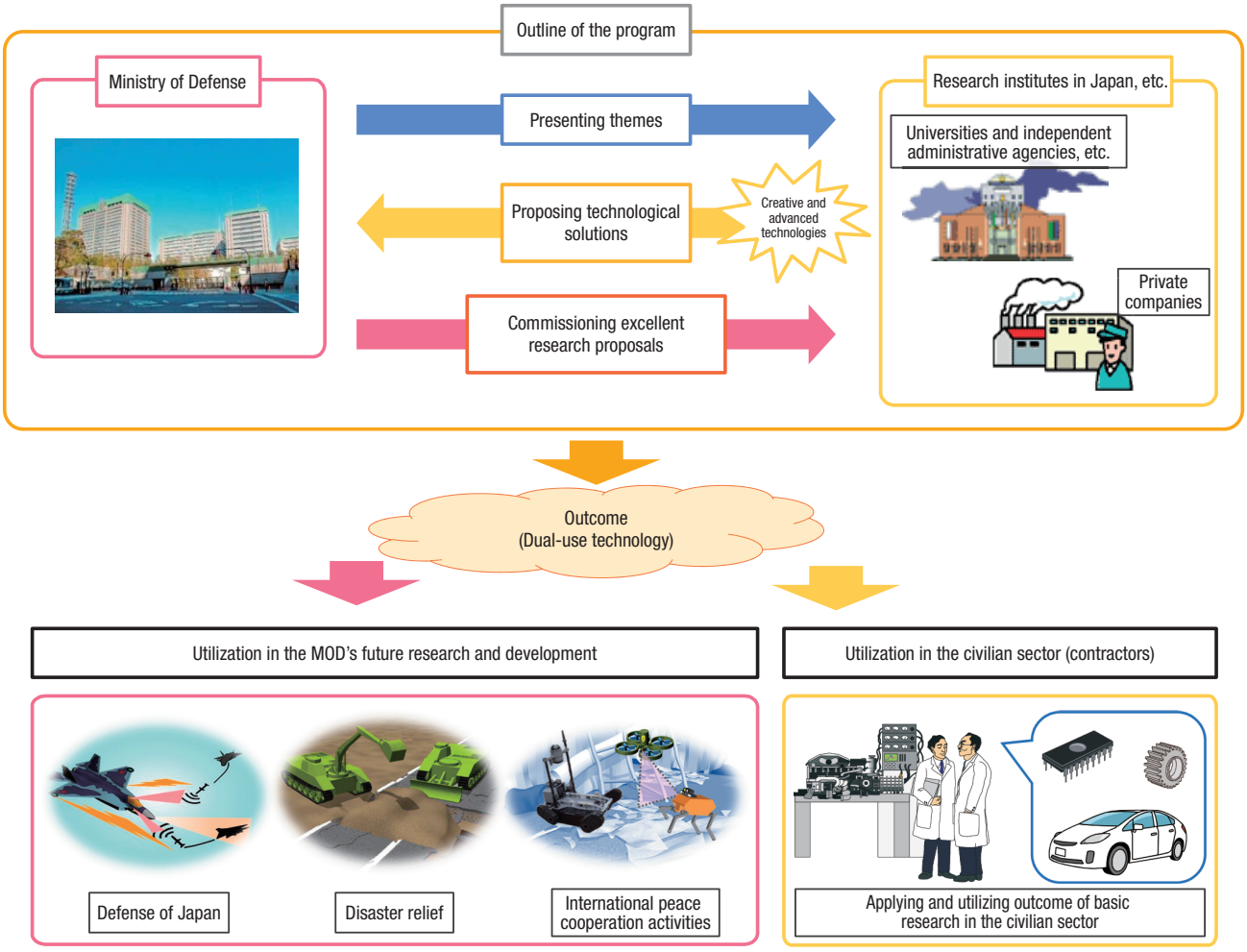
3 Technological Cooperation with Domestic Institutions

TRDI and domestic research institutions, such as independent administrative agencies and universities have been proactively working on research collaborations and technological information exchanges in order to ensure that superior civilian technology is incorporated and efficient research and development is conducted. As part of these initiatives, the MOD's own funding program called "Innovative Science & Technology Initiative for Security" (competitive funding) was newly established in FY2015 to discover creative research conducted by the universities, research institutes and companies etc. that are noted for their application of defense equipment, and to nurture emerging research that is deemed promising.

