



GOVERNMENT OF
KARNATAKA
Dept. of E, IT & Bt

COEs:

A Compendium of Excellence
Showcasing Karnataka's Innovation Hubs

Department of Electronics,
Information Technology and Biotechnology

Government of Karnataka





Karnataka's legacy as India's innovation capital is a story of continuous collaboration and visionary leadership. The launch of this compendium is a moment of pride, as it showcases the tangible results of our state's commitment to fostering a dynamic ecosystem where ideas flourish and technologies are born.

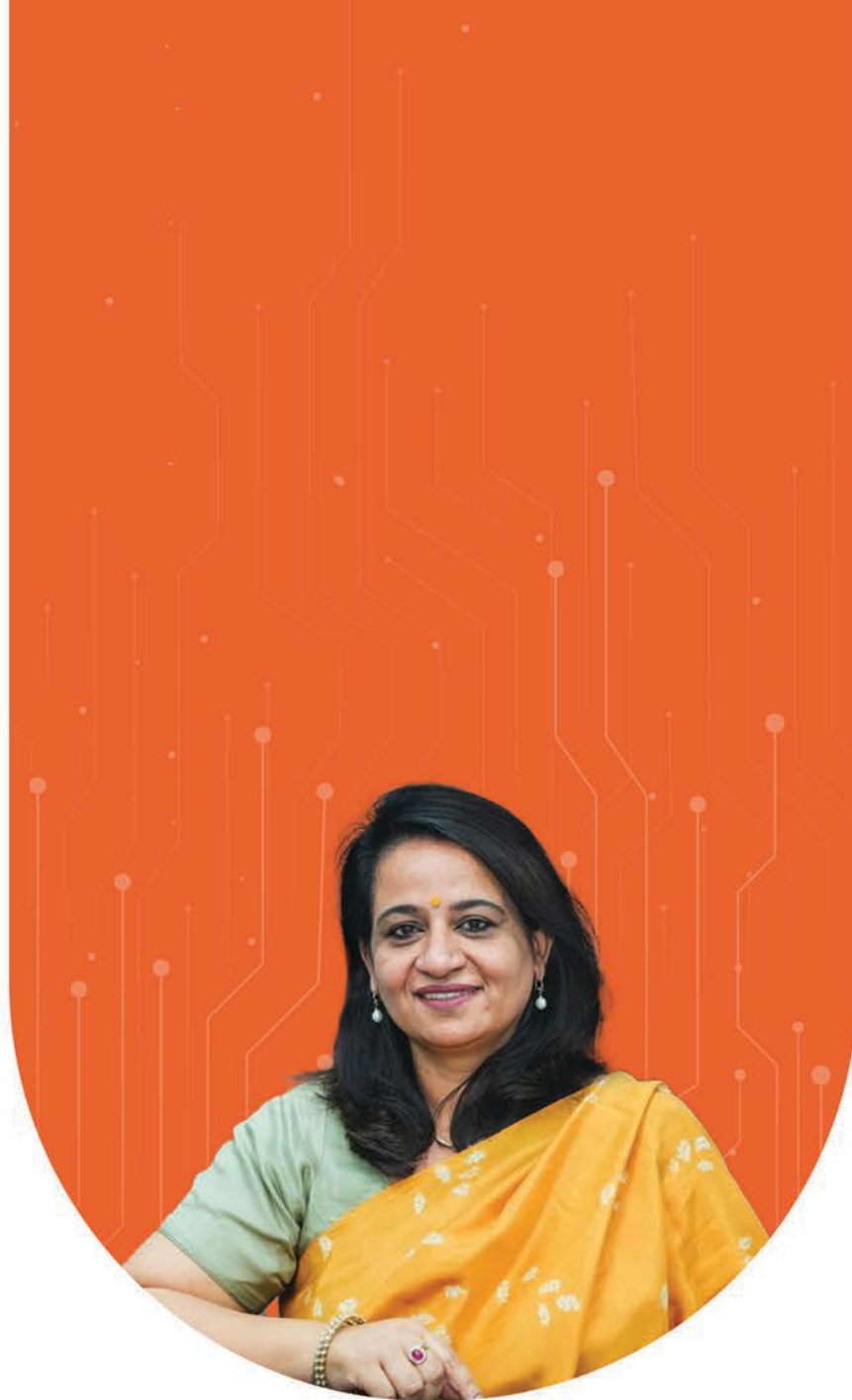
Our Centers of Excellence (CoEs) are testament of this vision. They are not just academic hubs; they are vibrant innovation engines where academia, industry, and government unite to solve complex challenges and create the technologies of tomorrow. From groundbreaking work in Artificial Intelligence and Cybersecurity to advancing fields like Aquamarine and FinTech, each CoE is a powerful testament to our collective effort to drive economic growth and societal progress.

This compendium serves as a powerful resource, reflecting the immense talent and dedication that exist across our state. It is a celebration of every researcher, leader, and partner who has contributed to making Karnataka a benchmark for innovation. I am confident that the work highlighted within these pages will inspire future generations and propel our state to even greater heights.

