

SYMPOSIUM ON STEPPING STONES TO THE FUTURE: STRATEGIES, ARCHITECTURES, CONCEPTS AND TECHNOLOGIES (D3)

Strategies and Architectures to Establish a “Stepping Stone” Approach to our Future in Space (1)

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THE NEXT STEPS DEFINING EUROPE’S ROLE IN THE UPCOMING SPACE EXPLORATION ARCHITECTURE

Abstract

Since the “Augustine Report” and the following strategy change from the Obama Administration for the NASA budget and the future of (US) Space Exploration, the international space community has been puzzled of where the next steps in exploration will lead and how to cope with this influential change in plans from US. Already at the last ESA Council Meeting at Ministerial level in 2008, ESA received the mandate to prepare a decision on the future European role in space exploration to be taken not later than 2011 providing a common European vision and long-term strategic planning for European space exploration activities. To contribute to this end, an industrial consortium, led by Thales Alenia Space and involving OHB as a major partner, is currently performing the ESA study “Scenario Studies for Human Spaceflight and Exploration”. Taking into account the on-going debates at world-wide level, the study will support the process and in particular define, analyse and assess optional European scenarios for future human spaceflight and exploration activities. The scenario development should consider missions to Low Earth Orbit (LEO) and Moon as important stepping stones for the long-term goal of an international human mission to Mars. The study will try to identify and propose achievable milestones and activities to be implemented within the next 10 years and develop a strategic planning for the next 20 years addressing specifically the role of LEO and Moon. Based on this, at least 4 international human mission scenarios of relevance for the considered timeframe will be addressed: (A) ISS operations, (B) post-ISS human operations, (C) Lunar Exploration, and (D) Deep-space missions including e.g. missions to NEO and to the Martian moons. During the study, due account will be taken of planned EC-ESA workshops and conferences organised in support of the political process for the development of a political vision on the European role in human exploration and related EC funded study activities, including the EC commissioned study on the Impact Assessment of exploration, and the EC-ESA workshops science and education, innovation and industrial competence and scenarios and international relations. Furthermore, the impacts of exploration policies and strategies of prospective international partners, as currently being formulated in particular in the US, Japan and Russia, on the developed exploration scenarios will be assessed when they become available.