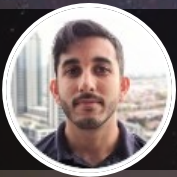


# Critical Enabling Capabilities for Lunar Surface Missions & Infrastructure



MISSION CONTROL™



Kaizad Raimalwala  
Director, Business Development  
kaizad@missioncontrolspace.com

**Space Resources Roundtable 2026**  
Golden, CO  
June 4, 2026



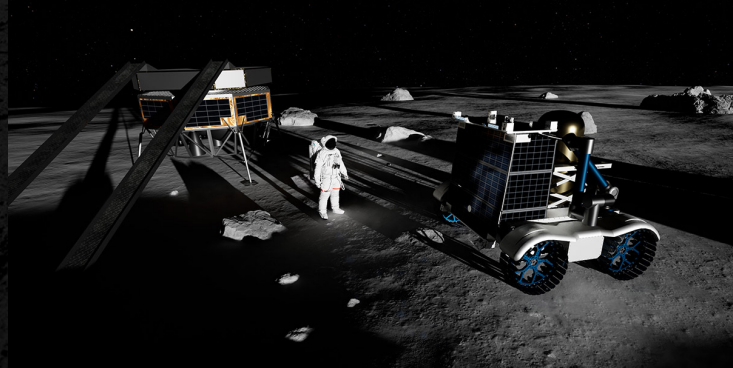
HQ in Ottawa, Canada  
Rover Development Facility near Toronto, Canada  
Founded in 2015, 40+ employees

## 4 Lunar Rover Missions

2 Complete  
2 in 2026

## CSA Lunar Utility Vehicle

Prime on Rover Ph0 & Tech Dev  
Prime on Sci Instrument Ph0 & Tech Dev

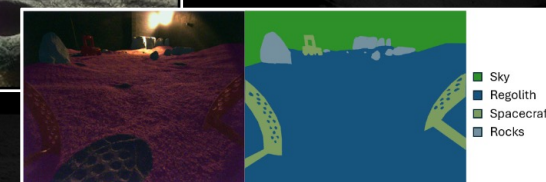


## EdgeAI for Lunar Rovers – TRL 8

Tech Demos:

2023: MoonNet on ispace M1

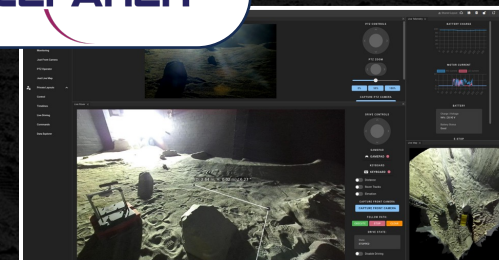
2026: BEACON mission with Astrobotic



## Rover Operations Suite – TRL 8

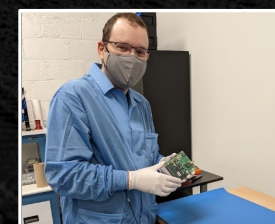
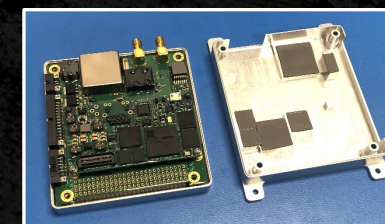
C2 with visualization, nav, map support  
Integration with YAMCS and others  
Licensed for multiple lunar rover missions

**SPACEFARER™**



## P2P Surface Radios – TRL 8

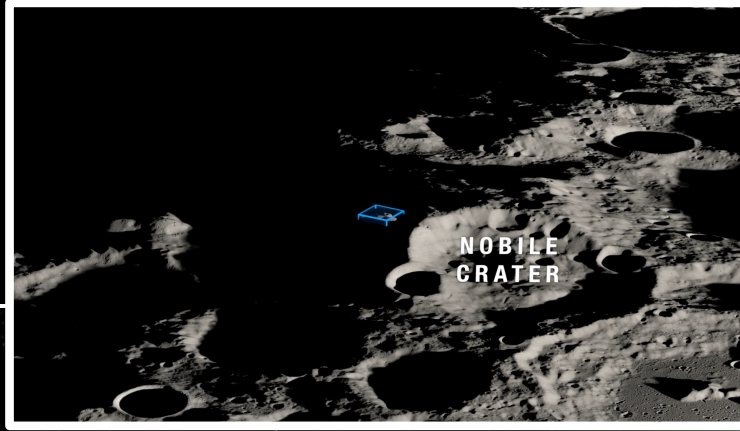
Low SWaP and easy integration  
LoRa/GFSK modes  
Delivered to 2 lunar rover missions





