ispace Lunar Exploration Missions Beyond Google Lunar XPRIZE

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Origins

Google LUNAR XPRIZE

Selected down from 34 teams to just 5 teams

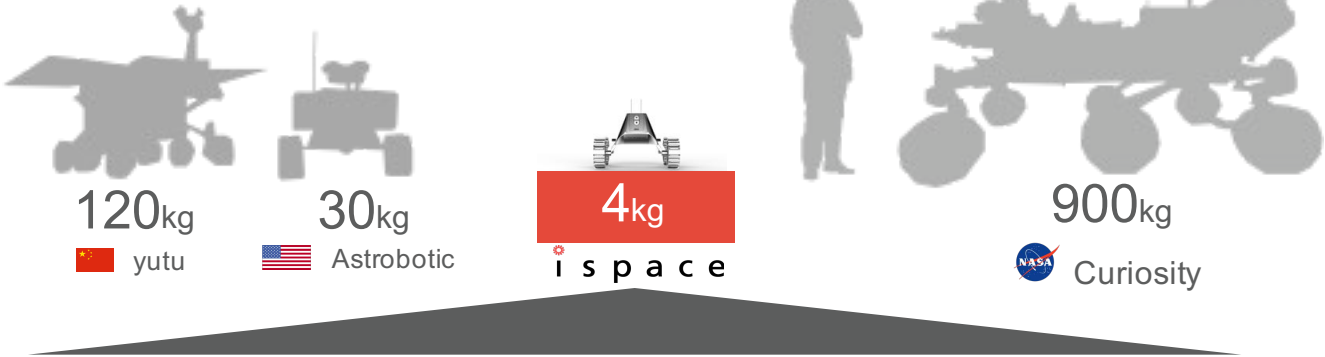
HAKUTO (Japan)

TeamIndus (India)

SpaceIL (Israel)

Moon Express (U.S.)

Synergy Moon (International)



Light weight design via Japanese manuf. tech

Utilization of COTS

Agile Development

ispace

Current Collaborations

Signed an MOU to operate R&D mission to send a radiation counter (December 2016)

Signed an MOU to operate R&D mission to send a Neutron spectrometer (March 2017)

Future Lunar Missions, Phased Approach

Phase1

Google Lunar XPRIZE

- ✓ Validate micro robot technology

Phase2

Prospecting on the Moon

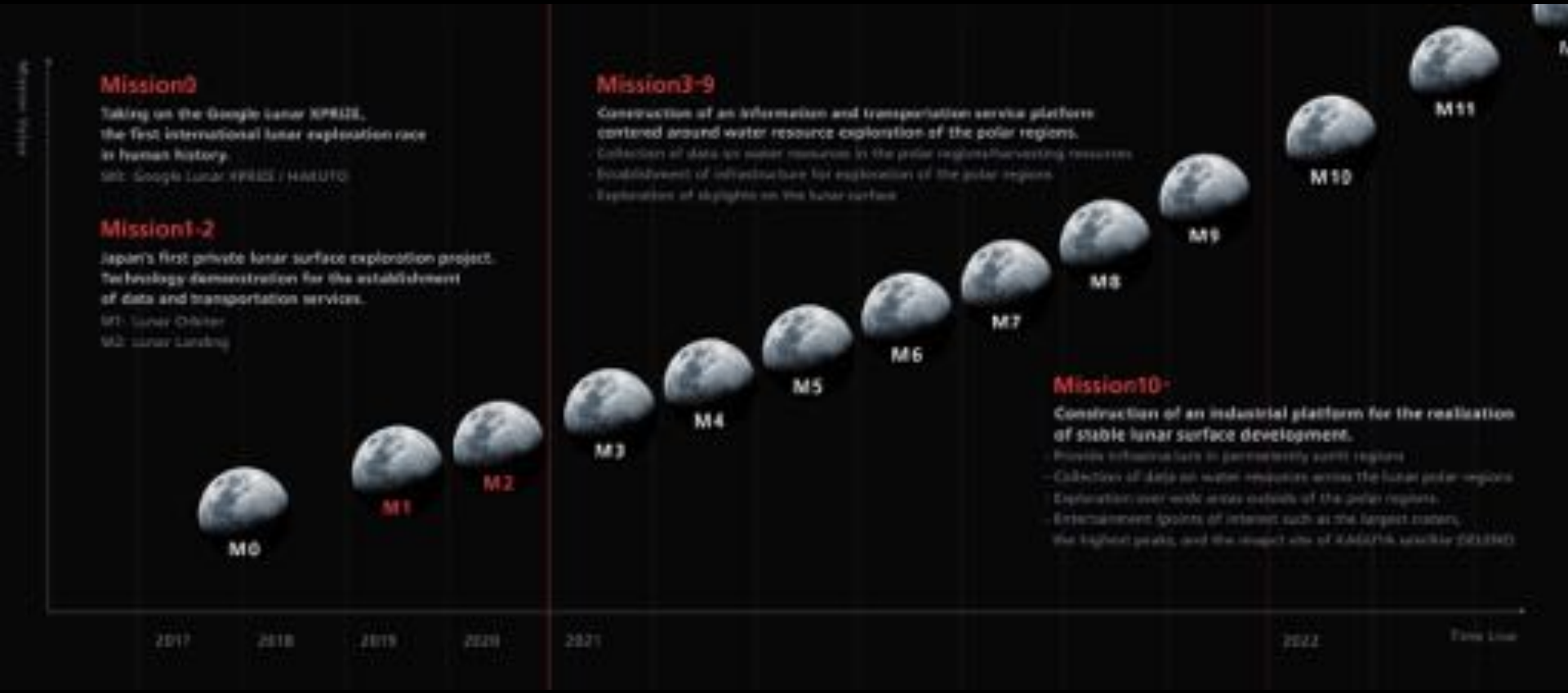
- ✓ Obtain technology to access the Moon
- ✓ Provide a frequent delivery service
- ✓ Map resources with swarm systems
- ✓ Develop ISRU systems

