

Japan's National Defense Technology Strategy

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ATLA
Acquisition, Technology &
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防衛省
MINISTRY OF
DEFENSE

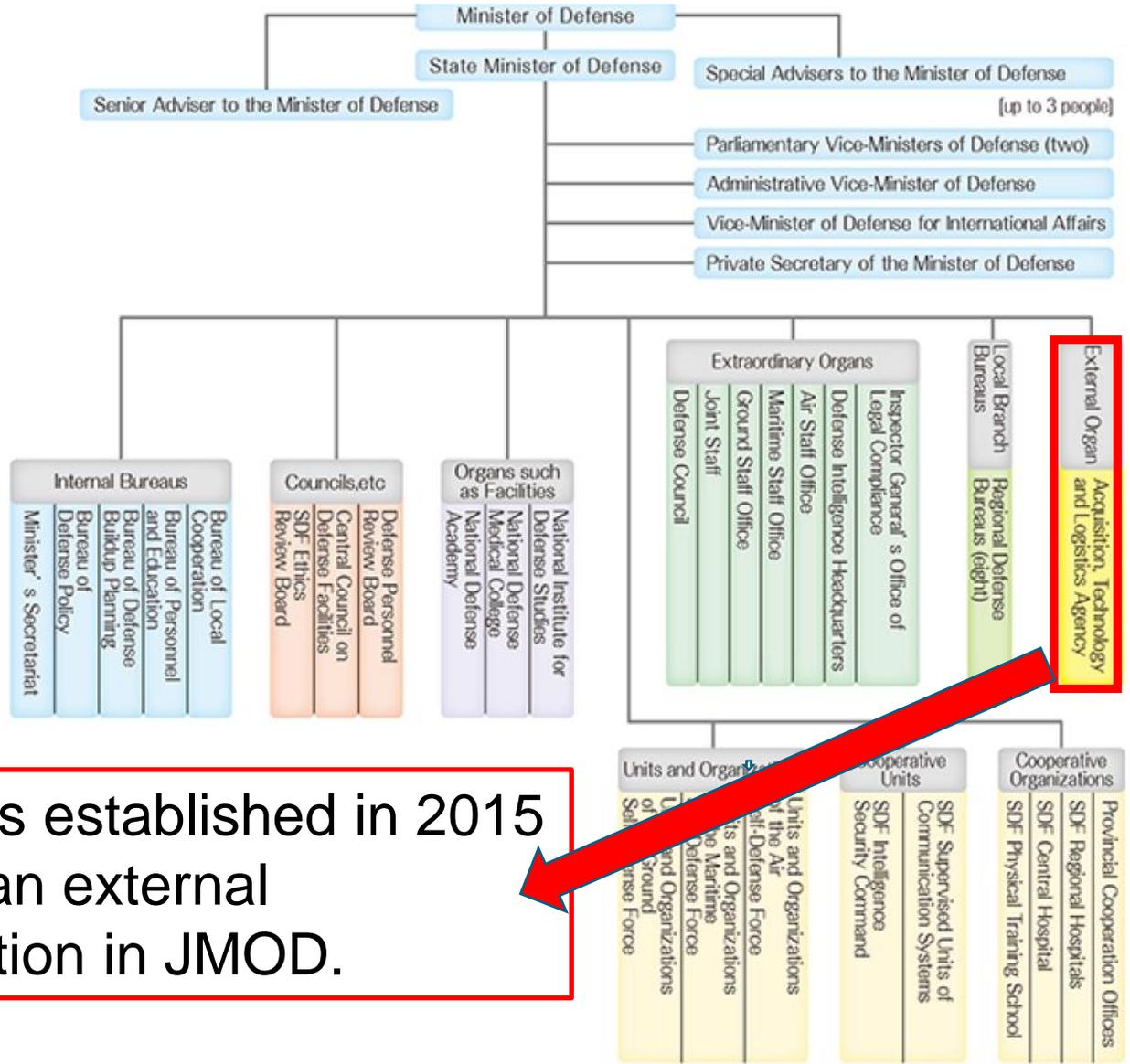
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1. ATLA Overview
2. New National Security Strategy
3. Defense Industry Policy toward the Future
4. Future Defense Technology Policy



1. ATLA Overview

Organization of Japan Ministry of Defense (JMOD)



➤ ATLA was established in 2015
 ➤ ATLA is an external organization in JMOD.

*Excluding temporary or special positions.

