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Entrepreneurship and Innovation: The Practitioners' Perspectives (1)

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PROMOTING SPACE ENTREPRENEURSHIP AND INNOVATION AT PUBLIC RESEARCH
ORGANIZATION: THE CASE OF KOREA AEROSPACE RESEARCH INSTITUTE

Abstract

While private companies are regarded as the main drivers of entrepreneurship and innovation in the new space age, space agencies continue to play a pivotal role in the space sector. In emerging spacefaring nations, where the space business environment has not matured, space agencies and public research organizations are often a key source of entrepreneurship and innovation in the space sector. In South Korea, the Korea Aerospace Research Institute (KARI), a government-funded RD organization, leads the nation's space RD and Innovation. With the advent of the new space age in recent years, KARI has been putting effort into facilitating space entrepreneurship and innovation within the organization and across the domestic space sector. Among various measures, this paper will outline the programs that were designed to foster entrepreneurship and innovation within KARI and share lessons learned from the practitioner's point of view. In particular, two programs that the Research Innovation Team manages, both authors work for, will be introduced: Seed Program and Future Technology Strategy Working Group. The Seed Program, which started in 2007, supports creative and innovative ideas by individuals or small research groups within KARI. Each year, around 15 projects are selected and are given small research funds. The program outcome indicates that the number of publications, patents, technology transfer, and commercialization cases from projects funded by this program is exceptionally high compared to other projects. In some successful cases, the projects led to a KARI spin-off company, technology transfer to a start-up, and a large-scale RD project. The Future Technology Strategy Working Groups, which was first set up in 2020, aims to establish KARI's long-term innovation strategy for a specific technology area. After a year of operation, the achievements and limitations of this program were analyzed. Challenges included motivating individual researchers to participate actively and share creative ideas without effective incentive mechanisms in a public organization and allocating limited resources between on-going large-scale missions and long-term technology innovation. These programs and cases were analyzed from the following three innovation theories: exploit-explore ratio, organizations as routines, and systemic nature of innovation.