

NASA Chief In India To Strengthen NASA-ISRO Relationship

Why In News

- NASA Administrator **Bill Nelson** has landed in India for a series of strategic discussions and events aimed at strengthening the partnership between the **National Aeronautics and Space Administration and the Indian Space Research Organisation**.
- The visit marks India's growing stature as a global leader in space exploration and technology.

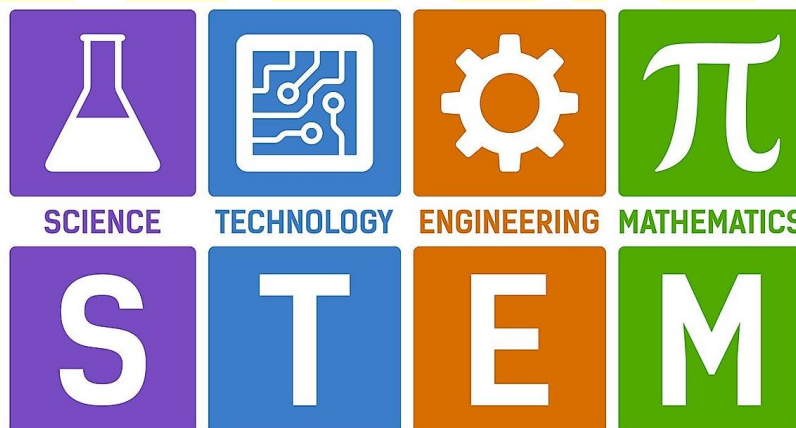


Agenda Of The Visit

- The agenda for Nelson's visit is packed with **high-level meetings** with government and **space officials**, focusing on areas such as human exploration, Earth science, and technological innovation.
- One of the highlights of his trip will be a visit to **Bengaluru's NISAR spacecraft facilities**, where he will witness firsthand the progress of the joint Nasa-Isro Earth-observing mission.



- This marks the first time NASA and ISRO have collaborated on hardware development for an Earth-observing mission, symbolizing a new era of cooperation between the two space agencies.
- Additionally, Nelson's visit aligns with the **US and India initiative on Critical and Emerging Technology**, initiated by President Joe Biden, fulfilling a commitment to deepen ties in cutting-edge research and development.
- During his stay, Nelson will also engage with students to **discuss STEM education** and inspire the next generation of space explorers, known as the Artemis Generation.



NISAR

- This mission, known as **NISAR (Nasa-Isro Synthetic Aperture Radar)**, is set to launch in **2024** and is pivotal for understanding various aspects of Earth's ecosystems, natural hazards, and climate change.
- NASA-ISRO SAR (NISAR) is a **Low Earth Orbit (LEO)** observatory being jointly developed by NASA and ISRO.



- NISAR will map the **entire globe in 12 days** and provide spatially and temporally consistent data for understanding changes in Earth's ecosystems, ice mass, vegetation biomass, sea level rise, ground water and natural hazards including earthquakes, tsunamis, volcanoes and landslides.
- It carries **L and S dual band Synthetic Aperture Radar (SAR)**, which operates with **Sweep SAR technique** to achieve large swath with high resolution data.
- The SAR payloads mounted on **Integrated Radar Instrument Structure (IRIS)** and the spacecraft bus are together called an observatory.
- Jet Propulsion Laboratories and ISRO are realizing the observatory which shall not only meet the respective national needs but also will feed the science community with data encouraging studies related to surface deformation measurements through repeat-pass InSAR technique.

