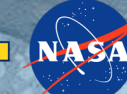# SelenITA: A dual-point lunar mission to characterize the near surface dust and electromagnetic plasma environment

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Mission Overview

Image Credit: Astrobotic Cube rover
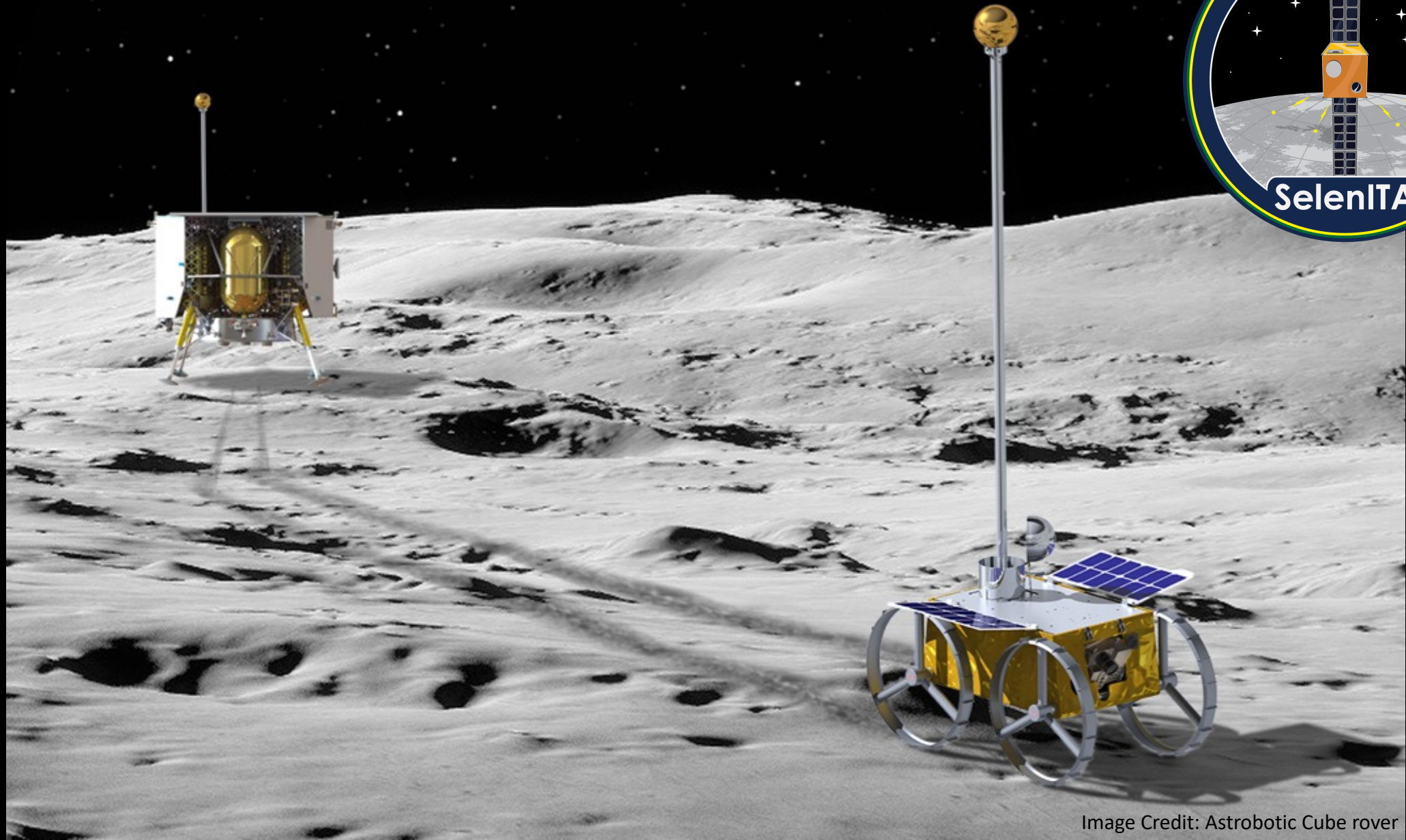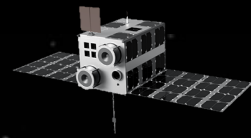
SelenITA Science Objectives

SelenITA is an international interdisciplinary low-cost mission consisting of a 12U CubeSat with a surface package that will provide novel multi-point measurements of dust, particles, and fields for the characterization of the electromagnetic space plasma environment at the lunar pole, in support of Artemis crew, and the geosciences.

Candidate Science Objectives:

- Characterize lunar crustal magnetic fields processes including their contributions to volatile processes, space weathering, and magnetic reconnection.

- Determine the nature of plasma interactions with crustal magnetic fields.

- Characterize plasma waves and turbulence at the Moon.

- Characterize the lunar surface potential in all plasma environments.

- Constrain the composition, thermal state, and structure of the lunar upper mantle and crust.

- Map ionizing radiation environment hazardous to human and robotic systems.

- Map the density of the impact ejecta dust grains as a function of latitude, longitude, and altitude.

Lunar Horizon Glow (LHG) imaged by Clementine mission.