

© JAXA/NHK
Photo taken from Kaguya
+ image of Mars

International Discussion
on
Space Exploration

Jun Gomi
Deputy Director
General
JAXA



ISEF2 (The 2nd International Space Exploration Forum)

- ◆ Date: 3rd March, 2018
- ◆ Place: Tokyo, Japan
- ◆ Heads of Participants: Ministers and head of space agencies from 45 countries and international/inter-governmental organizations



Outline of ISEF2



- ◆ Panel discussions on the three themes;
 - Significance and benefit of space exploration
 - Promotion of international space exploration
 - Implementation of human and robotic space exploration

- ◆ Discussion results were compiled to three outcome documents.
 - Tokyo Principles for International Space Exploration
 - Joint Statement
 - ISEF Terms of Reference

- ◆ Announcement from Italy and the European Commission that the next ISEF will be held by 2021 in Europe.

Summary of ISEF2 Outcomes



Tokyo Principles for International Space Exploration

- **Peaceful purpose & benefits for humankind**, including adherence to the Space Treaty, etc.
- Exploration enables science, and science enables exploration.
- Implementable, evolvable, and affordable
- Aspirational and inspirational
- Respect for space policies and projects of each country / organization

- **Promotion of international cooperation and collaboration**
- Cooperation with academic and private sector
- Opportunities for creation of new markets and economic expansion

Summary of ISEF2 Outcomes



Joint Statement

- Significance of space exploration;
To explore new frontiers and to expand areas of human activity
- Reasons for national investments in space exploration and values obtained;
Space exploration contributes to economic growth and societal well-being for all citizens on Earth.
- Significance of international cooperation;
To enhance effective and efficient space exploration based on shared visions and goals
- Increasing number of new players;
Importance of innovative partnerships with newly involved countries and private sectors
- Internationally shared vision and goals;
Extending deeper into the solar system, from low-Earth orbit through the Moon to Mars and beyond is a goal widely shared by the international community.
- Continuation of ISEF as a ministerial-level forum

Terms of Reference: Basic parameters to make the ISEF a continuous international effort.

ISEF2 Side Events



Objectives:

- ◆ Engage more people with different backgrounds
- ◆ Find opportunities for business innovation
- ◆ Education and networking for young professionals

I-ISEF

(Business Conference
for the Industry)

March 2



Y-ISEF

(Workshop for
Young Professionals)

Feb. 28 - March 3



I-SEF (ISEF for Industry)



◆ 580 participants (241 companies) from 25 countries

◆ Participants from Various Fields:

Aerospace, Construction, IT, Finance, LifeScience, TeleCom Software, Infrastructure, Automotive, Media/Internet, Transport

◆ Discussions on:

- ① Values and possibilities of future space exploration industry
- ② Role of government vs role of commercial companies
- ③ Involvement of Non-space industries in space exploration
- ④ Policy Measures for the Expansion of Space Exploration Businesses

Y-ISEF (ISEF for Young Professionals)



Young professionals worked in teams to present their vision and ideas for future space exploration in a competition format.

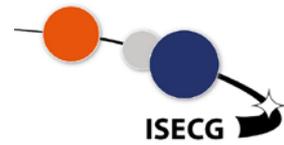
79 participants (18-35 years old) from 27 countries



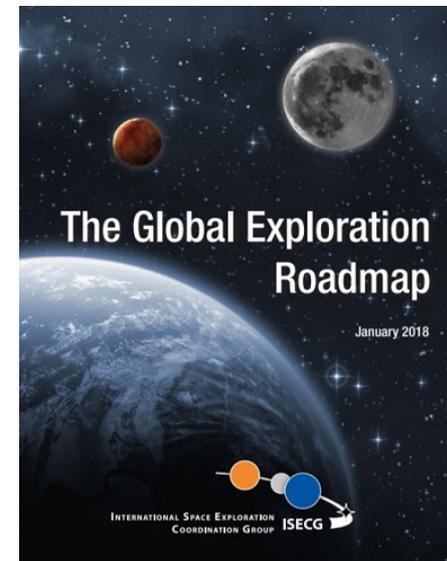
Y-ISEF (ISEF for Young Professionals)