Our collaborative model thrives on partnerships with industry leaders. We invite all potential collaborators to join us, ensuring the innovation fostered within these centers is aligned with market needs. Your participation is vital for creating real-world impact and reinforcing Karnataka's position as a global technology leader.

Shri Priyank Kharge

Hon'ble Minister for Information Technology & Biotechnology, and Rural Development & Panchayat Raj,
Government of Karnataka



The Government of Karnataka has long understood that a thriving innovation ecosystem requires strategic partnerships and targeted investment. Spearheading this mission, the Department of Electronics, IT, and BT has established its Centers of Excellence (CoEs) as flagship achievements in this vital endeavor.

This compendium offers a definitive account of the impactful work underway across these centers. It details how premier institutions like the Indian Institute of Science (IISc), the International Institute of Information Technology Bangalore (IIITB), and the Indian Institute of Management Bangalore (IIMB) collaborate with government and industry to deliver tangible outcomes. From pioneering Agri-Innovation to developing cutting-edge solutions for the digital economy in Quantum, Artificial Intelligence, AVGC, and Robotics, each CoE addresses a critical technological frontier.

This document is designed to serve as a vital resource for stakeholders, investors, and students—offering a clear and compelling overview of the vibrant innovation landscape thriving in Karnataka. The state's Centers of Excellence (CoEs) have played a pivotal role in catalyzing this growth. Their efforts in seamlessly integrating industry, academia, and startups have been nothing short of transformative. Through sustained mentorship and strategic support, these CoEs have nurtured a generation of startups, accelerating their journey from ideation to impact.

The collaboration between industry and academia must evolve beyond its current boundaries. What began as a promising partnership must now transform into a strategic alliance—one driven by deeper engagement, shared goals, and long-term commitment. This next phase will require that industry steps up with increased collaboration, active participation, and visionary leadership. This will be critical we can accelerate progress, empower talent, and shape a future defined by innovation and impact.

The result is a robust and dynamic innovation ecosystem—one that Karnataka proudly stands as a testament to. From cutting-edge research to scalable solutions, the state continues to set benchmarks in collaborative innovation and entrepreneurial success.

We invite you to explore the possibilities within these pages and join us in building a technologically advanced and prosperous future for all.

Dr. Ekroop Caur, IAS

Secretary to Government, Department of Electronics, Information Technology, Biotechnology, and Science & Technology,
Government of Karnataka

INDEX

05

1. CoE AI – IIT ACB

07

2. CoE Aquamarine – NITTE

12

3. CoE ARTPARK – IISc

21

4. CoE AVGC – ABAI

30

5. CoE Agri Innovation
C-CAMP

35

6. CoE CySecK – IISc

39

7. CoE Design – IISc FSID

43

8. CoE-Efficiency
Augmentation – STPI

48

9. CoE FinTech – IIMB

54

10. CoE Internet of Ethical
Things – IIITB

58

11. CoE IOT – Nasscom

63

12. CoE MINRO – IIITB

68

13. CoE QuRP – IISc

74

14. CoE SFAL

81

15. CoE WWT – ARTPARK – IISc

88

16. CoE – Bangalore
Bioinnovation Centre

UPCOMING

92

1. CoE Sensor AI – ELCIA

93

2. CoE MedTech – KIER

94

3. CoE Innoverse

95

4. CoE CATS – Nasscom &
CoE SpaceTech

CoE ARTIFICIAL INTELLIGENCE

MR. ASHOK KAMATH

COE HEAD

2025

YEAR OF ESTABLISHMENT

CORE FOCUS AREAS

ARTIFICIAL INTELLIGENCE

MISSION STATEMENT

Building a High-Performance Ecosystem for AI in Karnataka

INITIATIVES

Avinya Accelerator

- **Mission:** To empower visionary founders in the area of Artificial Intelligence (AI) by providing a comprehensive, founder-centric platform that combines structured mentorship, global networking, and tailored resources to accelerate startup growth and impact.
- **Duration:** 16 weeks (4 months)
- **Cohort Size:** 10 startups per batch
- **Model:** Flexible equity participation accommodating both equity and non-equity arrangements to attract diverse startups.
- First cohort to be launched in August 2025
- One cohort in Year One, followed by two per year in subsequent years

D.A.T.A. (Digital.Accessible.Transparent.Archivable)

Datasets can be used to foster the development of AI in a multitude of directions:

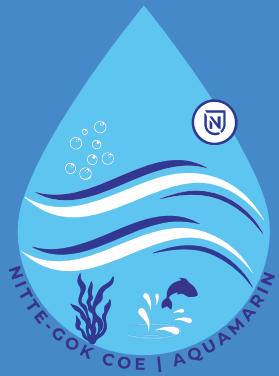
- Support startups
- Help companies solve intractable problems with help from academia and startups.
- Help academia with furthering research and helping industry with consulting.



