

Australian Rover Challenge 2026:

New Initiatives & Another Record-Breaking Year

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D. Ricardo**

**Andy Thomas Centre for Space Resources
Space Resources Roundtable 2026**



ATCSR Vision: enabling human settlement of deep space

ATCSR Team

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Centre Director

Centre Manager

Director, Research

Director, Off-Earth Construction

Director, Lunar Geotechnics Group

Director, Space Law Policy and Governance Group

Director, Astronaut - Autonomy Teaming

Director, Space-based AI and Autonomy

Director, Space Robotics and Systems

Director, Off-Planet Education and Training

Director, Space Architecture

Director, Space Psychology

Program Manager

Project Coordinator / Media

Exterres Lab Manager

Exterres Engineer

Exterres Lab Technician

Artist-in-Research

ATCSR Team

Charles Elachi

Adjunct Professor
(CalTech / formerly Director JPL)

Angel Abbud-Madrid

Adjunct Professor
(CSM, Director Centre for Space Resources)

Hirdy Miyamoto

Adjunct Professor
(University of Tokyo, Director CSRI)

Dan Britt

Adjunct Professor
(UCF Exolith Lab / NASA CLASS)

Gail Isles

Adjunct Associate Professor
(RMIT University)

Paddy Neumann

Adjunct Associate Professor
(Founder / CTO Neumann Space)

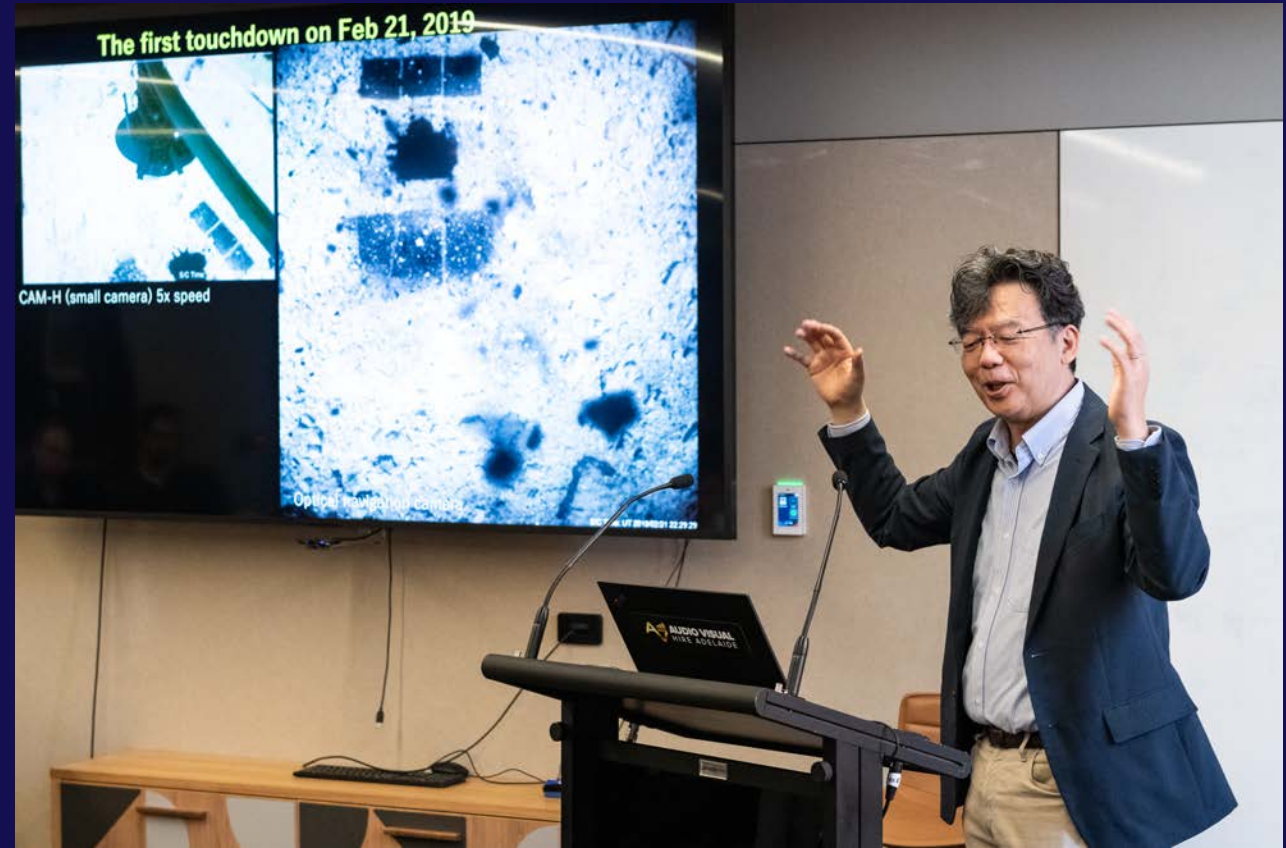
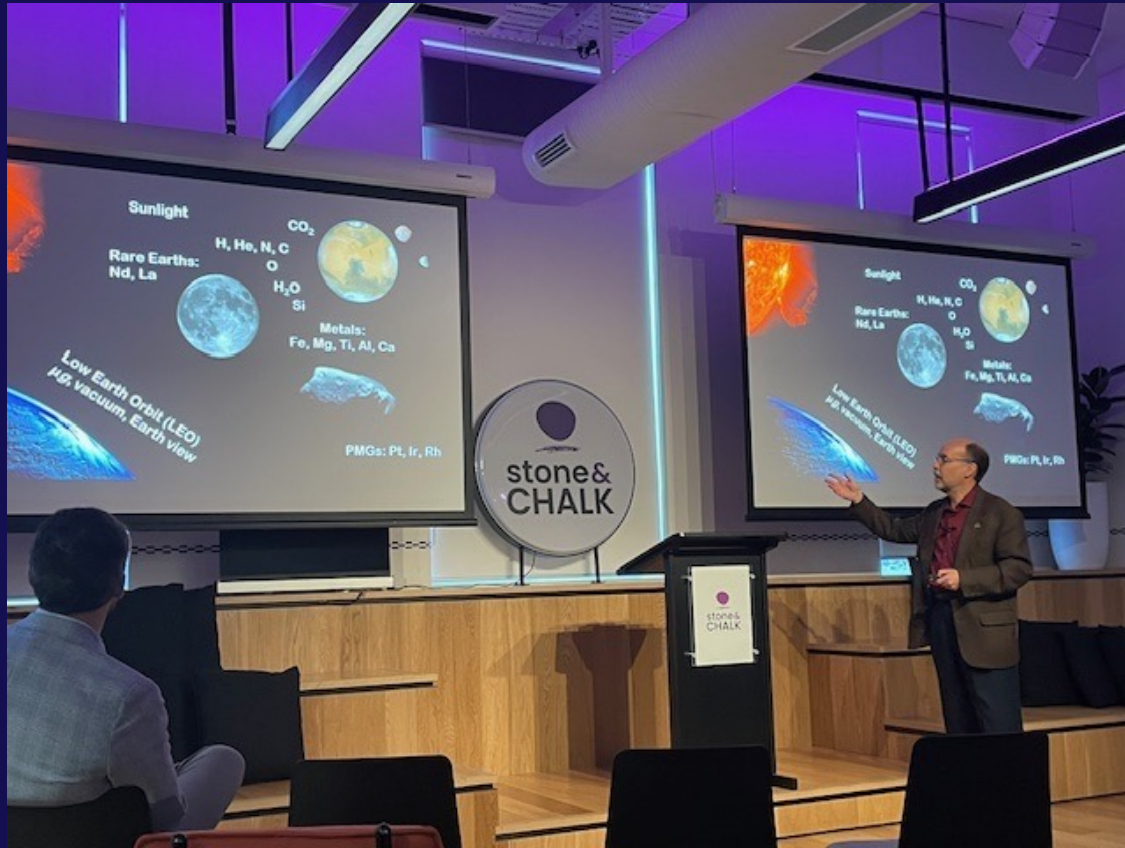
Philip Citowicki

Adjunct Associate Professor
(Lockheed Martin Australia)

Mark Sonter

Adjunct Associate Professor
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ATCSR Team



ATCSR Team

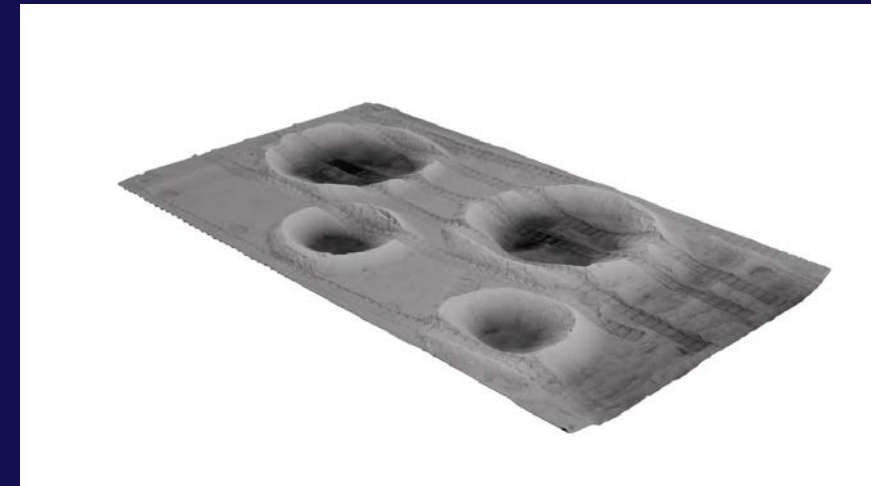


ATCSR Team





ATCSR Team



ATCSR Team



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ATCSR Team



What is it?

Task Breakdown

- 4 Days
 - 4 Tasks
 - Two 40 x 50m Pitches
-
- 100 points – Systems Engineering
 - Critical Design Review (T-3 months) 25 pts
 - System Acceptance Review (T-1 months) 75 pts
 - 400 points – Competition Tasks
 - Post Landing 100 pts
 - Space Resources Task 100 pts
 - Excavation & Construction 100 pts
 - Mapping & Autonomy 100 pts
 - 100 points – Efficiency Multiplier
 - Size, Weight and Power (SWaP)

What have we achieved so far?

