

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

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CONSIDERATION ON THE LONG-RANGE STRATEGY OF THE ISECG GLOBAL EXPLORATION  
ROADMAP**Abstract**

The 1st iteration of the Global Exploration Roadmap (GER) was released in September, 2011 by the International Space Exploration Coordination Group (ISECG). The GER provides a framework for inter-agency dialogue in three areas: (1) common goals for space exploration, (2) the long-range strategy for exploration and (3) identification of near-term opportunities for coordination and cooperation in areas such as robotic missions, utilisation of ISS as a test-bed for exploration enabling technologies and capabilities demonstration and analogue campaigns. Dialogue on the long-range strategy is informed through the development of notional mission scenarios which are technically feasible and programmatically implementable. Two mission scenarios were seen as responding to the long-range strategy: the “Asteroid Next” and the “Moon Next” mission scenarios. Both take into account the short-medium term plans of the participating agencies. The long-range mission scenarios respond to the common goals and are driven by a common set of agency needs and drivers. In particular 6 common strategic principles have been defined within the 1st iteration of the GER:

1. “Capability driven framework”, implying the use and evolution of current capabilities as well as a gradual, step-wise development of new capabilities;
2. “Exploration value”, underlining the need to generate public benefits and meet exploration objectives and to achieve this early and in a sustained manner;
3. “International partnerships”, calling for enabling early and sustained contribution opportunities for all partners and at different levels;
4. “Robustness”, stressing the need to provide for resilience to technical challenges and programmatic changes e.g. through dissimilar redundancy;
5. “Affordability”, acknowledging current and future budget constraints;
6. “Human-robot partnership”, emphasising the complementary role of humans and robots for meeting common exploration goals and specific mission objectives.

These principles will be further developed for the 2nd iteration of the GER which is planned to be released by the end of 2012. This paper will provide a deeper analysis of the implications of these strategic principles on the future implementation of international exploration missions and review related aspects from a European perspective. It will furthermore analyse commonality aspects between ESA exploration plans and priority destinations for exploration (Low Earth Orbit, Moon and Mars) and the ISECG GER. For more information on the ISECG please consult the ISECG website at [www.globalspaceexploration.org](http://www.globalspaceexploration.org) or contact the ISECG Secretariat at: [isecg@esa.int](mailto:isecg@esa.int).