

Section  
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## Optimizing Equipment Procurement

## 1 Project Management throughout Its Life Cycle

## 1 Acquisition of Defense Equipment through Focused Project Management

As defense equipment is becoming more sophisticated and complex, its entire life cycle (concept study, research and development, mass production, deployment, operation and maintenance) cost has a tendency to increase in recent years. It has become extremely important to streamline acquisition throughout the life cycle of equipment and to establish a systematic management to realize the streamlining in order to efficiently acquire equipment of assured quality at appropriate cost in a required timeline as planned.

Therefore, since the establishment of ATLA in October 2015, the Department of Project Management in ATLA undertakes project management throughout the life cycle of equipment upon selecting important equipment, and promotes efforts to realize the optimized equipment acquisition.

Specifically, the MOD has selected 17 items for major programs designated for project management and 3 items for semi-major programs for project management<sup>1</sup> as of the end of March 2019. The MOD designated Project Managers (PM) dedicated to specific major programs. At the same time, the MOD established a systematic project management system by setting up the Integrated Project Team (IPT), which is composed of officials from relevant divisions within the Ministry.

So far (as of the end of March 2019), for 19 out of 20 items that have been selected for major and semi-major programs, the MOD has formulated the Acquisition Strategy and the Acquisition Plan (hereinafter referred to as “Acquisition Strategy, etc.”), which specify the basic matters necessary to systematically implement project management, such as the purpose of the acquisition program, acquisition policy, and life cycle cost. The Acquisition Strategy, etc. shows strategic plans to realize optimized acquisitions of equipment.

Furthermore, in principle, ATLA annually confirms the project implementation status with each SDF service, and endeavors to promote appropriate project management reflecting the latest situation by developing Analysis and Evaluation, which compiles changes made in acquisition plans from the previous fiscal year, and reviews Acquisition

Strategy. In August 2018, Analysis and Evaluation of the acquisition programs were developed for 16 items for which the Acquisition Strategy, etc. had been developed.



Fig. IV-2-3-1 (Equipment for Project Management and Equipment for Semi-Project Management)

## 2 Initiatives to Promote and Strengthen Project Management

## (1) Past Initiatives

The following initiatives have been implemented to promote and strengthen project management.

**a. Cost and Schedule Management Using WBS**

For certain kinds of equipment produced in Japan, the MOD is promoting the introduction of a management method to visualize the progress of work and cost generated by component (Work Breakdown Structure [WBS]<sup>2</sup>) and endeavors to manage cost and schedule to detect the signs of cost increase and schedule delay early so that swift measures can be taken.

**b. Method for More Accurate Cost Estimate**

Life cycle cost and other costs have been estimated based on actual cost data of similar equipment developed or introduced in the past. However, as a larger amount of cost data is needed for a more accurate estimate, the MOD promotes the establishment of a cost database by collecting cost data and accumulating them into a database.

**c. Accumulation and Development of Expertise through Strengthened Cooperation with Research and Educational Institutions, etc.**

For further improving the management skills of Project Managers and enhancing human resources among those who engage in project management, the MOD strengthens collaboration with research and educational institutions on project management and provides opportunities to study project management methods from overseas and the private sector on a regular basis.

