

## IAF SPACE EXPLORATION SYMPOSIUM (A3)

## Space Exploration Overview (1)

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## CONSIDERATIONS TO FOSTER INCLUSIVENESS IN FUTURE CISLUNAR SPACE ENDEAVORS

**Abstract**

With the quick approach of the 2020s, space agencies and private companies around the world are getting ready for bold new missions on and around the Moon. The National Aeronautics and Space Administration (NASA) is currently leading the establishment of a strategic outpost in lunar orbit, called The Gateway, intended to support deep space exploration missions and industry endeavors in cislunar space and on the lunar surface. Meanwhile, the interest and capabilities of commercial space actors are quickly growing. Their contributions to robotic and human spaceflight are becoming strategically important for the future of space exploration. During the Space Generation Congress (SGC) in September 2018, 21 international students and young professionals gathered in Bremen, Germany to discuss fundamental challenges surrounding the establishment of sustainable robotic and human space exploration activities in lunar and cislunar space. Sponsored by NASA Advanced Exploration Systems Directorate (AESD), the Exploration Working Group focused on examining the current role and scope of government and commercial planning groups in deep space exploration and discussed how these future plans can be inclusive of private players so that there will be a dynamic economy in deep space. The Working Group members were asked to identify political, economic, strategic, regulatory and practical obstacles to cooperation and provide recommendations for evolving the current global government strategic planning activities to make them more supportive for the growing commercial industry in deep space. This paper reports the outcomes of these discussions. The Working Group identified four areas of discussion: (i) Means to maximize the utilization of The Gateway, (ii) Possible governance structures that can be foreseen for such an outpost, (iii) Techniques to transition from agency-driven to industry-driven space exploration, (iv) Methods to maximize global cooperation and promote an international, rather than national, driven approach. If the recommendations gathered during the discussion and presented in this paper were put into practice at all levels, from regulatory policies to the technical development, it is anticipated that barriers for commercial participation in The Gateway activities will be reduced, allowing for dynamic commercial activities in deep space.