

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

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ESA SPACE EXPLORATION STRATEGY AND PROGRAMMES

**Abstract**

ESA has published in 2014 its strategy for space exploration,

- driven by goals which link space exploration to benefits created for society at large, addressing the scientific, economic, political and public dimension of space exploration;
- based on the exploration destinations Low Earth Orbit (LEO), Moon and Mars;
- focused on implementing exploration missions and;
- enabled through long-term strategic partnerships with international Space Agencies as well as private and other institutional entities.

Progress has been made in advancing this strategy through exploitation and utilisation of the International Space Station (ISS), development of the service module for the NASA multi-purpose crew transportation system, development and implementation of the ExoMars missions, development of ESA contributions to Roscosmos-led lunar robotic missions, the establishment of strategic partnerships with private sector-led initiatives and advancement and demonstration of exploration enabling technologies and capabilities.

With its ISS Partners, ESA coordinates the approach for making optimum use of ISS for preparing future human exploration missions beyond LEO and assesses the next common step of the ISS partnership for enabling human exploration beyond LEO. The latter activity focuses on defining a human-tended spacecraft in lunar vicinity which represents a critical element in the architecture for exploration of Moon and Mars. Development, construction and operations of such a spacecraft would strongly leverage on the ISS heritage and demonstrated Partner capabilities.

ESA is currently consolidating the strategic planning for space exploration. In this context, ESA is exploring opportunities for exploitation of automated and human infrastructures in LEO post-ISS as well as future engagement in Moon and Mars missions.

In view of the upcoming ESA Council Meeting at Ministerial level planned for end 2016, ESA is preparing programmatic decisions on

- The continued engagement of ESA in the exploitation of ISS up to 2024;
- An enforced and focused institutional utilisation programme of the ISS for addressing global challenges and in preparation of human exploration beyond Low Earth Orbit;
- The role of ESA in the future production and evolution of the NASA multi-purpose crew transportation system;
- Preparatory activities for defining the ESA role in future international space exploration missions to Moon and Mars;
- ESA's role in supporting private sector initiatives which support the implementation of ESA's strategic goals for space exploration.

This paper will report progress achieved in implementing the strategy and provides an outlook of the consolidated strategic planning and upcoming programmatic decisions.