About ISECG



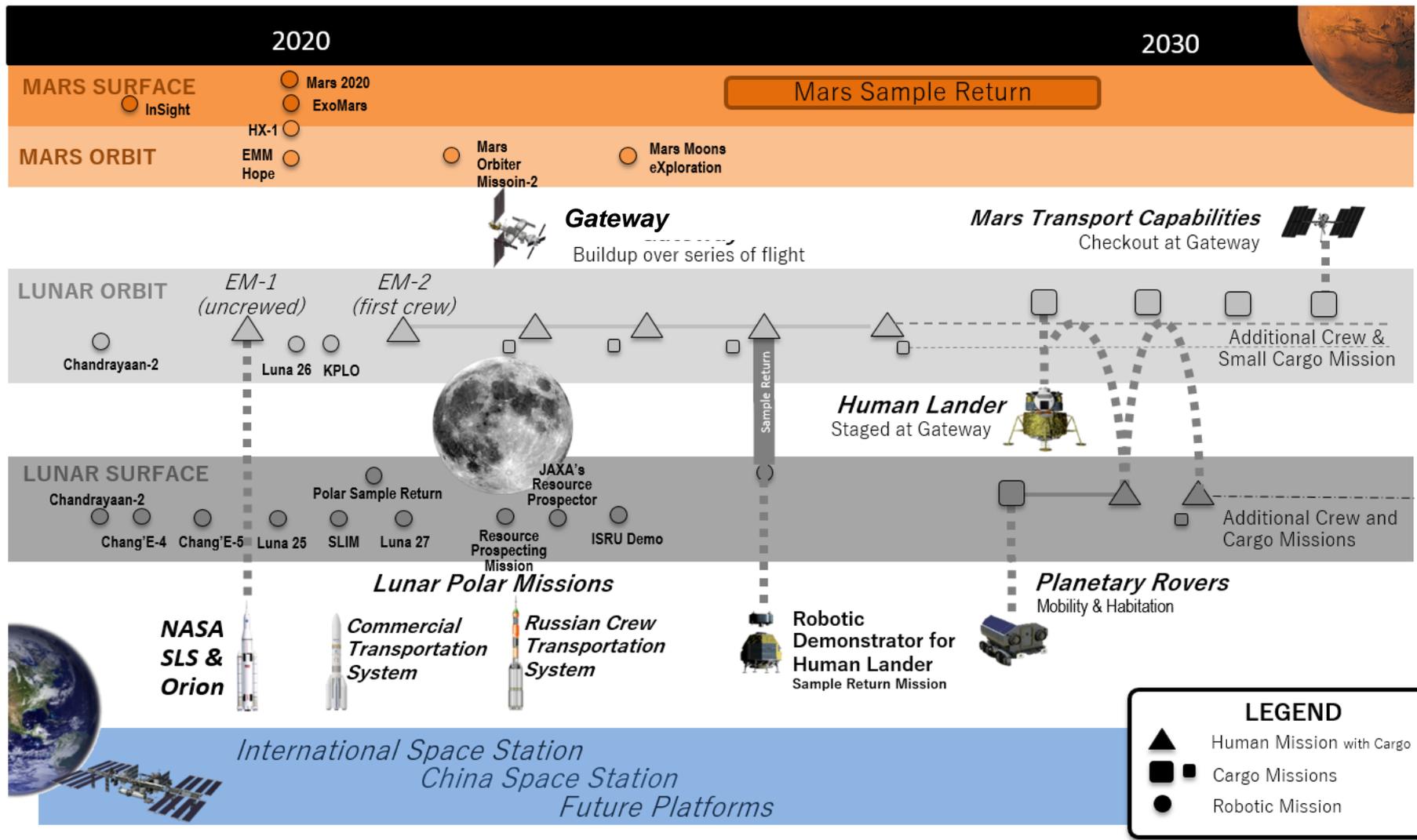
- ISECG is a non-political agency coordination forum of 16 space agencies.
- JAXA is currently the chair of ISECG.
- ISECG agencies work collectively in a non-binding, consensus-driven manner towards advancing the Global Exploration Strategy:
 - Discuss interests, objectives and plans in space exploration
 - Facilitate collaboration
 - Support promotion of interest and engagement in space exploration activities throughout society



