

ispace Completes Success 3 of Mission 1 Milestones

Payload Check Outs and Orbital Control Maneuver Represent Completion of First 4 milestones

TOKYO—December 16, 2022—ispace, a global lunar exploration company, announced today that it has completed all check outs of the customer payloads carried on board the HAKUTO-R Mission 1 lunar lander. By completing the check outs and confirming that there are no deficiencies in its customer payloads, ispace has completed Success 3 of its Mission 1 milestones.

With the completion of the payload check outs and the previously completed orbital control maneuver, ispace has now achieved the first four milestones of its Mission 1 milestones. Milestone 4 was completed at 12:00 on Dec. 15, 2022 (Japan Standard Time) and subsequently announced.

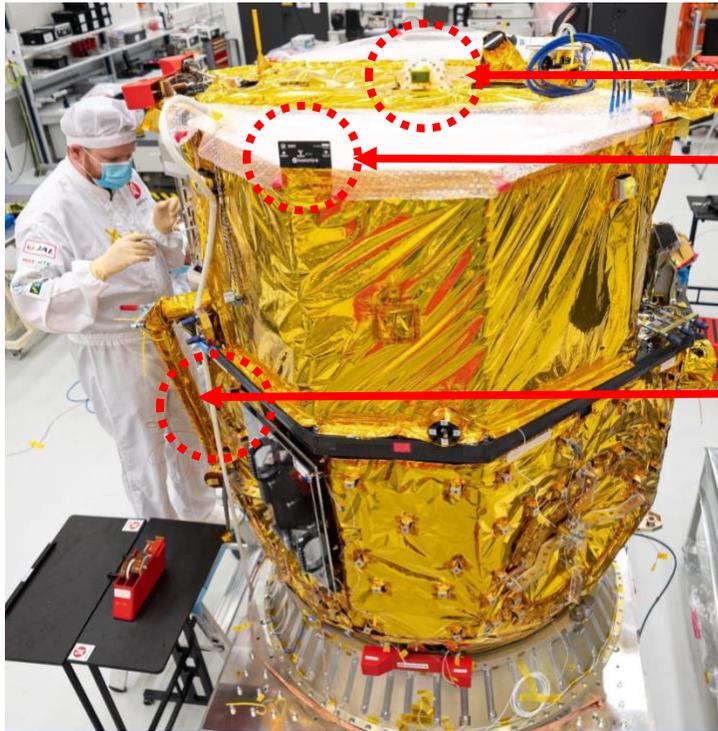
The HAKUTO-R Mission 1 lander, which was successfully launched by a SpaceX Falcon 9 rocket at 2:38 a.m., Saturday, December 11, 2022 (U.S. Eastern Time), carries 7 payloads. The upper part of the lander is designed to accommodate customer payloads including experimental equipment and multiple lunar rovers. This area is designed to protect payloads from the harsh environment of space and is maintained at a constant temperature range, allowing various activities to be carried out, depending on customer needs. The lander provides power and communication with Earth, making it possible to carry out these research and development activities—from the time of lander startup, until the end of operations.

After a steady operational state of the lander was established, customer payloads were checked out individually. ispace confirmed the temperature, attitude, power supply, and communications connectivity of each customer payload, and confirmed that the lander is capable of operating the payloads as planned. As of today, all confirmation processes have been completed.

After completing the first orbital control maneuver, the lander continues to maintain a stable attitude and power supply. The next phase of the mission involves the nominal cruise and further orbital control maneuvers to be conducted during a 1-month cruise period. Once this period elapses, the Mission 5 milestone success will be achieved, and an announcement made.

(Update) Camera Position

A previously released image in the December 14 press release misidentified the location of a camera on the side of the lander. The image below updates that information.



ispace's camera

Plate (Logo printed on both sides)

Canadensys camera mounting area

Mission 1 Milestones

For Mission 1, ispace has set 10 milestones between launch and landing, and aims to achieve the success criteria established for each of these milestones. Recognizing the possibility of an anomaly during the mission, the results will be weighed and evaluated against the criteria and incorporated into future missions already in development between now and 2025. Mission 2 and Mission 3, which also will contribute to NASA's Artemis Program, will further improve the maturity of ispace's technology and business model. Future announcements on progress of milestone achievement are expected to be released once attained.

