

# The Challenges and Efforts

for Defense Equipment and Technology Cooperation



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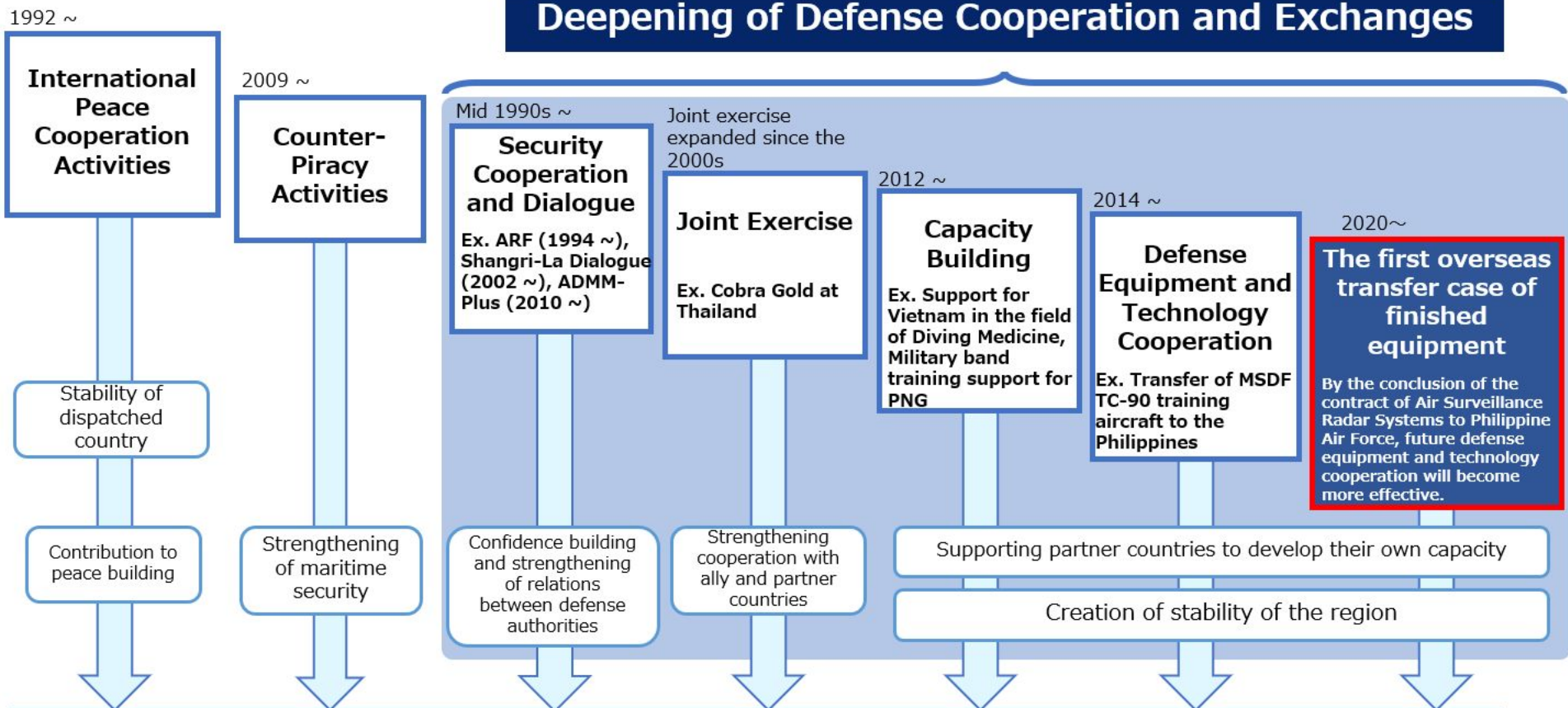
**Ministry of Defense, Japan**

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# 1 Viewpoint of Defense Exchanges

- Since the formulation of the Three Principles on Transfer of Defense Equipment and Technology in 2014, defense equipment and technology cooperation is **one of the tools** of defense cooperation and exchanges, and as important as high-level dialogues, bilateral/multilateral exercises and capacity building.