ISECG members



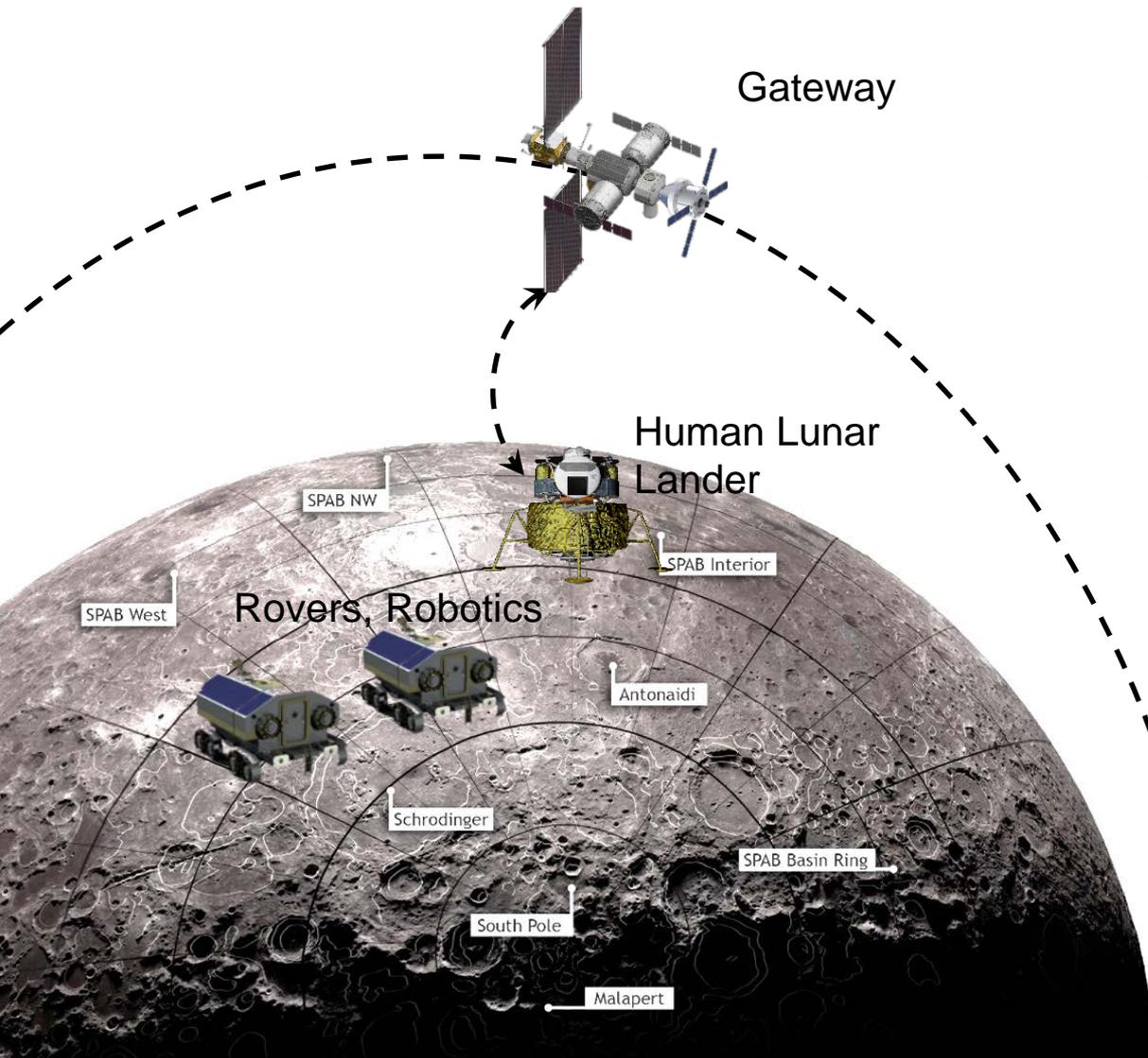
ISECG Mission Scenario



GER3 CONCLUSION

- ◆ Define a sustainable pathway for human exploration of the Solar System, with Mars as the horizon goal.
- ◆ Important tool for achievement of a global, strategic, coordinated, and comprehensive approach to space exploration.
- ◆ Provide a technical basis to inform programmatic discussions among agencies.
- ◆ Continue the dialogue to coordinate and advance sustainable space exploration, extending human and robotic presence into the Solar System.

DISCUSSIONS AT ISECG



- Starting discussion on the “**open architecture**” idea of lunar surface to involve new players, including space emerging countries

CONCLUSION

- International frameworks such as ISEF, ISECG, and COPUOS will stimulate discussions for coordinating and creating cooperation. By using the such frameworks, JAXA hopes to continue discussion among various players.
 - ✓ ISEF2 discussed the significance of advancing international collaboration and coordination efforts in space exploration.
 - ✓ ISECG established the Global Exploration Roadmap and is facilitating cooperation by open architecture policy.
- For pursuing the **sustainability of space exploration**, an **open and inclusive collaboration** which includes different types of participants at the institutional, national, and international level are essential.
 - Important to **include many players, both public and private** from space faring and emerging countries.
 - Effective to **share the use of infrastructure/ experiment equipment** among players.