For strengthening the cooperation between industry, academia and government as well as promoting open innovations, the outcome of research cooperation with research institutions, including universities and the Innovative Science & Technology Initiative for Security Program, should be open to the public in principle.

See Fig. III-2-3-1 (Image of the Innovative Science & Technology Initiative for Security Program (Competitive Funds))

Fig. III-2-3-1 Image of the Innovative Science & Technology Initiative for Security Program (Competitive Funds)



Section 4 Defense Equipment and Technology Cooperation

Based on the Three Principles on Transfer of Defense Equipment and Technology, Japan promotes cooperation in defense equipment and technology with other countries in order to contribute to promoting the maintenance and enhancement of defense production and technological bases, as well as contributing to the promotion of peace and international cooperation.

1 Deepening Relationships with the United States regarding Defense Equipment and Technology Cooperation

1 Joint Research and Development, etc.

Since 1992, Japan has implemented 19 joint research projects and 1 joint development project with the United States. At present, 2 joint research projects (joint research on hybrid electric propulsion and another joint research on high-speed multi-hull vessel optimization) and 1 development project (Japan-U.S. joint development of an Advanced Ballistic Missile Interceptor) are underway. In addition, with regard to the transfer of Patriot (PAC-2) parts produced under license in Japan from Japan to the licenser in the United States, Japan affirmed in July 2014 that this overseas transfer falls under the case which may be permitted, based on deliberations at the National Security Council.

See Part II, Chapter 2, Section 4 (Three Principles on Transfer of Defense Equipment and Technology)
See Part III, Chapter 1, Section 1-3-2 (Missile Defense of the United States and Japan-U.S. BMD Technological Cooperation)
See Reference 25 (Japan–U.S. Joint Research and Development Projects)

2 Production, Maintenance and Upgrade of Common Equipment between Japan and the U.S.

(1) Participation of Japanese Industry in the Production of the F-35A and the Establishment of Regional Maintenance, Repair, Overhaul and Upgrade (MRO&U) Capability

In December 2011, Japan selected the F-35A as the next-generation fighter aircraft to succeed the F-4 fighter aircraft. At the same time, the government decided to procure 42 aircraft from FY2012 onwards and to have Japanese industries participate in its production, aside from several finished aircraft which shall be imported. In light of this decision, the Japanese government has been working to enable the involvement of Japanese industries in the manufacturing process in preparation for the F-35A acquisition from FY2013 onwards. Following discussions with related parties such as the U.S. government, the Japanese government has steadily expanded the range of production participation by Japanese industries including the Final Assembly and Check Out (FACO) for airframes and engines, the manufacture of engines and radar parts, and the Electro-Optical Distributed Aperture System (EODAS) parts[1].

It is important for Japanese industries to participate in the manufacturing process and to come into contact with cutting edge fighter aircraft technology and knowledge in order to ensure safety and high operational availability, resulting in the safe and efficient management of ASDF F-35As.

In December 2014, with regard to regional Maintenance, Repair, Overhaul and Upgrade (MRO&U) Capability in the Asia-Pacific region for F35s, the U.S. government announced the following decisions: (1) regional MRO&U capability for airframes will be provided to Japan and Australia with both capabilities required not later than early 2018[2]; (2) With regard to the regional MRO&U Capability for engines, initial capability will be provided by Australia by early 2018, with Japan providing additional capability within the next 3-5 years[3]. Utilizing the FACO facility for airframes and engines, and contributing to maintenance in the Asia-Pacific region are significant from the perspectives of securing the operational support system for F-35A in Japan, maintaining the foundation of the domestic defense industry, strengthening the Japan-U.S. Alliance, and deepening equipment cooperation in the region.

F-35A aircraft, the production of which involves the participation of Japanese industries (U.S. Air Force)

(2) Initiatives towards the Establishment of the Japan-U.S. Osprey Common Maintenance Base, etc.

