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JAPAN'S PERSPECTIVE ON THE INTERNATIONAL SPACE STATION FOR EXPLORATION

**Abstract**

Japan has accumulated engineering expertise and operational experience in the International Space Station Program with the Japanese Experiment Module (JEM) "KIBO" and the "Kounotori", the H-II Transfer Vehicle as well as various utilization activities on board. "Kounotori." "KIBO" continues providing stable environment for various utilization with no major issues since its assembly completion in July 2009 on orbit, and producing outcomes in various fields. Its capabilities are still being enhanced vigorously in many ways, such as realizing remote operation of its Remote Manipulator System from the ground, development of the JEM Small Satellite Orbital Deployer (J-SSOD), the Exposed Experiment Handrail Attachment Mechanism (ExHAM) which enables small and simple exposure experiment in the space environment more conveniently by ground-controlled JEMRMS operation in conjunction with the JEM Airlock, not depending on the EVA, and other efforts. The HTV3 delivered J-SSOD to the ISS for its first mission, which was successfully conducted in October 2012. For the extended operation of the ISS and "KIBO" beyond 2016, JAXA is making efforts to expand and diversify its utilizations, including acquiring the key technologies in preparation for the future human space flight and exploration missions, such as environment control and life support, crew health and medical support, cargo return, and so on. This paper summarizes the status of JAXA's activities on ISS "KIBO" and "Kounotori" and provides a perspective on activities related to technology development and demonstration for human space exploration beyond low earth orbit.