IAF HUMAN SPACEFLIGHT SYMPOSIUM (B3)
Governmental Human Spaceflight Programmes (Overview) (1)

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JAXA'S INITIATIVE ON HUMAN SPACEFLIGHT PROGRAM FOR ISS AND BLEO

Abstract

JAXA has been rigorously conducting various missions, such as small animal mission under artificial gravity in the Japanese Experiment Module, "Kibo" since its assembly complete in 2009. Last year, in order to expand its use for life science experiments, JAXA has deployed a new upgraded version of incubator, called CBEF-L, and installed in Kibo. Also, various functional demonstration missions, such as water recovery system adopting electrolysis methods, hyperspectral sensor (HISUI) and small-sized satellite optical communication system (SOLISS), are being performed in Kibo. Currently, JAXA is also working to technical demonstrators for new ECLSS functions and IVR robotics into Kibo. The outcome of these missions will contribute to various fields of society and industry on earth, and furthermore could lead to the acquisition of new technology for the future crewed space exploration. JAXA will continue making effort to maximize the utilization of Kibo, maintaining and improving its function and performance. For the future crewed space mission beyond LEO, with the space exploration scenario targeting the Moon and Mars, JAXA is expecting to contribute to the NASA Gateway program by providing ECLSS system and cargo resupply service. For the lunar surface exploration, JAXA has initiated the joint study of a crewed pressurized rover with TOYOTA and more than 50 of Japanese entities and is assessing the system feasibility. With the knowledge and experience gained in Kibo operation and state-of-the-art commercial technology integrated together, JAXA will keep trying to make the space exploration scenario realized.