LVM3-M2

OneWeb India-1 Mission

GSLV MkIII Project
Indian Space Research Organisation

LVM3-M2 OneWeb India-1 Mission

LVM3

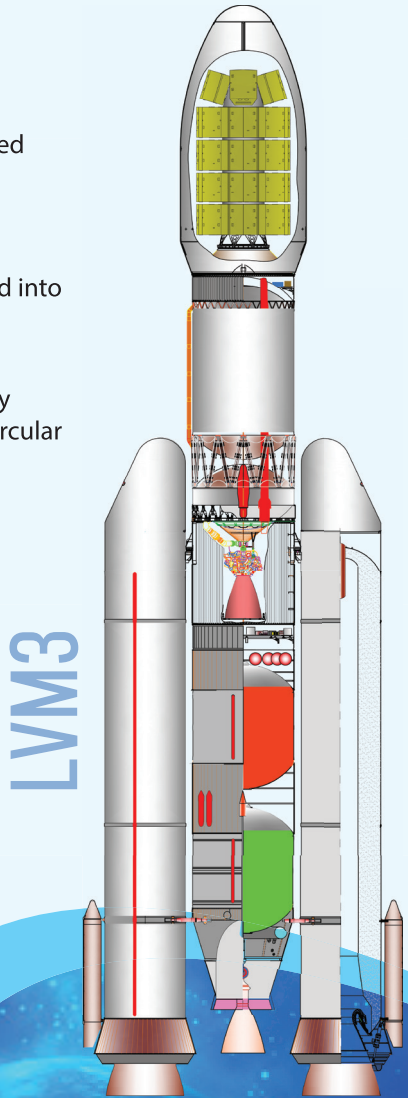
LVM3-M2 is the dedicated commercial satellite mission of NewSpace India Limited (NSIL), a Central Public Sector Enterprise (CPSE) under Department of Space , Government of India. With this launch, LVM3 is making its entry into the "Global Commercial Launch Service Market".

This mission is being undertaken as part of the commercial arrangement entered into between NSIL and M/s. Network Access Associates Ltd. (M/s. OneWeb Ltd.), a UK based company.

As part of this mission 36 OneWeb Gen-1 satellites, meant for global connectivity needs, will be launched from the Second Launch Pad (SLP) of SDSC-SHAR into circular low earth orbit of 601 km altitude with an inclination of 87.4^0.

This mission is the 5^{th} flight of LVM3

LVM3 Vehicle Configuration	: 2S200 + L110 + C25
Vehicle Height	: 43.5 m
Lift-off Mass	: 644 t
No. of Stages	: 3
Strap-on Motors	: 2 x S200 (Solid)
Core Stage	: L110 (Liquid)
Upper Stage	: C25 (Cryo)
Payload Fairing	: 5 m Ogive



OneWeb

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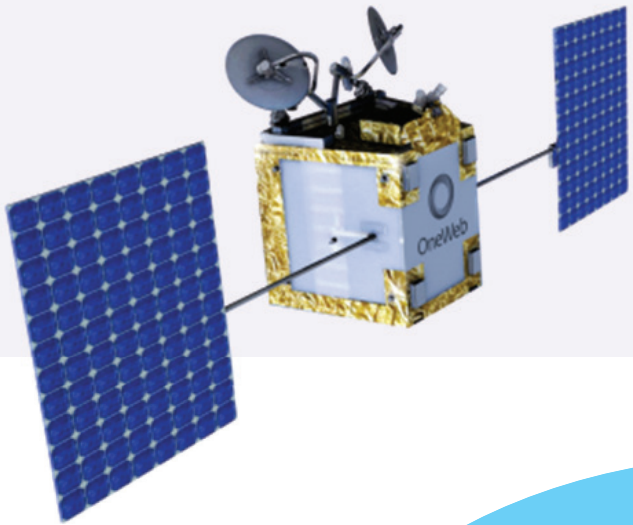
OneWeb Gen-1 Satellites

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 14th Launch and with ISRO and NSIL opens up the space sector in India.

