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India's first mission to study the Sun will be launched by June-July: ISRO chairman

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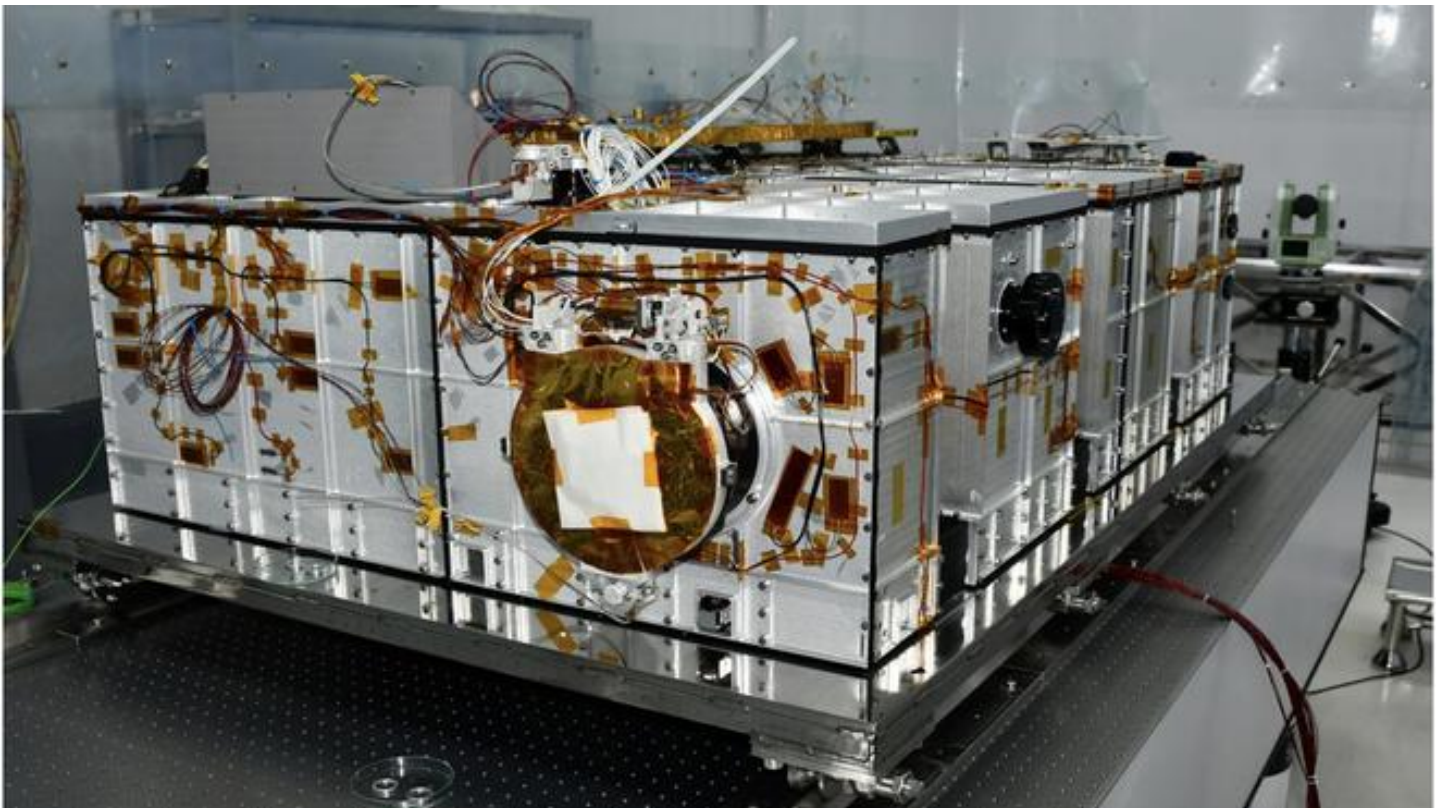
January 26, 2023 07:54 pm | Updated January 27, 2023 10:32 am IST - Bengaluru

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Visible Line Emission Coronagraph, the primary payload on board Aditya-L1, was handed over to ISRO by the Indian Institute of Astrophysics in Bengaluru on January 26, 2023. | Photo Credit: The Hindu

The Indian Space Research Organisation (ISRO) is planning to launch the Aditya-L1 mission by June or July this year. Aditya-L1 is the first Indian space mission to observe the Sun and the solar corona.

ISRO chairman S. Somanath, speaking at the handover ceremony of the Visible Line Emission Coronagraph (VELC) payload on Thursday, said that the Aditya-L1 mission will be launched by June or July as the launch window for the mission would close by August.

The Aditya-L1 mission will be launched by ISRO to the L1 orbit (which is the first Lagrangian point of the Sun-Earth system). L1 orbit allows Aditya-L1 to look at the Sun continuously.

In total Aditya-L1 has seven payloads, of which the primary payload is the Visible Emission Line Coronagraph (VELC), designed and fabricated by the Indian Institute of Astrophysics, Bengaluru.

Importance of study

The other six payloads are being developed by the ISRO and other scientific institutions.

“Understanding the effect of the Sun on the Earth and its surroundings has become very important now and Aditya-L1 aims to shed light on this topic. It has taken 15 years for VELC from concept to completion, and this period was needed for a complex system like this. The VELC has been the finest collaboration between the IIA and the ISRO,” said Mr. Somanath.

Following the handover of the VELC payload, the ISRO will now conduct further testing of VELC and its eventual integration with the Aditya-L1 spacecraft.

“This is the main instrument (VELC payload) on board the Aditya-L1 satellite. There are also other instruments which are developed by the ISRO and other institutions. Currently, we are getting ready with the satellite. The payload will be taken to the U.R. Rao Satellite Centre in Bengaluru, where we will integrate it with the Aditya-L1 satellite which will undergo a lot of testing, evaluation, and finally, it will be launched using the PSLV,” Mr. Somanath added.

Observing corona

Raghavendra Prasad, Principal Investigator, VELC payload, said that the payload will be able to observe the corona continuously and the data provided by it is expected to answer many outstanding problems in the field of solar astronomy.

“No other solar coronagraph in space has the ability to image the solar corona as close to the solar disk as VELC can. It can image it as close as 1.05 times the solar radius. It can also do

imaging, spectroscopy, and polarimetry at the same time, and can take observations at a very high resolution (level of detail) and many times a second," Prof. Prasad said.

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