

ISRO'S PSLV-C43 SUCCESSFULLY PLACES HYSIS, 30 FOREIGN SATELLITES IN RESPECTIVE ORBITS

Relevant for: Science & Technology | Topic: Space Technology & related matters

The PSLV-C43 lifts off from Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh on Thursday. | Photo Credit: [M. Vedhan](#)

Nearly three minutes after its lift-off at 9.57 a.m. on Thursday, the Indian Space Research Organisation's (ISRO) workhorse, the PSLV, carrying 31 satellites, soared in a trajectory crossing the path of the Sun and sped to inject the country's Hyper Spectral Imaging Satellite (HysIS), dubbed '*Sharp Eye*', in its intended orbit.

In the course of the next one hour, the team at the Mission Control waited for the PSLV C-43 to come up on the other side of the Equator to insert 30 small commercial satellites from various countries into the orbits requested by the customers.

The HysIS is an Earth observation satellite primarily to assist in a wide range of applications in agriculture, forestry, geological environments, coastal zones, among others.

The 30 satellites are one each from Australia, Canada, Colombia, Finland, Malaysia, Netherlands and Spain, and 23 from the USA.

ISRO's landmark rocket launches

After 17 minutes from the lift-off from the first launchpad of the Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota, the PSLV C-43 injected the HysIS into a precise orbit of 636 km from the Earth.

To a question whether the HysIS could be used for anti-terror operations, ISRO Chairman K. Sivan said the ISRO's job was only to build the satellite, but did not rule out such a possibility. "Our duty is to mainly build the satellite, which can precisely identify an object. The usage...we are not bothering. That depends on the users. Right now it is meant for Earth observation missions. But after seeing the results, maybe....but it's not in our hands."

Mr. Sivan lauded the ISRO team for making the HysIS with state-of-the-art technology.

"The heart of the system required for the HysIS satellite is basically an optical imaging detector chip. This chip has been indigenously designed by the Space Application Centre of the ISRO and fabricated at our semi-conductor lab at Chandigarh. I am sure that team ISRO can be proud that they are really giving an excellent space asset to India," he said.

Explaining the one-hour wait for the vehicle to come up on the other side and to insert the commercial satellites, Mr. Sivan said the PSLV first travelled southward and injected the HysIS around 27 degree south of the Equator.

"Now, the next set of satellites required another orbit, which is no way nearer to this one. So we needed two manoeuvres, mainly to circularise the small orbit – first after crossing the South Pole, when it was going up near the Equator, [fourth stage engine] was fired once and then coming back once again near Equator over India, again another firing," he said.

Once the second firing of the engine was completed, the 30 satellites were injected into an orbit between 504.19 km and 506.55 km. The final separation sequence started at 1 hour and 49 minutes and ended 1 hour 53 minutes after the lift-off. This was the ISRO's third longest mission that lasted nearly two hours. Two earlier missions crossed the two-hour mark.

On the successful injection of the commercial satellites, Mr. Sivan said, "The way it was injected, am sure that our customers will be very happy to see their babies are delivered to their homes safely and precisely".

This is the 13th flight of the core-alone version and 45th launch of the PSLV.

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