

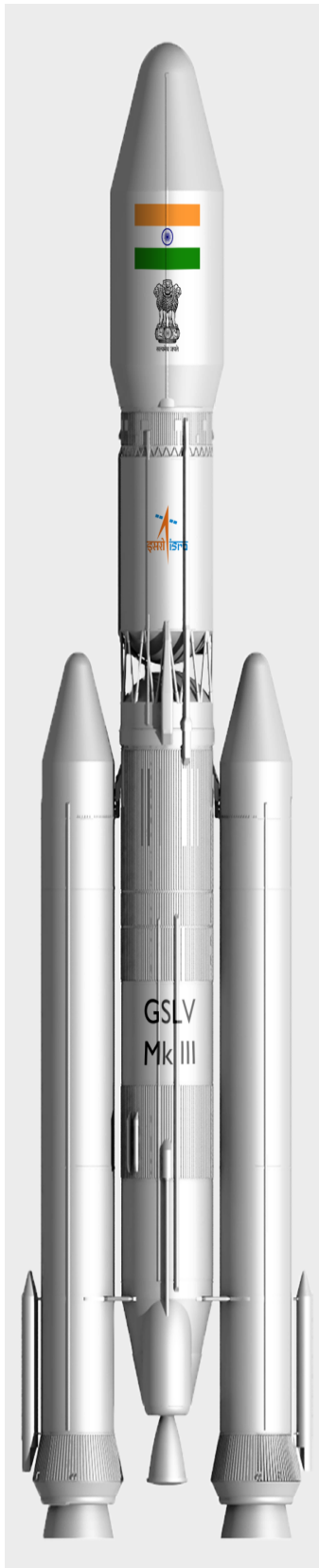
ISRO's Geosynchronous Satellite Launch Vehicle Mk III (LVM3)

About the Launch Vehicle

LVM3 is a heavy launch capability launcher being developed by ISRO. It will allow India to achieve complete self reliance in launching satellites as it will be capable of placing 4 tonnes class Geosynchronous satellites into orbit. The LVM3 will have an India built cryogenic stage with higher capacity than GSLV. The first experimental flight of LVM3, the LVM3 X/CARE mission lifted off from Sriharikota on December 18, 2014 and successfully tested the atmospheric phase of flight. Crew module Atmospheric Reentry. Experiment was also carried out in this flight. The module reentered, deployed its parachutes as planned and splashed down in the Bay of Bengal.

Vehicle Specifications

Height	: 43.43 m
Vehicle Diameter	: 4.0 m
Heat Shield Diameter	: 5.0 m
Number of Stages	: 3
Lift Off Mass	: 640 tonnes



TECHNICAL SPECIFICATIONS LVM3

Payload to GTO: 4,000 kg

LVM3 will be capable of placing the 4 tonne class satellites of the GSAT series into Geosynchronous Transfer Orbits.

Payload to LEO: 8,000 kg

The powerful cryogenic stage of LVM3 enables it to place heavy payloads into Low Earth Orbits of 600km altitude.

Cryogenic Upper Stage: C25

The C25 is powered by CE-20, India's largest cryogenic engine, designed and developed by the Liquid Propulsion Systems Centre of ISRO located at Thiruvananthapuram.

Cryo Stage Height	: 13.5 m
Cryo Stage Diameter	: 4.0 m
Engine	: CE-20
Fuel	: 27 tonnes of LOX + LH2
Thrust	: 186 kN

Solid Rocket Boosters: S200

LVM3 uses two S200 solid rocket boosters to provide the huge amount of thrust required for lift off. The S200 was developed at Vikram Sarabhai Space Centre.

Booster Height	: 25 m
Booster Diameter	: 3.2 m
Fuel	: 207 tonnes of HTPB (nominal)
Thrust	: 9316 kN
Vacuum Isp	: 274.5 sec
Burn-time	: 130 sec

Core Stage : L110 Liquid Stage

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

Stage Height	: 17 m
Stage Diameter	: 4 m
Engine	: 2 x Vikas
Fuel	: 110 tonnes of UDMH + N2O4
Thrust	: 1598 kN
Vacuum Isp	: 293 sec
Burn-time	: 200 sec