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## Japanese rover tests on track for lunar mission with India

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**NEW DELHI:** The Indian Space Research Organisation (Isro) is set to conduct its next moon mission in collaboration with the Japanese space agency, which recently completed a series of tests for the rover that will traverse the lunar surface, indicating that the project was moving forward at a fast pace.

The tests to assess the rover's mobility are on track. Yuji Katsumata of the Lunar Polar Exploration Mission (LUPEX) of Japan Aerospace Exploration Agency (JAXA), has said. JAXA has created multiple facilities to emulate the lunar terrain, with a dark room, sandy terrain with rocks and lunar lighting, to test the mobility and navigation abilities of the rover, he said.

"We have created a prototype rover used for the development of LUPEX's mobility system. The large wheels or the crawlers provide a firm grip on the ground, allowing the rover to traverse rough terrain with high reliability. The rover also has an independent driving and steering system. Each

**THE JAPANESE AGENCY IS IN CHARGE OF LUNAR ROVER WHILE ISRO IS RESPONSIBLE FOR THE LANDER CARRYING THE ROVER**

crawler can independently drive and steer, allowing the rover to perform various manoeuvres, including rotating in its place," said Katsumata.

LUPEX is JAXA's first mission to send a rover of this size to the moon, and the mission is designed to explore the lunar surface and search for subsurface water. LUPEX is an international cooperative project, with JAXA in charge of the lunar rover and Isro responsible for the lander that will carry the rover. Observation Instruments from the National Aeronautics and Space Administration and European Space Agency will be mounted on the rover.

"Analyses of various observational data over recent years sug-

gest that water may be present in the lunar polar regions," the Japanese agency said in a mission document. "If water can be found in these regions, it could be used as an energy source for future human activities on the moon."

The LUPEX rover will be equipped with seven experiments, JAXA scientists said. There will be an advanced lunar imaging spectrometer developed by JAXA on the left side, which has mirrors that move both horizontally and vertically.

There will be an exospheric mass spectrometer developed by the European Space Agency near the centre and a mid-infrared imaging spectrometer developed by Isro on the right.

The rover will also house a resource investigation water analyser (REIWA), also developed by JAXA. REIWA also has Isro's sample analysis packages, which is equipped to identify the mineral composition of samples collected from the surface of rocks.

While the final date of the LUPEX launch has not decided, JAXA said the mission is expected to take flight by 2026.