Defense Programs and Budget of Japan

Overview of FY2019 Budget
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- Contents -
1. Japan will steadily improve its defense capabilities in FY2019 as the first 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. In order to realize cross-domain operations, Self Defense Force (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. In addition, SDF will enhance capabilities in maritime and air domains, stand-off defense capability, comprehensive air and missile defense capability and maneuver 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, sustainability and resiliency of defense capability including logistics support will be enhanced. Moreover, Japan will prioritize reinforcement of human resource base in the face of aging population with declining birth rates and technology base regarding advances in military technology, as well as strengthening Japan-U.S. Alliance and security cooperation with other countries in light of changes in security environment.

3. In order to adapt to increasingly rapid changes in 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 adhering to existing budget and human resource allocation. Furthermore, SDF will further promote joint-ness of the Ground, Maritime and Air Self-Defense Forces in all areas, avoid stove-piped approach and optimize their organizations and equipment.

4. Considering increasingly severe fiscal conditions and 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.
### Overall Defense-Related Expenses

(Unit: ¥100 million)

<table>
<thead>
<tr>
<th>Categories</th>
<th>FY2018 Budget</th>
<th>Year on Year Change</th>
<th>FY2019 Budget</th>
<th>Year on Year Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defense-related Expenses</td>
<td>5 8 2 [0. 1]</td>
<td>(6 6 0 [1. 3])</td>
<td>6 8 2 [1. 4]</td>
<td>(6 6 3 [1. 3])</td>
</tr>
<tr>
<td>(Note)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1. [ ]: growth rate (%).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Figures may not add up to the total due to rounding (the same hereinafter).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. 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), expense for the introduction of new government aircraft and expenses related to the three-year emergency measures for disaster prevention/reduction and national resilience. The lower figures in parentheses indicate the expenses that include those above.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The amount of the SACO-related expenses are:
FY2018: ¥166.1 billion; FY2019: ¥167.9 billion

The U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities) are:
FY2018: ¥216.1 billion; FY2019: ¥167.9 billion

Expenses related to the introduction of new government aircraft are:
FY2018: ¥21.2 billion; FY2019: ¥6.2 billion

Expenses related to the three-year emergency measures for disaster prevention/reduction and national resilience are:
FY2018: ¥160 million; FY2019: ¥160.1 billion


### Future Obligation Concerning New Contracts

(Unit: ¥100 million)

<table>
<thead>
<tr>
<th>Categories</th>
<th>FY2018 Budget</th>
<th>Year on Year Change</th>
<th>FY2019 Budget</th>
<th>Year on Year Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1 9 3 [0. 6]</td>
<td>(1 3 5 [0. 6])</td>
<td>2 4 0 [1. 4]</td>
<td>(4 1 7 [21. 8])</td>
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<tr>
<td>Conventional</td>
<td>1 9 3 6 6 6 6</td>
<td>1 1 8 [1. 2]</td>
<td>2 2 1 2 1 2</td>
<td>2 4 5 5 1 2 5 1</td>
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<tr>
<td>Long-term</td>
<td>2 7 2</td>
<td>1 2 8 [1. 5]</td>
<td>1 6 2 0 5 9 4 9</td>
<td></td>
</tr>
</tbody>
</table>

(Note) 1. [ ]: growth rate (%). (the same hereinafter). 2. The upper figures in each cell does not include SACO-related expenses. U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities), expense for the introduction of new government aircraft and expenses related to the three-year emergency measures for disaster prevention/reduction and national resilience. The lower figures in parentheses indicate the expenses that include those above. 3. Details of long-term contract are:
FY2018: Performance Based Logistics (PBL) for maintenance components of F110 engine (for fighter aircraft (F-2)) FY2019: Comprehensive contract for components of PAC-3 missiles (¥3 billion), procurement of Airborne Early-Warning Aircraft (E-2D) (¥186.2 billion)
### Transition of the Defense-Related Expenses

#### Transition of the Total Amount

(Unit: ¥1 trillion)

![Graph showing the transition of the total amount](attachment:graph.png)

- **Include SACO-related, realignment-related, government aircraft and national resilience expenses**
- **Exclude SACO-related, realignment-related, government aircraft and national resilience expenses**

#### Transition of the Growth Rate

(Unit: %)

<table>
<thead>
<tr>
<th>Categories</th>
<th>FY97</th>
<th>FY98</th>
<th>FY99</th>
<th>FY00</th>
<th>FY01</th>
<th>FY02</th>
<th>FY03</th>
<th>FY04</th>
<th>FY05</th>
<th>FY06</th>
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<tbody>
<tr>
<td>Include SACO-related, realignment-related, government aircraft and national resilience expenses</td>
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<td>△ 0.2</td>
<td>△ 0.2</td>
<td>0.1</td>
<td>0.4</td>
<td>0.0</td>
<td>△ 0.1</td>
<td>△ 1.0</td>
<td>△ 1.0</td>
<td>△ 0.9</td>
<td>△ 0.3</td>
</tr>
<tr>
<td>Exclude SACO-related, realignment-related, government aircraft and national resilience expenses</td>
<td>2.0</td>
<td>△ 0.3</td>
<td>△ 0.2</td>
<td>0.0</td>
<td>0.3</td>
<td>0.0</td>
<td>△ 0.3</td>
<td>△ 1.0</td>
<td>△ 1.0</td>
<td>△ 0.8</td>
<td>△ 0.2</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Categories</th>
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<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include SACO-related, realignment-related, government aircraft and national resilience expenses</td>
<td>△ 0.5</td>
<td>△ 0.1</td>
<td>△ 0.3</td>
<td>△ 0.3</td>
<td>△ 1.3</td>
<td>0.9</td>
<td>2.8</td>
<td>2.0</td>
<td>1.5</td>
<td>1.4</td>
<td>1.3</td>
<td>1.3</td>
</tr>
<tr>
<td>Exclude SACO-related, realignment-related, government aircraft and national resilience expenses</td>
<td>△ 0.8</td>
<td>△ 0.8</td>
<td>△ 0.4</td>
<td>△ 0.4</td>
<td>△ 0.4</td>
<td>0.8</td>
<td>2.2</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Note: The above figures are on an expenditure base.
II 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 security environment surrounding Japan becomes more testing and uncertain at remarkably fast speeds.

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

In order to realize cross-domain operations, 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.

Space-related budget: ¥86 billion *

* Excluding the portion related to ballistic missile defense allocated for space.

(1) Capabilities in Space Domain

○ Procurement of the Space Situational Awareness (SSA*) system (¥26.0 billion)
  • Develop Deep Space (*) radar and operation system to perform Space Situational Awareness in cooperation with the U.S. and the relevant domestic organizations such as the Japan Aerospace Exploration Agency (JAXA).
  * SSA: Space Situational Awareness
  * Deep Space: outside of the altitude of approximately 5,800km

○ Research and study for strengthening the C4ISR* functions by utilizing space (¥2 billion)
  • Verification study of dual-band infrared sensor in space.
  • Research and study on the space electromagnetic spectrum surveillance posture.
  • Research and study on the vulnerabilities of satellites and their countermeasure.
  • Research and study to secure stable utilization of outer space.
  * C4ISR: Command, Control, Communication, Computer, Intelligence, Surveillance, Reconnaissance

○ Research and study on SSA capability enhancement, including space-based optical telescope (¥30 million)

○ Use of satellite communication (¥51.2 billion)
  • Partial development such as equipment related to the X-band Defense Communication Satellite-3 (successor satellite of Superbird-C2).
  • Modification to equipment, etc. to adapt to the X-band communication satellite.
  • Leasing of commercial communication satellite lines, development and maintenance, etc. of satellite communication equipment.

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.
Priorities for Strengthening Capabilities Necessary for Cross-Domain Operations

II

Use of commercial imagery satellites/meteorological satellites information (¥10.4 billion)
- procurement of data for image analysis (WorldView-4, domestic commercial optical satellite, miniature earth observation satellite, etc.).

Dispatch of personnel to the U.S. Air Force Space Operations Course, etc. (¥20 million)
- Acquire knowledge concerning matters related to outer space by dispatching personnel to the Space Operations Course provided at U.S. Air Force base in the U.S. state of Colorado.
- Participate in multilateral table-top exercises in the field of outer space.

Establish “Space and Maritime Policy Office (tentative name)” in the Strategic Planning Division of Bureau of Defense Policy to strengthen the policy planning function related to the stable use of outer space and maritime policy in the JMOD/SDF as well as coordination with other ministries and agencies.

* Budget related to BMD (only the space-related portion): ¥270.5 billion

(2) Capabilities in Cyber Domain

Cyber-related budget: ¥22.3 billion

- Enhancement/strengthening of cyber postures
  
  Enhancement/strengthening of Cyber Defense Group (approx. 150 → approx. 220 personnel)

  Increase the number of Cyber Defense Group by approximately 70 personnel to fundamentally strengthen cyber defense capability.

- Improvement of the Defense Information Infrastructure (closed) (¥11 billion)
  
  Improve the closed system of the DII to prevent cyber attacks by intruders.

- Procurement of cyber information gathering devices (¥3.6 billion)
  
  In order to gather information on the tactics, techniques and procedures (TTPs) of cyber attacks against the JMOD/JSDF, the JMOD will procure cyber information gathering devices.

- Utilization of outside expertise related to response to cyber attacks (¥2.3 billion)
  
  Utilization of outside expertise for tasks that require advanced expertise on response to cyber attacks.

- Enhancement of cyber security measures of the air operation system (¥440 million)
  
  Develop security surveillance equipment to quickly detect and appropriately respond to cyber attacks, etc. against the operation system of the JASDF.
(3) Capabilities in Electromagnetic Spectrum Domain

○ Establish “Electromagnetic Spectrum Policy Office (tentative name)” in the Information and Communications Division of the Bureau of Defense Buildup Planning to enhance the function to make policies pertaining to effective and efficient use of electromagnetic spectrum in the JMOD/JSDF and coordination with other ministries and agencies.

○ Establish “Electromagnetic Spectrum Domain Planning Section (tentative name)” in the C4 Systems Planning Division of the C4 Systems Department in Joint Staff to improve the function to make policies related to integrated operations in the electromagnetic spectrum domain.

○ Research to optimize the management of the electromagnetic spectrum domain (¥3 million) In order to contribute to the integrated operation crossing multiple domains, conduct research from a technological perspective on information sharing among the three branches of the SDF contributing to the effective use of electromagnetic spectrum.
○ Procurement of F-35A
Continue procurement of fighter jets (F-35A) with high-quality electronic warfare capabilities. *Refer to the page 10 for the details of program in general.

○ Improvement of F-15’s electronic warfare (EW) capability
Conduct refurbishment of F-15 fighter jets to load new electronic warfare devices with ability to respond to increased capabilities of neighboring countries’ air forces.
* Refer to the page 10 for the details of program in general.

○ Procurement of network electronic warfare system
(1 set: ¥2.6 billion)
Improve the GSDF’s network electronic warfare system to have an advantage in operations by collecting and analyzing signals and jamming communication.

○ Refurbishment of the airframe of utility aircraft (UP-3D)
(¥1.5 billion)
Refurbish the airframe of the UP-3D and equip it with an improved jammer to support training based on trends in electronic warfare in recent years.

○ Improvement of sharing/processing capability of Electronic Warfare information of the Japan Aerospace Defense Ground Environment (JADGE)
(¥2.9 billion)
Provide the JADGE electronic warfare data retained by SDF units to improve information sharing on the electromagnetic spectrum.
2 Enhancing Capabilities in Traditional Domains

SDF will enhance capabilities in maritime and air domains, stand-off defense capability, comprehensive air and missile defense capability and maneuver 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)*

- **Capability improvement of fixed-wing patrol aircraft (P-3C)**
  
  ¥30 million
  
  Implement upgrades necessary to improve capabilities of the radars to improve the detection/discrimination capabilities of the fixed-wing patrol aircraft (P-3C).

- **Life extension of fixed-wing patrol aircraft (P-3C)**
  
  5 aircraft: ¥2.2 billion
  
  Implement life extension measures for P-3C to maintain the number of fixed-wing patrol aircraft.

- **Life extension of patrol helicopters (5 aircraft: ¥7.7 billion)**
  
  Implement life extension measures for three SH-60K and two SH-60J to maintain the number of patrol helicopters.