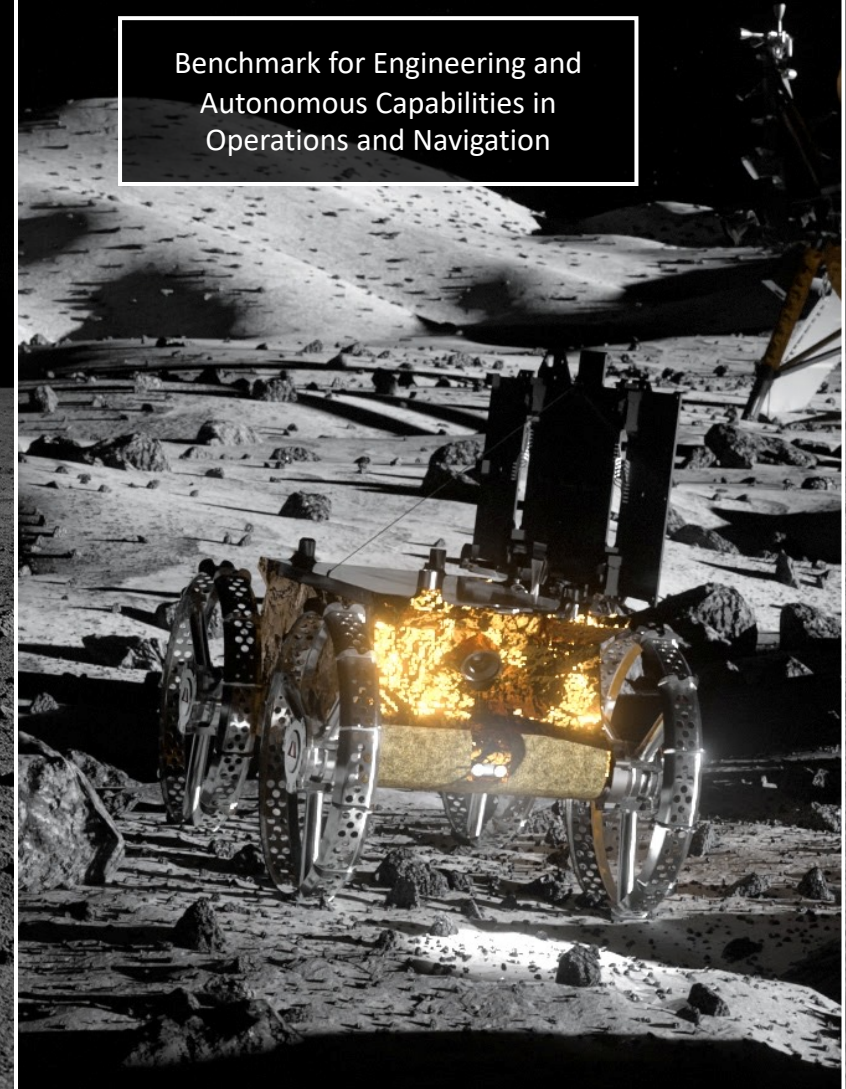
# Moon Base II

Astrobotic Griffin  
Mons Mouton, near Nobile Crater  
Late 2026



# BEACON

Benchmark for Engineering and  
Autonomous Capabilities in  
Operations and Navigation

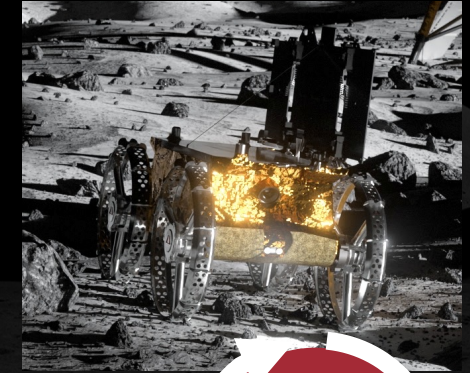
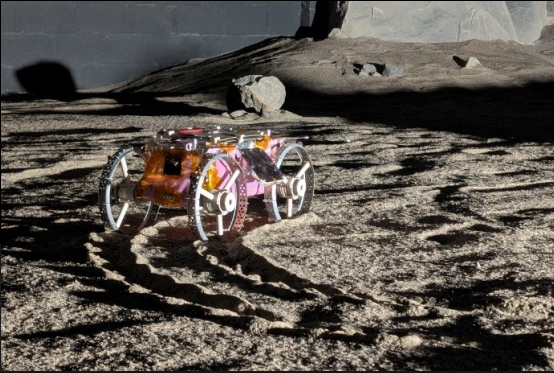




