

Australian Space Agency



Australian Industry Showcase: Unique Capabilities

Positioning Australia as a hub for launch and returns activity, enabling pharmaceutical development and life science research for astronaut health in space

LI-7



SPIDER (Seismic Payload for Interplanetary Discovery, Exploration and Research) will be the first Australian seismic payload to land on the Moon in 2026. The aim is to demonstrate the ability to produce miniature geophysical devices for future lunar and Martian geophysical exploration missions.

SE-5

Australia has strengths in lunar dust mitigation technologies, radioisotopes and radiation sensing, and helium 3 analysis. CSIRO's Centre for Advanced Technology is one such research institution pioneering Australian technology in these areas.

AS-1



LUNA (Laser measurement Unit for Navigation Aid) points laser beams at the landing site to measure the vehicle's velocity and altitude. LUNA maps the rocky, lunar terrain, providing real-time 3D Data for course corrections and controlled landing. In its first flight with IM's next lunar landing, LUNA will prove Australia's expertise in autonomous navigation and sensing.

SE-5

LI-5

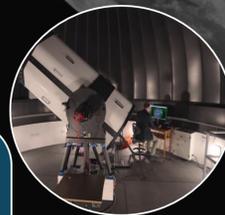
LPS-2

Australia has world renowned, leading experts in sample analysis, Martian and Lunar Geology, Geophysical Modelling

Optical Ground station at the Australian National University – to demonstrate the Artemis -2 O2O – Optical to Orion demo + SpAARC Remote Operations Centre – leveraging terrestrial resources sector expertise

RT-8

LI-2



Roo-ver and the M2M Objectives

Demonstrate and progress Australian exploration foundation services capability with remotely operated and autonomous Australian robotic lunar assets.

Contribute to NASA's endeavour to go to the Moon and on to Mars by integrating and hosting the NASA sensor with the Roo-ver platform.

Australian Operation - Operate foundation services rover (Roo-ver) from an Australian based operation centre

Lunar Surface Images - Roo-ver shall provide images during rover operation on the lunar surface.

Lunar Surface Operation - Roo-ver shall be remotely operated on the lunar surface.

Sensor Measurements - Roo-ver shall facilitate at least three measurements by the hosted sensor at locations agreed in consultation with the Mission Scientist.

Transport the sensor - Roo-ver shall transport the hosted sensor between points of interest.

Deployed Asset - Roo-ver shall perform the mission on the lunar surface as a deployed asset.

Safe Interoperability - Roo-ver shall demonstrate safe operations during deployment and proximity operations to the lander.



Roo-ver will be carried to the lunar surface through the NASA CLPS initiative. It will weigh approx. 20kg and will be integrated with a NASA payload. Roo-ver is expected to operate for 14 days on the lunar surface.

