

Chandrayaan-3

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Chandrayaan-3 Latest News

New findings based on data from India's Chandrayaan-3 mission suggest that water ice on the Moon may be present beyond its polar regions.

About Chandrayaan-3

- Chandrayaan-3 is the **Indian Space Research Organisation's (ISRO)** second attempt, after Chandrayaan-2, to achieve a successful landing and rover operation on the Moon's surface.
- Chandrayaan-3 was launched using ISRO's **LVM3 rocket**, designed to place modules into the Geosynchronous Transfer Orbit (GTO) at a lower cost.
 - LVM3 is a **three-stage rocket** with two solid strap-on boosters and a core liquid stage.
 - The LVM3 M4 launcher positioned the integrated modules in an elliptical parking orbit of approximately 170 x 36,500 km.
- **Objectives:** The mission aims to explore the presence of water ice, which could support future lunar habitation and provide fuel for interplanetary missions. Key goals include:

- Achieving a safe and soft landing on the Moon.
- Conducting rover-based exploration of the lunar surface.
- Performing in-situ scientific experiments through the rover.
- **Mission Components:** Chandrayaan-3 consists of a **Lander Module (LM)**, a **Propulsion Module (PM)**, and a Rover designed to develop and demonstrate interplanetary mission technologies.

Chandrayaan-3 Recent Findings

- New data from Chandrayaan-3 indicates possible water-ice deposits beyond the Moon's polar regions.
- A study by the Physical Research Laboratory (PRL), Ahmedabad, using data from Chandra's Surface Thermophysical Experiment (ChaSTE) instrument, supports this finding.
- ChaSTE measured a 60°C temperature difference between the lunar surface and 10 cm below it, revealing that the Moon's surface layer is highly non-conductive, providing insights into its composition and thermal properties.

Chandrayaan-3 FAQs

Q1. Is Chandrayaan-3 still working?

Ans. Chandrayaan-3's lander and rover completed their mission after one lunar day; the propulsion module remains in Earth orbit.

Q2. When was Chandrayaan-3 landed?

Ans. Chandrayaan-3 successfully landed on the Moon's South Pole on August 23, 2023.

Q3. Is Chandrayaan-3 a success or failure?

Ans. Chandrayaan-3 was a success, achieving a soft landing on the Moon's South Pole and completing its scientific objectives.

Q4. What is the difference between Chandrayaan 2 and Chandrayaan-3?

Ans. Chandrayaan-3 lacks an orbiter, unlike Chandrayaan-2, and focuses on soft landing with improved lander and rover capabilities.

Source: FE

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