MoonLITE mission gets green light for next step

December 5 2008

A possible UK-led Moon mission involving 'penetrator' darts that would impact into the Moon's surface will be the focus of a technical study to ascertain its feasibility, the British National Space Centre (BNSC) announced today.

Known as MoonLITE (Moon Lightweight Interior and Telecom Experiment), the mission aims to place a satellite in orbit around the Moon and deploy four penetrators to deliver scientific instruments below the surface of the Moon.

MoonLITE could create the first network of geophysics instruments to probe the interior structure of the Moon and help answer questions about how it formed.

The satellite orbiter would then act as a telecommunications station between the surface network and the Earth, relaying information to the Earth during the penetrators' one year life on the strength and frequency of Moonquakes and the thickness of the crust and core. It might also determine whether organic material or water is present in the polar regions.

NASA will support the study in order to establish its potential contribution to the science and technology of the mission.

Minister of State for Science and Innovation, Lord Drayson, said "The proposed MoonLITE mission provides a great opportunity to focus the

UK's world-class expertise in small satellite, communication and robotic technologies on lunar exploration. It is also a chance to strengthen our relationship with NASA, enhance international collaboration between UK and US scientists and engineers, and answer fundamental questions about the make-up of the Moon."

BNSC Director General David Williams said "Coupled with the UK's major role in ESA's Aurora programme of planetary exploration and our involvement in helping to shape the Global Exploration Strategy, the potential involvement of the UK in MoonLITE would mean the UK is fully exploiting its technological and scientific strengths in space exploration."

Following international peer review and after considering the advice of the Science and Technology Facilities Council's (STFC) Science Board and Particle Physics, Astronomy and Nuclear Physics Science Committee (PPAN), STFC has now given approval for a 'Phase A' technical study to establish the feasibility of the mission concept.

No decision will be made to proceed with, build or launch of MoonLITE - until this study has reported.

Lord Drayson continued "Of course, a convincing case for the science and economic impact of this project needs to be made, as for all projects which receive Government funding. Therefore the MoonLITE project's development schedule, mission costs and any possible risks will be assessed by industry and academia to provide clear steer on the feasibility of the project. I look forward to the seeing the results."

The study will report with a full mission schedule and costs in late 2009. Dependent on the outcome of this, MoonLITE could launch around 2014.

MoonLITE emerged as a concept from a 2006 study for low cost robotic lunar exploration options. Since then Lunar Exploration has been identified as a possible area for UK and NASA collaboration. In a Joint Working Group report between NASA and the British National Space Centre (BNSC), MoonLITE was identified as a possible collaborative project.

If MoonLITE does proceed then it would be the first UK-led scientific space programme in over 30 years and could be the first visible implementation of the Global Exploration Strategy, the 14 agency vision for globally coordinated space exploration announced in May 2007. Although several lunar orbiters have been launched in the past few years, no new scientific instrumentation has been placed on the Moon since the Apollo-era.

Provided by British National Space Centre