

Seminar on

NavIC - the Game Changer

Enabling Positioning and Precision

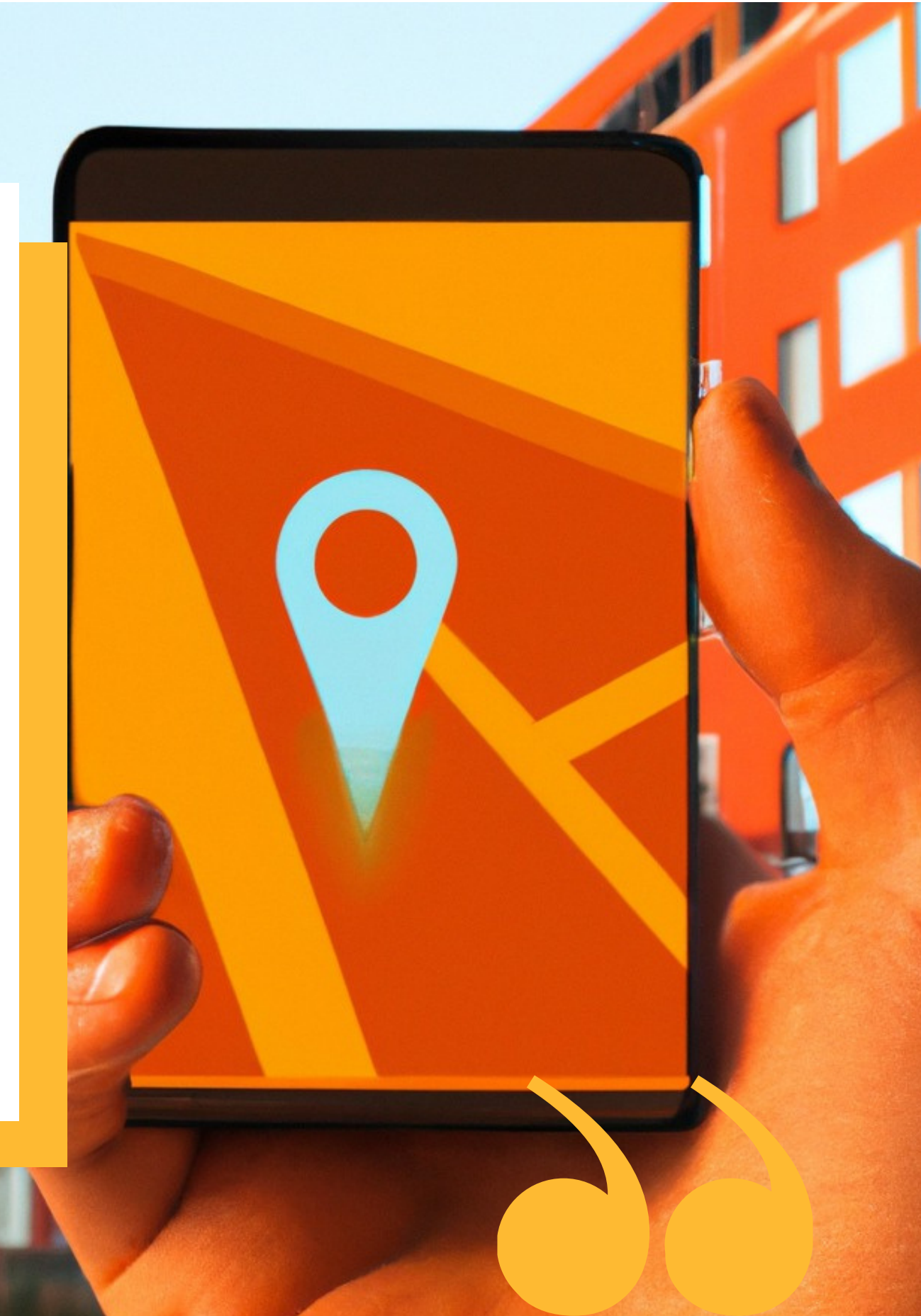
Technologies in India and beyond

22nd and 23rd January 2024

VENUE - BEL Academy for Excellence (Nalanda), Bengaluru

Jointly organized by

- ▶ IIT Tirupati Navavishkar I-Hub Foundation
- ▶ Bharath Electronics Limited (BEL) India
- ▶ IIITB COMET Foundation