Team participation

- **2021 – 3 Australian**
 - 2022 – 5 Australian
 - 2023 – 7 Australian, 1 Polish
 - 2024 – 8 Australian, 1 Polish, 1 Bangladeshi
 - 2025 – 12 Australian, 3 Polish 1 Bangladeshi, 2 Indian
 - **2026 - 15 Australian, 2 Polish, 1 Indonesian, 1 Kazakh**
 - * Just teams that competed, we had over 30 teams from 6 countries apply
-
- From 95 to 600+ in-person student participation
 - Livestream had >6,000 views
 - To date, engaged more than 2,000 students
 - 2026 – Pending 'Impact survey' results





**Lunar infrastructure build-out is a spectator sport!
Color commentary and interviews throughout the livestream**



2021



2022



2023



2024



2025



2026

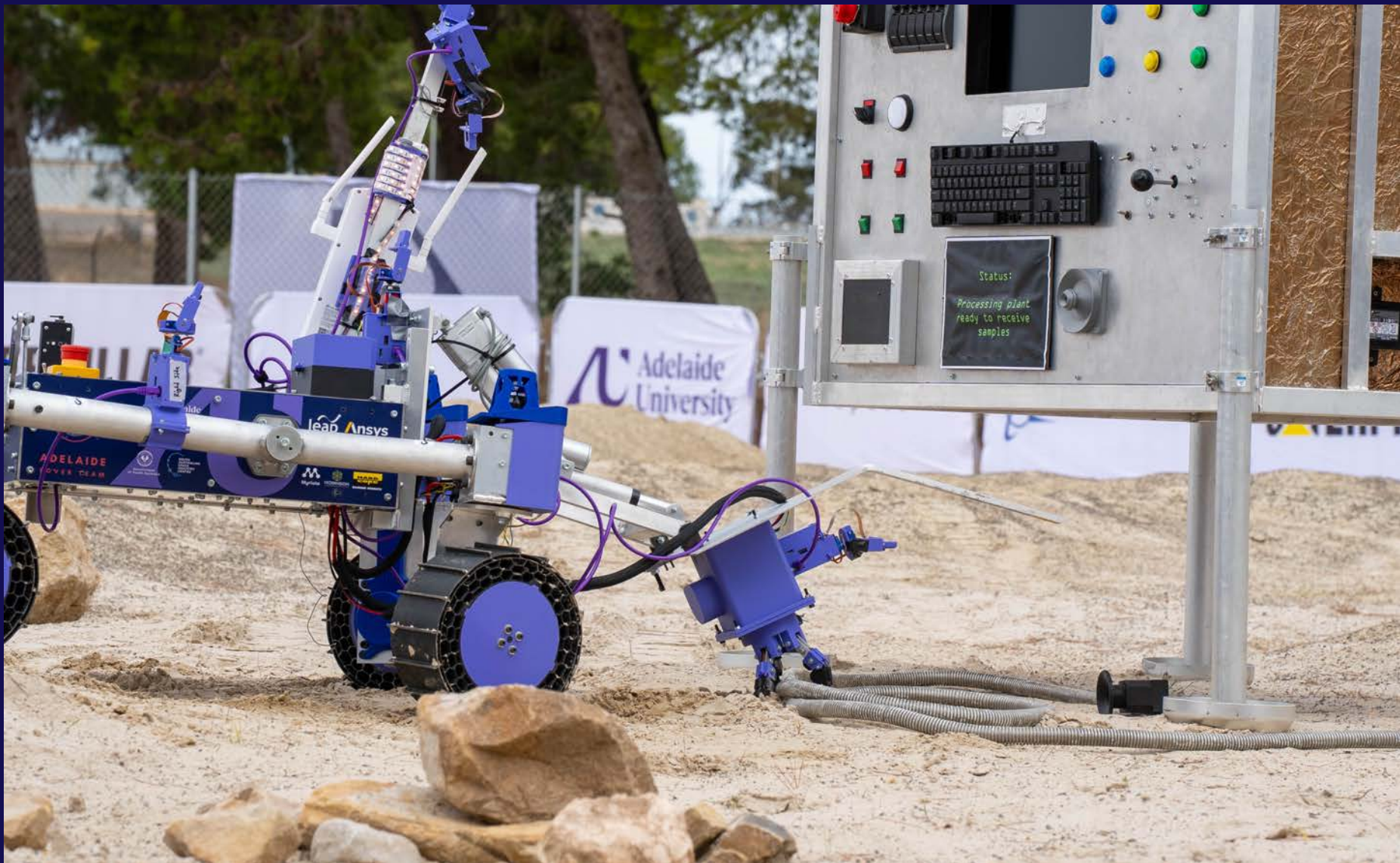
What do the rovers actually do?

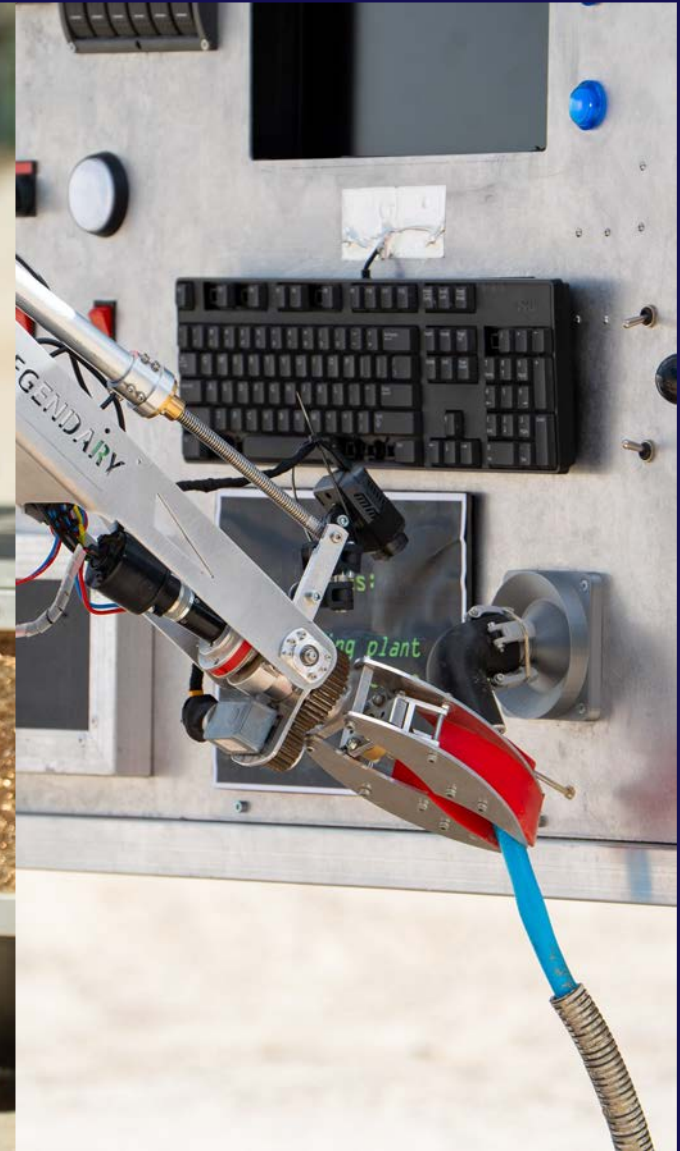
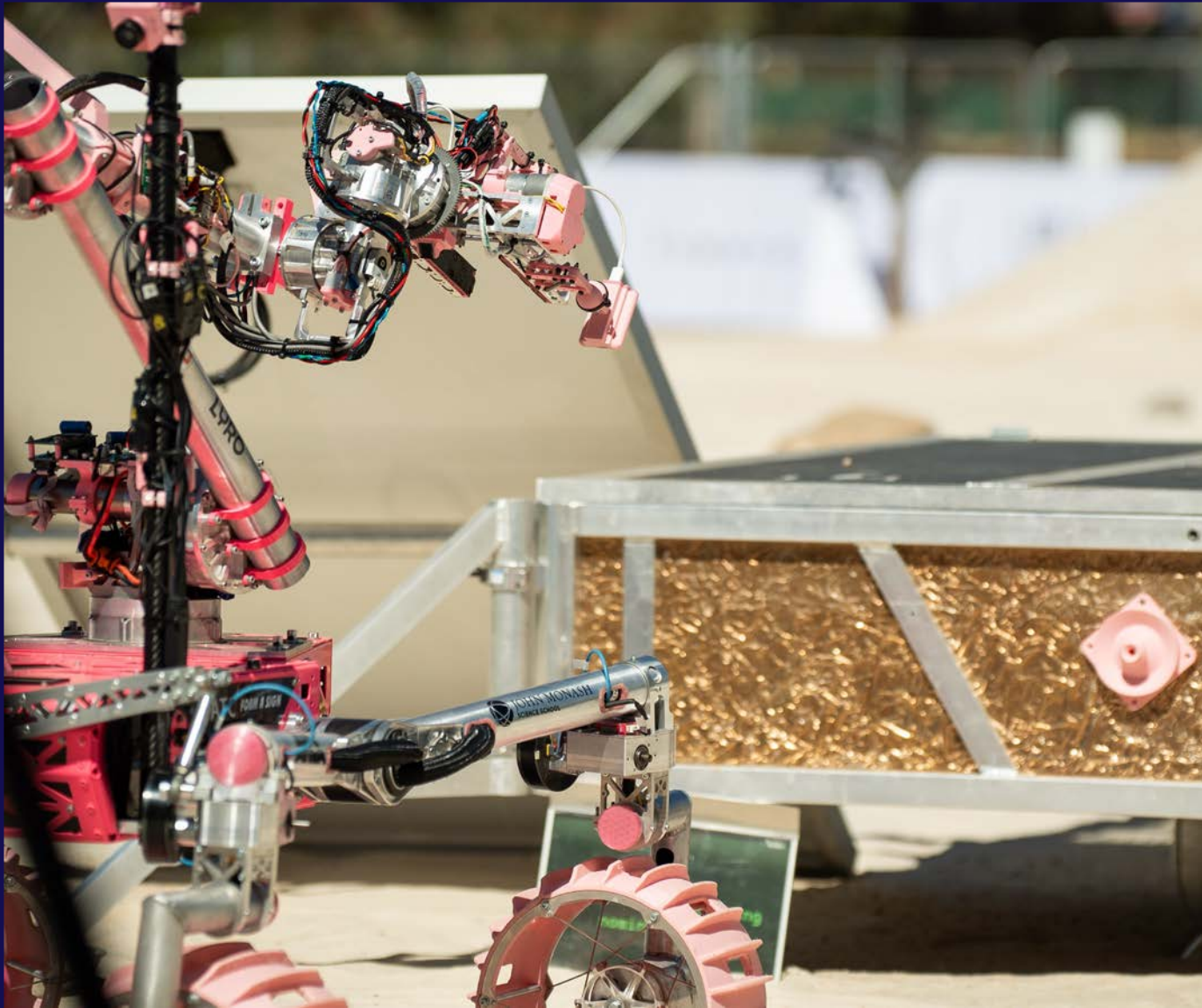
Post Landing Task