Missions of ATLA

- ✓ Ensure Technological Superiority and Responding to Operational Needs Smoothly and Quickly



- ✓ Efficient Acquisition of Defense Equipment (Project Management)

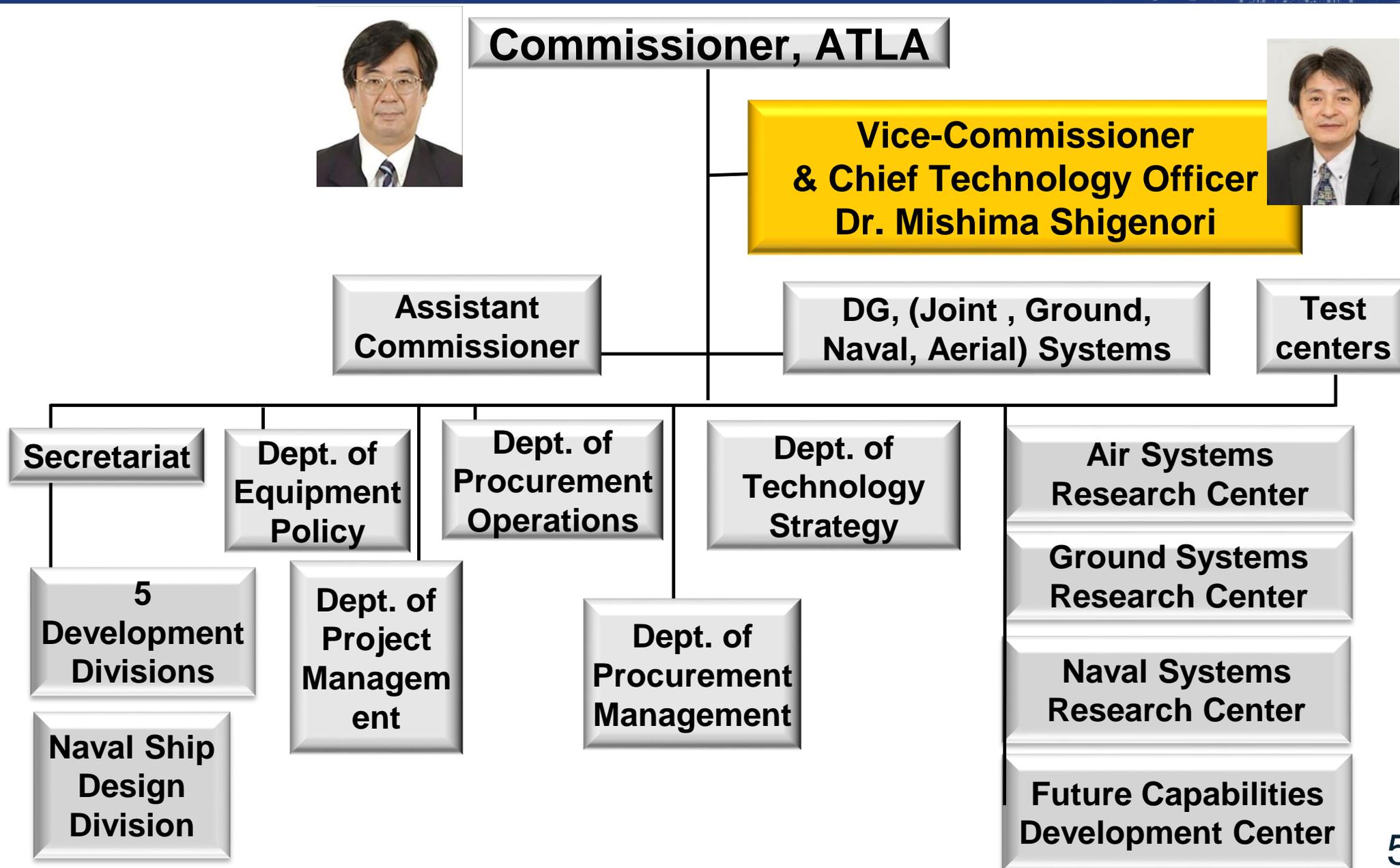


- ✓ Strengthen Defense Equipment & Technology Cooperation

- ✓ Maintain and Strengthen Defense Production and Technological Bases



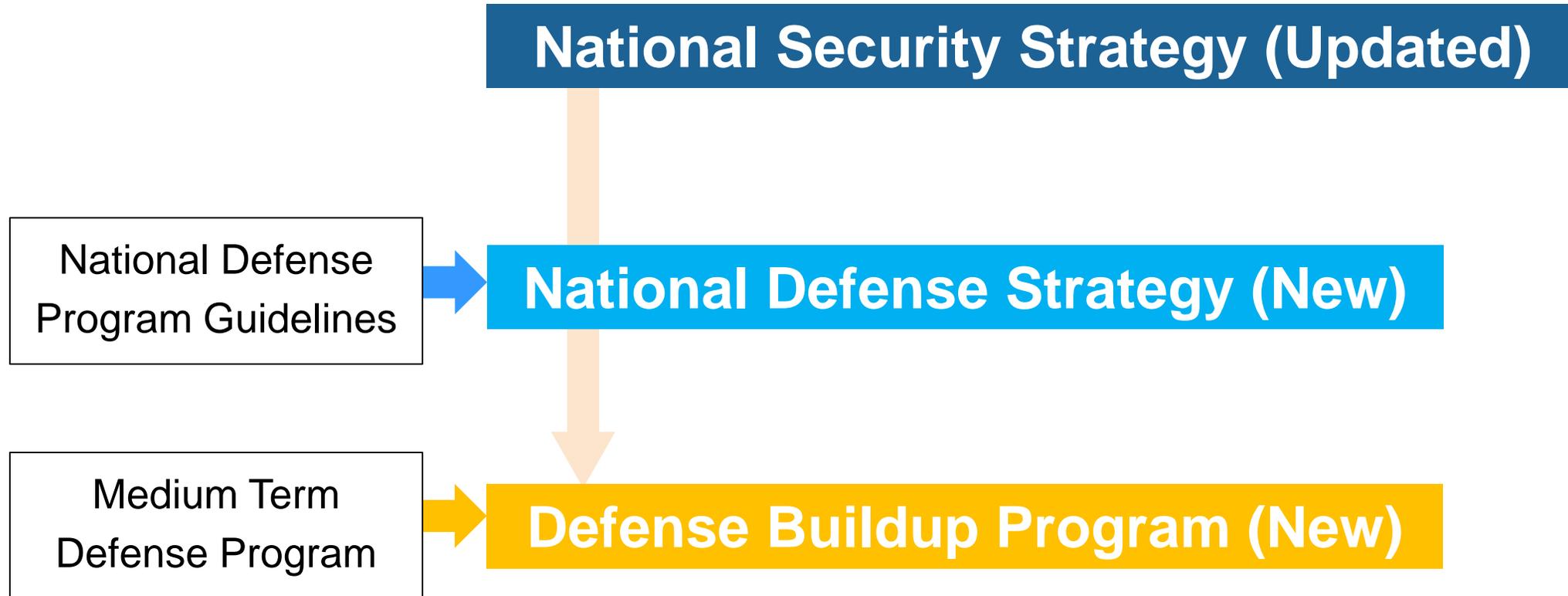
Organization of ATLA



2. New National Security Strategy

New National Security Strategy 1/3

3 documents were published on December 16, 2022



New National Security Strategy 2/3

National Security Strategy (Updated)

(Setting the future direction for the coming 10 years)

- **Highest-level Policy Document on National Security**

- Japan's national security policy will be dramatically transformed, e.g.
 - developing efforts centered on diplomacy guided by the vision of a FOIP;
 - fundamentally reinforcing defense capabilities, including possessing counterstrike capabilities; and
 - promoting economic security policies.
- In JFY 2027, Japan will take the necessary measures to make the level of its budget, for both the fundamental reinforcement of defense capabilities and complementary initiatives, reach 2% of the current GDP.

National Defense Strategy (New)

(Setting the future direction for the coming 10 years)

- **Goals of Defense of Japan, and Approaches and Measures to be taken to Achieve them**

- Fundamental Reinforcement: 7 Key Defense Capability Areas
- Strengthen Japan's Own Defense Posture
