



On Ways of the ROK-U.S. Defense Technology Cooperation along the Alliance Development

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The ROK-U.S. alliance, which has developed amidst dynamic security environment of Northeast Asia, now serves as a linchpin of peace and security not only for the Korean Peninsula but for Northeast Asia. At the 50th ROK-U.S. Security Consultative Meeting (SCM), held in October 2018, the defense ministers of the two countries announced a joint communiqué in which they agreed “to hold discussions on a joint vision to further develop Alliance defense cooperation in a mutually reinforcing and future-oriented manner in consideration of potential changes in the security environment.” In this regard, the ROK-U.S. alliance will develop a broader security cooperation scheme and expand its strategic partnership to include cyber, space, defense industry, science and technology, maritime security, etc. Among the variety of security cooperation areas of the ROK-U.S. alliance, this paper focuses on the defense technology cooperation. Defense technology cooperation between the two countries has unceasingly evolved through the annual SCM as it is presented as follows. In light of active discussion about visions for the future of the alliance, this paper does examine roles of the ROK-U.S. defense technology cooperation and present tasks ahead.

Mutual Interests and Potential Value of the ROK-U.S. Defense Technology Cooperation

The definition of the defense technology cooperation can be stated in many ways depending on the situation and purpose of its actions. In this paper, the defense technology cooperation generally refers to all kinds of activities involving transfer and exchange of defense science and technology between countries. The ROK-U.S. defense technology cooperation has importance as it constitutes a fundamental physique for the alliance. It forms the basis of an interoperability, which enables effective operation of the ROK-U.S. combined defense system. Furthermore, considering that defense R&D occupies fairly big portion of national R&D in both countries, the collaboration on defense technology development can create substantial added-value, expandable into other economic and industrial sectors.

Some cases and indicators illustrate potential value of the ROK-U.S. defense technology cooperation as follows. The first thing to address is that both countries have strong drive for the defense R&D investment. As is well known, the U.S. gross expenditures on defense R&D is second to none, far exceeding the sum of defense R&D of major western European powers. In the case of South Korea, it represents the fastest-growing country in the defense R&D among the U.S. allies and partners including NATO in the past 10 years. Therefore, opportunities for the ROK-U.S. defense technology cooperation are growing proportionally with increased R&D investments by the two respective countries. The issue of defense technology cooperation has gained much public attention in both countries following the recent KFX (Korean Fighter eXperimental) Development Project and the U.S. APT (Advanced Pilot Training) program. Public interests in these programs show high expectation and hope for each other with regard to value of the ROK-U.S. defense technology cooperation.

Meanwhile, despite a recent global trend toward diversification of defense export and weapons acquisition, both South Korea and the U.S. have remained each other's largest arms trade partners. According to the Arms Transfers Database published by Stockholm International Peace Research Institute, South Korea accounts for 9% of U.S. defense exports by total aggregated trend-indicator value since 2000. It shows the largest share among about 120 countries having records of arms transfers from the U.S. Also, South Korea's national statistics indicates the U.S. as the biggest counterpart of the ROK's defense export during the same period. Such ROK-U.S. arms trade relations represent the significance of the bilateral

partnership. At the bottom of this relation has been laid with the ROK-U.S. defense technology cooperation which was constantly developed for the past 40 years.

Progress and Its Significance of Consultation Channels of the ROK-U.S. Defense Technology Cooperation

Indeed, the ROK-U.S. defense technology cooperation has grown in terms of scope and level of cooperation. At the heart of its development is various consultative bodies jointly run by the ROK and the U.S. governments. The following briefly describes how the ROK-U.S. consultation channels on defense technology cooperation have changed so far.

In the late 1970s, South Korea and the U.S. launched the first of its kind, the Security Cooperation Committee (SCC) to discuss arms transfers through the U.S. Foreign Military Sales program. After the late 1980s, South Korea and the U.S. held the Defense Technology & Industrial Cooperation Committee (DTICC) and the Technological Cooperation Sub-Committee (TCSC), paving the way for cooperation in the acquisition system and joint research projects. In the 2000s, South Korea and the U.S. have sought for the development of technology cooperation measures at a strategic level. These days, the two countries strengthen collaboration on defense technology security and strategy through the Defense Technology & Security Consultative Mechanism (DTSCM) and the Defense Technology Strategy & Cooperation Group (DTSCG).