# Moon Base II



2024-2026



Dataset Development, Model Training, Test, Validation, Deployment on Flight HW

In-Flight Update

2021-2023





# Moon Base II



## Ground Segment Tech Demo

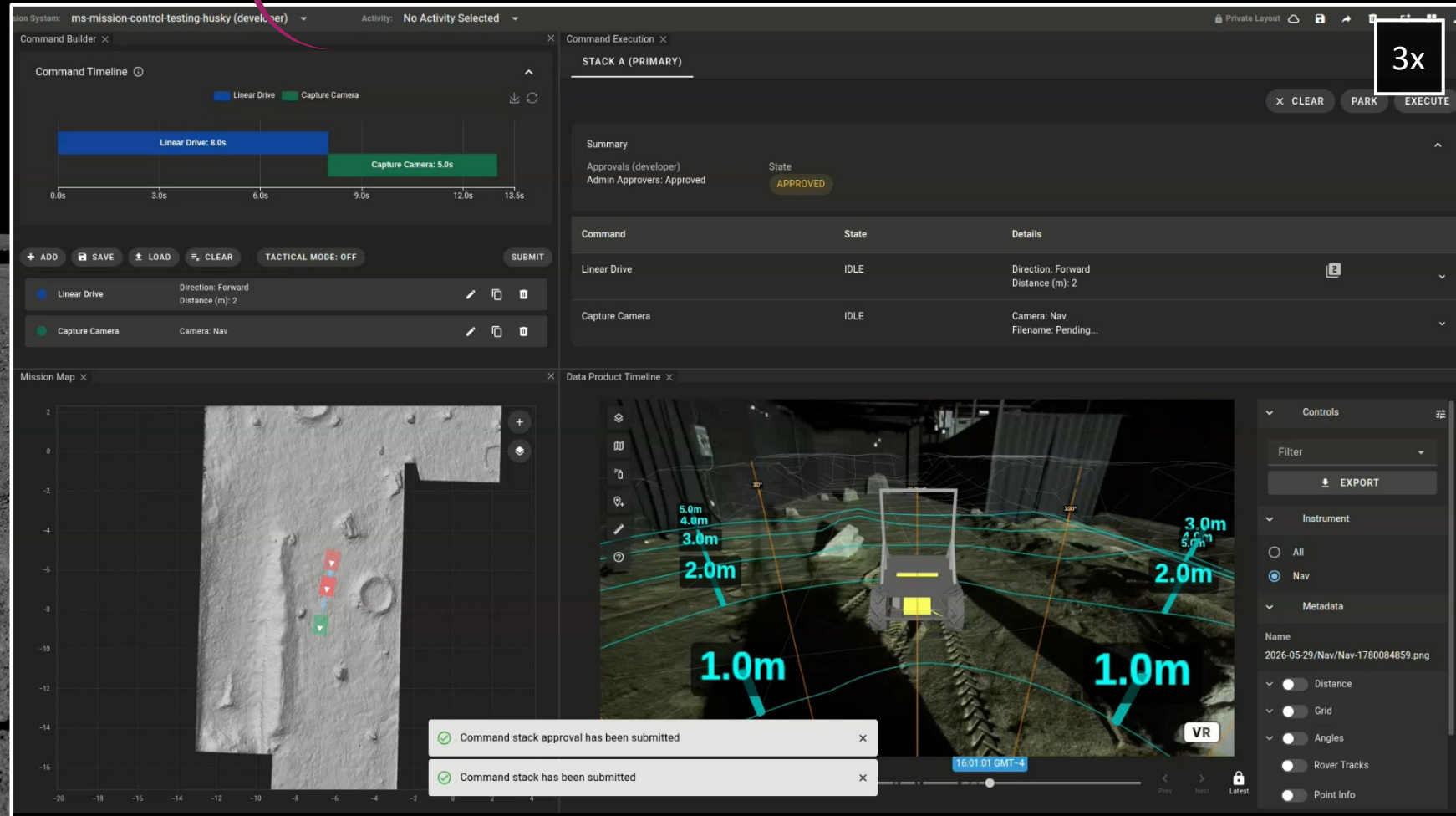
- Synchronization of data and commands across camera views, 2D and 3D maps, VR headsets
- Tightly integrated team-based path planning