- Cooperation with the United States and Like-Minded Countries

Defense Buildup Program (New)

- **The Required Level of Defense Capability Set, with Mid- and Long-Term Programs to Achieve the Requirements.** The below included:
 - Organization of Self-Defense Forces
(those envisioned 5yrs and 10yrs ahead)
 - Total expenses for the 5 year program period*, Major asset quantities (research and development projects on specially important equipment, and target times of the deployment are written in the main descriptions)
(Setting the future direction for the coming 10 years)

*¥43 trillion (\$314 billion/ 1\$=¥137), approximately 1.6 times larger than current Medium Term Defense Program

Overview of National Defense Strategy 1/2

Three Defense Objectives

① Shape a security environment not accepting unilateral change of status quo by force

② Deter and respond to unilateral changes and attempts to change the status quo by force through **cooperation with the ally, like-minded countries and others** and control the situation at an early stage

③ Disrupt and defeat an aggression to Japan with Japan as primary responsibility and **with support from the ally and others, if an aggression to Japan occurs**



Overview of National Defense Strategy 2/2

Three Approaches

① Strengthening Japan's own defense posture



② Deterring and responding jointly with the U.S.



③ Collaborating with like-minded countries

- Reinforce collaboration with as many countries as possible
- Promote multilateral and multilayered defense cooperation and exchanges



