IAF HUMAN SPACEFLIGHT SYMPOSIUM (B3)
Utilization & Exploitation of Human Spaceflight Systems (3)

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JAXA NEW KIBO UTILIZATION STRATEGY TOWARD MAINTAINING SUSTAINABLE LOW EARTH ORBIT UTILIZATION OPPORTUNITIES AND FUTURE PROSPECTS

Abstract

International Space Station (ISS) partner countries have been discussing the continuation of ISS utilization beyond 2024. ESA expressed their commitment to ISS operations until 2030 at the council meeting in 2019. In the United States, the "NASA authorization act bill" that includes the extension of ISS operations until 2028 or 2030 was submitted to congress, and it is under discussion. The Government of Japan and JAXA have been continuously discussing Low Earth Orbit (LEO) platform utilization plans including extending operation of the ISS. In December 2019, the GoJ revised the "Basic Plan on Space Policy Implementation Schedule" and included plans to promote LEO utilization by the private sectors after ISS retirement, to stimulate sustainable demand, to transfer operations and utilization technologies to private sectors, to expand its activities in LEO, and to automate hardware in the LEO platform. The GoJ also aims to maximize the achievements of ISS utilization by expanding commercial LEO utilization, conducting technology demonstration for international space exploration, and promoting the "Japan-U.S. Open Platform Partnership Program", including strengthening partnerships with foreign countries especially in the Asia-Pacific region. In response to changes surrounding LEO platform utilization, JAXA revised the "Kibo Utilization Strategy" to include the future visions of JAXA's LEO utilization in 2030, and indicated several activities to realize the visions. JAXA also aims to maintain sustainable LEO utilization and establish its eco-system by expanding commercial utilization and transferring JAXA's technologies to private sectors so LEO utilization will be continued by private sectors even after ISS retirement. Kibo will be also utilized as an on-orbit technical demonstration platform for international space exploration, and the outcomes obtained through Kibo utilization will leverage future gateway utilization. In addition, JAXA has been promoting several efforts in order to sustain LEO utilization after ISS retirement. For example, JAXA had issued a request for information (RFI) regarding private sector interests in comprehensive LEO utilization systems, which include launch services, on-orbit experiment services, and ground recovery services. However, there are several challenges to achieve the goals set by JAXA. From the private sector point of view, a clear and concrete national policy for future LEO utilization plans is necessary for making decisions on private investments and resource allocation. Therefore, it is urged to establish a concrete policy in a timely manner. In this paper, JAXA's new "Kibo utilization strategy" along with the national space policy and several challenges to their implementation are introduced.