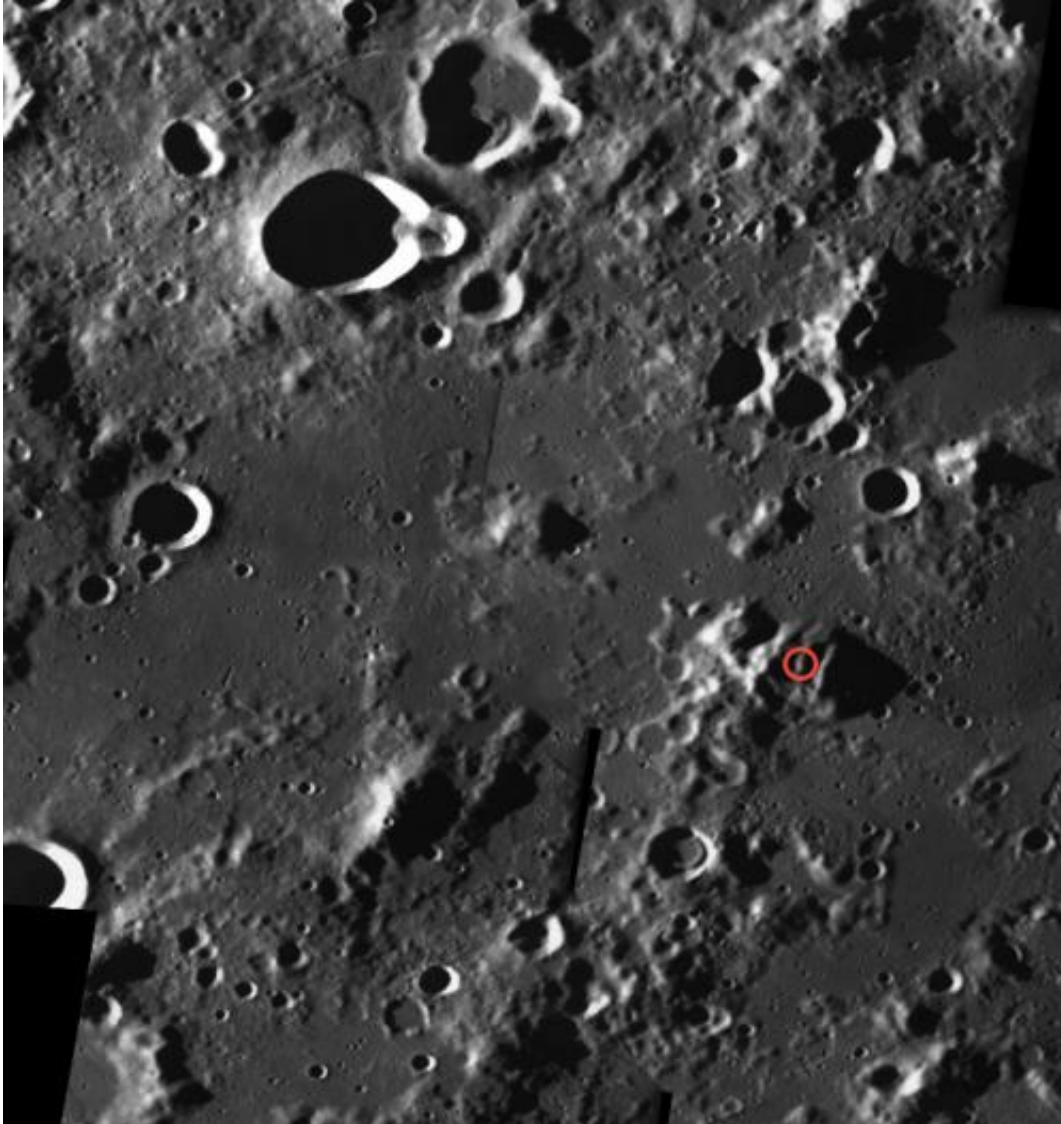


SMART crater on the Moon

September 4 2012



SMART-1 ended its journey in the Lake of Excellence at 34°S / 46°W at 05:42:22 GMT on 3 September 2006. The approximate impact site is indicated in the image, which is part of a much larger mosaic created during SMART-1's final orbits of the Moon. The images were obtained by the Advanced Moon

Imaging Experiment (AMIE). Credit: ESA/Space-X (Space Exploration Institute)

(Phys.org)—On the morning of 3 September 2006, a brief flash illuminated the Moon's 'Lake of Excellence' as ESA's SMART-1 mission met its fate on the dusty surface.

Launched in 2003, SMART-1 was the first European spacecraft to travel to and orbit the Moon.

Short for Small Missions for Advanced Research in Technology, SMART-1 used [ion propulsion](#) to journey to the Moon, tested new techniques in communications and navigation, and carried a battery of miniaturised scientific instruments.

It completed a comprehensive inventory of key [chemical elements](#) in the lunar surface, mapped impact craters, studied the volcanic and tectonic processes that shaped the Moon, and investigated sites for future exploration.

Like many of its predecessors doomed by the [laws of gravity](#), SMART-1 was always destined to meet its fate on the lunar surface.

Six years ago today, the satellite was deliberately crashed at the site circled in this image, which lies within a region known as the Lake of Excellence, located at mid-southern latitudes on the lunar near-side.

The image is part of a larger [mosaic](#) taken during the spacecraft's final orbits of the Moon and captures a variety of [geological features](#): volcanic plains, hills and impact craters of varying size.

SMART-1 likely struck the side of a hill at a low angle of 5–10 degrees and a speed of about 2 km/s.

Observatories around the world saw the resulting impact flash and cloud of dust thrown up by the impact.

Estimates suggest that SMART-1 left a crater 3–10 m wide and perhaps a metre deep. Using new high-resolution data, scientists hope to locate the [impact crater](#).

Provided by European Space Agency

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