

HUMAN SPACEFLIGHT SYMPOSIUM (B3)
Governmental Human Spaceflight Programs (Overview) (1)

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THE EXPLORATION MISSION THEMES OF THE GLOBAL EXPLORATION ROADMAP

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. ISECG has published in August 2013 the 2nd iteration of the Global Exploration Roadmap (GER) (see IAC-13.B3.1,8). This roadmap reflects a common vision of space agencies participating to ISECG on a step-wise approach to human exploration, enabling agencies to advance their capabilities through cooperative international missions. Fundamental capabilities to permit humans to travel in space and work on planetary surfaces must be developed with exploration of multiple destinations in mind. Since its publication, space agencies have continued to advance the definition of the three near-term mission themes included in the long-range human exploration strategy: (1) Exploration of a Near-Earth Asteroid, (2) Extended Duration Crew Missions and (3) Humans to the Lunar Surface. Space agency’s work focuses on the definition of Design Reference Missions and is addressing strategic questions such as:

- What are the next foundational capabilities (including elements, systems and technologies) which can be demonstrated with these mission themes?
- How can the value of early humans missions to lunar vicinity be optimised for advancing common exploration goals, such as science and participatory exploration goals?
- How do early human missions form an international pathway towards the implementation of human missions to Mars?
- Which concrete opportunities should be considered for advancing the concept of human-robotic partnerships?

- What opportunities result from the deployment of a staged transportation architecture supported by an evolvable deep space habitat in the lunar vicinity?
- What international strategy should be followed for assessing the usability of lunar resources (e.g. polar volatiles)?

Space agency's participating within ISECG are also engaging the broader stakeholder community in a debate on strategic questions as those listed above. For this purpose at least three such stakeholder community events are planned to be organised in 2014 in US, Japan and Europe.

This paper will summarise interim results on the work to be conducted in 2014 for advancing GER mission themes.