

# LVM3-M3

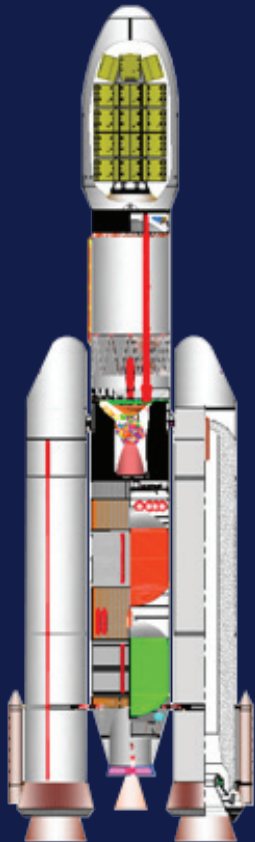
OneWeb India-2 Mission

GSLV MkIII Project  
Indian Space Research Organisation



## LVM3-M3

## OneWeb India-2 Mission



LVM3-M3 Vehicle Configuration  
(2S200+L110+C25+5 m PLF)

LVM3 is the Heavy Lift launcher of ISRO with a successful track record of 5 successive launches so far. The current mission LVM3-M3, is the 2nd Dedicated commercial satellite mission being undertaken by NewSpace India Limited (NSIL) for its customer M/s Network Access Associates Ltd (M/s OneWeb), UK. As part of this commercial arrangement, 36 Oneweb Gen-1 satellites would be launched into 450 km circular Low Earth Orbit (Osculating) with an inclination of 87.4° from Second Launch Pad located at Satish Dhawan Space Centre, Sriharikota.

### LVM3-M3 Vehicle Characteristics

Vehicle Height	: 43.5 m
Lift-off Mass	: 643 t
Propulsion Stages	
Strap-on Motors	: 2 x S200 (Solid)
Core Stage	: L110 (Liquid)
Upper Stage	: C25 (Cryo)

### LVM3-M3 Stages at a Glance

	Strap-ons (2 x S200)	Core Stage (L110)	Upper Stage (C25)
Length (m)	26.22	21.4	13.5
Diameter (m)	3.2	4.0	4.0
Propellant	Solid (HTPB)	Liquid (UH <sub>2</sub> + N <sub>2</sub> O <sub>4</sub> )	Cryo (LH <sub>2</sub> & LOX)
Propellant Mass (t)	202.6 (each)	115.9	28.55

### LVM3-M3 Mission Specifications (Osculating)

Semi-Major Axis (km)	: 6828.137
Low Earth Orbit (km)	: 450 (Circular)
Inclination (deg.)	: 87.4
Launch Pad	: SLP
Launch Azimuth (deg.)	: 138

### Payloads

Payloads	Total Mass (kg)
OneWeb India-2 Satellites – 36 Nos.	5805



6th Flight  
of LVM3



Payload Mass:  
5805 kg.

