Paper ID: 55060
oral

17th IAA SYMPOSIUM ON BUILDING BLOCKS FOR FUTURE SPACE EXPLORATION AND DEVELOPMENT (D3)
Space Technology and System Management Practices and Tools (4)

Author: Dr. Jae-Min Lee
Korea Institute of S&T Evaluation and Planning, Korea, Republic of

Mr. Tae-seok Moon
Korea Institute of S&T Evaluation and Planning, Korea, Republic of

INVESTMENT STRATEGY FOR THE GOVERNMENT R&D IN SPACE DEVELOPMENT: A CASE OF REPUBLIC OF KOREA

Abstract

For more than 25 years, the Korea government has increased the size of R&D investment in the expansion of the scope of space activity. In recent years, the global trend of space development is changing rapidly, and the industry replaces the traditional government role and leads the technological innovation for higher profit from their businesses. This emerging change also gives a huge influence to the community of the space sector in Korea. The space industry plays an important role in Korea as the main- or sub-contractor of the development of systems such as satellite and space launch vehicle, which has been mainly led by the Korea government so far. The role of public and private actors for space activities in Korea is now demanded to be re-established by the government in the era of "new space". A fundamental change in the directions of the RD investment in space development is also highly required to maintain the sustainability and competitiveness of the Korean space society. In this study, we aim to develop the R&D investment strategy for government space programs, including 'high-resolution earth observation satellite', 'environment monitoring satellite', 'space exploration', 'space launch system development', 'satellite data service & plan' and 'space infrastructure'. Here we newly define the concept of "budget delivery system" in order to derive the strategy for each program that is applicable to the process of R&D coordination and budget allocation. The "budget delivery system" is consist of the phases of R&D that are described specifically at the viewpoint of R&D budget investment. We deduce the strategy by analyzing the diverse documents written by government committees and research institutes, and by using an analytic hierarchy process (AHP) survey with experts. As a result, we suggest the R&D investment strategy for six different space programs. We highlight the derivation of the appropriate scenarios of budget delivery system for each, and expect that the results of this study provide insights on how to build strategy for the government R&D investment in space development.