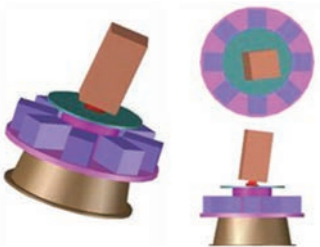
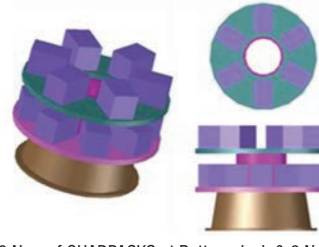
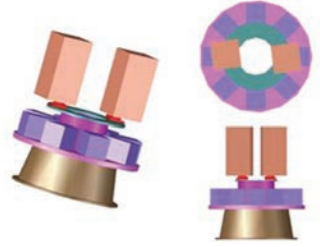
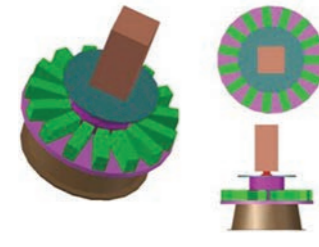
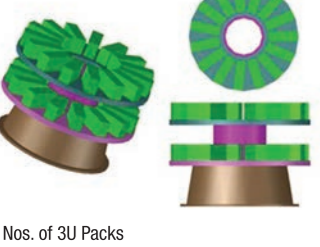
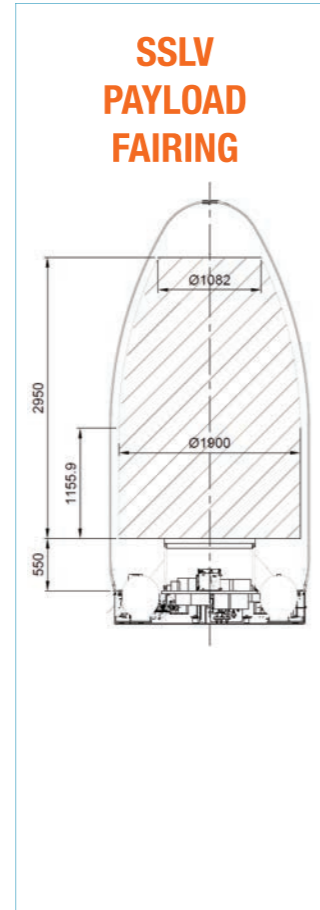
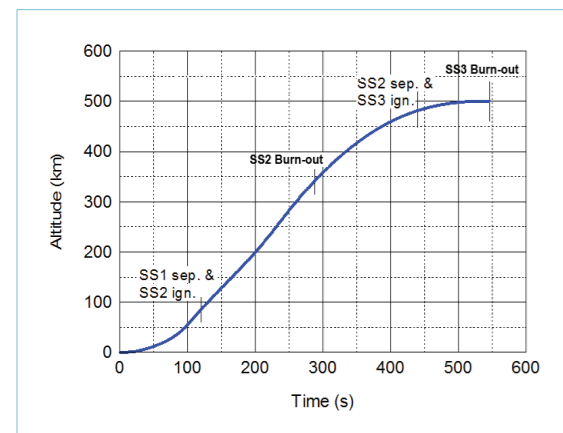


TYPICAL SATELLITE MOUNTING OPTIONS

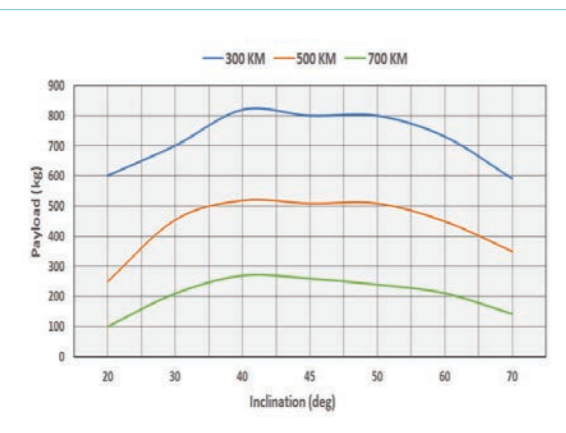
	
8 Nos. of QUADPACKS & 1 No. of 300 kg Satellite	8 Nos. of QUADPACKS at Bottom deck & 6 Nos. of QUADPACKS at Top deck
	
7 Nos. of QUADPACKS & 2 Nos. of 150 kg Satellites	15 Nos. of 3U Packs & 1 No. of 300 kg Satellite
	Further possible Multi Satellite Adapter (MSA) Configurations 64 x 2U packs 24 x 6U packs 2 x 150 kg + 20 x 1U 2 x 150 kg + 20 x 2U 2 x 150 kg + 15 x 3U
30 Nos. of 3U Packs	