## (2) Future Initiatives

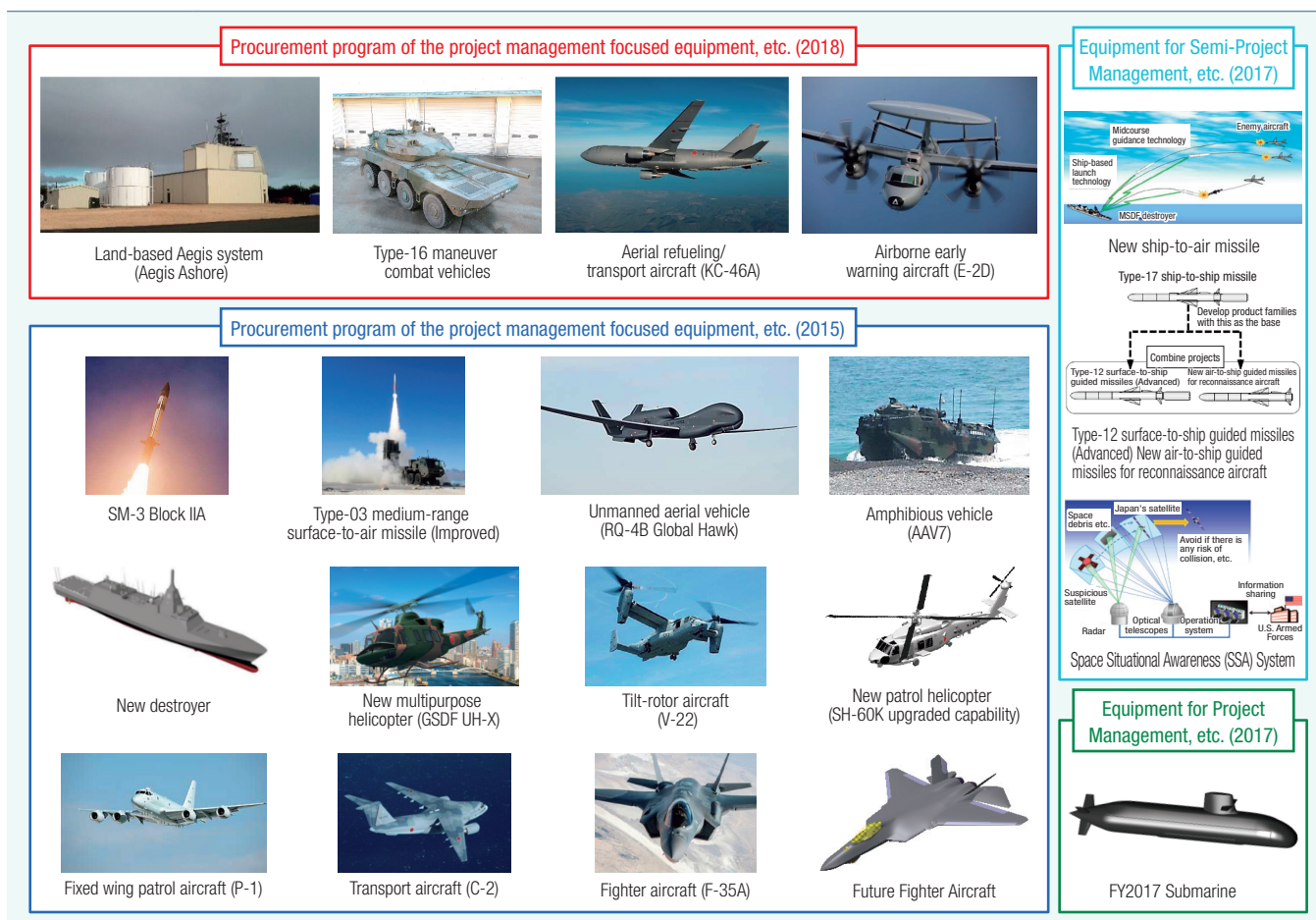
In order to further promote effective and efficient equipment acquisition, the MOD needs to enhance the effectiveness and

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<sup>1</sup> A semi-major project is an acquisition project of specific equipment with a limited application of project management without the designation of PM and IPT, focusing on risks in functions, performance, costs, schedules and other risk factors as in the case of equipment for project management.

<sup>2</sup> WBS is a hierarchical structure used to practice project management that systematically divides the project into manageable units, in which the schedule and cost of each deliverable (components and services) are allocated.