- **Construction of destroyer (2 ships: ¥95.1 billion)**
  
  Construct two destroyers (third and fourth ships of FFM (3,900t class) built in FY2018), equipped with compact hulls and improved multi-role capability (such as mine countermeasures, which were conventionally served by minesweeping vessels); bringing the total number of destroyers to 54.

- **Life extension of destroyers**
  
  (life extension for 3 ships and parts procurement for 4 ships: ¥6.2 billion)
  
  Implement life extension measures for the Asagiri-class (3 ships), Abukuma-class (1 ship), Kongo-class (2 ships), and Murasame-class (1 ship) to maintain the number of destroyers.

- **Construction of a submarine (1 ship: ¥69.8 billion)**
  
  Construct a submarine (third ship of new class ship (3,000t class) built in FY2017) with enhanced capabilities (detection, etc.) to effectively carry out intelligence and surveillance activities in the surrounding sea with 22 submarines.
○ Life extension of submarines (life extension for 4 vessels and parts procurement for 3 vessels: ¥6.3 billion)
  Implement life extension measures for Oyashio-class submarines; bringing the total number of submarines to 22 from 16.

○ Research on high-efficient electricity storage and supply system for submarines (¥4.3 billion)
  Conduct research on high-efficient electricity supply system and high-density electricity storage system to extend submarines' underwater endurance without increasing ship size.

○ Procurement of long-endurance UAV (RQ-4B Global Hawk): (¥7.1 billion)
  - Accumulate expenses for the assembly of one UAV in order to enhance persistent wide-area surveillance capability.
  * ¥10.1 billion is accumulated separately for other related expenses (maintenance equipment, etc.).

○ Procurement of airborne early-warning aircraft (E-2D) (9 aircraft: ¥194 billion)
  Bulk-procurement of airborne early-warning aircraft to strengthen ISR capabilities in airspace around Japan including vast air space on the Pacific side.

○ Capability improvement of Airborne Warning and Control System (E-767) (1 aircraft: ¥12.9 billion)
  Implement aircraft modifications necessary for conversion of central computing devices and installation of electronic warfare support equipment in order to improve the warning and surveillance capabilities of the existing E-767.
Establishment of “Airborne Warning and Control Wing”
Establish Airborne Warning and Control Wing by abolishing Airborne Warning and Control Group to strengthen posture for continuous surveillance activities by Airborne Early Warning Aircraft, etc.

Linkage of the radar on Iwo To to JADGE, etc.
(¥100 million)
Improve the ISR capabilities in the airspace over Iwo To and its vicinity by connecting the radar on the island (FPS-2) to JADGE.

Obtaining and Maintaining Air Superiority

Procurement of F-35A (6 aircraft: ¥68.1 billion)
* ¥40.7 billion is accumulated separately for other related expenses (ground support equipment, etc.).

Upgrade of F-15 (2 aircraft: ¥10.8 billion)
Upgrade to load standoff missiles (JASSM, etc.), increase the number of weapons to carry, and improve electronic warfare capabilities in order to provide effective defense against surrounding countries’ modernized air forces.
* ¥41.2 billion is accumulated separately for other related expenses (design changes, etc.).

Shifting the posture of fighter squadrons, etc.
* Shift the posture of fighter squadrons to develop readiness for ensuring air superiority.
* Move the F-2 squadrons at Misawa Air Base to Hyakuri Air Base.
○ Research and study for refurbishing destroyer Izumo
  (¥70 million)
  Conduct research and study necessary for refurbishment to operate short take-off and vertical landing (STOVL) aircraft.

○ Procurement of Type-03 middle-range surface-to-air missile (modified) (1 set: ¥14.1 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.

○ Procurement of Type-11 short-range surface-to-air missile (1 set: ¥4.7 billion)
  Procure the Type-11 short-range surface-to-air missile, which is capable of responding to various airborne threats, in order to strengthen the capability to provide air defense for rapid deployment units, etc.

Obtaining and Maintaining Maritime Superiority

○ Capability improvement of fixed-wing patrol aircraft (P-3C) (repost)

○ Life extension of fixed-wing patrol aircraft (P-3C) (repost)

○ Life extension of patrol helicopters (repost)

○ Construction of destroyer (repost)

○ Life extension of destroyers (repost)

○ Construction of a submarine (repost)

○ Life extension of submarines (repost)
Research on UUV* (¥4.2 billion) with an convertible mission modules
Conduct research to establish UUV technology which is applicable to
various missions such as marine surveillance and observation, by
prototyping a UUV with exchangeable mission modules which can be
operated long term.
* UUV: Unmanned Underwater Vehicle

Research on high-efficient electricity storage and supply system for submarines (repost)

Procurement of Type-12 surface-to-ship missile
(1 set: ¥ 13.5 billion)
Procure Type-12 surface-to-ship missile, an upgraded
version of the existing Type-88 surface-to-ship missile, to
enhance combat capabilities against ships.

(2) Stand-off Defense Capability

Procurement of stand-off missiles (¥7.9 billion)
Procure stand-off missiles (JSM), which can be loaded on
the F-35A and are capable of responding from the outside of
their threat envelopes to deal with ships and landing forces
attemping to invade Japan while ensuring safety of SDF
personnel.

Research on HVGP (Hyper Velocity Gliding Projectile)
for Defense of Remote Islands (¥13.9 billion)
HVGP intended for the defense of remote islands can
glide at high velocity and attack a target in order to enable
island-to-island firing.

Research on component technologies of hypersonic
weapons (¥5.8 billion)
Conduct research on component technologies of
SCRAM-jet engines using combustion in supersonic air
flow, to realize propulsion device which is capable of
cruising in hypersonic* environment.
* Scramjet engine: An engine utilizing the combustion in
the sonic speed airflow
* Hypersonic speed: five times faster than the speed of sound

Priorities for Strengthening Capabilities
Necessary for Cross-Domain Operations

Type-12 Surface-to-Ship
Missile

Stand-Off Missile (JSM)
(conceptual image)

HVGP for Defense of Remote Islands
(conceptual image)

Research on Element Technologies of
Hypersonic Weapons (conceptual image)
(3) Comprehensive Air and Missile Defense Capability

**BMD-related budget: ¥355 billion**

○ Introduction of the land-based Aegis system (Aegis Ashore)
  - Procurement of 2 units of Aegis Ashore with cutting-edge radar (LMSSR) that drastically improve ballistic missile defense capability such as response against lofted trajectory projectiles (procurement cost of 1 unit: ¥120.2 billion).
    - Accumulated cost※ to JFY2019 budget request: ¥175.7 billion
      * include related costs

○ Procurement of SM-3 Block IIA and SM-3 Block IB (¥71.7 billion)
  - Procure SM-3 Block IIA and SM-3 Block IB to be deployed for ballistic missile defense.
  - (* SM-3 Block IB will be bulk-procured)

○ Capability improvement of the Atago-class destroyers (¥7.5 billion)
  - Implement upgrades to enable them to launch the SM-3 Block IIA.

○ Modification to the Patriot system (¥20.1 billion)
  - In order to maintain and improve the BMD and air defense capabilities, implement upgrades to the Patriot system (¥11.3 billion).
  - Secure necessary PAC-3 missiles by replacing parts that are close to the end of their service life and inspecting the whole missile as part of the reassuring process of the PAC-3 missiles. (¥8.8 billion).

○ Procurement of Type-03 middle-range surface-to-air missile (modified) (repost)

○ Procurement of Type-11 surface-to-air missile (repost)

○ Procurement of air defense command and control system (2 sets: ¥7.3 billion)
  - Procure the air defense command and control system to ensure effective joint response operations against airborne threats.

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**Aegis Ashore**

**SM-3 Block IIA**

**Air Defense Command and Control System**
○ Research on FC Network (¥6.3 billion)
Research on FC (Fire Control) Network that enables real time sharing of sensor information within destroyers and Network Launches.

○ BMD exercise
Improves SDF’s capabilities of BMD response and enhances operational coordination with U.S. Forces.

(4) Maneuver and Deployment Capability

○ Procurement of Type-16 mobile combat vehicles
(22 vehicles: ¥16.1 billion)
Strengthen rapid deployment capabilities of the basic operational units (rapid deployment division and rapid deployment brigades) by deploying Type-16 mobile combat vehicles suited for transportation by aircraft and other mean.

○ Procurement of 155mm wheeled howitzer
(7 vehicles: ¥5.1 billion)
As the successor of the existing 155mm field howitzer (FH70), procure the 155mm wheeled howitzer for training purpose, which is capable for the operation with quick and maneuver in various situations and can be also contributed for its efficiency.

○ Development of multi-purpose missile system (improved)
(¥3.5 billion)
Develop a multi-purpose missile system with higher capability and performance compared to the existing equipment, such as a longer range and better capability to simultaneously response to multiple targets, at a lower procurement cost.
○ Procurement of new utility helicopter (UH-X) (6 aircraft: ¥11 billion)
    Procure new utility helicopter (UH-X) for rapid deployment through airmobile and airlift, to succeed the utility helicopter (UH-1J).

○ Development of facilities related to the Amphibious Rapid Deployment Brigade (Ainoura, etc.) (¥500 million)

○ Procurement of transport aircraft (C-2) (2 aircraft: ¥45.3 billion)
    In view of the decreasing number of the current transport aircraft (C-1), Procure transport aircraft that contribute to large scale deployment by improving flight range and payload (* Cost per aircraft, excluding engine, is ¥16.3 billion compared to ¥17.2 billion of JFY2018 budget (decrease by ¥900 million)).

○ 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 to Enhance/Develop Rapidly Deployable Ground Defense Forces (¥7.5 Billion)
Maintain/improve unit readiness, demonstrates its presence even in peacetime, and
strengthens deterrence/response capability by conducting effective training at various
environments in both domestic and international locations mainly focused on the for
Amphibious Rapid Deployment Brigade and Deployment Division/Brigade.

～Various Exercises～

- Mobility Exercises (¥1.1 billion)
  Improves SDF’s response capabilities to various situations
  through refining operational coordination between the ASDF and
  the MSDF required for rapid.

- Exercises involving the Amphibious Rapid Deployment
  Brigade (¥200 million)
  Strengthens the readiness of the Amphibious Rapid Deployment
  Brigade through loading training on both the MSDF’s ships and
  remote islands.

- Field Training Exercises with the U.S. Marine Corps in the U.S.,
  as well as other countries. (¥6.2 billion)
  (Iron Fist, Kamandag, Talisman Saber, etc.)
  Enhances bilateral response capabilities with the U.S. and others
  through exercises in the U.S. Aimed at improving tactical skills
  and interoperability necessary for operations in remote islands.

- Joint Amphibious Operation Exercise
  Conduct a joint amphibious operation exercise to enhance the
  SDF’s joint amphibious operation capabilities and bilateral
  response capabilities with U.S. Forces.
3 Strengthening Sustainability and Resiliency

In order to be able to operate units continuously at all stages from peacetime to armed contingencies, 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, MOD/SDF will promote measures to ensure high operational availability of equipment.

(1) Securing Continuous Operations

- Procurement of ammunition that contributes to air superiority and provides effective response to threats as well as torpedoes needed to secure sea superiority (¥45.5 billion)

- Procurement of stand-off missile (repost)

- Procurement of SM-3 Block IIA and SM-3 Block IB (repost)

- Development for dispersion pads (¥20 million)
  Development for dispersion pads at air bases for enhancing resiliency.

- Procurement of equipment necessary to improve the capabilities to restore damaged runways (¥900 million)
  Procure equipment which enables a faster restoration of damaged runways of an airbase.

- Establishment of Maritime Operation Center (*)
  In order to establish postures to respond to various situations smoothly in collaboration with the GSDF/ASDF, U.S. Forces as well as other related ministries and agencies should establish a Maritime Operation Center in the Funakoshi area in Yokosuka.

- Construction of ammunition storage
  Construct new ammunition storage
  • Oita Amмо Branch Depot (¥700 million)
  • Setouchi Sub-camp (tentative name) (¥1.8 billion)

(*) is accumulated to FY2918 supplementary budget.
○ Procurement of crude oil tanker (tentative name) (2 ships: ¥5.7 billion)
  Procurement of crude oil tanker to ensure support capability of JMSDF vessels.

