

SYMPOSIUM ON BUILDING BLOCKS FOR FUTURE SPACE EXPLORATION AND  
DEVELOPMENT (D3)Systems and Infrastructures to Implement Future Building Blocks in Space Exploration and Development  
(2)

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## ESTABLISHMENT OF A SPACEPORT NETWORK ARCHITECTURE

**Abstract**

This paper will recommend architectures, transformative technologies, and design processes that enable an expansion of Earth-based spaceport capabilities to on-orbit and planetary surface spaceports. The paper will evaluate the impact of using *in situ* derived propellants and structure materials and orbiting propellant depots staged strategically across the spaceport network, and will perform a business study for privately owned spaceports providing fuelling services on the spaceport architecture. The paper will also address cooperation between governments, public and private entities, and research organizations, as well as build a business model and legal framework to enable successful international and intercultural collaborations across spaceport networks.