

ispace Successfully Carries Out Second Orbital Control Maneuver

TOKYO—January 2, 2023—ispace, inc., a global lunar exploration company, announced today that its HAKUTO-R Mission 1 lunar lander has successfully carried out its second orbital control maneuver in accordance with its mission operations plan.

The maneuver was carried out shortly after midnight on Jan. 2, 2023 (Japan Standard Time) and operations were managed from ispace’s mission control center located in Nihonbashi, Tokyo. This orbital control maneuver is the second maneuver to occur while the lander has been traveling to the moon. The first orbital control maneuver was completed on Dec. 15, 2022.

The second maneuver was carried out at a greater distance from Earth and lasted for a longer period than the first maneuver, verifying the company’s capability to carry out orbital maneuvers under various conditions.

As of Jan. 2, 2023, the lander has traveled approximately 1.24 million kilometers from the Earth and is scheduled to be at its farthest point of approximately 1.4 million km from the Earth by Jan. 20, 2023. Once the lander reaches its farthest point from Earth, a third orbital control maneuver may be performed, depending on its navigational status.

Since its launch on Dec. 11, 2022, the lander has maintained stable navigation in accordance with the mission plan. Once the lander has navigated deep space for one month, it will have achieved Mission 1 Milestone Success 5, at which an announcement is expected to be made.

Further updates about the status of the lander continue to be made on social media.

@ispace_inc (https://twitter.com/ispace_inc)

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. 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 Dec. 11, 2022, from the United States on a SpaceX Falcon 9 rocket and is currently expected to land on the lunar surface at the end of April 2023. Subsequent missions are in development process with launches expected in 2024 and 2025. 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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