas: the Gulf of Oman, the northern Arabian Sea and the Gulf of Aden to the east of the Bab el-Mandeb Strait
 - Conduct activities as Japan's own efforts
 - The information is shared with relevant ministries and agencies, as well as with relevant industries and is used for the government's navigation safety measures when necessary

Destroyer conducting information gathering activities

Enhancement of Capability to Conduct Overseas Activities

- Participate in multilateral training/exercises
 - Cobra Gold

Participate in the multilateral exercise Cobra Gold to maintain and improve the SDF's joint operation capabilities for rescue of Japanese nationals overseas and to increase and enhance cooperation and mutual understanding among participating countries
 - Khaan Quest

Participate in the multilateral exercise Khaan Quest to maintain and improve various capabilities for UN PKO and to increase and enhance mutual understanding and relations of trust among participating countries

Cobra Gold

VIII Streamlining Initiatives

- Organization and Equipment Optimization Project -

Based on the NDPG and the MTDP which were approved in Dec. 2018, various initiatives to further streamline and rationalize defense force development have been promoted, resulting in reduced costs of approximately ¥249.6 billion.

1 Optimization of Organizational Quotas

Review human resource allocation in all MOD/SDF branches by abolishing existing units and promoting outsourcing, and reallocate staff to the new domains of space, cyberspace and electromagnetic spectrum

2 Project Review [Expected Reduction: ¥115.1 billion]

Pursue cost reduction by suspending the use of equipment with lowered importance, reviewing/discontinuing projects of low cost-effectiveness, and streamlining maintenance methods

(Example)

- Suspension of the use of 20 mm anti-aircraft guns (expected reduction: ¥3.7 billion)
- Diversion and utilization of sample autonomous underwater vehicles for mine counter measure (expected reduction: ¥1.1 billion)
- Cost reduction of special parachute systems (expected reduction: ¥400 million)

3 Standardization and Optimization of the Specification [Expected Reduction: ¥25.8 billion]

Review equipment structure through modularization, standardization, use of civilian goods and review of equipment specifications, to shorten development and acquisition timelines and reduce the life cycle cost

(Example)

- Efficient development of surface-to-air guided missiles for air base defense (modified) and new close-range surface-to-air guided missiles as a product family (expected reduction: ¥12.6 billion)

4 Bulk and Joint Procurement [Expected Reduction: ¥20.5 billion]

Pursue cost reduction by bulk purchase of equipment

(Example)

- Bulk purchase of 5 rescue helicopters (UH-60J) (expected reduction: ¥8.6 billion)
- Bulk purchase of 6 engines for transport aircraft (C-2) (expected reduction: ¥6.1 billion)

5 Procurement of Equipment and Services Using Long-Term Contracts

[Expected Reduction: ¥12.2 billion]

Pursue lower-cost and stable procurement of equipment and services by making use of long-term contracts of five fiscal years or longer

- Bulk purchase of components of fighters (F-2) (10-year contract) (expected reduction: ¥4.7 billion)
- PBL contract for training helicopters (TH-135) (6-year contract) (expected reduction: ¥3.2 billion)
- PBL contract for special transport helicopters (EC-225LP) (6-year contract) (expected reduction: ¥4.2 billion)

6 Cost Scrutiny, etc. [Expected Reduction: ¥76 billion]

Pursue reduction of procurement cost for major equipment through examination of unit costs and related expenses

7 Study on Securing Income

Secure income through measures such as gaining income from the use of government property, sale of useless goods, opening to the public the remains of the Imperial Headquarters bunker in the Ichigaya area, and charging for the Air Base Festivals and part of the GSDF Fuji Fire Power Exercise

IX Others

1 Restructuring and Organizational Quota Changes

Implement unit reorganization programs in order to ensure effective deterrence and response to various situations.

- Request for increase in the number of SDF personnel
 - Improve the readiness to quickly respond to various situations by increasing the number of uniformed SDF personnel to develop and reinforce the defense posture in the southwestern region as well as in its surrounding sea and airspace, while also improving the defense posture in new domains
 - In order to further improve posture in new domains, transfer personnel from the GSDF to the Joint Staff (JS) to make the best out of limited human resources

Categories	GSDF	MSDF	ASDF	JS, etc.	Total
Improve sufficiency rate	+1,056	+265	+248	0	+1,569
Transfer	△100	△17	△25	+142	
Total	+956	+248	+223	+142	

Note: "JS, etc." include JS, joint task units, Defense Intelligence Headquarters, Internal Bureau, and the Acquisition, Technology and Logistics Agency (ATLA).

< Reference: Changes in the requested number of SDF personnel (past 5 years) >

	FY2016	FY2017	FY2018	FY2019	FY2020
Number of requested personnel	+196	+310	+700	+664	+641

- Organizational quota changes

- Reorganize the Bureau of Local Cooperation to strengthen cooperation with local communities, strengthen partnership with U.S. forces in Japan and enhance measures to address environmental issues in order to cope with the increasing number of projects and amount of work for harmonizing defense facilities with the surrounding areas, as well as to respond to the needs for improving the quality of work



Ceremony for the Return of the Makiminato Service Area (Along National Route 58) and the Handover of the West Futenma Housing Area

- Merge the Electronic Systems Research Center and the Advanced Defense Technology Center to establish the "Next-Generation Systems Research Center (tentative name)" for increasing necessity on prioritization of research projects to catch up with technological advance. Strengthen "Department of Technology Strategy" to enhance capabilities to survey and analyze international and domestic trends of advanced technologies and to support collaboration for incorporating advanced technologies into defense applications(repost)

2 Tax Reform Request

- Perpetuation of tax exemption measures for diesel oil [diesel oil delivery tax]
 - (i) Perpetuation of tax exemption measures for diesel oil as power source for SDF's vessels and communication equipment, etc.

Request the perpetuation of tax exemption measures for diesel oil, which are to be effective until the end of JFY2020 in relation to the procurement of diesel oil used for SDF vessels and communication equipment, etc.

