

GSAT-7A

GSLV-F11/GSAT-7A

Indian Space Research Organisation

THE MISSION



- India's Geosynchronous Satellite Launch Vehicle (GSLV) – F11 will place 2250 kg GSAT-7A into a Geosynchronous Transfer Orbit
- GSLV-F11 will be launched from the Second Launch Pad (SLP) at Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota
- GSAT-7A is a geostationary communication satellite of India

TARGETED GEOSYNCHRONOUS TRANSFER ORBIT

Perigee	:	170 ± 3 km
Apogee	:	33,190 to 40,600 km
Inclination	:	19.35 ± 0.1 degree



69th

Launch Vehicle
Mission from SDSC
SHAR

39th

Communication
Satellite of ISRO

13th

Flight of
GSLV Mark II

7th

Launch of
2018 from
SDSC SHAR

7th

Flight of GSLV Mark II
with indigenous
cryogenic upper stage

THE VEHICLE

Payload Fairing

Diameter: 3.4m

Third Stage

GS3 (CUS15)

Height : 9.894m

Diameter : 2.8m

Propellant: LH2 & LOX

First Stage

GS1 (S139 + 4 x L40H)

S139

Height : 20.176m

Diameter : 2.8m

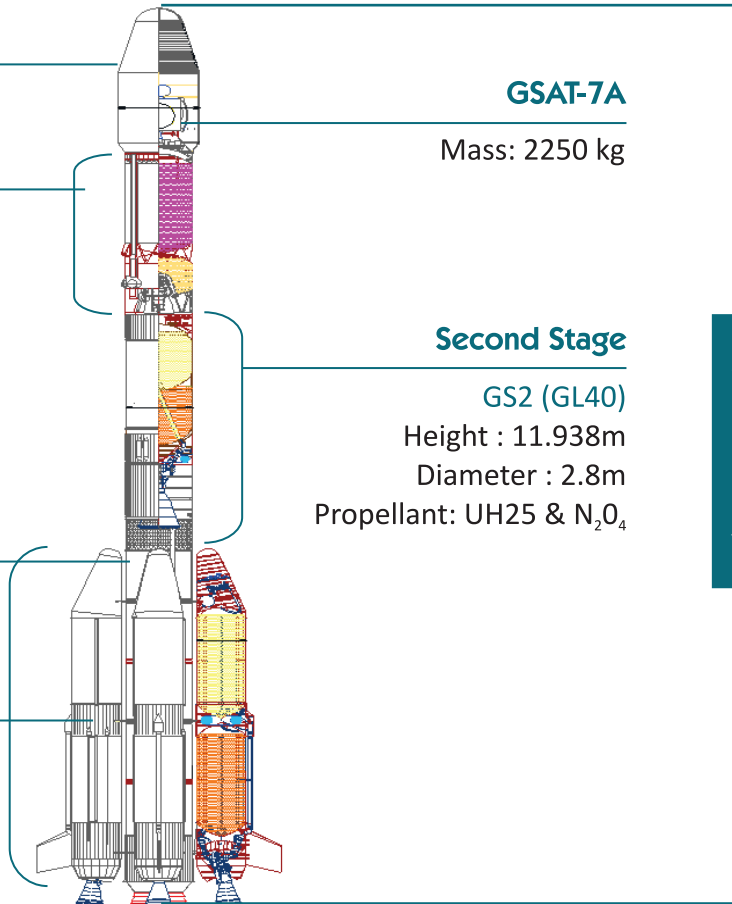
Propellant: HTPB

Liquid strap-ons(4 x L40)

Height : 19.682m

Diameter : 2.1m

Propellant: UH25 & N₂O₄



GSAT-7A

Mass: 2250 kg

Second Stage

GS2 (GL40)

Height : 11.938m

Diameter : 2.8m

Propellant: UH25 & N₂O₄

Height : 50.926 m

THE SATELLITE

- GSAT-7A is a geostationary satellite built to provide communication services in Ku-band over the Indian region
- GSAT-7A is configured using ISRO's 2000 kg satellite bus (I-2K bus)