Phase3

Extraction, Process & Delivery

- ✓ Extract, Process, and Deliver resources to customers on the Moon and in CIS-Lunar Space

ispace Roadmap to 2040



2019 ~ 2020

Mission 1: Lunar Orbit

Observation from the lunar orbit, Lunar resource mapping, Attempt of Lunar landing

Status

SRR / SDR passed in November 2017
PDR & CDR scheduled for 2018.
FM procurements have begun

2020 ~ 2021

Mission 2: Lunar Landing

Soft landing on the lunar surface, Observation from the lunar surface, Lunar exploration using rover

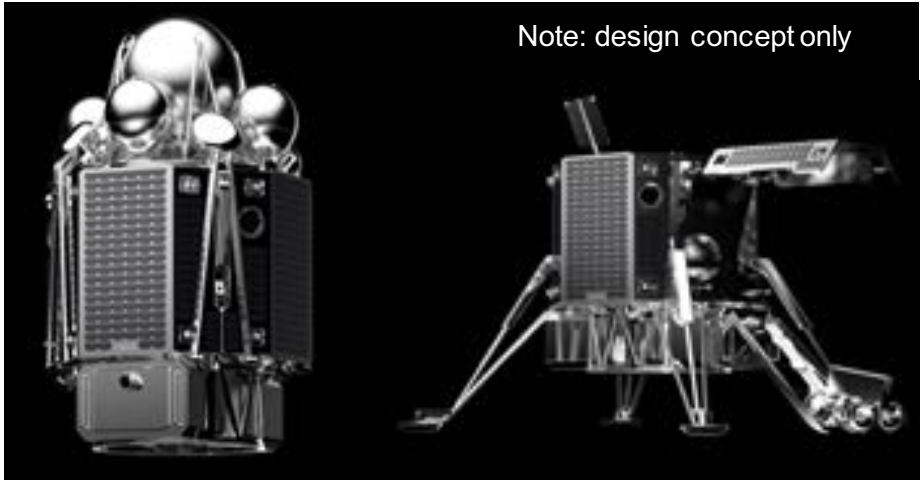
Lander Design Concept

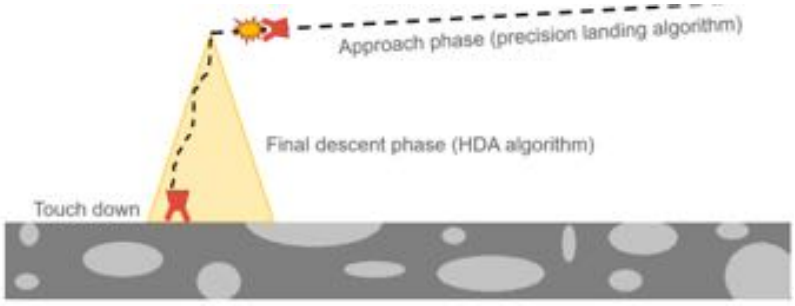
The Lander is designed to carry 30 – 50kg of payload to the lunar surface.

Rovers are protected within the Spacecraft structure during Flight and then deployed once on the surface

A high bandwidth Communications system is incorporated to support HD video downlink

A deployable landing gear which is stowed during launch to maintain the compact envelope





Precision Landing and Hazard Detection & Avoidance is needed to access all locations, and will be performed autonomously onboard during landing.

A precision of 100m is targeted for landing

Avoid hazards: shadowed areas, slopes steeper than 15° and surface features - e.g. boulders - higher than 30 cm

Expand our planet. Expand our future.

Expand our living sphere into outer space, for the creation of a sustainable world.