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Lunar Exploration and Science in ESA

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Lunar exploration continues to be a priority for the European Space Agency (ESA) and is recognized as the next step for human exploration beyond low Earth orbit.

The Moon is also recognized as an important scientific target providing vital information on the history of the inner solar system; Earth and the emergence of life, and fundamental information on the formation and evolution of terrestrial planets. The Moon also provides a platform that can be utilized for fundamental science and to prepare the way for exploration deeper into space and towards a human Mars mission, the ultimate exploration goal. Lunar missions can also provide a means of preparing for a Mars sample return mission, which is an important long term robotic milestone.

ESA is preparing for future participation in lunar exploration through a combination of human and robotic activities, in cooperation with international partners. These include activities on the ISS and participation with US led Multi-Purpose Crew Vehicle, which is planned for a first unmanned lunar flight in 2017. Future activities planned activities also include participation in international robotic missions. These activities are performed with a view to generating the technologies, capabilities, knowledge and heritage that will make Europe an indispensible partner in the exploration missions of the future.

We present ESA's plans for Lunar exploration and the current status of activities. In particular we will show that this programme gives rise to unique scientific opportunities and prepares scientifically and technologically for future exploratory steps.