Counter-piracy operations
BMD
Disaster relief activities

Operation of vessels (conceptual image)

Radar, etc.

Power shovel

Operation of communication equipment, etc. (conceptual image)
 - (ii) Perpetuation of tax exemption measures for the case of provision of tax-exempt diesel oil based on the Law Concerning Measures to Ensure the Peace and Security of Japan in Situations that Will Have an Important Influence on Japan's Peace and Security, etc.
 - (iii) Perpetuation of tax exemption measures for the case of provision of tax-exempt diesel oil based on the Acquisition and Cross-Servicing Agreement (ACSA)

The special measures for exemption of diesel oil delivery tax on the provision of tax-exempt diesel oil to the third party (ex. the U.S. forces) for the logistics supports based on the Important Influence Situation Act, etc. and the provision based on ACSA in joint trainings with Australia Defence Force, etc. are applied to JMOD until end of JFY2020. JMOD requests the perpetuation of such special measures.



Providing diesel oil to a foreign military vessel at sea (conceptual image)

- Expansion of the special deduction of corporation tax, etc. when conducting experimental research [corporation tax, etc.]

(Joint request : Ministry of Economy, Trade and Industry(METI), Ministry of Internal Affairs and Communications(MIC), Ministry of Education, Culture, Sports, Science and Technology(MEXT), Cabinet Office (CAO), Ministry of Agriculture, Forestry and Fisheries(MAFF), Ministry of Health, Labour and Welfare(MHLW), Ministry of Land, Infrastructure, Transport and Tourism(MLIT), Ministry of Environment(MOE))

Request to raise the ceiling of deduction for corporation tax, etc. to further strengthen incentives aimed toward investment in research and development.

Major Equipment, etc.

1 Major Equipment

		Categories	Number procured in FY2020	FY2021	
				Number procured	Amount (¥100 million)
Aircraft	GSDF	New utility helicopter (UH-2)	-	7	127
		Transport helicopter (CH-47JA)	3	-	-
	MSDF	Fixed-wing patrol aircraft (P-1)	3	3	680 (44)
		Search and rescue amphibian (US-2)	-	1	139 (22)
		Life extension of fixed-wing patrol aircraft (P-3C)	(7)	(4)	16
		Patrol helicopter (SH-60K)	7	-	-
		Life extension of patrol helicopters (SH-60K)	(3)	(3)	73
		Life extension of patrol helicopters (SH-60J)	(2)	-	-
	ASDF	Life extension of imagery intelligence gathering aircraft (OP-3C)	(1)	-	-
		Life extension of signal reconnaissance aircraft (EP-3)	-	-	-
Vessel	MSDF	Fighter (F-35A)	3	4	402
		Fighter (F-35B)	6	2	264
		Improvement of capability of fighters (F-2)	(2)	-	(30)
		Improvement of capability of fighters (F-15)	-	-	213
		Transport aircraft (C-2)	-	2	515 (43)
		Aerial refueling and transport aircraft (KC-46A)	4	-	56
		Rescue helicopter (UH-60J)	3	5	279 (39)
		Radiowave information gathering aircraft (RC-2) (mounted equipment)	-	-	71 (40)
		Destroyer	2	2	990 (4)
		Submarine	1	1	691 (1)
	Vessel	Mine sweeping vessel	1	-	-
		Life extension of Asagiri-class destroyers	Work Parts	(3) (1)	(-) (-)
		Life extension of Abukuma-class destroyers	Work Parts	(3) (-)	(2) (-)
		Life extension of Kongo-class destroyers	Work Parts	(1) (2)	(1) (2)
		Life extension of Murasame-class destroyers	Work Parts	(-) (2)	(1) (2)
		Life extension of Oyashio-class submarines	Work Parts	(3) (5)	(8) (4)
		Life extension of Soryu-class submarines	Work Parts	(-) (2)	(1) (-)
		Life extension of Hibiki-class ocean surveillance ships	Work Parts	(1) (1)	(1) (-)
		Life extension of Towada-class fast combat support ships	Work Parts	(1) (-)	(-) (-)
		Life extension of Asuka-class test ships	Work Parts	(-) (-)	(-) (1)
		Life extension of Osumi-class landing ships	Work Parts	(-) (-)	(-) (1)

		Categories	Number procured in FY2020	FY2021	
Vessel	MSDF			Number procured	Amount (¥100 million)
	Improvement of capability of Asahi-class destroyers	Work (-) (1)	(-) (2)	14	
	Improvement of capability of short range surface-to-air missiles (SAM) of Takanami-class destroyers	Work (-) (-)	(1) (-)	1	
	Modernization of anti-submarine system of Takanami-class destroyers	Work (-) (-)	(-) (1)	7 (15)	
	Update of computers in combat systems equipped with vessels	Work (-) (8)	(7) (5)	88	
	Modernization of combat systems of Asagiri-class destroyers	Work (3) (-)	(-) (-)	-	
	Modernization of combat systems of Takanami-class destroyers	Work (-) (2)	(-) (-)	-	
	Modernization of CIWSs (high-performance 20 mm autocannon) of destroyers	Work (1) (-)	(5) (4)	2	
	Upgrade of Chihaya-class submarine rescue ships	Work (1) (-)	(-) (-)	-	
	Modernization of combat systems of submarines	Work (-) (-)	(1) (1)	22 (2)	
	Improvement of capability of computers in Fire Control System (FCS) 3A	Work (-) (-)	(2) (1)	10	
	Improvement in capability of Osumi-class LST	Work (-) (1)	(1) (-)	3	
Guided missile	GSDF	Type-03 middle-range surface-to-air missile (modified)	1 company	1 company	122
Firearm, vehicle, etc.	GSDF	Type-20 5.56 mm rifle	3,283	3,342	9
		9 mm pistol SFP9	323	297	0.2
		Anti-personnel sniper rifle (B)	8	-	-
		60 mm mortar (B)	6	6	0.2
		120 mm mortar RT	6	11	5
		Type-19 155 mm self-propelled howitzer	7	8	55
		Type-10 tank	12	-	-
		Type-16 mobile combat vehicle	33	25	191
		Vehicle, communications equipment, facility equipment, etc.	¥49.3 billion	-	428
BMD	MSDF	Improvement of capability of Aegis-equipped destroyers	2 vessels	2 vessels	2
	ASDF	Upgrade of Patriot system	8	-	-

Note 1: The procurement amount for FY2020 indicates the number that was envisioned in the original budget.

