

Prospects for Enhancing U.S.-ROK Space Cooperation

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ABSTRACT

U.S.-South Korean space cooperation to date has been surprisingly limited, despite the long duration of the alliance and its significant military component. The absence of substantial U.S.-ROK cooperation on space can be attributed to the disparities between U.S. and South Korean capabilities in space technology and the unique history of the alliance, including earlier U.S. concerns about possible South Korean missile proliferation.

The United States has long been a major player in the field of space technology, while South Korea has only recently initiated a space program. This paper analyzes the reasons for South Korea's relatively late entry into space technology, its very limited cooperation to date with the United States, and the prospects for expanding space ties in the context of efforts to strengthen the U.S.-ROK alliance relationship. Despite substantial differences in current space capabilities, the paper identifies areas for fruitful cooperation in both the civil sector and in the area of military space.

Seoul and Washington have historically differed over missile proliferation concerns and related export control issues. Prior U.S. opposition to the development of possible dual-use ROK missile capability has yielded over the past decade to a policy of tacit support for peaceful space-launch capability. Yet Russia has emerged as the major technology provider to Seoul in this area, providing a first-stage booster and assistance in constructing the Naro space facility.

Formal U.S. National Aeronautics and Space Administration (NASA) cooperation with South Korean civil space organizations began to move forward in August of 2008, when the Korea Aerospace Research Institute (KARI) and NASA signed an umbrella agreement providing the basis for further discussions and the expansion of bilateral contacts. The KARI-NASA agreement is a positive step forward politically. Useful potential possibilities for KARI-NASA cooperation could include lunar robotic missions, deep-space exploration, Earth remote sensing, and human spaceflight. While certain areas would involve added "costs" for collaboration (such as joint meetings and technological expenses to build in compatibility), there could be long-term benefits in terms of strengthening contacts among scientists, enhancing public awareness of the bilateral relationship in space, and providing additional pillars for the U.S.-ROK alliance.

Military-to-military space cooperation remains in its infancy, but it is believed to have played an important role in driving South Korea's recent interest in space amid perceived threats posed by North Korea's nuclear and missile developments. The United States and South Korea are believed to share space-derived intelligence data on North Korean nuclear/missile activities and other military projects. South Korea has recently developed its own optical imaging capabilities through its Kompsat (Arirang) program and has plans to deploy infrared and radar-imaging satellites, which could be of benefit to the alliance.

Early Obama administration statements regarding space indicate an interest in expanding civil and military space cooperation with allies, suggesting sound prospects for progress in these areas. Gaining additional "allies" in space with the ability to launch timely assets in a crisis or to provide "surge" capabilities during a conflict (where additional bandwidth is required by U.S. or coalition forces) could serve the interests of all partners in such efforts. Enhancing U.S.-ROK space cooperation in both the civil and military sectors could strengthen alliance ties, broaden both sides' space infrastructure, lower costs, and reduce the vulnerability of specific space assets by providing additional responsive capability and system redundancy.

U.S. space cooperation with South Korea should also have an important multilateral dimension. South Korea has recently been actively involved with international contacts in space technology development. The United States, South Korea, and Japan, for example, could begin to establish formal norms and procedures for their space interactions that could be expanded to include other countries, such as NATO allies. U.S.-ROK cooperation would work better in a multilateral context, and such an expanded set of commitments in Asia could serve as an important confidence-building measure and greatly enhance prospects for increasing international stability in space as well.

While there are many potential benefits of increased U.S.-ROK space cooperation, there are also possible pitfalls of such activities. Security concerns are likely to be an obstacle on the U.S. side. But other areas of U.S.-ROK cooperation suggest that these issues could be managed successfully and present benefits for the United States in terms of diversifying its space assets and rendering single-point failures of key capabilities less likely. Expanded ties could also facilitate the construction of more effective and less vulnerable space networks with additional U.S. allies that will help ensure the ability of all partners to maintain safe access to and productive use of space, even in the face of the rising capabilities of potential adversaries.