



Exploration of NEOs Objectives Workshop

International Framework for
Human Space Exploration
NASA ESMD/Kathy Laurini
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Introduction

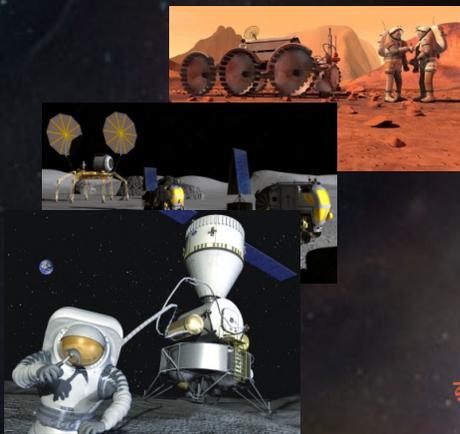


- Human exploration beyond low-Earth orbit (LEO) will be an international effort with many space agencies working together
- To enable this, a common international strategy and an effective coordination mechanism have been established
 - The Global Exploration Strategy (GES)
 - The International Space Exploration Coordination Group (ISECG)
 - Global Exploration Roadmap
- Near-Earth objects (NEOs) are one of the primary targets for human space exploration as defined in the Global Exploration Strategy (GES)

International Partnerships: A Common Long-term Vision



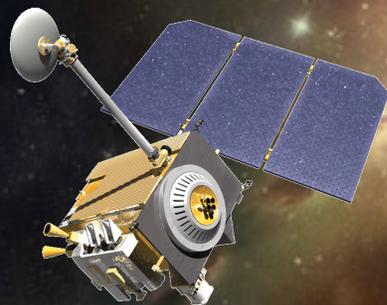
A Global Exploration Roadmap



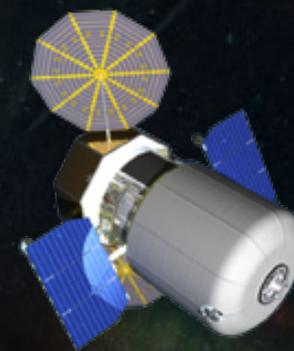
Leveraging Investments in Technologies



Robotic Precursor Missions



Flagship Technology Demonstration Missions



A Common Vision: The Global Exploration Strategy (GES)

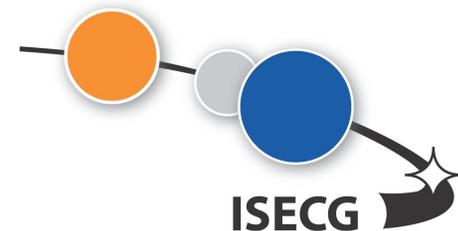


- *The GES: A Framework for Coordination*
 - Documented in 2007 by 14 space agencies
- GES Vision
 - A globally coordinated human and robotic space exploration effort to destinations that humans will someday live and work
 - Delivers benefits in 5 thematic areas:
 - Science and Technology
 - Sustained Presence in the Solar System
 - Economic Expansion
 - Global Partnerships
 - Inspiration and Education
 - An evolutionary effort to enable extending human presence, benefiting from knowledge gained from human and robotic missions at the International Space Station (ISS), moon, asteroids and Mars
 - A coordination mechanism to promote the GES vision
 - ISECG
- To learn more: http://www.nasa.gov/pdf/178109main_ges_framework.pdf

ISECG Overview



- ISECG is a multi-lateral forum established for the discussion and alignment of space agency exploration plans and objectives
 - Facilitates the establishment of multilateral or bilateral partnerships
- Members work collectively to coordinate their international human and robotic exploration efforts, advancing the GES
 - Interested agencies plan, organize and perform work in working groups
 - Develop products that enable coordinated agency decision making, alignment of policy and plans
- Principles
 - Non-binding
 - Open and Inclusive
 - Flexible and Evolutionary
 - Effective
 - Mutual Interest
- Open to any agency interested in working cooperatively to advance the GES