About NavIC

NavIC, also known as Navigation, with Indian Constellation is a satellite navigation system developed by the Indian Space Research Organisation (ISRO). Its purpose is to offer positioning and timing information within India and its surrounding areas. Similar to navigation satellite systems like the United States Global Positioning System (GPS) Russia GLONASS and the European Union Galileo NavIC plays a crucial role in supporting various applications such as terrestrial, aerial and marine navigation, disaster management, vehicle tracking and accurate timing.



Key features of NavIC

1 Constellation

The NavIC constellation consists of seven satellites strategically positioned in geosynchronous orbits.

3 NavIC coverage map in India and Accuracy

1 Offers a standard positioning service with an accuracy of 3 meters (9.8 ft) for civilian users.

2 An encrypted restricted service provides even higher accuracy (2 meters or 6 ft 7 in) for authorized users like the military.

5 NavIC and GPS Compatibility

The NavIC system is designed to work with GPS allowing receivers that are compatible with GPS signals to also utilize NAVIC signals and vice versa.

6 Transition from IRNSS to NavIC

Initially referred to as the Indian Regional Navigation Satellite System (IRNSS) it was subsequently renamed NAVIC by Indias Prime Minister, Narendra Modi.

2 Coverage

Primarily covers India and extends up to 1,500 km beyond its borders, including parts of Pakistan, Bangladesh, Nepal, Bhutan, Myanmar, Sri Lanka, and Maldives.

4 Service Types

There are two types of services offered by NavIC:

1 Standard Positioning Service (SPS)

This service is available to all users, without any restrictions.

2 Restricted Service (RS)

An encrypted service exclusively provided to authorized users.

7 Challenges

1 Limited global reach

Compared to GPS or Galileo, NavIC's coverage area is smaller.

2 Smartphone compatibility

Not all smartphones in India are NavIC-enabled yet.

3 Infrastructure development

Building a robust network of ground stations for signal correction and augmentation is ongoing.

8

Applications & Opportunities

NavIC serves a range of applications by providing position information services to users within India and the region. Some notable applications include

1

Applications & Opportunities

Several Indian smartphone manufacturers now include NavIC support, offering improved location accuracy and navigation within the covered region.

2

NavIC enabled smartphone

Vehicle tracking: Mandatory for commercial vehicles in India, NavIC-based trackers provide real-time location and movement data for better fleet management and safety.

3

Emergency response

NavIC aids emergency services in locating accidents and providing timely assistance.

4

Agriculture

Precision farming applications utilize NavIC for field mapping, crop monitoring, and automated machinery guidance.

5

Disaster management

NavIC supports disaster preparedness and response efforts by providing accurate location information and communication infrastructure.



9

Future outlook

1

The Indian government is actively promoting NavIC adoption in various sectors. Plans are underway to expand the NavIC constellation to 11 satellites for improved accuracy and coverage.

2

Development of indigenous NavIC-compatible chipsets is being encouraged to reduce reliance on foreign technology.

3

Overall, NavIC is a significant step for India in achieving self-reliance in satellite navigation technology. While it faces challenges, its growing adoption and potential applications indicate a promising future for this homegrown system.

Why attend the Seminar?