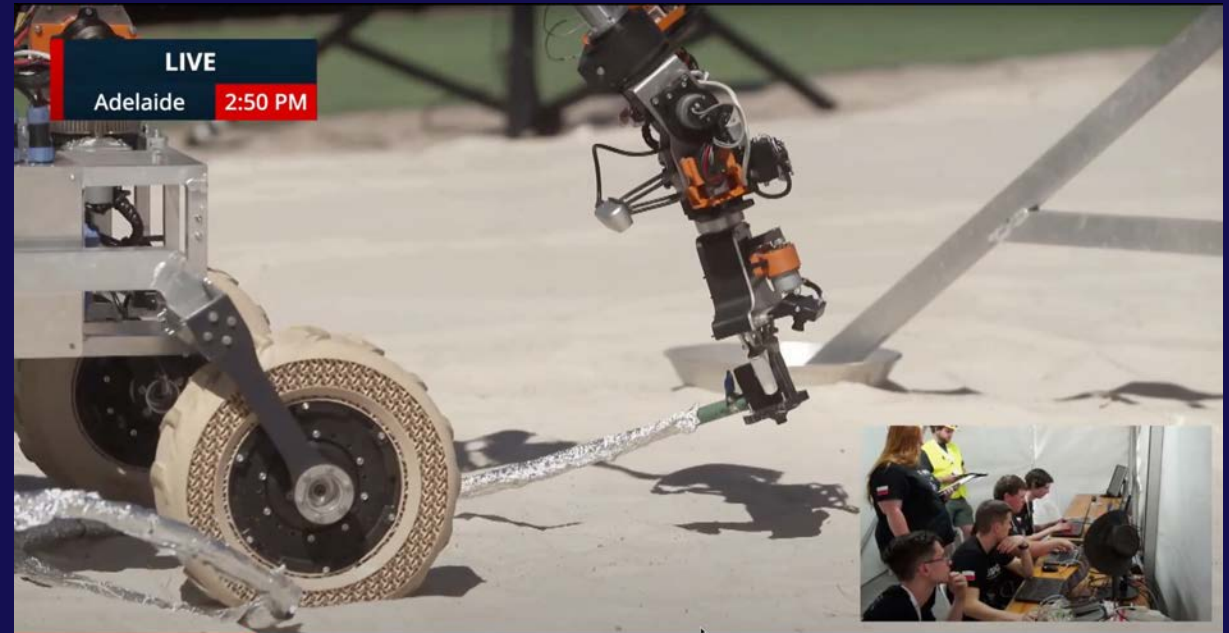


LIVE

Points Available for this Task: 100

Project Scorpio

Wrocław



LIVE

Technology

Poland

Post Landing Task

Total Points Available



LIVE

Adelaide 10:40 AM

LIVE

100

Robotics and Autonomous Systems Team

UNSW

What do the rovers actually do?

Excavation & Construction Task





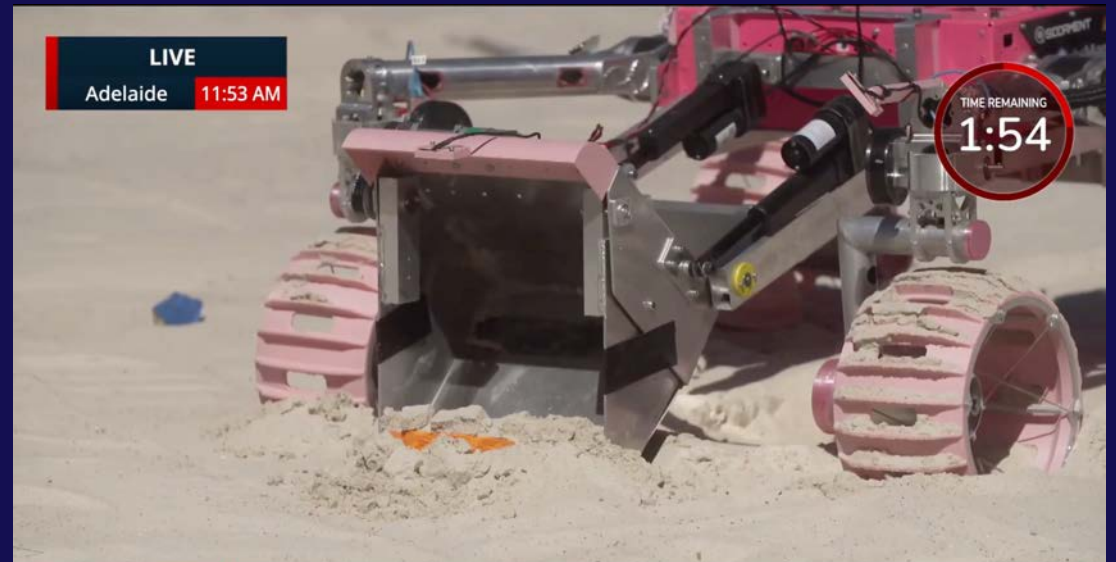
LIVE Project Scorpio Wrocław University of Science and Technology



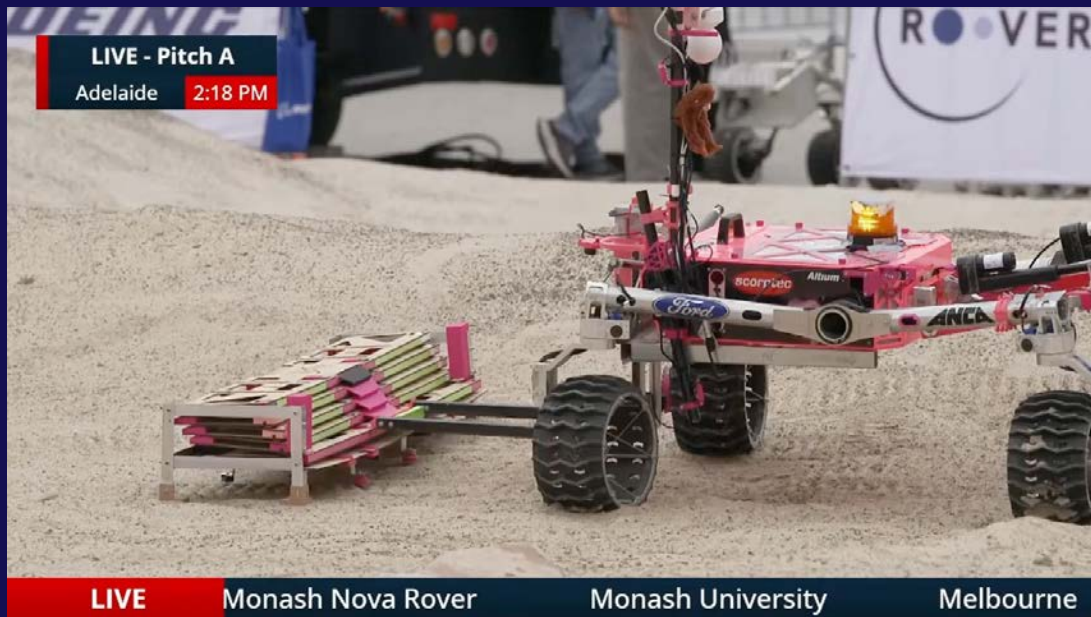
LIVE Task Total Points Available for this Task: 100 RMIT Rover Team



LIVE Points Available for this Task: 100 UniMelb Rover Team University of Melbourne

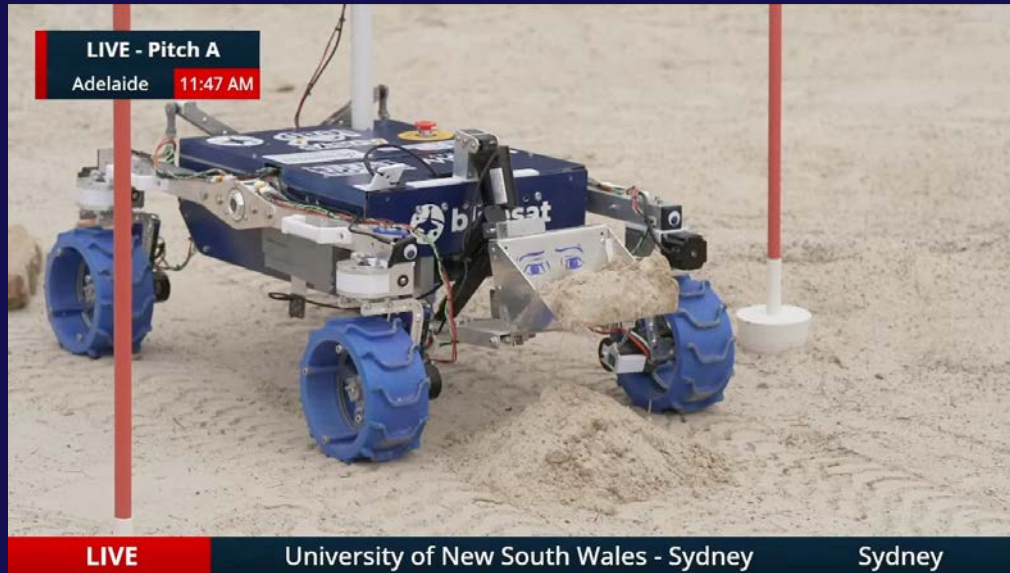


LIVE Australia ELO2 Excavation & Construction Task Total Points Available for this Task: 100