## Deepening of Defense Cooperation and Exchanges

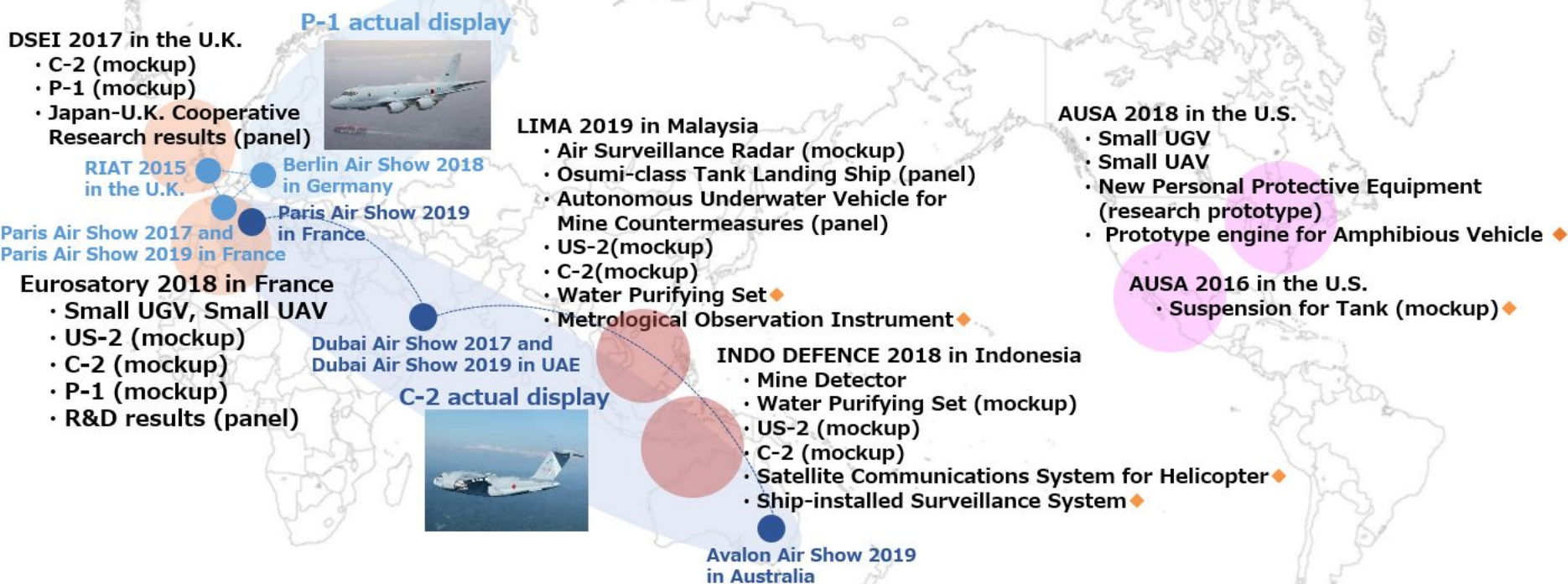


- 💡 Since 1990's, defense cooperation and exchanges have diversified and deepened.
- 💡 Defense cooperation and exchanges have increased in achieving peace and stability in Japan and the region.

## 2 Image of Defense Equipment and Technology Cooperation in each region

- There are various needs for defense equipment and technology cooperation from other countries, but **the needs vary from region to region.**
- In order to promote the overseas transfer of defense equipment more effectively, it is important to gather and disseminate information and formulate cases in detail, taking into account the situation of the target country.
- For this reason, with regard to equipment to be exhibited at the International Defense Equipment Exhibition, which is an opportunity to gather and disseminate information, it is necessary for ATLA to **select an appropriate transfer case based on regional characteristic, the intention of Japanese companies and so on.**