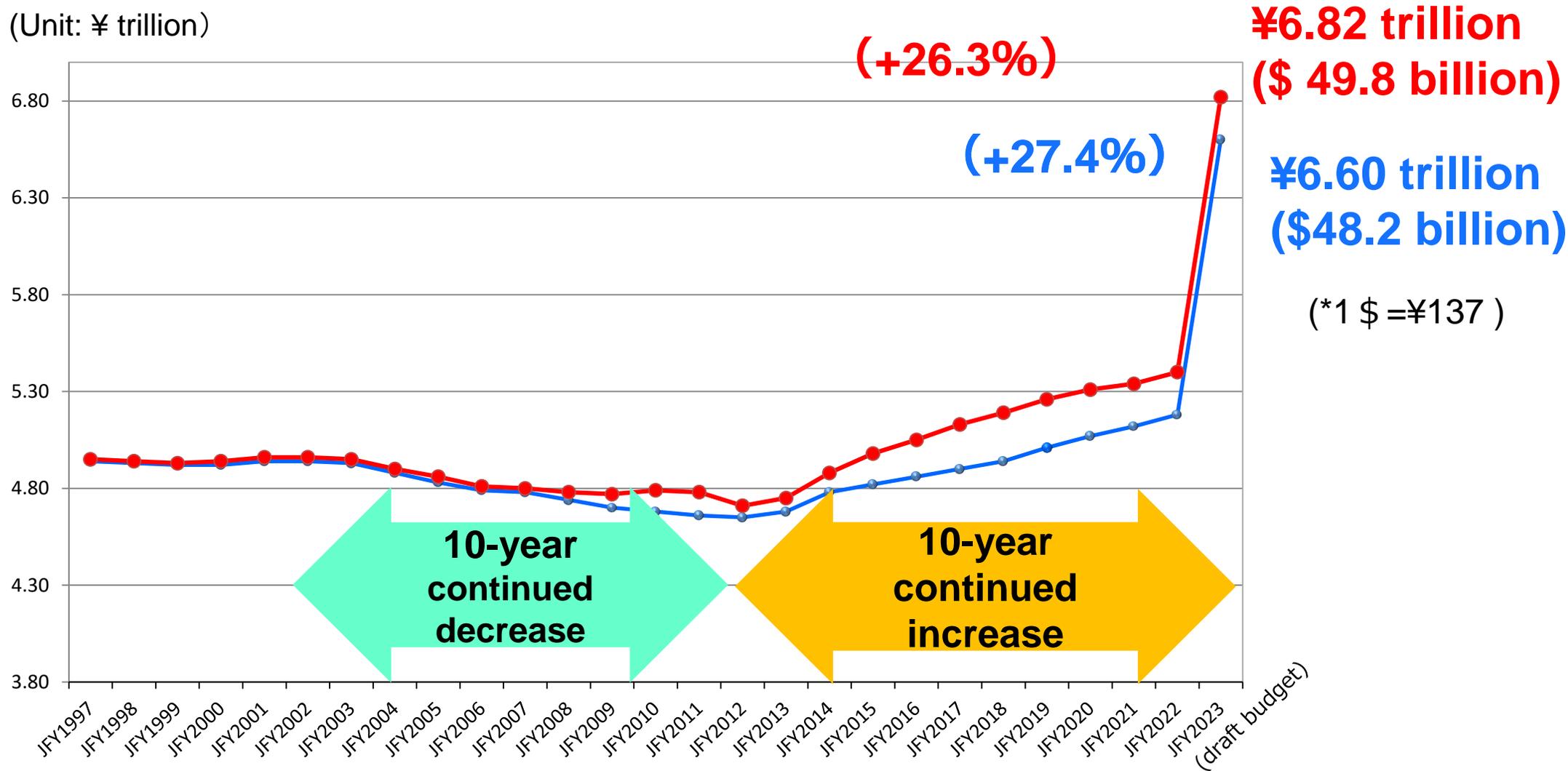
7 Key Defense Capability Areas

The functions and capabilities required to deal with the new way of warfare:

- Deter aggression
 - ① Stand-off Defense Capabilities
 - ② Integrated Air and Missile Defense Capabilities
- Ensure asymmetrical superiority if deterrence has failed
 - ③ Unmanned Defense Capabilities
 - ④ Cross-Domain Operation Capabilities
 - ⑤ Command and Control and Intelligence-related Functions
- Conduct operations swiftly and persistently
 - ⑥ Mobile Deployment Capabilities/ Civil Protection
 - ⑦ Sustainability and Resiliency

Annual Budget

(Unit: ¥ trillion)



● Includes SACO/U.S. Forces realignment-related expenses, etc.
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3. Defense Industry Policy toward the Future

Further robust initiatives by Government as a part of defense buildup, in order to strengthen and sustain domestic defense production and technological base

Ideal Defense Industry

- Sufficient production/technology base as integral part of defense to support JSDF
- Expected benefits for companies with sufficient profit and technological spin-off opportunities
- Appropriate competitive environment where companies compete in cost and technologies
- Entries of new businesses, new investments in technologies and facilities by existing companies
- Competitiveness sustained in international markets
- Keeping up with technological innovations, Maintaining technological superiority
- Capabilities to address various risks, including recent external threats by economic means

For Strong and Sustainable Defense Industry

1. Sustaining and strengthening industry's competitiveness, and technologies
2. Vitalizing defense industry, promoting new entries of defense businesses
3. Attracting businesses ensuring appropriate profit
4. Dealing with defense companies withdrawals

Coping with Various Risks

5. Resilient Supply Chain
6. Industrial / Cyber Security
7. Management of Sensitive Technologies

Extending the Market

8. Promoting Equipment Transfer
9. Streamlined FMS



4. Policy for Future Defense Technology

Reinforcing Defense Technology Base

Intensive R&D investment / Early deployment of defense equipment

What

Identified Key
Defense
Capability Areas

How

- I. Accelerating deployment and R&D
- II. Maintenance and Improvement of Conventional Technologies

Medium to long term defense technology enhancement

What

Focused Tech.
Areas
(under updating)

How

- III. Strengthening discovery, development, and incorporation of cutting-edge commercial technologies
- IV. Collaboration with Relevant Ministries to Strengthen Comprehensive Defense Capability
- V. Establishment of New Research Institution in ATLA

