



Hindustan Times

FIRST VOICE. LAST WORD.

Aditya-L1 goes through crucial manoeuvre: Isro

Soumya Pillai

letters@hindustantimes.com

NEW DELHI: The Indian Space Research Organisation (Isro) successfully performed a 16-second-long trajectory correction manoeuvre for Aditya-L1 to ensure the country's first solar observatory is on track to its intended spot in the Sun-Earth Lagrange Point 1 (L1), the space agency said on Sunday, days after the craft left the Earth's sphere of influence.

The spacecraft is healthy and on its way to L1, Isro said in a statement.

"The spacecraft is healthy and on its way to Sun-Earth L1. A trajectory correction manoeuvre (TCM), originally provisioned, was performed on October 6, 2023, for about 16 sec. It was needed to correct the trajectory evaluated after tracking the Trans-Lagrangian Point 1 Insertion (TLI) manoeuvre performed on September 19, 2023," the statement said.

The space agency said the manoeuvre ensures that the spacecraft is on its intended path towards the Halo orbit

[continued on 38](#)

country's first mission to study the Sun — from the spaceport in Sriharikota. After the launch, a series of Earth-bound manoeuvres were performed to ensure that the craft gathers enough momentum to be launched into its 125-day journey.

Such corrective manoeuvres are necessitated due to the long journey — 125 days — that the spacecraft has to undertake to ensure that it follows its planned track, a senior scientist at the Indian Institute of Space in Bengaluru explained. ISRO developed the primary payload being carried by Aditya-L1.

"It was felt that a slight push was required to correct its path. These corrective manoeuvres might be required in the future as well and is not a cause of any concern. Teams are monitoring the movement of the craft carefully and these are done to ensure that the mission is a success finally," the scientist said, requesting anonymity.

In a mission update on September 30, Isro said that Aditya-L1 has traversed a distance of 9.2 lakh km from Earth, successfully escaping the sphere of Earth's influence, and is now navigating its path towards L1.

Aditya-L1 is only the second spacecraft that Isro sent outside the planet's sphere of influence after the Mars Orbiter Mission, the agency said.

After a series of trajectory correction manoeuvres, the Aditya-L1 spacecraft will finally be placed at Lagrange Point-1 or L1, from where it will start at least a five-year study to understand various aspects of the Sun — the nearest star to Earth. The L1 point of the Sun-Earth system, about 1.5 million km from the planet, will ensure that the force of gravity of the nearest celestial entities cancels each other out, helping the craft remain in equilibrium.

To be sure, the L1 point is only 1% of the Earth-Sun distance.

With the mission, India's scientists hope to unlock new insights about the centre of our solar system. The spacecraft is meant to be placed in a halo orbit around L1.

This point will give the craft the advantage of continuous observations without any occultation or eclipses, providing uninterrupted data to study the Sun's corona, its photon release and its environment.

ADITYA-L1

insertion around L1.

"As Aditya-L1 continues to move ahead, the magnetometer will be turned on again within a few days," it said.

On September 2, the Indian space agency launched the Aditya-L1 spacecraft — the