

What Puli is looking for on the Moon

Spacetech Houston 2022-01-26

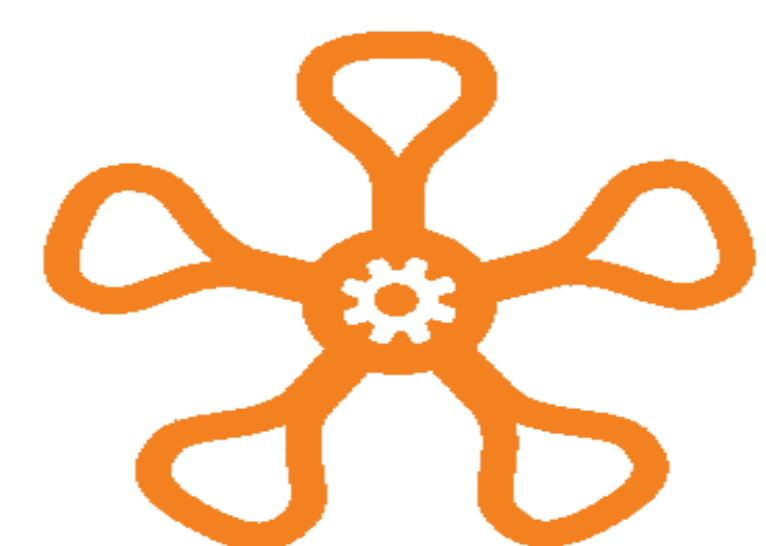




Founded 2010 June

**Participated in the Google
Lunar XPRIZE**

**2016 August
Moon Delivery Contract**



pulispace.com

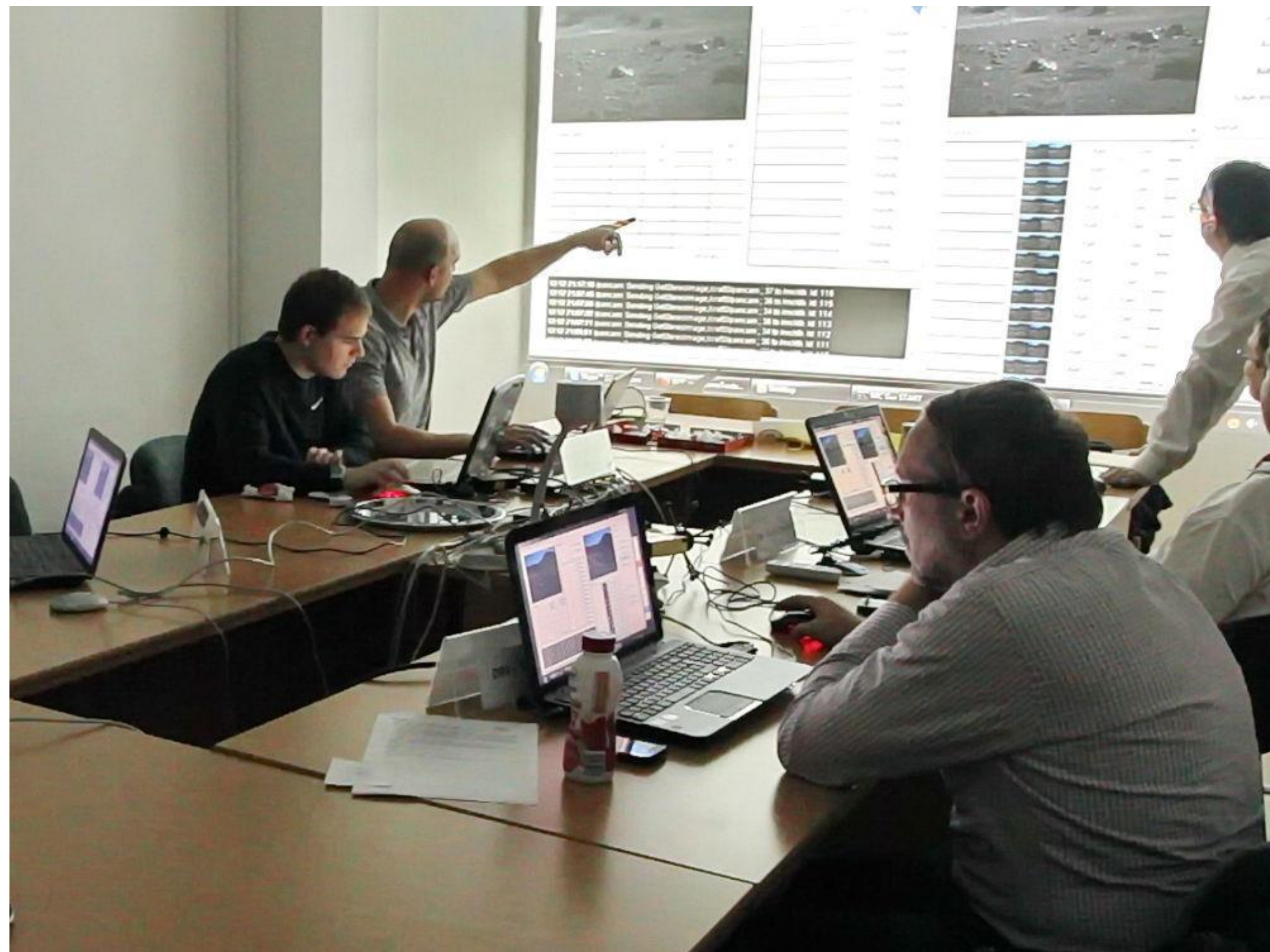


[/pulispace](https://www.facebook.com/pulispace)



[/company/puli-space](https://www.linkedin.com/company/puli-space)

