

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

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STATUS OF ESA HUMAN SPACEFLIGHT ACTIVITIES – RECENT ACHIEVEMENTS AND
FUTURE PROGRAMMATIC GOALS AND CHALLENGES

Abstract

ISS, which completed 15 years in November 2013, stands today as the most ingenious in orbit human-tended Space Research Laboratory. The next ESA Council at Ministerial level in December 2014, will take important decisions regarding the funding of ESA's participation in the ISS programme up to 2020. ESA is also reflecting on a user-driven approach for the post 2020 LEO exploitation scenario within the context of consolidating its overall ESA strategic planning for exploration.

Participants to the International Space Exploration Forum (ISEF) meeting in January, acknowledged human mission to Mars as long-term goal of exploration. The ESA Director General stressed the importance of international cooperation for achieving common exploration goals. Through the International Space Exploration Coordination Group (ISECG), supported by ISEF, ESA participates in developing a step-wise exploration roadmap showing relevant strategic goals and mission scenarios for the next stages of human spaceflight.

Recognizing the strategic role of the Moon in the future strategic planning for exploration, coherent with the Global Exploration Roadmap (GER), Europe is planning a potential participation in an International Lunar Exploration Programme with participation in Russian-led Lunar missions, including LunarResurs (2018) and Lunar Polar Sample Return (2020+).

In preparation of future participation in human missions beyond LEO ESA conducts technology demonstrations (AClosed Loop Life Support System, ATV-5 sensor experiment) and ground- and ISS-based research. ESA is progressing in developing the Service Module for the US Orion crew transportation system for its first unmanned demonstration flight in 2017.

The paper will present how ESA consolidates its strategic planning for space exploration. It focuses on three destinations: LEO, Moon, Mars, strongly leverages on exploiting synergies between human and robotic capabilities as well as between missions to those three exploration destinations, and is enabled through international cooperation.