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Utilization & Exploitation of Human Spaceflight Systems (3)

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GATEWAY UTILIZATION CAPABILITIES AND STATUS

Abstract

Gateway will be a space station orbiting the Moon that will enable a long-term human return to the lunar surface. As part of the National Aeronautics and Space Administration's (NASA) Artemis mission, Gateway will serve as a steppingstone to Mars and a cornerstone of human deep space exploration. NASA leads the Gateway Program and serves as the integrator of spaceflight capabilities and contributions of U.S. commercial and international partners to develop and utilize Gateway. This paper provides an overview of the following utilization capabilities of Gateway: spacecraft overview, internal and external accommodations, resources for utilization, and vantage point for Earth, Sun, and Moon observations. Three utilization payloads have already been selected to fly to Gateway as part of the Habitation and Logistics Outpost (HALO) and Power and Propulsion Element (PPE) modules: European Radiation Sensors Array (ERSA), Heliophysics Environmental and Radiation Measurement Experiment Suite (HERMES), and Internal Dosimeter Array (IDA). This paper will provide a short summary of each payload, the value behind conducting each payload, and share an overview of future utilization goals of Gateway.