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Author: Mr. Koichi Abe
Mitsubishi Heavy Industries, Ltd., Japan

MHI'S LUNAR SOCIETY CONCEPTS AND EFFORTS FOR IMPLEMENTATION

Abstract

For the lunar surface development, various activities are underway both in the government-led program (NASA Artemis program) and in the private sector. MHI (Mitsubishi Heavy Industries) has drawn up its own lunar society concept and has been considering its realization by not only providing the space transportation infrastructure that has been cultivated so far, but also proposing three new infrastructure candidates that made the most of its proprietary technology: (1) The Lunar port : a concept that provide a safe lunar takeoff and landing site, navigation support, and resources (power / propellants), (2) The Propellant plant : a concept that supplies cryogenic propellant for lunar takeoff and landing vehicle using lunar resources, (3) The Regenerated ECLSS (Environmental Control Life Support System) : a concept that provides environmental life support to lunar residents with Japan's owned technology, with a view to eventual manned Mars exploration. Synergizing these items with the space and lunar transportation infrastructure, which has been MHI's long-term focus, MHI would make efforts to visualize the lunar society operating concept and build a plan to implement it as a lunar social system. In this presentation, we will introduce the current and future activities of this realization concept.