SALIENT FEATURES

Lift-off Mass : 2250 Kg

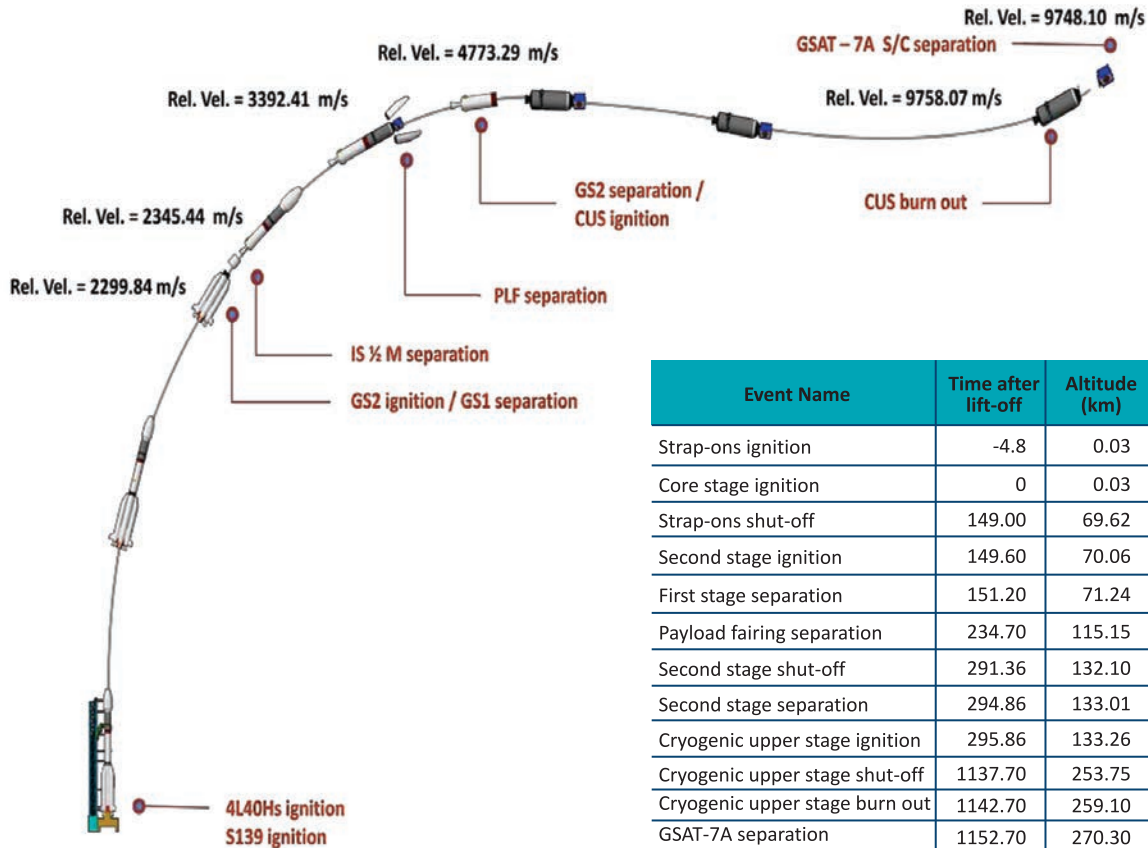
Spacecraft Power : 3.3 kW

Payload : Ku-band transponders

Mission Life : 8 Years



GSLV-F11 Flight Sequence



Event Name	Time after lift-off	Altitude (km)	Altitude (km)	Inertial Velocity (m/s)
Strap-ons ignition	-4.8	0.03	0	451.92
Core stage ignition	0	0.03	0	451.92
Strap-ons shut-off	149.00	69.62	2298.85	2722.31
Second stage ignition	149.60	70.06	2299.84	2723.57
First stage separation	151.20	71.24	2298.08	2722.56
Payload fairing separation	234.70	115.15	3392.41	3836.57
Second stage shut-off	291.36	132.10	4750.57	5197.15
Second stage separation	294.86	133.01	4773.29	5220.00
Cryogenic upper stage ignition	295.86	133.26	4772.81	5219.56
Cryogenic upper stage shut-off	1137.70	253.75	9758.52	10210.97
Cryogenic upper stage burn out	1142.70	259.10	9758.07	10210.73
GSAT-7A separation	1152.70	270.30	9748.10	10201.19

Glimpses of Launch Vehicle and Satellite Integration

GSLV-F11



GSAT-7A



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