European Lunar Cargo Lander: Performance figures and community opportunities

Robert Buchwald, Silvio Sandrone, Thomas Schrage, and Carlo Mirra
Airbus Defence and Space, Germany

The European Large Logistic Lander (EL3) is an ESA proposed contribution to the international human Moon exploration efforts. EL3 would be capable of flying a variety of missions. In the frame of the American Artemis program, EL3 would provide increased capabilities for science and technology payloads as well as supporting lunar surface asset deployment for longer surface expeditions. Besides this, also self-standing European science and exploration missions as well as a sample return scenario using gateway and Orion infrastructure for returning surface samples from the lunar far side back to Earth are part of the lander’s portfolio.

Being envisaged as a modular and versatile system, payloads could be delivered to any longitude or latitude on the Moon. Hazard avoidance capabilities would enable accessing clustered and rocky areas on the surface, which were out of reach for missions of the past. Lunar night survival technologies could allow long-term science observations and repeated operations of ISRU plants.

ESA is in exchange with the international community on the definition of common user requirements which address NASA’s needs whilst also expressing the European vision. First industrial studies have been awarded for paving the way towards a sustained exploration of the Moon. A regular exchange between the EL3 user community and the industrial teams is planned to be organized soon to allow capturing all relevant stakeholder needs right from the beginning.