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## AUTOMATED CARGO HANDLING: JAXA'S PROSPECTS AND CURRENT R&amp;D ACTIVATY

**Abstract**

Japan Aerospace Exploration Agency (JAXA) Human Spaceflight Division have been pursuing the robotic and automation technology for intra-vehicular crew task assistance. Intra-Vehicular Robotics(IVR) is anticipated to support safe and effective space exploration, as well as efficient utilization of space environment, especially in future manned space activities, such as Gateway where crew presence will be limited in comparison to current ISS operations. Manned missions requires transportation and organization of variety of goods. Cargo handling activities, including loading and unloading of cargo transported, stowage preparation and closeout task requires crew engagement in present ISS operations. Such tasks consume significant amount of precious crew time while often being repetitive and standardized procedures. Thus, JAXA has been analyzing and testing IVR technologies required for automating and assisting such task. The presentation will include JAXA's current activity regarding inventory management, IVR mobility in micro-G environment as well as cargo manipulation.