

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

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“BOOTS ON THE MOON” THE KEY TO SUSTAINED EXPLORATION CAMPAIGN

**Abstract**

President Trump signed Space Policy Directive-1 on December 11, 2017 to: Lead an innovative and sustainable program of exploration with commercial and international partners to enable human expansion across the solar system and to bring back to Earth new knowledge and opportunities. Beginning with missions beyond low-Earth orbit, the United States will lead the return of humans to the Moon for long-term exploration and utilization, followed by human missions to Mars and other destinations.

To expand human presence across the solar system we need to first explore and exploit the potential of the Moon. Fifty years after the Apollo Moon landings, it is time for us to return to the Moon with the purpose of exploration, science, national interests, economic development and leading the way to Mars. Building on the national investments and capabilities that NASA has been developing including the International Space Station (ISS), the Space Launch System and the Orion Crew Exploration Vehicle we are ready and better positioned for the next chapter of exploration leveraging 1) private investment and commercial development that is currently providing essential transportation and satellite services, and 2) an international community brought together through the ISS that now has significant capabilities to offer. Not unlike the Mercury-Gemini-Apollo campaign, our new missions can increase in complexity in support of these goals, building on and adapting to the discoveries along the way. It is time for ‘Boots on the Moon’ again!

This paper describes defines what is missing is a clear integrated outcome-driven campaign plan that connects these together into a portfolio as to how, when, why, what, who, and where. The paper explores answers to basic exploration architecture questions of what we are going to do on the surface of the Moon, do humans have a future in space, can we “live off the land”, and how does lunar exploration prepare us for Mars exploration. This integrated definition is needed to enable NASA leadership to coordinate across the entire enterprise of stakeholders to re-focus government, industry and international participants into an executable campaign with purpose and urgency.