

All you need to know about ISRO's IRNSS-1I satellite scheduled to be launched on Thursday

IRNSS-1A, blasts off from Sriharikota | Photo Credit: [PTI](#)

The Indian Space Research Organisation (ISRO) will launch the IRNSS-1I satellite on April 12 at 04:04 a.m. from the first launch pad at the Satish Dhawan Space Centre, Sriharikota, through its PSLV-C41. It will be the 20th flight of PSLV-XL version. This satellite will transmit signals for the accurate determination of position, navigation and time.

This launch comes exactly two weeks after ISRO's launch of communication satellite GSAT-6A, with which it lost contact in two days.

IRNSS stands for Indian Regional Navigation Satellite System. It is a set of satellites which together can provide India a regional positioning system similar to the GPS. According to the ISRO website, the system is designed to give position accuracy better than 20 metres to users in its primary coverage area. It can also service regions extending up to 1500 km around India's boundary.

There are currently seven IRNSS satellites (1A to 1G) in orbit. A, B, F, G are placed in a geosynchronous orbit, which means they seem to be at a fixed location above the Earth and they orbit along with the Earth. The remaining three, C, D, E, are located in geostationary orbit-they seem to be at a fixed location above the Earth along the equator and orbit along with the Earth.

The last IRNSS, 1H, which was launched on August 31, 2017 was unsuccessful as the satellite did not come out of its heat shield.

These satellites help not just in land navigation but also in marine and aerial navigation. The data from these satellites can be used to give vehicle drivers visual and voice navigation assistance. They also help in disaster management and in proper time-keeping.

Weighing 321 tonnes, the PSLV-C41 will put the IRNSS-1I into orbit 19 minutes and 19 seconds after lift-off. The IRNSS-1I weighs 1425 kg at lift-off and is the ninth satellite in the IRNSS satellite constellation. It will be placed in a sub-geosynchronous transfer orbit and at its closest point will be 284 km above the Earth and at its farthest will be 20,650 km above the Earth.

Like all other IRNSS satellites, IRNSS-1I will also carry two payloads – navigation payload and ranging payload - the former to transmit signals for determining position, velocity and time and the latter for determining the frequency range of the satellite.

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