SPACE EXPLORATION SYMPOSIUM (A3)
Space Exploration Overview (1)

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ESA - ROSCOSMOS STRATEGY FOR MOON EXPLORATION

Abstract

As part of ESA's Aurora programme, the Agency has defined, in early 2001, a road map for exploration in which, alongside robotic exploration missions, the International Space Station (ISS) and the Moon play an essential role on the way to other destinations in the solar system, ultimately to a human mission to Mars in a more distant future. Consistently ESA Exploration programmes today are being developed along the 3 main destinations lines: Low Earth Orbit, Moon and Mars. On a more global scale Lunar Exploration has seen recently a strong increase of interest of space agencies in several countries, Russia and China in particular. In the frame of the Human Spaceflight programme the first European Lunar Lander Mission, with a launch date on 2018, is now in an early phase of development. A small automatic lander dedicated to technology development, with precision landing as primary goal, will target the lunar South Pole region to capitalise on unique illumination conditions. Relaying on solar energy for operation on the Moon surface it will also provide the opportunity to carry out scientific investigations in a region of the Moon not explored so far. During the Phase B1 industrial study, the mission design has been consolidated, and an extensive programme of bread boarding is nearly completed, preparing the ground for the approval of the full mission development phase at the 2012 ESA Council Meeting at Ministerial level. This paper describes how the Lunar Lander mission contribute to the international exploration effort, preparing the opportunity for Europe to play a significant role in future robotic and human exploration missions in cooperation with our international partners. In time of economic difficulties Europa must prepare for the challenges of the future. The paper will also address how, focussing on a combination of technology development and science, the Lunar Lander is the right solution to develop new capabilities and maintain industrial competences while giving young students and academia an important opportunity for new science on the Moon surface.