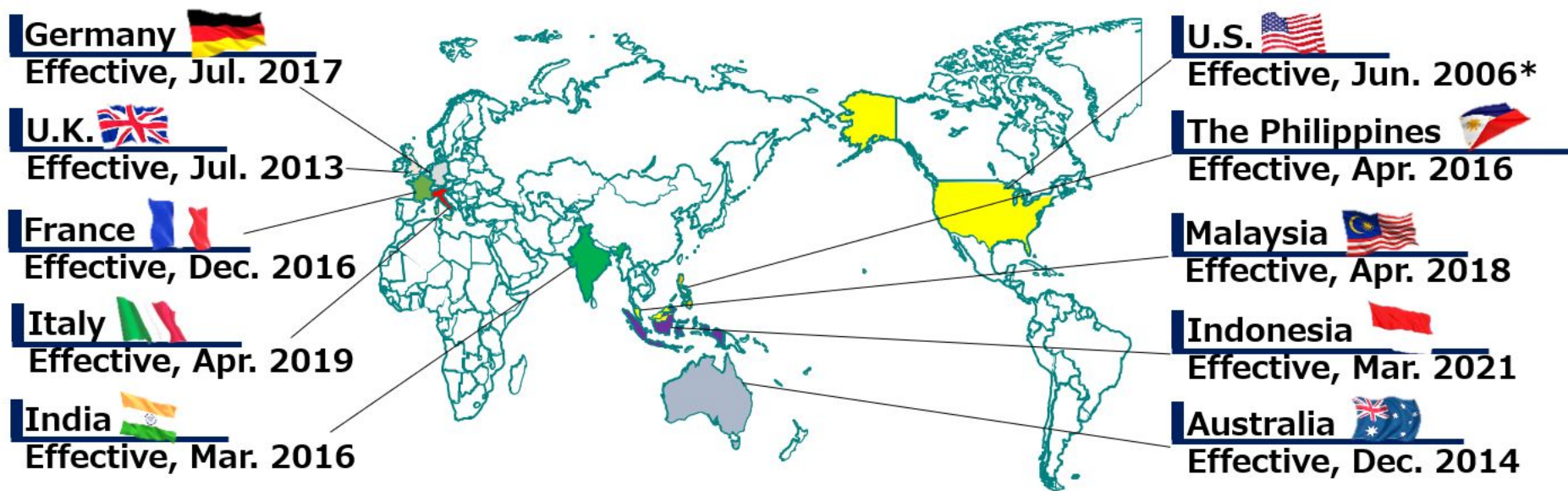
### Major equipment ATLA exhibited at International Defense Equipment Exhibitions



◆ : Indicate that the Japanese company exhibited booth on its own

### 3 Status of Conclusion of Agreement concerning the Transfer of Defense Equipment and Technology

- Overseas transfer of defense equipment and technology will be **permitted only in the case where appropriate control is ensured.**
- More concretely, the Government will, in principle, **oblige the Government of the recipient country to gain its prior consent from the Japanese Government regarding extra-purpose use and transfer to third parties.** (In some cases, appropriate control may be ensured with the confirmation of control system at the destination.)
- In order to ensure the strict control for extra-purpose use and transfer to third parties, **Agreement concerning the Transfer of Defense Equipment and Technology, etc. has been concluded with countries as a framework for handling defense equipment and technology.**



- **Agreed in principle with Vietnam, in Oct. 2020**

# 4 Defense Equipment and Technology Cooperation with Other Countries

- In August 2020, the contract was signed for the transfer of Air Surveillance Radar System to the Republic of the Philippines as the first transfer in the field of finished equipment.
- On the other hand, with respect to relations with developed countries, there are transfers of components and parts, and international joint research and development because industrial bases are already developed.

- Personnel Vulnerability Evaluation (until July 2020)
- Certification Process of Jet Engines (until February 2020)
- Advanced RF System
- Japan-UK Cooperative Research Programme on the Demonstration of a Joint New Air-to-Air Missile
- Exchanges information regarding the F-X fighter and the Future Combat Air System (FCAS)
- Chemical and Biological Protection Technology Cooperative Research Project

### The United Kingdom



### France



- Mine Countermeasure Technological Activities

### India



- Visual SLAM based GNSS Augmentation Technology for UGV/Robotics

### Australia



- Marine hydrodynamics (until November 2019)
- Placement of Scientist and Engineer Personnel
- Japan-Australia Joint Research on Marine Hydrodynamics and Hydroacoustics
- Japan-Australia Joint Research on Multi-Unmanned Ground Vehicle Autonomy Technology

### The Philippines



- Air Surveillance radar
- TC-90 airframes
- UH-1H parts

### The United States



- PAC-2 parts
- Software and parts for the Aegis System
- F100 engine parts
- Inertial Navigation Unit for F-15
- SM-3 Block IIA
- Comparison of Operational Jet Fuel and Noise Exposures
- Chemical Agent Detector-kit Colorimetric Reader
- High-Temperature Case Technologies
- Next Generation Amphibious Technologies
- Mission Partner Gateway eXtended
- Modular Hybrid Electric Vehicle System
- Engineers and Scientists Exchange Program
- Regional MRO&U for F-35
- Common Maintenance Base for Ospreys of Japan and the U.S. (Kisarazu)

