Geophysical Research Abstracts
Vol. 17, EGU2015-15783, 2015
EGU General Assembly 2015


# Lunar Exploration and Science in ESA

James Carpenter, Bérengère Houdou, Richard Fisackerly, Diego De Rosa, Bernardo Patti, Jens Schiemann, Bernhard Hufenbach, and Bernard Foing

ESA ESTEC, Keplerlaan 1, 2201AZ, Noordwijk, The Netherlands

ESA seeks to provide Europe with access to the lunar surface, and allow Europeans to benefit from the opening up of this new frontier, as part of a global endeavor. This will be best achieved through an exploration programme which combines the strengths and capabilities of both robotic and human explorers.

ESA is preparing for future participation in lunar exploration through a combination of human and robotic activities, in cooperation with international partners. Future planned activities include the contribution of key technological capabilities to the Russian led robotic missions, Luna-Glob, Luna-Resurs orbiter and Luna-Resurs lander. For the Luna-Resurs lander ESA will provide analytical capabilities to compliment the Russian led science payload, focusing on developing an characterising the resource opportunities offered at the lunar surface. This should be followed by the contributions at the level of mission elements to a Lunar Polar Sample Return mission.

These robotic activities are being performed with a view to enabling a future more comprehensive programme in which robotic and human activities are integrated to provide the maximum benefits from lunar surface access. Activities on the ISS and ESA participation to the US led Multi-Purpose Crew Vehicle, which is planned for a first unmanned lunar flight in 2017, are also important steps towards achieving this. In the frame of a broader future international programme under discussion through the International Space Exploration Coordination Group (ISECG) future missions are under investigation that would provide access to the lunar surface through international cooperation and human-robotic partnerships.