



# Lunar Surface Innovation

C O N S O R T I U M

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## LSIC ISRU Focus Group Monthly

<http://lsic.jhuapl.edu/>

<http://lsic-wiki.jhuapl.edu/> (Confluence sign-up required)

**November 16, 2022**

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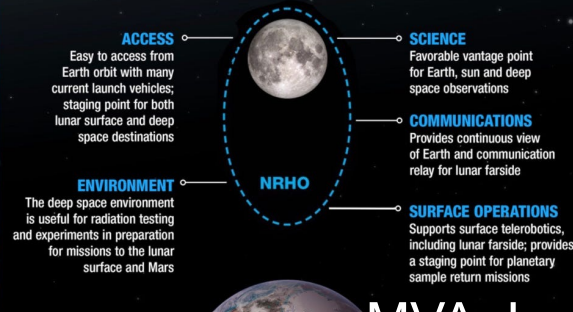
# Agenda

- General updates and house-keeping
  - APL is happy to consult as appropriate with ISRU and related technologies. We can provide advice on how to build for launch and operate in extreme environments.
  - Upcoming Meetings
  - Funding Opportunities
- Phil Sadler (U Arizona): Utilizing McMurdo Station, Antarctica as a Lunar South Pole ISRU Analog Proving Ground
- Trevor Graff (Jacobs/NASA JSC): Terrestrial and Facility Analogs for Artemis Testing and Training
- Coffee and Donuts discussion: Thoughts from the LSIC Fall Meeting – what are our next steps for Lunar Proving Grounds?

**CAPSTONE:**  
Entered NRHO, testbed for Gateway orbit

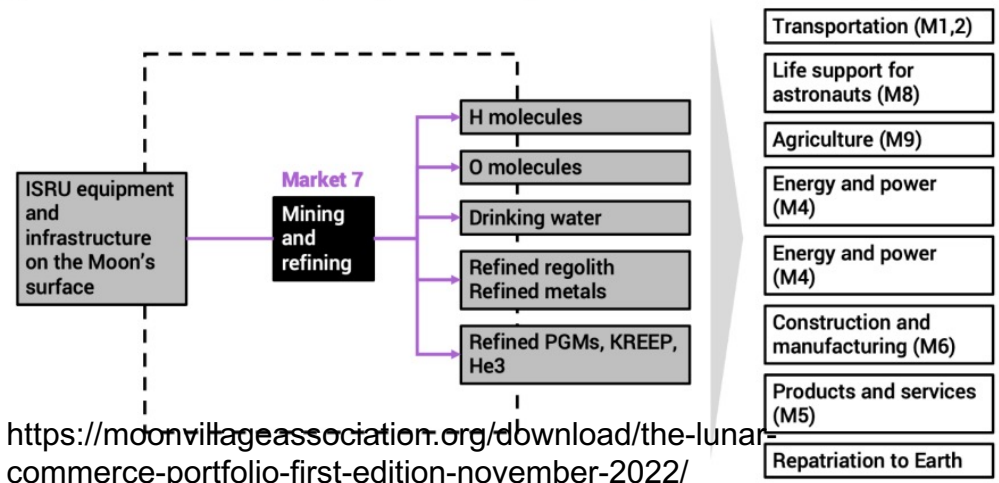
**Artemis 1:**  
Successful launch this morning! 🎉

### NEAR-RECTILINEAR HALO ORBIT (NRHO)



## MVA: Lunar Commerce Portfolio

Figure 3.4. Interface between M7 (Mining and resources) and other domains of the lunar economy



<https://moonvillageassociation.org/download/the-lunar-commerce-portfolio-first-edition-november-2022/>

Successful 2022 LSIC Fall Meeting!

# Upcoming Meetings

Some upcoming IRSU-related meetings to be aware of:

- **CLPS: Survive the Night Technology Workshop, Dec. 6-8**

- <https://www.hou.usra.edu/meetings/clps2022/registration/>
- Registration closes Nov 22 (in person), Dec 8 (virtual)

- **Intertribal Space Conference, Nov. 15-17**

- Bring the space industry and tribal leaders together, to form new mutually beneficial tribal-space partnerships.
- Opportunity for participation by the space industry!
- <https://intertribalspaceconference.wpcomstaging.com/>

- **Surface Power FG (Dec 1, 11am ET, see next slide)**

- **Technology Showcase for Future NASA Planetary Science Missions, Jan. 9-11**

- Registration open! <https://nasa-techshowcase.seti.org/>
- SMD, Planetary Decadal inspired



# LSIC | Surface Power Focus Group December Telecon



## Surface Power Telecon: December 1<sup>st</sup> 11:00 ET

**Speakers:** Dr. Matt Clement, Dr. Sean Young, Dr. Joe Kozak, Samantha Andrade, Julie Peck (JHU/APL, Surface Power FG team members)

**Topic:** Surface Power Focus Group Year in Review and Feedback Forum

### **Agenda:**

- Community Updates
- Review of 2022 Telecons and Workshops:
  - Anthony Calomino: FSP RFP (Jan)
  - Ansel Barchowsky: Tethered Pwr (Mar)
  - Low Temperature Workshop (Jul)
  - Annette Dolbow/Lee Mason/Jeff Csank: Integration and Testing (Oct)
  - MOSA subgroup (Feb)
  - LIVE RFI Breakouts (May)
  - Popcorn Networking (Aug)
  - Ian Jakupca: RFCs (Mar)
  - Martin Naredorf: Stds Gov (Jun)
  - David Sadey: ISPSIS (Sep)
- Survey and Community Feedback

## **Zoom Link for Dec 1<sup>st</sup> 11:00 ET:**

<https://jhuapl.zoomgov.com/j/1617206812?pwd=ZWVhlaW5XRURsRmxJcWd4b1ZoeFFwUT09>

# Funding Opportunities

- Announcement for Partnership Proposals (AFPP) to Advance Tipping Point Technologies
  - Final proposals (invited) due Nov. 22 on NSPIRES
- **2023 NASA BIG Idea Challenge (grads/undergrads)**
  - Lunar Forge: Producing Metal Products on the Moon
  - E.g., storage vessels for liquids and gases, extrusions, pipes, power cables, and supporting structures
  - Proposals due Jan. 24: <https://bigidea.nianet.org/>
- NASA Innovative Advanced Concepts (NIAC) Phase II
  - Proposal due Dec. 15

**ROSES-22 Amendment 51: F.10 PRISM Final Text and Due Dates**

Step 1: Oct. 22 | Step 2: Dec. 20



# Topical Discussion

Phil Sadler  
*University of Arizona*

“McMurdo Station as a Proving Ground for ISRU”

# Topical Discussion

Trevor Graff  
*Jacobs/NASA JSC*

“Terrestrial and Facility Analogs for Artemis Testing and Training”



## Coffee and Donuts

Thoughts from the LSIC Fall Meeting –  
what are our next steps for Lunar Proving  
Grounds?