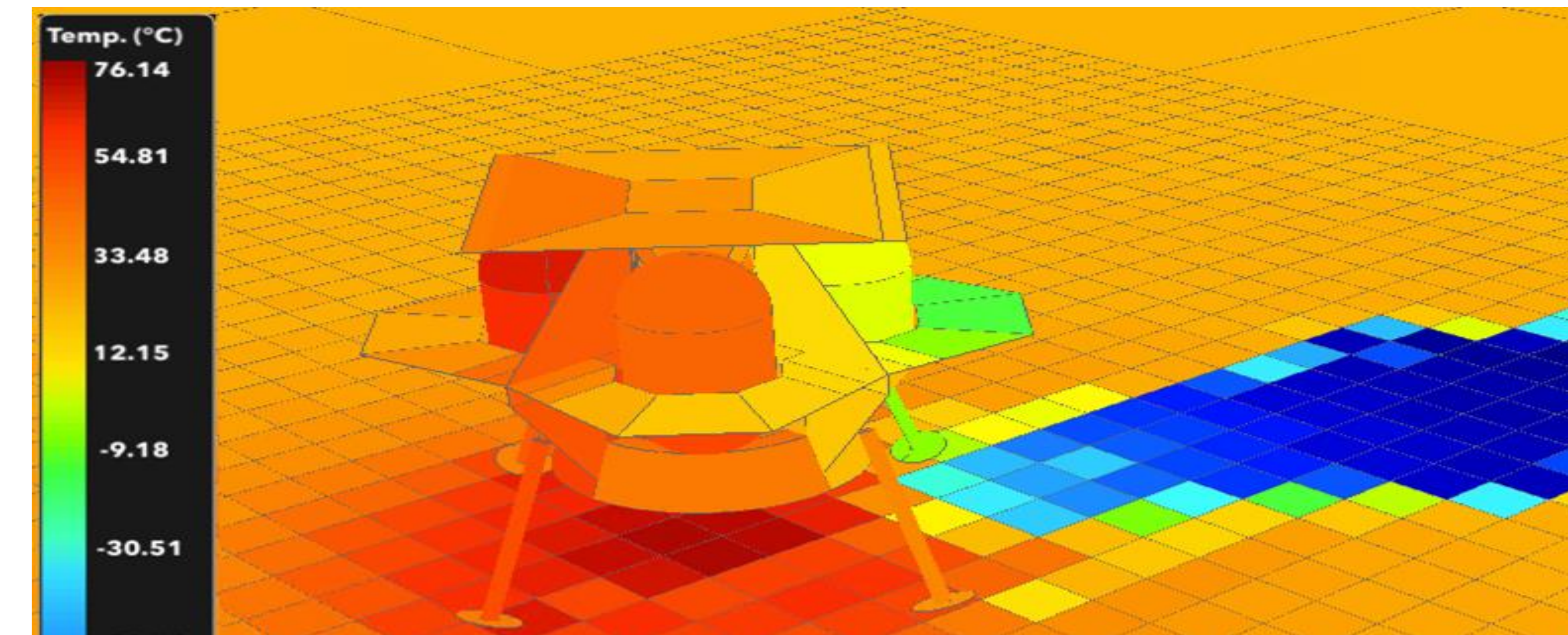
Field Tested prototypes



Knowledge in Lunar Science & Mission Design



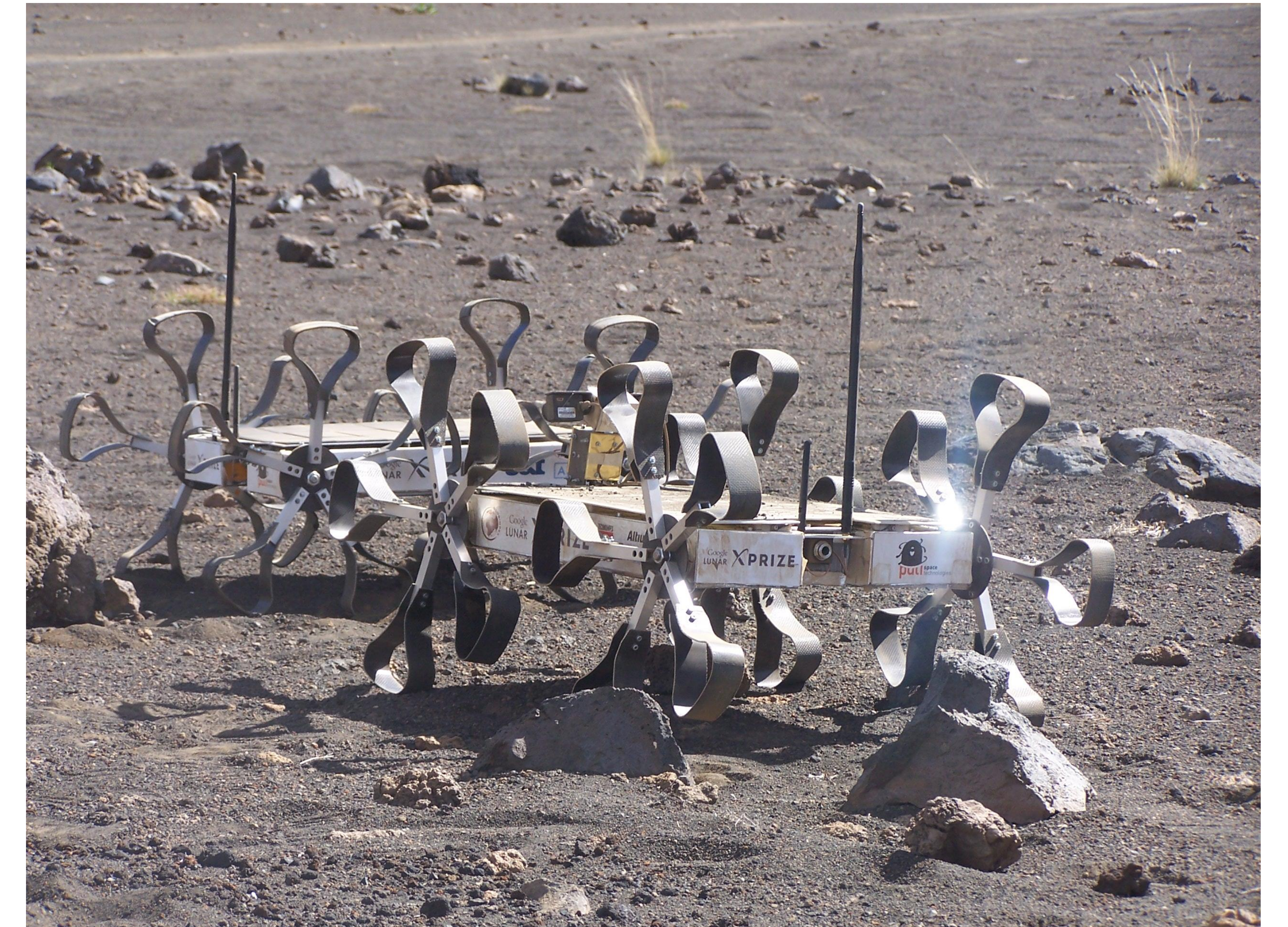
Experience in Remote Controlled Operations





MARS2013 (OeWF)