Fig. IV-2-3-1 Equipment for Project Management and Equipment for Semi-Project Management



flexibility of project management throughout equipment life cycles. To this end, under the MTDP, the MOD/SDF will take new initiatives, including undertakings that contribute to cost reduction at mass production stage as a requirement at the development stage, incorporating successful examples in the civilian sector into the manufacture of defense equipment, and actively adopting the competitive bidding method and other contracting methods that contribute to the utilization of private sector knowledge and expertise and

tightening cost controls. In this regard, the MOD will expand the items subject to project management and strive to adjust the standards for the specifications and the review of project plans with consideration of life cycle costs. Furthermore, for more efficient acquisition, during the equipment selection phase, the MOD will implement thorough life cycle cost estimation, analysis of alternatives and secure binding obligations against company principals.

## 2 Improving the Contract System and Other Related Matters

### 1 Reviewing Acquisition Systems

For the purpose of promoting acquisition reform, which is a prompt response to swiftly changing surroundings, the MOD has been holding meetings of the Comprehensive Acquisition Reform Committee since 2007, in addition to the Contractual Systems Study Groups held since 2010 to review acquisition systems. Since FY2016, a special research officer system<sup>3</sup>

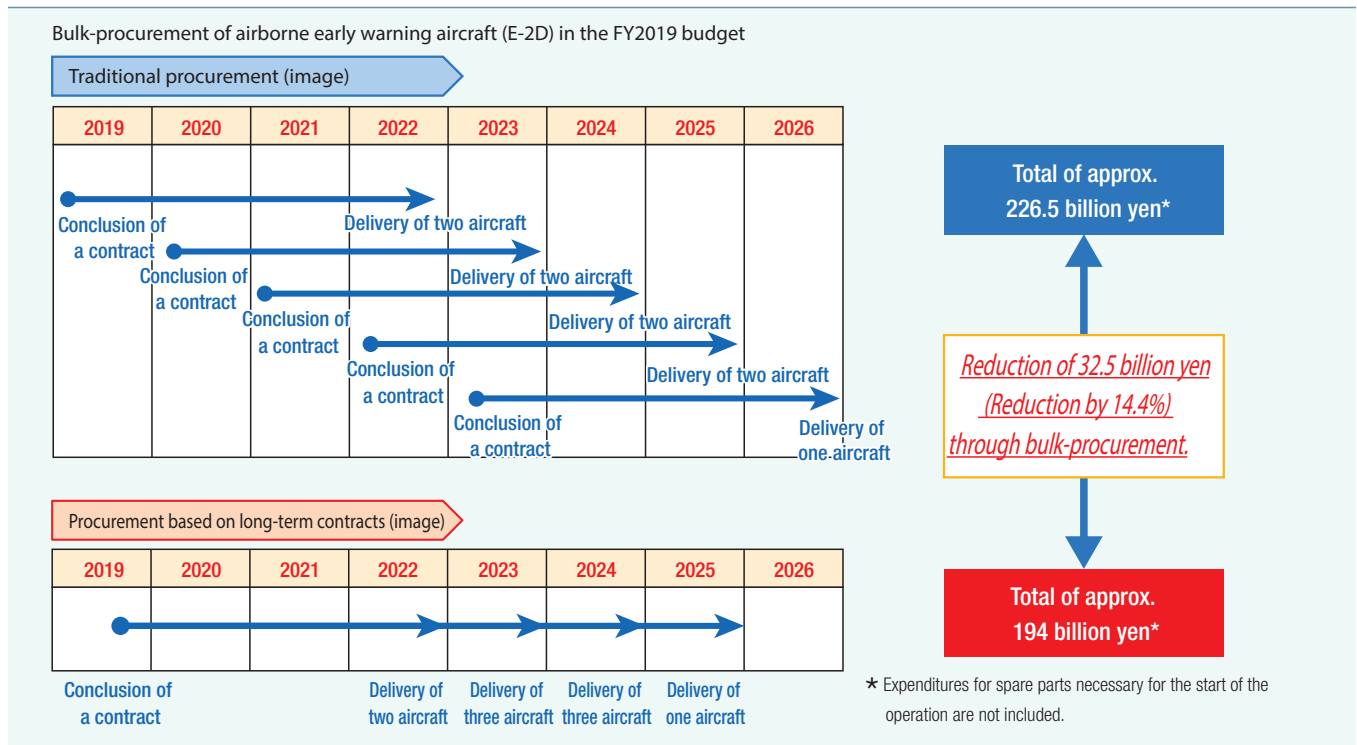
has been adopted in order to surely bring the review results to fruition.

