PSLV-C41 & IRNSS-1I Mission

12 April, 2018

THE MISSION

PSLV-C41 carrying on-board IRNSS-1I Satellite lifted-off from the Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota at 4:04 AM (IST) on April 12, 2018. About 19 minutes after lift-off, the PSLV-C41 achieved a sub Geosynchronous Transfer Orbit with a perigee of 281.5 km and an apogee of 20,730 km inclined at an angle of 19.2^0 to the Equator following which IRNSS-1I separated from PSLV.

IRNSS-1I is the latest member of the 'Navigation with Indian Constellation (NavIC)' system. NavIC, also known as Indian Regional Navigation Satellite System (IRNSS), is an independent regional navigation satellite system designed to provide position information in the Indian region and 1500 km around the Indian mainland. A number of ground facilities responsible for IRNSS satellite ranging and monitoring, generation and transmission of navigation parameters, satellite control, network timing, etc., have been established in many locations across the country as part of NavIC.

PSLV-C41

THE LAUNCH VEHICLE

PSLV-C41 was the 43rd flight of PSLV and the 20th flight of PSLV in 'XL' configuration.

SPECIFICATIONS

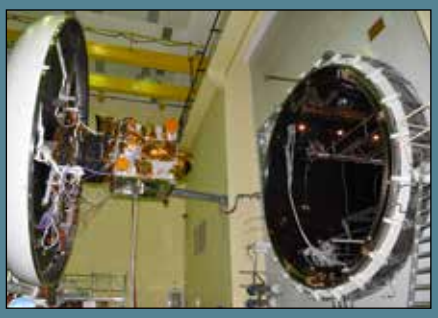
Height	44.4 m
Lift-Off Mass	321 t
No of Stages	4
Payloads	IRNSS-1I
Inclination (deg)	19.2^0
Launch Azimuth	104^0
Apogee	20,650 km
Perigee	284 km
Launch Pad	First Launch Pad (SDSC, SHAR)

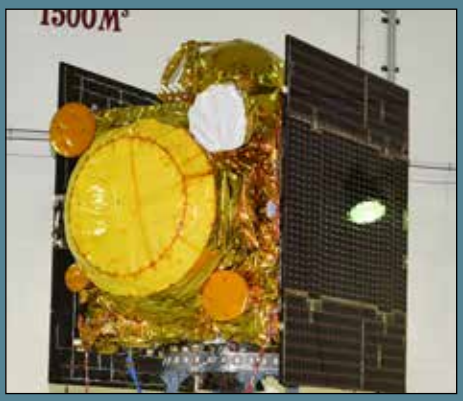
IRNSS-1I

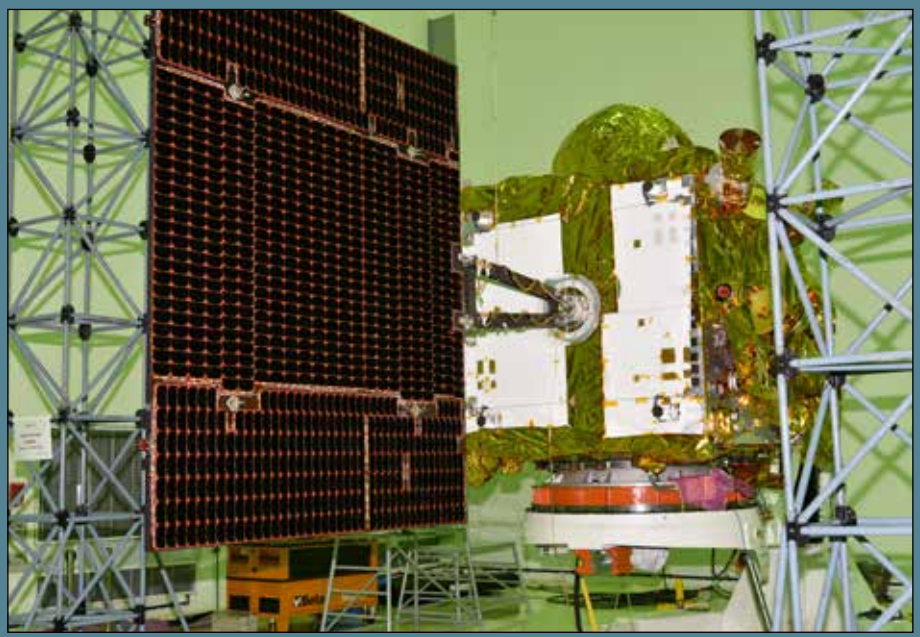
THE SATELLITE

The IRNSS-1I is the 8th satellite to join the NavIC satellite constellation. IRNSS-1I, like its other IRNSS predecessors carries two types of payloads – navigation payload and ranging payload. The navigation payload of IRNSS-1I transmits signals for the determination of position, velocity and time. Rubidium Atomic Clocks are part of the navigation payload of the satellites. The ranging payload of IRNSS-1I consists of a C-band transponder, which facilitates accurate determination of the range of the satellite. It also carries Corner Cube Retro Reflectors for LASER ranging.

After separation, the solar panels of IRNSS-1I were deployed automatically. ISRO's Master Control Facility (MCF) at Hassan, Karnataka took over the control of the satellite. Orbit manoeuvres were performed from MCF to position the satellite at 55^0 East longitude in the planned Geosynchronous Orbit with an inclination of 29^0 to the Equator.







SPECIFICATIONS

Weight	1425 kg
Power	1670 W
Type of Satellite	Navigation
Payloads	• L5 and S-band Navigation with Rubidium Atomic Clocks • C-band Ranging Payload • Corner Cube Retro Reflectors for LASER ranging