ESR Space

Insight into Motion

Redefining Extreme

Resilient Mechanisms for Harsh Space Environments

Photo credit: NASA

ESR Redefines Extreme

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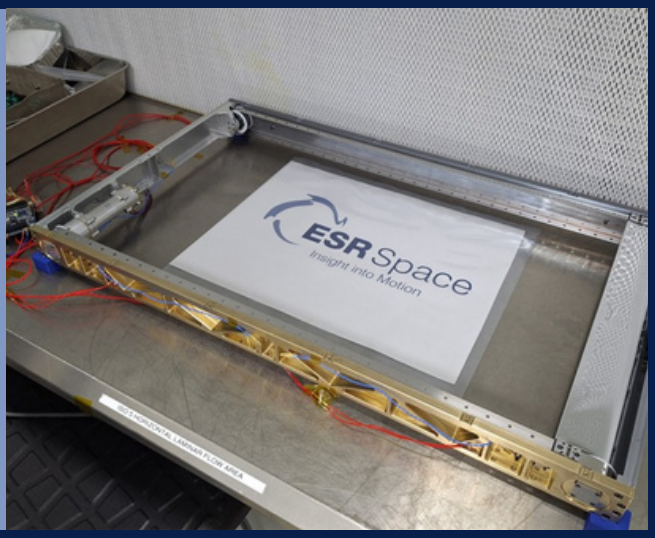
Insight into Motion

- Thermal Control Devices with dust protection

Thermal Shutter

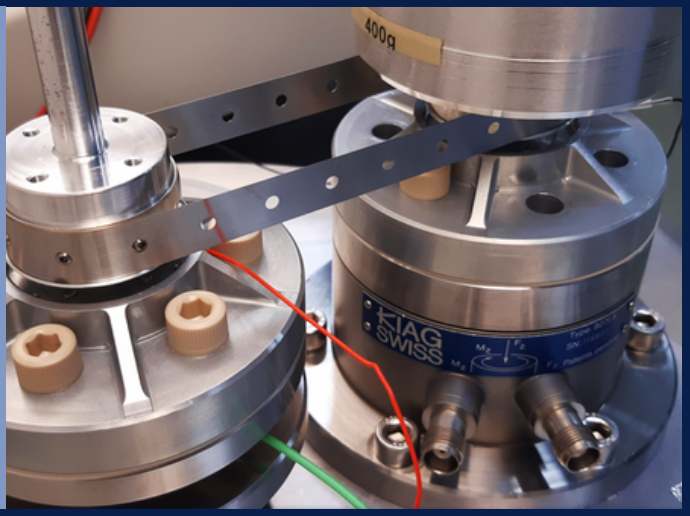


- *Enable night survival with minimal heating*
- *Power <1W*
- *Active control of radiator area*
- *Tested -150 to 120°C*
- *Protect from dust*

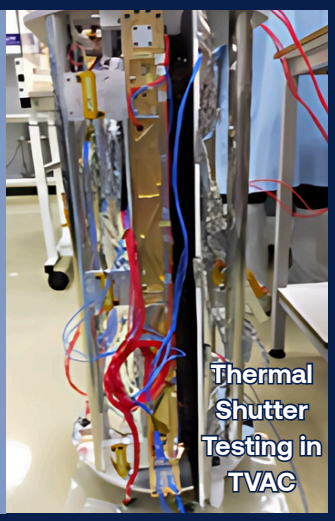
- Testing Capabilities

Turn-down ratio characterisation, dusty testing, charge management

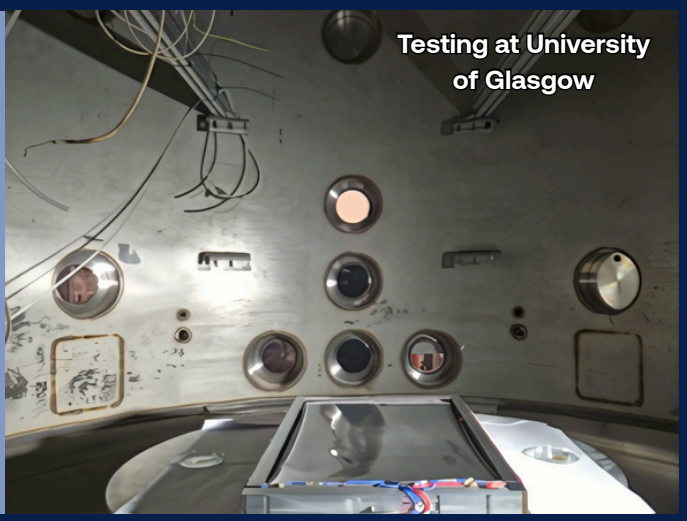
Test Rig: Seal life/ Blushing Conduction



Cryogenic & Hot Testing (In-house)

