

January 2025



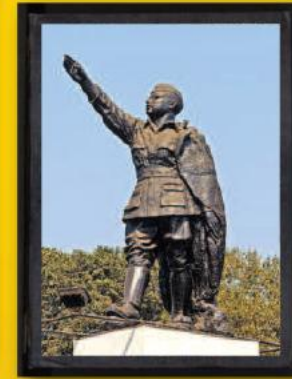
# Indian Constitution

Celebrating 75 Years  
of the Republic



## MANN KI BAAT

Prime Minister Narendra Modi's Address to the Nation



Ministry of Information and Broadcasting  
Government of India

# Prime Minister's Address



in future. This shows how far-sightedly our scientists are working.

Friends, I want to tell you about another inspiring initiative. IIT Madras' ExTeM Centre is working on new technologies for manufacturing in Space. This Centre is conducting research on technologies like 3D-printed buildings, metal foams and optical fibres in Space. This Centre is also developing revolutionary methods like concrete construction without water. **This research of ExTeM will strengthen India's Gaganyaan mission and the future Space Station. This will also open new avenues of modern technology in manufacturing.**

Friends, all these achievements are proof of how visionary India's scientists and innovators are, in providing solutions to future challenges. **Today, our country is setting new benchmarks in Space**

**technology. I extend my best wishes to India's scientists, innovators and young entrepreneurs on behalf of the entire nation.**

**My dear countrymen** many a time, you must have seen pictures of amazing bonding between humans and animals; you must have heard stories of animals' loyalty as well. Whether it is a pet or a wild animal, their relationship with humans sometimes amazes us. Animals may not be able to speak, but humans can understand their feelings and their gestures very well. Animals also understand the language of love and live by it too. I want to share an example from Assam with you. There is a place in Assam called Nagaon. Nagaon is the birthplace of our country's great luminary Srimanta Shankardev Ji. This place is very beautiful. It is also the habitat to a large number of elephants. Many incidents were being noticed in this area

# Beyond Gravity

## India's Leap into the Future of Space-Tech

“ Friends, all these achievements are proof of how visionary India's scientists and innovators are, in providing solutions to future challenges. Today, our country is setting new benchmarks in space technology. I extend my best wishes to India's scientists, innovators and young entrepreneurs on behalf of the entire nation.

—Prime Minister Narendra Modi (in 'Mann ki Baat' address)



India's space sector is soaring to unprecedented heights, driven by groundbreaking innovations and a thriving private ecosystem. From the successful launch of Pixxel's 'Firefly'—India's first private hyperspectral satellite constellation—to ISRO's remarkable feat in space docking and experiments in growing plants beyond Earth, the nation is rapidly cementing its position as a global space-tech leader. Adding to this momentum, IIT Madras's ExTeM Centre is pioneering futuristic manufacturing technologies for space missions. These advancements are not just milestones in scientific progress but also a testament to India's commitment to self-reliance and innovation in space exploration.



“ One of the nice things about space technologies is that you're actually thinking very differently. For the development of technologies on earth, we have all the resources around us, like water and other materials. But boundaries in space are very different, for which we have to think in a different way. For example, we will develop new technologies which we have never thought of.

—Dr Sathyan Subbiah, Professor, Department of Mechanical Engineering, IIT Madras



“ The special thing about the Fireflies is that they are the world's highest resolution hyperspectral satellites. Hyperspectral data enables us to see things in a 50 times richer detail per image compared to normal satellites. For example, if you are looking at an agricultural farmland, you will be able to identify not just the fact that it's a farm, but be able to identify what are the soil nutrients; if there is any crop disease or pest infestation.

—Awais Ahmed, Founder & CEO, Pixxel Space



**ExTeM @ IITM**

Extra Terrestrial Manufacturing @ IITM

**'IIT MADRAS' EXTEM CENTRE IS WORKING ON NEW TECHNOLOGIES FOR MANUFACTURING IN SPACE**

MANN KI BAAT EPISODE - 118

15:51 / 31:46



PM Narendra Modi's 118th Edition of Mann Ki Baat | 19th January, 2025

Doordarshan National  
5.94M subscribers

Subscribe

300    Share    ...

<https://www.youtube.com/watch?v=rrNjSTMIHsk>  
@15:45 to 17:04