○ Strengthening of postures for the introduction of AI
  To strengthen postures in the whole JMOD/JSDF for the introduction of AI, establish the “AI/Cyber Security Promotion Office (tentative name)” in the Information and Communications Division of the Bureau of Defense Buildup Planning, and create the “AI Planning Section” (tentative name) in the new office.

○ Aim to develop more effective/efficient cloud environment through integrating administrative systems, which has been developed independently, and conduct a study/consideration including utilization of IT such as AI to develop a system with high-quality search function, etc. (¥100 million)

○ Upgrade of aging SDF facilities (¥37 billion)
  Ensure the SDF’s stable operational readiness by renovating SDF facilities such as office buildings and barracks, which undermine operations of the SDF.

  * Including the promotion of aseismic construction to maintain and enhance their functions in the event of a disaster.
(2) Ensuring Operational Availability of Equipment

○ Maintenance to improve the equipment operational availability ratio (¥895.3 billion)
  * ¥40.1 billion increase from FY2018

○ Research on the use of Additive Manufacturing (AM) technology in equipment maintenance
  Improving equipment availability ratio by reducing the procurement lead time and cost, and
  preventing DMSMS through the use of the latest production technology, which expands the
  possibilities of part procurement for maintenance (¥10 million).

○ Study on compatibility of parts
  Conduct study on compatibility between domestic parts and that of overseas to expand suppliers
  of parts, for improving equipment operational availability ratio (¥40 million)

○ Reduction in procurement lead time through the
  use of PBL (Performance Based Logistics)
  contracts
  Realize a timely supply of parts through PBL
  contracts, in which contract procedures are no
  longer required for every procurement, and
  estimating demands and controlling inventory that
  are left at the discretion of suppliers, while also
  taking advantage of global supply chains.
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 declining birth rate, MOD/SDF will strive to secure diverse, high-quality talents from a wider range of people and also promote initiatives on a priority base towards the establishment of an environment that enables all SDF personnel to maintain high morale and continue to fully exercise ability. Moreover, to reinforce technological base that has bearing on defense equipment by leveraging Japan’s superb science and technology, as 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 necessary and sufficient “quality” and “quantity”.

1 Reinforcing Human Resource Base

(1) Promotion of Measures to Secure Highly-Qualified Personnel

Enhancement of Recruitment Programs

- Recruitment advertising videos (¥200 million)
  Promote recruitment advertisement targeted at potential applicants from various angles by creating recruitment advertising videos and strengthening the lineup of recruitment advertising media.

- Enhancement of recruiting systems
  Establish “Recruitment Promotion Office (tentative name)” in the Human Resources Development Division of the Bureau of Personnel and Education to work on strengthening collaboration with local public entities and other ministries and agencies.

Enhancement of Re-employment Support Programs

- Establishment of vocational training programs (¥10 million)
  • Create new subjects related to the acquisition of the drone operator’s license in order to expand the occupational field of reemployment to include the drone operators field, which is anticipated to grow in demand in the fields of disaster prevention, security and surveying.
  • Create new subjects related to the acquisition of career consultant qualifications in order to expand the occupational field of reemployment to include administration and personnel divisions of private companies.

- Expansion of prep course for civil service exams (¥10 million)
  Create more seats in courses intended for uniformed SDF personnel serving under the fixed-term system who wish to get another civil service job, such as police officers and fire fighters, after their term is complete.

- Support for uniformed SDF personnel who wish to get a higher education (¥10 million)
  Support uniformed SDF personnel serving under the fixed-term system who wish to go to university after their term is complete by providing correspondence education offered by prep schools.
**Improvement of the Sufficiency Ratio of SDF Reserve Personnel**

- Promotion of SDF reserve personnel hired under the public recruitment system to SDF ready reserve personnel (¥60 million)
  
  In addition to former uniformed SDF personnel, who were the only candidates for SDF ready reserve personnel until now, include those of SDF reserve personnel hired under the public recruitment system (promoted from SDF reserve candidates to reserve personnel) who wish to be appointed as SDF ready reserve personnel and have necessary expertise through required education or training to improve the sufficiency ratio.

- Development of uniforms and accessories, etc. (¥60 million)
  
  In order to improve the effectiveness of SDF reserve personnel, implement developments in uniforms, accessories, as well as containers and shelves to store those.

**Improvement of Working Environment**

- Development of new uniform (¥5.2 billion)
  
  To coincide with organizational reforms in the GSDF such as the Ground Component Command established in March 2018, the GSDF’s dark green uniform, which was adapted 26 years ago, will be replaced by a new purplish dark blue uniform.

- Security-of fixtures, daily necessities, etc. to improve living and working environment for SDF personnel (¥2.4 billion)
  
  Renew aged daily life/workplace fixtures and secure daily necessities, etc. so that all the troop members will be able to fulfill their missions with high morale.

- Upgrade of aging SDF facilities (repost)

**Others**

- Expansion of the Defense Meritorious Badge Program (¥60 million)
  
  Establish a new class of defense meritorious badge, which is presented to individuals of the SDF, to be given with the 4th (presented by regimental commander) and 5th (presented by company commander) encomium, in addition to the existing classes accompanying the special 1st through 3rd encomiums.

- Promotion of measures to prevent power harassment

- Promotion of measures to prevent suicides (¥20 million)
  
  - Use of outside expertise for analysis and suggestions concerning measures to prevent suicides.
  
  - Training by outside professionals for company commanders to improve communication skills.
  
  - Establishment of counselling service using SNS (LINE).
(2) Promote Measures to Ensure Further Participation of Female Personnel and the Work-Life Balance

Further promote greater engagement of female personnel through expanding recruitment and promotion, while implementing and enhancing measures concerning the work-life balance.

- Female SDF Personnel in Action

**Improvement of the Environment for the Working Style Reform (¥70 million)**

- Develop an environment to ensure flexibility in working hours and location
  - Provision of terminals for telework.

**Improvement of the Working Environment for Female SDF Personnel (¥2.6 billion)**

- Development of facilities for female SDF personnel
  - Promote secured sections for female personnel in barracks.
  - Make renovations to improve living and working environments for female SDF personnel (renovations of lavatory and bathing facilities).
  - Improvement in training foundation for female uniformed SDF personnel.

- Improvement of sections for female personnel on ships (MSDF)
- Development training for mentors
- Invite outside counselors for female SDF personnel, etc.
Support for Work-Life Balance (¥100 million)

○ Development of an environment that makes it easy for child-caring personnel to continue working
  Introduce a system that enables the use of a sitter service when personnel cannot care for children due to an emergency duty or for other reasons (Ichigaya area).

○ Improvement of workplace nurseries
  (¥80 million)
  Promote workplace nurseries suitable for working patterns particular to SDF so that personnel raising children can engage in their duties without concerns.
  • Improvement of workplace nursery (National Defense Medical College).
  • 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, baby beds, etc.) for temporary child-care service in case of emergency operations (each JSDF).
  • Implement temporary child-care service drills, preparing for emergency operations.
  • Participate in courses designed to improve child-care skills for temporary child-care service in case of emergency operations (GSDF and MSDF).

Promotion of Female Personnel Engagement in International Cooperation, etc.

○ Hold a forum for female SDF personnel and servicewomen from foreign countries

○ Dispatch SDF personnel for training as gender advisors
  Send SDF personnel to “Gender Field Advisor Course” (sponsored by the Swedish Armed Forces) in order to introduce the perspective of eliminating gender* disparity in international peace cooperation efforts, 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.

Implementation of Training and Drills for Raising Awareness (¥30 million)

Effort to eliminate conventional mindset about gender roles in the workplace and develop a work environment that enables all personnel, including those under time restriction due to child-care or nursing care, to demonstrate their full potential.

○ Hold seminars on mentality reform, etc.

○ Collective trainings for promoting gender equality, etc.

○ Creation and distribution of pamphlets featuring roles played by female personnel and support for work-life balance, etc.

Others (¥30 million)

○ Recruitment of female SDF personnel
  Create brochures targeting female recruits

○ Promote measures to prevent sexual harassment
(3) 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.

The National Institute for Defense Studies

- Promoting global academic exchange
  Start academic exchange programs with national defense academies and security policy think-tanks in Africa.

Reference: African Security Studies Seminar (held at the National Institute for Defense Studies)

The National Defense Academy

- Development of the education and research system
  Develop educational experimental equipment to adapt to advances in the field of science and technology and to the expansion of the educational research field. (¥300 million).

The National Defense Medical College

- Strengthen the functions of the college as a hub for education and research in the field of defense medicine
  - Conduct advanced research on defense medicine (¥300 million).

- Enhance the patient examination system
  - Increase the number of nurses corresponding to the 7 patients to 1 caretaker system.

Advanced Research on Defense Medicine (battle injury/trauma field)

Blast-Simulated Shock Wave Generator

Nurses at Work (conceptual image)
Enhancement of Medical Functions

In order to respond to various situations, SDF will strive to enhance measures such as frontline first aid capabilities and the capacity to conduct Damage Control Surgery (DCS) at medical bases to stabilize the symptoms of patients as part of strengthening the system to seamlessly cover the entire stretch between the frontline and final medical evacuation destinations. Moreover, 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.

○ Improve first aid and transfer capabilities in response to emergency events
  • Development of educational equipment to enhance the first aid capability (¥200 million).
  • Develop a simulator as an educational equipment intended to help acquire skills required for the treatment of gunshot wounds and other injuries.
  • Development of portable medicine equipment necessary for medical protection unit personnel who are certified assistant nurses and paramedics to implement life-saving procedures in the front lines.
  • Development of medical equipment necessary to perform a damage control surgery.
  • Develop a Field surgical system (¥200 million).
  • Develop equipment required in a damage control surgery (DCS) (¥50 million).

○ Initiatives toward upgrading SDF hospitals to hubs with enhanced functions
  Steadily promote development of a core hospital in each district and hospitals with special functions, including education of international activities, submarine medicine, and aviation medicine.
  • Construction of the building of SDF Iruma Hospital (provisional name) in line with the consolidation of SDF hospitals (¥4.1 billion)
  • Basic study for the reconstruction of SDF Yokosuka Hospital (¥70 million).
  • Development toward the conversion of the medical care information system for SDF Central Hospital and other SDF hospitals. (¥2.2 billion)
  • Development of medical devices to reinforce the patient examination system at SDF Hospitals and Clinics (¥600 million)

○ Enhance capabilities in response to infectious diseases
  • Training to develop medical officers and others with professional expertise.
  • Overseas field survey to consider measures for training personnel in the field of global infectious diseases.
  • Field survey to grasp detailed procedures in order to establish a system to transfer patients with infectious diseases.
2 Reinforcing Technology Base

(1) Promotion of Research and Development for Early Practical Use

Cut down the time required for research and development as well as procurement of equipment, and promote research and development for early operationalization.

Promotion of Early Practical Use of Equipment through Stepwise Research and Development

- Research on HVGP (Hyper Velocity Gliding Projectile) for Defense of Remote Islands (repost)
  By stepwise development, results of research on element technologies of a hyper velocity glide missile intended for the defense of remote islands, which began in FY2018, is going to be promptly applied to equipment, and make them operational sequentially.

Reduce Future Lead Time for Research and Development and its Cost by Modularization

- Research on UUV* with convertible mission modules (repost)
  Modularization allows prompt development of module with new functions and capabilities according to operational needs, and therefore realize an expansion of capabilities at a reduced lead time and cost.

* UUV: Unmanned Underwater Vehicle

Promotion of Rapid Prototyping of Evolving Cutting-Edge Civilian Technologies to Defense Equipment

- Initiatives to realize rapid prototyping of new technologies (0.7 billion)
  Realizing practical application in a short time period - around three to five years — through cooperation between engineers and operators in incorporating rapidly evolving, cutting-edge civilian technologies which have a short innovation cycle, including information and communication technology (ICT). Meanwhile seeking to curb product price and maintenance costs for defense equipment by using the results of these initiatives in the civilian market.
(2) Promotion of Strategic Effort to Ensure Technological Superiority

Promote prioritized research in promising fields and proactively utilize civilian technologies in order to ensure Japan’s technological superiority during rapid technological innovation.