Note 2: Price represents amounts, excluding non-recurring costs, needed for the production of equipment. The non-recurring costs are indicated in parentheses in the amount column (external value).

Note 3: "Number procured" indicates the number newly contracted in FY2021. (The period for acquiring the item varies by equipment, but can take between two to five years.)

Note 4: The number in parenthesis represents the number related to upgrading the existing commissioned equipment.

Note 5: Regarding the volume of procurement for MSDF vessels, the upper figure represents the number of vessels subject to modification work, and the lower figure represents the number of parts necessary for modification work.

Note 6: The number of procurements in FY2019 for improvement of capability of Aegis-equipped destroyers represents the number of procurements for upgrading two Atago-class destroyers to be able to launch SM-3 Block IIA.

Note 7: Price of GSDF guided missiles indicates the amounts excluding procurement cost for ammunition.

2 Major Research and Development Programs

Item	Overview	FY2021 amount (¥100 million)
Study on technology for responding to cyber attacks targeting intelligence processing system within equipment	Conduct research on cyber resilience technology for equipment to ensure continuous operation by information processing systems of the MOD/SDF's equipment even under cyber attacks	21
Demonstrate vehicle-mounted counter drone laser system	Demonstrate high-power laser system which can effectively counter future threat such as drones.	33
Research on information gathering system for the next generation electronic intelligence gathering aircraft	Conduct research to improve the signal detection, direction finding, and identification capabilities of the information-gathering system for aircraft systems towards development of a successor (next-generation electronic information-gathering system) to the EP-3, which is expected to be decommissioned in the future	50
Research on advanced radar technology	Establish future high performance radar technology for use in airborne applications, which can operate over a wide frequency range and simultaneously provide wide angular coverage, through UK-Japan joint research	41
Development of sonar system for future submarines	Develop sonar system with improved detection capability to ensure and maintain the advantage of the SDF submarines in the underwater domain for the future	48
Research on a noise-reducing torpedo-launcher	Research on reducing sound of torpedo-launcher to make submarines even quieter	23
Research on high-speed, high-maneuvering radar technology	Promote simulational research for the improvement of radar detection and tracking and extension of the detection range of high-speed, high-maneuvering targets, such as low RCS* targets and hypersonic missiles	10
Development of surface-to-air Missile System for Base-air-defense (Improved) and new close-range surface-to-air missile	Efficiently develop as family missiles the Surface-to-air Missile System for Base-air-defense (Improved), which have improved simultaneous multi-targeting capability and reduced cost, and the new close-range surface-to-air missile, which have improved maneuverability and ability to deal with low-altitude targets	45

3 Changes in the Number of SDF Personnel

● Changes in the number of SDF personnel

(Unit: person)

	End of FY2020	End of FY2021	Change
GSDF	158,676	158,571	△105
	Regular personnel	150,695	△105
	Ready reserve personnel	7,981	0
MSDF	45,329	45,307	△22
ASDF	46,943	46,928	△15
Joint units	1,418	1,552	134
JS	382	385	3
Defense Intelligence Headquarters	1,932	1,936	4
Internal Bureau	49	50	1
ATLA	406	406	0
Total	247,154	247,154	0
	(255,135)	(255,135)	(0)

Note 1: Figures for the end of each fiscal year are budget figures.

Note 2: The number in the parentheses includes the number of SDF ready reserve personnel

● Number of SDF personnel (annual average)

(Unit: person)

	GSDF	MSDF	ASDF
Annual average	141,106	43,062	44,153

● Number of SDF reserve personnel

(Unit: person)

	GSDF	MSDF	ASDF	Total
SDF reserve personnel	46,000	1,100	800	47,900

● Number of candidates for reserve personnel

(Unit: person)

	GSDF	MSDF	Total
SDF reserve candidates	4,600	21	4,621

● Changes in the number of defense officials

(Unit: person)

	JFY2016	JFY2017	JFY2018	JFY2019	JFY2020	JFY2021
	The 13th rationalization plan				The 14th plan	
Rationalization	△262	△262	△261	△261	△266	△266
Increase	169	182	209	204	299	409
Net Increase and decrease	△93	△80	△52	△57	33	—
Decrease due to the arrival of temporary post's deadline, etc.	△7	△7	△15	△12	△12	△13
Number at the end of FY	21,061	20,974	20,931	20,903	20,924	21,054

Note 1: The period of the 14th rationalization plan is from JFY2020 to JFY2024.

