

HUMAN SPACEFLIGHT SYMPOSIUM (B3)  
Governmental Human Spaceflight Programs (Overview) (1)

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JAXA'S CURRENT STATUS AND FUTURE PLANS FOR THE FUTURE SPACE EXPLORATION

**Abstract**

The Japanese minister of Education, Culture, Sports, Science and Technology attended the first International Space Exploration Forum (ISEF) in January 2014, and declared their support for international cooperation on the future space exploration. Japan is considering how to play an important part in the international cooperation, targeting the second ISEF which is planned to be held in Japan in 2016 or 2017. Applying Japanese advanced technology, Japan is about to come to grips with technology research such as the development of reliable rocket engines, robotics, autonomous system and water/air recycle system for the manned missions.

Considering the circumstances mentioned above, Japan Aerospace Exploration Agency (JAXA) utilizes Japanese Experiment Module (JEM) "Kibo" as a test bed so as to perform on-orbit technology demonstration, utilizing a variety of experimental capabilities given by JEM. What should be noted on JEM is the highly adaptable capacity for external experiments. The payload on exposed facility could be launched and returned as a pressurized cargo, passed through JEM airlock and installed by the robot arm. The JEM small satellite launcher is a perfect example of the utilization of the airlock and robot arm. As key technology research for manned missions, JAXA places great importance on technology demonstration such as radiation protection, water recovery system, air recycle system etc., which are planned to be performed on JEM. JAXA also places stress on life science experiments such as biological experiments on mice/rats, and the space medicine research with astronauts.