Countdown begins for launch of ISRO's heaviest communication satellite CMS-03 for military on November 2

The spacecraft will travel onboard a LVM3-M5 rocket, dubbed as 'Bahubali' for its heavylift capability

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India's LVM3 launch vehicle is scheduled to launch the CMS-03 communication satellite in its 5th operational flight (LVM3-M5) on November 02, 2025, from Sriharikota. | Photo Credit: ANI

The 24-hour countdown for the launch of over 4,000 kg communication satellite CMS-03 commenced at this spaceport on Saturday (November 1, 2025), ISRO said.

The satellite weighing about 4,410 kg will be the heaviest to be launched from the Indian soil and into a Geosynchronous Transfer Orbit (GTO), the space agency said.

The spacecraft will travel onboard a LVM3-M5 rocket, dubbed as 'Bahubali' for its heavylift capability.

The launch vehicle has been fully assembled and integrated with the spacecraft and it has been moved to the second launch pad here for taking up pre-launch operations, the Bengaluru-headquartered space agency said on Saturday (November 1, 2025).

Later in a social media post, ISRO said, "Countdown commences!! Final preparations complete and the countdown for LVM3-M5 (mission) has officially begun at Satish Dhawan Space Centre, Sriharikota".

"All systems are GO as we move closer to liftoff," the space agency said in its update.

The 43.5 metre tall rocket is scheduled for a 5.26 p.m. liftoff on November 2.

LVM3- (Launch Vehicle Mark-3) is the new heavy lift launch vehicle of ISRO and is used for placing 4,000 kg spacecraft in GTO in a cost-effective manner, ISRO said.

This three stage launch vehicle with two solid motor strap-ons (S200), a liquid propellant core stage (L110) and a cryogenic stage (C25) gives ISRO full self-reliance in launching heavier communication satellites that weigh up to 4,000 kg in GTO.

LVM3- is also termed as Geosynchronous Satellite Launch Vehicle (GSLV) MkIII.

According to ISRO, the LVM3-M5 is the fifth operational flight. The LVM3 vehicle was developed with completely indigenised technologies including the C25 cryogenic stage. It has a track record of all successful launches even from the first development flight LVM-3 Crew module Atmospheric Re-entry Experiment (CARE) launched in December 2014.

It is pertinent to mention that for the ambitious Gaganyaan mission, ISRO had planned the Human rated LVM3 rocket as the launch vehicle, which is named as HRLV.

The space agency had previously launched its heaviest communication satellite GSAT-11 on December 5, 2018 from Kourou launch base, French Guiana by Ariane-5 VA-246

rocket. Weighing about 5,854 kg, GSAT-11 is the heaviest satellite built by ISRO.

Sunday's mission objective is that the CMS-03, a multi-band communication satellite, will provide services over a wide oceanic region including the Indian landmass, the space agency said.

The LVM3- rocket is capable to carry payload to GTO weighing 4,000 kg and for Low Earth Orbit payloads of 8,000 kg with its powerful cryogenic stage.

The two S200 solid rocket boosters located on the sides of the rocket provide the thrust required for lift off. The S200 boosters are developed at Vikram Sarabhai Space Centre in Thiruvananthapuram.

The third stage is L110 Liquid Stage and is powered by two Vikas engines designed and developed at the Liquid Propulsion Systems Centre.

The previous mission of LVM-3 rocket was the successful launch of Chandrayaan-3 mission, wherein, India became the first country to land successfully near the lunar South pole in 2023.

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