- Moroccan desert
- Proof of concept

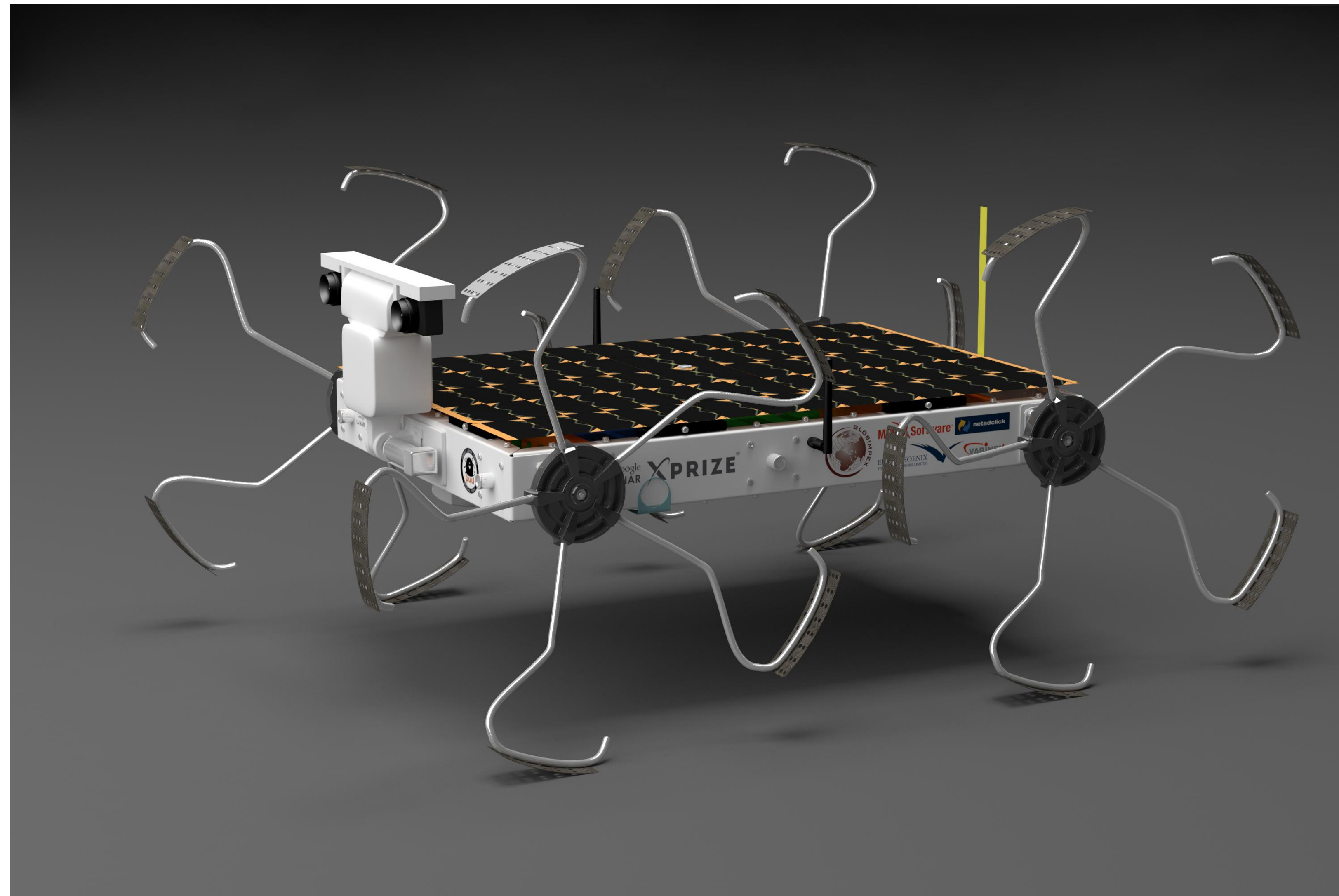


Mission Maunacast 2013 - PISCES, GLXP simulation



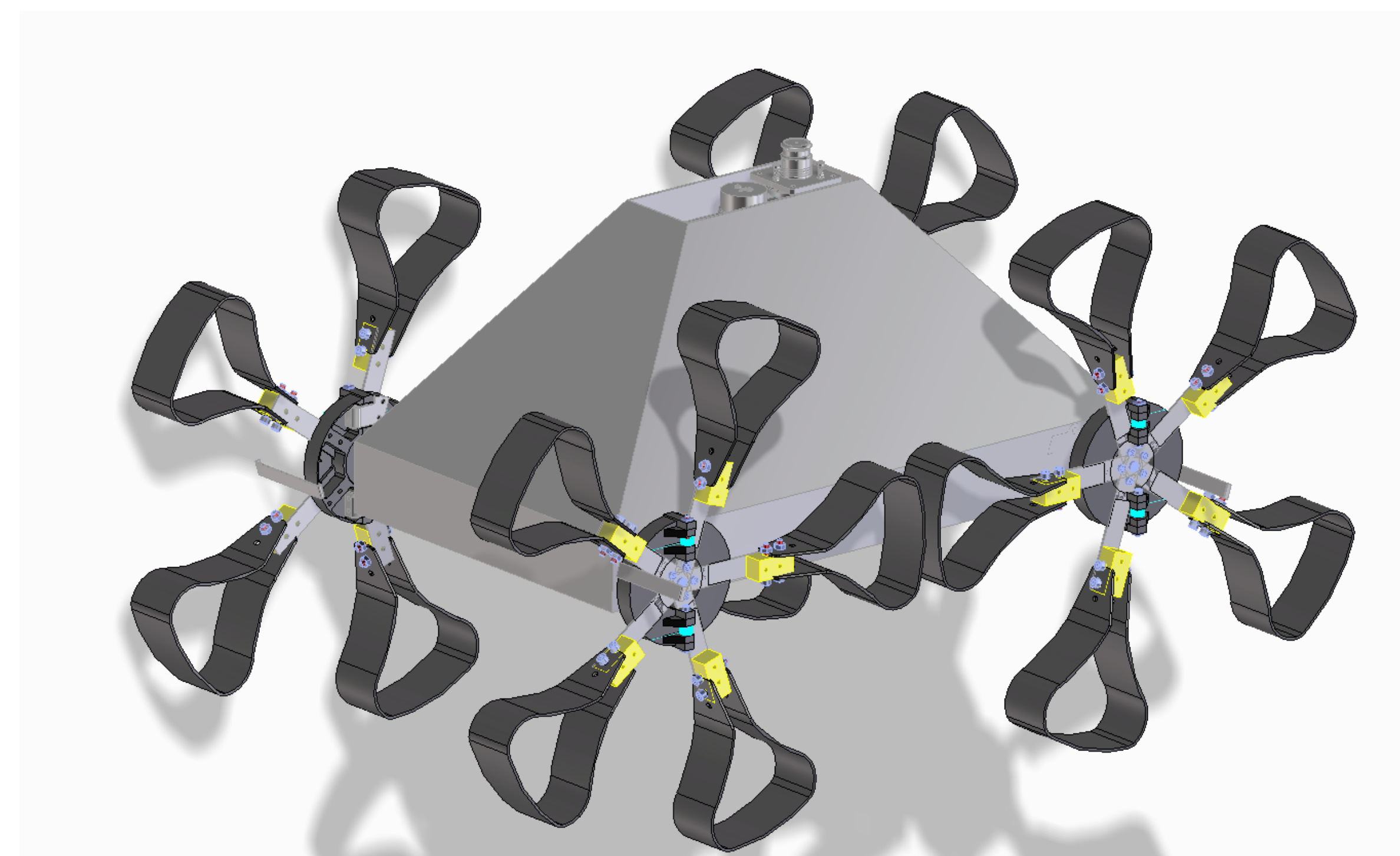
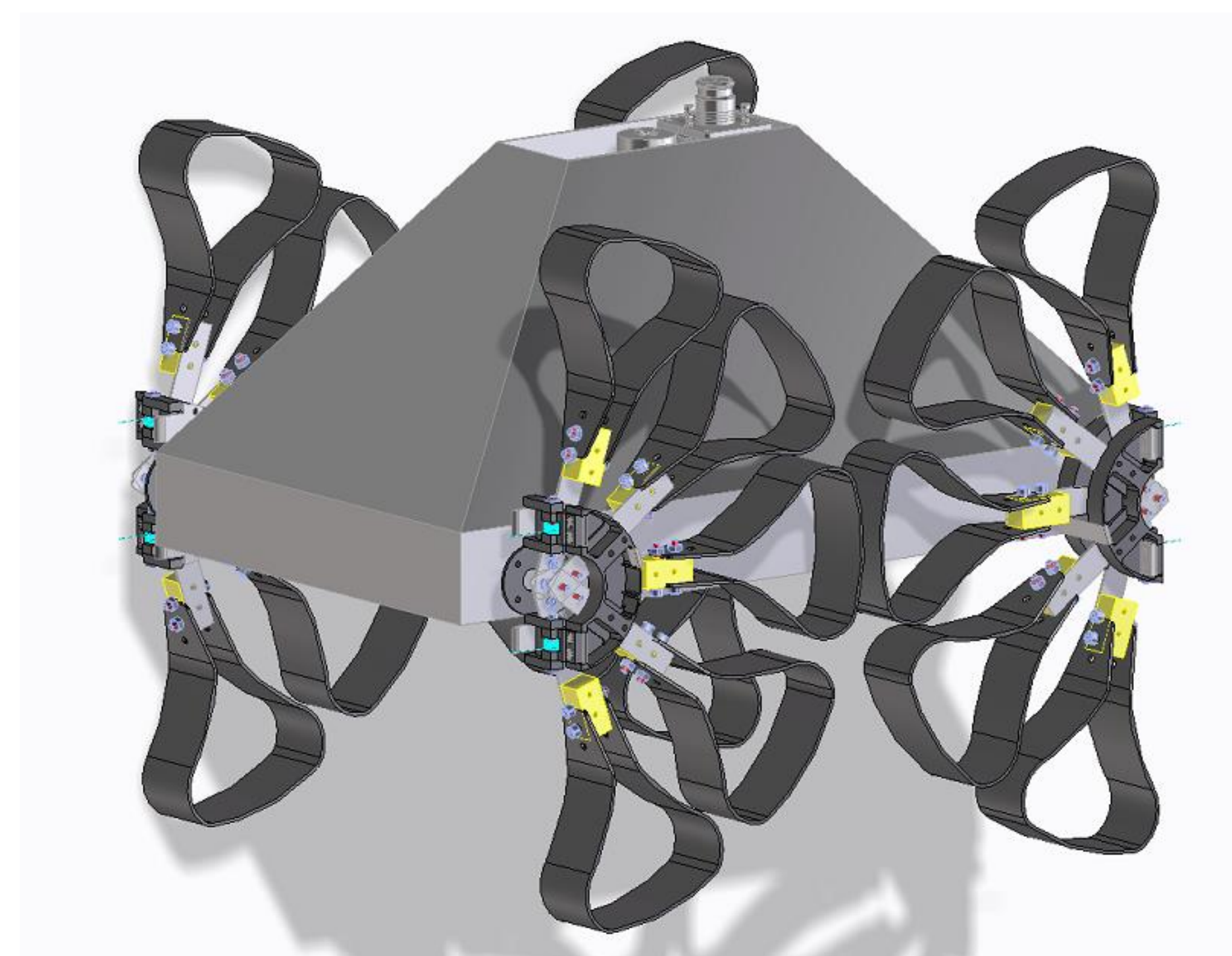
AMADEE 15 (OeWF)

