DS-SAR Mission

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Why is in news? PSLV puts 7 satellites in orbit; four more missions this year

The Indian Space Research Organisation (ISRO) successfully launched the PSLV-C56 carrying Singapore's DS-SAR and six other satellites.

The rocket lifted off from the Satish Dhawan Space Centre in Sriharikota.

PSLV-C56 carrying **seven satellites** including the primary satellite DS-SAR and six co-passengers has been successfully placed in the right orbit.

This is a **PSLV mission for New Space India Limited [NSIL]** and ISRO want to congratulate the customers sponsored by the Government of Singapore for having this mission onboard PSLV and their continued faith in our launch vehicle for deploying their spacecraft.

The DS-SAR satellite is developed under a **partnership between the DSTA** (representing the Government of Singapore) **and ST Engineering, a Singapore-based company**.

Once deployed and operational, it will be **used to support the satellite imagery requirements** of various agencies within the Government of Singapore.

ST Engineering will use it for multi-modal and higher responsiveness imagery and geospatial services for their commercial customers.

DS-SAR carries a **Synthetic Aperture Radar (SAR) payload** developed by Israel Aerospace Industries (IAI).

This allows the DS-SAR to **provide for all-weather day and night coverage**, and capable of imaging at 1m-resolution at full polarimetry.

The PSLV-C56 rocket will inject the DS-SAR satellite **into a near-equatorial orbit** (NEO) at an inclination of 5 degrees and an altitude of 535 km.

This orbit will **enable the satellite to cover a large area of the Earth's equatorial region**.

Co-passengers:

VELOX-AM, a 23-kg technology demonstration microsatellite;

ARCADE (Atmospheric Coupling and Dynamics Explorer), an experimental satellite;

SCOOB-II, a 3U nanosatellite flying a technology demonstrator payload;

NuLIoN by NuSpace, an advanced 3U nanosatellite enabling seamless IoT connectivity in both urban and remote locations;

Galassia-2, a 3U nanosatellite that will be orbiting on a low-earth orbit; and

ORB-12 STRIDER, a satellite developed under an international collaboration.

New Space India Limited:

New Space India Limited (NSIL) is a **Public Sector Undertaking** (PSU) of the Government of India and **commercial arm of the Indian Space Research Organisation** (ISRO).

NSIL is responsible for **producing, assembling and integrating the launch vehicle** with the help of industry consortium.

It was **established on 6 March 2019** under the administrative control of the Department of Space (DoS) and the Company Act 2013.

The main objective of NSIL is to **scale up private sector participation** in Indian space programmes.

Objectives:

Transfer of Small Satellite technology to industry: NSIL will obtain license from DoS/ISRO and sub-license the same to industry

Manufacture of Small Satellite Launch Vehicle (SSLV) in collaboration with private sector

Production of Polar Satellite Launch Vehicle (PSLV) through Indian industry

Production and marketing of Space based products and services, including launch and application

Transfer of technology developed by ISRO Centres and constituent units of DoS

Marketing of spin-off technologies and products/services, both in India and abroad