Promotion of Prioritized Research in Promising Fields
Place priority on fields related to (i) unmanned technology, (ii) smart and network technology, (iii) high-power energy technology, and (iv) improvement of function and performance of existing equipment, as indicated in the Medium-to-Long Term Defense Technology Outlook (announced in August 2016)

Automation

- Research on UUV with convertible mission modules (repost)
- Research on technologies used for remotely-operated support aircraft (¥800 million)
  Conduct research related to human machine interface technology necessary for formation flight technology and remote control, which are required for a future remote-control support aircraft that can assist manned aircraft.

Improvement of Function and Capabilities of Existing Equipment

- Research on SCRAM-jet to realize a future hypersonic weapons (repost)

Discovery and Promotion of Cutting-Edge Technologies Expected to be Used for Defense Applications

- Innovative Science & Technology Initiatives for Security (Funding Program) (¥10.1 billion)
  Established in FY2015 with the aim to discover ingenious research regarding advanced civilian technologies, with the expectation that the studies would contribute to future research and development in the defense field.
  Expanded to enable the awards of larger-scale and longer-term research projects for advanced technologies in FY2017 to continue to push the funding program.

Initiatives to Use Private-Sector Knowledge

- Conduct a study to take advantage of private-sector knowledge to be used in the new operational concept, which utilizes cutting-edge technologies anticipated to be practically applied in the future. Additionally, hold a workshop inviting experts from abroad in these fields. (¥50 million)
(3) Promotion of Optimized acquisition through Project Management etc.

Steady Implementation of Acquisition Programs

- Promotion of Optimized acquisition of equipment, etc. intended for prioritized project management
  - Major programs designated for project management
    Advanced ballistic missile interceptor (SM-3 Block IIA), Type-03 medium-range surface-to-air missile (modified), unmanned aerial vehicle (Globalhawk), amphibious vehicle (AAV7), new vessel, new utility helicopter (UH-X for GSDF), tilt-rotor aircraft (V-22), new patrol helicopter (improved SH-60K), fixed-wing patrol aircraft (P-1), transport aircraft (C-2), fighter aircraft (F-35A), future fighter aircraft, FY2017 submarines, land-based Aegis System (Aegis Ashore), Type-16 mobility combat vehicle, new aerial refueling and transport aircraft (KC-46A), and new air-borne early-warning aircraft (E-2D).
  - Semi-major programs designated for project management (project management should be conducted in a similar manner to the major programs)
    New ship-to-air guided missile, Type-12 surface-to-ship guided missile (improved), new air-to-ship guided missile for patrol aircraft, and Space Situational Awareness (SSA) system.

- Strengthening project management
  - Research on improving life cycle cost estimate (¥20 million)
  - Increase the number of personnel to deal with the increasing number of programs newly selected for project management etc.

Initiatives Related to Equipment Intended for Priority Project Management

(Future Fighter Jet)

- Research on the integration of the mission system of a fighter aircraft (¥5.7 billion)
  Conduct research on the integration technology of the mission system, which is a basis for operation/mission execution capabilities, to control mission system freely through the life cycle.

- Research on overall feasibility of the development of a future fighter (¥800 million)
  Conduct studies on concept and development plans as well as capability assessment in the event of cooperation with other countries

- Research on technologies used for remotely-operated support aircraft (repost)

Study on the Feasibility of Cost Reductions using Cutting-Edge Production Technologies

- Study on the use of Additive Manufacturing (AM) technology in the maintenance of equipment (repost)

Initiatives Related to Equipment Taking Account of the Viewpoint of Joint Operation

- Promotion of standardization of equipment contributing to joint operation
Promotion of Defense Equipment and Technology Cooperation

Strengthen measures to promote effective defense equipment and technology cooperation in collaboration with private sectors through collecting information on partner countries’ needs, promoting the cooperation as a package including assistance for maintenance, and publicizing our defense equipment, based on the progress of cooperative projects with the countries.

- Measures to promote defense equipment and technology cooperation
  In order to improve the feasibility of defense equipment and technology cooperation in the field of ships, conduct studies on issues related to realize the transfer of ship parts (¥10 million).
- Measures to improve the bases for promoting defense equipment and technology cooperation
  - Conduct the outside knowledge based research on technology control for preventing technology leakage in order to obtain necessary information for appropriate and quick evaluations of technological sensitivity in strict examination based on the Three Principles on Transfer of Defense Equipment and Technology (¥50 million).
  - Conduct studies taking account of the overseas transfer on newly initiated research and development projects.
- Strategic intelligence gathering to realize cooperation suited to other countries’ circumstances
  - Clarify cooperation partner countries’ needs and the feasibility of cooperation by conducting a survey on their procurement systems, production and technological bases (¥200 million).
  - Promoting cooperative projects closely with other countries through dispatch of personnel of the Acquisition, Technology and Logistics Agency, who engage in defense equipment cooperation (¥70 million).
  - Conduct a survey on other countries’ research and development systems and circumstances concerning technological cooperation to further promote technological cooperation (¥50 million).
- Promotion of comprehensive cooperation with not only equipment but also maintenance
  - Dispatching personnel of Japanese maintenance companies to the Philippines.
    1. Improve the maintenance capability on the TC-90 (¥200 million).
    2. Transfer of technological information related to the transfer of UH-1H parts and maintenance equipment (¥30 million).
    - Dispatch Japanese private-sector engineers and invite local private-sector engineers as part of capacity building assistance concerning equipment maintenance for ASEAN member states (¥30 million).
- Disseminate information of Japan’s equipment through cooperation between the public and private sectors
  Open booths of the Acquisition, Technology and Logistics Agency during international defense equipment exhibitions and display defense equipment developed in Japan and superior technologies possessed by small and medium-sized Japanese enterprises (¥200 million).

- Initiatives to raise the participation level in the NATO Codification System which is the international standard for the codification of equipment, etc.
  Modify the system to enable Japan to register domestically-produced defense equipment, and to share and disseminate information as well as raising Japan’s participation level (¥200 million).
Promotion of Measures to Maintain and Strengthen Defense Production and Technological Bases

Regarding the defense industry in a severe environment, promote measures to maintain and strengthen the bases through discovering and utilizing superior technologies possessed by small and medium-sized enterprises and grasping the actual circumstances of supply chains.

- Discover and utilize innovative manufacturing technologies and technologies possessed by small and medium-sized enterprises
  - Create opportunities for small and medium-sized enterprises possessing technologies applicable to defense equipment to match with the MOD/SDF by making use of exhibitions (¥10 million).
  - Conduct surveys on the possibility of applying innovative manufacturing technologies such as 3D printing and AI to defense equipment through the matching project (¥90 million)
  - Discover advanced civilian technologies through a program for quick practical application of new technologies (repost).

- Conduct surveys on the actual circumstances of supply chains of defense equipment
  - In particular, survey small and medium-sized enterprises with advanced technologies and realize measures to strengthen defense supply chains.
  - Conduct surveys on identifying components of defense equipment with high applicability to other industrial sectors and companies involved in that production in order to take necessary measures (¥40 million)

- Research on a new method of promoting the procurement reform Conduct surveys and research on ways of streamlining and reducing the cost of defense equipment, such as encouraging competition between companies through active evaluation of companies by the MOD, and then establish concrete systems (¥30 million)

- Strengthen information security concerning defense procurement
  - Build a framework utilizing technological and professional support from outside consultants to assist JMOD in verifying companies’ compliance with the strengthened information security standard that is applied to companies handling the information to be protected, to encourage JMOD’s security inspectors to acquire and cultivate knowledge concerning the new standard, and to facilitate companies to swiftly achieve the adaptation to the new standard (¥100 million)
3 Enhancing Intelligence Capabilities

In order to be able to provide timely and effective intelligence support to policy decision and SDF operations, MOD/SDF will enhance intelligence capabilities at all stages, including gathering and analyzing of information.

- Enhancement of Defense Attaché system

- Reinforcement of intelligence collection and analysis capabilities
  Establish necessary arrangements at the Defense Intelligence Headquarters, etc. to enhance capabilities of intelligence collection and analysis of international military situations, etc.

- Development of common infrastructure at the Defense Intelligence Headquarters
  Establish shared information platform to integrate various and wide range of intelligence gathered by all services of the SDF and the Defense Intelligence Headquarters, in order to promote all-source analysis.

- Procurement of long-endurance UAV (RQ-4B Global Hawk) (repost)

- Procurement of data for image analysis (WorldView-4, domestic commercial optical satellite, miniature satellites for earth observation, etc.) (repost)
  Collect information concerning the region surrounding Japan using domestic commercial optical satellite, miniature satellites for earth observation, etc., including the MOD’s main optical satellite (WorldView-4), to which MOD has an exclusive tasking right.

WorldView-4 (conceptual image)
**IV  Response to Large-Scale Disasters**

In the event of a natural disaster, the SDF will respond to it 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**

   ○ Promotion of seismic retrofitting and tsunami defense measures to maintain and enhance functions in preparation for the event of a disaster (¥13.3 billion)

   ○ Development of disaster response hub areas, etc. (Iruma) (¥900 million)

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

   ○ SDF Joint Exercise for Rescue (JXR: Joint Exercise for Rescue)
     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.

   ○ 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.

   ○ Remote Island Disaster Relief Exercise (RIDEX: Remote Island Disaster Exercise)
     Implement drills to maintain and enhance capabilities to ensure smooth joint disaster response operations against sudden disasters caused by large-scale disasters on remote islands.
3 Procurement of Equipment Contributing to Disaster Response

○ Procurement of new utility helicopter (UH-X) (repost)

○ Procurement of transport aircraft (C-2) (repost)

○ Procurement of equipment to respond to various situations, including disasters.
  • Water purification set (1 set: ¥100 million)
  • Hydraulic pressure shovel (with grapple) (3 sets) (*)
  • Material transport vehicles (8 vehicles) (*)

○ Development of aerial fire fighting equipment for wildfire (1 set) (*)
  Procure aerial fire fighting equipment (fire fighting bucket, etc.) necessary for disaster dispatch to conduct swift and effective fire suppression in the event of a disaster dispatch for wildfires.

○ Development of drone for disaster response (*)
  Procure drone for disaster response for quick and on-target rescue operations in the event of a large-scale disaster.

○ Development of a life-saving system (2 sets) (*)
  Procure a life-saving system in order to conduct life-saving activity quickly and effectively in the event of large-scale disasters.

(*) is accumulated to FY2918 supplementary budget.
○ Procurement of Type-10 snow tractors (10 tractors: ¥300 million)

○ Type-07 mobility support bridge (1 set: ¥1.2 billion)
  Procure a 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.

○ Response to NBC weapons
  • Procurement of decontamination set (decontamination vehicle) (1 vehicle: ¥100 million)
  • Procurement of NBC alarms (1 set: ¥300 million)
  • Procurement of decontamination set (Type-1 decontamination equipment) (1 set: ¥100 million)
  • Type-18 personal protective equipment (7500 sets: ¥1.8 billion)
  • Chemicals detectors (10 sets) (*)

4 Actions based on Three-Year Emergency Measures for Disaster Prevention/Reduction and National Resilience

○ Emergency measures related to SDF equipment for disaster prevention and facilities
  * Refer to the page 40 for the details of program in general.

(*) is accumulated to FY2918 supplementary budget.
While maintaining the deterrence of U.S. Forces, Japan will steadily implement specific measures, including the realignment of U.S. Forces in Japan, to mitigate the impact on local communities, such as those in Okinawa.

Ⅴ Strengthening Japan-U.S. Alliance and Measures for Bases

1 U.S. Forces Realignment-Related Expenses [measures for mitigating the impact on local communities]

**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 (¥21.9 billion)
- Development of Bachelor Enlisted Quarters buildings, etc. (Finegayan Area)

**Realignment-Related Measures of U.S. Forces in Japan**

- Project for the realignment in Okinawa (¥146.1 billion)
  - Relocation of Marine Corps Air Station Futenma (¥70.7 billion)
  - Return of land areas south of Kadena Air Base (¥75.4 billion)
- Project for the relocation of carrier Air Wing (¥600 million)
- Project for contingency use (¥23.5 billion)
- Project for the training relocation (¥9.5 billion)
- Project intended to facilitate smooth implementation of realignment-related measures (¥52.5 billion)

2 SACO-Related Expenses

- 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 unless changes were made under the Japan-U.S. Security Consultative Committee (“2+2”) Joint Statement

¥254 billion

¥17.2 billion
3 Promotion of Measures for Bases

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 secure smooth and effective stationing of the U.S. Forces in Japan.

