

India's Expanding Space Vision: From Empowerment to Interplanetary Exploration

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India's Space Program Latest News

- Recently, Prime Minister Narendra Modi said that India was marching ahead with renewed confidence in the field of space exploration and its astronauts' footprints will be on the Moon.

Introduction

- Prime Minister Narendra Modi has outlined an ambitious future for India's space programme, reaffirming the country's rising role in both global scientific exploration and domestic empowerment.
- In his address to the **Global Space Exploration Conference (GLEX) 2025**, PM Modi emphasized that India's space efforts are not about competition, but about "reaching higher together", driven by the spirit of collective growth, technological advancement, and service to humanity.

Space as a Catalyst for Empowerment

- PM Modi asserted that **space exploration in India has a dual purpose, scientific progress and citizen empowerment**.
- From providing alerts to fishermen to enabling the Gati Shakti logistics platform and enhancing railway safety and weather forecasting, Indian satellites have been actively improving governance and the everyday lives of citizens.
- He added that India's space infrastructure supports socio-economic transformation, showcasing space not merely as a frontier of science, but as a driver of inclusive development.
- Highlighting this, PM Modi said India's rockets don't just carry payloads but "the dreams of 1.4 billion Indians."

A Legacy of Achievements

- **India's space journey began modestly with a small rocket launch in 1963.** Since then, the country has reached several significant milestones:
 - India became the first country to land near the lunar South Pole with Chandrayaan-3 in 2023.
 - Chandrayaan-1 helped discover water on the Moon.
 - Chandrayaan-2 produced the highest resolution images of the Moon.
 - In 2014, India became the first country to reach Mars in its maiden attempt with the Mangalyaan mission.
- India has also demonstrated engineering excellence by:
 - Building cryogenic engines in record time.
 - Launching 100 satellites in a single mission.
 - Sending more than 400 satellites for 34 countries.
 - Achieving satellite docking in space, a step forward for human spaceflight capability.

The Road Ahead: Moon, Mars, Venus

- Looking toward the future, PM Modi announced a clear and ambitious roadmap:
 - **By 2025:** India will send astronaut Shubhanshu Shukla on a 14-day joint ISRO-NASA mission to the International Space Station under the Axiom-4 mission.

- **By 2035:** India will establish the **Bharatiya Antariksha Station**, opening new frontiers in research and international collaboration.
- **By 2040:** Indian astronauts will set foot on the Moon. Mars and Venus are also part of ISRO's future planetary exploration agenda.
- These goals reaffirm India's commitment to bold, long-term space ambitions, rooted in both national pride and global cooperation.

Boosting Private Participation and Innovation

- PM Modi highlighted the emergence of over **250 space startups** in India, which are contributing to breakthroughs in satellite tech, propulsion systems, and imaging technologies.
- He noted that many of these initiatives are led by **women scientists**, reflecting the inclusive character of India's scientific community.
- These private players are not only generating employment (over 22,000 jobs in the past decade) but are also driving economic value and global relevance for India's space sector.

Strategic Diplomacy Through Space

- India's commitment to using space for diplomacy and regional cooperation was also emphasized.
- After launching satellites for South Asian countries, the upcoming **G20 Satellite Mission**, announced during India's G20 presidency, will be a symbolic and practical gift to the Global South.
- This aligns with India's broader vision of sharing scientific progress to address shared global challenges and strengthen multilateralism.

India's Space Programme FAQs

Q1. What is the Bharatiya Antariksha Station and when will it be launched?

Ans. It is India's own space station planned to be operational by 2035.

Q2. When will India send its first astronaut to the Moon?

Ans. India aims to land its astronaut on the Moon by 2040.

Q3. What is the G20 Satellite Mission?

Ans. It is India's upcoming satellite initiative announced during its G20 presidency to support the Global South.

Q4. What major milestones has ISRO achieved in space exploration?

Ans. ISRO has discovered water on the Moon, launched 100 satellites in one mission, and reached Mars in its first attempt.

Q5. How is India involving private companies in its space sector?

Ans. Over 250 startups are actively contributing to satellite, propulsion, and imaging tech development, many led by women scientists.

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