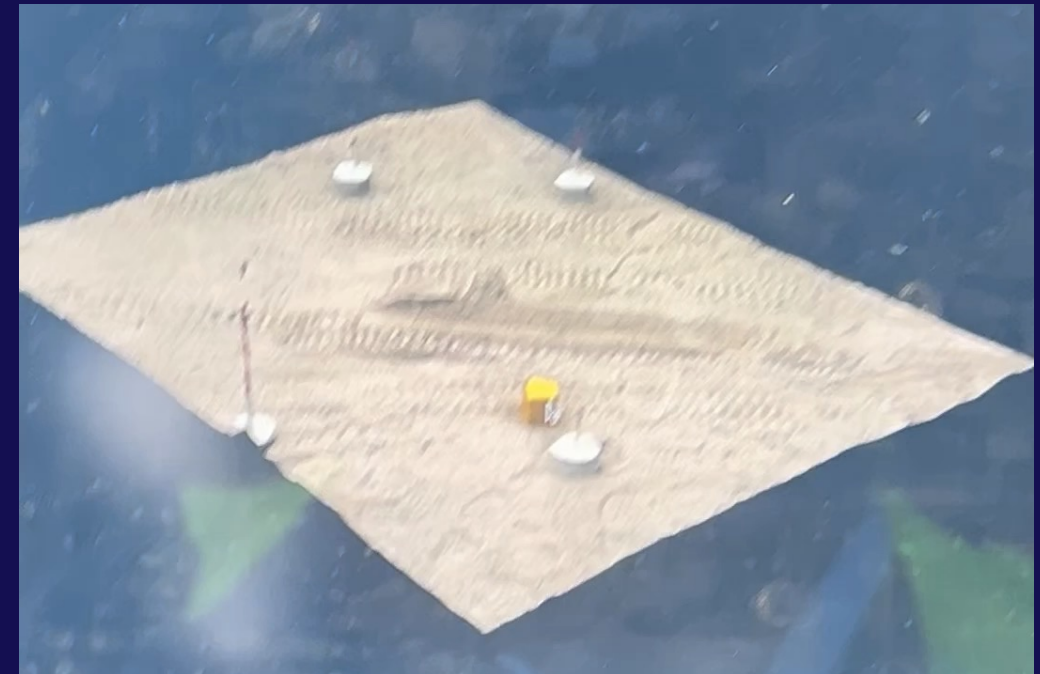


Paver Construction (40 Pts)

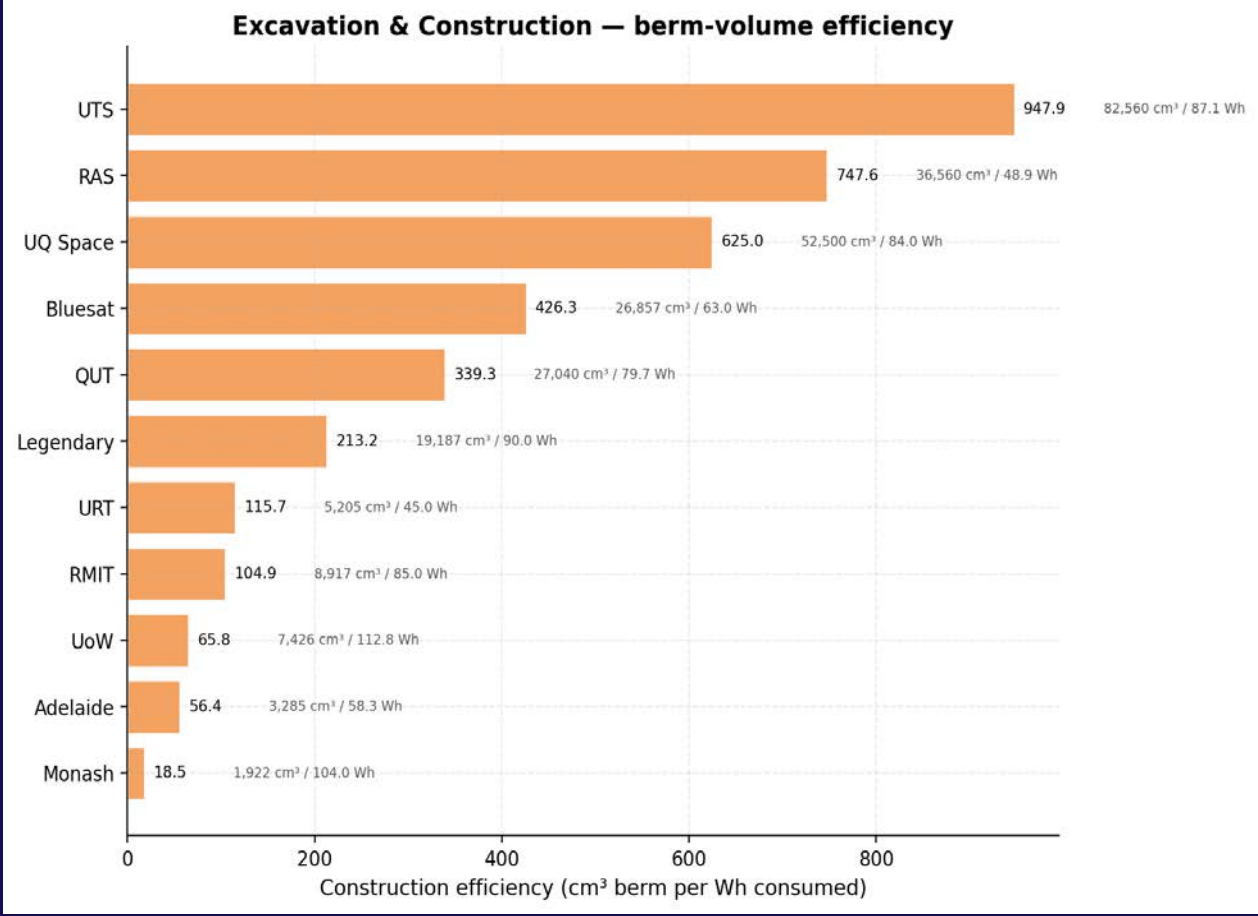
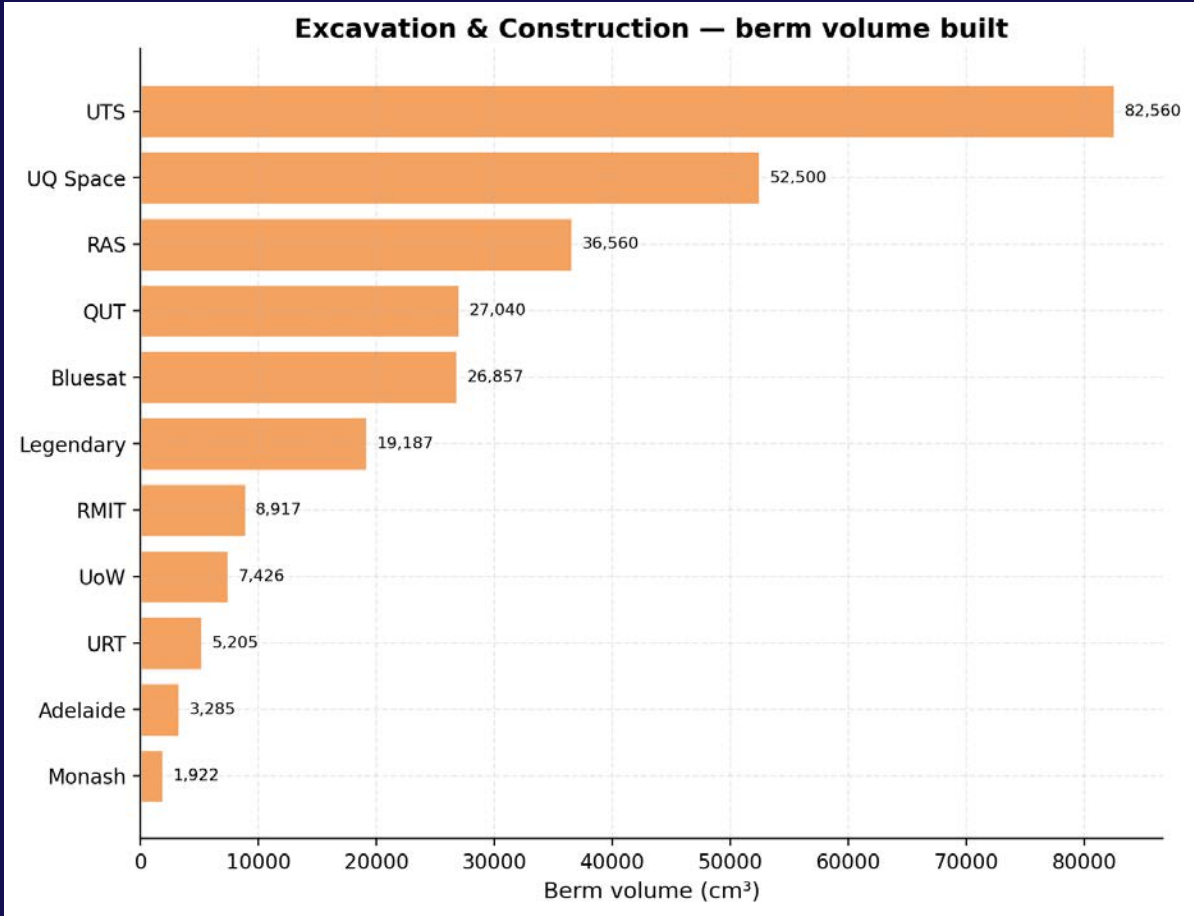