(1) Expenses Related to Programs for Communities Around Bases

¥116.2 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 neighboring communities (river and road restoration, sound-proofing systems in schools, sand control dams, improvement of public welfare facilities, etc.).
  - Implementation of projects covered by specified Defense Facilities Environment Improvement Adjustment Grants, which are strongly requested from municipalities around bases (development of public facilities and so-called soft projects, such as medical cost subsidies, etc.).

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

¥198.7 billion

- Expenses of cost sharing based on the Special Measures Agreement and other measures to ensure the smooth and effective stationing of U.S. Forces in Japan
  - Share the labor cost of USFJ employees and cost of utilities used at USFJ facilities.
  - Facilities Improvement Program (barracks, family housing, etc.).
  - Share the cost of social insurance premiums by the employer (healthcare insurance, welfare annuity insurance, etc.) for USFJ employees.

(3) Rent for Facilities, Compensation Expenses, etc.

¥146.2 billion

- Rental cost for the land of defense facilities and compensation for the loss of fishers’ income due to training on water areas, etc.
VI Strengthening Security Cooperation

Japan will actively leverage its defense capability to work on defense cooperation and exchanges which include joint training and exercises, defense equipment and technology cooperation, capacity building assistance and interchanges among military branches to strategically promote multi-faceted and multi-layered security cooperation, in line with 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 initiatives concerning humanitarian assistance/disaster relief and maritime security, while also promoting sharing of the recognition of international laws.

○ Promotion of capacity building in the Indo-Pacific region
  • Implement programs in improving capabilities and training personnel in Southeast Asia in fields such as humanitarian assistance/disaster relief and PKO.
  • Implement capacity building programs related to field such as maritime security in South Asia and Pacific island nations.

Promotion of Defense Cooperation and Exchanges

○ Initiatives under the ASEAN Defence Ministers’ Meeting-Plus (ADMM-Plus)
  Proactively facilitate the enhancement of regional defense and security cooperation through the ADMM-Plus, which is the only official meeting of defense ministers of the whole Asia-Pacific region which includes Japan.

○ Initiatives under the Vientiane Vision
  Promote practical defense cooperation that contributes to the enhancement of the capabilities of the whole ASEAN in addition to individual ASEAN countries based on the Vientiane Vision, which is the guidelines for Japan-ASEAN defense cooperation.

○ Reinforcement of relationships with foreign graduates of JMOD/JSDF educational institutions (¥30 million)
  Invite foreign graduates of the National Defense Academy, who are active liaisons between the MOD/SDF and their respective countries, and conduct visits to the NDA and interactions with Japanese classmates to help enhance relationships with the foreign graduates of the NDA.
2 Appropriately Respond to Improve Global Security Challenges

Enhancement of Capability to Conduct Overseas Activities

- Participation in multilateral exercises
  The GSDF, MSDF and ASDF participate in multilateral exercises such as Cobra Gold in order to enhance capabilities for international peace cooperation activities.
International Cooperation with UN and Partners in the Areas of Strength

○ Dispatch of instructors to PKO Centers in African countries
  The SDF dispatches personnel as instructors in order to educate peace keeper candidates, mainly in African countries, to help improve their own peacekeeping capabilities and to maintain stability in the region.

○ Capacity building assistance of disaster response capacity enhancement for the Djibouti Forces
  Promote mutual understanding and confidence building with the Republic of Djibouti, mainly through enhancement of the relationship between the defense authorities, and contribute to the development and peace of Africa by implementing assistance to enhance disaster response capabilities for the Djibouti Forces, for which there has been a strong request from the Djibouti government.

○ Dispatch of lecturers to the UN project for Rapid Deployment of Enabling Capabilities (RDEC)
  Contribute to rapid deployment of U.N. PKO engineering units by dispatching SDF personnel and providing education to engineers from African and other countries with regard to the operation of heavy machinery.

Ensuring Maritime Security

○ Counter-piracy operations off the coast of Somalia and in the Gulf of Aden
  • Continue counter-piracy operations by destroyers and P-3Cs off the Coast of Somalia and in the Gulf of Aden.
  • Carry out activities in Combined Task Force 151 (CTF151), a multinational counter-piracy task force.
  • Conduct air transportation using C-130H as necessary.
Actions based on 3-Year Emergency Measures for Disaster Prevention/Reduction and National Resilience

In order to take all necessary measures for natural disasters, Japan will concentratedly conduct development of equipment that is necessary for rescue operations and maintenance/enhancement of functions such as garrisons for disaster prevention, based on “Actions based on 3-Year Emergency Measures for Disaster Prevention/Reduction and National Resilience” (approved by the Cabinet on December 14, 2018).

Emergency measures related to SDF equipment for disaster prevention and facilities (¥50.8 billion)
* The amount of cost is on an expenditure base.

- Conduct rapid development of equipment that is necessary for rescue operations when dispatching personnel to disasters, considering malfunctions from aging equipment and to enhance the operations.

- Since facilities with risks against prosecution of swift and appropriate missions are identified, conduct aseismic construction and upgrade of aging facilities.

* The projects related to 3-year emergency measures for disaster prevention/reduction and national resilience are to be conducted concentratedly as emergency measures for upcoming 3 years. In the FY2019 and FY2020 original budget, it requires utilization of extraordinary/special measures. Therefore, the projects will be conducted separately from building of defense capability based on the MTDP.
VIII Streamlining Initiatives

Various initiatives will facilitate further efficiency and streamlining overall equipment procurements, seeking to save approx. ¥415.9 billion.

1 Procurement of Equipment and Services Using Long-Term Contracts
[expected reduction: approx. ¥35.6 billion]
Pursue lower-cost and stable procurement of equipment and services by making use of long-term contracts of six fiscal years or longer
- Cost reduction through the bulk purchase of maintenance parts for the PAC-3 missiles, which had previously been procured for each repair
  • Bulk purchase contract on parts for the PAC-3 missile (procured over ten fiscal years) (expected reduction: ¥3.1 billion).
- Bulk-procurement of nine airborne early-warning aircraft (E-2D) by long-term contract (procured over seven fiscal years) (expected reduction: ¥32.5 billion)

2 Review of Maintenance Methods
[expected reduction: approx. ¥15.3 billion]
Streamline maintenance costs by consolidating equipment, etc.
- Integration of Information System (expected reduction: ¥5.1 billion)
  - Reduce maintenance and operation costs by integrating hardware and software leased for each information system.

3 Use of Civilian Goods and Review of Specifications
[expected reduction: approx. ¥33.8 billion]
Pursue cost savings by using civilian goods and reviewing specifications of equipment
- Development of digital educational materials (expected reduction: ¥11.2 billion)
  - Seek to save costs by switching to inexpensive digital learning materials instead of introducing actual equipment for education and training machines.
    ※ AEC (Advanced Electronic Classroom System)
- Research for the FC network (expected reduction: ¥5.5 billion)
  - Pursue cost savings by reviewing the specifications of radio equipment and utilizing existing technologies.

4 Bulk Purchase of Equipment
[expected reduction: approx. ¥16.3 billion]
Streamline costs by concentrating budget requests for equipment in a single fiscal year, which is otherwise costly due to small-lot purchases.

5 Cost Scrutiny, etc.
[expected reduction: approx. ¥112.9 billion]
Pursue reduction of the procurement cost for major equipment through examination of unit costs and related expenses.

6 Review Low Cost-Effective Project
[expected reduction: approx. ¥202 billion]
- Cost reduction by switching to import of completed F-35A from FACO (expected reduction: ¥29.4 billion), ※FACO:Final Assembly and Check Out
1 Restructuring and Organizational Quota Changes

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

○ Establishment of “Airborne Warning and Control Wing” (repost)

○ 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 postures in the southwestern region as well as in its surrounding sea and airspace, while also improving the response capability to cyberattacks.

<table>
<thead>
<tr>
<th></th>
<th>GSDF</th>
<th>MSDF</th>
<th>ASDF</th>
<th>Joint Staff Office and others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve sufficiency rate</td>
<td>+250</td>
<td>+210</td>
<td>+204</td>
<td>0</td>
<td>+664</td>
</tr>
<tr>
<td>Transfer</td>
<td>△57</td>
<td>△4</td>
<td>△13</td>
<td>+74</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>+193</td>
<td>+206</td>
<td>+191</td>
<td>+74</td>
<td></td>
</tr>
</tbody>
</table>

Note: Joint Staff Office and others include Joint Staff Office, joint task units, Defense Intelligence Headquarters, Internal Bureau, and the Acquisition, Technology and Logistics Agency.

○ Organizational quota changes
  • Establish “Space and Maritime Security Policy Office (tentative name)” in the Strategic Planning Division of Bureau of Defense Policy to strengthen the function of project planning related to the stable use of space and maritime policy in the JMOD/SDF, and coordination with other ministries and agencies.(repost)

  • Establish the “Electromagnetic Spectrum Policy Office (tentative name)” in the Information and Communications Division of the Bureau of Defense Buildup Planning to enhance the ability to make policies pertaining to effective and efficient use of electromagnetic spectrum in the JMOD/JSDF and coordination with other ministries and agencies (repost).

  • To strengthen postures in the JMOD/JSDF in a unified manner for the introduction of AI, establish the “AI/Cyber Security Promotion Office (tentative name)” in the Information and Communications Division of the Bureau of Defense Buildup Planning, and create the “AI Planning Section” (tentative name) in the new office (repost).

  • Establish the “Recruitment Promotion Office (tentative name)” in the Human Resources Development Division of the Bureau of Personnel and Education to work on strengthening collaboration with local public entities and other ministries and agencies (repost).

  • In order to develop an organization of the Advanced Defense Technology Center in the Acquisition, Technology and Logistics Agency, to conduct translational research in an integrated manner to apply the results of advanced basic research obtained through the Innovative Science & Technology Initiative for Security to practical research on operationalization; transfer a portion of the operation concerning the said initiative, which is now administered by the Director of Technology Promotion and IP Management of the Department of Technology Strategy of the Acquisition, Technology and Logistics Agency, to the Advanced Defense Technology Center (change of operation).
2 Initiatives to Ensure Appropriate Management of Administrative Documents

- Establish the position of Chief Record Officer (tentative name) (universally known as “CRO of government organizations”) and the Office of Chief Record Officer
  Create the position of Chief Record Officer (tentative name), who is in charge of the management of public documents and public information disclosure, and the Office of Chief Record Officer, which reports to the newly established Chief position to enhance the ability to oversee the management of administrative documents and response to requests of public information disclosure, and to ensure a unified and appropriate management of administrative documents.

- Increase the number of personnel to advance the electronic management of documents
  Increase the number of personnel to advance the efficient management of digitalized documents and to shift to an electronic approval system

- Conduct a demonstrative study/consideration including utilization of advanced IT such as AI to introduce and develop a system contributing to the integrated storage and understanding of documents (repost)

3 Tax Reform

- Expansion of Tax Exemption Measures for the case of Provision of Tax-Exempt Light Oil based on ACSA (Acquisition and cross-Servicing Agreement)  
  Currently, special measures for exemption of Light Oil Delivery Tax is applied to the JMOD when providing tax-exempt light oil to Australia and UK based on ACSA. After the new ACSA are concluded with Canada and France, the special measures for tax exemption will be applied to the JMOD when providing tax-exempt light oil to Canada and France based on the new ACSA.

- Extension and expansion of the research and development tax credit (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), Ministry of Health, Labour and Welfare (MHLW), Ministry of Agriculture Forestry and Fisheries (MAFF), Ministry of Land, Infrastructure, Transport and Tourism (MLIT), and Ministry of Environment (MOE))
  [Income Tax/Corporation Tax] [Corporate Inhabitant Tax]

  Regarding the research and development tax credit, extend the application deadline of addition measures for 2 years after expanding a part of the system.

- Establishment of Tax Exemption Measure for the Australian Defense Force based on an Agreement Concerning the Facilitation of Reciprocal Access between Japan and Australia (tentative name)  
  (Joint Request: Ministry of Foreign Affairs (MOFA))
  [Internal Consumption Tax, Fuel Loading Tax]
  [Local Consumption Tax, Light Oil Delivery Tax, Automobile Acquisition Tax, Automobile Tax, Light Motor Vehicle Tax]

  An Agreement Concerning the Facilitation of Reciprocal Access between Japan and Australia (tentative name), which is currently being negotiated is expected to include a clause for special tax measures for the Australian Defense Force (ADF) accepted as a visiting force under this agreement.