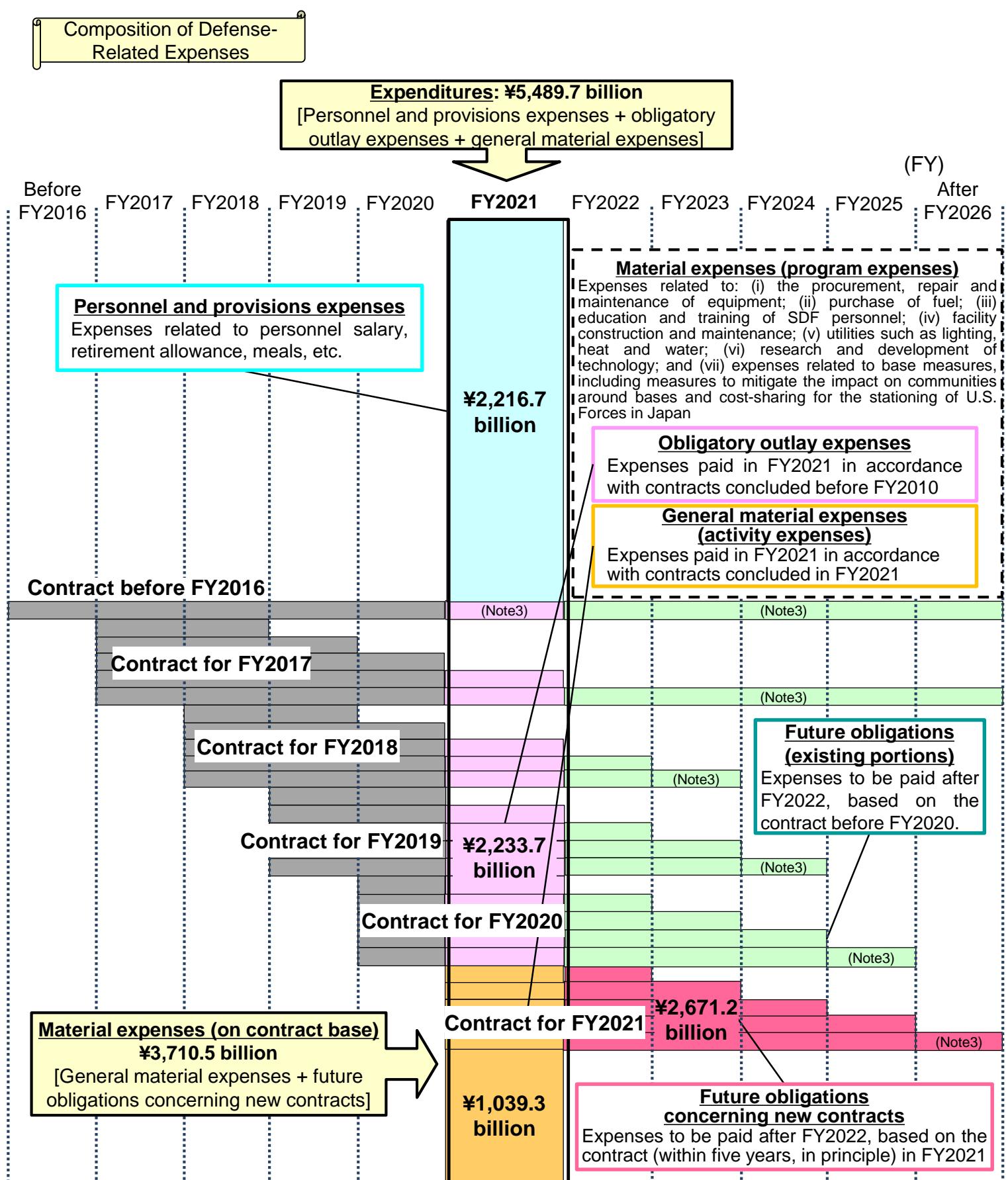
Note 2: Other than that, rationalization of organizational quota by operational reform and request for increase of personnel would take place in JFY2020 and JFY2021 budget requests (JFY2020: 160 personnel, JFY2021: 301 personnel).

Note 3: Number at the end of JFY includes number for promoting employment of persons with disabilities (JFY2018: 24 officials, JFY2019: 41 officials), and the increase does not include this number.

Note 4: Doesn't include the Minister, State Minister, two Parliamentary Vice-Ministers and Senior Advisor to the Minister

Reference

(Reference) Composition of Defense-Related Expenses



Note 1: Exclude SACO-related expenses, and the U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities)

Note 2: This chart is a rough diagram. The length of a box does not necessarily correspond to the actual amount of expenses.

Note 3: There are expenses to be paid over 5 years in association with the introduction of long-term contracts for the procurement of equipment.

Details and Classification of Material Expenses (Program Expenses)

(Unit: ¥100 million)

FY2021	Expenditure base	Contract base
Material expenses (program expenses)	32,730	37,105
Obligatory outlay expenses	22,337	
General material expenses (activity expenses)	10,393	10,393
Future obligations concerning new contracts		26,712

(Note)

Expenditure base: Total amount to be paid in the current fiscal year for projects like procurement of equipment and facility development

Specifically, it is the sum of the expenses to be paid in FY2021 (general material expenses) based on the contracts concluded in FY2021 and the expenses to be paid in FY2021 (obligatory outlay expenses) based on the contracts concluded before FY2020. This is a useful point of view in understanding the share of defense-related expenses in the overall expenditure budget of the government, which is in principle an annual budget.

Contract base: Total amount of contracts concluded in the current fiscal year for projects like procurement of equipment and facility development

