HUMAN SPACE ENDEAVOURS SYMPOSIUM (B3)
Overview Session (Present and Near-Term Human Space Flight Programs) (1)

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ISS AS A BASE-CAMP FOR EXPLORATION

Abstract

The idea for using the International Space Station (ISS) as a base-camp for exploration has matured in the past year and the concept continues to gain momentum. ISS provides a robust infrastructure which can be used to test systems and capabilities needed for missions to the Moon, Mars, asteroids and other potential destinations. These new systems at the leading edge of technology require operational exercise in the unforgiving environment of space before they can be trusted for long duration missions. Systems and resources needed for expeditions can be aggregated and thoroughly tested at ISS before departure thus providing wide operational flexibility and the best assurance of mission success.

Using Everest base-camp as an analogy, we will show how ISS can be used to reduce risk and improve the operational flexibility for missions beyond low earth orbit. International cooperation is a critical enabler and ISS has already demonstrated successful management of a large multi-national technical endeavor. We will show how technology developed for ISS can be evolved and adapted to the new exploration challenge. New technology, such as electric propulsion and inflatable habitats can be tested and proven at ISS as part of an incremental development program. Commercial companies who are introducing transportation and other services will benefit with opportunities to contribute to the mission since ISS will serve as a focal point for the commercialization of low earth orbit services. Finally, we will show how use of ISS provides immediate benefits to the scientific community because its capabilities are available today and certain critical aspects of exploration missions can be simulated.