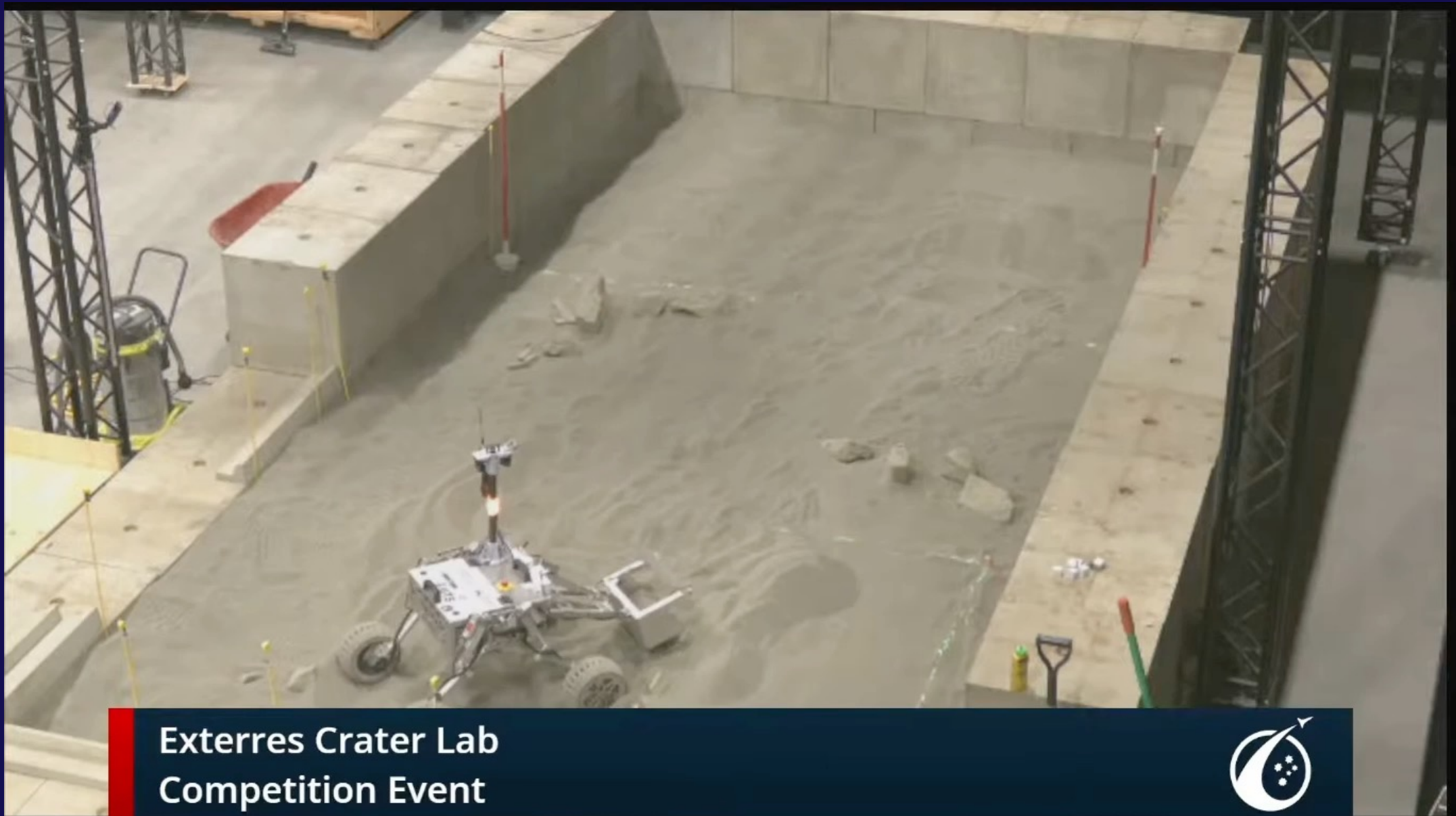
Excavation & Deposition (30 pts)



Berm Construction - Power Efficiency



* Power consumption used for ENTIRE task



Exterres Crater Lab
Competition Event



What do the rovers actually do?

Space Resources Task

LIVE - Pitch B

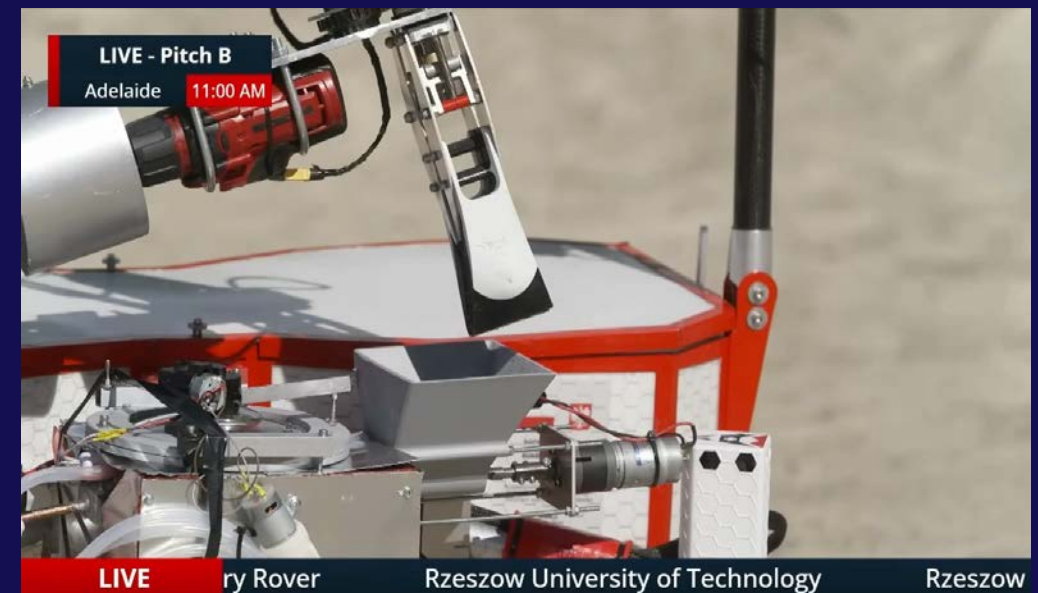
Adelaide 11:22 AM



LIVE

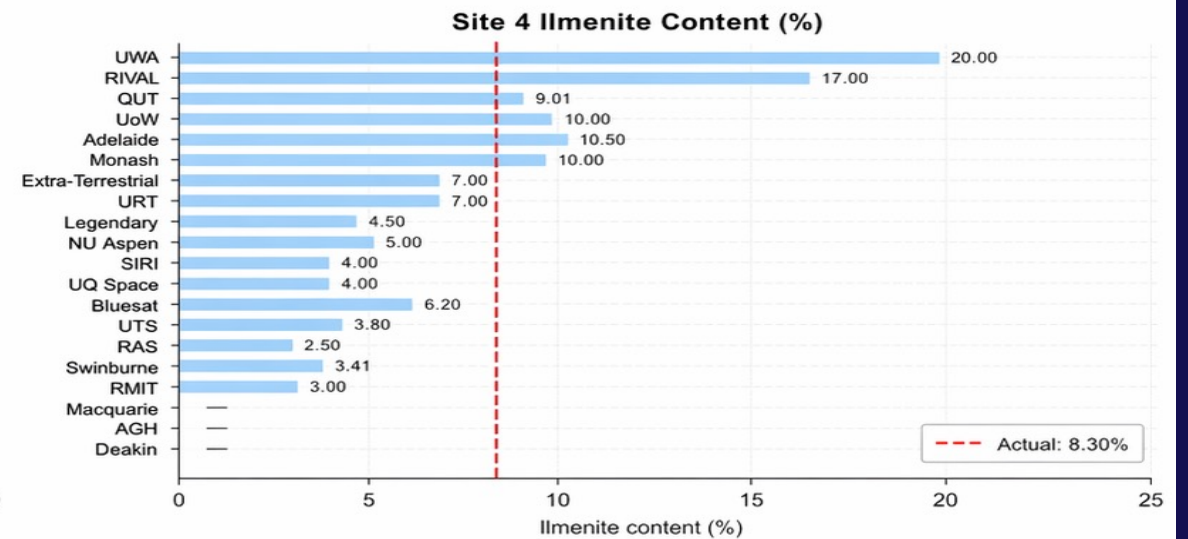
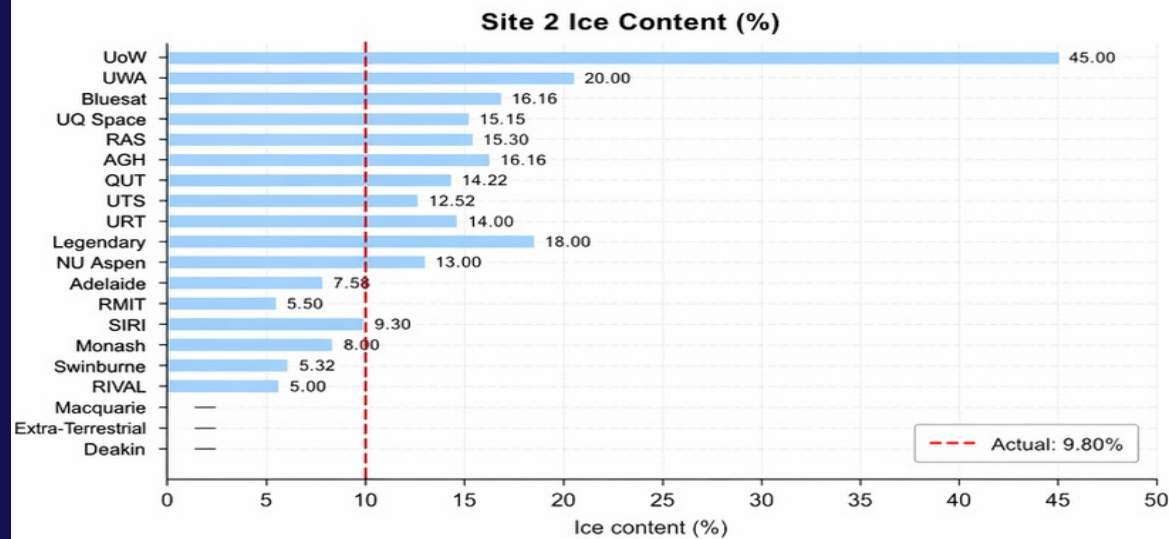
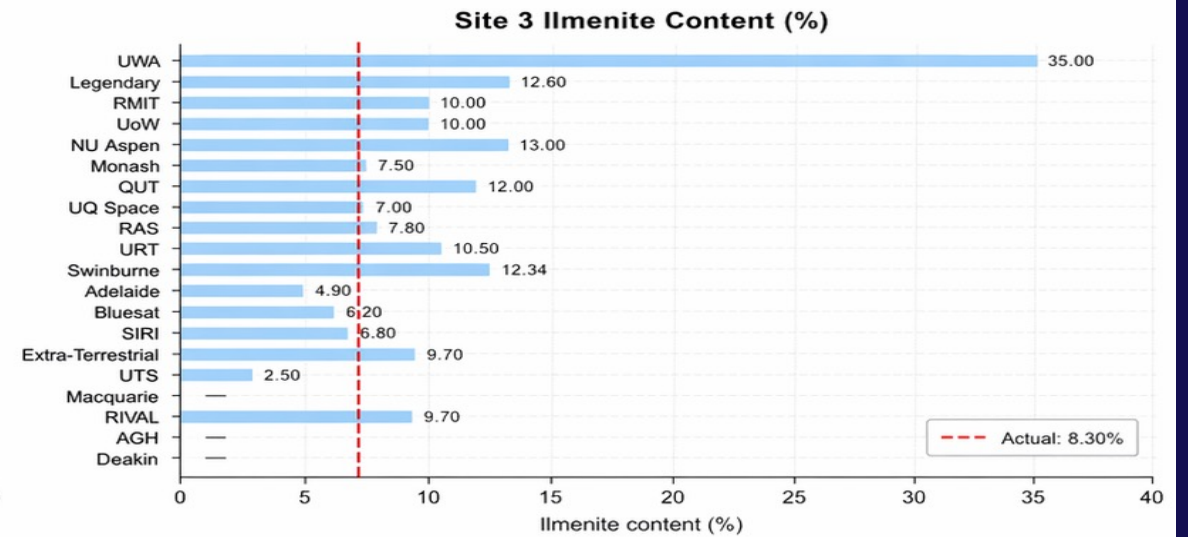
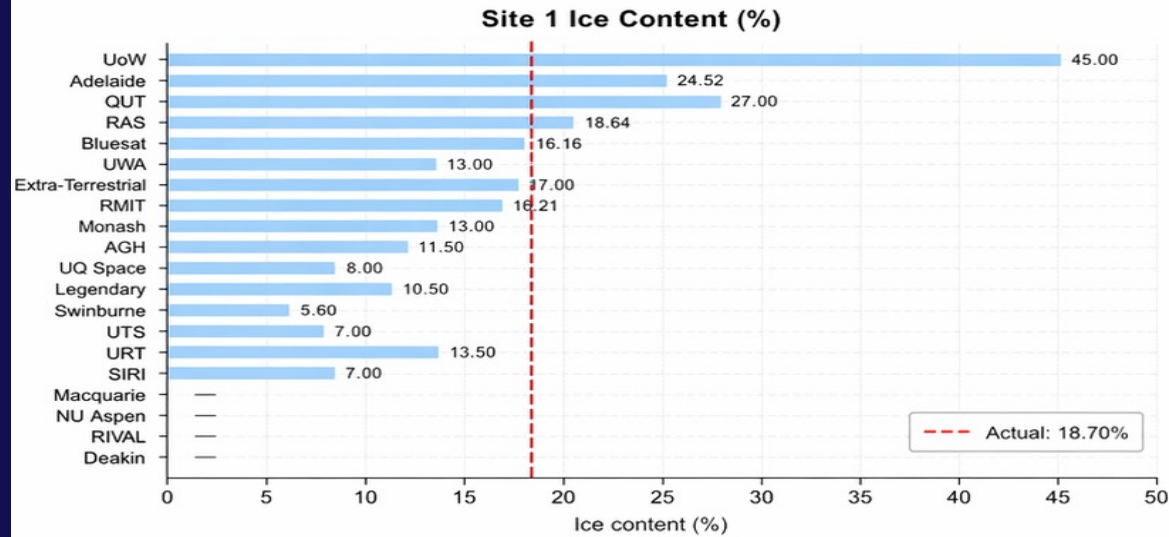
Space Resources