COLLABORATION & **PARTNERSHIPS**

23

Academic Partners Through the
parent IITACB



Centre of Excellence in Aquamarine Innovation

ASHIK SHETTY

COE HEAD

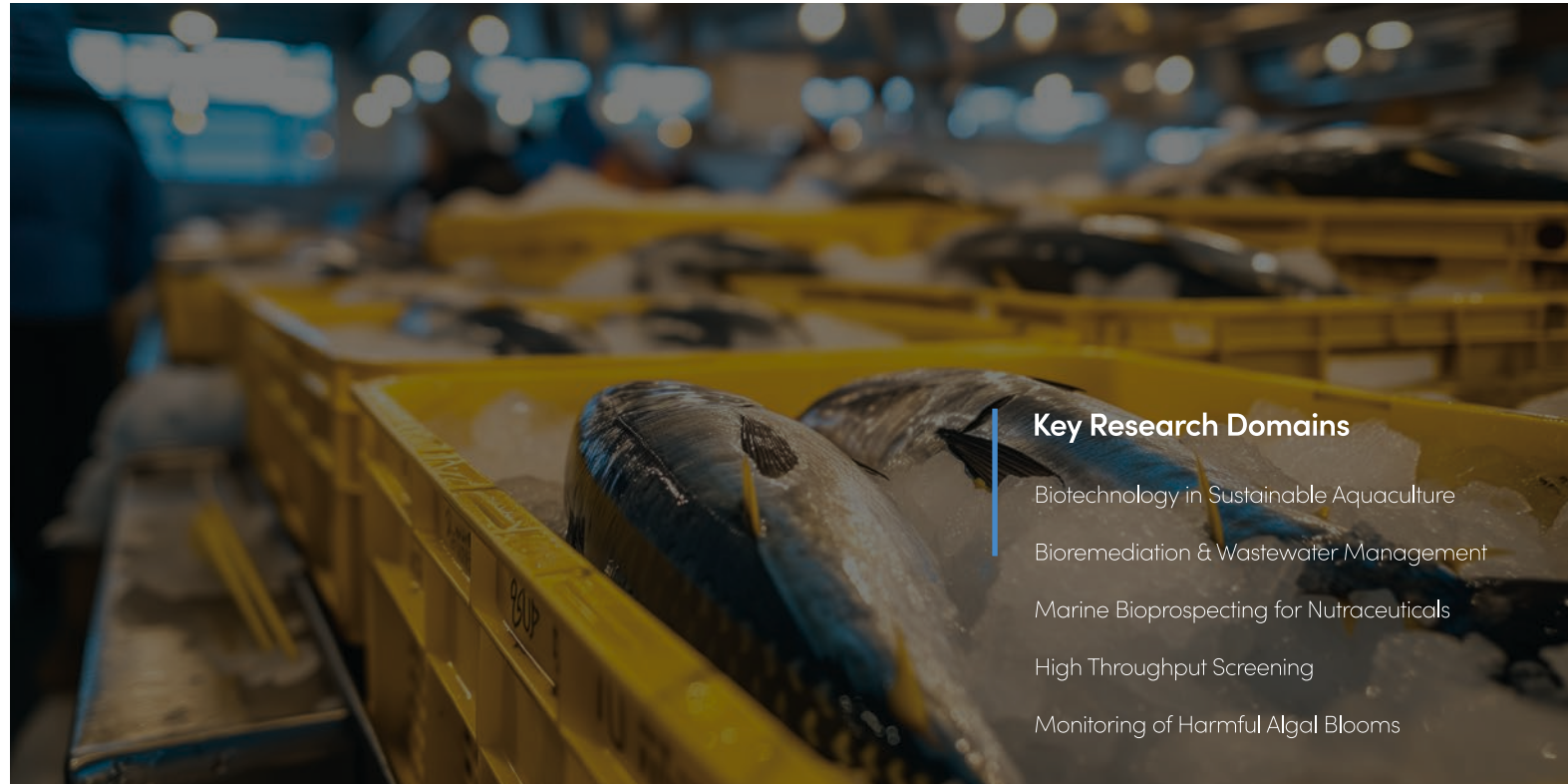
2025 (FEBRUARY)
YEAR OF ESTABLISHMENT

CORE FOCUS AREAS

MARINE BIOTECHNOLOGY

MISSION STATEMENT

To drive sustainable innovation in marine biotechnology by fostering collaboration among academia, industry, and government; empowering startups; and advancing research, skill development, and responsible utilization of Karnataka's coastal and marine bioresources.



Key Research Domains

- Biotechnology in Sustainable Aquaculture
- Bioremediation & Wastewater Management
- Marine Bioprospecting for Nutraceuticals
- High Throughput Screening
- Monitoring of Harmful Algal Blooms

OBJECTIVE OF COES

To establish advanced research facilities and labs for interdisciplinary and industry-academia collaborative research in the field of marine biotechnology for sustainable aquaculture, rapid diagnostics and health management, bioremediation and wastewater management, bioprospecting and product development.

To serve as a hub for innovation and startups by providing mentorship, guidance, infrastructure support and investor connect programs.

To serve as a knowledge hub for capacity building through skill development programs in the field of marine biotechnology.

To conduct outreach activities by hosting and participating in conferences and conducting demonstrations of technology through site visits.