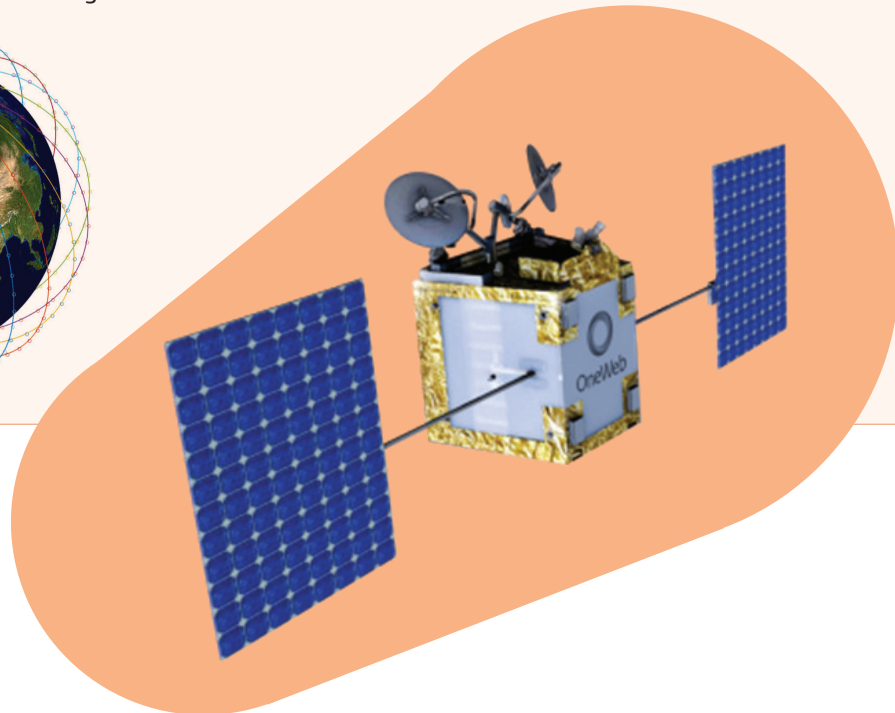
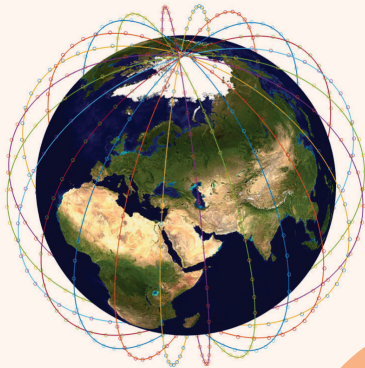
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## OneWeb Gen-1 Satellites of M/s. Network Access Associates

OneWeb is a global communication network powered from space, enabling connectivity for governments, businesses, and communities. It is implementing a constellation of Low Earth Orbit satellites. India's Bharti Enterprises serves as a major investor and shareholder in OneWeb.

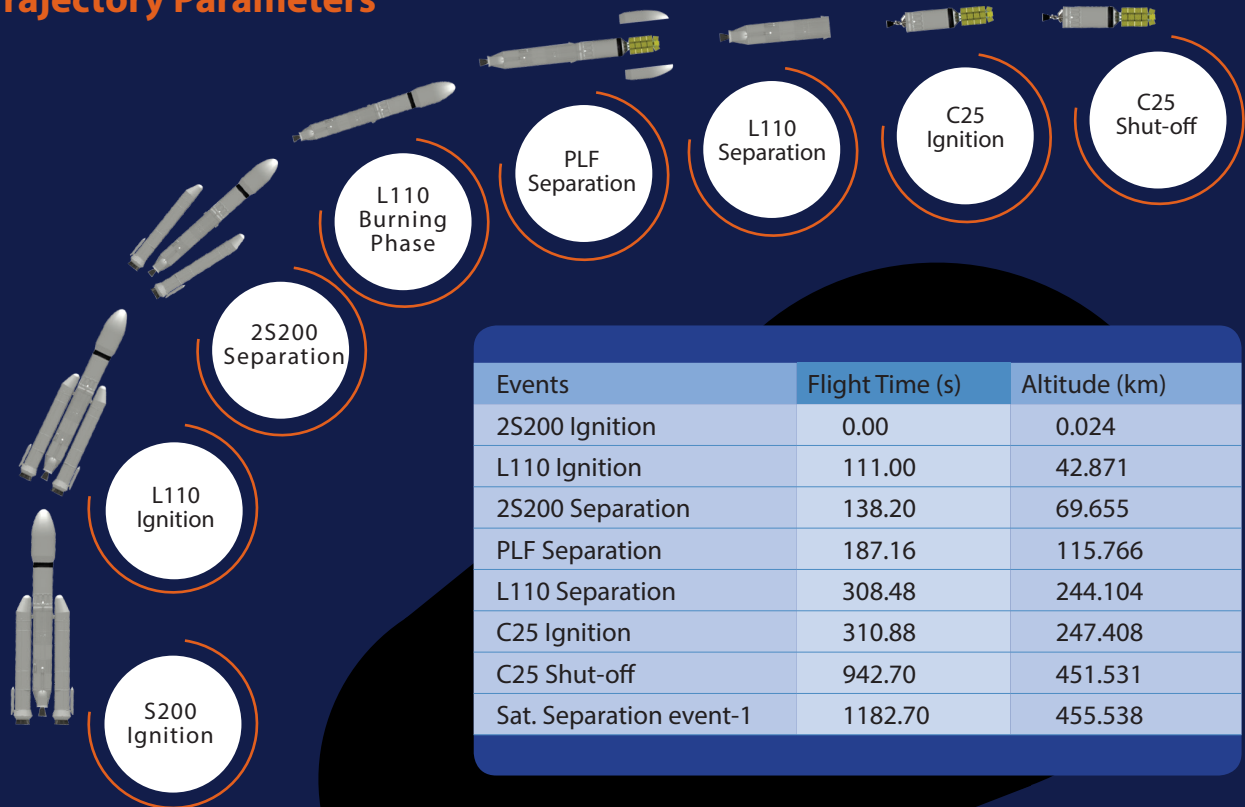
This is OneWeb's 18th launch, its third this year, bringing the total of OneWeb's constellation to 618 satellites. This launch is a major milestone for the company, with the number of satellites now in-orbit enabling global service, the first LEO operator to reach this milestone. OneWeb will soon be ready to roll out its global coverage.