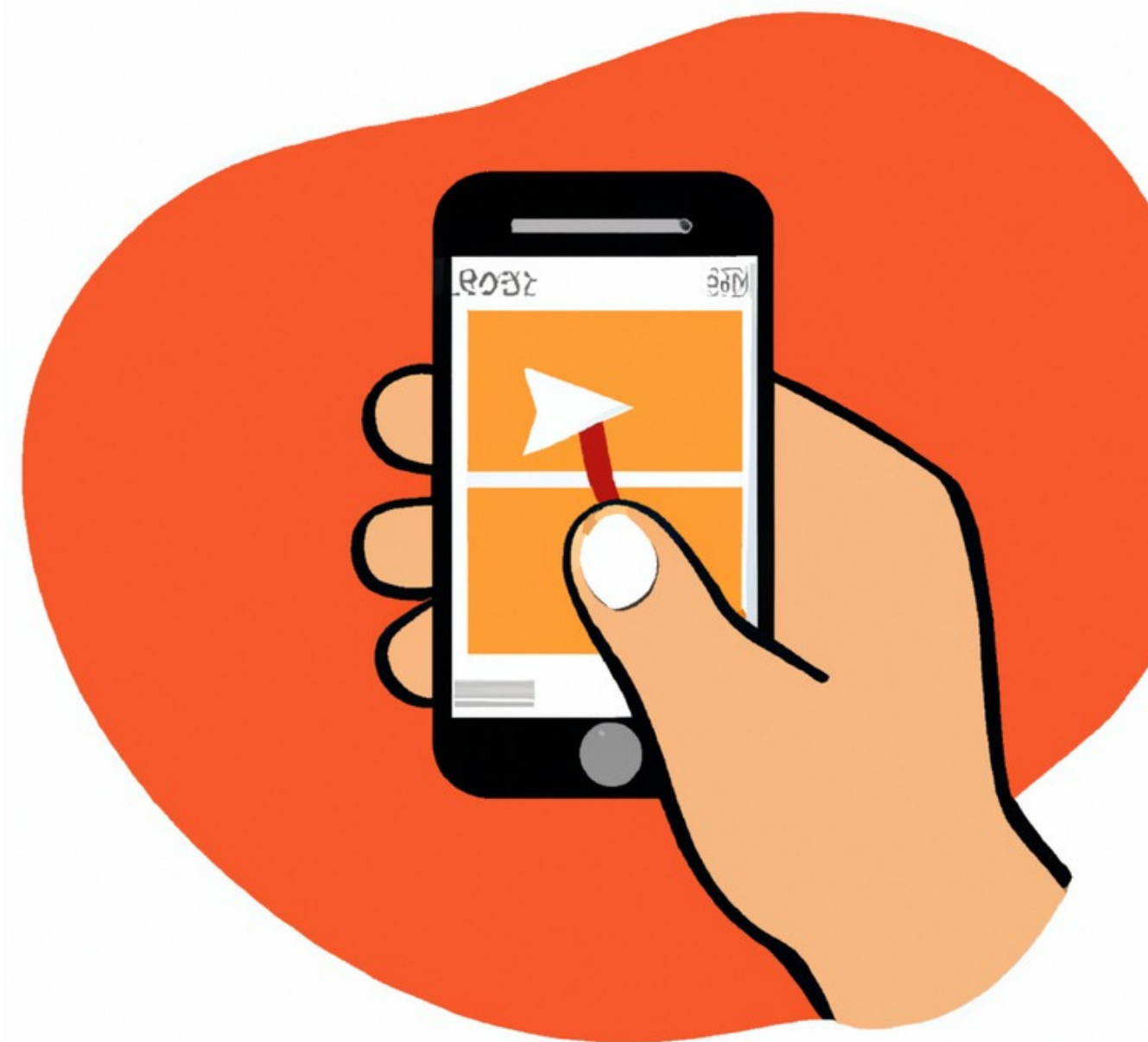
- ✓ Gain insights into the diverse applications and benefits of the NavIC system
- ✓ Development of NavIC-compatible chipsets and devices
- ✓ Integration of NavIC with other technologies, such as 5g and artificial intelligence
- ✓ Use of NavIC for autonomous vehicles and drones
- ✓ Use of NavIC for navigation in difficult environments, such as urban canyons and forests
- ✓ Use of NavIC for scientific research, such as monitoring climate change and natural hazards
- ✓ Explore business opportunities in various sectors powered by NavIC.
- ✓ Interact with experts and peers to learn best practices and stay updated on the latest developments.
- ✓ Showcase your products or solutions if you are an innovator or entrepreneur.

Speakers

The Seminar could feature speakers from a variety of backgrounds, including:

- ✓ Scientists and engineers
- ✓ Representatives from government agencies and industry.
- ✓ Academic researchers
- ✓ Startups and SME's
- ✓ End users of NavIC applications

It would be a valuable opportunity to learn about the latest developments in NavIC technology and applications. It would also provide a forum for stakeholders to discuss the challenges and opportunities in developing and using NavIC.



