

IAF SPACE EXPLORATION SYMPOSIUM (A3)
Moon Exploration – Part 2 (2B)

Author: Mr. Sean Fuller
National Aeronautics and Space Administration (NASA), Johnson Space Center, United States,
sean.m.fuller@nasa.gov

Mrs. Emma Lehnhardt
NASA, United States, emma.lehnhardt@nasa.gov

Ms. Christina Zaid
United States, christina.n.zaid@nasa.gov

Ms. Kate Halloran
United States, kate.e.halloran@nasa.gov

GATEWAY PROGRAM STATUS AND OVERVIEW

Abstract

This paper provides an overview and status of the Gateway, which will be an outpost orbiting the Moon that provides vital support for a sustainable, long-term human return to the lunar surface and a stepping stone to Mars as part of the Artemis program. Gateway is a destination for deep space crew expeditions and science investigations, as well as a port for deep space transportation – for landers en route to the lunar surface or spacecraft embarking to destinations beyond the Earth-Moon system. The National Aeronautics and Space Administration (NASA) leads the Program and serves as the integrator of the spaceflight capabilities and contributions of U.S. commercial partners and international partners to develop the Gateway.

This paper will provide an overview of each component of the Gateway: The Power and Propulsion Element, the Habitation and Logistics Outpost; Deep Space Logistics; the International Habitation module; External Robotics System; European System Providing Refueling, Infrastructure and Telecommunications; an Airlock; and Exploration ExtraVehicular Activity (xEVA).

Expanding on the successful partnership that has provided 20 years of continuous crew operations in low earth orbit on ISS, the Gateway is an evolution of this extraordinary partnership that leverages the capabilities of each partner to expand humankind's sustained exploration deeper into the cosmos. Highlighting the international program with participation from multiple international partners, this paper will also provide a status of the Gateway multilateral governance structure and international agreements.