

Environmental

- Melamine foam lines the interior cavity walls, reducing sound pressure by -21.7dB
- Electromagnetic actuators powered by the launch vehicle reduce vibration by 25%
- Radioisotope Heater Units (RHUs) used to generate heat during lunar night conditions

ConOps

- Deliver up to 200kg of supplies, hardware, or rovers from SCS to bases up to 300km
- Capable of navigating and landing in hazardous terrain with a precision of 10 meter accuracy
- Repairable and upgradable by pressure suited astronauts

Structures

- Metallic frame consists of 6061-T6 Al.
- Landing pads fashioned of Aluminum Flex-Core for shock absorption and regolith impingement.
- Four fixed Aluminum legs for stability and rigidity during flight and landing.

Abeona: Built To Go The Distance

Budget

- Direct costs and hardware: 40% budget
- Manufacturing and Labor: 20% budget
- Testing: 30% of overall budget
- Surplus: 0.05 billion USD

GNC

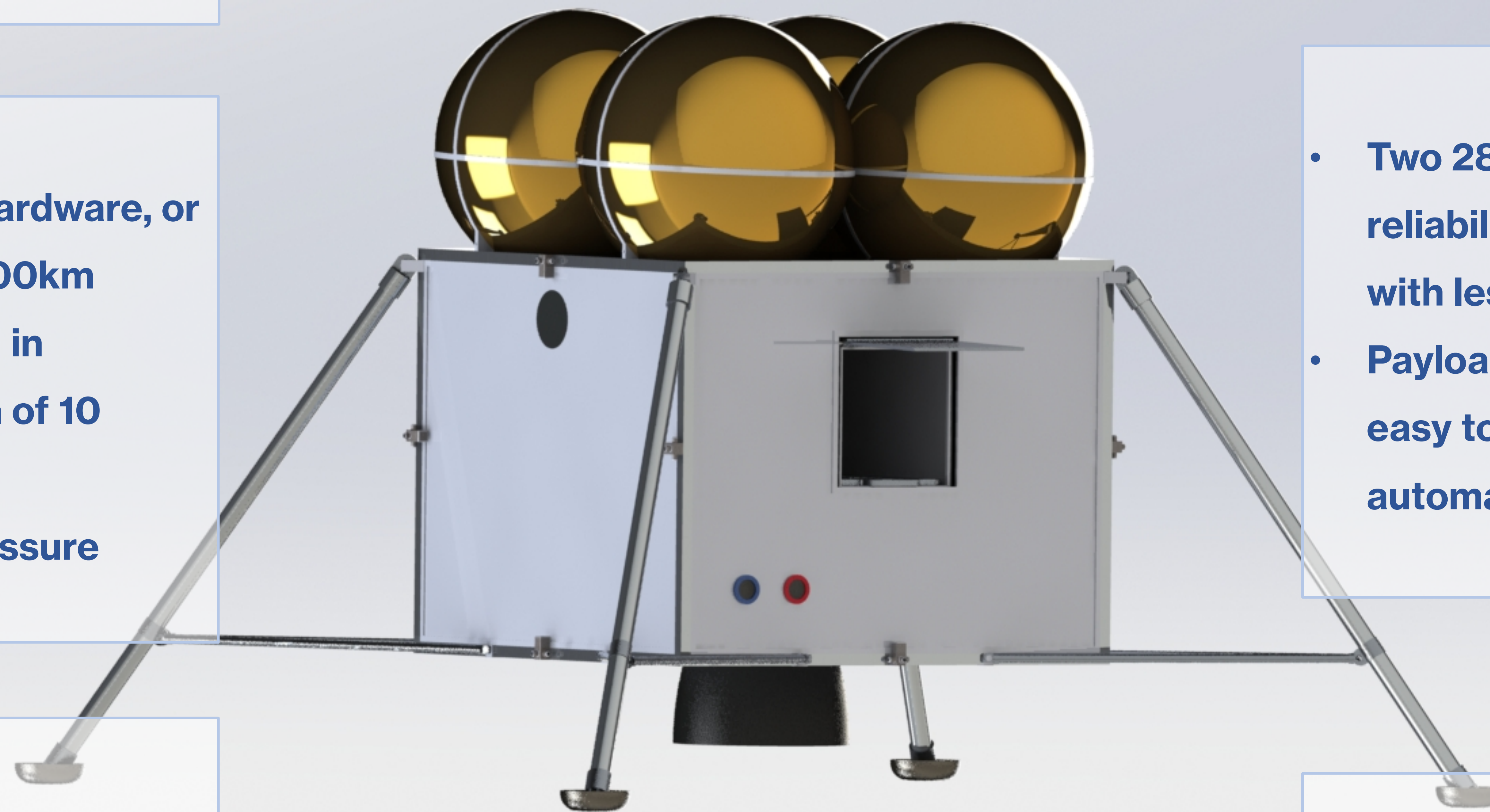
- Attitude is determined using star trackers, gyroscopes, and accelerometers.
- The attitude control system consists of gaseous nitrogen cold gas thrusters
- Landing and descent is controlled by NASA's SPLICE technology

Electrical

- Two 28V Lithium-Ion batteries to provide reliability and 80+ hours of support time with less power consuming instruments
- Payload bay has an interface that is very easy to access with the use of an automatic door

Propulsion

- LOX/CH₄ propellant
- Supercritical Helium pressurized system
- HD4 rocket engine pulled from Project Morpheus
- Throttleable, 19,000 N, I_{sp} of 321 sec



If you would like to see more please join us for CDR 04/21 from 4:05-4:55 PM