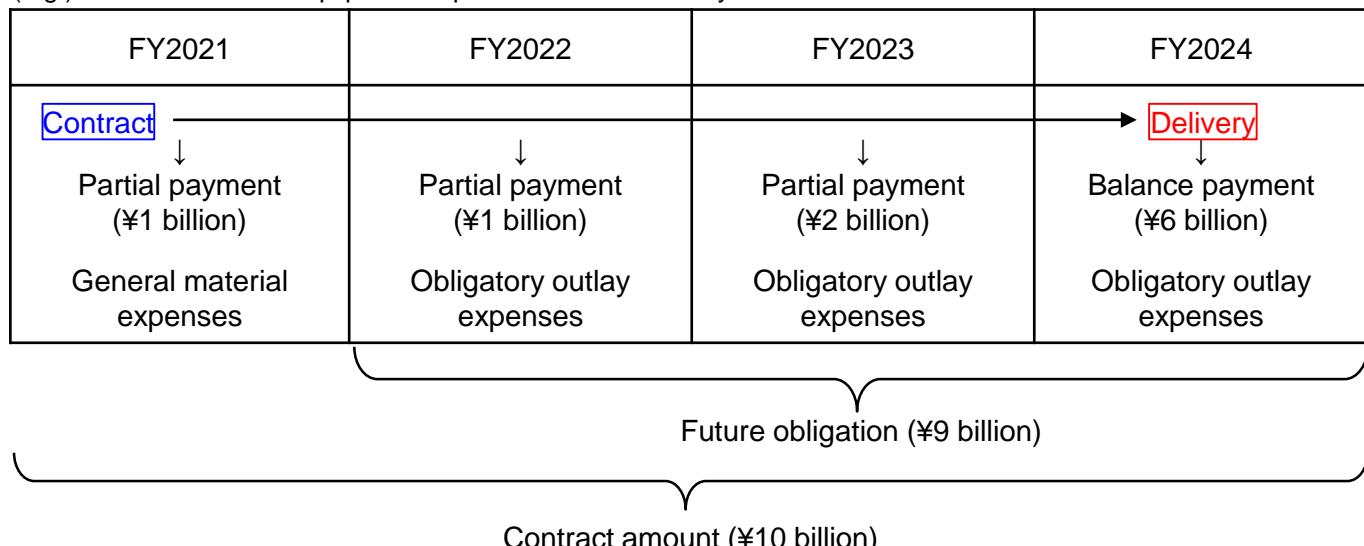
Specifically, the sum of the expenses to be paid in FY2021 and the expenses to be paid after FY2022 (future obligation concerning new contracts) based on the contracts concluded in FY2021. This is a useful point of view in understanding the total amount of expenses by program with respect to year-by-year projects for developing defense capabilities.

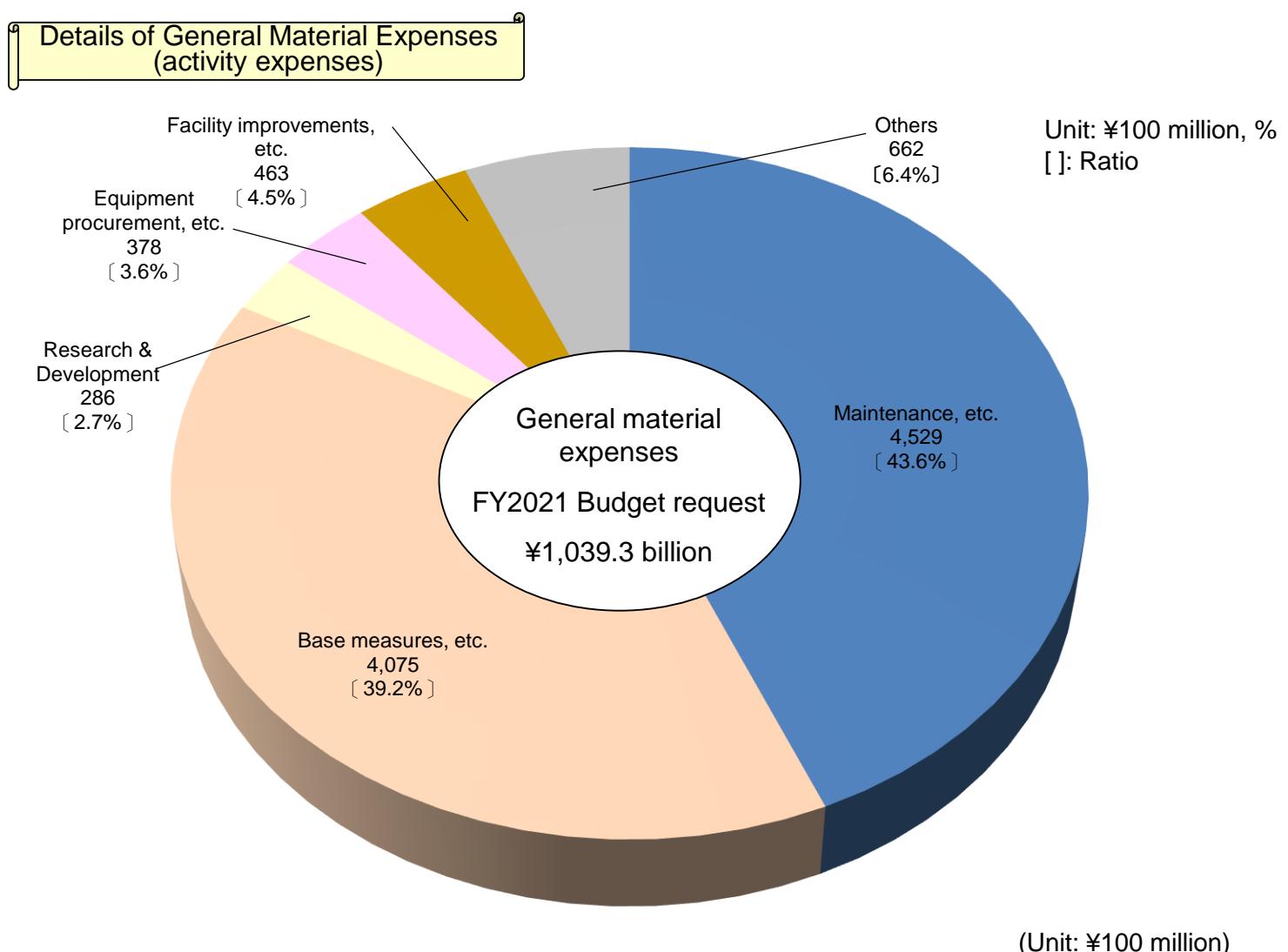
Concept for Future Obligation

The build-up of defense capabilities, such as procurement of major equipment including vessels and aircraft, as well as construction of hangars and accommodations for SDF personnel, may take several fiscal years. For this reason, the MOD makes contracts for which the span is several fiscal years (up to five years, in principle), and, at the time of concluding a contract, makes an advance commitment to pay the expenses at a certain time in the future.

Future obligation refers to the amount that will be paid in the fiscal year or years following the year the contract is concluded, in accordance with the contract of several fiscal years.

(e.g.) 10 billion worth of equipment is procured under a four-year contract.