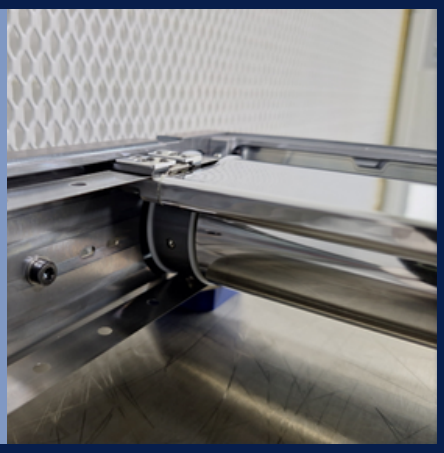


Dusty Testing Experience

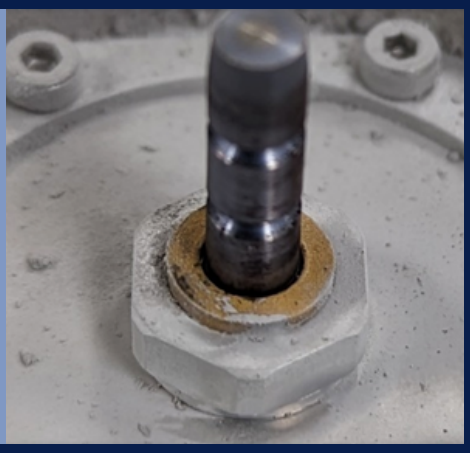


- Dust Resilient Drive Mechanisms

Metallic Belt Drive System

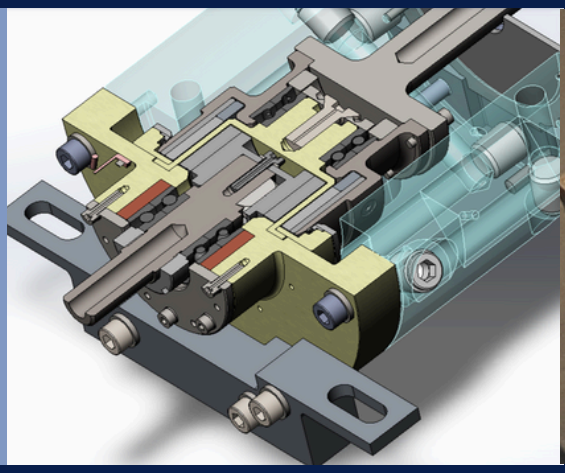


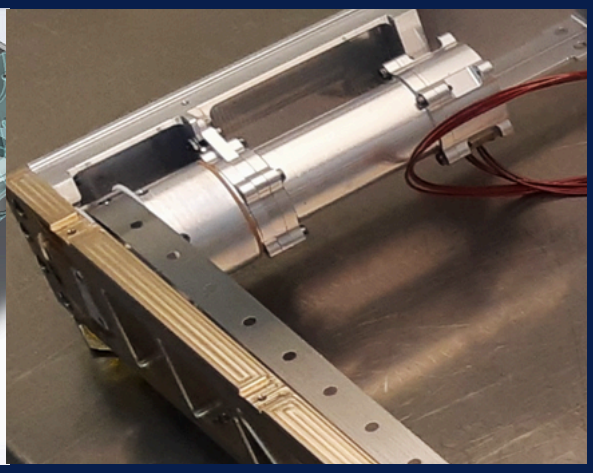
Sliding Seal Solutions



Metallic belts, sliding seals provide dust resilient drive options for bearing or bushes.

Scalable Magnetic Coupling

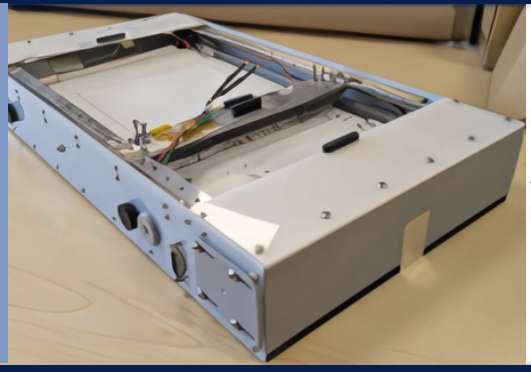


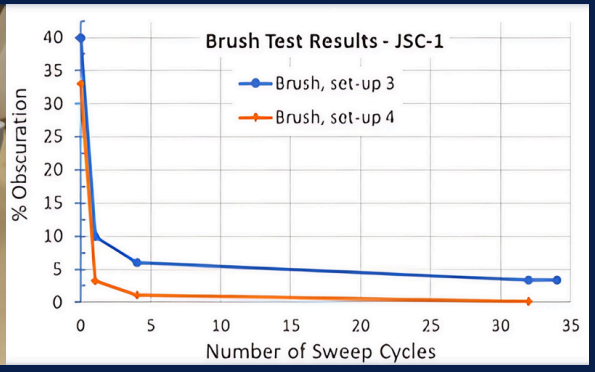


Scalable coupling allows to seal motor/gearhead from dust, while providing overdrive protection

- Dust Mitigation R&D (Radiators, Solar panels) – Sweeping, EM, piezo options

R&D for Dust Mitigation (UKSA GEA)

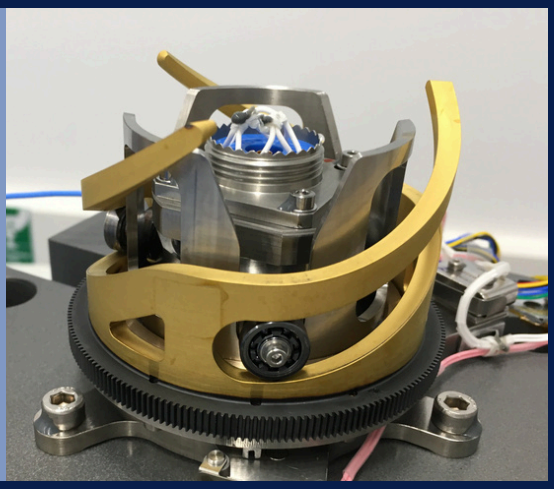




Partner with **ESR Space** to develop dust-resilient mechanisms & dust mitigation methods.

- Achieve reliable operation - cryogenic to high temperatures with minimal power and mass.
- Tailor our scalable thermal control devices to protect critical surfaces from dust.
- Access ESR's experience to plan and conduct dusty testing of mechanisms.

Umbilical Separation Device



Mechanism design for the Mars environment to enable autonomous connection separation/mating – also of interest for Lunar gateway applications.

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Contact for more information:
andrew.gibson@esrtechnology.com

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