### [Legend]

- Finished product
- Parts, components
- International joint development/manufacturing
- Regional Maintenance, Repair, Overhaul and Upgrade (MRO&U)/ Common Maintenance Base
- International joint research
- Grant (Article 116-3 of the SDF Law)

## 5 Case of Equipment Transfer to the Philippines

- In order to realize equipment transfer, it is important not to just transfer equipment but to **build relations with partner countries** through **education assistance, support in maintenance and sustainment and so on.**

### Loan and grant of TC-90 in 2017



- Transfer of MSDF's TC-90 training aircraft to the Philippine Navy is a "Package" project including **(1) Transfer of the five TC-90s that were decommissioned early because of the change for use in education, (2) Support in Pilot Education, (3) Support in Maintenance and Sustainment.**
- Based on the agreement at Japan-Philippines Summit Meeting in September 2016, Japan transferred the first 2 aircraft and the remaining 3 aircraft in March 2017 and in March 2018 respectively\*.

- TC-90 pilot training for 6 pilots from the Philippine Navy was carried out at the JMSDF TOKUSHIMA Air Base from November 2016 to March 2018.

- Training for 6 maintenance personnel from the Philippine Navy was carried out in February and March 2017 at a Japanese maintenance company and so on.
- Engineers have been dispatched to the Philippines since April 2017 in order to provide direct instructions for the maintenance and sustainment conducted by the Philippine Navy.

\*Amending SDF Act in June 2017 made it possible to grant equipment decommissioned by SDF to developing countries. The Act switched the first 2 TC-90 aircrafts from the originally paid loan to the grant.

### Grant of UH-1H parts and maintenance in 2019



- **In October 2017, due to decommissioning of all UH-1H multipurpose helicopters by JGSDF, and their parts, including engines, blades, etc., were no longer needed by JGSDF.**
- In April 2018, Department of National Defense of the Republic of the Philippines requested JMOD to grant UH-1H parts and maintenance equipment decommissioned by JGSDF.
- In March 2019, JMOD started handing over UH-1H parts and maintenance equipment, and in September 2019, JMOD completed delivery of the items.

### Contract conclusion of transfer of Air Surveillance Radar Systems in 2020



J/FPS-3



JTSPS-P14

- MELCO<sup>1</sup> proposed PAF<sup>2</sup> its radar system in response to PAF's selection process of surveillance radar system launched in 2018, ATLA engaged in activities to encourage the adoption of MELCO's surveillance radar system.
- the contract between DND-PHL and MELCO was concluded to supply four MELCO manufactured air surveillance radar systems with a total value of approximately one hundred million U.S. dollars (USD 100,000,000).



The Philippines Ambassador to Japan pays a courtesy call on Minister Kono (at that time) following the conclusion of contract for Air Surveillance Radar Systems

- This radar system will be newly developed and manufactured, employing the experience and expertise of MELCO which has produced radar units for Japan Self-Defense Forces, in accordance with the requirements of PAF. **This is the first overseas transfer case of a finished defense equipment system newly manufactured by a Japanese company.**

\*Note that the photos above are just images to illustrate radar systems of JASDF and JGSDF, which thus differ from those to be delivered to the Philippines.

## 6 Challenges of promotion of Defense Equipment and Technology Cooperation

- Since the Three Principles were formulated, ATLA has continuously promoted efforts for overseas transfer of equipment. However, the transfer is limited to a level of technology, decommissioned equipment and parts, and **the transfer of complete defense equipment is only Air Surveillance Radar Systems to the Philippines.**

### Major challenges

- **Lack of experience**

- Compared to Western countries which have actively promoted overseas transfer of defense equipment for a long time, **Japan lacks experience in sales** and needs to strengthen it.

