

ANOTHER ORBIT

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The Indian Space Research Organisation has marked a big milestone by successfully testing its heavy-lift launcher while launching an advanced communication satellite. It plans to use this for the Chandrayaan-II moon mission in the early months of 2019. On Wednesday the Geosynchronous Satellite Launch Vehicle MarkIII (GSLV MkIII) [launched GSAT29](#), an advanced communications satellite, into a geosynchronous transfer orbit where the satellite's closest approach to earth would be 190 km and the farthest 35,975 km. The launcher bearing the 3,423 kg satellite took off from a launchpad at the Satish Dhawan Space Centre at Sriharikota. Seventeen minutes later, after various stages, the vehicle injected the satellite into the transfer orbit. Taking over smoothly, ISRO's master control facility at Hassan assumed the command and control of the satellite, and it will be manoeuvred into a geostationary orbit, its final destination, in days. Once placed, the satellite's solar panels and antennae will unfold and work will begin. With a liftoff mass of 640 tonnes, the GSLV MkIII is the heaviest launch vehicle made in India, and GSAT29 is the heaviest satellite to take off from Indian soil. Both launcher and satellite have other characteristics that make them stand out. The launcher can carry payloads up to 4 tonnes to the geosynchronous transfer orbit and up to 10 tonnes to a low-earth orbit. The multi-band, multi-beam satellite can cater to the [communication needs of people in Jammu and Kashmir and the Northeast](#).

All you need to know about GSLV Mk III - D2/GSAT-29 Mission

The first successful experimental flight of the GSLV MkIII was in 2014 when it carried a dummy crew module as a payload. This proved its capacity in the atmospheric flight regime. Its first developmental flight was on June 5, 2017, when it launched GSAT19, weighing 3,136 kg. The present launch marked the second developmental flight of the MkIII. With these two successes, the launcher is declared 'operational' and joins the ranks of the working vehicles, the PSLV and the GSLV. This is far fewer than the number of developmental flights the older launch vehicles were subjected to. This is because the solid and liquid propellant stages had been tested before. The third cryogenic stage could establish its performance in just two developmental flights. Of course, these were preceded by numerous experimental flights and ground-based tests. This success sets the stage for trying out variations such as other types of engines, different fuel combinations and higher launch capacity. The GSLV MkIII has not just boosted the satellite into its orbit, but also restored morale at ISRO, which had been dented by the GSAT 6A setback.

Firm intervention is needed to end the unsavoury controversy in the CBI

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