Registration Details

Industry	Faculty/Govt/ PSU	Startup/Ph.D. Scholars
INR 7,500	INR 6,000	INR 3,000

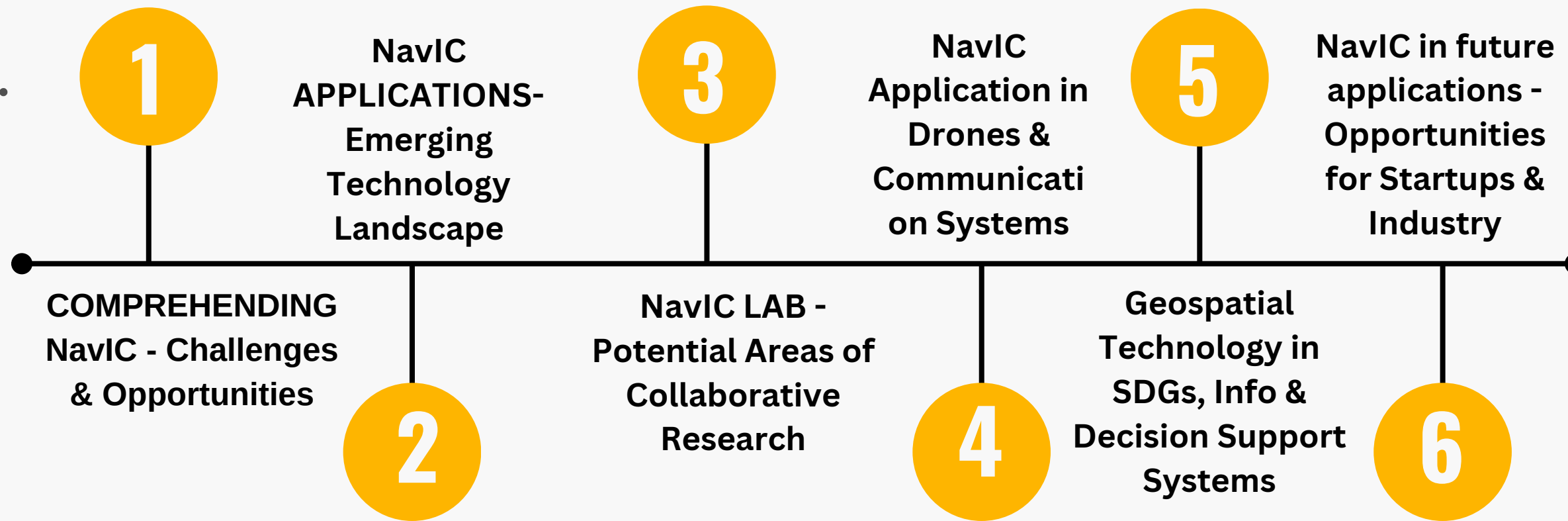
SCAN TO REGISTER



★ **Registration covers:** Entry to all the sessions and exhibition stalls, Seminar Kit, Lunch and tea on January 22-23, 2024, Seminar Dinner on January 23, 2024.

NOTE: Participants are expected to cover their own expenses for travel and accommodation

TENTATIVE SESSIONS AND SCHEDULE



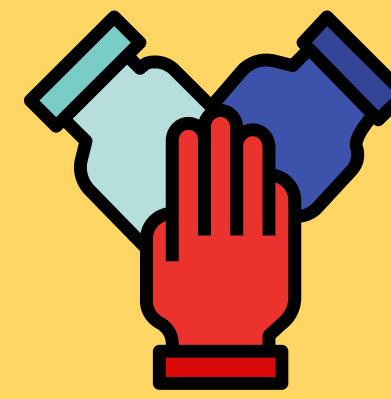
Day 1

Time	Activity
10:00 hrs - 10:45 hrs	Inauguration
10:45 hrs - 11:15 hrs	High-Tea
11:15 hrs - 13:00 hrs	Session - 1
13:00 hrs - 14:00 hrs	Lunch
14:00 hrs - 15:30 hrs	Session - 2
15:30 hrs - 15:45 hrs	Tea Break
15:45 hrs - 17:45 hrs	Session - 3
19:00 hrs	Cultural and Seminar Dinner