Overview of Key ISECG Products

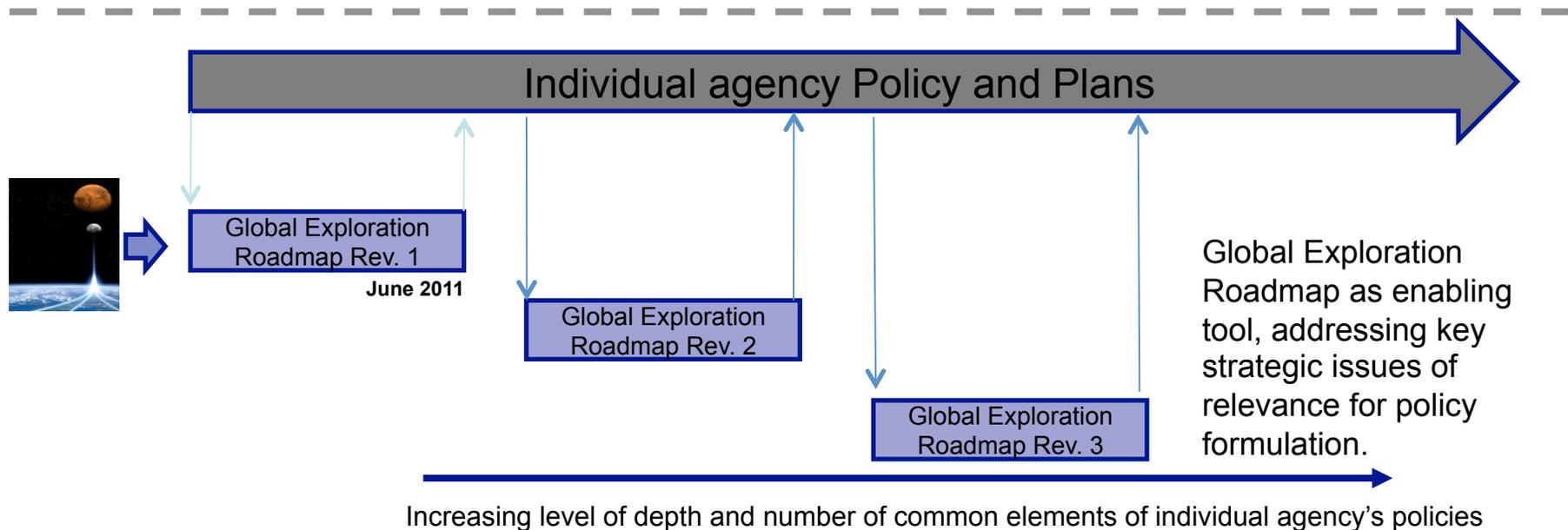


- ISECG Reference Architecture for Human Lunar Exploration
 - A conceptual architecture describing an international approach to human lunar exploration which includes a robotic precursor phase
 - Major findings:
 - Important to involve space agencies up front, allowing input to concept formulation
 - Demonstrate role of ISECG in informing partnerships/governance structures
 - Common reference to guide individual agency investments
- Common Goals for Human Lunar Exploration
 - Derived from individual agency objectives
 - Cross-cutting and compelling; linked to GES themes
- Public Engagement Working Group
 - Forum for sharing information on how to best reach all stakeholders
 - One workshop held, November 2009
 - Strong interest in ensuring space exploration delivers value to all stakeholders

The Way Forward: The Global Exploration Roadmap



- Key tool for advancing common global strategy, enabling:
 - Alignment of agency policy and plans
 - Discussion of role and timing of destinations
- Illustrative, high-level plan of missions towards exploration destinations
- Merges capability and mission based approach to exploration
- Shows how near term milestones prepare future human mission scenarios



Summary



- A common international exploration strategy has been developed and effective mechanisms have been put in place to coordinate global exploration plans.
- The international community recognizes the importance of human missions to NEOs as an important element of the GES.
- This workshop will inform NASA's input to an international effort to understand why, when and how we will send humans to explore NEOs.