COLLABORATION & PARTNERSHIPS

Academic Partners

- ICAR Central Institute of Brackish Water Aquaculture, Chennai
- ICAR, Central Marine Fisheries Research Institute, Cochin
- ICAR Central Institute of Fisheries Education, Mumbai

Industry Partners

- Aquatic Biosystems
- Yashaswi Fish Meal and Oil Company

ACHIEVEMENTS

Research Papers

Harshitha M, D'souza DL, Rakshitha BT, Karunasagar I, Chakraborty A, Maiti B. Oral delivery of recombinant outer membrane protein 23-based nanovaccine can minimize *Aeromonas hydrophila* infection in *Oreochromis niloticus*. **Microbial Pathogenesis**. 2025 May 29;107765.

Maiti B, Ananya B, Apurva VG, Raj JM, Deekshit VK, Karunasagar I. Strategies for Control of AMR Pathogens in Shrimp Farming: One Health Approach. In Shrimp Culture Technology: Farming, Health Management and Quality Assurance 2025 Feb 4 (pp. 185-207). Singapore: **Springer Nature Singapore**.

Chakraborty G, Mohanraj J, Mohan M, Vittal R. Loop-Mediated Isothermal Amplification Assay (LAMP) for Detection of *Staphylococcus aureus* in Meat. In Foodborne Pathogens: Loop-mediated Isothermal Amplification Protocols 2025 Jun 15 (pp. 83-90). New York, **NY: Springer US**.

John A, Subramanyabhat SM, Mohan M, Vadakkepushpakath AN, Chakraborty G, Mahadev M. Statistically Optimized Nano Emulsion Enhances Bone Regeneration Efficiency of Ipriflavone in Osteoporosis-Induced Zebrafish Model. **Indian Journal of Pharmaceutical Education and Research**. 2025 Feb 4;59(1s):s159-68.

Mohanty B, Mohan M, Nanjappa DP, Shenoy RD, Hosmane GB, Chakraborty G, Chakraborty A*. Biomedical Models: Use of Zebrafish as a multi-utility In-vivo tool box. **WIREs Mechanisms of Disease** (in press)

03
Number of Startups
Incubated to Date

STARTUP SHOWCASE

Startup Name	Business Solution (Product/Service) / Key Focus areas
TAD FROST PRIVATE LIMITED	Tad Frost is developing one of India's first commercial water-to-water heat pumps, delivering 75°C hot water and 10°C chilled water simultaneously – all from a single high-efficiency refrigerant compressor.
ARTRAI INNOVATIONS	A solar-powered hygienic fish processing unit mounted on electric three-wheelers, addressing sustainability in cold-chain logistics.
NATUREMARK ZOETECH PRIVATED LIMITED	NatureMark Zoetech company is dedicated to revolutionizing aquatic care through smart, automated feeding systems designed for aquaculture farms, ornamental fisheries, and home aquarium enthusiasts.

INVESTMENT IN INFRASTRUCTURE

50% of total allotted area is available to incubatees

₹3 Cr is the value of high-end technology platforms available

₹1 Cr is the value of general lab infrastructure

50,000 sq ft of built lab area is available to start-ups

2 conference rooms are available

NETWORK

25 mentors are currently available to incubators

9 domains are represented by the mentors

25 years is the average experience of the mentors

3 collaborations exist with external organizations

2 industry connections have been established

3 physical events have been conducted by the CoE

1 virtual event has been conducted by the CoE

PROGRAMS AT THE COE

3 programs are currently active

1 investment program is running

START-UPS AND ITS METRICS

3 start-ups have been supported till now



START-UP SCOUTING PIPELINE

10 start-ups have been reached out to

TRL 3 is the average TRL level of start-ups applying

3 institutes were reached out to in the last financial year

20% of total applications resulted in start-up onboarding

Domain expertise of the selection committee - Biotechnology in Sustainable Aquaculture, Marine Bioprospecting for nutraceuticals, Monitoring of HABs and Marine Toxins, HTS for Marine Bioactives in Model Systems, Bioremediation and Wastewater Management

Percentage of start-ups on-boarded from the total applications - **20%**

Metrics on which start-ups are selected - Help Achieve Blue Transformation Goals of the UN, Sustainable Utilization of Marine Resources, Awareness impacts of Marine Biotechnology, Create employment and enhance livelihood of fisherfolks, Bridge between Government and Primary Stakeholders, Address Food and Nutrition Security, Quality Improvement and Safety in Marine Food Processing