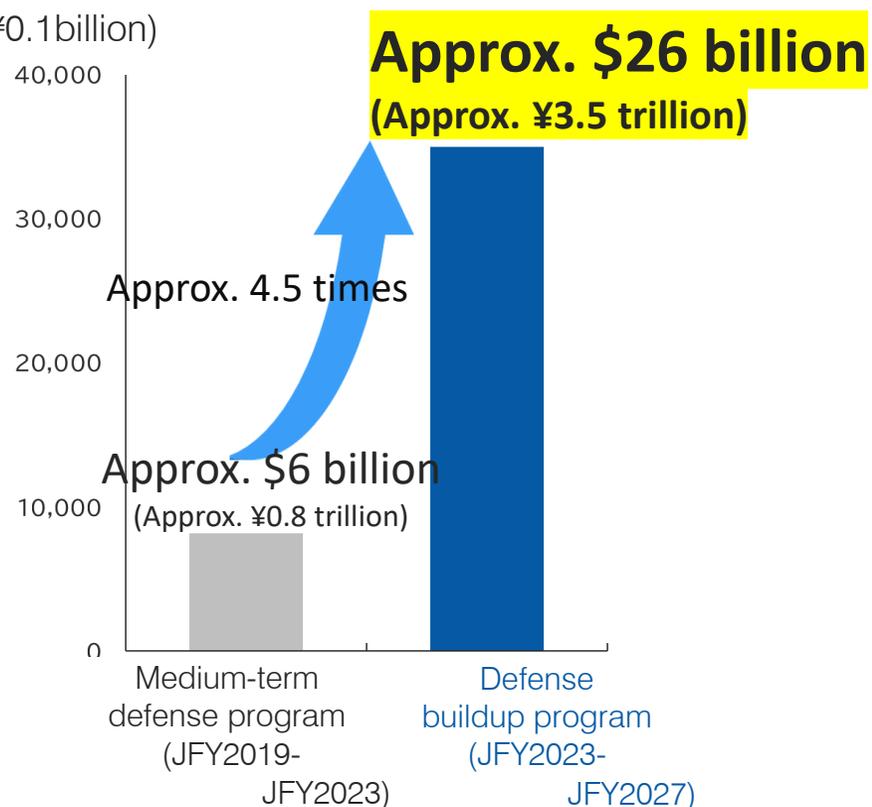
To promote cooperation and collaboration with its ally and like-minded countries

Intensive R&D investment by JMOD

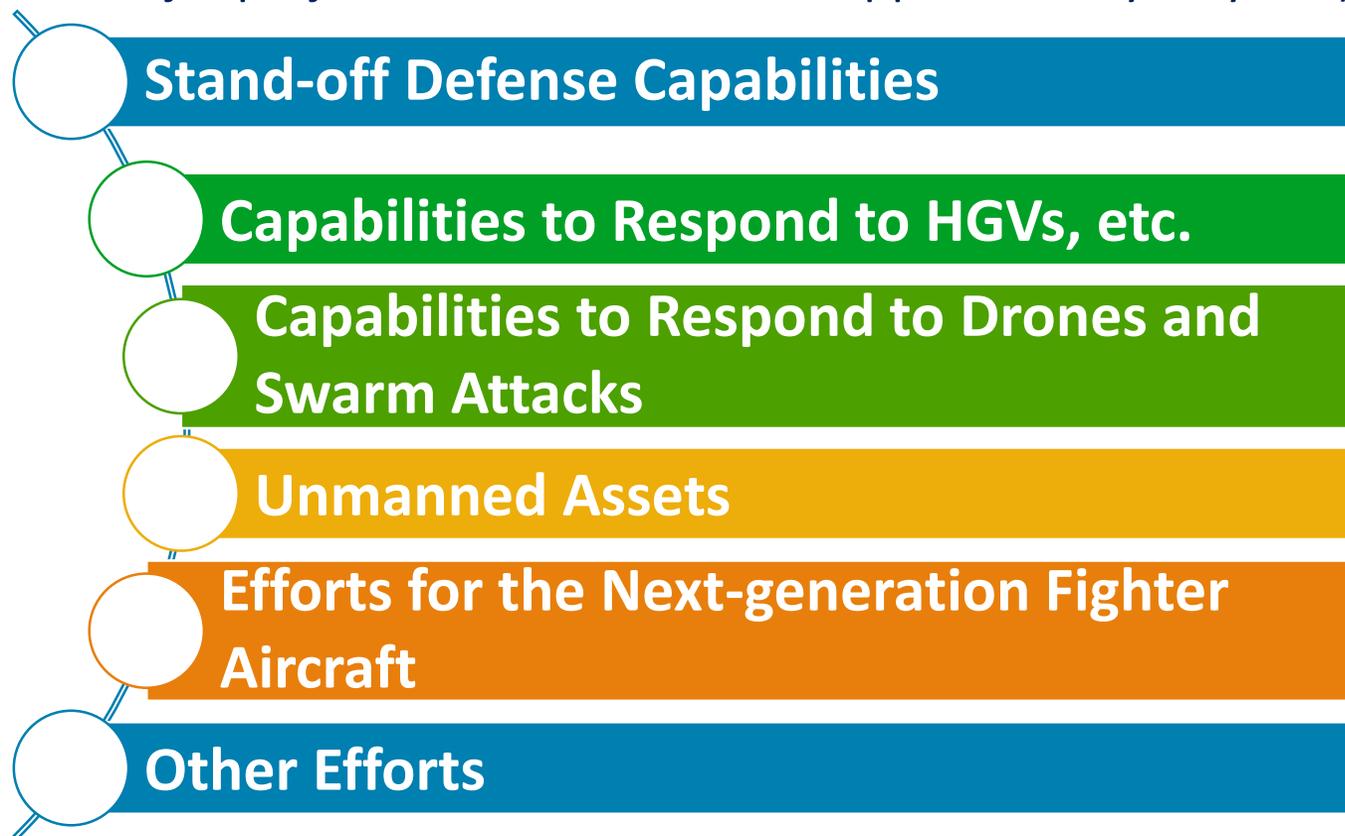
Intensive investment in equipment field directly linked to future warfare and by introducing new methods, it enables to shorten the time required for R&D and lead to the early deployment of defense equipment for the future warfare.