## Built on Spacefarer:

Web-based operations platform for distributed teams' lunar missions

## Joint mission operations:

- Mission Control HQ, Ottawa
- Astrobotic HQ, Pittsburgh





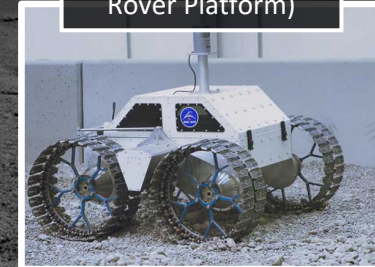


# Canadian Rover Development

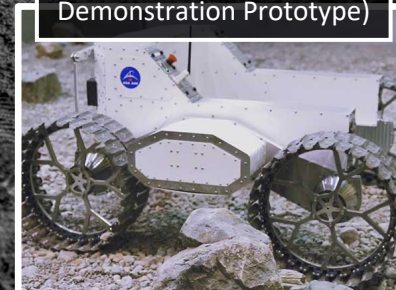
The Canadian Space Agency's Fleet of Rovers



SPRP  
(Small Planetary  
Rover Platform)



LRPDP  
(Lunar Rover Platform and  
Demonstration Prototype)

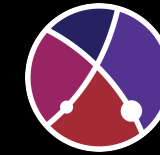