Total Points Available for this Task: 100

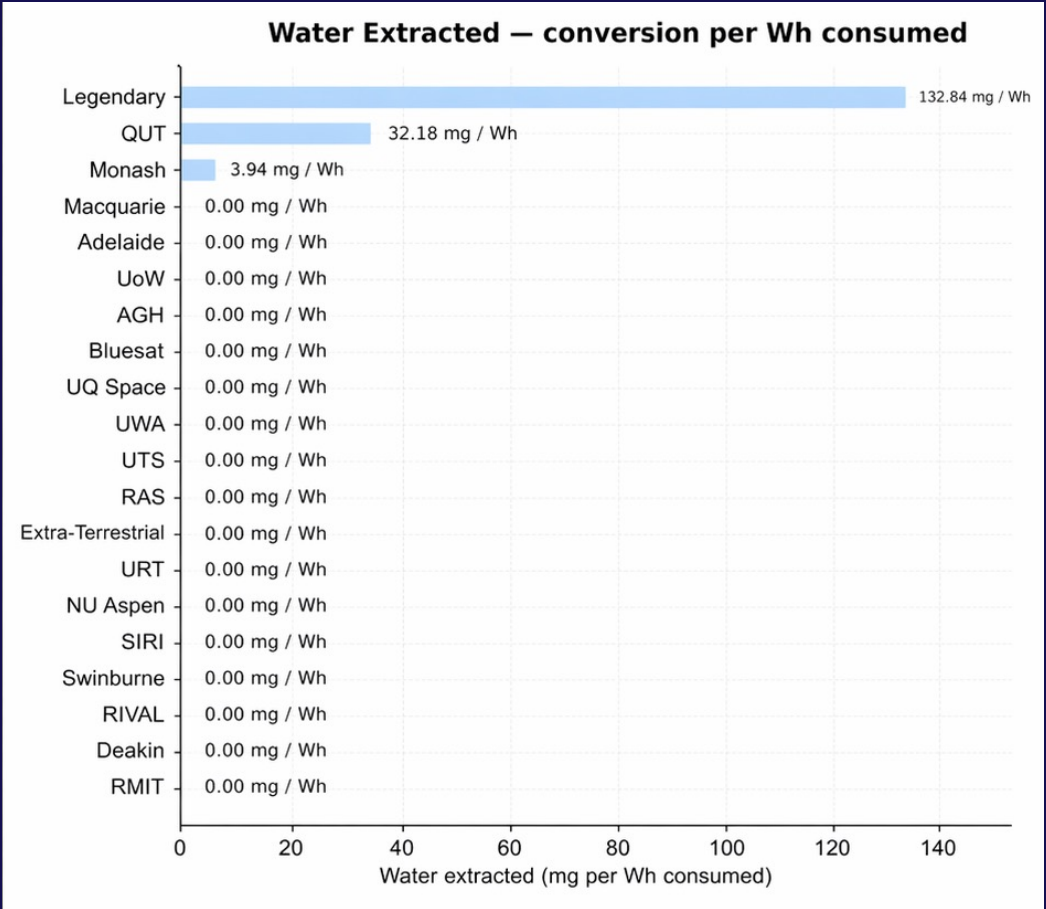
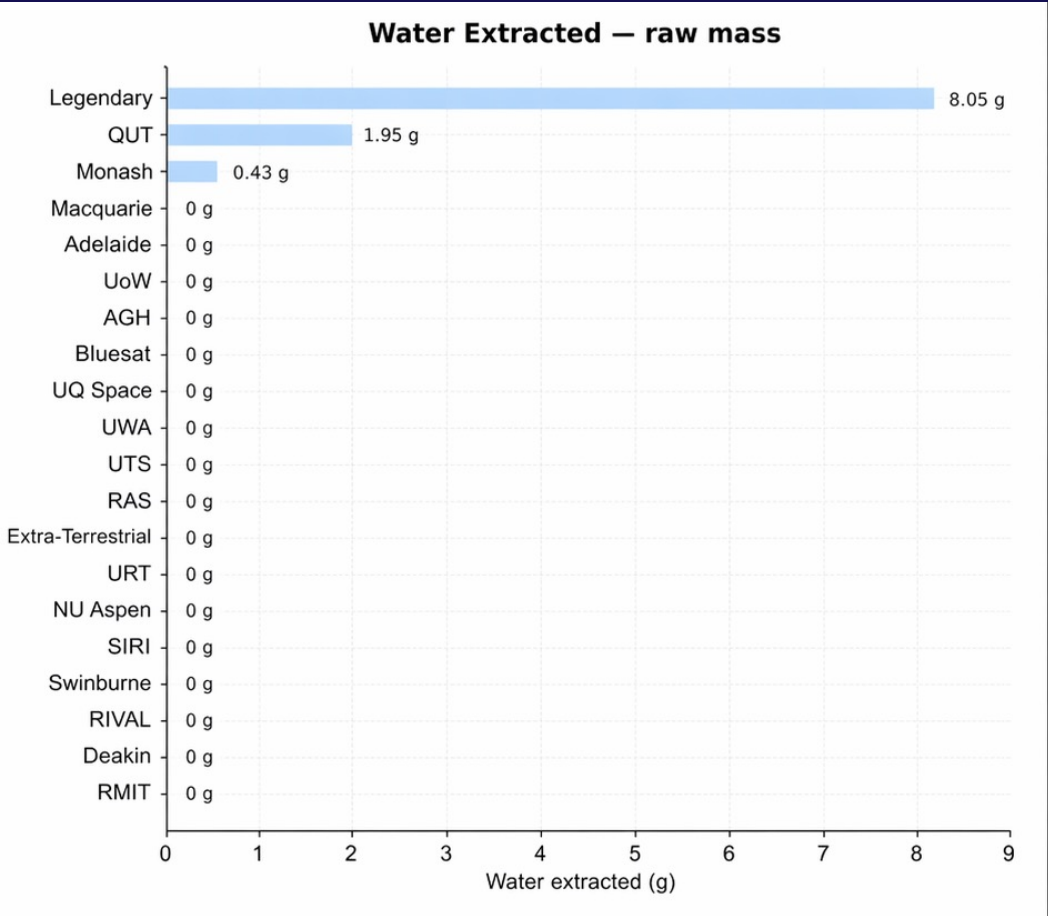




