

The Benefits of Moon and Mars Exploration



BACKGROUND

Space exploration in the United States remains a unifying, bipartisan priority to drive technological progress, grow the American economy through investment in businesses both large and small, and inspire people around the globe. NASA led one of the most successful and technically complex modern international partnerships—the International Space Station (ISS) – which recently celebrated 20 years of continuous human presence in low Earth orbit (LEO). The Artemis Program will continue our global leadership in space exploration as we lead a return to the moon and venture farther into cislunar space and eventually onto Mars. NASA’s bold engagement of public–private partnerships for human spaceflight with the ISS commercial crew and cargo services has strengthened the LEO space economy and paved the way for Artemis to establish a new cislunar economy with a growing reliance on the private sector with NASA as a customer.

The U.S. space industry and our international partners have committed to an exploration roadmap from “Moon to Mars” with NASA as a partner and leader among equals. The Artemis Program has implemented an integrated strategy utilizing the Space Launch System (SLS) and Orion spacecraft along with commercial and international partner contributions. Both the human exploration and science communities have been working together in an unprecedented manner to establish the path for exploration of the moon and Mars. Experience with the ISS National Laboratory has proven that these new themes are necessary from the onset for successful human exploration and scientific discovery.

WHY MOON TO MARS EXPLORATION MATTERS

Over the decades, our understanding of the moon has deepened with the discovery of water ice, allowing for in situ resource approaches to “live off the land,” and technology advances are enabling the more extensive application of human/robotic partnerships. Our human space exploration objectives are focused on establishing and maintaining a sustainable human and scientific presence on and around the moon as a stepping-stone for human exploration of Mars. This sustainment concept distinguishes the Artemis Program from Apollo and also relies on the significant investments being made by commercial partners in the Commercial Lunar Payload Services (CLPS) and Human Landing System (HLS) programs. The Artemis Accords initiated new partnerships with our international partners and also placed the United States in a leadership position by creating the principles of space exploration, based on those presented in the Outer Space Treaty of 1967. The scientific research made possible on the surface of the moon and Mars are vital for our understanding of the formation of the solar system, revealing planetary process, and, most fundamentally, expanding the search for life beyond Earth in our solar system.

WHAT’S NEXT

The path to the moon and then onward to Mars is reliant on *constancy of purpose*. Stable and dependable budgets that align with clear and achievable goals provide the means to conquer the technological challenges found in deep space exploration without excessive cost and schedule growth. Space exploration channels our innovative and entrepreneurial spirit and benefits our economy here on Earth – the prime contractor industrial base, high-tech small businesses, and start-up companies excited and invigorated by our return to the moon. Human space exploration, working together with scientific research and technology development, remains a source of uniquely American pride and values, and the United States is well positioned to remain the global leader as we venture forth to the moon and beyond.



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