

IAF HUMAN SPACEFLIGHT SYMPOSIUM (B3)
Utilization & Exploitation of Human Spaceflight Systems (3)

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EFFORTS TOWARD REALIZATION OF MHI'S LUNAR SOCIETY CONCEPT

Abstract

For the lunar surface development, various activities are underway both in the government-led program (NASA Artemis program) and in the private industries.

MHI (Mitsubishi Heavy Industries) has drawn up its own lunar society concept and has been considering its realization by providing not only the space transportation infrastructure that has been cultivated so far, but also a new infrastructure that makes the most of its proprietary technology.

In this paper, MHI will pick up and introduce three new infrastructure candidates: (1) the lunar port, (2) the propellant plant, and (3) the regenerated ECLSS (Environmental Control Life Support System). (1) The Lunar port has a concept that provides a safe lunar takeoff and landing site, navigation support, and resources (power / propellants). (2) The Propellant plant has a concept that supplies cryogenic propellant for lunar takeoff and landing vehicle using lunar resources. (3) The Regenerated ECLSS has a concept that provides environmental life support to lunar residents with Japan's owned technology, with a view to eventual manned Mars exploration.