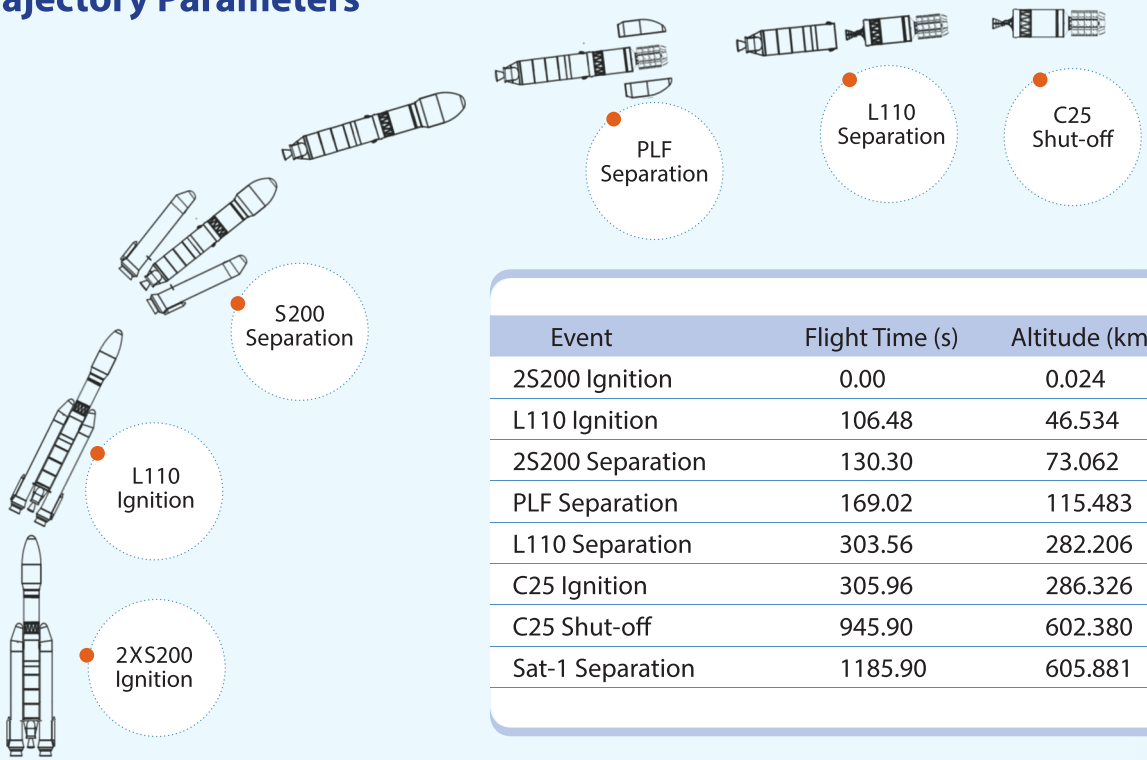
OneWeb Satellites are arranged in 12 orbital planes with 49 satellites in each plane at 1200 km circular orbit.

The constellation will have a total of 648 satellites.



LVM3-M2 OneWeb India-1 Mission

Nominal Flight Sequence and Trajectory Parameters



Event	Flight Time (s)	Altitude (km)
2S200 Ignition	0.00	0.024
L110 Ignition	106.48	46.534
2S200 Separation	130.30	73.062
PLF Separation	169.02	115.483
L110 Separation	303.56	282.206
C25 Ignition	305.96	286.326
C25 Shut-off	945.90	602.380
Sat-1 Separation	1185.90	605.881