(examples of major projects to be conducted in approximately 10 years)

*contract bases
(¥0.1billion)



(*1 \$ =¥137)



Major programs

i. Stand-off Defense Capabilities



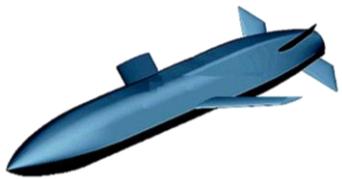
Upgraded Type-12 SSM



Upgraded Hyper Velocity Gliding Projectile



Hypersonic Missiles



New Anti-ship Missiles for Island Defense

ii. Capabilities to Respond to HGVs, etc.

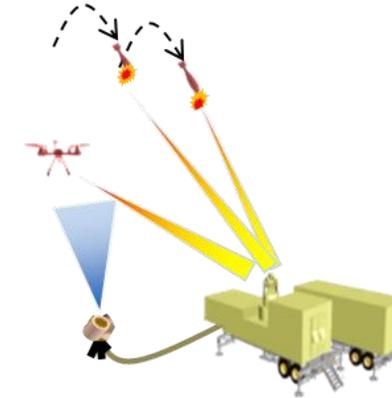


Medium-range SAM



Guided Missile System for Countering HGV

iii. Capabilities to Respond to Drones and Swarm Attacks



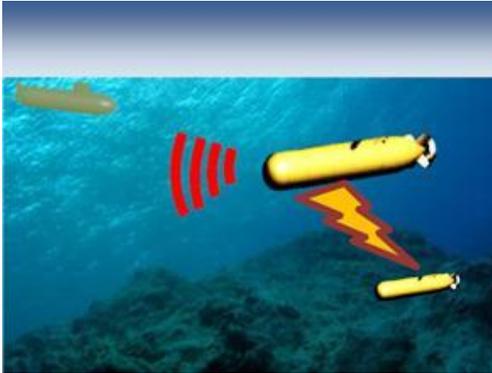
High-Energy Laser



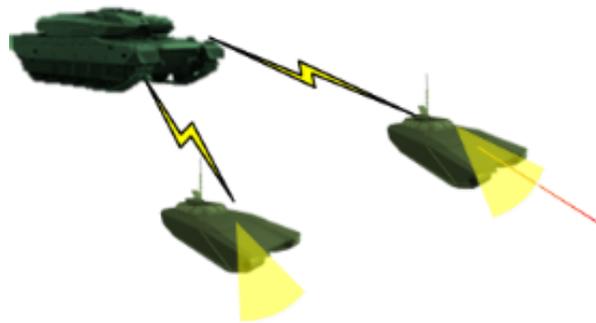
High-Power Microwave Radiation Technology

Major programs

iv. Unmanned Assets



UUV Control Technology



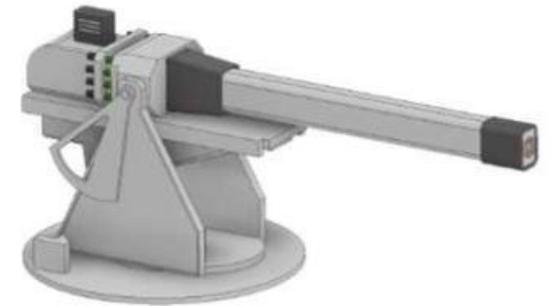
Combat UGV

v. Efforts for the Next-generation Fighter Aircraft



GCAP

vi. Other Efforts



Future Railgun

Measures to realize early deployment

1

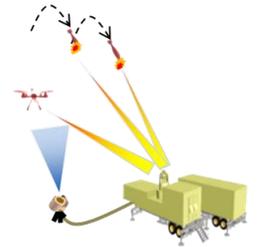
- Rapid acquisition of capabilities through deployment of prototype units upon completion of R&D



(e.g., Hyper Velocity Gliding Projectile for Island Defense)

