

# Eye in the sky: NISAR set for launch today



PHOTOS: @ISRO/X

India is poised to script yet another history in the space sector through the launch of the NISAR (Nasa-Isro Synthetic Aperture Radar) mission, a collaboration between the National Aeronautics and Space Administration (Nasa) and the Indian Space Research Organisation (Isro), from Sriharikota in Andhra Pradesh on Wednesday. It is touted as the most expensive Earth observation satellite to date. The imaging technology in NISAR will be able to provide very high-resolution data on changes as small as one centimetre in size on Earth's surface. This will also democratise space sector data by providing access to the research community.

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## Scaling new heights

### Key highlights of the mission

**September 30, 2014:** Isro and Nasa signed the deal for the NISAR mission

**July 30, 2025:** Set to launch the satellite aboard the GSLV-Mk II rocket from Sriharikota, Andhra Pradesh, at 5:40 pm

**₹13K cr**

Total investment (approximately)

**₹469.4 cr**

India's share

**2,392 kg**

Weight of NISAR

## What will NISAR do?

- According to Nasa, it will collect information about our planet's environment
- It will scan nearly all of Earth's land and ice surfaces twice every 12 days, providing insights into the expansion and contraction of ice sheets, sea ice, and glaciers, deformation of its crust due to natural hazards, as well as natural and human changes to Earth's terrestrial ecosystems
- It will help in detecting volcanic changes, landslides, and climate change by taking images of the Earth 24 hours a day
- These measurements will be carried out by two radar systems — an L-band system built by the Jet Propulsion Laboratory in California, and an S-band system constructed by Isro's Space Applications Centre in Ahmedabad

## GSLV milestones

- For the first time, a Nasa payload is being launched aboard India's GSLV (Geosynchronous Satellite Launch Vehicle)
- GSLV is deployed for a Sun-synchronous orbit (SSO), which is traditionally a terrain of PSLV
- GSLV-F16 will put the satellite in a 734 km Sun-synchronous orbit



## Other space cooperations in the pipeline

**61:** Number of countries with which India has so far signed space cooperative documents. A similar deal was signed with five multilateral bodies

**Trishna mission:** Planned Earth observation satellite mission by India and France, focusing on thermal infrared imaging for monitoring land and water surface temperatures

**Lunar mission:** India and Japan are working on a joint venture mission, Chandrayaan-5. It will likely be launched in 2027-28