

ISRO BEGINS COUNTDOWN FOR LAUNCH OF NAVIGATION SATELLITE TO MAINTAIN CONTINUITY OF INDIA'S OWN SATNAV

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Scientists at the Indian Space Research Organisation (ISRO) on May 28 at 7.12 am commenced the 27.5 hour countdown for the launch of a navigation satellite on board a GSLV rocket in Sriharikota on May 29. [Twitter/@isro](#)

Scientists at the Indian Space Research Organisation (ISRO) on May 28 at 7.12 am commenced the 27.5 hour countdown for the launch of a navigation satellite on board a GSLV rocket in Sriharikota on May 29.

The Bengaluru-headquartered space agency is all geared up to launch the second-generation navigation satellite series, a significant launch which would ensure the continuity of NavIC (Navigation with Indian Constellation) services — an Indian regional satellite navigation system, similar to GPS, providing accurate and real-time navigation in India and a region extending to 1,500 km around the mainland.

NavIC signals are designed to provide user position accurate to better than 20-metres and timing accuracy better than 50 nanoseconds.

The 51.7 metre tall Geosynchronous Satellite Launch Vehicle, on its 15th flight, would carry the navigation satellite NVS-01 weighing 2,232 kg on Monday at 10.42 am from the second launch pad at the Satish Dhawan Space Centre (SHAR) here, about 130 km from Chennai.

GSLV-F12/NVS-01 Mission:

The countdown leading to the launch has commenced.

Tune in for live-streaming of the

Launch of GSLV-F12/NVS-01

May 29, 2023

10:15 am local time

to <https://t.co/bTMc1n8CbP><https://t.co/ZX8kmMmd2X>https://t.co/zugXQAY0c0@DDNational@PIB_Indiapic.twitter.com/oCrxAgrker

Nearly 20 minutes after the flight, the rocket is scheduled to deploy the satellite in a geosynchronous transfer orbit (GTO) at an altitude of about 251 km, ISRO said.

The NVS-01 carries navigation payloads L1, L5 and S bands and in comparison with the previous one, the second-generation satellite would also carry an indigenously developed rubidium atomic clock.

It is for the first time that an indigenously developed rubidium atomic clock would be used in May 29's launch, the ISRO said.

According to the space agency, scientists earlier used imported rubidium atomic clocks to determine date and location. Now, the rubidium atomic clock developed by Ahmedabad-based Space Applications Centre will be on board. It is an important technology that only a handful of countries possess, it said.

ISRO developed the Navigation with Indian Constellation (NavIC) system to meet the positioning, navigation and timing requirements of the country, particularly with regard to civil aviation and military requirements. NavIC was earlier known as the Indian Regional Navigation Satellite System (IRNSS).

"The L1 navigation band is popular for providing position, navigation and timing services for civilian users and for interoperability with other GNSS (global navigation satellite system) signals," ISRO said.

Some of the applications of NavIC include terrestrial, aerial and maritime navigation, precision agriculture, location-based services in mobile devices and marine fisheries, among many others.

NavIC is designed with a constellation of seven satellites and a network of ground stations that operate 24x7. NavIC offers two services — Standard Position Service (SPS) for civilian users and Restricted Service for strategic users.

NavIC SPS signals are interoperable with the US global navigation satellite system signals, GPS, Glonass from Russia, Galileo (European Union) and BeiDou, China.

Monday's mission is the sixth operational flight of the GSLV with indigenous cryogenic stage. The mission life of NVS-01 is expected to be better than 12 years, ISRO said.

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