ispace - EUROPE

Press Release

September 10, 2025
ispace, inc.

ispace-EUROPE Completes Mission Definition Review for ESA-backed MAGPIE mission, Advancing Europe's First Lunar Polar Resource Prospecting Rover

- MAGPIE mission passes key Mission Definition Review, confirming feasibility
- European-led rover will explore the Moon's south pole for water ice and geology
- ispace Europe leads diverse consortium to deliver a world-first science mission

LUXEMBOURG –September 10, 2025– ispace EUROPE S.A. (ispace-EUROPE) and its MAGPIE consortium partners have reached a major milestone in the **M**ission for **A**dvanced **G**eophysics and **P**olar **I**ce **E**xploration, successfully completing the Mission Definition Review (MDR).

MAGPIE is a European-led lunar rover mission funded by the European Space Agency's (ESA) small missions for exploration initiative and spearheaded by ispace-EUROPE. It will be the first in-situ European rover mission to prospect for lunar polar resources, combining advanced instruments, European engineering heritage, and a European consortium of experts to map, measure, and understand the Moon's most valuable resources.

The mission will travel to the Moon's south polar region to investigate the presence of water ice, map the distribution of hydrogen, and study the geological history of this unique environment. Operating in areas that remain sunlit but are close to extremely cold regions where water ice may be stable, MAGPIE will help answer fundamental questions about the Moon's water cycle, its origins, and how such resources might be accessed in the future.

By targeting one of the most scientifically valuable and operationally challenging regions of the Moon, the mission will provide critical knowledge for sustainable exploration and in-situ resource utilisation.

The MDR marks the conclusion of pre-Phase A, during which ispace-EUROPE integrated its proven rover platform with a diverse suite of scientific instruments and tested the combined mission concept against the constraints of the polar environment. The team assessed power generation, thermal control, and mobility to ensure the rover could meet all science objectives within the mission timeline.

This comprehensive review, conducted by ESA experts, also examined the technical design of the rover and payloads, the mission operations concept, surface science objectives, development schedule, and costs. No critical or blocking actions were identified regarding the MDR objectives, allowing the project to proceed to the next phase of funding and development.

Led from Luxembourg, ispace-EUROPE is leveraging its heritage in rover development alongside a consortium that includes partners from Germany, the United Kingdom, Poland, the Czech Republic, and Norway, as well as leading research institutions such as the Technical University of Munich, The Open University, KP Labs, Czech Technical University, and CENSSS. The project demonstrates the value of collaboration between established and emerging players in the European space sector, showcasing how nations and organisations can contribute meaningfully to frontier science and exploration.

Francesca McDonald, Moon Exploration Scientist at ESA: "The MAGPIE mission concept enables Europe to further build its strong leadership and expertise as part of an international lunar prospecting campaign for understanding how to access and responsibly utilise planetary resources. MAGPIE importantly conducts investigations in situ at the surface at the local scale that robots and humans will work at.

"As well as contributing to understanding the preservation and distribution of polar water-ice at a south polar region to assess the resource potential, the MAGPIE investigations can also contribute to advancing our understanding about the history and evolution of the Earth-Moon system and its place in the Solar System, through expanding the global coverage of the Moon that is being explored in situ at the surface and through the ground truthing and enrichment of existing and new orbital data sets."

MAGPIE's payload suite includes the Lunar Volatile Scout instrumented drill to analyse regolith samples for volatiles such as water, the HardPix neutron spectrometer to detect hydrogen, the Lunar RIMFAX ground-penetrating radar to map subsurface layers, and a Data Processing Unit to manage and transmit findings. Together, these instruments will locate and characterise water-rich areas, understand how they formed, and assess their potential for future human and robotic use.

Julien Lamamy, CEO, ispace-EUROPE: "MAGPIE is about more than science – it is a demonstration of how Europe can lead high-impact lunar missions by combining innovation, agility, and a diverse, international team. Completing MDR confirms our mission's feasibility and sets us firmly on the path to delivering groundbreaking science at the Moon's poles."

With Phase A now complete, MAGPIE moves into the next stage of development, focusing on maturing payload designs, building prototypes, and refining the interface between rover and instruments. Formal confirmation of programmatic funding for the mission is expected to be determined at the ESA ministerial meeting in November 2025. The mission is targeting a launch window in 2028, bringing Europe closer to delivering a world-first scientific exploration of the Moon's polar regions.

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About ispace-EUROPE

ispace-EUROPE, a lunar exploration and resource development company based in Luxembourg, focuses on the development of lunar rovers. It is responsible for the first-ever European designed, manufactured, and assembled lunar rover. With its world-class talent, robotics capabilities, and connections to the Luxembourg ecosystem, ispace-EUROPE is uniquely positioned to accelerate the creation of a lunar industry in Europe and serve the needs of the growing institutional and commercial customers.