- Kaunertal, Austrian Alps
- Rover assistance to human explorers



Concept study

- WHEG variant
- 10 kg class
- 100 cm x 60 cm x 40 cm



OpenWHEG concept

- Folded WHEGs
- 5 kg class
- 45 x 40 x 38 cm -> 78 x 40 x 38 cm

Advantages

- Simple
- Robust
- Scalable
- Foulproof
(almost)

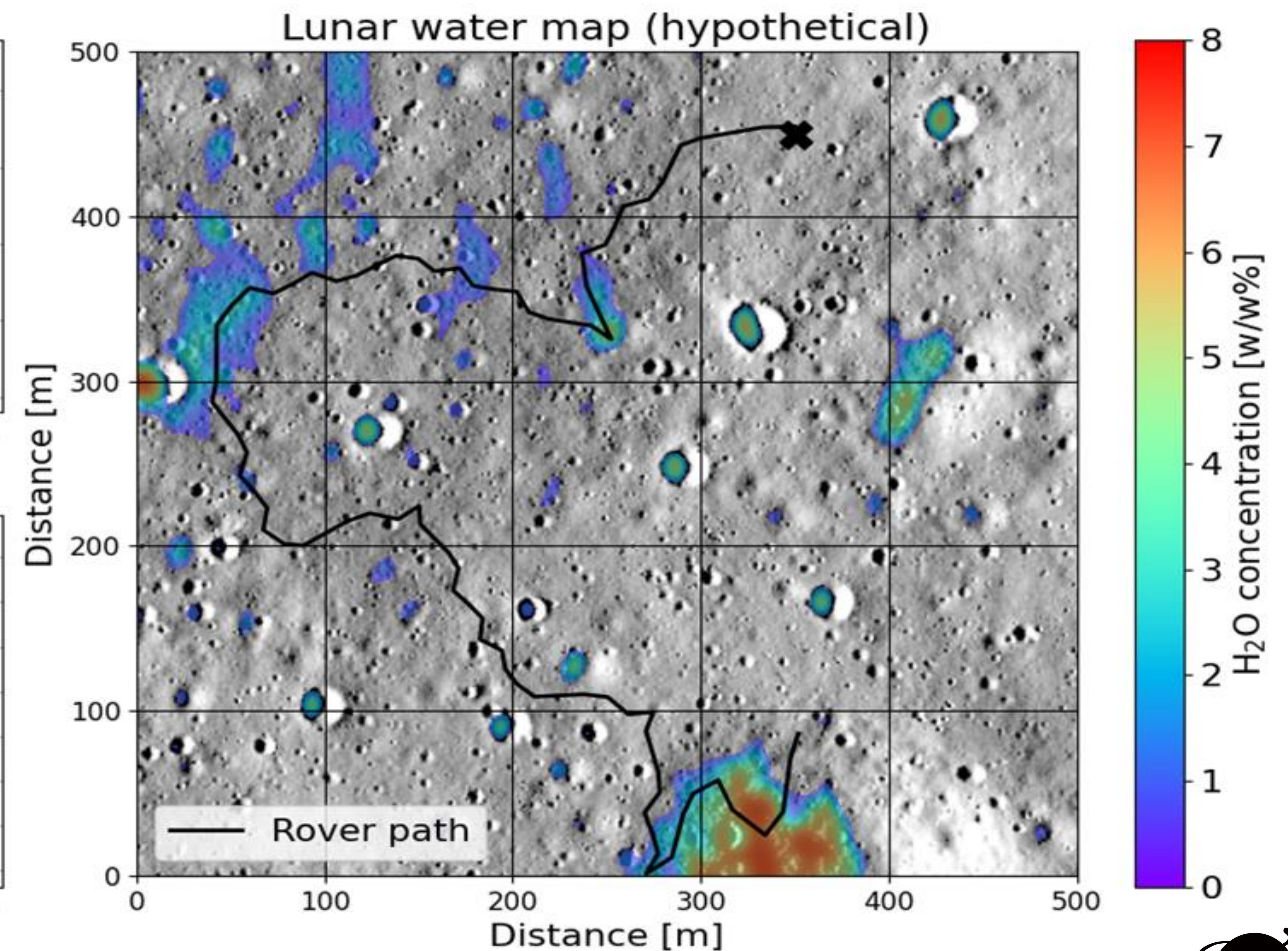
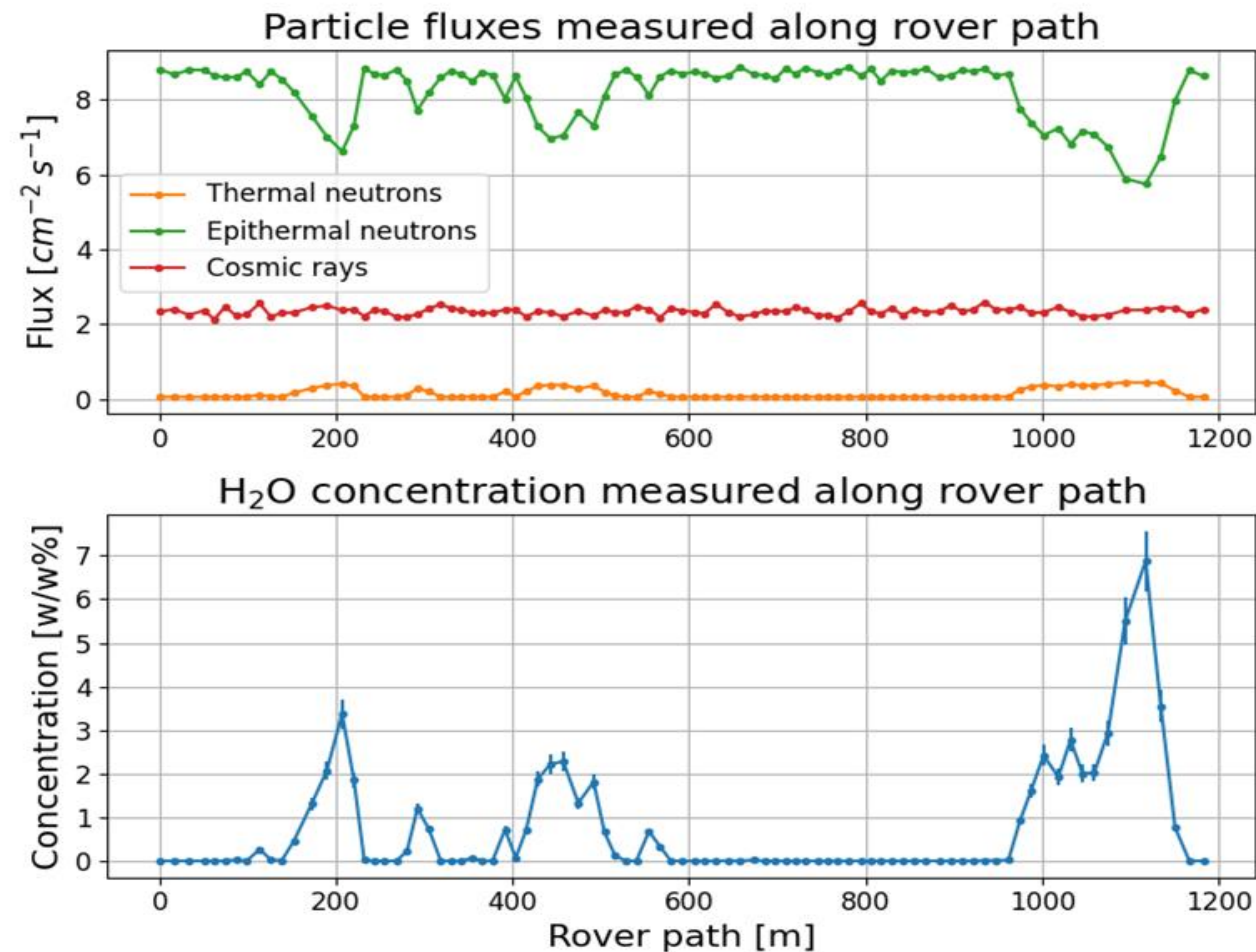
- Click on image for video / link:

<https://www.youtube.com/watch?v=JbWc9LA39L4>



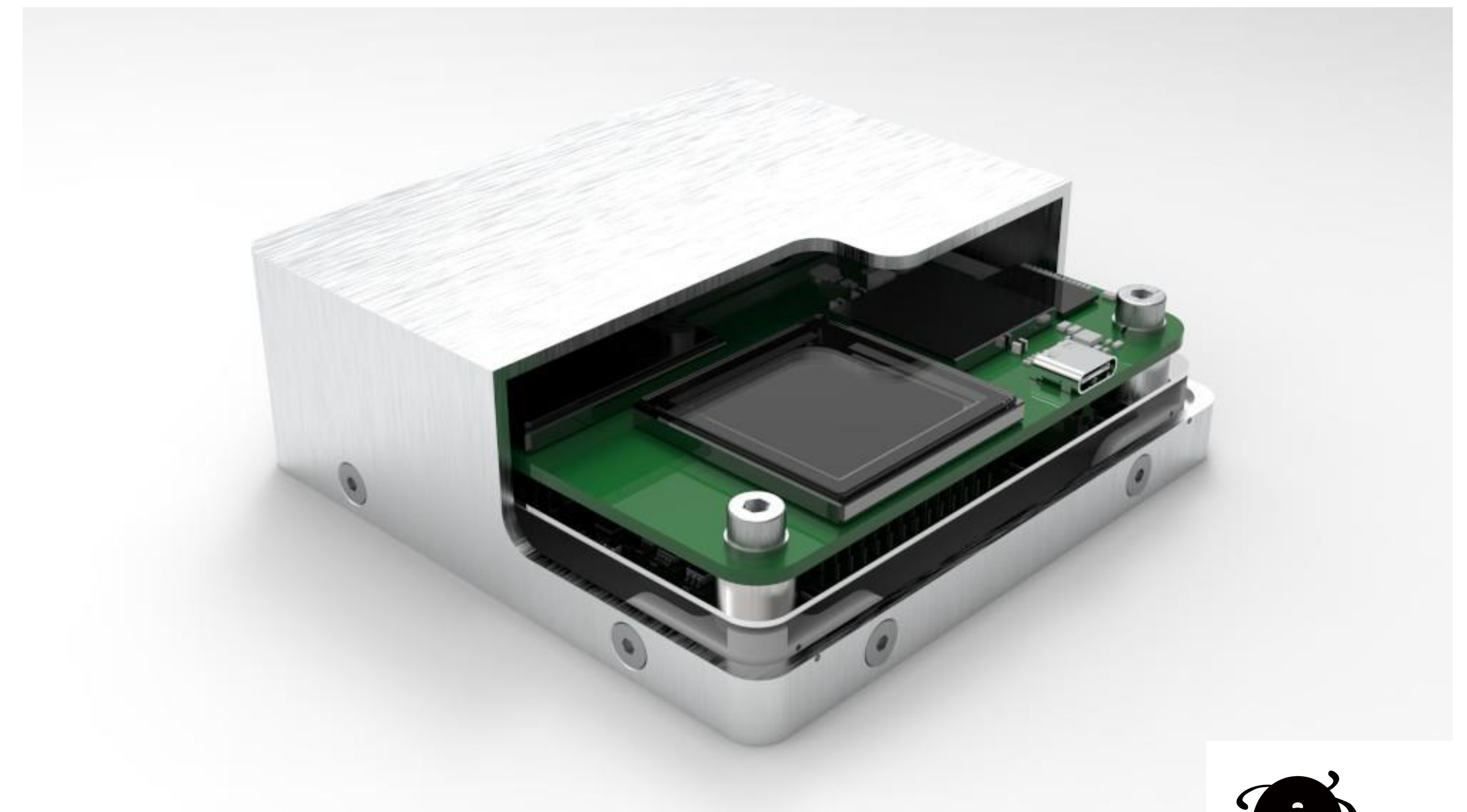
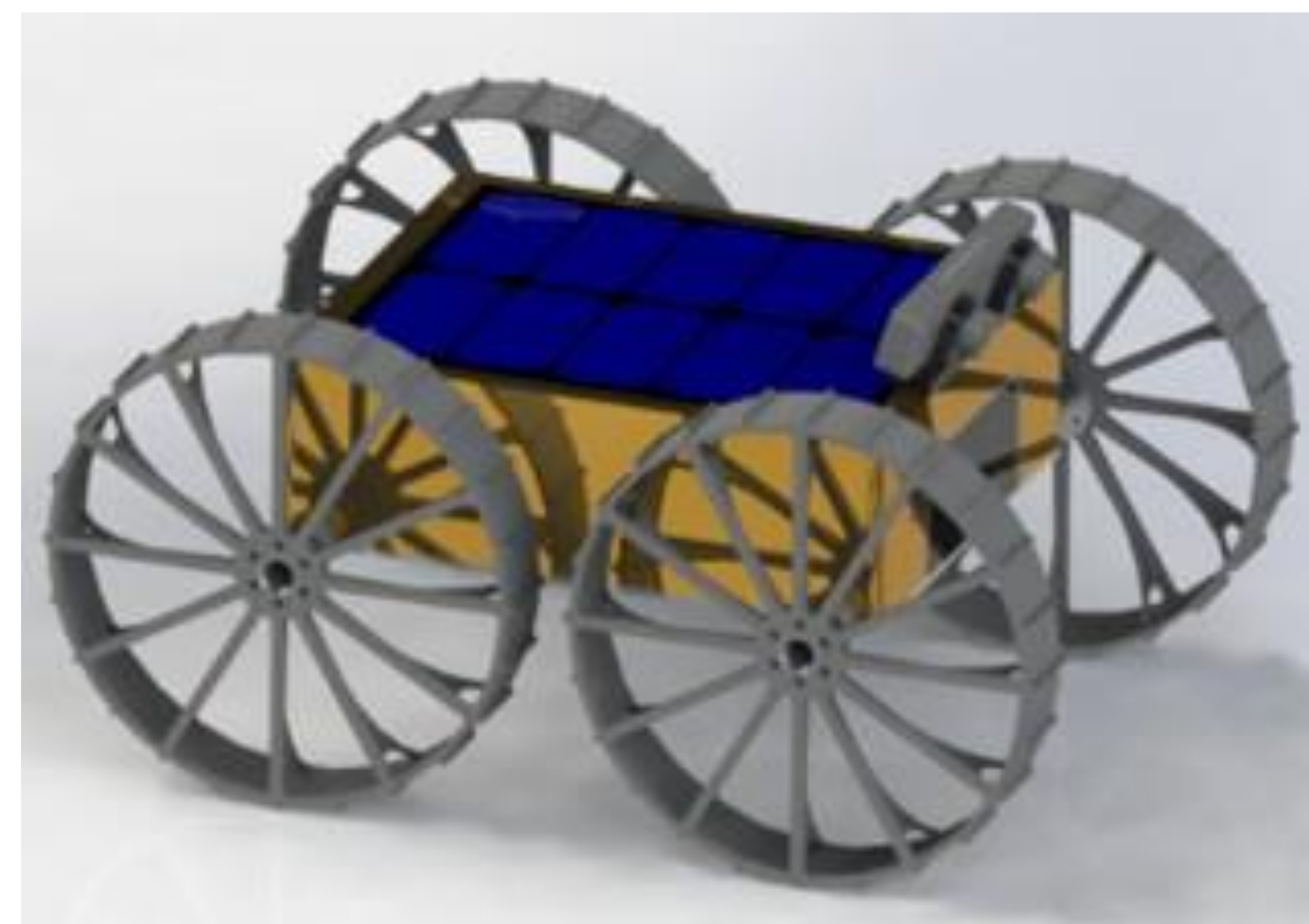
Mapping water on the Moon

- By detecting neutrons, lunar subsurface H resources can be mapped spatially with very high resolution
- Addresses scientific goals of NASA Artemis program, and need of the Space Resources/ISRU community