OTHER METRICS

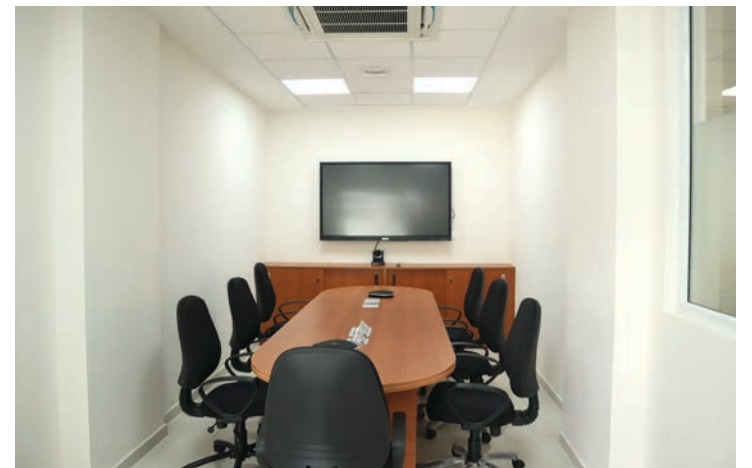
Governance structure of the CoE - Director of the Institution (Nitte University Centre for Science Education & Research, Nitte DU), COE Head, COE Manager, Project Scientist (3 no's) and Support Staff (3 no's).

Diversity in the revenue model of the CoE - Training, consultancy, services and contract research.

Cumulative experience of the employees at CoE - **91**

Key expertise domain of the employees:

Aquatic animal health management, Fisheries Microbiology, Fisheries Biotechnology, Genomics, bioinformatics, Phagetherapy, Rapid isothermal detection techniques, Fish and shell fish pathology, Disease diagnosis, Vaccine development, Technology-Enabling, Human Resource Management, Computer Applications





ARTPARK

AI & Robotics Technology Park, I-Hub @ IISc

RAGHU DHARMARAJU

COE HEAD

2019

YEAR OF ESTABLISHMENT

CORE FOCUS AREAS

AI/ML, BIG DATA INFORMATION TECHNOLOGY, IOT, ROBOTICS
AND AUTONOMOUS SYSTEMS

MISSION STATEMENT

ARTPARK fosters innovations in AI, Robotics and autonomous systems by working closely with startups, industry, research, and government.

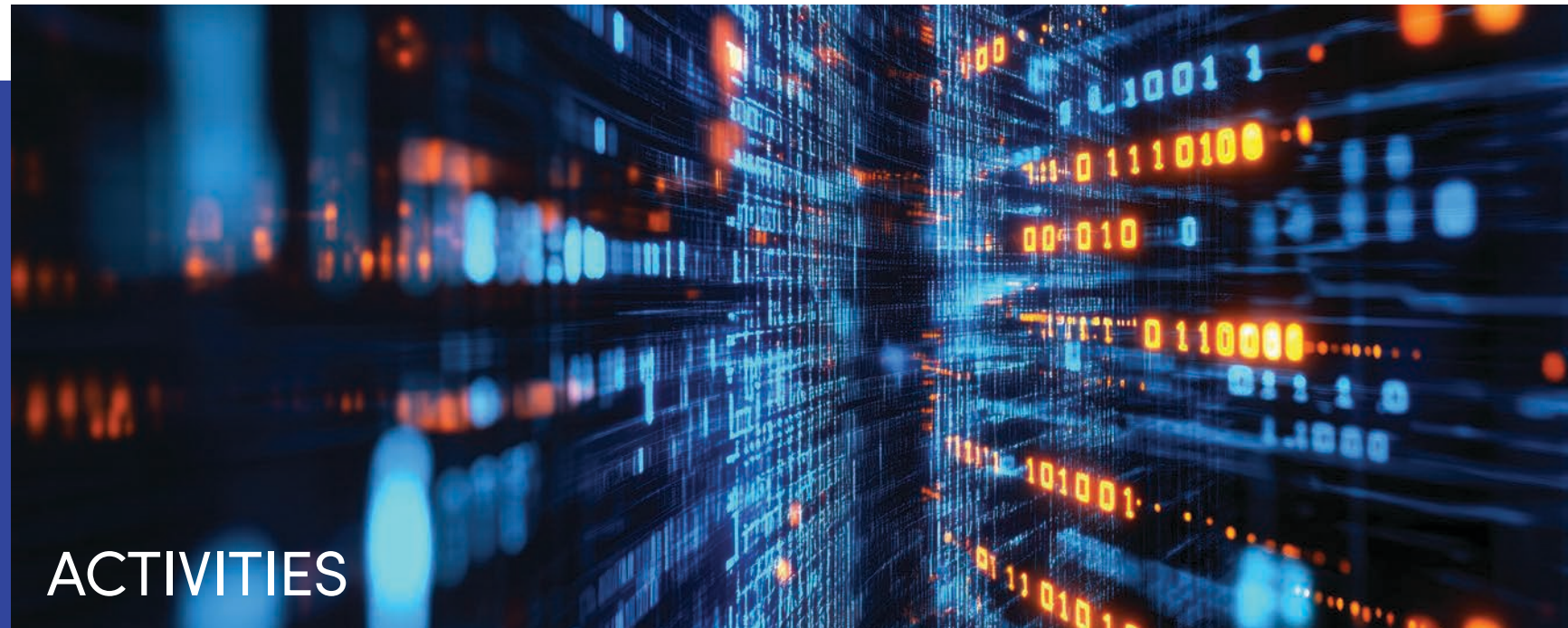
ACTIVITIES

Key Research Domains

- AI, Robotics & Autonomous Systems
- Healthcare
- Industry 5.0
- Advanced Robotics

Achievements

- 21 Patents filed till date
- 30+ publications, reports and case studies
- Examples of products - Long-range hybrid VTOL drones, Core robotic components, Quadruped robots, Autopilot systems



INITIATIVES

Systems Resilience to Health & Climate Risks: ARTPARK develops data platforms and predictive models to build robust health systems for pandemic preparedness and climate-linked health threats.

