

ISRO's 100th Launch from SDSC

Source: TH

The <u>Indian Space Research Organisation (ISRO)</u> achieved its historic **100th launch** from the **Satish Dhawan Space Centre (SDSC) in Sriharikota**, using the <u>GSLV</u>-F15 to deploy the **NVS-02 satellite**.

- NVS-02 is the **2nd satellite** in the **series of 2nd generation satellites** of the **Navigation with Indian Constellation (NavIC)**.
 - The NavIC system is made up of **7 operational satellites** in orbit (**3 in Geostationary**Orbit and **4 in Geosynchronous Orbit**).
 - NavIC provides accurate position, velocity, and timing to users in the Indian subcontinent and regions up to 1,500 km beyond.
- The GSLV-F15 is the 17th GSLV flight, and 11th with an Indigenous Cryogenic stage.
- The first launch from SDSC took place in **August 1979** carrying the **Rohini Technology Payload** (partially successful).
- Key Launches of ISRO include <u>Chandrayaan-1</u> (2008), <u>Mars Orbiter Mission</u> (2013), <u>PSLV-C37</u> (2017, World record: **104 satellites launched**), <u>Chandrayaan-2</u> (2019), and <u>Chandrayaan-3</u> (2023), <u>Aditya-L1</u> (2023).



NAVIGATION WITH INDIAN CONSTELLATION (Navic)

Navigation with Indian Constellation, also known as NavIC, is a stand-alone satellite navigation system, which is similar to GPS.



Indian Space Research Organisation (ISRO)

+ NUMBER AND POSITIONING OF SATELLITES

8 (only 7 active): 3 in geostationary and 4 in geosynchronous orbits

+ PREVIOUSLY KNOWN AS

(IRNSS) Indian Regional Navigation Satellite System (IRNSS)

NavlC is recognised by IMO as a part of World-Wide Radio Navigation System (WWRNS) for operation in the Indian Ocean Region.

+ APPLICATIONS

- Navigation Terrestrial, aerial and marine
- Tracking and Mapping Vehicle and fleet management
- Location Based Precise timing for ATMs and power grids
- Resource Monitoring Surveying and geodesy, scientific research
- Safety-of-life alert dissemination
- Time dissemination and synchronization
- Integration with mobile phones

Geostationary

Orbit



+ SIGNIFICANCE

- Real time information for civilian as well as strategic users
- India's reduced dependence on other countries
- Scientific & technological advancement
- Regional integration and India's diplomatic goodwill gesture

+ ISSUES

- Constellation satellites exceeding their operational lifespan
- Mobile phones lacking compatibility with NavIC
- Limited coverage of NavIC (extends only 1,500 km beyond India)

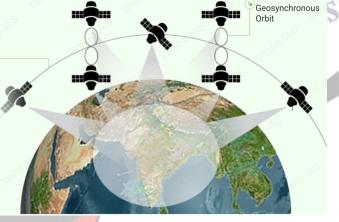
+ OTHER NAVIGATION SYSTEMS

Global Systems

GPS (US), GLONASS (Russia), Galileo (European Union)and BeiDou (China)

Regional Systems

(QZSS) from Japan



Read More: ISRO's new NavIC Satellite NVS-01

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