- **Further strengthening of public-private cooperation**

- It is necessary for public and private sectors to cooperate independently, recognizing that the transfer of equipment is a part of national security policy and has the aspect of strengthening the defense industrial base.
- In particular, customers are the armed forces of the target countries, and it may be difficult for companies to make contact with the customers by themselves. Therefore, **it is important for public and private sectors to work together and promote information gathering and activities for proposals in ATLA acting as a contact point.**

- **Grasp the potential needs and of target countries and strengthen approach to them**

- In the past, equipment transfer was usually done in response to inquiries from other countries.
- In order to effectively promote proposals for equipment to other countries, it is important to grasp not only the needs manifested by procurement plans that each country's force published etc., but also **potential needs based on each country' diplomatic and security policies.**
- In addition, it is important to **strengthen approach** through the cooperation of Minister of MOD, other high-level government officials and the SDF.



- **Establishment of a framework for information sharing, etc.**

- It is difficult for companies to grasp the needs of target countries by themselves. **It is necessary to establish a system for exchanging views and sharing information between the government and companies** in order for companies to widely grasp the information obtained by the government.

- **Suppressing price increases of defense equipment**

- Since defense equipment developed by MOD have been produced in small quantities and multi-types for delivery only to SDF, it is difficult to suppress price increases. It is important to actively promote the overseas transfer of defense equipment from **the perspective of reducing unit costs due to increasing production volume by overseas transfer.**

- **Treatment of technology transfer**

- Systematization of **the attribution of intellectual property, protection of technology, and strengthening of corporate security** with reference to the U.S. standards, etc.

## 7 The Way forward

- While taking into consideration both strengthening of defense industrial bases and B to B cooperation, it is important to intensively promote defense equipment and technology cooperation with foreign countries, focusing on following things at the same time. 1) formulating concrete cooperative project 2) organizing framework for promoting cooperation

### (1) Efforts for formulating concrete cooperative project

- Grasping needs of partner countries and spreading information
  - Understand trends of defense industry and system of partner countries
  - Display booths at international defense equipment exhibition, dispatch domestic-developed aircraft to international airshows, Promote understanding towards Japanese defense industrial bases
- Concretization and Promotion of transfer of defense equipment and technology based on the needs
  - Explore not only large-scale projects (aircraft, etc.) but **also small & medium-scale project**
  - Promote cooperation on **cooperative research & development** with countries which possess advanced technology (U.S., U.K., France, etc.)
    - also, consider change of specifications or addition of capability based on needs of the destination



### (2) Organizing both legal and discussion framework for promoting cooperation

- Agreement concerning Transfer of Defense Equipment and Technology (concluded with 10 countries)
- Framework of G to G discussion
  - Arrange discussion between defense equipment authorities
- Activate G to B and B to B talk **through Defense Industry Forums held by ATLA**



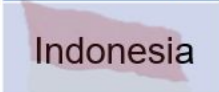













## 8 Defense Industry Forum with other countries

- ATLA has **hosted a bilateral “Defense Industry Forum”** aiming for mutual understanding of defense equipment policy and procurement system, and for promotion of industrial cooperation.

Forum consisted of 3 pillars:

- 1) Presentation on equipment policy (procurement plan and/or system)
- 2) Presentation on company profiles, products etc.
- 3) Networking between companies of both countries.