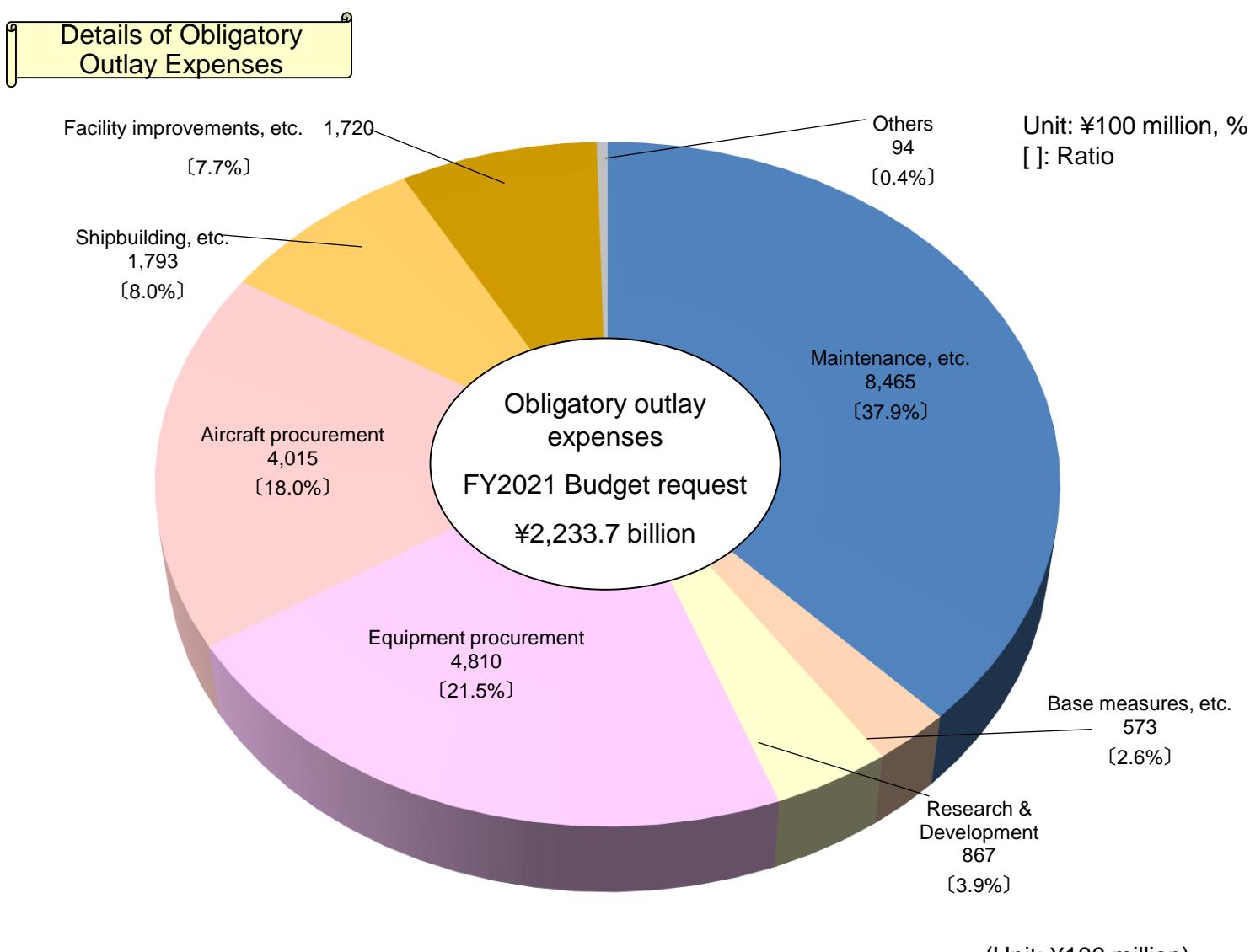




(Unit: ¥100 million)

Item	FY2020 Budget	FY2021 Budget request	YoY change
Maintenance, etc.	4,290	4,529	239
• Petrol	942	862	-80
• Repair	1,807	2,047	240
• Education & training	287	294	7
• Medical care, etc.	265	287	22
• Utilities	989	1,040	51
Base measures, etc.	3,998	4,075	77
• Countermeasures in areas near bases	777	809	32
• Host nation support	1,814	1,850	36
• Rent, compensation costs, etc.	1,407	1,416	9
Research & Development	270	286	15
Equipment procurement, etc.	407	378	-29
Facility improvements, etc.	316	463	147
Other (computer rentals, etc.)	644	662	18
Total	9,926	10,393	467