# Lunar Utility Vehicle

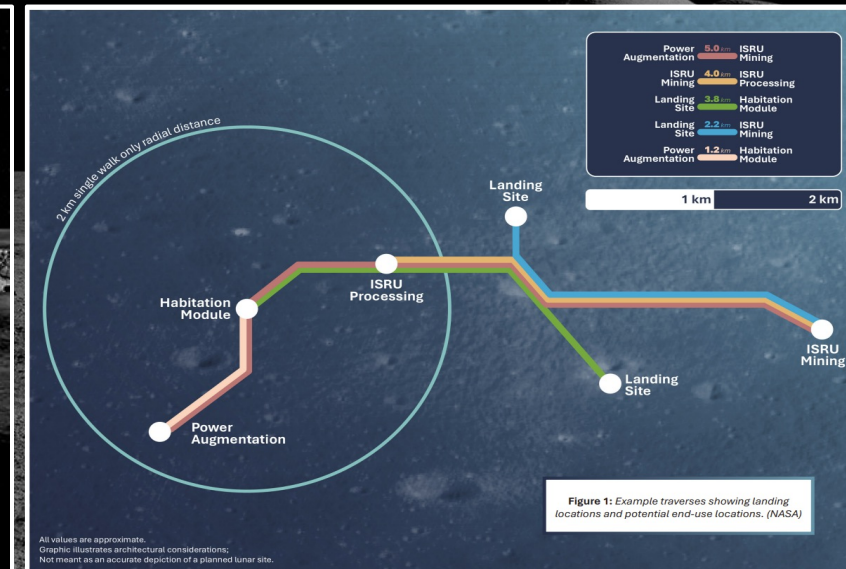
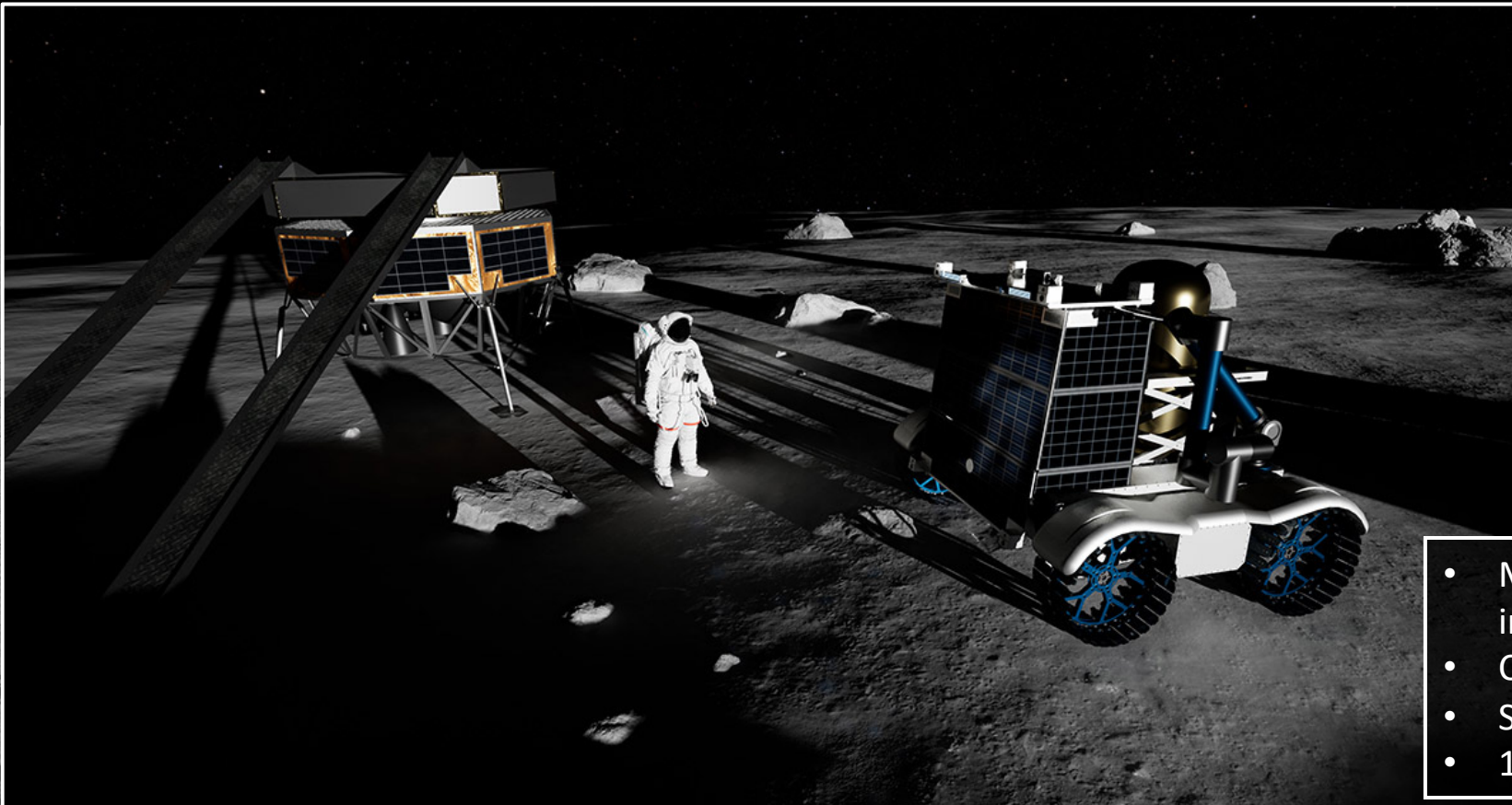


Canada's Flagship Contribution to Artemis



MISSION CONTROL™

Leading a Canada-wide consortium for Phase 0 and Technology Development



- Multi-purpose mobility platform for logistics, infrastructure development, crew support
- Co-Operate with NASA and Artemis partners
- Scientific investigations when not in primary use
- 10-year nominal lifetime at the lunar south pole