- **PRISM-H (Dengue Prediction):** Forecasts dengue outbreaks up to 2 weeks in advance using weather, environment, and disease data. Operational in Karnataka; featured in the UN World Cities Report 2024. Winner of SKOCH Award 2025.
- **Heat Stress Forecasting:** Builds AI-enabled, localised forecasts for health impacts from heatwaves, along with population and geography specific heat vulnerability index.
- **Livestock Disease Strategy:** Models to inform vaccination strategies for foot-and-mouth disease and other threats to livestock health, using the existing disease incidence numbers, sero-surveillance and population data.
- **Dharini Platform:** Environmental surveillance platform to detect zoonotic and avian diseases from soil, water, and air samples, which will help in early identification.

Screening & Diagnostics: Initiatives that use AI and data science to improve early diagnosis and screening in underserved settings.

- **Medical Imaging and Information Datasets (MIDAS)** for India: A pan-India effort to build quality medical imaging and information datasets for AI research and diagnostics.
- **Oral Cancer Screening** (Aarogya Aarohan): Smartphone-based AI tool for early risk detection of oral cancer by frontline workers.
- **TB Screening:** Works with Telangana government to benchmark AI for chest X-ray analysis, identifying cases missed in early stages.

GenAI for Health: Deploying large language models (LLMs) for public health systems and inclusive AI applications.

- **Frontline Worker Assistant:** An LLM-based maternal & child health Q&A bot supporting ANMs in UP and Telangana in local languages.
- **Kilkari Assistant:** WhatsApp-based Q&A assistant transforming India's largest maternal messaging service into a two-way conversational tool.
- **Project Vaani & Language Datasets:** India's largest open-source voice dataset to enable low-resource language AI, supporting inclusive tech development for healthcare and beyond.

Industry 5.0: The Industry 5.0 framework introduces digital twins, GenAI integration, asset tracking, energy-efficient operations, and human-machine collaboration (cobots) to modernize the industrial ecosystem.

Envisaged Impact: Automation of compliance and factory floor operations, automated end-to-end traceability of assets, reduced carbon footprint, improved sustainability reporting, real-time decision making.

Advanced Robotics Systems: Driving next-gen robotics in India through four focused innovation initiatives – Humanoids, Resilient Multi Robot Systems, Secure Navigation Stack, and Physical AI for next robots.

Each area targets a critical gap in robotics capabilities, with a vision to develop indigenous, intelligent, and resilient systems that can transform industries and society.

NOTABLE EQUIPMENT OR **FACILITIES**

ARTgarage: 75000 sqft state-of-the-art prototyping, testing and manufacturing facility for Robotics and AI systems.

Hardware prototyping, testing, manufacturing: CNC turning centre, 4 axis CNC milling machine, milling machine with DRO, TUG and MIG welding centre, 3D printers, clean rooms, Hydraulic press, MoCAP – 6-DOF Motion Capture System

Electronic testing: high end and general-purpose oscilloscopes, small power supply, thermal cameras

Drone testing facility: 100kgm 50nm propulsion test facility, Propeller motor test bench, Environmental test chambers(–50 to 100 degree celsius, 100% RH)

Indoor and Outdoor spaces for drone, vehicle, equipment testing

AI infrastructure: High performance computing (HPC) server & Data centre: GPU server with 500TB memory

State-of-the-art 5G test bed (as part of GoK's CoE in Wired & Wireless Technologies that we have created

Dedicated space ranging between 250 sq ft to 10,000 sq ft for startups, customised based on their needs

23

incubated startups to date.

750

Crores Total Valuation
(increased from last two years)

VC FUND INVESTMENTS IN STARTUPS

Flo Mobility

investment of **INR 2.2 Cr** at
pre-money **valuation of INR 50 CR**

Contrivation Labs

investment of **INR 24 lakhs** at INR
60 CR valuation

RootsGoods

investment of **INR 50 lakhs**

Guerin Tech

won the SASIC grant - AUD 100,000
(~55 Lakhs)