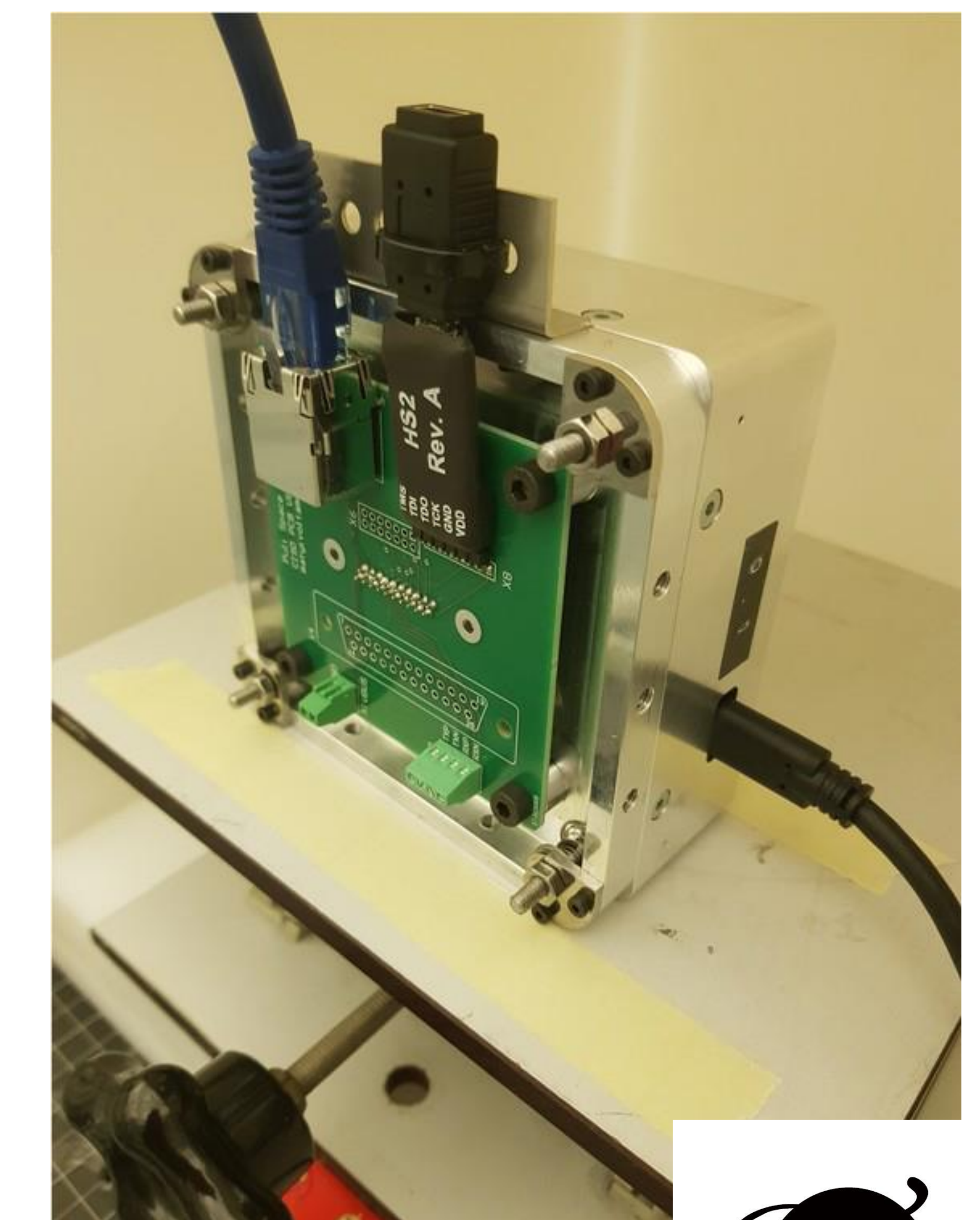
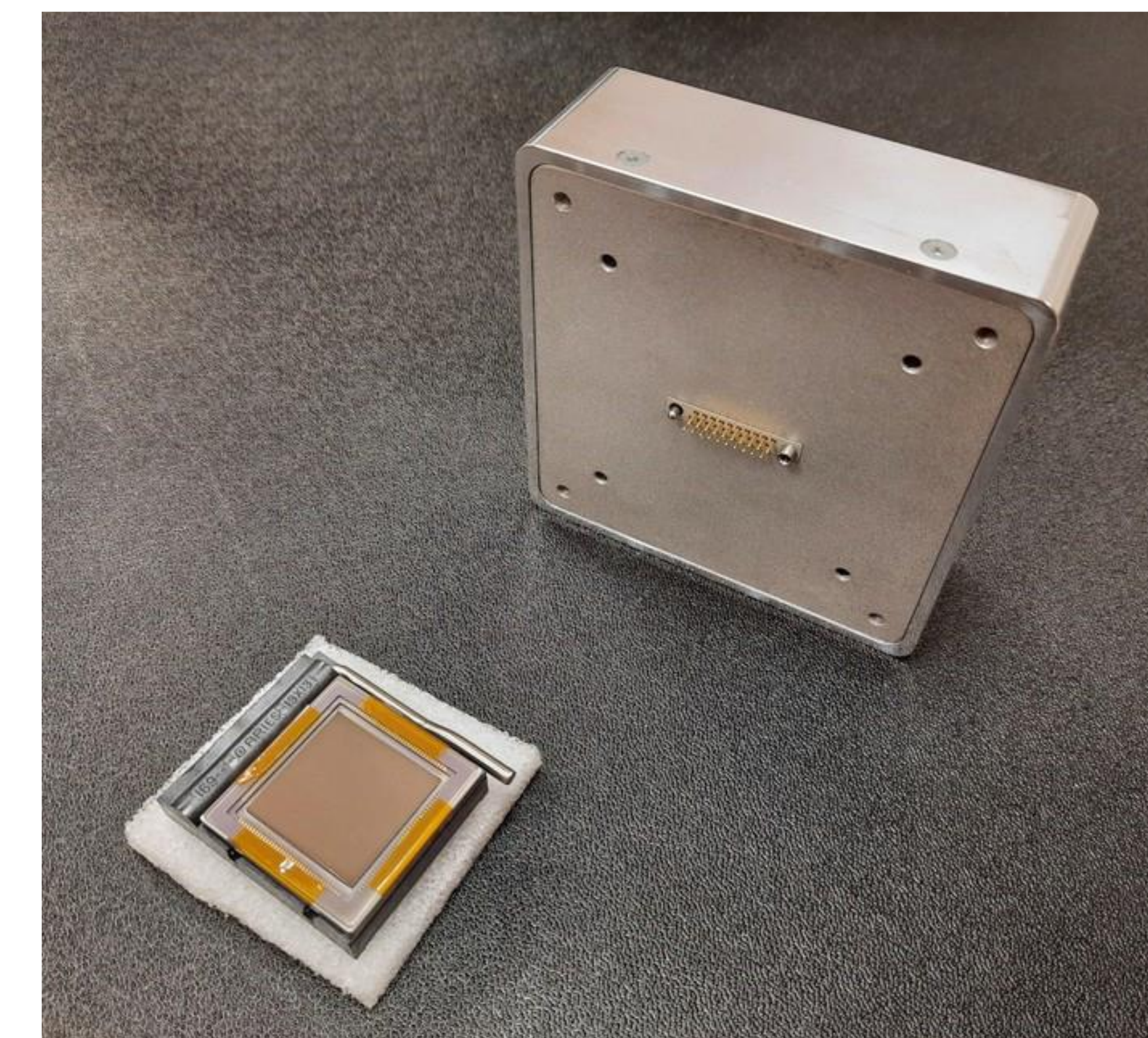