Prospecting – Water and Ilmenite detection



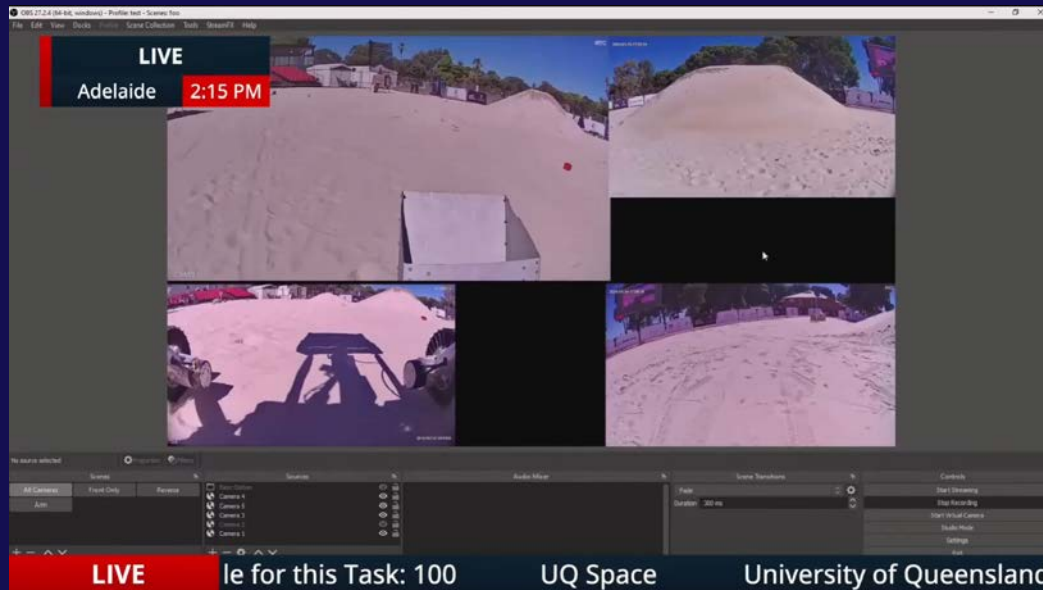
Water Extraction Efficiency



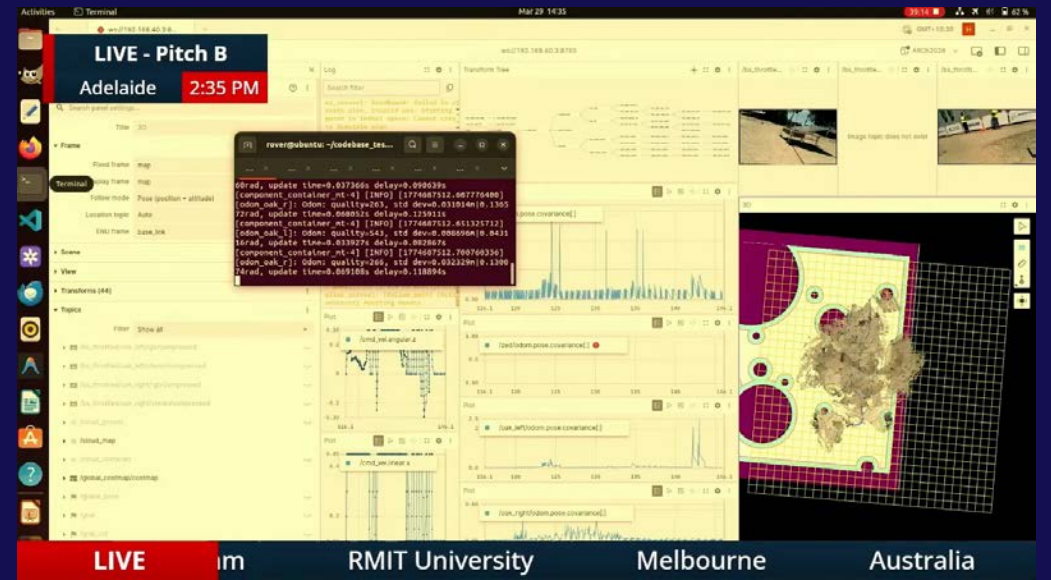
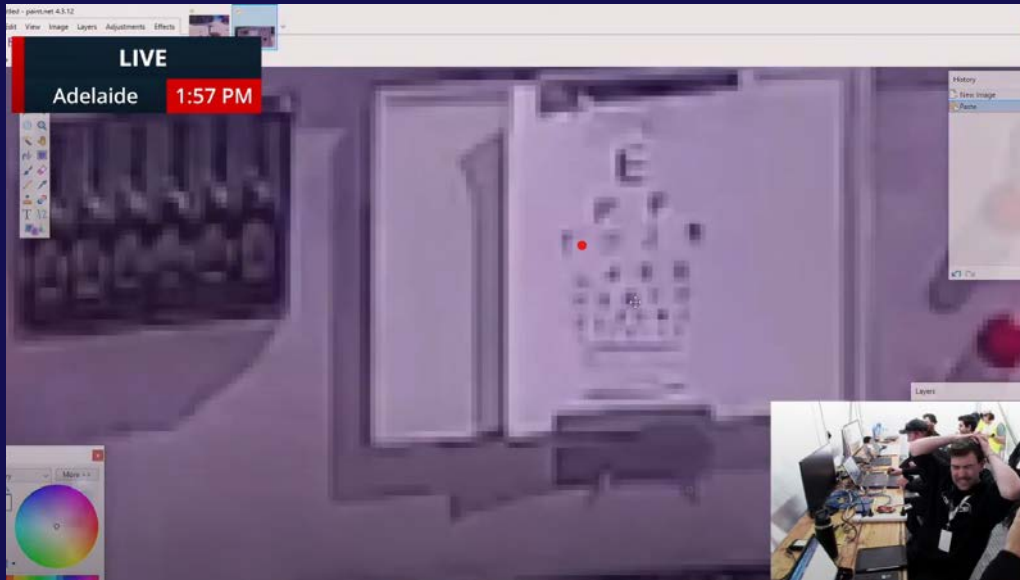
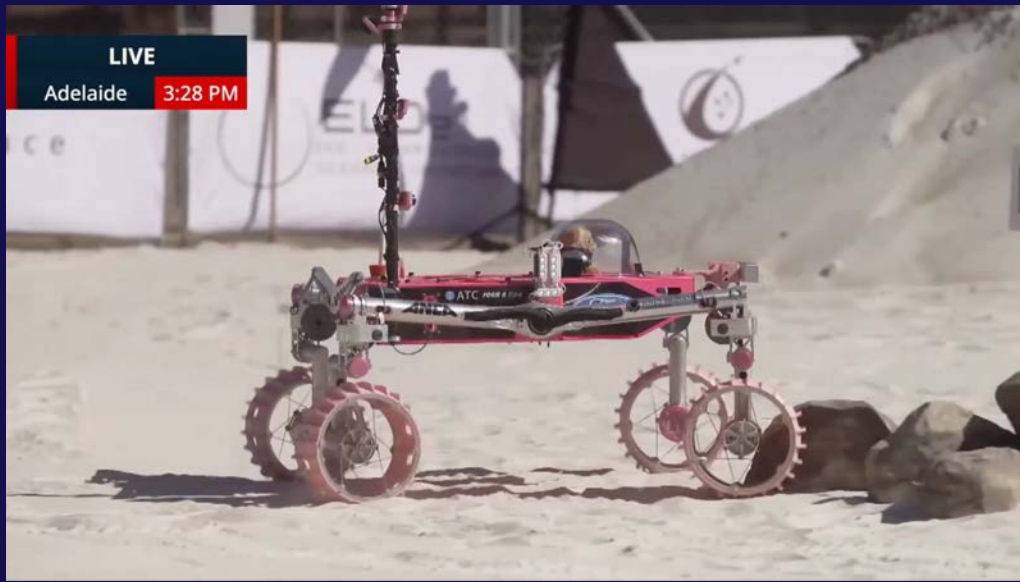
* Power consumption used for ENTIRE task

What do the rovers actually do?

Mapping & Autonomy

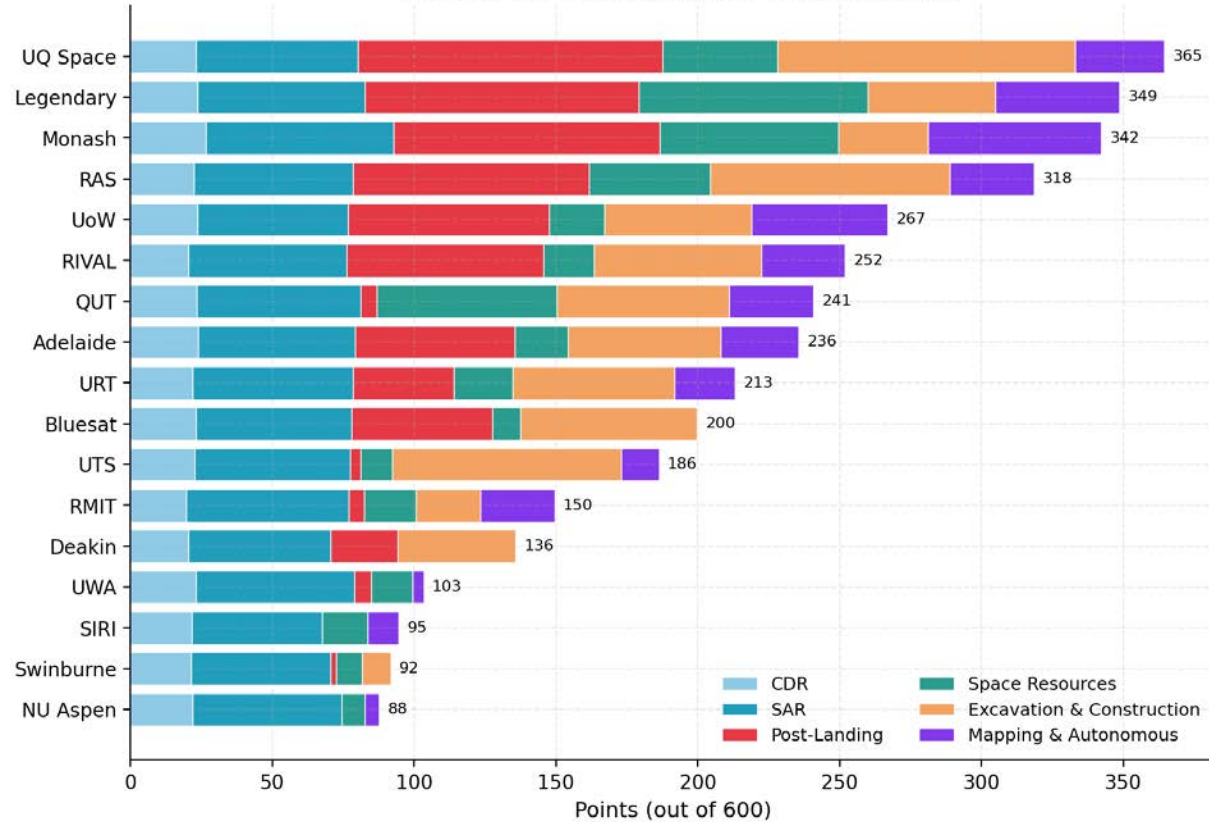


Autonomous Navigation (30 pts)
Mapping (40 pts)
Presentation (30 pts)

