

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

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KEYNOTE: NASA'S MOON TO MARS EXPLORATION PLANS

Abstract

Building on 60 years of exploration experience, NASA will push the boundaries of human exploration forward to the Moon and on to Mars. NASA is working to establish a permanent human presence on the Moon within the next decade to uncover new scientific discoveries and lay the foundation for private companies to build a lunar economy. The Moon will provide an opportunity to test new tools, instruments and equipment that could be used on Mars, including human habitats, life support systems, and technologies and practices that could help us build self-sustaining outposts away from Earth. This paper will examine how NASA will 1) get to the Moon using the Space Launch System (SLS) rocket and Orion spacecraft, serving as the transportation system to bring astronauts to and from Earth, 2) build the Gateway in orbit around the Moon and demonstrate its capabilities in space 3) begin to develop increasingly larger, and reusable landers for humans 4) use the Moon's unique science platform to advance our understanding of our home planet and our solar system, and 5) advance technologies that will prepare humanity for future exploration to Mars. With the work underway, the agency will move deeper into the solar system with its partners to achieve the ambitious exploration goals.