Day 2

Time	Activity
09:00 hrs - 10:45 hrs	Session - 4
10:45 hrs - 11:15 hrs	Tea
11:15 hrs - 13:00 hrs	Session - 5
13:00 hrs - 14:00 hrs	Lunch
14:00 hrs - 16:00 hrs	Session - 6
16:00 hrs - 16:30 hrs	High Tea

Our Partner's



Sponsorship Packages



Platinum Sponsorship: `6,00,000/-

The Platinum Sponsor will have major recognition at the main conference that features a prominent keynote address.

We expect that nearly all the 100 participants will attend this event.

Key items of this sponsorship package:

- ▶ Speaking slot to present your company to the gathered audience.
- ▶ Exhibition space of size 18 sq mtr at the conference
- ▶ Organization leaflet (provided by you) included in the welcome package to all attendees.
- ▶ Logo on the website, posters, and other promotional material.
- ▶ Advertisements outside and inside the conference hall.
- ▶ Mention in conference kit, Brochure, and IITTNiF newsletter.
- ▶ 6 delegate passes.
- ▶ Named acknowledgment in the conference closing speech.



Gold Sponsorship: `3,00,000/-

- ▶ Exhibition space of size 9 sq mtr at the conference.
- ▶ Organization leaflet (provided by you) included in the welcome package to all attendees.
- ▶ Logo on the website, posters, and other promotional material.
- ▶ Advertisements outside and inside the conference hall.
- ▶ Mention in conference kit, Brochure, and IITTNiF newsletter.
- ▶ 3 delegate passes.
- ▶ Named acknowledgment in the conference closing speech.

Silver Sponsorship: ` 1,50,000/-

- ▶ Exhibition space of size 9 sq mtr at the conference.
- ▶ Logo on the website, posters, and other promotional material.
- ▶ Advertisements outside and inside the conference hall.
- ▶ Mention in conference kit, Brochure, and IITTNiF newsletter.
- ▶ 2 delegate passes.
- ▶ Named acknowledgment in the conference closing speech.

Bronze Sponsorship: ` 1,00,000/-

- ▶ Exhibition space of size 3 sq mtr at the conference.
- ▶ Logo on the website, posters, and other promotional material.
- ▶ Advertisements outside and inside the conference hall.
- ▶ Mention in conference kit, Brochure, and IITTNiF newsletter.
- ▶ 2 delegate passes.
- ▶ Named acknowledgment in the conference closing speech. Sponsors in kind:
 - Print sponsor
 - Merchandising sponsor
 - Hospitality sponsors & others





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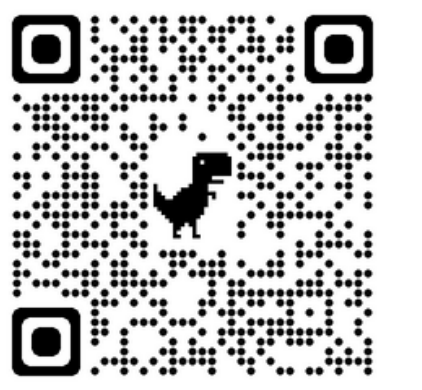
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About Us



IIT Tirupati
Navavishkār
I-Hub Foundation

IIT Tirupati Navavishkar I-Hub Foundation (IITTNiF) is set up to host the Technology Innovation Hub (TIH) in Positioning and Precision Technology (PPT). The project is funded by the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS), Department of Science and Technology (DST), India.



Bharat Electronics Limited (BEL) is a Navratna PSU under the Ministry of Defence, Government of India. It manufactures state-of-the-art electronic products and systems for the Army, Navy and the Air Force.



IIITB COMET Foundation is a Section 8 company and a Technology Innovation Hub (TIH) in the areas of Advanced Communication Systems, set up by IIIT Bangalore under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) of the Department of Science and Technology (DST), GoI.