Dusty Thermal Vacuum Chamber

The gateway to the lunar surface

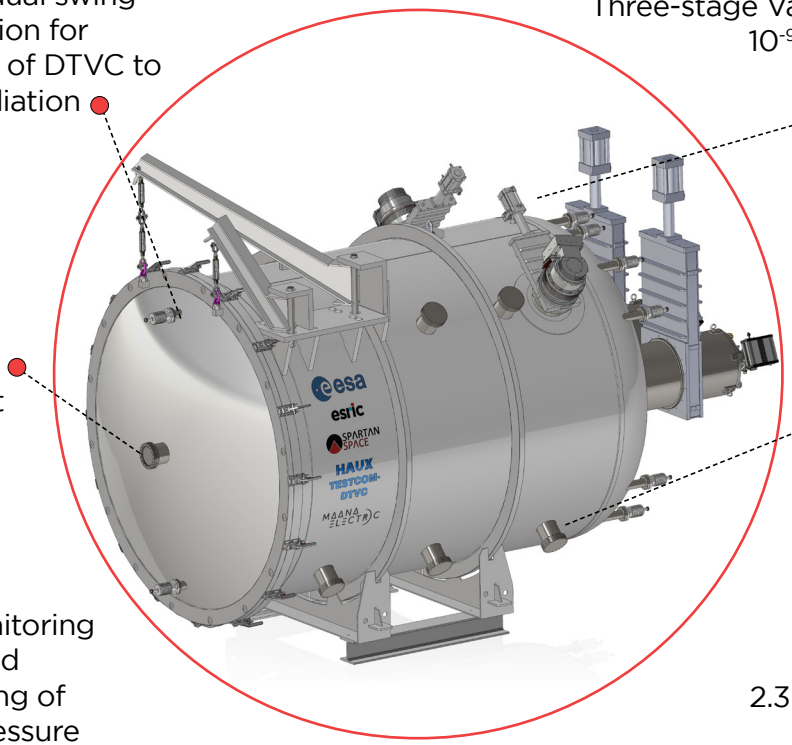
The Dusty Thermal Vacuum Chamber (DTVC) will enable the testing of critical equipment, in high vacuum, across temperature extremes and in the presence of lunar dust (regolith) simulant. With its dimensions and vacuum capacities it will be unique in Europe and will allow testing of essential hardware before embarking on lunar missions.

The DTVC is currently in manufacturing phase and will be hosted and operated at ESRIC in Luxembourg.

Technical specifications

Hatch opening dual swing arm system; option for future extension of DTVC to include solar radiation

Viewport inside the DTVC & camera/light system for remote viewing and video recording of test subject during testing



Three-stage Vacuum system to reach 10^{-9} mbar without regolith and 10^{-6} mbar with regolith simulant

Multiple spare flanges for feedthroughs for power, instruments, control, data, sampling, etc.

Features
Fully automated control and monitoring system, equipped with multi-sensing of temperature, pressure

Temperature range
Thermal management system, ranging from -180°C to +160°C

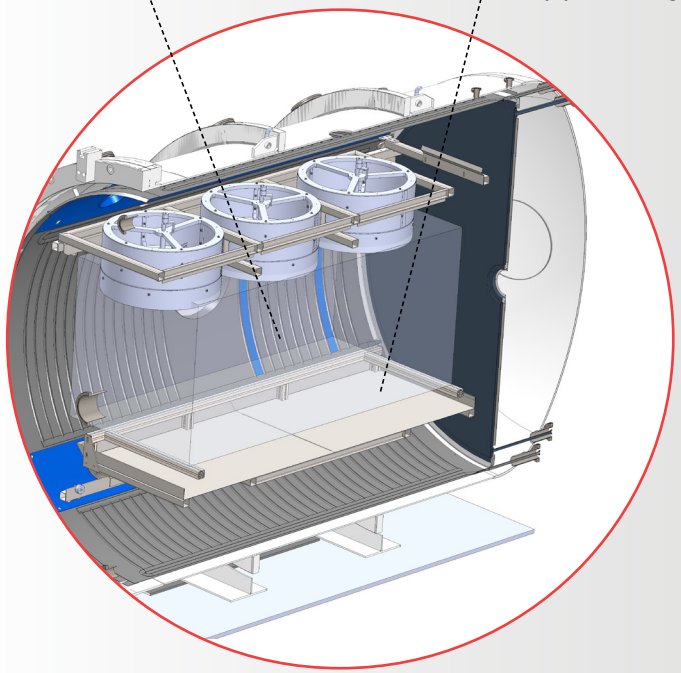
Payload volume
2.3 x 1.5 x 1.45m (LxWXH)
2.3 x 2 x 1m (LxWXH)
2.9 x 2.36m (L x D)

To find out more please reach out at:
contact@esric.lu

Dust distribution comprising of a multi-stage system will be a unique feature of the DTVC, allowing tests to evaluate the impact of dust deposition on payloads at discrete time points.

Thermal shroud lines the internal surface of the chamber for evenly distributed temperature control

Payload and regolith support tray



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