

ESA EXPLORATION PROGRAMMES FROM ISS TO THE LUNAR LANDER MISSION

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The extension of the ISS operation to 2020 is providing new opportunities for Exploration preparatory activities in a representative environment in the field of human spaceflight. To this end ESA has recently issued a call for ideas and is preparing new activities to be implemented in the near future.

In the same time industrial activities to design and develop the first ESA Lunar Lander continue to progress at a fast pace and with an increasing support of ESA Members states, setting the ground for a full development proposal being presented for approval at the next ESA Council at Ministerial level in 2012. While providing a good opportunity for scientific experiments on the surface of the Moon, the Lunar Lander's primary goal is to develop precision landing technology. Mandated by the requirement to land on a rough terrain at the Moon South Pole the mission will develop for Europe the new generation of guidance, navigation and control sensors, algorithms and software including visual navigation and hazard avoidance. As such the technology can be applied to Moon and asteroid landing as well as to the terminal phase of a Mars landing mission.

With the prospective of human presence being the ultimate goal of Exploration, the presentation will include an overview of the ESA present and planned activities in the area of human spaceflight and will focus in particular on the logic and value of the Lunar Lander in a global road map for Exploration.