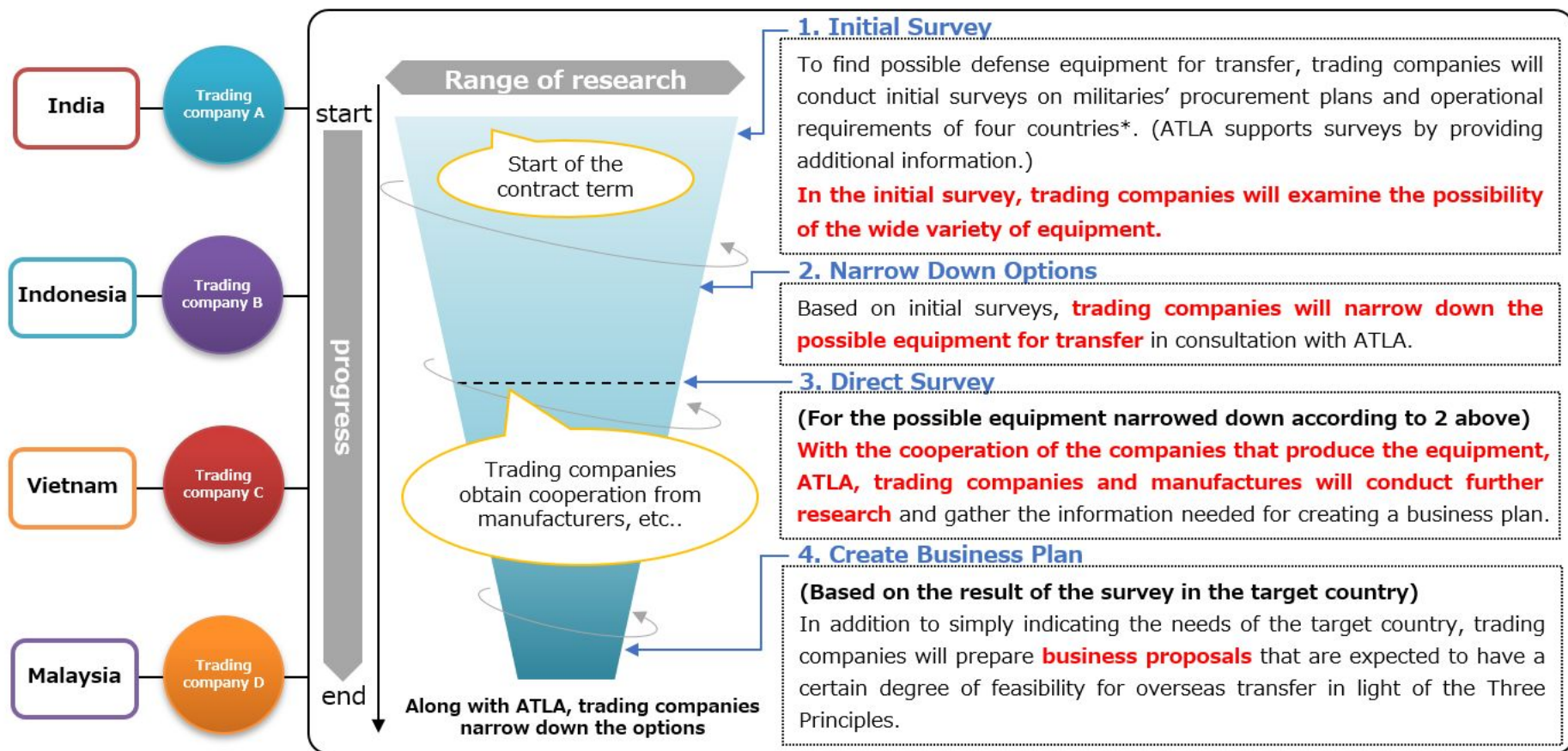
Country	Date	Place	Participants	Photo	Note
	August, 2017	August 2017	JPN: 8 companies INA: 6 companies		
	(1 <sup>st</sup> round) September, 2017	(1 <sup>st</sup> round) Tokyo	(1 <sup>st</sup> round) JPN: 12 companies, 2 organizations IND: 22 companies, 1 organization		Hosted the 2 <sup>nd</sup> round forum, taking the opportunity of ATLA Commissioner's participation in Aero India 2019
	(2 <sup>nd</sup> round) February, 2019	(2 <sup>nd</sup> round) Bengaluru	(2 <sup>nd</sup> round) JPN: 6 companies, 2 organizations IND: More than 80 companies, 1 organization		
	October, 2017	Hanoi	JPN: 8 companies VIE: 3 companies		
	March, 2018	Tokyo	JPN: 20 companies, 3 organizations AUS: 10 companies		Targeted fields: Maritime Security, HA/DR, & PKO
	January, 2019	Rome	JPN: 9 companies ITA : More than 20 companies, 1 organization		JPN participants visited 3 ITA companies
	October, 2019	Manila	JPN: 13 companies PHI: 6 companies		JPN 11 companies gave presentations on their company products.

▶ ATLA will continue to arrange Defense Industry Forum with other countries to activate dialogue among industries.

## 9 Efforts in Public-Private Cooperation for promoting transfer of defense equipment (1) - Feasibility Study -

### 1. Feasibility Study for Overseas Transfer of Defense Equipment

- ATLA has launched “Feasibility Study” under public-private cooperation (ATLA, trading companies and manufactures) to grasp the potential needs of target countries and to carry out activities for proposals such as visiting foreign armed forces.
- ATLA will continue this project in FY 2021.



Continue activities for proposals to target countries under public-private cooperation.

