

DAILY ASSESSMENT FORMAT

Date:	02 JULY 2020	Name:	HARSHITHA H
Course:	IIRS Outreach program on Satellite Photogrammetry and its Applications	USN:	4AL18EC020
Topic:	Introduction to Global positional system	Semester & Section:	IV SEM & A SECTION
Github Repository:	harshithah		

Image of session

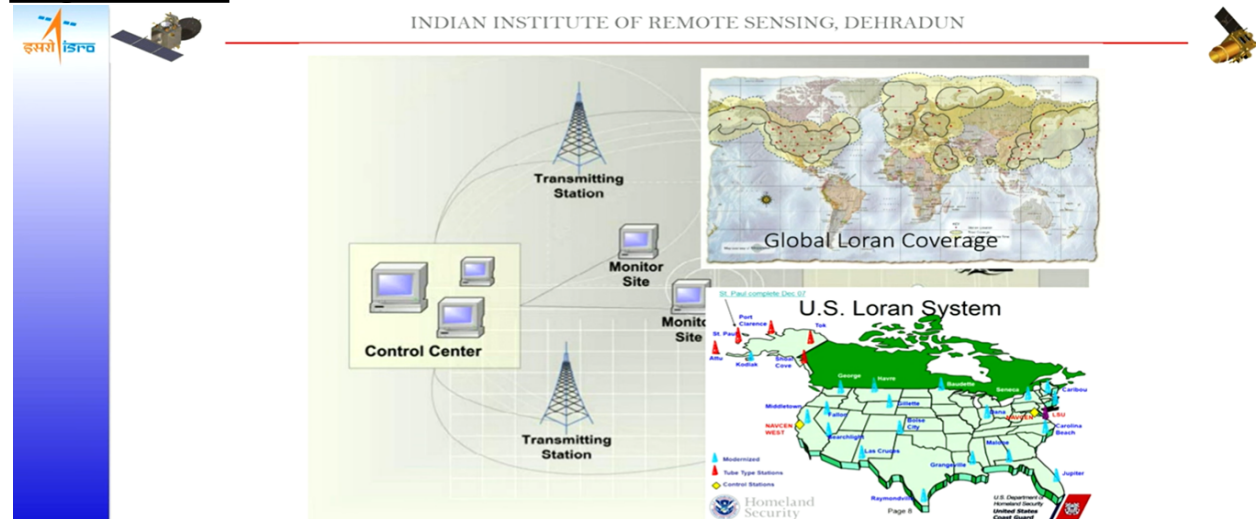


Figure 1 – eLoran System Concept

Source: <https://rntfnd.org/wp-content/uploads/eLoran-Definition-Docment-0-1-Released.pdf>

IIT-Bombay develops Dhruva, Indian receiver chip for NAVIC, GPS satellites

Dhruva will receive signals from India's NAVIC group of navigation satellites as well as the US Global Positioning System-based satellites to determine these accurately under all weather conditions.

By Anand Chandra/PTI, ET Bureau | Last Updated: Jun 23, 2020, 09:15 PM IST

IIT-Bombay has developed a homegrown receiver chip - Dhruva - that can be used in smartphones and navigation devices to find locations and routes within the country. Dhruva will receive signals from India's NAVIC group of navigation satellites as well as the US Global Positioning System-based satellites to determine these accurately under all weather conditions.

The radio frequency receiver chip was designed in 18 months by students and researchers at IIT Bombay. It can receive in multiple frequency bands and handle weak signals. Besides, it can be converted into digital bits and processed by any standard digital signal processor (DSP) to determine one's location precisely. "There were many design challenges to make the receiver work under all environmental conditions. We came up with patentable innovations, set up our internal review structure so that no bug passes through," said Rajesh Zele, professor, Department of Electrical Engineering, IIT Bombay who led the efforts. India has had a fleet of navigational satellites for a few years, but there have been no commercial receivers so far that could receive its signals in multiple frequencies, IIT Bombay said in a statement. The nine satellites under NAVIC were built as an alternative to the GPS, as part of India's space agency's efforts to make the navigation system accessible for commercial applications.

The Dhruva project was funded by the Ministry of Electronics and Information Technology (MeitY), with SAMEER (Society for Applied Microwave Electronics Engineering and Research) as the nodal agency. The research team also interfaced with the Space Applications Centre of the Indian Space Research Organisation.

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REPORT:

IIRS OUTREACH PROGRAM ON SATELLITE PHOTOGRAMMETRY AND ITS APPLICATIONS

Introduction to Global positional system

- **History of mapping and surveying**
- **Early space-based radio navigation system**
- **Satellite navigation**
 - **Global**
 - **Regional**
- **GPS/GLONASS/Galileo general characteristics**
- **Satellite based Augmentation system**