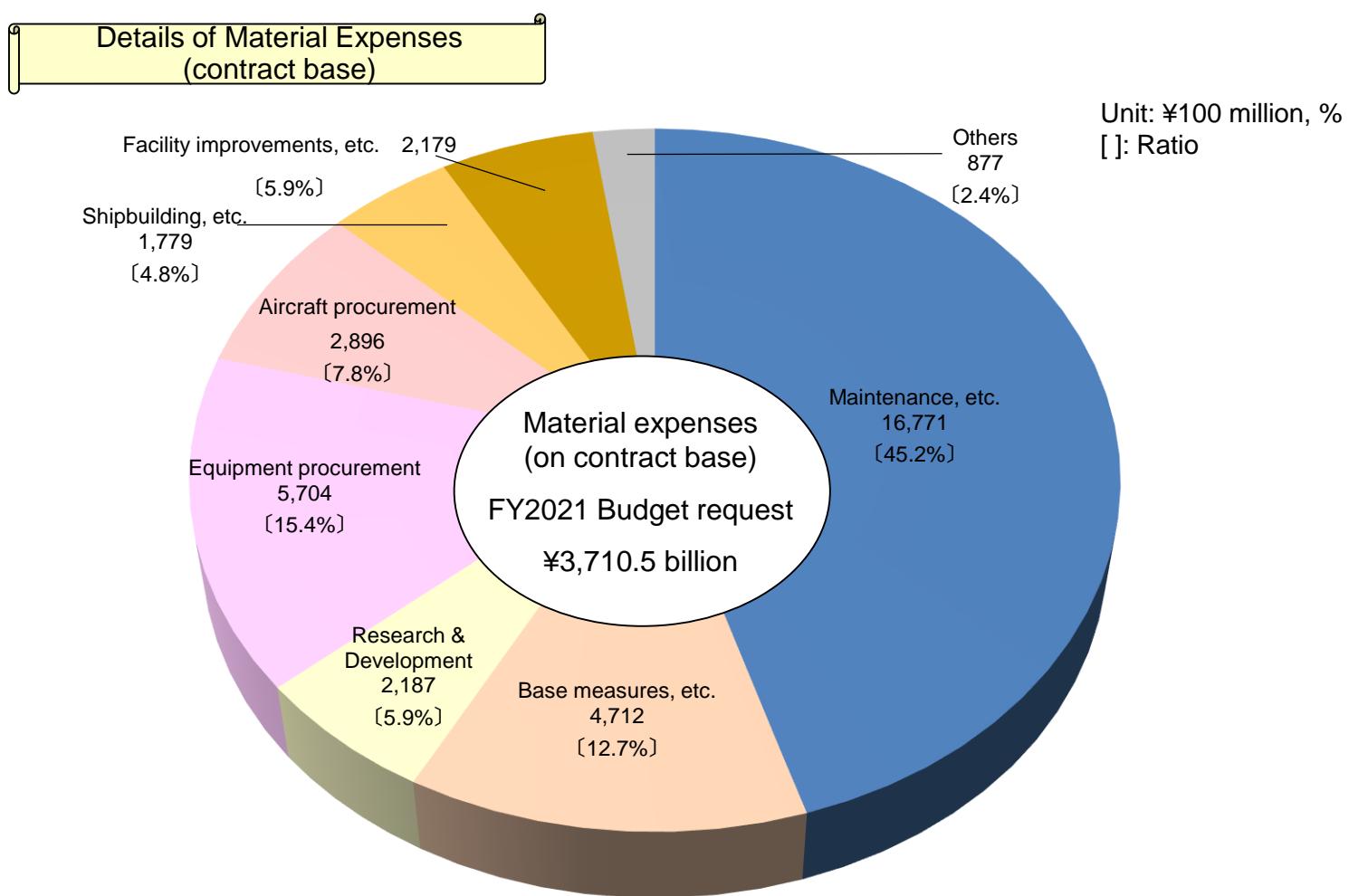
Note: Exclude SACO-related expenses, the U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities), and expenses for the three-year emergency measures for disaster prevention/reduction and national resilience



(Unit: ¥100 million)

Item	FY2020 Budget	FY2021 Budget request	YoY change
Maintenance, etc.	8,320	8,465	145
Repair	8,042	8,072	30
Education & training, etc.	278	393	115
Base measures, etc.	586	573	-12
Research & Development	1,003	867	-136
Equipment procurement	4,069	4,810	741
Aircraft procurement	2,694	4,015	1,321
Shipbuilding, etc.	1,373	1,793	420
Facility improvements, etc.	1,196	1,720	524
Other (computer rentals, etc.)	95	94	-1
Total	19,336	22,337	3,001

Note: Exclude SACO-related expenses, the U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities), and expenses for the three-year emergency measures for disaster prevention/reduction and national resilience



(Unit: ¥100 million)

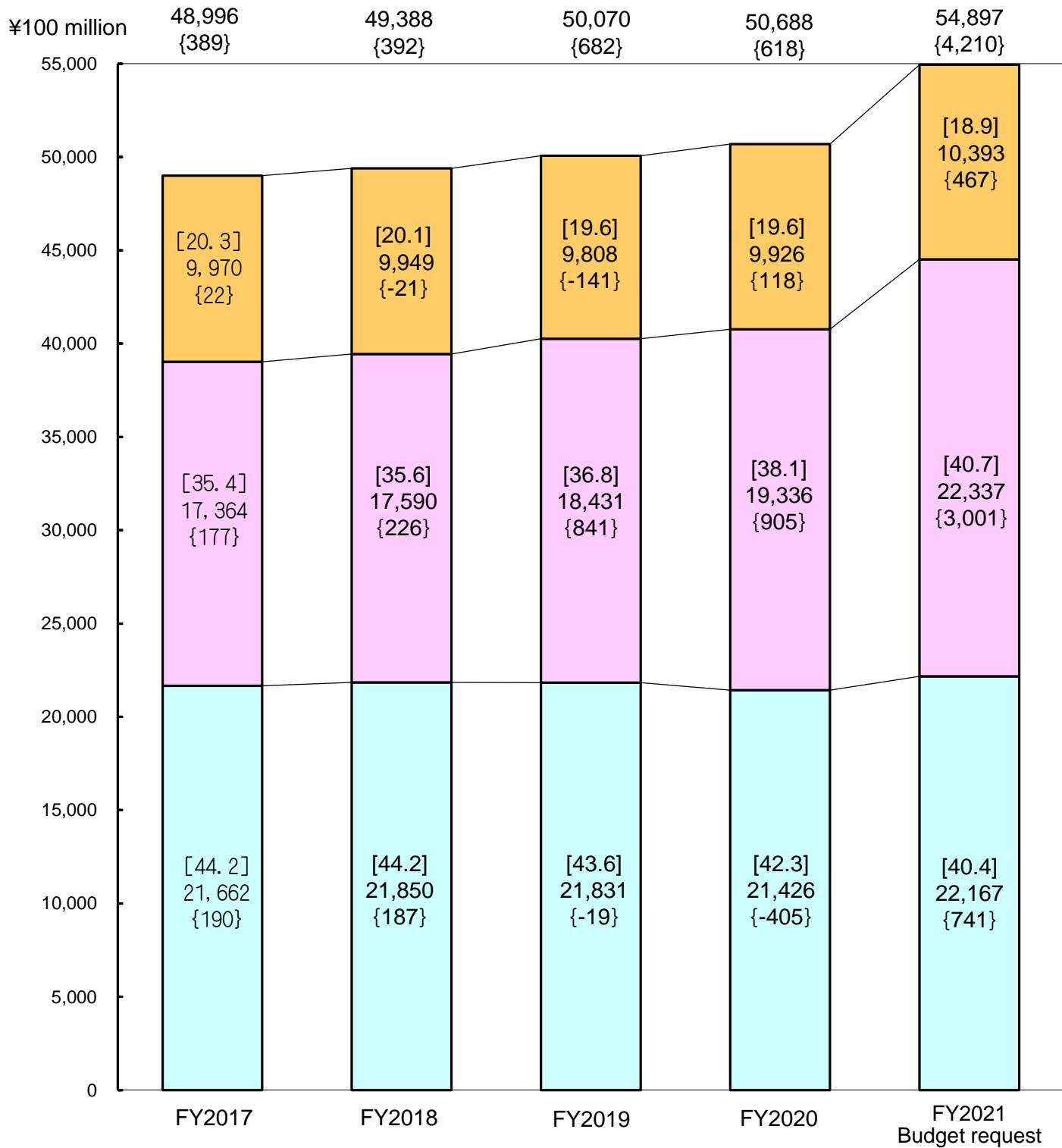
Item	FY2020 Budget	FY2021 Budget request	YoY change
Maintenance, etc.	13,768	16,771	3,002
Petrol	942	862	-80
Repair	10,897	13,645	2,748
Education & training, etc.	1,929	2,264	335
Base measures, etc.	4,678	4,712	34
Research & Development	1,676	2,187	511
Equipment procurement	4,712	5,704	992
Aircraft procurement	4,844	2,896	-1,948
Shipbuilding, etc.	1,817	1,779	-38
Facility improvements, etc.	1,757	2,179	422
Other (computer rentals, etc.)	724	877	153
Total	33,976	37,105	3,129

