

IIITB COMET FOUNDATION

Technology Innovation Hub



IIITB COMET Foundation is the Technology Innovation Hub (TIH) at IIIT Bangalore (IIITB), established under the National Mission on Interdisciplinary Cyber-Physical System (NM-ICPS), DST, Government of India on 2nd December, 2020.

Technology Vertical: Advanced Communication Systems

About IIIT Bangalore

IIITB is a world-class research institute with a solid track record in its contribution to the Indian ICT/IT scenario, with a specific focus on education, research, entrepreneurship and innovation. The hub will be surrounded by a vibrant R&D ecosystem including MSMEs/start-ups, and will leverage the academic and industrial talent pool available locally and elsewhere in India.



For more details visit: iiitb.ac.in



Core Activities

Research & Technology Development

Human Resource Development

Entrepreneurship Development

International Collaborations

Networking & Partnerships

Outreach Activities

Ecosystem Offerings

- Availability of research infrastructure
- Technology oriented trainings
- Tailored technical support
- Technological tools & experimentation facilities
- Tailored Business development support
- Mentoring
- Intellectual Property (IP) trainings
- Access to Capital
- Capacity building and Networking opportunities with industry leaders, angel investors, accelerators etc

Intellectual focus:

The hub has been assigned to mainly focus on Advanced Communication Systems, with respect to present and future needs of our nation as well as international dynamics. The hub focuses on enabling the design and development of fundamental technology building blocks of 5G-advanced (5G+) & 6G systems and networks. The prime focus is on indigenous research leading to intellectual property (IP) generation that includes product IP for commercial usage and development of patents (IPR) that will not only enable product-oriented innovation but also target adoption into the upcoming 5G-advanced and 6G standards. It also focuses on other advanced communication systems R&D which have commercial potential.

Bengaluru: Silicon valley of India

Bangalore is often called the Silicon Valley of India. With the pleasant climate, the urban amenities, the rich tradition of technical education, and the highly professional ambience, numerous global and local corporate big-name entities have found a home here.

The IIITB COMET Foundation at IIITB campus is located in the heart of Electronics City, one of the prestigious IT destinations in Bangalore, with excellent infrastructure, facilities, and services. The list of companies located in the high-tech area close to the Institute is a virtual Who's Who of the IT business.



Technology Development

Specific problems picked by IITB COMET Foundation

1. Indigenous development of technologies for telecom sector can help in reducing import dependency

2. Technologies that can be used to mend the gaps in the 5G communication landscape

5G-Advanced ORAN Massive MIMO base station

Funded Projects (Academic Collaborations)



Outdoor testing of extreme massive MIMO

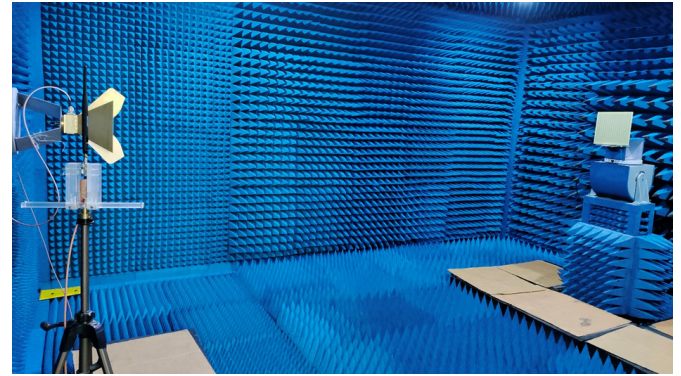
An indigenously-built 5G-Advanced ORAN Massive MIMO base station technology compliant to 3GPP and O-RAN standards. Ownership of this technology will reduce India's import dependency in the telecom area, and is crucial for securely operating critical national infrastructure.

Institute Partners:

- IIIT Bangalore
- IIT Hyderabad
- IIT Roorkee
- IIIT Naya Raipur
- IIT Bhilai
- Amrita University

Reconfigurable Intelligent Surfaces

Funded Projects (Academic Collaborations)



RIS testing in an anechoic chamber

A technology widely considered to be a 6G enabler. RIS improves the capacity of communication networks at a much lower power and cost than increasing the number of base stations. This technology can also facilitate creation of smart radio environments that can be tuned to serve specific use-cases like Industrial IoT.

Institute Partners:

- IIIT Bangalore
- IIT Roorkee
- IIT Patna
- IIT Bhilai
- IIT Delhi
- IIT Indore
- IIIT Naya Raipur
- IIT Jodhpur
- IIT (ISM) Dhanbad
- IIT (BHU) Varanasi

Entrepreneurship Development

Startups Onboarded



Skill Development

Fellowships:

- Offer structured fellowship programs to provide hands-on experience and advanced training in cutting-edge technologies.
- Facilitate exposure to real-world challenges and innovative projects in advanced communication systems.

Skill Development Programs:

- Conduct targeted training workshops and courses designed to upskill participants in relevant technical areas.
- Focus on practical skills and emerging technologies to prepare individuals for the evolving demands of the industry.



Future Wireless Communication (FWC) Program:

- Implement specialized programs to educate and train engineers in future wireless communication technologies, including 5G and beyond.
- Equip participants with the knowledge and skills necessary to contribute effectively to advancements in wireless communication.

IIITB COMET Foundation Invites Collaborators

1. Technology Development

IIITB COMET Foundation is accepting funding proposals for technological development. We are willing to participate in cost-sharing collaborative R&D projects. We are seeking proposals for consulting and project-specific assignments from both Government and private organizations in the domain of Advanced Communication Systems (ACS).

2. Entrepreneurship Development

IIITB COMET Foundation invites prospective technology entrepreneurs, new startup ventures and funding partners to forge strong collaborations with us in the domain of Advanced Communication Systems (ACS). We are keen to facilitate startups that commercialize innovations in ACS.

3. Human Resource Development

IIITB COMET Foundation is on a mission to impart skill development training and job opportunities to eligible candidates in the following avenues:

- Fellowship for Postdoctoral, Doctoral, Post Graduate, Graduate, Research Staff, Interns
- Chair Professors, Faculty Fellowships, Visiting Faculty
- Training programs, workshops, webinars, conferences, symposia etc.

4. International Collaborations

IIITB COMET Foundation invites professionals from Industry/Academia/Government/R&D Labs of national and international repute to explore collaborations in the domain of ACS. Faculty/student exchange programs are also in pipeline.



DONATE TO IIITB COMET FOUNDATION

IIITB COMET foundation is registered to avail CSR funds and we solicit grants from eligible companies for the continuous support of our CSR initiatives.

All contributions to IIITB COMET Foundation are exempt from income tax under section 80G of Income Tax Act of 1961, (India)

Ramanujan Building, IIIT Bangalore,
26/C, Hosur Rd, Electronics City Phase 1,
Electronic City, Bengaluru, KA 560100

Website: comet.iitb.ac.in

Email: comet@iitb.ac.in