GSLV-F11 / GSAT-7A Mission

19 December, 2018

THE MISSION

GSLV-F11 carrying on-board the GSAT-7A Satellite lifted-off from the Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota at 04:10 PM (IST) on December 19, 2018. About 19 minutes after lift-off, GSLV-F11 placed GSAT-7A, into a Geosynchronous Transfer Orbit of 170.8 km x 39,127 km which is very close to the intended orbit. GSAT-7A is a Geostationary Communication Satellite built to provide communication capability to the users in Ku-band over the Indian region.

GSLV-F11

THE LAUNCH VEHICLE

GSLV-F11 is the 7th flight of GSLV Mark II with indigenous Cryogenic Upper Stage (CUS) and the 13th flight of GSLV.

GSLV- F11 is ISRO's fourth generation launch vehicle with three stages. The four liquid strap-ons and a solid rocket motor at the core form the first stage. The second stage of the vehicle is equipped with high thrust engine using liquid fuel. The Cryogenic Upper Stage forms the third and final stage of the vehicle.

For this mission, the cryogenic stage of this vehicle has been modified to increase the thrust rate.

SPECIFICATIONS

Height	49.13 m
Lift-Off Mass	414.75 t
No of Stages	3
Payloads	GSAT-7A
Inclination (deg)	19.35 ± 0.1^0
Apogee	33,190 to 40,600 km
Perigee	170 ± 3 km
Launch Pad	Second Launch Pad (SDSC, SHAR)

GSAT-7A

THE SATELLITE

GSAT-7A is the 39th Communication Satellite of ISRO, carrying communication transponders in Ku-band, providing communication capability with a Gregorian Antenna and many other new technologies to the users over the Indian region. GSAT-7A is an advanced satellite configured on ISRO's standard I-2000 Kg (I-2K) Bus. The bus capabilities are fully exploited with respect to accommodation, power generation and thermal management, etc. Most of the functional requirements of the communication payloads and the bus platform systems have been derived from ISRO's earlier Geostationary Satellites - INSATs / GSATs.

GSAT-7A incorporated chemical propulsion system to provide an operational mission life of minimum 8 years. Chemical propulsion will be used for orbit raising as well as for orbit attitude correction operations. Sufficient redundancy is built into the spacecraft for continued service.

SPECIFICATIONS

Weight	2250 kg
Power	3.3 kW
Stabilisation	3-axis
Type of Satellite	Communication
Payloads	Ku-band
Mission Life	8 Years