As the Periodic Maintenance Inspection (PMI) of the U.S. Marine Corps Ospreys (24 aircraft) deployed at Futenma is scheduled to commence roughly in 2017, the U.S. Forces will determine a maintenance company for this purpose by public bidding. With regard to the Osprey (V-22)[4] to be introduced to the GSDF, the MOD recognizes the importance of establishing a common maintenance base for the U.S. Marine Corp aircraft within Japan from the following perspectives: 1. Smooth introduction of Ospreys to the GSDF; 2. Smooth and effective operation of the Japan-U.S. security arrangement; and 3. Enhanced efficiency in maintenance. Based on this perspective, the MOD plans to allow Japanese companies to use the hangars at GSDF Camp Kisarazu for regular aircraft maintenance

1 Electro-Optical Distributed Aperture System (EODAS), comprising six cutting edge electro-optical sensors per aircraft for 360 degree spherical situational awareness, missile detection and tracking.
2 The regional MRO&U for airframes in Japan is scheduled to be located at Mitsubishi Heavy Industry Ltd. (Komaki-minami factory in Aichi Prefecture).
3 The regional MRO&U for engines in Japan is scheduled to be located at IHI Corporation (Mizuho factory in Tokyo).
4 GSDF will introduce 17 tilt-rotor aircraft (Osprey (V-22)) that can complement and strengthen the capabilities of transport helicopters (CH-47JA) in terms of cruising speed and range. Deployment is expected to be around FY2019.

of the U.S. Marine Corps Ospreys and also to implement the future aircraft maintenance of the GSDF Ospreys at the same camp. Under this plan, Japanese companies are participating in a U.S. Forces bid.

2 Building New Defense Equipment and Technology Cooperation

1 Defense Equipment and Technology Cooperation with Major European Countries, etc.

Defense equipment and technology cooperation with major European countries, which have competitive defense industries, will contribute to the strengthening of security and defense cooperation with these countries as well as the maintenance and strengthening of the defense production and technological base in Japan. Therefore, Japan will seek to establish and deepen relationships with these countries.

(1) United Kingdom

In July 2013, the governments of Japan and the United Kingdom concluded an intergovernmental framework agreement regarding joint development and other initiatives related to defense equipment etc[5]. In the same month, the two countries also started joint research on chemical and biological protection technology, marking the first time that Japan had engaged in such research with a country other than the United States. Also, in July 2014, information on seeker technology for joint research with the United Kingdom was determined by the National Security Council as a case where overseas transfer may be permitted. Responding to said decision, in November of the same year, a letter of arrangement was formulated in relation to Japan-U.K. joint research on the feasibility of a jointly developed new air-to-air missile and the joint research was commenced.

See Part III, Chapter 3, Section 1-4-7 (Japan-U.K. Defense Cooperation and Exchanges)

(2) France

Japan and France established a committee on cooperation in the field of defense equipment and a committee on export control in January 2014, and signed the Japan-France Transfer of Defense Equipment and Technology Agreement[6] in March 2015.

See Part III, Chapter 3, Section 1-4-8 (Japan-France Defense Cooperation and Exchanges)

2 Defense Equipment and Technology Cooperation, etc., with Partner Countries in the Asia-Pacific Region

As partner countries in the Asia-Pacific region have expressed their interest and expectation regarding defense equipment and technology cooperation with Japan, the MOD will proactively seek to build relationships with these countries.

(1) Australia

With Australia, the Agreement between the Government of Japan and the Government of Australia concerning the Transfer of Defence Equipment and Technology was signed in July 2014. In addition, joint research in the field of marine hydrodynamics is scheduled to commence in FY2015.

Meanwhile, at the Japan-Australia Defence Ministerial Meeting held in October of the same year, it was agreed to seek multifaceted defense equipment and technology cooperation, including the following: 1. exploration of potential cooperation opportunities in the F-35 program; 2. acquisition reform dialogue with the Defence Material Organisation of Australia; 3. at the request of the Australian side, building upon previous discussions, exploration of the possibility of Japanese cooperation in the Australian Future Submarine Program; 4. defense technology exchanges with the Defence Science and Technology Organisation of Australia (marine hydrodynamics field and exchanges among engineers and scientists); and 5. talks between defense industries in both countries.

Furthermore, during the Japan-Australia Defense Ministerial telephone conference on May 6, 2015, the Australia side made a remark regarding the importance of developing Japan-Australia defense cooperation and the strategic importance of the Australian Future Submarine Program. Following this remark, based on Japan's long-standing achievement and technological capabilities regarding a conventional submarine, the Australian side explained its intention to examine the possibility of jointly designing and building Australian future submarines with Japan. Then, the Australian government requested that Japan participate in the procedure of selecting Australian future submarines. In May 2015, responding to this request, in light of the importance of Japan-Australia defense cooperation, it was confirmed that, with the participation of private companies, consultations with the Government of Australia would be commenced. In order to conduct these consultations, the transfer of technology information for feasibility research of the joint development and production of submarines was deliberated at the National Security Council, and it was affirmed that this falls under the case in which the transfer of technology to overseas could be permitted.