### 2 Long-Term Contracts, etc.

The production of defense equipment requires a significant amount of time. Therefore, if a certain set amount is to be procured in bulk, in many cases a contract for more than

<sup>3</sup> This is a system to conduct research, which contributes to the acquisition system of defense equipment, by inviting experts, such as associate professors from different universities specializing in the areas of concern, in order to review and reconsider an effective procurement system, based not only on the viewpoints of the Ministry of Defense personnel but also on theories that have been proposed in the field of business administration and economics.

Fig. IV-2-3-2 Image of Long-term Contracts and the Cost Reduction Effect



five years is needed. With regard to defense equipment and services, economies of scale<sup>4</sup> tend not to work mainly due to the following reasons: (1) the MOD is the only customer; and (2) companies that provide such defense equipment, etc., are limited. In addition, it is difficult for companies to systematically move forward with their businesses with a high degree of predictability, which is peculiar to the defense industry.

For these reasons, the upper limit of acts that incur national debt prescribed in the Public Finance Act as within five years in principle was changed to within ten years for specific equipment through the enactment of the Long-term Contract Act.<sup>5</sup> The introduction of this change regarding long-term contracts will make stable procurement possible, leading to the realization of the systematic improvement of defense capability. At the same time, for companies, given that the procurement amount will be assured, the systematic use of personnel and equipment, as well as cost reductions due to bulk orders, will be made possible.

**Q See** Fig. IV-2-3-2 (Image of Long-term Contracts and the Cost Reduction Effect)  
Part II, Chapter 4, Section 3-3 (Initiatives for Greater Efficiency)

In addition, by realizing longer-term multiple-year contracts utilizing the Private Finance Initiative (PFI) Act,<sup>6</sup> the planned acquisition and execution of budgets is achieved

through the standardization of investment amounts of the national expenditure, and certain benefits are obtained, such as cutting equipment procurement costs, by reducing risks for those taking orders and by promoting the entry of new suppliers. As projects using the PFI Act, the MOD launched the “project of development and operation of X-band satellite communications” in January 2013 and the “project of operation and management of private ships” in March 2016.

In addition, regarding procurement of certain equipment with which little competitiveness can be expected due to its characteristics, and companies that work on cost reduction using the MOD’s programs, the MOD promotes limited tendering contracts while ensuring transparency and fairness as well as clarifying and putting the subject into patterns, from the perspective of the implementation of smooth and efficient procurement, and the enhancement of the company’s predictability.

Specifically, as a new initiative, in acquiring new destroyers,<sup>7</sup> the MOD has adopted a procurement method to acquire the new destroyers efficiently equipped with the necessary functions and to maintain and strengthen the construction technology base since February 2017. This is done by selecting a party that has made the best proposal with respect to the MOD’s requirements as a procurement counterparty, with the runner-up also involved in designing

<sup>4</sup> “Economies of scale” refers to the cost advantage that arises with an increased output of a product. For example, costs per unit can be reduced by a bulk purchase of materials.

<sup>5</sup> “Special Measures Law Concerning the Term of Expenditure Based on the Obligatory Assurance of National Subsidization for Specific Defense Procurement” (enacted in April 2015. An act for its partial revision to extend the effective period by five years was enacted in March 2019.)

<sup>6</sup> Act on Promotion of Private Finance Initiative

<sup>7</sup> New destroyers that combine improved multimission capabilities and compact hull

and building facilities as a subcontractor. The MOD concluded a proposal agreement in April 2017 and decided on a procurement counterparty and a subcontractor in August 2017.