## LVM3-M3

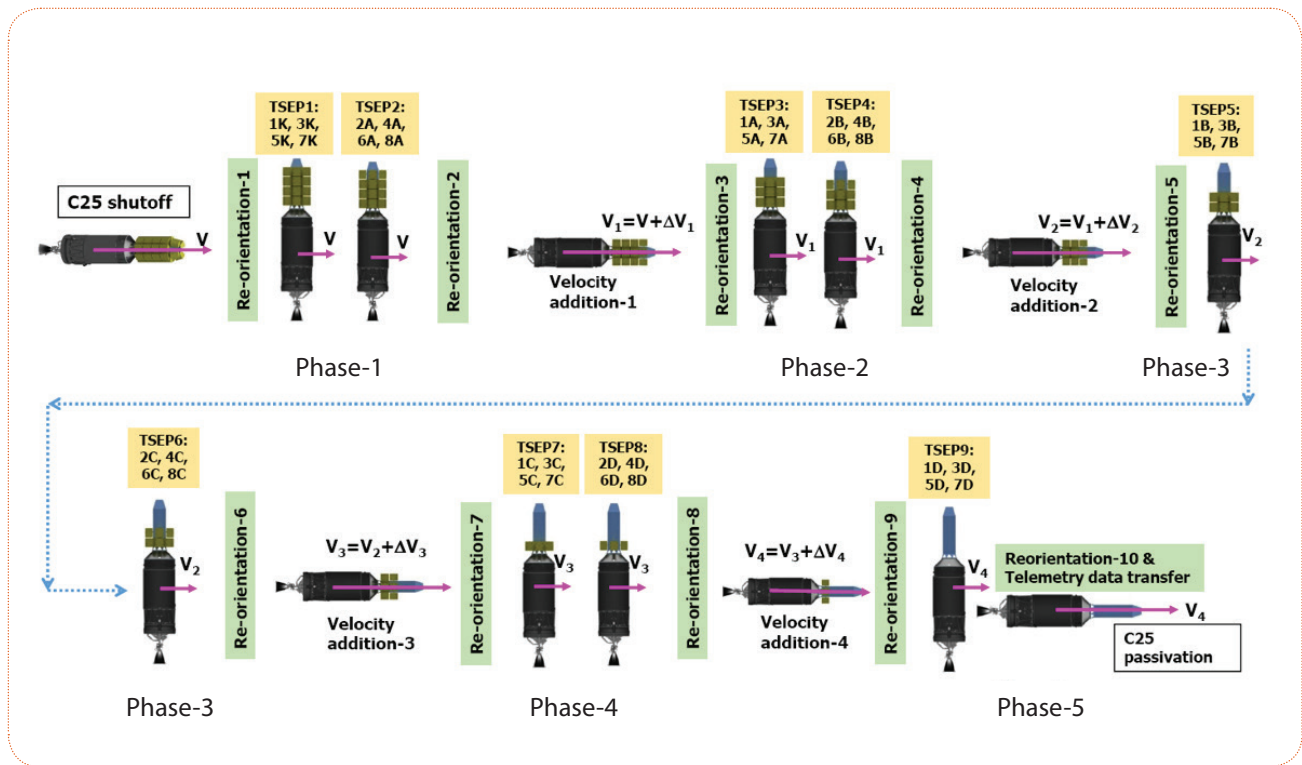
## OneWeb India-2 Mission

### Nominal Flight Sequence and Trajectory Parameters





## Post C25 Shut-off Phase Flight Sequence

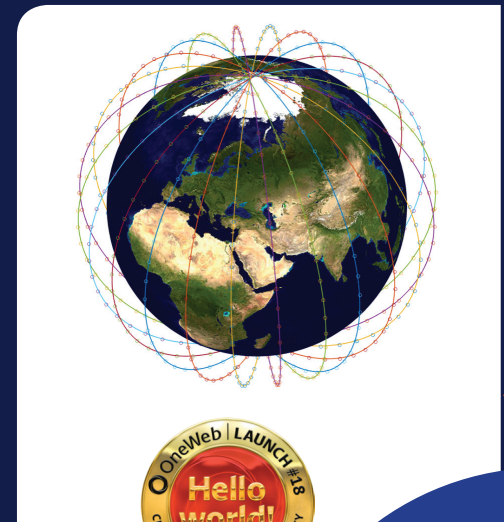
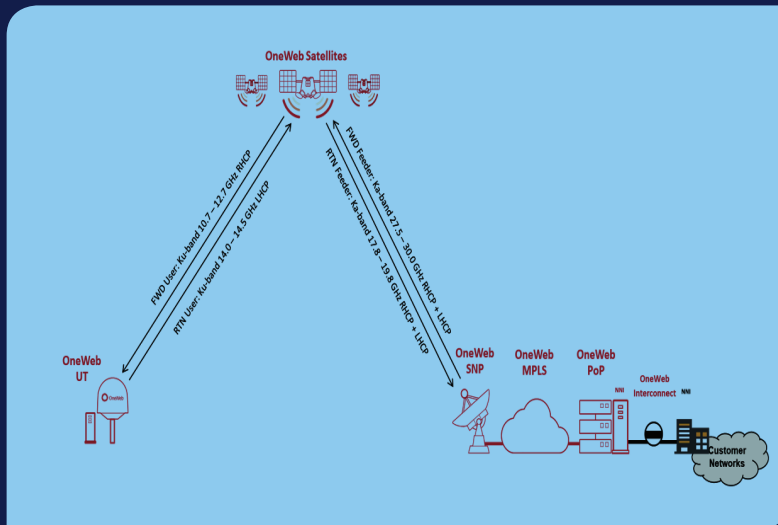


# LVM3-M3

# OneWeb India-2 Mission

## OneWeb Constellation Design

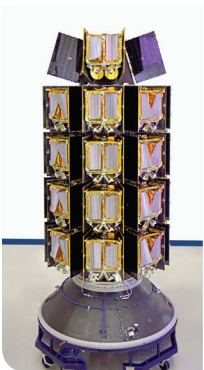
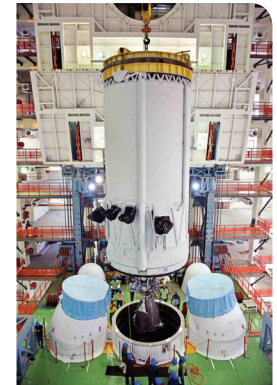
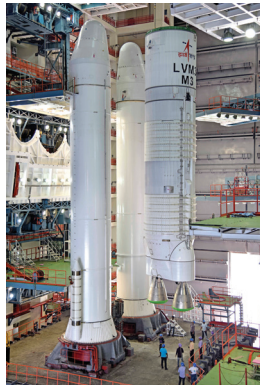
- OneWeb Gen-1 is a 150 kg satellite
- The constellation comprises of 648 individual satellites
- 588 Active Satellites equally divided among 12 planes operate at an altitude of about 1200km (~745 mi) above the Earth's surface
- Each plane is separated in altitude by 4km (~2.5 mi) to prevent inter-plane collision
- The payload is a bent-pipe system operating in Ku and Ka band
- The Forward link receives Ka-band signals from the Gateway via the satellite Ka antenna
- The Return link receives Ku-band signals from the User Terminals (UTs) via the satellite Ku antenna



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### Integration Activities of LVM3-M3





### Capacity Building and Public Outreach (CBPO)

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