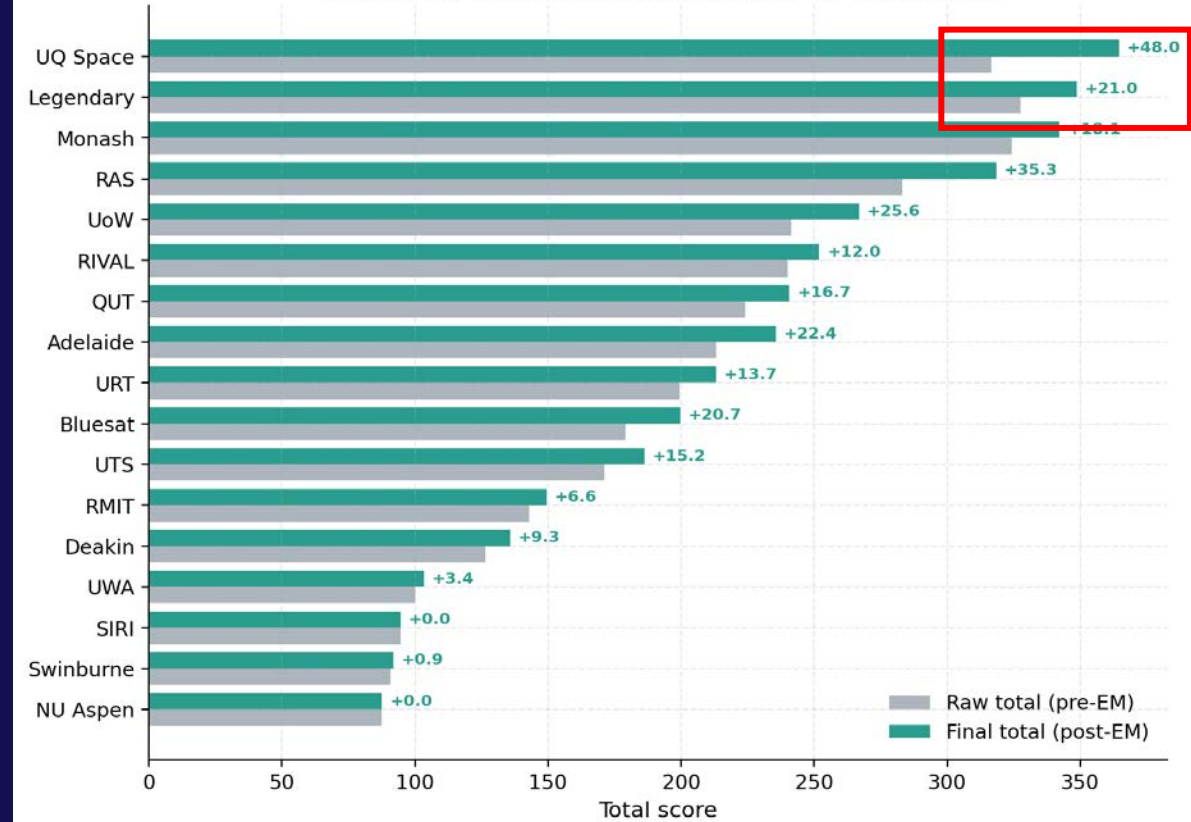


Designing for Space – Efficiency Multiplier!

Task-by-task contribution to final score



Efficiency Multiplier impact: raw vs final total



Premier
Sponsors



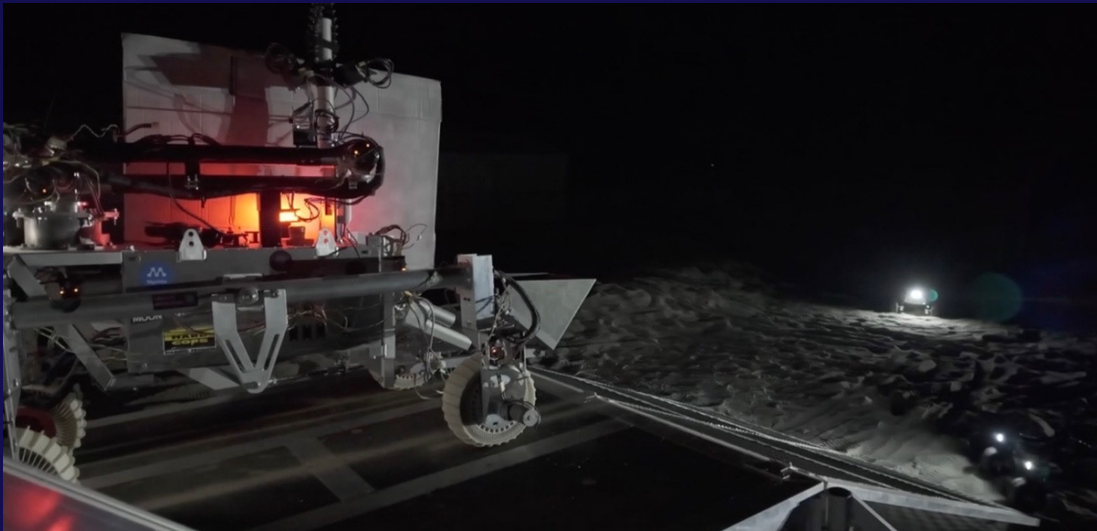
Major
Sponsors



Event
Supporters



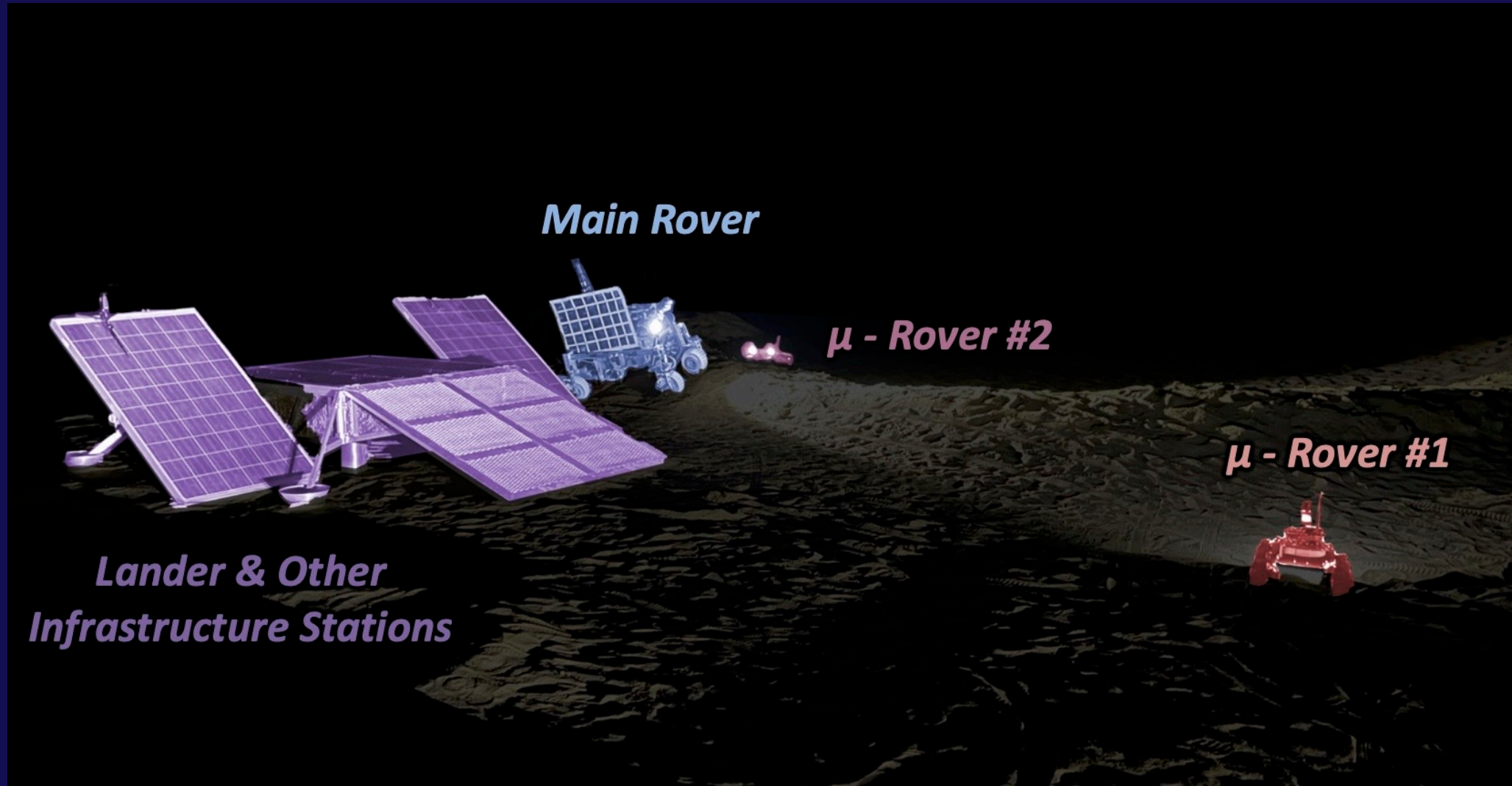
2025/26 Decentralized Mission Zone Field Tests



2025/26 Lunar Field Tests: Lander, Rover & μ Rover Elements



2025/26 Lunar Field Tests: Separate, Siloed Asset Owners



2025/26 Lunar Field Tests: Mission Reconstruction & Data Exchange





Questions?



Publication coming soon!

- Complete point breakdown
- Systematic classification of mobility, excavation, extraction sub-systems