### 3 Decrease Procurement Cost and Improve Companies' Incentives to Reduce Cost

With regard to the procurement of defense equipment, there is a large variety of equipment without a market price, and therefore, they tend to have high prices. In light of this characteristic, it is necessary to achieve both the reduction of procurement cost and improvement of companies' incentives to reduce cost simultaneously. Thus, the MOD has been striving to achieve the reduction of procurement prices by confirming the actual costs incurred and ensuring that no excessive business profit will be added after the execution

of the contract through cost audit contracts with a special provision requiring respective companies to conduct a review of the contract sum and return any excessive profit (audit contracts incorporating a provision requiring the return of excessive profit).

However, it has also been noted that these contracts diminish the companies' motivation for cost reduction as they would be required to return excessive profits after the completion of the contract payment at the end of the fiscal year. Therefore, the MOD is developing a new incentive contract system in which public and private sectors jointly carry out the management of contract implementation to minimize such risk, and in which a certain percentage will be given back to the companies if the cost reduction has been performed.

## 3 Initiatives Aimed at Increasing the Efficiency of Procurement, and Other Related Initiatives

### 1 Effective and Efficient Maintenance and Replenishment

With regard to periodic maintenance checks of defense equipment, the MOD has been working to achieve greater efficiency by extending the interval between the maintenance checks, after making sufficient effort to ensure safety. In addition, the MOD embarks on the introduction of Performance Based Logistics (PBL)<sup>8</sup> from the perspective of improving the equipment availability ratio and long-term cost reductions. The Ministry is also reviewing the maintenance methods. In the FY2019 budget, reduction of the maintenance and operating costs is expected by grouping hardware and software that were rented for each information system.

**Q See** Part II, Chapter 4, Section 3-3 (Initiatives for Increasing the Efficiency of Procurement)

### 2 Achieving Further Efficiency in the Acquisition of Defense Equipment

When acquiring defense equipment, the MOD aims to reduce development, acquisition, and maintenance expenses through the development of product families, standardization of equipment specifications, joint procurement of equipment common to multiple SDF services, etc., in addition to a review of the contract system. In the FY2019 budget, cost reduction is expected by switching to import of complete F-35As.

In addition, the MOD is facilitating the compilation of a database on the breakdown of procurement price and actual price of major equipment in the past. The Ministry expects

this database to be utilized not only to verify the validity of procurement prices, but also to enhance the accuracy and efficiency of life cycle cost estimation for new equipment.

**Q See** Part II, Chapter 4, Section 3-3 (Initiatives for Increasing the Efficiency of Procurement)

### 3 Efforts to Increase Fairness and Transparency

The MOD implements measures for making contracts more appropriate and strengthening checking functions to promote the enhancement of fairness and transparency in relation to the acquisition of equipment and materials.

As a part of the effort to "make public procurement more appropriate" across the whole government, the MOD continues to carry out the introduction and expansion of a comprehensive evaluation bidding system<sup>9</sup> and make bidding procedures more efficient. In addition to these, based on reflection on the past, strengthening system investigation, reviewing penalties, ensuring the effectiveness of supervision and inspection, and other measures have steadily been carried out in order to prevent recurrence of such incidents as overcharging and falsified results of equipment testing by defense-related companies in 2012. Through these measures, the MOD strives to surely prevent recurrence of scandals, enhance fairness and transparency, and make contracts more appropriate.

In addition, ATLA carries out multilayered checks through both internal and external checking systems and check-and-balance within the organization – namely, ATLA

<sup>8</sup> PBL is a contract method that involves payment of compensation according to the level of equipment performance achieved in terms of availability ratio and stable stock. It has achieved positive outcomes upon application to the maintenance and servicing of equipment in Western countries.

<sup>9</sup> Unlike the automatic bid system, which focuses only on price, this is a system whereby the successful bidder is determined on the basis of a comprehensive evaluation that includes both the price and other elements. This method is adopted when it is appropriate to carry out such procedures as evaluating the technological elements.