  After concluding this agreement, special tax measures related to the clause will be introduced to the extent granted in the agreement.
Major Equipment
<table>
<thead>
<tr>
<th>Procurement type</th>
<th>FY2018 Number procured</th>
<th>FY2019 Number procured</th>
<th>Amount (¥100 million)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GSDF</strong> Tilt-rotor aircraft (V-22)</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>New utility helicopter (UH-X)</td>
<td>-</td>
<td>6</td>
<td>110 (53)</td>
</tr>
<tr>
<td>Life extension of fixed-wing patrol aircraft (P-3C)</td>
<td>3</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>Life extension of patrol helicopter (SH-60K)</td>
<td>3</td>
<td>3</td>
<td>64</td>
</tr>
<tr>
<td>Life extension of patrol helicopter (SH-60J)</td>
<td>2</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Life extension of imagery intelligence gathering aircraft (OP-3C)</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Improvement in capability of radars mounted on fixed-wing patrol aircraft (P-3C)</td>
<td>Upgrade</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Parts</td>
<td>-</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>MSDF</strong> Aircraft Fighter aircraft (F-35A)</td>
<td>6</td>
<td>6</td>
<td>681</td>
</tr>
<tr>
<td>Improvement in air-to-air combat capability of fighter aircraft (F-2)</td>
<td>Upgrade</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Parts</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Additional installment of JDCS (F) function to fighter aircraft (F-2)</td>
<td>(2)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Improvement in capability of fighter aircraft (F-15)</td>
<td>-</td>
<td>(2)</td>
<td>108</td>
</tr>
<tr>
<td>Transport aircraft (C-2)</td>
<td>2</td>
<td>2</td>
<td>453 (24)</td>
</tr>
<tr>
<td>Airborne early-warning aircraft (E-2D)</td>
<td>1</td>
<td>9</td>
<td>1,940</td>
</tr>
<tr>
<td>Improvement in capability of Airborne Warning and Control Systems (E-767)</td>
<td>Upgrade</td>
<td>(1)</td>
<td>129</td>
</tr>
<tr>
<td></td>
<td>Parts</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>New aerial refueling and transport aircraft (KC-46A)</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Installment of aerial refueling capability in transport aircraft (C-130H)</td>
<td>Upgrade</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Parts</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Unmanned aerial vehicle (RQ-4B Global Hawk)</td>
<td>1</td>
<td>1</td>
<td>71</td>
</tr>
<tr>
<td><strong>ASDF</strong> Destroyer</td>
<td>2</td>
<td>2</td>
<td>951 (1)</td>
</tr>
<tr>
<td>Submarine</td>
<td>1</td>
<td>1</td>
<td>698 (1)</td>
</tr>
<tr>
<td>Life extension of Asagiri-class destroyer</td>
<td>Work</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Parts</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Life extension of Abukuma-class destroyer</td>
<td>Work</td>
<td>(2)</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>Parts</td>
<td>(1)</td>
<td>-</td>
</tr>
<tr>
<td>Life extension of Kongo-class destroyer</td>
<td>Work</td>
<td>(1)</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Parts</td>
<td>(2)</td>
<td>-</td>
</tr>
<tr>
<td>Life extension of Murasame-class destroyer</td>
<td>Work</td>
<td>(1)</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Parts</td>
<td>(1)</td>
<td>-</td>
</tr>
<tr>
<td>Life extension of Oyashio-class submarine</td>
<td>Work</td>
<td>(4)</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>Parts</td>
<td>(5)</td>
<td>3</td>
</tr>
<tr>
<td>Life extension of Hibiki-class ocean surveillance ship</td>
<td>Work</td>
<td>(1)</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Parts</td>
<td>(2)</td>
<td>-</td>
</tr>
<tr>
<td>Life extension of Towada-class fast combat support ship</td>
<td>Work</td>
<td>(2)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Parts</td>
<td>(1)</td>
<td>-</td>
</tr>
<tr>
<td>Improvement in capacity of the short-range SAM system on Takanami-class destroyer</td>
<td>Work</td>
<td>(1)</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>Parts</td>
<td>(1)</td>
<td>-</td>
</tr>
<tr>
<td>Modernization of destroyer CIWS (high-performance 20mm autocannon)</td>
<td>Work</td>
<td>(3)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Parts</td>
<td>(4)</td>
<td>-</td>
</tr>
<tr>
<td>Procurement type</td>
<td>FY2018 Number procured</td>
<td>FY2019 Number procured</td>
<td>Amount (¥100 million)</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Improvement in anti-submarine capability of Akizuki-class destroyer (multistatic)</td>
<td>Work (1)</td>
<td>Parts (1)</td>
<td>0.8</td>
</tr>
<tr>
<td>Improvement in calculation capability of the type-3 short-range SAM system</td>
<td>Work (–)</td>
<td>Parts (–)</td>
<td>–</td>
</tr>
<tr>
<td>Modernization of command system of Asagiri-class destroyer</td>
<td>Work (2)</td>
<td>Parts (–)</td>
<td>9</td>
</tr>
<tr>
<td>Update of computers in command system of takanami-class destroyer</td>
<td>Work (1)</td>
<td>Parts (–)</td>
<td>–</td>
</tr>
<tr>
<td>Update of computers in command system of Murasame-class destroyer</td>
<td>Work (–)</td>
<td>Parts (2)</td>
<td>–</td>
</tr>
<tr>
<td>Update of computers in command system of Akizuki-class destroyer</td>
<td>Work (–)</td>
<td>Parts (1)</td>
<td>13</td>
</tr>
<tr>
<td>Update of computers in command system of Hyuga-class destroyer</td>
<td>Work (1)</td>
<td>Parts (1)</td>
<td>10</td>
</tr>
<tr>
<td>Update of computers in command system of Izumo-class destroyer</td>
<td>Work (–)</td>
<td>Parts (1)</td>
<td>–</td>
</tr>
<tr>
<td>Modernization of command system of Oyashio-class submarine</td>
<td>Work (2)</td>
<td>Parts (1)</td>
<td>2</td>
</tr>
<tr>
<td>Improvement in capability of Osumi-class LST</td>
<td>Work (2)</td>
<td>Parts (–)</td>
<td>–</td>
</tr>
<tr>
<td>Upgrade of submarine rescue ship Chihaya</td>
<td>Work (–)</td>
<td>Parts (1)</td>
<td>23 (0.6)</td>
</tr>
</tbody>
</table>

**Note:**
1. The procurement amount for FY2018 indicates the number that was envisioned in the original budget.
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).
3. “Number procured” indicates the number newly contracted in FY2019. (The period for acquiring the item varies by equipment, but can take between two to five years.)
4. The number in brackets represents the number related to upgrading the existing commissioned equipment.
5. Regarding the procurement for the improvement in capability of radars mounted on fixed-wing patrol aircraft (P-3C), improvement in air-to-air combat capability of fighter aircraft (F-2), improvement in capability of Airborne Warning and Control Systems (AWACS) (E-767), installation of aerial refueling capability to transport aircraft (C-130H), improvement of the short-range SAM system on Takanami-class destroyer, modernization of destroyer CIWS (high-performance 20mm autocannon), improvement in anti-submarine capability of Akizuki-class destroyers (multistatic), improvement in calculation capability of FCS-3, etc., modernization of command system of Asagiri-class destroyers, update of computers in command system of destroyers, modernization of command system of Oyashio-class submarine, and upgrade of submarine rescue ship Chihaya, the upper figure represents the procurement of modification and work services for the existing commissioned equipment, while the lower figure represents the number of parts, etc. necessary for the capability improvement. Regarding the volume of procurement for the service like extension of vessels, the upper figure represents the number of ships subject to service life extension work and the lower figure represents the number of parts procured for service life extension work.
6. The number of procurements in FY2019 for the upgrade of the capability of Aegis-equipped destroyers represents the number of procurements for upgrading two Atago-class destroyers to be able to launch SM-3 Block II A.
### 2 Major Research and Development Programs

<table>
<thead>
<tr>
<th>Item</th>
<th>Overview</th>
<th>FY2019 Amount (¥100 million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research on HVGP (Hyper Velocity Gliding Projectile) for Defense of Remote Islands</td>
<td>Establish component technologies, including supersonic glide technology for high altitude and technology to hit a target with high accuracy, and conduct research on technologies necessary for the early practical usage of HVGP intended for the defense of remote islands, which projects firepower in island-to-island firing.</td>
<td>139</td>
</tr>
<tr>
<td>Development of multi-purpose missile system (modified)</td>
<td>Develop a multi-purpose missile system (modified) with higher function and capabilities compared to the existing equipment, such as a longer range and better capability to simultaneously respond to multiple targets, at a lower procurement cost.</td>
<td>35</td>
</tr>
<tr>
<td>Research on high-efficiency electricity storage and supply system for submarines</td>
<td>Conduct research on high-efficient electricity supply system and high-density electricity storage system to extend submarines' underwater endurance without increasing ship size.</td>
<td>43</td>
</tr>
<tr>
<td>Research on FC network</td>
<td>Research on FC Network that Enables Network Launches through Real Time Sharing of Sensor Information within the utility Destroyer Fleet.</td>
<td>63</td>
</tr>
<tr>
<td>Research on UUV with convertible mission modules</td>
<td>Establish UUV (Unmanned Underwater Vehicle) technology which is available for various missions such as surveillance activities and marine observation, by prototyping a long-endurance UUV which has exchangeable mission modules, and conduct research to ensure credibility required in longer deployments in terms of distance and time.</td>
<td>42</td>
</tr>
<tr>
<td>Research on SCRAM-jet to realize a future hyper sonic weapons</td>
<td>Conduct research on component technologies consisting of a scramjet engine operated by jet fuel to deliver a scramjet engine that can cruise at a hypersonic speed.</td>
<td>58</td>
</tr>
</tbody>
</table>
## Changes in the Number of SDF Personnel

### Changes in the number of SDF personnel

<table>
<thead>
<tr>
<th></th>
<th>End of FY2018</th>
<th>End of FY2019</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSDF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular personnel</td>
<td>150,834</td>
<td>150,777</td>
<td>△57</td>
</tr>
<tr>
<td>Ready reserve personnel</td>
<td>8,075</td>
<td>7,981</td>
<td>△94</td>
</tr>
<tr>
<td>MSDF</td>
<td>45,360</td>
<td>45,356</td>
<td>△4</td>
</tr>
<tr>
<td>ASDF</td>
<td>46,936</td>
<td>46,923</td>
<td>△13</td>
</tr>
<tr>
<td>Joint units</td>
<td>1,288</td>
<td>1,350</td>
<td>62</td>
</tr>
<tr>
<td>Joint Staff Office</td>
<td>372</td>
<td>376</td>
<td>4</td>
</tr>
<tr>
<td>Defense Intelligence Headquarters</td>
<td>1,910</td>
<td>1,918</td>
<td>8</td>
</tr>
<tr>
<td>Internal Bureau</td>
<td>48</td>
<td>48</td>
<td>0</td>
</tr>
<tr>
<td>Acquisition, Technology and Logistics Agency</td>
<td>406</td>
<td>406</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>247,154</td>
<td>247,154</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>(255,229)</td>
<td>(255,135)</td>
<td>(△94)</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th></th>
<th>GSDF</th>
<th>MSDF</th>
<th>ASDF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual average</td>
<td>140,155</td>
<td>42,499</td>
<td>43,659</td>
</tr>
</tbody>
</table>

### Number of SFD reserve personnel

<table>
<thead>
<tr>
<th></th>
<th>GSDF</th>
<th>MSDF</th>
<th>ASDF</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDF reserve personnel</td>
<td>46,000</td>
<td>1,100</td>
<td>800</td>
</tr>
</tbody>
</table>

### Number of candidates for reserve personnel

<table>
<thead>
<tr>
<th></th>
<th>GSDF</th>
<th>MSDF</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDF reserve candidates</td>
<td>4,600</td>
<td>21</td>
<td>4,621</td>
</tr>
</tbody>
</table>

### Change in the number of administrative officials

<table>
<thead>
<tr>
<th></th>
<th>FY2015</th>
<th>FY2016</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rationalization,etc</td>
<td>△281</td>
<td>△269</td>
<td>△269</td>
<td>△276</td>
<td>△273</td>
</tr>
<tr>
<td>Increase</td>
<td>164</td>
<td>169</td>
<td>182</td>
<td>(Note) 209</td>
<td>(Note) 204</td>
</tr>
<tr>
<td>Total</td>
<td>△117</td>
<td>△100</td>
<td>△87</td>
<td>△67</td>
<td>△69</td>
</tr>
</tbody>
</table>

Number at the end of FY

<table>
<thead>
<tr>
<th></th>
<th>FY2015</th>
<th>FY2016</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number at the end of FY (Note)</td>
<td>21,161</td>
<td>21,061</td>
<td>20,974</td>
<td>(Note) 20,931</td>
<td>(Note) 20,903</td>
</tr>
</tbody>
</table>

Note 1: Number at the end of FY includes number for promoting employment of persons with disabilities (FY2019: 24 officials, FY2019: 41 officials) and the increase does not include this number

Note 2: Does not include the Minister, State Minister, two Parliamentary Vice-Ministers and Senior Advisor to the Minister.
Reference
Composition of Defense-Related Expenses

Expenditures: ¥5,007 billion
[Personnel and provisions expenses + obligatory outlay expenses + general material expenses]

(Fiscal year)

Before FY2014

Personnel and provisions expenses
Expenses related to personnel salary, retirement allowance, meals, etc.

