

The Human Space Exploration Value Proposition (07)
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Author: Mr. William Gerstenmaier
NASA, United States, william.h.gerstenmaier@nasa.gov

Mr. Tom Cremins
NASA, United States, tom.cremins-1@nasa.gov

HUMAN SPACE EXPLORATION: AN EMERGING VALUE PROPOSITION

Abstract

A new framework is emerging in space that reflects significant changes on Earth since the dawn of the space age. Initially, the Cold War shaped the Apollo era through the 1980s, and the post-Cold War era shaped the implementation of the ISS and a previous Nationally-focused effort, the Space Exploration Initiative, that sought to harness the National innovation capabilities that had been developed for the Cold War towards the Moon and Mars. The paper will outline and explore emerging trends and an overall value proposition for human space exploration. Today all regions of near-Earth space, from low-Earth orbit out to the area around the Moon, now see regular activity. As stated recently by Frank A. Rose, Deputy Assistant Secretary, Bureau of Arms Control, Verification and Compliance, U.S. Department of State, "Efforts to strengthen stability and security in space must be complemented by continued U.S. leadership in the area of international cooperation to ensure the safety and long-term sustainability of space activities in a congested, contested, and complex space environment." There is little relevance, today or tomorrow, in a singular focus on competition or transitory partnership efforts around "one off" missions in space. Overall, efforts have become focused around working in space and working on complex challenges that span one Nation's capabilities. This shift mirrors, and in many cases intertwines with, efforts on Earth to deal with growing transnational challenges from financial markets to pandemics to environmental changes. In this emerging framework, space capabilities are essential to providing services to a host of areas ranging from spurring innovation in the National economy, enabling scientific platforms and research, and ensuring stability and stewardship of the space environment for assured access to all regions space with human activity. NASA's efforts in the commercial support of low-Earth orbit (LEO)/International Space Station (ISS), Space Launch System (SLS) and Multi-Purpose Crew Vehicle (MPCV), and expanding technology advances are components that support this larger strategic focus. The President, current National Space Policy and Congressional direction have given NASA an opportunity to build capabilities, partnerships and a sustainable value proposition. The international partnership that evolved from the Cold War environment and manifested itself in the ISS is remarkable for its long-term and sustained focus. Today, the geo-political environment has shifted to a focus on providing tangible benefits, sustaining the space environment, and developing transnational strategies for future space development and exploration. These characteristics complement other national strategies.