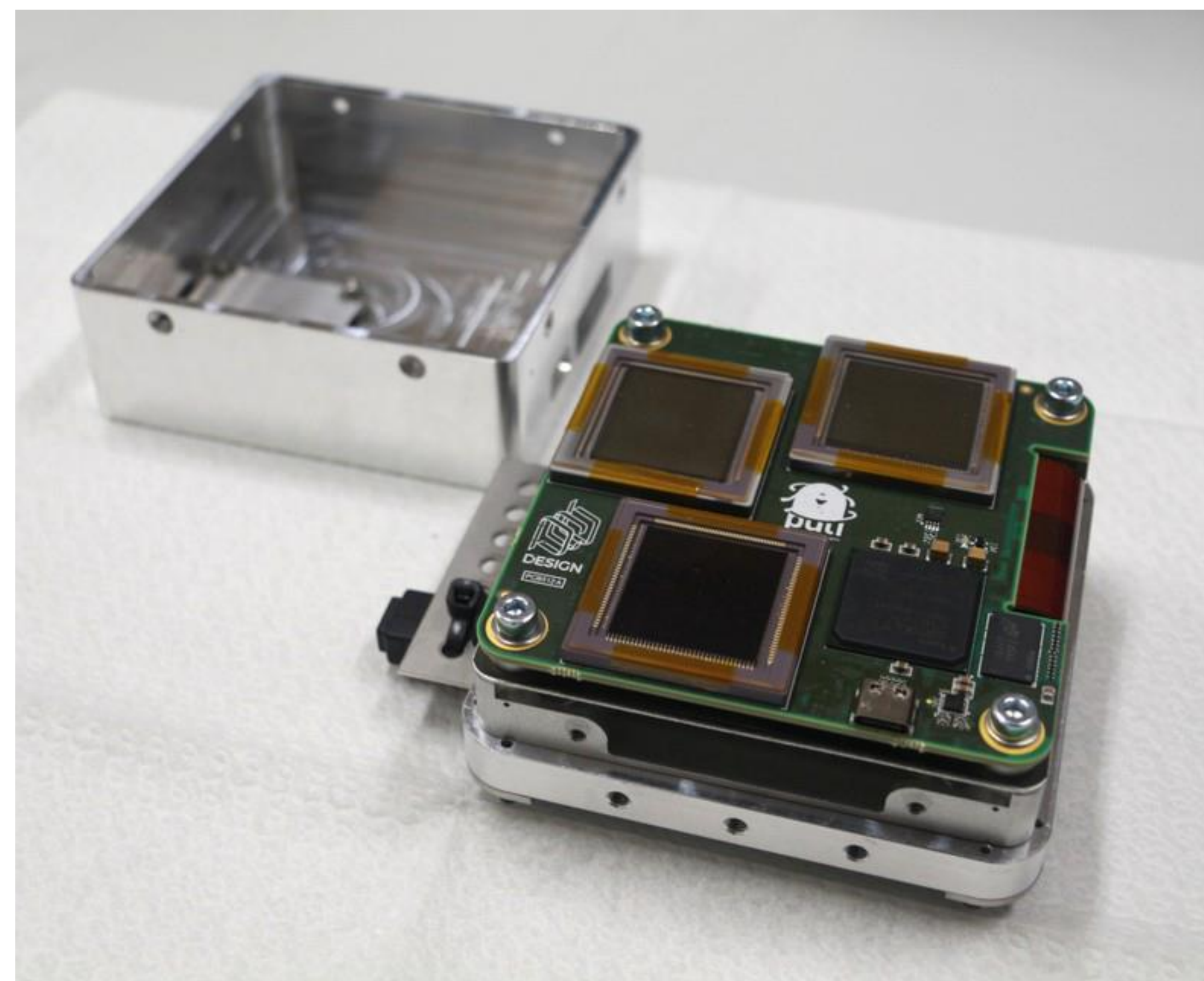
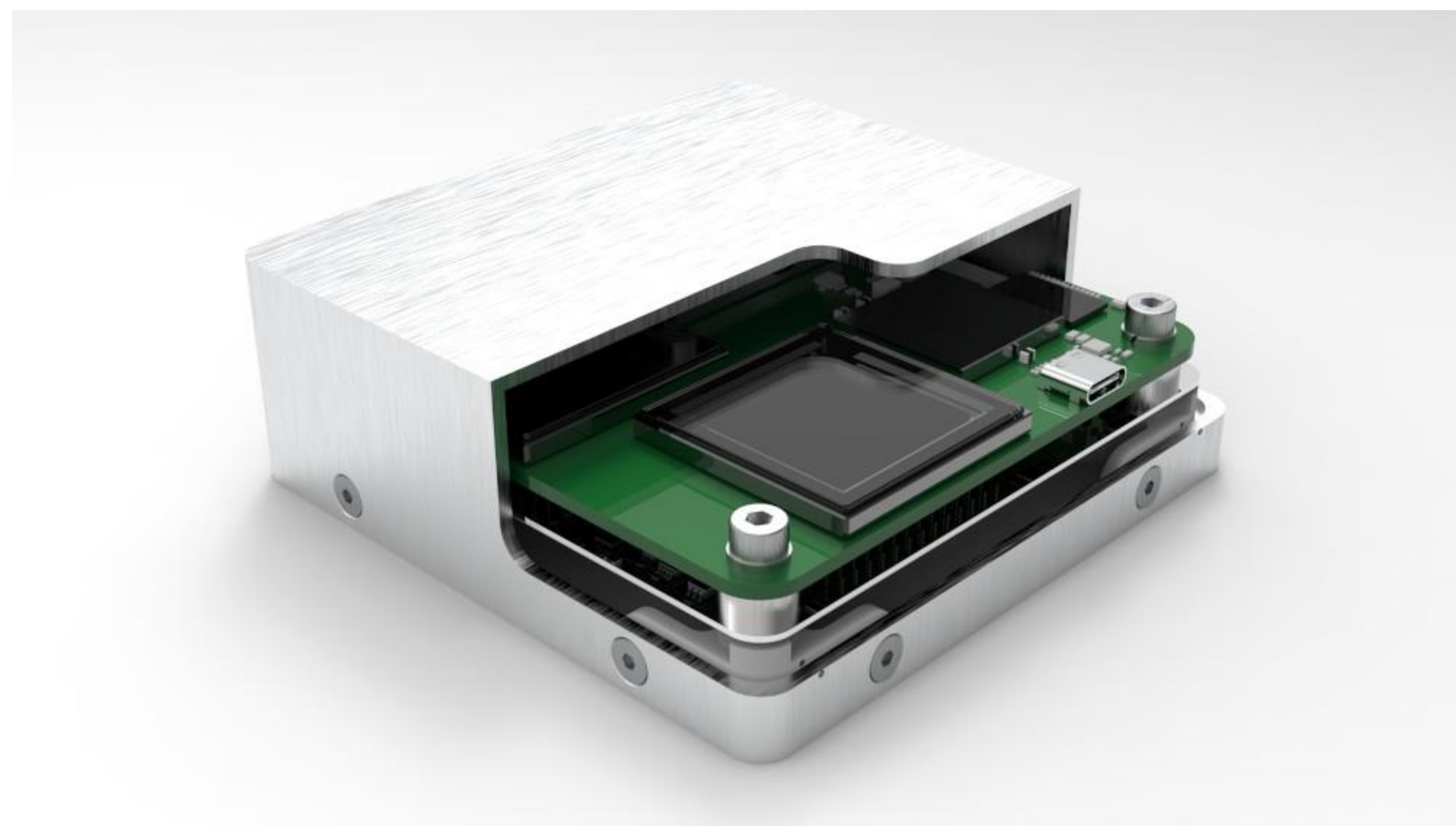
Puli Lunar Water Snooper - PLWS