2

- Even for research projects, a prototype of operational scale is manufactured and deployed on a trial basis



(e.g., High-Energy Laser)

3

- Mass production starts in parallel with R&D before the R&D project is completed by properly assessing and managing risks

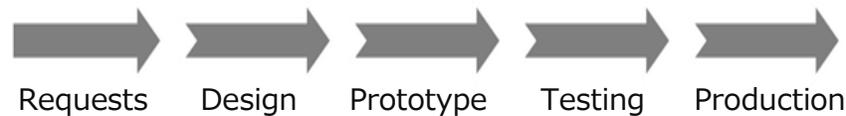


(e.g., Upgraded Type-12 Surface-to-Ship Missile)

Introducing Agile R&D

- ✓ Flexible setting and changing of required performance
- ✓ **Quickly executed Cycle of (1) design & prototype, (2) deployment & operation, (3) feedback, and (4) improvement & capability-enhancement**
- ✓ Quick acquisition of the capability for future warfare by drastically reducing R&D period

Traditional process: Waterfall

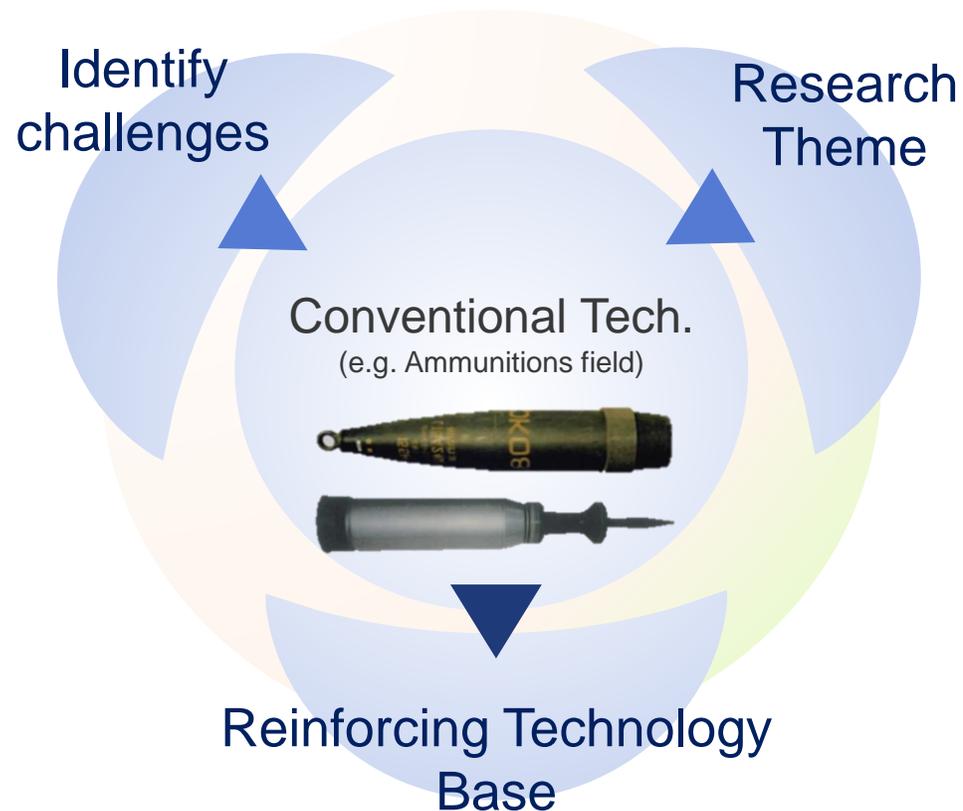


Agile type



Maintenance and Improvement of Conventional Technologies

Implementation of measures to maintain and improve existing technologies that form the foundation necessary for realizing advanced capabilities



Incorporation of cutting-edge commercial technologies

- JMOD strengthens R&D that incorporates a wide range of cutting-edge commercial technologies
 - Significantly expanded from JFY2023 to enhance incorporation of these technologies

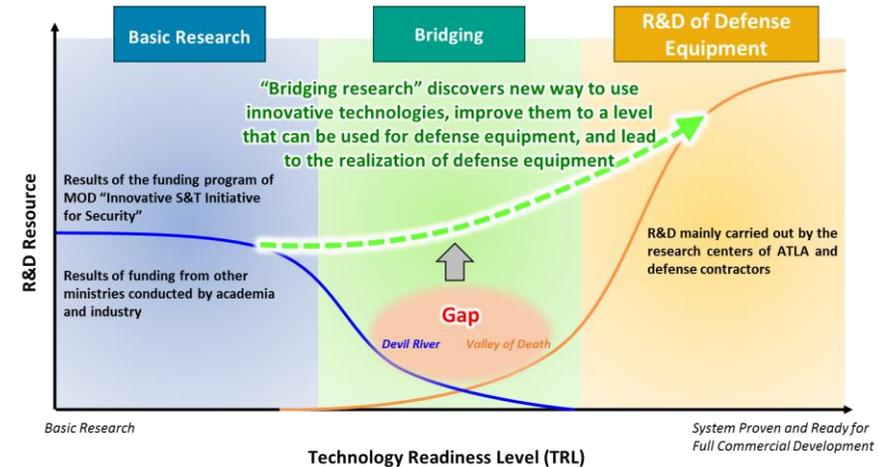
JMOD Funding

(Innovative Science & Technology Initiative for Security)



