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 INTERNATIONAL SPACE EXPLORATION

Abstract

JAXA has been rigorously conducting various missions, such as rodent rearing mission under artificial gravity in the Japanese Experiment Module, "KIBO" on the ISS since its assembly complete in 2009. JAXA successfully completed all the nine resupply missions of the HTV ("KOUNOTORI") series from 2009 to 2020. Currently, JAXA is working on new technology demonstrators such as evolved ECLSS functions and IVR robotics utilizing "KIBO". The outcome of these missions will contribute to various fields in society and industry on Earth, and furthermore could lead to acquiring new technologies for future human space exploration enhancing operational efficiency such as in LEO activities post ISS and the International Space Exploration beyond LEO. For future human space missions beyond LEO, with exploration scenarios targeting at the Moon and Mars, JAXA is studying contribution to the NASA Gateway Program by providing ECLSS functions and cargo resupply services. For lunar surface exploration, JAXA is assessing system feasibility of the core systems, such as cargo delivery system for the lunar surface and pressurized rover. With the knowledge and expertise gained through KIBO operation and state-of-the-art commercial technology integrated together, JAXA is committed to realize sustainable space exploration scenarios. JAXA will continue to make efforts to maximize the utilization of KIBO, maintaining and improving its functions and performance. In addition, JAXA will utilize that knowledge obtained from the development and operation of "KIBO" and HTV to participate in the International Space Exploration such as Gateway and lunar surface activities.