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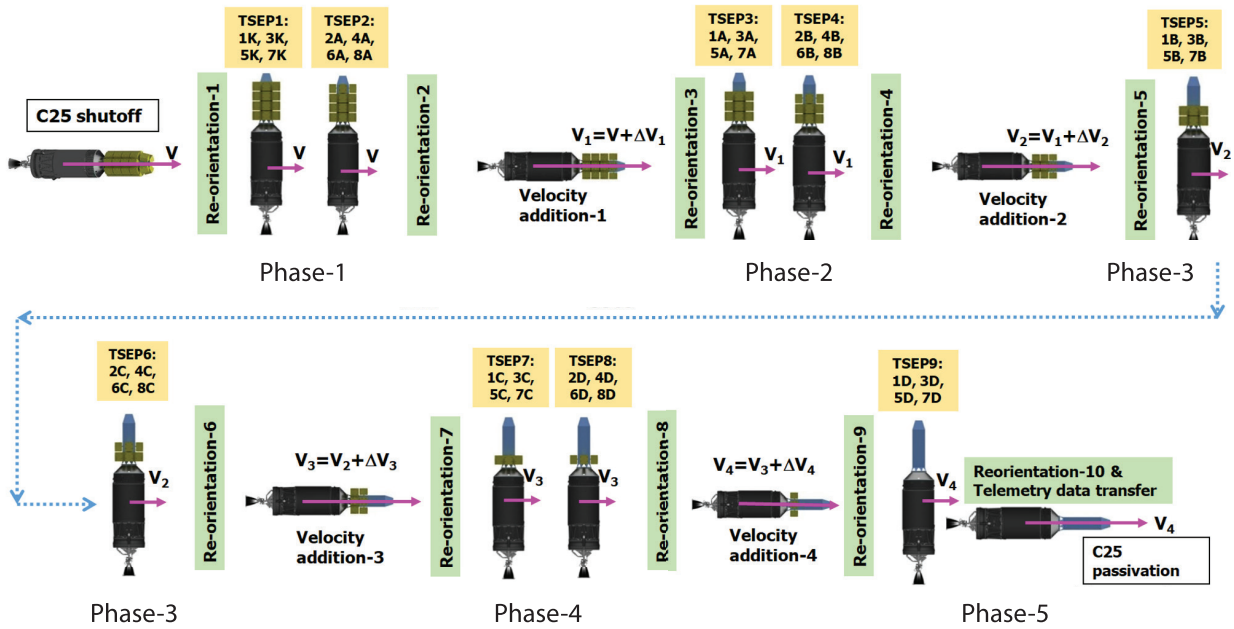
Post C25 Shut-off Phase Flight Sequence



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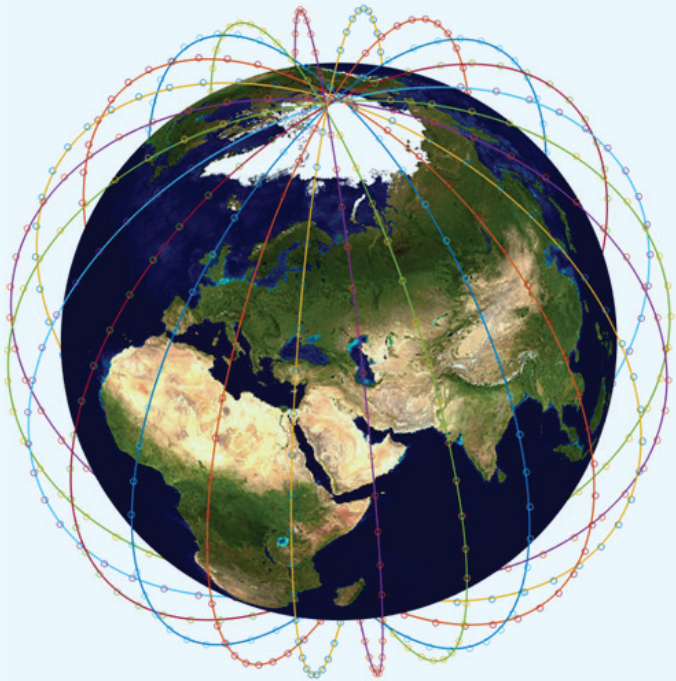

OneWeb Constellation
12 Planes, 49 Satellites per Plane

OneWeb Gen-1 150 kg class satellites

The payload is a bent-pipe system operating in Ka and Ku 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

OneWeb

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Integration activities of LVM3-M2

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Mission Highlights

1st

- Commercial Launch of LVM3 with NSIL
- Multi-satellite Mission of LVM3 to LEO
- Indian Launch with 6 Ton Payload
- OneWeb Mission with NSIL/DoS

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