2,183.1 billion

Material expenses (program expenses)
Expenses related to: (i) the procurement, repair and maintenance of equipment; (ii) purchase of fuel; (iii) education and training of SDF personnel; (iv) facility construction and maintenance; (v) utilities such as lighting, heat and water; research and development of technology; and (vi) expenses related to base measures, including measures to mitigate the impact on communities around bases and cost-sharing for the stationing of USFJ.

Obligatory outlay expenses
Expenses paid in FY2019 in accordance with contracts concluded before FY2018

General material expenses (activity expenses)
Expenses paid in FY2019 in accordance with contracts concluded in FY2019

Future obligations (existing portions)
Expenses to be paid after FY2020, based on the contract before FY2018.

Future obligations concerning new contracts
Expenses to be paid after FY2020, based on the contract (within five years, in principle) in FY2019.

Material expenses (on contract base)
¥3,382.1 billion
[General material expenses + future obligations concerning new contracts]

¥2,401.3 billion

Note 1: Does not include SACO-related expenses, U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities), expense for the introduction of new government aircraft and expenses related to the three-year emergency measures for disaster prevention/reduction and national resilience.

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.
## 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 Ministry of Defense 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

<table>
<thead>
<tr>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
<th>FY2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract</td>
<td>Delivery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partial payment (¥1 billion)</td>
<td>Partial payment (¥1 billion)</td>
<td>Partial payment (¥2 billion)</td>
<td>Balance payment (¥6 billion)</td>
</tr>
<tr>
<td>General material expenses</td>
<td>Obligatory outlay expenses</td>
<td>Obligatory outlay expenses</td>
<td>Obligatory outlay expenses</td>
</tr>
</tbody>
</table>

### FY2019

<table>
<thead>
<tr>
<th>Material expenses (program expenses)</th>
<th>Expenditure base</th>
<th>Contract base</th>
</tr>
</thead>
<tbody>
<tr>
<td>28,239 (¥100 million)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Obligatory outlay expenses | 18,431 |
| General material expenses (Activity expenses) | 9,808 |
| Future obligation concerning new contracts | 24,013 |

### FY2020

<table>
<thead>
<tr>
<th>Material expenses (program expenses)</th>
<th>Expenditure base</th>
<th>Contract base</th>
</tr>
</thead>
<tbody>
<tr>
<td>28,239 (¥100 million)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Obligatory outlay expenses | 18,431 |
| General material expenses (Activity expenses) | 9,808 |
| Future obligation concerning new contracts | 24,013 |

### FY2021

<table>
<thead>
<tr>
<th>Material expenses (program expenses)</th>
<th>Expenditure base</th>
<th>Contract base</th>
</tr>
</thead>
<tbody>
<tr>
<td>28,239 (¥100 million)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Obligatory outlay expenses | 18,431 |
| General material expenses (Activity expenses) | 9,808 |
| Future obligation concerning new contracts | 24,013 |

### FY2022

<table>
<thead>
<tr>
<th>Material expenses (program expenses)</th>
<th>Expenditure base</th>
<th>Contract base</th>
</tr>
</thead>
<tbody>
<tr>
<td>28,239 (¥100 million)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Obligatory outlay expenses | 18,431 |
| General material expenses (Activity expenses) | 9,808 |
| Future obligation concerning new contracts | 24,013 |

### Explanation

- **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 FY2019 (general material expenses) based on the contracts concluded in FY2019 and the expenses to be paid in JFY2019 (obligatory outlay expenses) based on the contracts concluded before FY2018. 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 FY2019 and the expenses to be paid after FY2020 (future obligation pertaining to new contracts) based on the contracts concluded in FY2019. 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.
Maintenance, etc. 4,156 〔42.4%〕
Base Measures, etc. 3,987 〔40.6%〕
R&D, etc. 269 〔2.7%〕
Equipment Acquisition, etc. 518 〔5.3%〕
Facility Improvements, etc. 248 〔2.5%〕
Otheres 630 (6.4%)

General material expenses
FY2019 Budget ¥980.8 billion

(Unit: ¥100 million)

<table>
<thead>
<tr>
<th>Item</th>
<th>FY2018</th>
<th>FY2019</th>
<th>YoY Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance, etc.</td>
<td>4,311</td>
<td>4,156</td>
<td>△155</td>
</tr>
<tr>
<td>• Petrol</td>
<td>897</td>
<td>942</td>
<td>△45</td>
</tr>
<tr>
<td>• Repair</td>
<td>1,889</td>
<td>1,716</td>
<td>△173</td>
</tr>
<tr>
<td>• Education &amp; training</td>
<td>285</td>
<td>280</td>
<td>△5</td>
</tr>
<tr>
<td>• Medical care, etc.</td>
<td>272</td>
<td>267</td>
<td>△5</td>
</tr>
<tr>
<td>• Utilities</td>
<td>968</td>
<td>951</td>
<td>△17</td>
</tr>
<tr>
<td>Base measures, etc.</td>
<td>4,051</td>
<td>3,987</td>
<td>△64</td>
</tr>
<tr>
<td>• Countermeasures in areas near bases</td>
<td>869</td>
<td>778</td>
<td>△91</td>
</tr>
<tr>
<td>• Host nation support</td>
<td>1,803</td>
<td>1,803</td>
<td>0</td>
</tr>
<tr>
<td>• Rent, compensation costs, etc.</td>
<td>1,380</td>
<td>1,406</td>
<td>26</td>
</tr>
<tr>
<td>Research &amp; development</td>
<td>272</td>
<td>269</td>
<td>△4</td>
</tr>
<tr>
<td>Equipment procurement, etc.</td>
<td>257</td>
<td>518</td>
<td>△261</td>
</tr>
<tr>
<td>Facility improvements, etc.</td>
<td>424</td>
<td>248</td>
<td>△176</td>
</tr>
<tr>
<td>Other (computer rentals, etc.)</td>
<td>632</td>
<td>630</td>
<td>△2</td>
</tr>
<tr>
<td>Total</td>
<td>9,949</td>
<td>9,808</td>
<td>△141</td>
</tr>
</tbody>
</table>

Note: Does not include SACO-related expenses, U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities), expense for the introduction of new government aircraft and expenses related to the three-year emergency measures for disaster prevention/reduction and national resilience.
Details of Obligatory Outlay Expenses

- **Maintenance, etc.** 7,871 (42.7%)
- **Base Measures, etc.** 483 (2.6%)
- **Equipment Acquisition** 4,415 (24.0%)
- **Aircraft Acquisition** 1,984 (10.8%)
- **R&D** 1,014 (5.5%)
- **Facility Improvements, etc.** 1,159 (6.3%)
- **Shipbuilding, etc.** 1,412 (7.7%)
- **Others** 92 (0.5%)

**Details of obligatory outlay expenses**

**FY2019 budget**

¥1,843.1 billion

(Unit: ¥100 million)

<table>
<thead>
<tr>
<th>Item</th>
<th>FY2018</th>
<th>FY2019</th>
<th>YoY Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance, etc.</td>
<td>7,032</td>
<td>7,871</td>
<td>839</td>
</tr>
<tr>
<td>Repair</td>
<td>6,761</td>
<td>7,528</td>
<td>767</td>
</tr>
<tr>
<td>Education &amp; training, etc.</td>
<td>271</td>
<td>343</td>
<td>72</td>
</tr>
<tr>
<td><strong>Base measures</strong></td>
<td>3,988</td>
<td>4,833</td>
<td>85</td>
</tr>
<tr>
<td>Research &amp; development</td>
<td>762</td>
<td>1,014</td>
<td>252</td>
</tr>
<tr>
<td>Equipment procurement</td>
<td>3,400</td>
<td>4,415</td>
<td>1,015</td>
</tr>
<tr>
<td>Aircraft procurement</td>
<td>3,354</td>
<td>1,984</td>
<td>△1,370</td>
</tr>
<tr>
<td>Shipbuilding, etc.</td>
<td>1,179</td>
<td>1,412</td>
<td>233</td>
</tr>
<tr>
<td>Facility improvements, etc.</td>
<td>1,328</td>
<td>1,159</td>
<td>△169</td>
</tr>
<tr>
<td>Other (computer rentals, etc.)</td>
<td>1,351</td>
<td>92</td>
<td>△43</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17,590</td>
<td>18,431</td>
<td>841</td>
</tr>
</tbody>
</table>

**Note:** Does not include SACO-related expenses, U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities), expense for the introduction of new government aircraft and expenses related to the three-year emergency measures for disaster prevention/reduction and national resilience.
<table>
<thead>
<tr>
<th>Item</th>
<th>FY2018</th>
<th>FY2019</th>
<th>YoY Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance, etc.</td>
<td>12,261</td>
<td>13,534</td>
<td>1,273</td>
</tr>
<tr>
<td>Petrol</td>
<td>897</td>
<td>942</td>
<td>45</td>
</tr>
<tr>
<td>Repair</td>
<td>9,493</td>
<td>10,726</td>
<td>1,233</td>
</tr>
<tr>
<td>Education &amp; training, etc.</td>
<td>1,871</td>
<td>1,866</td>
<td>△5</td>
</tr>
<tr>
<td>Base measures</td>
<td>4,642</td>
<td>4,610</td>
<td>△32</td>
</tr>
<tr>
<td>Research &amp; development</td>
<td>1,445</td>
<td>1,490</td>
<td>45</td>
</tr>
<tr>
<td>Equipment procurement</td>
<td>4,422</td>
<td>7,017</td>
<td>2,595</td>
</tr>
<tr>
<td>Aircraft procurement</td>
<td>2,832</td>
<td>3,432</td>
<td>600</td>
</tr>
<tr>
<td>Shipbuilding, etc.</td>
<td>1,777</td>
<td>1,724</td>
<td>△54</td>
</tr>
<tr>
<td>Facility improvements, etc.</td>
<td>1,804</td>
<td>1,251</td>
<td>△553</td>
</tr>
<tr>
<td>Other (computer rentals, etc.)</td>
<td>704</td>
<td>764</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>29,887</td>
<td>33,821</td>
<td>3,934</td>
</tr>
</tbody>
</table>