Sakar Robotics

investment of **INR 21 lakhs** at **INR 10
CR valuation**

Aerogravity

investment of **INR 79 lakhs** -
Pre-Money **Valuation INR 18 CR**

Astrome

investment of **10 Million USD** (~85
Cr) at **255 CR valuation**

SUCCESS STORIES OF STARTUPS

- **AlgoBotix Private Limited:** Winner in K-tech Elevate Grand in top 10 startups, Featured in magazines like Shaastra Magazine, IIT Madras and articles like Business Standard, Indian Express, Showcased our innovation in Drone Shakthi representing Indian Air Force and also a part of Boeing Build.
- **StrideAlde Private Limited:** StrideAlde has secured the prestigious BIG Grant 2023 for product development, successfully deployed its first Digital Podiatry Clinic at KIER, and completed a 100-subject pilot study for its self-offloading footwear with promising clinical outcomes. It has also built strong academic and clinical partnerships with IISc and FootSecure. Going forward, StrideAlde aims to complete clinical validation trials, launch 1,000+ DPoCs across India, and build the country's first AI-driven Diabetic Foot Registry, positioning itself as a leader in predictive podiatry and preventive diabetic care.
- **Aerogravity:** Deployed 8 systems in unique use cases since Nov, Monthly 3 systems being deployed Winner of AESI Startup competition, Winner of Altair Startup Challenge, Defence Innovation Challenges, Maharashtra Startup Week 2025, etc

ACHIEVEMENTS & SUCCESS STORIES

from COE perspective

Awards & Recognitions:

- Top innovation hub for Robotics & AI Systems in India (DST)
- Top Ecosystem enabler (Government of Karnataka)
- Best Innovative Display at Bangalore Tech Summit 2022, 2024 (Government of Karnataka)
- Winner of global Google.org Accelerator challenge (3000 applicants)
- 2x Winner of Global Grand Challenge for Equitable AI (1500 applicants)
- 2x Winner of Grand Challenge India on AI
- Winner of India AI Mission Challenge
- Govt of Karnataka Health Minister launched Dengue / PRISM-H platform
- Covered in UN World Cities Report 2024
- Winner of Skoch Award 2025
- Case studies taught at IIIT Delhi
- Invited to give guest lectures at Johns Hopkins, MIT, McGill, and IIT Madras on AI for public health and the process of innovation
- Invited to contribute as a WHO Collaborating Centre on Data & AI
- Invited to present at 2024 UN General Assembly's main health event (and several others that week in NYC).
- Invited to help anchor for Bill Gates a closed-door learning session.
- Invited to represent India at the AI Action Summit in Paris.
- Helped shape and be a part of ICMR-NHM-NHA expert group on data and AI ethics, evaluation and adoption.



COLLABORATION & **PARTNERSHIPS**

Academic Partners: IISc, ICTS, TIFR, Ashoka University, Northeastern University, University of Warwick, Sri Ramachandra Institute of Higher Education and Research-Chennai, KLE VK Institute of Dental Sciences, RIMS – Ranchi, IIT Madras, IIT Bombay, NCBS, TIGS, IIPH-Gandhinagar, NIMS-Jaipur, ISB, IIM-B, RGUHS, AIIMS-Delhi

Industry Partners: Qualcomm, Airtel, Tejas Networks, Google, Nokia, BOSCH, Reliance JIO, NVIDIA, Resonous Technologies

Government/Non-Profit Partners: DST, GOK, BBMP, Office of PSA, MHI, MHFW, Gates Foundation, Rockefeller foundation, ICAR, NIVEDI, PKC, RIICH, KDEM, DPH-Tamil Nadu, GIZ, PATH, Biocon Foundation



MESSAGE FROM THE CoE

Impact Numbers

750 Cr valuation of 23 startups built and invested

Mentoring and collaborations **30+ startups**

Conceived and built **2 major national-level data initiatives** in collaboration with key stakeholders to propel research and innovations

Portfolio of **7 pioneering social innovations** in health and climate, all with buy-in from key stakeholders.

Skilled **9000+ people** (startups, students and working professionals) through 50+ programs/courses/workshops over the last 3 years.

STARTUP SHOWCASE

Startup Name	Business Solution (Product/Service) / Key Focus areas	Funding / Valuation Increase \$m	Any other accomplishment / achievements
Twara Robotics	Ruggedized 6 DOF Articulated Serial Robotic Manipulator with a payload of 5 kg, Ruggedized 6 DOF Articulated Serial Robotic Manipulator with a payload of 12 kg, India's own soft pneumatic gripper with a food/ESD-safe option, High-torque drivetrain for autonomous mobile robots	60-80 cr	TR12 product launch at IMTEX 2025, FDA approval for TGrip-2
Yaanendriya	Specializes in AI-powered Inertial Measurement Unit (IMU) and Global Navigation Satellite System (GNSS) sensor modules designed for robotics, drones, and autonomous systems. Their products integrate advanced algorithms with high-precision sensors to deliver accurate navigation and positioning data, even in challenging environments.	-	-
Comrado Aerospace	TITAN: A fixed-wing VTOL UAS for Surveillance and light cargo transport to 100+ Km with an endurance of over 6 hours. A multi-role multi rotor UAV with a capability to transport up to 7Kg to a distance of 10Km an return	150	-
Flo Mobility	Flo Mobility has developed an Autonomous Electric Dumper which is used for transporting material in tough dusty outdoor environments that are seen in construction, mining and agriculture industries. The vehicle has Autonomous AI for movement with active obstacle avoidance, Swappable batteries for multi-shift operations and Real time dashboard for Analytics. It can traverse through difficult terrains, narrow passages, enter inside lifts and move material to higher floors/ steep inclines/ farms with ease thereby improving productivity and enhancing human safety.	60	Granted patent in field of vision based autonomy; Expanded our operations to 10 cities across India; Raised funds from JITO angels; Launched our products in Middle East region
Sakar Robotics	Fabric Inspection & Sorting Assistant streamlines the quality checking & sorting process at a high speed for industrial laundries. Mobile manipulator takes the automation flexibility to a next level with capability to multi-task. Semi-Automated Robot built particularly for construction industry revolutionalises the plastering application by being 2 times more efficient. SakarVision sits in the live assembly line doing real-time quality inspection in manufacturing industries & provides real-time feedback to reduce errors & defects.	10	Product Launched by Hon. Railway Minister Shri Ashwini Vaishnav; Prototype of Semi-Automated Robot; Granted Patent for Fabric Inspection & Sorting Assistant