See Part II, Chapter 2, Section 4 (Three Principles on Transfer of Defense Equipment and Technology)

See Part III, Chapter 3, Section 1-4-1 (Japan-Australia Defense Cooperation and Exchanges)

5 Official name: Agreement Between the Government of Japan and the Government of the United Kingdom of Great Britain and Northern Ireland Concerning the Transfer of Arms and Military Technologies Necessary to Implement Joint Research, Development and Production of Defence Equipment and Other Related Items

6 Official name: Agreement between the Government of Japan and the Government of France concerning the Transfer of Defense Equipment and Technology

(2) India

With India, which has been considering the acquisition of amphibian search and rescue aircraft, the establishment of the Joint Working Group (JWG) to facilitate bilateral cooperation for the US-2 aircraft was decided during the Japan-India Summit Meeting held in May 2013. So far, three JWG meetings have been held in total in which the Japanese representatives provided information on the performance, overview of operations, production and assembly, and maintenance, etc. of the US-2, including the offer of an opportunity to experience a US-2 flight and to visit the factory to the Indian delegation of the JWG. Furthermore, talks between the two countries are taking place to prepare the formulation of a roadmap for industry-to-industry cooperation, including technology transfer and production within India. Also, in response to the Japan-India Summit Meeting in September 2014, working-level meetings have been held in order to promote cooperation in defense equipment and technology.

See Part III, Chapter 3, Section 1-4-3 (Japan-India Defense Cooperation and Exchanges)

Japan and India are discussing how to engage in bilateral cooperation in relation to the US-2 amphibian rescue aircraft

(3) ASEAN[7] countries

Between the Association of South-East Asia Nations (ASEAN) and Japan, opinion exchanges are taking place regarding defense equipment and technology cooperation in non-traditional security sectors, such as humanitarian assistance, disaster relief and maritime security through the Japan-ASEAN Defense Vice-Ministerial Meetings and other occasions. Participating countries have expressed their expectation for Japan's cooperation in effectively dealing with these issues. In September 2014, as part of the Seminar on Capacity Building in Maritime Security and Disaster Relief (hosted by the Ministry of Foreign Affairs), an event to introduce defense equipment, etc., by Japanese defense-related companies was held at the MOD.

See Part III, Chapter 3, Section 1-2-3 (Japan–ASEAN Defense Vice-Ministerial Forum)

3 Adapting Defense Equipment for Civilian Use

In August 2010, the MOD compiled a set of guidelines for the development of a concrete system for converting aircraft to civilian use, while in 2011, it also developed the application procedure for private companies interested in civilian use. At present, technical data related to the civilian use of the US-2 amphibian rescue aircraft and the C-2 transport aircraft are being disclosed in response to requests from the implementing companies.

The possibility of civilian use of equipment other than aircraft will be considered based on the needs of foreign countries and the intentions of the defense industry.

4 Technology Control, etc.

1 Technology Control

In promoting defense equipment and technology cooperation internationally, it is necessary to evaluate the sensitivity and strategic value of defense technology and dual-use technology and protect those technologies that should be protected as strengths of Japan. At the same time, it is necessary to strengthen the technology control functions by avoiding the risk of their conversion into weapons from the perspective of Japan's security. As such, cooperation with the Ministry of Economy, Trade and Industry will be promoted, and efforts will be made to contribute to strict examination and appropriate control under the Three Principles on Transfer of Defense Equipment and Technology.

2 Other

In December 2014, the "Committee on Challenges surrounding the Transfer of Defense Equipment and Technology," consisting of members that include external experts and others, was launched with the aim of reviewing the system for smoothly and appropriately advancing cooperation in defense equipment and technology for the security of Japan, as well as support measures for companies.

7 ASEAN is a regional cooperation organization, which consists of ten Southeast Asian countries (Indonesia, Cambodia, Singapore, Thailand, the Philippines, Brunei, Vietnam, Malaysia, Myanmar, and Laos).