

ISRO's SpaDeX Mission

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ISRO's SpaDeX Mission: A Milestone in Space Docking

Context

ISRO successfully **undocked** the two satellites of the **SpaDeX mission**, making India the **fourth country** after the U.S., Russia, and China to achieve **rendezvous, docking, and undocking** in space.

About SpaDeX

- **Technology demonstration mission** for autonomous docking and undocking.
- Crucial for India's space station, Gaganyaan, and deep-space missions.

Satellites Involved

- **SDX-01 (Chaser)**: Performs docking.
- **SDX-02 (Target)**: Facilitates docking.

Launch Details

- **Date: December 30, 2024** | **Rocket: PSLV-C60**
- **Orbit: 460 km, 45-degree inclination**

Key Milestones

- **Docking: January 16, 2025**
 - **Undocking: March 14, 2025**
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Significance

- Strengthens India's human spaceflight & space station programs.
- Enhances **deep-space exploration & in-orbit servicing**.
- Positions India among **leaders in space docking technology**.