



ISRO : SCIENCE & TECHNOLOGY

NEWS : *A look into ongoing space mission*

WHAT'S IN THE NEWS ?

ISRO Milestones (2023-2024):

- **Aditya L1:**
 - Launched: September 2, 2023.
 - Objective: Study the Sun from the Earth-Sun Lagrange point (L1).
 - Milestones: Reached L1 on January 6, 2024; observed a solar storm in May 2024; began first L1 orbit on July 2, 2024.
- **Gaganyaan:**
 - First abort mission: October 21, 2023.
 - Achievements: Successful test of Crew Escape System; crew module recovery by INS Shakthi.
- **XPoSat:**
 - Launched: January 1, 2024.
 - Objective: Study X-ray polarisation from celestial objects.
 - Instruments: XSPECT and POLIX began operations in January 2024.
- **INSAT-3DS:**
 - Launched: February 17, 2024, by GSLV.
 - Purpose: Enhance weather forecasting and climate monitoring.
 - Significance: Validates GSLV performance ahead of the NASA-ISRO NISAR mission.

UPCOMING MISSIONS OF ISRO	
GAGANYAAN Gaganyaan is an Indian crewed orbital spacecraft. The spacecraft will carry 3 people, who will remain in space for 7 days.	
CHANDRAYAAN 3 Chandrayaan-3 is an ISRO mission in collaboration with Japan's JAXA. It will help to setup habitat on the lunar surface.	
ADITYA - L1 This is India's mission to the Sun. It is the First Indian based Solar Coronagraph to study solar Corona in visible & near IR bands.	
NISAR Nasa-Isro Synthetic Aperture Radar (Nisar) is a joint project between NASA & ISRO. It is the 1st dual band radar imaging satellite.	
MANGALYAAN 2 Mars Orbiter Mission 2 (MOM 2) also called Mangalyaan 2 is India's 2nd interplanetary mission planned for launch to Mars	
SHUKRAYAAN 1 This Venusian mission is a planned orbiter to Venus to study the surface & atmosphere of Venus.	
EXPOSat PLANETARY EXPLORATION It will study neutron stars, supernova remnants, pulsars and regions around black holes	
INDIA'S SPACE STATION The proposed station will weigh 15-20 tonnes & will be able to host people for 15-20 days.	



PL RAJ IAS & IPS ACADEMY

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- **Reusable Launch Vehicle-Technology Demonstrator (RLV-TD):**
 - Landing experiments (LEX-02 and LEX-03): Conducted on March 22 and June 7, 2024.
 - Achievements: Successful landing dynamics tests, supporting ISRO's reusable space vehicle plans.
- **Small Satellite Launch Vehicle (SSLV):**
 - Third flight: August 16, 2023.
 - Success: Placed EOS-08 and SR-0 Demosat into orbit, confirming SSLV's readiness for commercial use.
- **NewSpace India Ltd. (NSIL):**
 - Activities: Handled commercial satellite launches; partnered with SpaceX and Australian companies for satellite launches.
 - Key Missions: GSAT-20/GSAT-N2 launch by SpaceX; involvement in public-private partnerships for satellite data activities.

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