- A neutron spectrometer payload using 3 MOTS sCMOS image sensors as detectors
 - Thermal neutrons, Epithermal neutrons and Reference Sensor
- Low-cost, COTS-based system with an FPGA
- 10cm × 10cm × 3.4cm, ≤ 400 grams
- Power: 7-12 VDC, ≤ 4 W
- Coverage: 1–7 m² area, max. 1 m depth
- Ideal host craft: (small) lunar rovers
 - Cuberover (Astrobotic), CADRE (NASA),

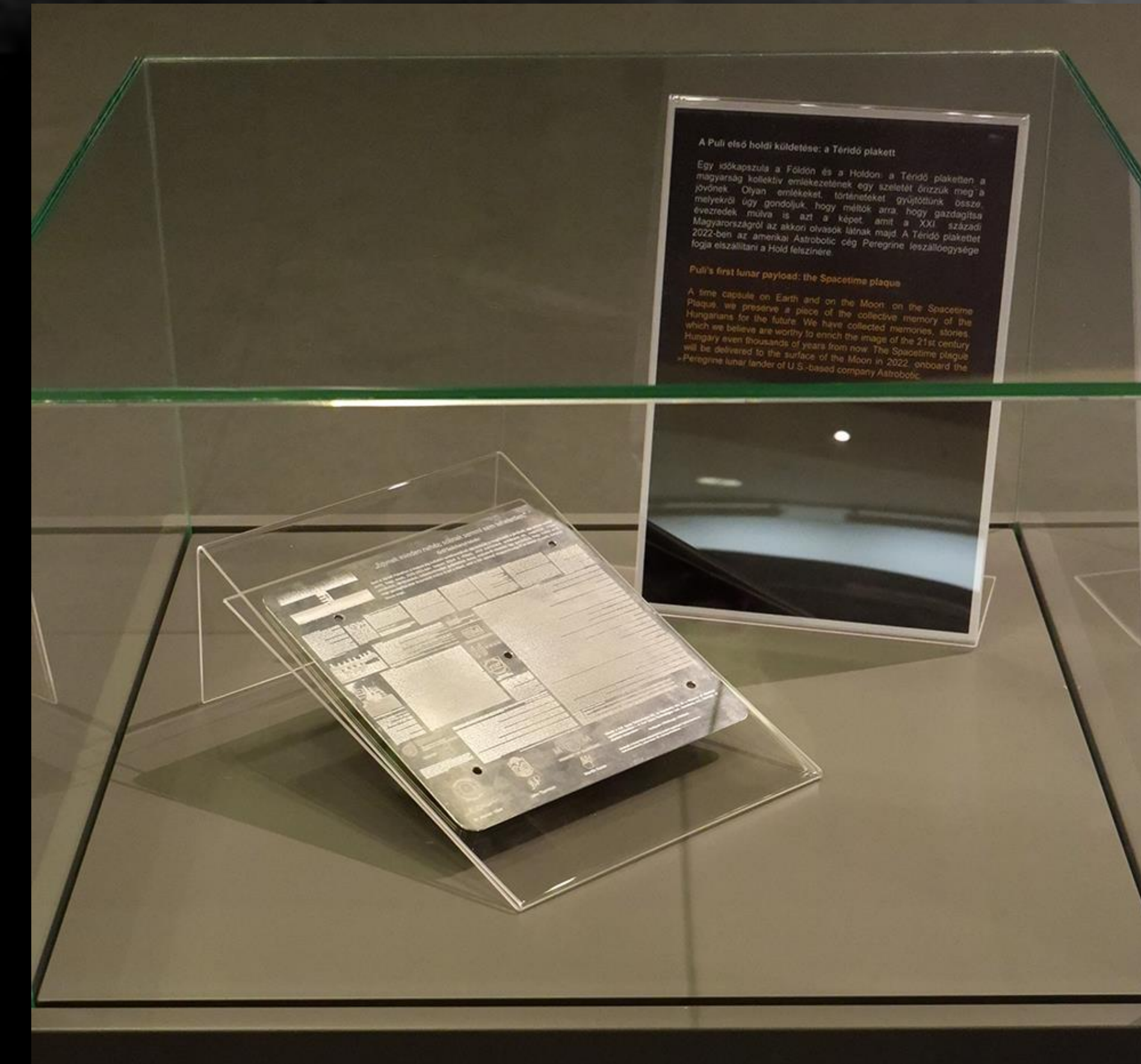


Puli Lunar Water Snooper - PLWS

- “Honey, I Shrunk the NASA Payload!” challenge by NASA & heroX
 - 2020 July - First prize
 - 2021 January: „The Sequel” - Won NASA funding & support for a 1-year development period
 - 2022 February: Delivery of 3 prototypes to JPL
- Collaboration partners: PCB Design, FPGArt, Elektromont, Nanosensors Lab, Kiskutya („Little dog”), CERN
- Terrestrial Applications - ESA Space Resources Study
 - Radiation monitoring in neutron/mixed-field/accelerator environments: Cooperation with CERN
 - Soil moisture monitoring on agricultural arable lands



See You on the Moon!

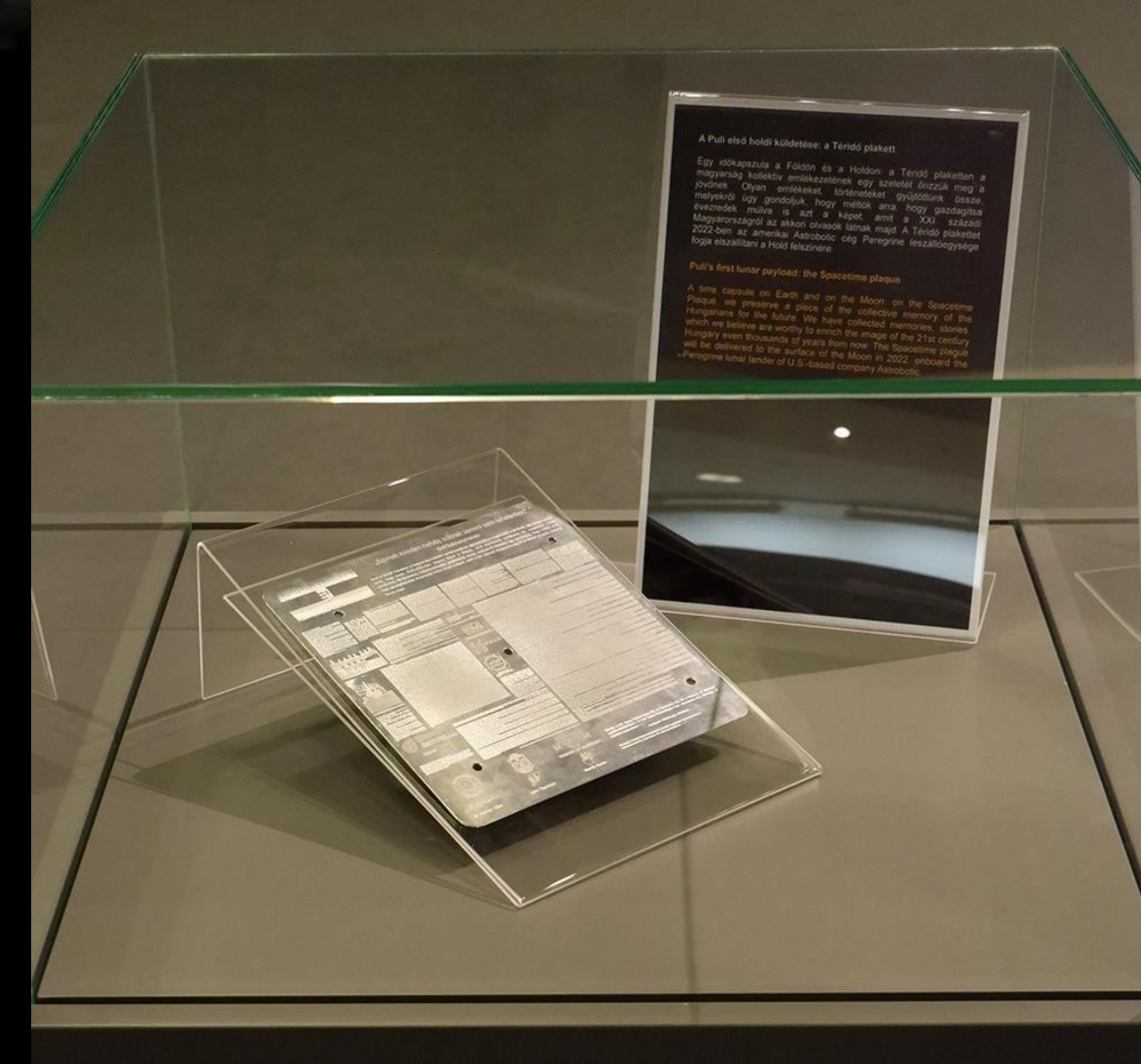


Puli SpaceTime Plaque
- Peregrine, Astrobotic Mission One
- Lacus Mortis

Spacetech Houston 2022-01-26



See You on the Moon!



Puli SpaceTime Plaque
- Peregrine, Astrobotic Mission One
- Lacus Mortis

Thank You for Your attention!

Spacetech Houston 2022-01-26