Note: Exclude SACO-related expenses, the U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities), and expenses for the three-year emergency measures for disaster prevention/reduction and national resilience

Changes in the Three Categories

General material expenses
Obligatory outlay expenses
Personnel and provisions expenses

[] : Ratio of expenditures (%)
{ } : YoY change



Note: Exclude SACO-related expenses, the U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities), and expenses for the three-year emergency measures for disaster prevention/reduction and national resilience

Breakdown by Organization

(Unit: ¥100 million, %)

Categories	FY2020 Budget	FY2021 Budget request	YoY change	Growth rate
Defense-related expenses	50,688	54,897	4,210	8.3
MOD	50,688	54,897	4,210	8.3
(MOD Head Office)	48,886	53,217	4,331	8.9
GSDF	18,173	19,273	1,100	6.1
MSDF	11,589	13,508	1,919	16.6
ASDF	12,409	13,310	901	7.3
Subtotal	42,170	46,091	3,921	9.3
Internal Bureau	5,072	5,155	83	1.6
JS	548	743	195	35.5
Defense Intelligence Headquarters	672	782	110	16.3
National Defense Academy	155	160	5	3.3
National Defense Medical College	238	253	15	6.3
National Institute for Defense Studies	23	25	2	9.9
Inspector General's Office of Legal Compliance	8	7	-0	-5.1
Subtotal	6,716	7,126	410	6.1
(Regional Defense Bureaus)	204	213	9	4.4
(ATLA)	1,597	1,467	-130	-8.1

Note: Exclude SACO-related expenses, the U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities), and expenses for the three-year emergency measures for disaster prevention/reduction and national resilience

Promotion of Measures for Bases, etc.

(Unit: ¥100 million, %)

Classification	FY2020 Budget	FY2021 Budget Request	Year on Year Change	Growth Rate	Note
Promotion of measures for bases, etc.	< 4,678>< 4,584	< 4,712>< 4,648	34>< 65	0.7> 1.4	
(1) Expenses for measures in areas around bases	< 1,147>< 1,153	< 1,177>< 1,166	30>< 12	2.6> 1.1	
Residential sound proofing	< 509>< 518	< 519>< 526	10>< 8	1.9> 1.5	Subsidies for sound proofing work near air bases
Improving living environment of the neighboring communities	< 638>< 635	< 658>< 639	21>< 5	3.2> 0.7	Subsidies for the improvement of living environment and facilities (river and road restoration, sound proofing for schools, development of sand control dams and public warfare facilities, etc.)
(2) Cost sharing for the stationing of USFJ	< 2,005>< 1,993	< 2,029>< 2,029	24>< 36	1.2> 1.8	
Special Measures Agreement	1,520	1,546	26	1.7	
Labor costs	1,287	1,301	14	1.1	Sharing of wages for USFJ employees
Utilities costs	223	234	12	5.3	Sharing of costs for utilities used at USFJ facilities
Training relocation costs	10	10	0	2.2	Sharing of expenditures incident to the U.S. Forces Field-Carrier Landing Practice at Iwo-To
Facilities Improvement Program	< 219>< 207	< 217>< 218	△ 11>< 10	△ 0.7> 4.9	Improvement of USFJ facilities (barracks, family housing, etc.)
Measures for USFJ employees	266	265	△ 1	△ 0.3	Payment of the employer's contribution parts for USFJ employees' social insurance premiums
(3) Rents for facilities, compensation expenses, etc.	< 1,527>< 1,438	< 1,506>< 1,454	△ 21>< 16	△ 1.3> 1.1	Rents for land areas of defense facilities and compensation expenses for the losses of fishers' income, etc.

Note: The above figures are on an expenditure basis (general material expenses + obligatory outlay expenses), and figures in < > indicate a contract base amount.

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Defense Programs and Budget of Japan

Overview of FY2021 Budget Request

Published in September 2020

Published by:

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