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

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NOVEL OPERATIONAL CONCEPTS TO ENABLE COMMERCIAL SPACE EXPLORATION

Abstract

In the newly emerging commercial Space Age, a myriad of companies backed by risk capital are under significant pressure to become profitable in the shortest time possible. In the field of space exploration, high investment costs, high risks, and lengthy development phases can make it less appealing for investors. With the surge of innovation that we are experiencing in the space and launcher segments, this paper addresses the need for equally novel ground segment and operational concepts that will allow commercial ventures to run successful space exploration businesses. It will explain how to reduce complexity of space operations significantly via an integrated platform covering all required ground systems, enhanced with AI-powered automation and real-time prescriptive analytics, offering unparalleled flexibility and drastically reducing costs. Reversing the traditional approach, a switch to system-controlled and human-supported operations will enable a commercial breakthrough in the field of space exploration.