

SPACE EXPLORATION SYMPOSIUM (A3)
Space Exploration Overview (1)

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ISECG GLOBAL EXPLORATION ROADMAP EARLY DESIGN REFERENCE MISSIONS

Abstract

The *International Space Exploration Coordination Group* (ISECG) was established in response to "The *Global Exploration Strategy: The Framework for Coordination*" developed by fourteen space agencies and released in May 2007. This GES Framework Document recognizes that preparing for human space exploration is a stepwise process, starting with basic knowledge and culminating in a sustained human presence in space. In 2011, ISECG released the Global Exploration Roadmap (GER), advancing the Global Exploration Strategy by articulating the perspectives of participating agencies on exploration goals and objectives, mission scenarios, and coordination of exploration preparatory activities. Two feasible pathways for human exploration were presented after ISS - Asteroid Next and Moon Next. They differ primarily with regard to the sequence of sending humans to the Moon and asteroids, and each reflects a stepwise development and demonstration of capabilities ultimately required for human exploration of Mars.

For the release of version 2 of the GER in the late 2012 timeframe, the International Architectures Working Group has focused on the Early Design Reference Missions (DRMs) for the two pathways. For the Asteroid Next scenario, these Early DRMs relate to the establishment of a Deep Space Habitat in cis-lunar space to demonstrate the capabilities necessary for traveling and living in deep space. Human health system reliability issues and strategies for resupply are among the technology demonstrations that will be discussed. For the Moon Next scenario, these Early DRMs focus on the cadence of missions leading to humans returning to the lunar surface. A combined set of both human and robotic missions will be presented including scientifically relevant and interesting robotic activities, technology and capability demonstration missions facilitated by robotics, tele-operation of robotic surface assets from cis-lunar space, and risk reduction missions.

For more information on the ISECG please consult the ISECG website at www.globalspaceexploration.org or contact the ISECG Secretariat at: isecg@esa.int.