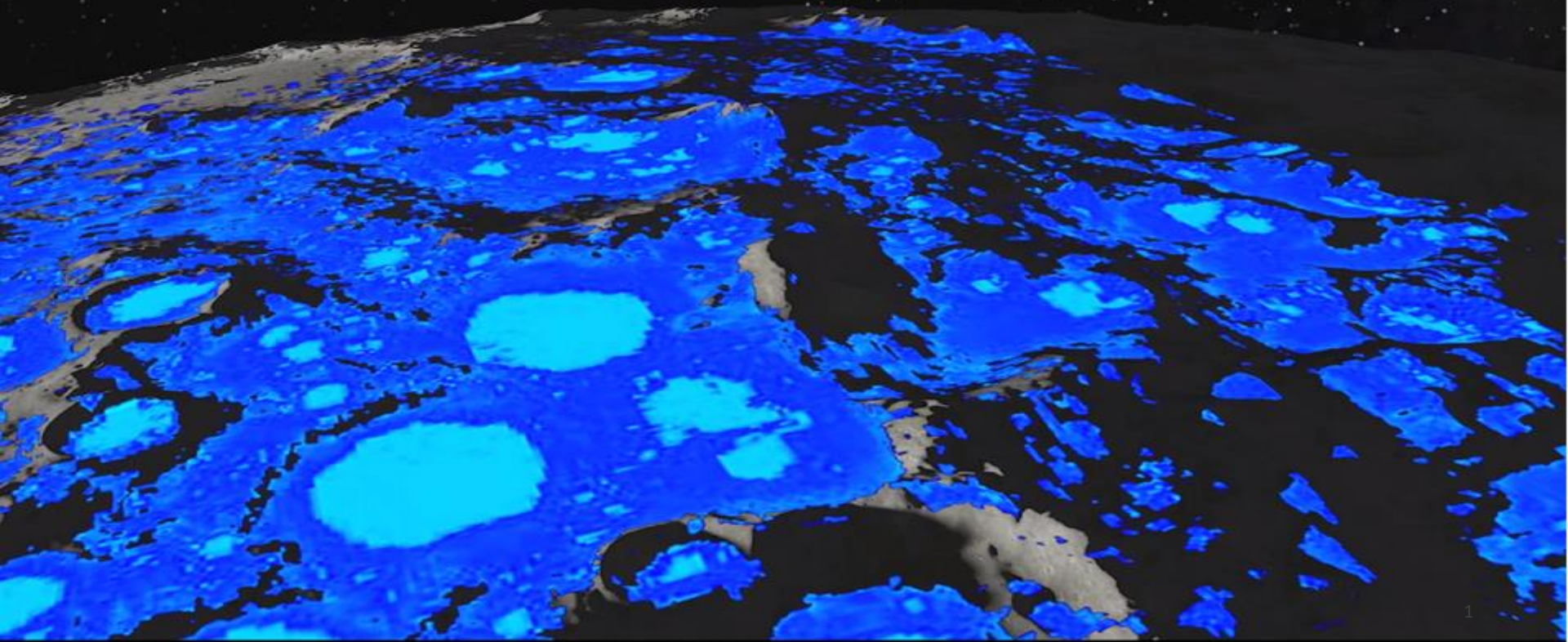


EXPLORING AND USING LUNAR POLAR VOLATILES: International Strategic Coordination



Virtual Workshop #1
Datasets

18 November, 2015



- ◆ **ISECG is a voluntary, non-binding coordination forum of 15 space agencies that**
 - Exchanges information regarding interests, plans and activities in space exploration
 - Works together to strengthen both individual exploration programs and the collective effort
- ◆ **ISECG principles**
 - Open and inclusive
 - Flexible and evolutionary
 - Effective
 - Supportive of mutual interests



Global Exploration Roadmap



2013 2020 2030

International Space Station

General Research and Exploration Preparatory Activities

Note: ISS partner agencies have agreed to use the ISS until at least 2020.

Commercial or Government Low-Earth Orbit Platforms and Missions

Robotic Missions to Discover and Prepare

LADEE	Luna-25	Luna-26	Luna 27	RESOLVE	SELENE-2	Luna 28/29	SELENE-3
Rosetta	Hayabusa2	OSIRIS-REx				Apophis	
MAVEN	ISRO Mars	ExoMars	InSight	ExoMars	Mars 2020	JAXA Mars Precursor	

Mars Sample Return and Precursor Opportunities

Human Missions Beyond Low-Earth Orbit

Multiple Locations
in the Lunar Vicinity

Explore Near-Earth Asteroid

Extended Duration Crew Missions

Humans to Lunar Surface

Missions to Deep Space and Mars System

Sustainable Human Missions to Mars Surface

- ◆ **Increasing evidence base for cold trapped volatiles at the lunar poles**
- ◆ **Multiple actors are targeting these chemical compounds as potential resources and as scientific repositories**
- ◆ **Need greater knowledge to establish utilisation potential**
 - Quantity
 - Distribution
 - Accessibility
 - Extractability
- ◆ **ISECG aims to facilitate coordination of these exploration activities and advance the understanding of the resource potential**



EXPLORING AND USING LUNAR POLAR VOLATILES

International Strategic Coordination

[About Lunar Volatiles](#)

[Goal](#)

[Calendar](#)

[Knowledge & Capabilities](#)

[Current Activities](#)

[Key Strategic Issues](#)

[Reference](#)

◆ Forum for exchanging information, knowledge, and ideas

- An on-going discussion – posting content
- Email address for comments, content and distribution list:
 - hq-lunarvolatiles@mail.nasa.gov

◆ Engaging with:

- agencies
- academia
- scientists
- private sector

1. **Data sets**
2. Where on the surface and how
3. Minimising cost, maximising productivity?

Slides and a recording of the workshops are available afterwards on the website
Open to ideas for future workshop topics

◆ Moderator

- James Carpenter – ESA ESTEC, The Netherlands

◆ Panelists

- Mahesh Anand – Open University, UK
- Paul Hayne – Jet Propulsion Laboratory, USA
- Ko Hashizume – Osaka University, Japan
- Paul Lucey – University of Hawaii, USA
- Paul Spudis – Lunar and Planetary Institute, USA

◆ Supporting

- Nantel Suzuki – NASA HQ, USA
- John Gruener – Johnson Space Center, USA
- Chris Wilson – SSERVI, USA

- ◆ **5 minutes: Welcome, introduction, scope and purpose of the workshop - James Carpenter**
- ◆ **15 minutes: Overview of data sets and results providing information about lunar polar volatiles - Paul Hayne**
- ◆ **10 minutes – key findings from LEAG SAT – Paul Lucey**
- ◆ **5 minutes – ESA Topical Team response - Mahesh Anand**
- ◆ **15 minutes – Panelist position statements**
- ◆ **60 minutes - Discussion**
- ◆ **10 minutes - wrap up**

- ◆ **It doesn't end here.....**
 - ◆ **hq-lunarvolatiles@mail.nasa.gov**