



European Opportunities for Lunar Landers

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A Lunar Landers Working Group, chaired by B.H. Foing, was formed at Koln workshop (18 February 2004) met at EGU2004, and collected inputs from experts at large, SMART-1 team experts and members of ILEWG (International Lunar Exploration Working Group, <http://sci.esa.int/ilewg/>). The working group has debated the high merit of lunar landers in terms of science, instruments, technologies, social and political benefits. The lunar working group recommends the following sequence of lunar landers:

Step 1: Around 2008, an early and relatively cheap mission into a permanently dark lunar south pole crater with a "simple" lander with short lifetime (heritage from MSE study)

Step 2: Around 2010-2012, a more challenging lunar southpole landing mission (updated from EUROMOON97 study, Integration of new knowledge from SMART-1 and other lunar missions) with a controlled soft landing (on legs) at the top of peak of quasi eternal light and with an instrumented rover as payload, addressing science, exploration, ice characterization, resource and environment survey.

Step 3: Beyond 2012, a mission even more complex with rover and sample return to demonstrate Earth return capability. Landing area could be the pole or the South Pole Aitken-basin.

In parallel SMART-1 (sci.esa.int/smart-1/) should be used as entry ticket for collaboration and data exchange, and to develop European payload contribution opportunities to international missions. The lunar lander WG should be continued, to define a consistent package for the different missions, in synergy with Mars landers and with future robotic and human exploration.