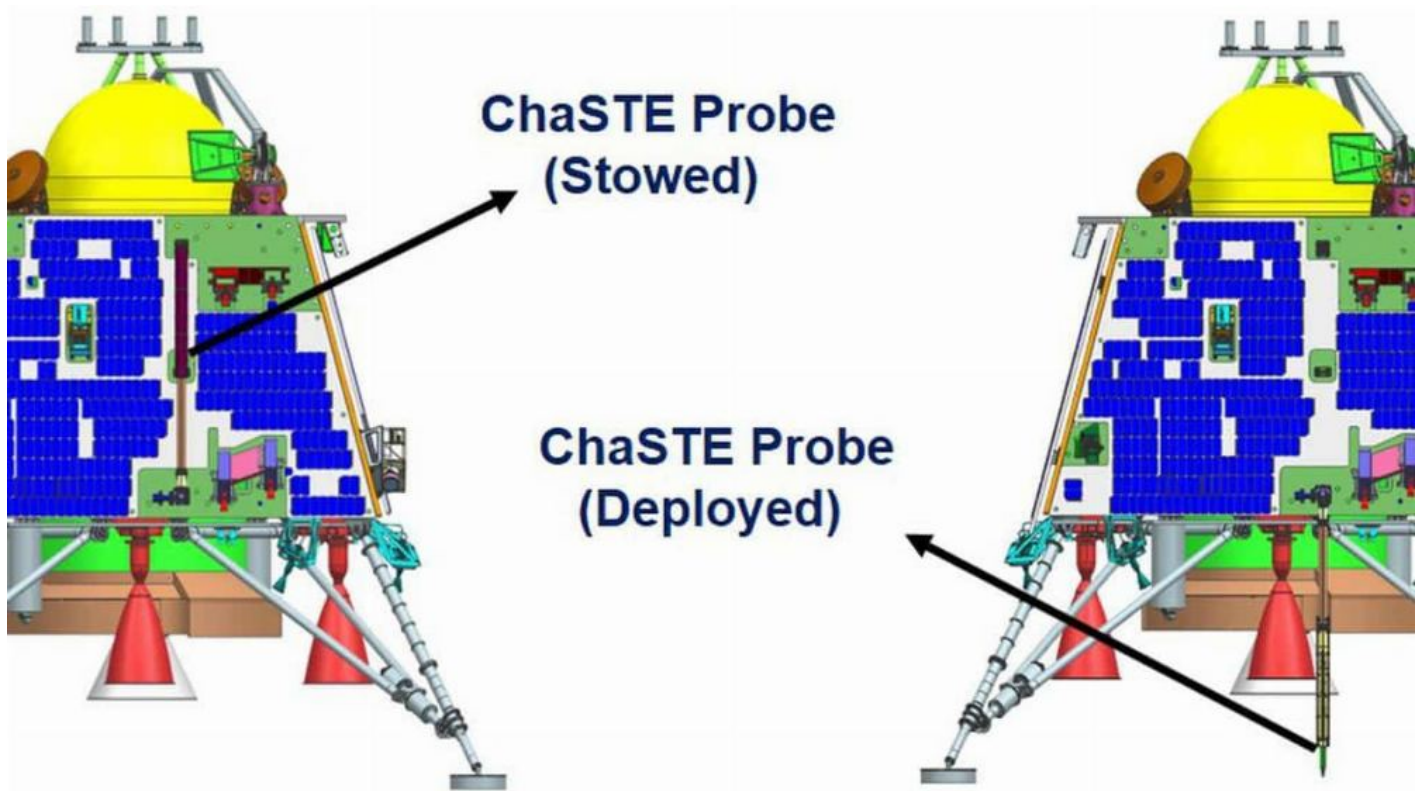


ChaSTE Probe

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About ChaSTE Probe:

- The **Chandra's Surface Thermophysical Experiment** (ChaSTE) is a **temperature probe**.
- It can be driven into the moon's surface using a motor to a depth of up to 10 cm. It has 10 sensors.
- It measured the temperature profile of the lunar topsoil around the South Pole to understand its thermal behaviour.
- It was developed by the **Space Physics Laboratory of ISRO's Vikram Sarabhai Space Centre (VSSC)**, together with the **Physical Research Laboratory (PRL)**, Ahmedabad.
- Its findings reflect this **variation between the moon's surface**, which is covered by a patina of loose rocks and dust called the lunar regolith, and 10 cm under it.
- Its data show that **at the moon's surface** (where the lander is located, a point between the craters Manzinus C and Simpelius N), the temperature **is 40-50 degrees C**. But just under 80 mm under, it plunges to **around -10 degrees C**.
- **Significance of the findings**
 - The temperature variation indicates that the moon's **topsoil is a powerful thermal insulator**, in keeping with previous findings.

- It adds credence to the idea that it **can be used to build habitats for humans** to shield them from frigid conditions and harmful radiation.
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Q1) What are thermal insulators?

A thermal insulator is a material or substance that has low thermal conductivity, which means it does not easily allow heat to pass through it. Thermal insulation is used to slow down or prevent the transfer of heat between objects or regions with different temperatures.

Source: [Chandrayaan-3 probe shows a 50°C difference between the moon's surface and 10 cm below.](#)

Source: <https://vajiramandravi.com/current-affairs/chaste-probe/>

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