MISSION CONTROL™

Mission Control's latest lunar mobility test platform at the CSA Mars Yard

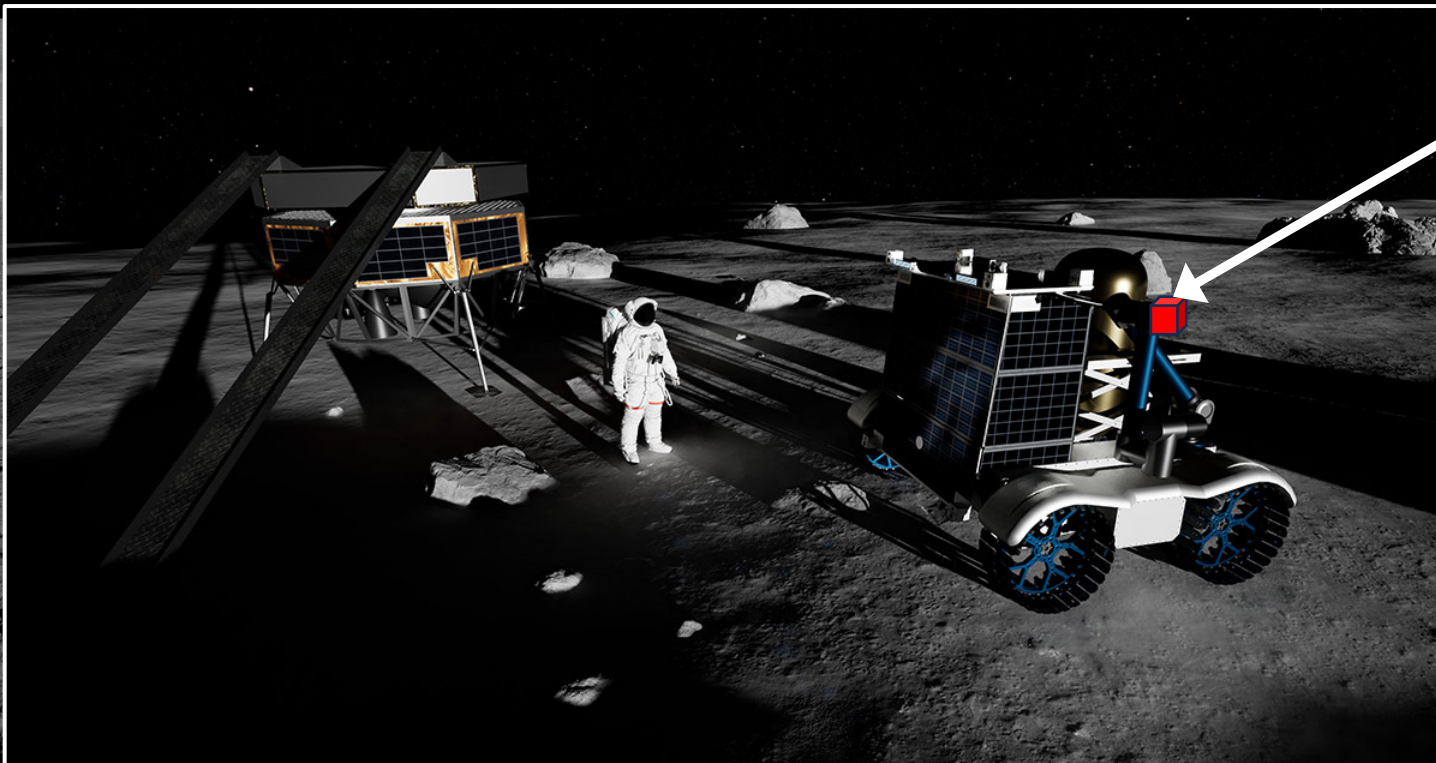


**M** For Mines





Leading Canada-wide consortium for  
CSA LUV Science Instruments  
Phase 0 & Technology Development



### iSPI+: Opportunistic Science via Autonomous Targeting

1

Context Camera



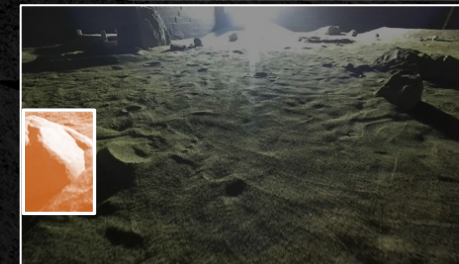
2

Target Detector



3

TIES-Cam Capture

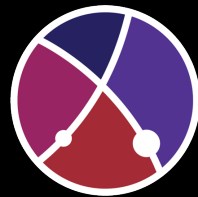


**TIES: Thermal Infrared  
Emission Spectroscopy**  
Filters over 7-100 $\mu$ m (TBC)

Key Science Themes:

- Temperature
- Mineralogy
- Resources
- Rover Performance





MISSION CONTROL™

# Critical Enabling Capabilities for Lunar Surface Missions & Infrastructure

- BEACON: demonstrating advanced operations and onboard AI with Astrobot's CubeRover®
- Mission Control leading Lunar Utility Vehicle consortium for CSA to support Artemis & Moon Base logistics
- Let's work together to figure out surface interfaces, cooperation, coordination – let's build the Moon Base



**Kaizad Raimalwala**

Director, Business Development

[kaizad@missioncontrolspace.com](mailto:kaizad@missioncontrolspace.com)





# Additional Slides

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# Moon Base II

