SPACE PROPULSION SYMPOSIUM (C4)
Missions Enabled by new Propulsion Technology and Systems (6)

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TECHNOLOGY DEMO MISSIONS FOR SPECE EXPLORATION: PROPULSION SOLUTIONS

Abstract

This paper presents the findings from the ESA TEXP studies on Technologies demonstration missions for space EXPloration.

The studies were funded by the ESA General Studies Programme (GSP) and conducted by the ESA-ESTEC Concurrent Design Facility (CDF).

Three missions' scenarios were investigated: a Lunar Mapping and Exploration Technology Telecommunication Orbiter (LUMETTO), a Rendezvous and Refuelling Demonstration mission (R2D3) and a Radiation Assessment in Deep Space mission (RAiDS). These three missions were then assessed for common themes in a fourth study called COMPLEX. (COMmon PLatform payload Elements for eXploration Mission)

This paper gives an overview on the innovative technologies considered during the studies focusing mainly on propulsion solutions and describes the conceptual architecture platform's design derived.