## 10 Efforts in Public-Private Cooperation for promoting transfer of defense equipment (2)

-Organizing a Platform to Share Information between Public and Private Sector-

### 2. Promote information sharing between public and private sectors

- **ATLA is promoting the establishment of a platform for sharing information between public and private sectors** in order to promote equipment transfer under public-private cooperation. To begin with, as one of the tools, **ATLA has been establishing a portal site designed to share and exchange information on the Web**. The portal site will provide useful information for promoting equipment transfer.
- In order to establish a platform for sharing information between public and private sectors, which has been requested by defense industry, ATLA has held webinars\* one after another as an opportunity to learn precedents from lecturers who have experience in local private businesses.
- **In order to promote the ongoing Feasibility Studies more effectively**, ATLA selected India for the first webinar, Vietnam for the second, and Malaysia for the third, based on the idea that it is important to deepen understanding of the business practices in the target countries between public and private sectors.

※Seminars on the Web (as an alternative to seminars that many participants come together as a countermeasures against COVID-19)



#### India Webinar

- Date : Dec. 2020
- Participants : approx. 110 people  
(ATLA, METI, JETRO<sup>1</sup>, SME SUPPORT JAPAN<sup>2</sup>, MHI<sup>3</sup>, KHI<sup>4</sup>, etc.)



#### Vietnam Webinar

- Date : Mar. 2021
- Participants : approx. 130 people  
(ATLA, MOFA, JETRO, SME SUPPORT JAPAN, ITOCHU Corp., ERNST & YOUNG Consulting Vietnam Co., Ltd., etc.)



#### Malaysia Webinar

- Date : Jun. 2021
- Participants : ATLA, MOFA, SME SUPPORT JAPAN, ITOCHU Corp., etc.)

#### Portal Site



Image of the public-private cooperation portal site

## 11 Efforts in Public-Private Cooperation for promoting transfer of defense equipment (3)

### -International Defense Equipment Exhibition-

### 3. Strengthening of information dissemination

- ATLA will continue to exhibit its booth at International Defense Equipment Exhibition, and provide opportunities of visit to key figures of target countries through exhibitions, disseminating features of Japanese defense equipment.
- Moreover, ATLA created public relations movies to introduce Japanese defense equipment with a view to appeal our selling points to international audience more effectively in exhibitions.

#### Paris Air Show 2019 (Paris, France in Jun. 2019)

- Exhibited on the ground P-1 Maritime Patrol Aircraft and C-2 Transport Aircraft (participation in the Paris Air Show for the first time)
- Held a briefing on operational usefulness and performances of the aircrafts and a flight demonstration to visitors



Paris Air Show 2019  
(P-1 and C-2 actual display)

#### MAST Asia 2019 (Makuhari, Chiba, Japan in Jun. 2019)

- Exhibited R&D prototype of Interometric Optical Fiber Hydrophone using Fiber Bragg Grating (FBG) and mockups of defense equipment
- Exhibited products and technologies from 5 Japanese SMEs at the ATLA booth



MAST Asia 2019

#### DSEI Japan 2019 (Makuhari, Chiba, Japan in Nov. 2019)

- Exhibited defense equipment and mockups such as Type-10 Main Battle Tank, Type-16 Mobile Combat Vehicle (MCV), Autonomous Underwater Vehicle for Mine Countermeasures OZZ-5, etc.
- Exhibited products and technologies from 5 Japanese SMEs at the ATLA booth



DSEI Japan 2019

#### Dubai Air Show 2019 (Dubai, UAE in Nov. 2019)

- Exhibited C-2 Transport Aircraft both on the ground and flight demonstration
- Held a briefing on operational usefulness and performances of the aircraft to visitors (Crown Prince Mohammed bin Zayed viewed C-2 Transport Aircraft and Chief of Staff, JASDF Marumo at that time briefed Crown Prince on the aircraft.)



Dubai Air Show 2019  
(Crown Prince Mohammed bin Zayed receiving a briefing on C-2)

- ※ In YF 2020, ATLA had planned to run booths at six International Defense Exhibition including the Berlin Air show in Germany. However, due to the pandemic of COVID-19, ATLA postponed, canceled, or suspended all exhibits.

Under the circumstances where overseas business trip are difficult due to the novel coronavirus pandemic, ATLA provides military attache in Tokyo with opportunities to inspect equipment through joint exercise and so on.