SSLV - TYPICAL FLIGHT PROFILE



SSLV - LAUNCH CAPABILITY IN LEO



SSLV - FLIGHT ENVIRONMENTAL LEVELS

During the powered launch phase, the spacecraft will be subjected to sinusoidal and random vibrations. Low frequency sinusoidal excitations are imposed on the spacecraft at various flight events such as ignition, burn-out & stage separations.

Sinusoidal Vibration Test Levels for Micro & Nano Satellites			
	Frequency Range (Hz)	Qualification Test level	Acceptance Test Level
Longitudinal Axis	5.0-8.0 8.0-100	34.5 mm DA 4.5 g	23 mm DA 3.0 g
Lateral Axis	5.0-8.0 8.0-100	24 mm DA 3 g	16 mm DA 2 g
Sweep Rate	-	2 Oct / min	4 Oct / min

Load & Stiffness Levels for Microsatellites		
For Microsatellites	Load	Stiffness
Longitudinal	9 g compression 3.5 g tension	>90 Hz
Lateral	+ 2 g	>45 Hz
Qualification factor	1.25	-

Load & Stiffness Levels for Nano satellites		
For Nano satellites	Load	Stiffness
Longitudinal	9 g compression 3.5 g tension	>135 Hz
Lateral	+ 2 g	>70 Hz
Qualification factor	1.25	-

Random Vibration Test Levels for Micro & Nano satellites		
Frequency (Hz)	Qualification (PSD g ² /Hz)	Acceptance (PSD g ² /Hz)
20	0.002	0.001
110	0.002	0.001
250	0.034	0.015
1000	0.034	0.015
2000	0.009	0.004
gRMS	6.7	4.47
Duration	2 min / axis	1 min / axis

Small Satellite Launch Vehicle



- LAUNCH ON DEMAND
- COST-EFFECTIVE LAUNCHER FOR SMALL SATELLITES IN DEDICATED AND RIDE-SHARE MODE



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NewSpace India Limited (NSIL)
Commercial Arm of Indian Space Research Organisation (ISRO)



Small Satellite Launch Vehicle

SSLV



Indian Space Research Organisation (ISRO) over the years has successfully realized five generation of launch vehicles viz. SLV-3, ASLV, PSLV, GSLV and GSLV MkIII to cater to national developmental needs. This has enabled ISRO to develop and master critical technologies related to solid, liquid and cryogenic propulsion systems in addition to Navigation, Guidance, Control and Mission Design aspects of launch vehicles.

To cater to emerging global small satellite launch services market, ISRO has taken up the development of Small Satellite Launch Vehicle (SSLV), which is an all solid three stage vehicle, with a capability to launch on demand.

LAUNCH SERVICES BY NSIL

NewSpace India Limited (NSIL) a Govt. of India company under Department of Space and the Commercial Arm of Indian Space Research Organisation (ISRO), will be the sole nodal agency responsible for providing end-to-end **SSLV** Launch services for the customer satellites starting from contractual, technical, programmatic, launch campaign, launch and post launch activities.

SSLV will commence its commercial Small Satellite Launch Service Operations from early 2020 onwards.

SALIENT FEATURES

- Launch on demand**
- Lower per kg launch cost**
- Reduced turnaround time**
- Multiple satellite mounting options for Nano, Micro and Small satellites**
- Increased production rate from industries**

Capability to launch 6 to 8 mission per year

SSLV LAUNCH CAPABILITY IN 500 KM CIRCULAR ORBIT

- LEO : 500 kg**
- SSO : 300 kg**



VEHICLE CONFIGURATION



- Vehicle length : 34 m
- Payload Fairing : 2.1 m dia
- Lift-off mass : 120 t

Three Solid Propulsion Stages & Liquid Velocity Trimming Module as Terminal Stage.

SSLV