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Author: Dr. Thomas Reiter
Germany

THE ESA HUMAN SPACEFLIGHT PROGRAMME - RECENT ACHIEVEMENTS AND FUTURE PROGRAMMATIC GOALS AND CHALLENGES

Abstract

The European human spaceflight programme is currently focused on the exploitation and utilisation of the ISS infrastructure, reaping the benefits of past development and preparatory activities. ESA has celebrated in February 2013 the 5th anniversary of the Columbus launch. An ISS Symposium organised in Summer 2012 in Berlin has demonstrated a significant spectrum and extent of early ISS utilisation achievements. At the same of writing, three successful mission of the European Automated Transfer Vehicle have been implemented and two further missions are planned in spring 2013 and in 2014. The next European Astronaut mission to ISS is planned for May 2013. The ESA Council Meeting at Ministerial Meeting held in November 2012 in Naples, Italy, has made important decisions which secure continued European exploitation of ISS and pave the way for a European engagement in the programme up to 2020. European States participating in the ISS programme have in particular decided to start the development of the Service Module for the NASA crew transportation vehicle. This vehicle is designed to enable human missions beyond Low Earth Orbit. The European development of the Service Module is performed in the context of a barter agreement with NASA for compensating the European share of the ISS Common System Operations Costs (CSOC) up to and including 2020, and subsequent to the CSOC compensation achieved with the five ATV mission. The cooperation with NASA on the development of crew transportation vehicle opens up new perspectives for cooperation in the field of transportation. While near-term efforts within ESA focus on further streamlining the ISS operations costs and maximising the ISS utilisation return, ESA is also assessing opportunities for enabling European exploitation of LEO beyond 2020. Long-term strategic partnerships, like the one established for the ISS, will be key for ensuring continued access to LEO infrastructures for the European user community, optimising services for the spectrum of current- and future research areas and reducing operations costs to a sustainable level. This paper will provide an overview of recent highlights and key challenges of the European human spaceflight programme. It will also discuss future perspectives for European exploitation of LEO as well as opportunities for European engagement in human missions beyond LEO.