#	Milestone	Success Criteria per Milestone
1	Completion of Launch Preparations	<ul style="list-style-type: none"> ● Complete all development processes of the Series 1 lunar lander before flight operations. ● Contract and prepare launch vehicle, and complete integration of lunar lander into the launch vehicle.
2	Completion of Launch and Deployment	<ul style="list-style-type: none"> ● Complete successful separation of the lunar lander from the launch vehicle. ● Prove that the lander's structure is capable of withstanding the harsh conditions during launch, validating the design and gathering information towards future developments and missions.
3	Establishment of a Steady Operation State (*Initial Critical Operation Status)	<ul style="list-style-type: none"> ● Establish communication link between the lander and Mission Control Center, confirm a stable attitude, as well as start stable generation of electrical power in orbit. The completion of this step verifies the integrity of lander core systems and customer payloads.
4	Completion of first orbital control maneuver	<ul style="list-style-type: none"> ● Complete the first orbital control maneuver, setting the lander on a course towards the Moon and verifying operation of the main propulsion system, as well as related guidance, control, and navigation system.
5	Completion of stable deep-space flight operations for one month	<ul style="list-style-type: none"> ● Prove that the lander is capable of steady deep-space flight by completing a nominal cruise and orbital control maneuvers over a 1 month period.
6	Completion of all deep space orbital control maneuvers before LOI	<ul style="list-style-type: none"> ● Complete all planned deep space orbital control maneuvers by utilizing gravity assist effects and successfully target the 1st lunar orbit insertion maneuver. This stage proves the ability of the lander's deep-space survivability, as well as the viability of ispace's orbital planning.
7	Reaching the lunar gravitational field / lunar orbit	<ul style="list-style-type: none"> ● Complete the first lunar orbit insertion maneuver and confirm the lander is in a lunar orbit, verifying the ability of ispace to deliver spacecraft and payloads into stable lunar orbits.
8	Completion of all orbit control maneuvers in lunar orbit	<ul style="list-style-type: none"> ● Complete all planned lunar orbital control maneuvers before the landing sequence. ● Confirm the lander is ready to start the landing sequence.
9	Completion of lunar landing	<ul style="list-style-type: none"> ● Complete the landing sequences, verifying key landing abilities for future missions.
10	Establishment of a steady system state after lunar landing	<ul style="list-style-type: none"> ● Establish a steady telecommunication and power supply on the lunar surface after landing to support customer payloads' surface operations.

About ispace, inc.

ispace, a global lunar resource development company with the vision, "Expand our Planet. Expand our Future.", specializes in designing and building lunar landers and rovers. ispace aims to extend the sphere of human life into space and create a sustainable world by providing high-frequency, low-cost transportation services to the Moon. The company has offices in Japan, Luxembourg, and the United States with more than 200 employees worldwide. ispace technologies U.S., inc. is part of a team led by Draper, which was awarded a NASA Commercial Lunar Payload Services (CLPS) Program contract to land on the far side of the Moon by 2025 (as of November 2022). Both ispace, and ispace EUROPE S.A. (ispace EU) were awarded contracts to collect and transfer ownership of lunar regolith to NASA, and ispace EU was selected by ESA to be part of the Science Team for PROSPECT, a program which seeks to extract water on the Moon.

Established in 2010, ispace operated “HAKUTO” which was one of five finalist teams in the Google Lunar XPRIZE race. The company’s first mission as part of its HAKUTO-R lunar exploration program launched on December 11, 2022, from the United States on a SpaceX Falcon 9 rocket and is currently expected to land on the lunar surface around the end of April 2023. ispace has also launched a lunar data business concept to support new customers as a gateway to conduct business on the Moon.

For more information, visit: www.ispace-inc.com; Follow us on Twitter: [@ispace_inc](https://twitter.com/ispace_inc).

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