Note: Does not include SACO-related expenses, U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities), expense for the introduction of new government aircraft and expenses related to the three-year emergency measures for disaster prevention/reduction and national resilience.
Note: Does not include SACO-related expenses, U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities), expense for the introduction of new government aircraft and expenses related to the three-year emergency measures for disaster prevention/reduction and national resilience.
<table>
<thead>
<tr>
<th>Classification</th>
<th>FY2018 Budget</th>
<th>FY2019 Budget</th>
<th>YoY change</th>
<th>Growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defense-related expenses</td>
<td>49,388</td>
<td>50,070</td>
<td>682</td>
<td>1.4</td>
</tr>
<tr>
<td>Ministry of Defense</td>
<td>49,388</td>
<td>50,070</td>
<td>682</td>
<td>1.4</td>
</tr>
<tr>
<td>(Ministry of Defense Head Office)</td>
<td>47,893</td>
<td>48,333</td>
<td>441</td>
<td>0.9</td>
</tr>
<tr>
<td>GSDF</td>
<td>18,310</td>
<td>18,450</td>
<td>140</td>
<td>0.8</td>
</tr>
<tr>
<td>MSDF</td>
<td>11,433</td>
<td>12,247</td>
<td>814</td>
<td>7.1</td>
</tr>
<tr>
<td>ASDF</td>
<td>11,663</td>
<td>11,012</td>
<td>△652</td>
<td>△5.6</td>
</tr>
<tr>
<td>Subtotal</td>
<td>41,406</td>
<td>41,709</td>
<td>303</td>
<td>0.7</td>
</tr>
<tr>
<td>Internal Bureau</td>
<td>4,884</td>
<td>4,931</td>
<td>47</td>
<td>1.0</td>
</tr>
<tr>
<td>Joint Staff Office</td>
<td>440</td>
<td>521</td>
<td>81</td>
<td>18.4</td>
</tr>
<tr>
<td>Defense Intelligence Headquarters</td>
<td>718</td>
<td>703</td>
<td>△15</td>
<td>△2.2</td>
</tr>
<tr>
<td>National defense Academy</td>
<td>153</td>
<td>171</td>
<td>18</td>
<td>12.1</td>
</tr>
<tr>
<td>National Defense Medical College</td>
<td>255</td>
<td>267</td>
<td>12</td>
<td>4.6</td>
</tr>
<tr>
<td>National Institute for Defense Studies</td>
<td>28</td>
<td>25</td>
<td>△3</td>
<td>△10.1</td>
</tr>
<tr>
<td>Inspector General's Office of Legal Compliance</td>
<td>9</td>
<td>8</td>
<td>△2</td>
<td>△16.9</td>
</tr>
<tr>
<td>Subtotal</td>
<td>6,487</td>
<td>6,625</td>
<td>138</td>
<td>2.1</td>
</tr>
<tr>
<td>(Regional Defense Bureaus)</td>
<td>199</td>
<td>201</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>(Acquisition, Technology and Logistics Agency)</td>
<td>1,296</td>
<td>1,535</td>
<td>239</td>
<td>18.4</td>
</tr>
</tbody>
</table>

Note: Does not include SACO-related expenses, U.S. Forces realignment-related expenses (the portion allocated for mitigating the impact on local communities), expense for the introduction of new government aircraft and expenses related to the three-year emergency measures for disaster prevention/reduction and national resilience.
### Promotion of Measures for Bases

(Reference) Promotion of Base Measures

<table>
<thead>
<tr>
<th>Classification</th>
<th>FY2018 Budget</th>
<th>FY2019 Budget</th>
<th>YoY Change</th>
<th>Growth rate</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion of base measures, etc.</td>
<td>&lt; 4,642</td>
<td>&lt; 4,610</td>
<td>△ 32</td>
<td>△ 0.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4,449</td>
<td>4,470</td>
<td>20</td>
<td>0.5</td>
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</tr>
<tr>
<td>(1) Expenses for countermeasures in areas near bases</td>
<td>&lt; 1,273</td>
<td>&lt; 1,162</td>
<td>△112</td>
<td>△ 8.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,063</td>
<td>1,078</td>
<td>15</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Residential sound proofing</td>
<td>&lt; 433</td>
<td>&lt; 523</td>
<td>90</td>
<td>&lt; 20.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>315</td>
<td>435</td>
<td>119</td>
<td>&lt; 37.8</td>
<td></td>
</tr>
<tr>
<td>Improvement of living environment of neighboring communities</td>
<td>&lt; 840</td>
<td>&lt; 639</td>
<td>△201</td>
<td>△ 23.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>747</td>
<td>643</td>
<td>104</td>
<td>△13.9</td>
<td></td>
</tr>
<tr>
<td>(2) Cost sharing for the stationing of USFJ</td>
<td>&lt; 1,977</td>
<td>&lt; 1,987</td>
<td>9</td>
<td>&lt; 0.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,968</td>
<td>1,974</td>
<td>6</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Special Measures Agreement</td>
<td>1,492</td>
<td>1,497</td>
<td>4</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Labor cost</td>
<td>1,251</td>
<td>1,269</td>
<td>18</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Utilities</td>
<td>232</td>
<td>219</td>
<td>△13</td>
<td>△ 5.6</td>
<td></td>
</tr>
<tr>
<td>Training relocation cost</td>
<td>9</td>
<td>9</td>
<td>△0</td>
<td>△ 2.7</td>
<td></td>
</tr>
<tr>
<td>Facilities improvement program</td>
<td>&lt; 215</td>
<td>&lt; 220</td>
<td>5</td>
<td>&lt; 2.2</td>
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</tr>
<tr>
<td></td>
<td>206</td>
<td>207</td>
<td>1</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>Measures for USFJ employees</td>
<td>270</td>
<td>270</td>
<td>0</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>(3) Rent for facilities, compensation expenses, etc.</td>
<td>&lt; 1,392</td>
<td>&lt; 1,462</td>
<td>△70</td>
<td>△ 5.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,418</td>
<td>1,418</td>
<td>1</td>
<td>0.1</td>
<td></td>
</tr>
</tbody>
</table>

Note: The above figures are on an expenditure base (General material expenses + Obligatory outlay expenses), and figures in <> indicate a contract base amount. (Same in the following pages)
<table>
<thead>
<tr>
<th>Item</th>
<th>FY2018 Budget</th>
<th>FY2019 Budget</th>
<th>YoY Change</th>
<th>Growth Rate</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Project for land return</td>
<td>&lt; 69 &gt;</td>
<td>&lt; 39 &gt;</td>
<td>△ 30</td>
<td>△43.6</td>
<td>&lt; 43 &gt;</td>
</tr>
<tr>
<td>2 Project for training improvement</td>
<td>&lt; 17 &gt;</td>
<td>&lt; 24 &gt;</td>
<td>△ 7</td>
<td>△88.6</td>
<td>&lt; 37.9</td>
</tr>
<tr>
<td>3 Project for noise reduction</td>
<td>&lt; 5 &gt;</td>
<td>&lt; 1 &gt;</td>
<td>△ 5</td>
<td>△8.6</td>
<td>&lt; 9.6</td>
</tr>
<tr>
<td>4 Project for efficient SACO projects</td>
<td>&lt; - &gt;</td>
<td>&lt; 108 &gt;</td>
<td>108</td>
<td></td>
<td>Program started</td>
</tr>
<tr>
<td>Total</td>
<td>&lt; 91 &gt;</td>
<td>&lt; 172 &gt;</td>
<td>△8</td>
<td>△8.0</td>
<td>&lt; 5.0</td>
</tr>
</tbody>
</table>

Unit: ¥100 million, %

Remarks:
- Implementation of measures included within the SACO Final Report
- Program started
### U.S. Forces Realignment Related Expenditures (mitigating the impact on local communities)

<table>
<thead>
<tr>
<th>Item</th>
<th>FY2018 Budget</th>
<th>FY2019 Budget</th>
<th>YoY Change</th>
<th>Growth Rate</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Okinawa USMC relocation to Guam</td>
<td>5,900</td>
<td>2,199</td>
<td>Δ371</td>
<td>Δ62.9</td>
<td>Necessary expenses, etc. for Okinawa USMC relocation to Guam</td>
</tr>
<tr>
<td>2 Project for realignment in Okinawa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Relocation of MCAS Futenma</td>
<td>&lt;1,221</td>
<td>&lt;1,461</td>
<td>&gt;239</td>
<td>&gt;19.6</td>
<td>Futenma Air Base relocation</td>
</tr>
<tr>
<td>(2) Return of land areas south of Kadena Air Base</td>
<td>&lt;1,048</td>
<td>&lt;707</td>
<td>&lt;341</td>
<td>&lt;32.5</td>
<td>Return of land areas south of Kadena Air Base</td>
</tr>
<tr>
<td>3 Relocation of carrier-based aircraft, etc.</td>
<td>&lt;1,952</td>
<td>&lt;611</td>
<td>&lt;341</td>
<td>&lt;32.5</td>
<td></td>
</tr>
<tr>
<td>(1) MCAS Iwakuni</td>
<td>&lt;2,932</td>
<td>&lt;754</td>
<td>&lt;580</td>
<td>4.3 times</td>
<td>Relocation of Carrier-based aircraft from Naval Air Facility Atsugi to MCAS Iwakuni, etc.</td>
</tr>
<tr>
<td>(2) Field carrier landing practice facility</td>
<td>&lt;2,932</td>
<td>&lt;754</td>
<td>&lt;580</td>
<td>4.0 times</td>
<td>Field carrier landing practice facility</td>
</tr>
<tr>
<td>4 Contingency use</td>
<td>&lt;9,235</td>
<td>&lt;1,311</td>
<td>&lt;27</td>
<td>7</td>
<td>Facility improvements for contingency use</td>
</tr>
<tr>
<td>5 Training relocation</td>
<td>8,495</td>
<td>11</td>
<td>11</td>
<td>1.30</td>
<td>Training relocation of U.S. aircraft to mainland Japan and Guam from Kadena Air Base and other airfields</td>
</tr>
<tr>
<td>6 Project for efficient relocation related measures</td>
<td>&lt;3,262</td>
<td>&lt;5,254</td>
<td>&gt;195</td>
<td>&gt;32.5</td>
<td></td>
</tr>
<tr>
<td>(1) Realignment Grants</td>
<td>&lt;2,611</td>
<td>&lt;4,722</td>
<td>&lt;61</td>
<td>1.48</td>
<td></td>
</tr>
<tr>
<td>(2) Measures for areas surrounding bases, etc.</td>
<td>&lt;3,444</td>
<td>&lt;4,044</td>
<td>&lt;60</td>
<td>1.74</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>&lt;2,264</td>
<td>&lt;2,540</td>
<td>&lt;276</td>
<td>&lt;12.2</td>
<td></td>
</tr>
</tbody>
</table>

(Unit: ¥100 million, %)

Promote policies to accurately and efficiently implement measures related to realignment based on the “Government Efforts related to USFJ Structure Review” (approved by the Cabinet on May 30, 2006) and “Present Government Efforts towards Measures Approved by 2+2 in May 28, 2010” (approved by the Cabinet on May 28, 2010).

(Reference) U.S. Forces Realignment Related Expenditures (mitigating the impact on local communities)
Overview of the 2nd Supplementary Draft Budget for FY2018 (Ministry of Defense)

Accumulated amount from Ministry of Defense

・・・・・・・・ ¥399.8 Billion

1. Actions based on Three-Year Emergency Measures for Disaster

Prevention/Reduction and National Resilience ¥13.1 Billion

Based on results, etc. of emergency inspection of important infrastructure, swiftly undertake measures as a first year of three-year emergency measures for disaster prevention/reduction and national resilience.

○ Improvement of SDF facilities (aseismic construction/upgrade of aging facilities) ¥6.8 billion
○ Development of private power generator (improvement of electric power supply capability) ¥3.5 billion
○ Upgrade of aging facility equipment (medium-sized dozer, truck crane) ¥800 million etc.

2. Securing Stable Operation of JSDF ¥382.2 Billion

Securing stable operations of the SDF in order to respond to security environment surrounding Japan and frequent natural disasters.

○ Development of Fighter aircraft (F-35A), fixed-wing patrol aircraft (P-1), transport aircraft (C-2), patrol helicopter (SH-60K), etc. ¥317.7 billion
○ Maintenance of vehicles, vessels, aircraft, etc. ¥3.2 billion
○ Increased petrol cost and barracks fuel cost because of increase in crude oil cost ¥31 billion
○ Expenditure related to extension of counter-piracy operations off the coast of Somalia and in the Gulf of Aden ¥1.3 billion etc.

3. Improving Living and Working Environment for SDF Personnel ¥76.4 billion*

Promote development of barracks, etc. to improve living and working environment for SDF personnel.

○ Improvement of barracks, etc. ¥74.9 billion*
○ Improvement of utilities (lockers for each room, washing machines, etc.), etc. ¥1 billion
○ Installation of equipment, etc. necessary for promoting employment of persons with disabilities ¥600 million* etc.

Note: Expenditures with * indicate a contract base amount.