IAF HUMAN SPACEFLIGHT SYMPOSIUM (B3)
Governmental Human Spaceflight Programs (Overview) (1)

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COMMERCIAL PARTNERSHIPS FOR SPACE EXPLORATION

Abstract

The last ESA Council Meeting at Ministerial level held in 2016 approved the European Exploration Envelope Programme (E3P). This programme funds all ESA activities aimed at sustaining access to human LEO infrastructures for European astronauts and in support of European research objectives as well as at implementing robotic and human missions to Moon and Mars. Recognising the evolving relationship between the Agency and European industry in the space sector as a whole and the emergence of private sector initiated space exploration activities at global level, a new element on "Commercial Partnerships for Space Exploration" has been introduced in E3P.

ESA has solicited proposals for private sector-driven commercial partnerships through an open call for ideas published in spring 2015 (see http://www.esa.int/About$_{U}s/Business_{w}ith_{E}SA/Business_{O}pportunities/Partners_{f}o

- Space Applications Services (BE) for the provision of International Commercial Experiment (ICE) Cube Services for ISS

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- Airbus Defence Space (DE) for the provision of external ISS payload accommodation services utilising the Airbus developed "Bartolomeo" platform mechanically attached to the European Columbus module of ISS;
- SSTL and Goonhilly Earth Station (UK) for the provision of lunar mission support services.

Beyond these partnerships, ESA is currently evaluating a portfolio of new proposals which may lead to the establishment of additional partnerships in due time. These partnerships would respond to specific Agency objectives and requirements related to the ESA utilisation of human and automated post-ISS infrastructures in Low Earth Orbit and the implementation of technology demonstration missions. In particular, ESA is planning to implement by 2025 a robotic lunar surface mission to demonstrate technologies for in-situ resource utilisation, enabled through European private-sector developed commercial services for Moon payload delivery, communications and operations.

This paper presents an overview of the ESA Commercial Partnerships for Space Exploration initiative. It provides insights on the rationale for ESA to enter into the first set of partnerships listed above. Furthermore, the paper gives an outlook on the future evolution of this initiative and concrete upcoming opportunities for the private sector to engage with ESA.