As mentioned above, the consultative bodies to address bilateral defense technology cooperation have constantly evolved featuring some diverse aspects. In early days, the consultative groups dealt with particular weapons acquisition and technology transfers mainly from Korean perspective. And they have gradually expanded agenda to include the acquisition system and technology policies. The DTSCM and the DTSCG stand out having special features among other consultative bodies operated by the U.S. with its allies. As witnessed in the recent Sino-U.S. relations, the technology protection is a national strategic issue that encompasses security, economy, and diplomacy. In this regards, the ROK-U.S. DTSCM and DTSCG have meaning as they sought to find joint solution regarding such kind of strategic technology policy issues. In the future, however, it will be necessary to manage more effectively the planning, coordination, and execution of these activities, streamlining various consultative bodies.

Suggestions for Future Development of the ROK-U.S. Defense Technology Cooperation

The ROK-U.S. defense technology cooperation will move forward toward a higher level of comprehensive cooperation. Though it is uncertain what kind of technology policy issues will arise between the two countries from now on, the direction of the future collaboration is predictable based on changing environment for technology cooperation.

Above all, it is worth noting that defense innovation and reform programs of South Korea and the U.S. have a lot in common. They are based on emerging state-of-the-art technologies stemmed from the Fourth Industrial Revolution. On this, it will be of strategic value to harvest potential synergy from the ROK-U.S. defense technology cooperation, on the basis of their nation-wide innovation base. In addition, it is necessary to advance the ROK-U.S. defense technology cooperation to strengthen their reciprocal relationship. As South Korea retains high levels of defense technology, there will be more work to be resolved in a complementary manner between the two countries. Therefore, the two sides need to cooperate based on, so to speak, the principle of reciprocity; for one thing, it deserves consideration to take a complementary approach between technology security and defense industrial cooperation issues. Also, as roles and scope of the ROK-U.S. alliance are expected to broaden in the future, more extensive link needs to be explored between defense cooperation and technology cooperation.

Based on the above discussion, this paper proposes some policy considerations on the development of the defense technology cooperation. First, the ROK-U.S. defense technology cooperation will create more value when it takes comprehensive security perspective. Acquisition of defense technology is no longer with the sole responsibility of defense authorities. For example, a new generation of high-tech goods such as 5G mobile telecommunications, drones, and autonomous vehicles are to be commercialized transcending our expectations. Defense communities worldwide are grappling with how to utilize and respond to such technological progress. Therefore, it has become more important to explore new technologies and their applications for security purposes, throughout the whole national technology and industrial base. To this end, it would be needed for the sake of mature ROK-U.S. technological and industrial partnership to make collective efforts for civil-military technology cooperation.

Second, there is a need to attract more joint R&D and industry participation. Until now, the ROK-U.S. defense technology cooperation has mostly centered on an individual research

project or a resolution of technological issues of ongoing acquisition programs. In the future, however, the ROK-U.S. defense technology cooperation would have to pursue more sustainable and reciprocal scheme based on shared goals of South Korea and the U.S. A recent case of the ROK's 2.75-inch guided rocket development is thought of as a good reference. In the early phase of the program, a ROK-U.S. joint study on the technology demonstration was conducted, and then the full system development was completed by Korea. The system is now delivered to the ROK's armed forces and also selected for consideration by Pentagon's Foreign Comparative Testing program. This kind of promising ROK-U.S. joint defense acquisition attributes to an appropriate linkage of common battlefield requirements, sharing of research work, and shared goals of acquisitions. For the future cooperation, South Korea and the U.S. need to look into these experience and lessons, wherein the joint research ultimately led to a mutual partnership in an acquisition phase. Joint R&D program can create a common market as well as research cooperation for both countries; hence, it is possible to deal with issues of technology security and defense industrial cooperation in a harmonious way.

Third, it is also meaningful to consider the ROK-U.S. defense technology cooperation to work together in building partner's capacity. Just as South Korea experienced in the past, defense capacity building supported by allies constitutes a backbone for the national defense development. And now, it is often told by other defense industrial partners that South Korea has become a good model of running the well-organized defense institution and R&D system. Some cases show that other partners are in need of technological support for their defense system management. Those are ranging from field-level training, equipping, logistics support, and exercising with partner forces to the laboratory level of building institution, conducting workshops, and providing education. Also, among other things, it is important to establish our potential partners' defense technology security system in order to protect global security environment. In such kind of broad defense technology policy area, demand for defense cooperation from other partners is considerable. South Korea's previous experience of defense technology cooperation with the U.S can be a good guide for developing countries. If both countries can support other countries capacity-building through defense technology cooperation, the global status and value of the ROK-U.S. alliance will be further enhanced.