

Student Satellite

'Pratham', the student satellite initiative, is a landmark project taken up by IIT-B students. The plan is to build a fully functional microsatellite in less than two years which would then be launched by ISRO. This is entirely a student initiative with mentorship provided by ISRO scientists and IIT-B Professors. The satellite will fit in a 23*23*23 cm cube and will weigh less than 10 kg.

The project has a four-fold mission: educating students and faculty in the field of Satellite and Space Technology, empowering the Satellite Team with the skills to develop the Satellite through various phases of Design, Analysis, Fabrication and Testing till the Flight Model is made, launching the satellite into orbit and measuring Total Electron Count of the Ionosphere and making its map above India and involving students from other universities in our Satellite mission by building ground stations in their universities.

For the relevance of our satellite to the student community, we will be transmitting satellite data when the satellite passes over India so that any interested university with a small ground station (costing about Rs. 15000/-) will not only be able to detect the beacon signal from our satellite but will also be able to measure TEC above their ground station. This is proposed to spread awareness among the student community about this exciting field. Educational institutions are invited to contribute to the project.

The project follows the ISRO paradigm of project execution which has Reviewing and Documentation as its backbone. In reviews, system engineer and sub-systems detail the work they have done to the rest of the team and faculty members (also, experts from outside). All relevant issues are discussed and this is essential for concept clarification. Documentation consists of maintaining a comprehensive written record of the work done and has multiple benefits. Apart from facilitating communication between teams, it helps create a backbone on which other groups can build on. The ultimate aim is to initiate more such activities in this field using the ground work done by this project.

The conceptual design review took place in front of IIT Faculty and then in front of ISRO scientists in ISRO Satellite Center, Bangalore. The work done so far was applauded and suggestions were given for improvement. The team is now back to work, preparing for the Preliminary Design Review to be held in the end of September. To find out more about the project, visit the website <http://www.aero.iitb.ac.in/pratham>.