Program (JFY2022): \$ 73.7 million
→ Program (JFY2023): \$ 81.8 million

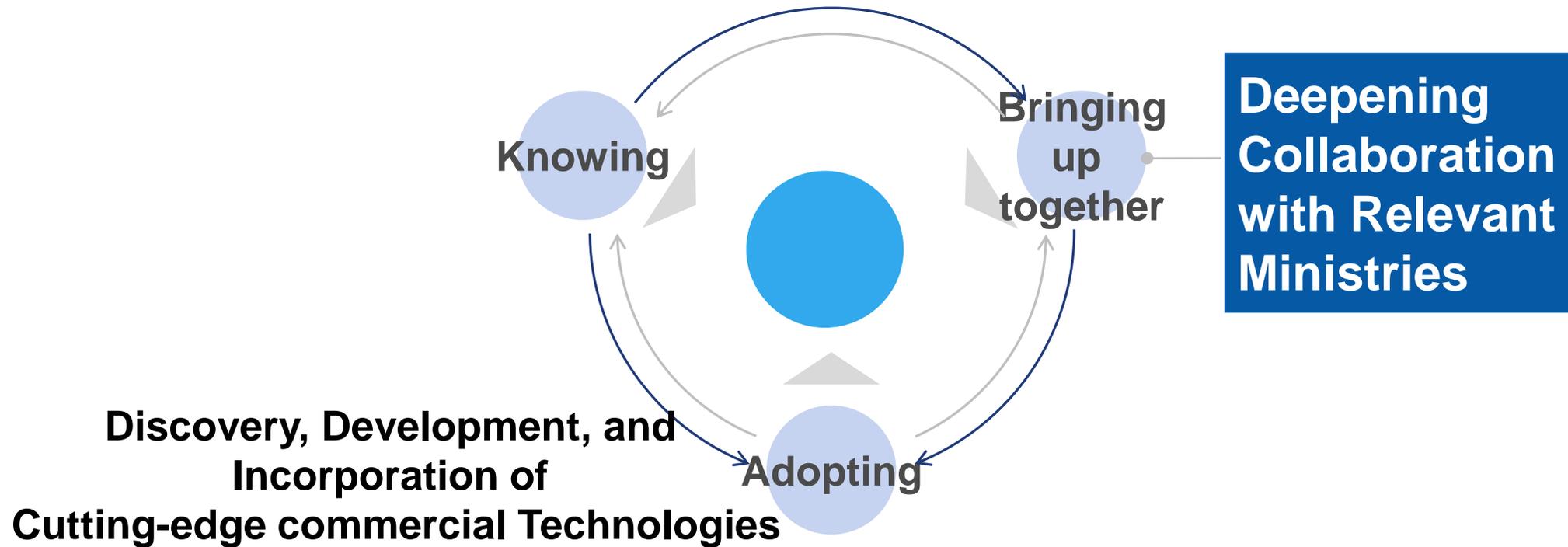
Bridging Research



Program (JFY2022): \$ 6.6 million
→ Program (JFY2023): \$ 137 million

Collaboration with Relevant Ministries to Strengthen Comprehensive Defense Capability

Utilization of funds and results of R&D for strengthening comprehensive defense capability under cross-ministerial mechanism



Establishment of New Research Institution in ATLA

- ✓ **Organization for conducting R&D that leads to realization of innovative equipment**
- ✓ **Conducting Innovative technology research with a focus on **funding** and **bridging research** / Identifying technologies that can be directly linked to future warfare**

... ATLA will discuss ideal institution based on actual situation in Japan, while referring to good practices in other countries such as DARPA and DIU.



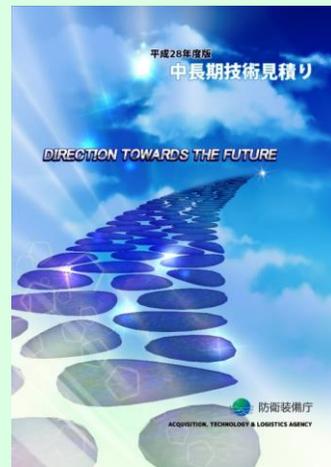
Defense technology strategy documents revision

- In order to increase predictability for companies and to promote the cooperation with international/internal partners etc., JMOD strategically communicates prospects on technology fields and R&D, in which JMOD is interested.
- ⇒ The existing strategic documents on defense technology will be revised. New document will be compiled promptly.

Defense Technology Strategy (2016)



Medium- to Long-Term Technology Outlook (2016)



R&D Vision (2019)



New Document

Conclusion

Three new strategic documents have been published.



Highest policy and key defense capability areas have been identified

A new document on defense technology strategy is being prepared.



Key technology areas will be identified.



Promote the cooperation with international partners