Paper ID: 30089
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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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STEPS2 – TECHNOLOGICAL RESEARCH ACTIVITIES FOR EXPLORATION

Abstract

In the last years, a Consortium led by Thales Alenia Space and including Politecnico di Torino, Università di Torino, Università del Piemonte Orientale, ALTEC and 22 SMEs based in the Piedmont Region has carried out a successful research program focus on the main enabling technologies for robotic and human exploration, as derived from the International Space Exploration Coordination Group (ISECG) Global Exploration Roadmap (GER).

This initiative, called STEPS (Sistemi e Tecnologie per l'EsPlorazione Spaziale), was carried on in the 2009-2012 timeframe.

The second phase STEPS 2, in progress since beginning 2013, is bringing to maturity the technology developments initiated in STEPS for potential technological demonstrations in nearterm space missions like:

- robotic exploration missions to the Moon and Mars
- in-orbit demonstration missions, making use of the ISS utilization as technological test-bed for several exploration technologies
- re-entry transportation systems, both manned and un-manned, and their related technological demonstrators

The paper will present the STEPS 2 main results and their perspectives.