It is with great joy to announce that ACE Ground station Team's association with IITB Pratham Satellite team has now started to bear good fruit as it is about to commence its intended purpose of measuring Total Electron Count in atmosphere.

After a long delay, IIT Bombay's first student satellite, Pratham , will be launched on September 26 from the Satish Dhawan Space Centre, Sriharikota at 9:30 am.Atharva Ground station is the only receiving station (across India) who has developed itself to receive and process data sent by Pratham satellite.

Kudos to the Ground Station Team at ACE who have consistently endeavoured in the domain of Antenna Design for the Pratham satellite!

IIT-B set to conquer space with launch of new satellite

MISSION PRATHAM ISRO to help students launch microsatellite into space at the end of Sept

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MUMBAI: After successfully building racing cars that can navigate through muddy terrain and designing unmanned aerial vehicles meant for dropping supplies in areas hit by natural calamities, some engineering students from the city are conquering a new frontier — space.

Last week, a team of students from Indian Institute of Technology, Bombay (IIT-B) handed over Pratham, a 'microsatellite' designed by them, to Indian Space Research Organisation (ISRO), which will launch the satellite into space at the end of this month.

Over the next few days, some of the students will test the satellite with scientists at Satish Dhawan Space Centre at Sriharikota, Andhra Pradesh, from where the satellite will be launched.

The Rs1.5-crore project started in 2008, when a few IITians came up with the idea of building their own satellite. They presented their project plan to ISRO, which reviewed it and agreed to help them design and launch it in space for free. Subsequently, a Memorandum of Understanding (MoU) was signed between IIT-B and ISRO.

However, the project was delayed after it hit a few roadblocks. "In 2010, the project was almost completed, but many members graduated and left the institute. The satellite was in the cold storage for a couple of years, as the duration of the MoU came to an end in 2011, and more students graduated," said Manvi Dhawan, a member of the team who graduated this year.

In 2012, after ISRO asked IIT-B if it wants to continue with the project, the institute decided to form a fresh team of students to design Pratham and a new MoU was signed with ISRO. To overcome the challenge of students leaving the institute and the project once they graduate, the Pratham team has been bringing new students on board every semester.

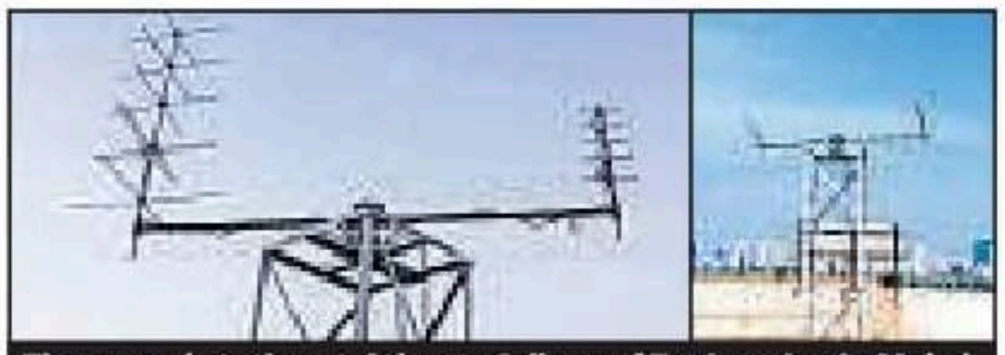
In the same year, IIT-B started working on its 'microsatellite'. It had held a workshop in a bid to collaborate with other colleges in their space endeavour. The colleges were motivated to build their own ground stations — the terrestrial radio station to communicate with the satellites. One of the colleges which eventually started building a ground station was Atharva College of Engineering in Malad.

For two years, a team of students from the college did the research work required for building a ground station at the college terrace. In the next two years, they set up antennae and the station was finally inaugurated in 2012.

With the uncertainty prevailing over IIT-B's Pratham, the students at Atharva College of Engineering decided to design their own satellite. It took them four years to complete APSARHA-1, a balloon satellite. "We have already tested the satellite and are awaiting the government's nod for its launch," said Pragnesh Panchal, a graduate, who has worked on the project for three years.

STUDENTS ON A SPACE MISSION

Indian Space Research Organisation (ISRO) has been helping colleges in the country with their satellite projects



The ground station at Atharva College of Engineering in Malad.

APSARHA-1 (Atharva Payload System – A Radio Linked High Altitude Air Balloon) is a balloon satellite, weighing 250gm to 500gm. It can record temperature and humidity and even calculate the pollution levels in the environment with the ozone readings. It won't go beyond an altitude of 25km to 30km.

PRATHAM

Pratham is a 'microsatellite' that can fit in a 30.5cm X 33.5cm X 46.6cm cube. It weighs around 10 kg and will revolve at a 720km altitude. Once successfully in orbit, it will record the electron count of the ionosphere, which can be used for tsunami alerts and also to increase the accuracy of Global Positioning System in India.

STUDENTSPEAK

"I have always been inclined towards research. When I got to know about the space project, I joined it. I am overwhelmed by the experience of meeting and working with intelligent people."

Aishwarya Sansare

"The idea of building a satellite got me involved in the project. I learnt that Isro scientists have very little tolerance for error and we had to convince them that our satellite won't fail."

Yash Sanghvi

"While working on the project, I learnt team work and how small things contribute to progress. It also taught me that any problem must be approached step-by-step."

Manvi Dhawan

ISROSPEAK

"We encourage universities and institutes to build small satellites to give students some exposure to space science technology. So far, we have launched six such satellites through our PSLV launcher. Pratham will also be launched soon."

Devi Prasad Karnik,
director, public relations, Isro