R.M.K COLLEGE OF ENGINEERING AND TECHNOLOGY

RSM NAGAR, PUDUVOYAL 601206







DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

POST EVENT REPORT

Webinar on

Indian Regional Navigation Satellite
Systems



Mr. M. Arun Sundar DRDO, Chennai



Dr. N. GangatharanHead of the Department - ECE





Mr. Babu M

Assistant Professor - ECE

Ms. Sandhiya G

Assistant Professor - ECE



02.05.2020 10.00 AM - 11.00 AM



EVENT POSTER:



INTRODUCTION:

In the overview of the COVID-19 situation in our state and the country, we have to take stringent lockdown measures for the safety of our family and society. But Education and Learning needs to be continued even in dire situations like the one we are enduring of late. The webinar focused on an independent regional navigation satellite system being developed by India.

SUMMARY:

IRNSS is an independent regional navigation satellite system being developed by India. It is designed to provide accurate position information service to users in India as well as the region extending up to 1,500 km from its boundary, which is the primary service are of IRNSS. Terms in IRNSS such as Navigation, Frames-Inertial coordinate frames types, Ellipsoid Gravity Anomaly, Geoid, datum, latitude, Longitude, Altitude, local navigation Frame, Navigation satellite Time, were clearly briefed by the speaker. He gave a real time example of rectangular coordinate system. From his wonderful talk we got an idea of The IRNSS System architecture both software and hardware. He gave a brief description about the application of IRNSS in mobile Phone. Finally speaker elaborated the differences between GPS and IRNSS.

An Extended Service Area lies between primary service area and area enclosed by the rectangle from Latitude 30 deg South to 50 deg North, Longitude 30 deg East to 130 deg East.

IRNSS will provide two types of services, namely, Standard Positioning Service (SPS) which is provided to all the users and Restricted Service (RS), which is an encrypted service provided only to the authorized users. The IRNSS System is expected to provide a position accuracy of better than 20 m in the primary service area.

Some applications of IRNSS are:

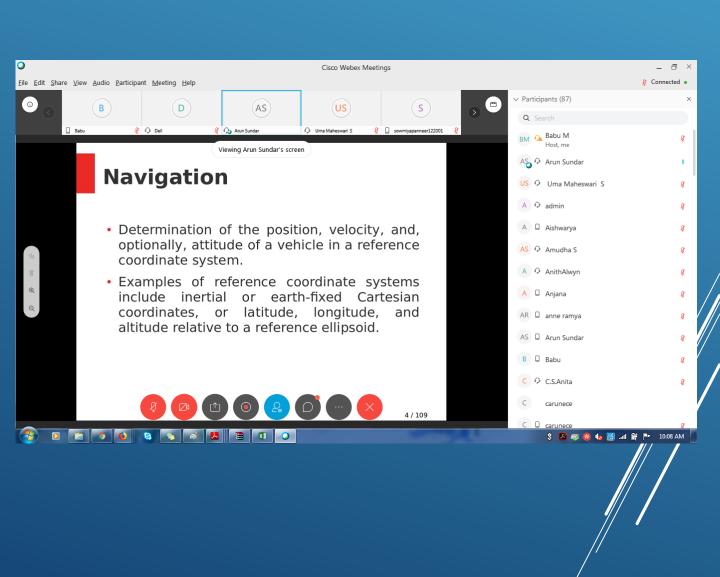
- Terrestrial, Aerial and Marine Navigation
- Disaster Management
- Vehicle tracking and fleet management
- Integration with mobile phones
- Precise Timing
- Mapping and Geodetic data capture
- Terrestrial navigation aid for hikers and travelers
- Visual and voice navigation for drivers

The IRNSS Signal-in-Space Interface Control Document (ICD Ver. 1.1) for Standard Positioning Service (SPS) is released to the public to provide the essential information on the IRNSS signal-in-space, to facilitate research & development and aid the commercial use of the IRNSS signals for navigation-based applications. Download the Document

IRNSS-1A spacecraft provides messaging service to users in the Indian region. The Signal-in-Space Interface Control Document (ICD Ver. 1.0) for Messaging services (IRNSS 1A) is released to the public to provide the essential information to facilitate the use of IRNSS1A Signal-in-space for development of receiver and associated application. Download Signal in Space Interface Control Document for NavIC messaging service (ICD Ver 1.0 - June 2013 | ICD Ver 1.0 - March 2019 | ICD Ver 1.1 - July 2019).

KEY HIGHLIGHTS:

- About IRNSS
- Rectangular Coordinate Systems
- IRNSS Architecture
- Applications of IRNSS
- Difference between IRNSS & GPS



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