INVESTMENT IN INFRASTRUCTURE

600 Cr+ value of high-end technology platforms available

75000 Sq Ft of built lab area available to start-ups

80000 Sq Ft percentage of total allotted area available to incubatees

7 conference rooms

NETWORK

100+ mentors across **10+** domains;
15 years average experience

50+ collaborations
with organizations

12 VC's funding agencies connected with

20+ industry connections

40+ physical events conducted

30+ virtual events conducted

STARTUP SCOUTING PIPELINE

500+ startups
reached out to

4-5 TRL levels of startups applying

6 core domains
in selection committee: Venture Capitalists, Industrialists, Internal Investment Monitoring Committee, Academicians, Technologists, Doctors

12% conversion
rate from applications to onboarded startups

6 selection metrics
Overall Novelty of Idea / Innovation, Clarity on the Roadmap , Market analysis and Competition mapping, Realistic Revenue potential, Societal impact, Relevance to Internal Technology Demonstration

STARTUPS & METRICS

45 startups supported

23 investments

INR 26 Cr quantum of investments

12 start-ups already in the market

32 patents filed by supported start-ups

>600 Cr valuation of the start-ups

PROGRAMS AT THE COE

3
Active Programs (Spark, Ignite, Boost)

8
Investment Programs

4
Mentorship Programs

0
Exits from the past investments

GOVERNANCE & OPERATIONAL MODEL

Governance
Board of directors and Hub Governing Board

Diversity in the Revenue Model
Funding through GoK, DST, MHI, Foundations and CSR

Employee Experience
800+ years (cumulative)

Key Expertise Domains AI, Machine Learning, Robotics, Data Science, Healthcare, Industry Automation, Research, engineering, and product development across several areas.





LAWRENCE ANTHONY

CENTRE HEAD

2018

YEAR OF ESTABLISHMENT

CORE FOCUS AREAS

ANIMATION, VISUAL EFFECTS, GAMING COMICS AND XR

MISSION STATEMENT

To accelerate Karnataka's AVGC ecosystem by providing world-class infrastructure, cultivating a future-ready talent pipeline, and fostering original IP creation and industry-academia collaboration.

ACTIVITIES

Key Research Domains

- Digital Humans
- Photogrammetry & 3D Scanning
- Performance & Motion Capture Technologies
- Artificial Intelligence Applications in AVGC
- Virtual Production Workflows
- AVGC-XR for Socio-Economic Impact
 - XR for neurodivergent children
 - XR in trauma therapy and patient care
 - R&B (Research & Behavioural) use cases

Initiatives

- High end Plug n Play workspace, Lab, Data centre for startup in **Bengaluru and Beyond Bengaluru**
- High end VFX and Mocap Lab for **gaming startups**
- University & Colleges Students visit the expose latest technology
- **A free online learning platform** integrated with the AVGC CoE website, developed in collaboration with WACOM and ABAI.
- **Job Fair:** Over 800 registrations and 200+ walk-ins, connecting talent with industry.
- **Upskilling:** 400+ AVGC professionals trained through specialized programs
- **Certifications:** 180+ students certified across Karnataka through structured training initiatives.

OBJECTIVE OF COES

The AVGC Centre of Excellence is a pioneering initiative by the Government of Karnataka, set up in collaboration with ABAI, to catalyze the growth of the Animation, Visual Effects, Gaming & Comics (AVGC) sector. It serves as a state-of-the-art facility dedicated to innovation, skill development, and advanced digital content creation.

Its core mission is to build a future-ready talent pipeline, support original IP creation, and foster industry-academia collaboration. The AVGC CoE plays a vital role in making Karnataka a hub for digital content production and creative technology.

Equipped with cutting-edge infrastructure—including motion capture, photogrammetry, AR/VR/XR labs, high-end post-production workstation, Virtual systems, Data Centre, rendering farms and Storage, —the CoE provides a robust ecosystem that supports startups, studios, and students alike.

Impact

- Access to cutting-edge production infrastructure
- Support for startups and IP creation
- Applied innovation in XR and virtual production
- Industry-ready talent pipeline
- Growth of the creative tech economy

ACHIEVEMENTS

IP

- Gombe Laago & Lacher – Animation series inspired by Channapatna toys which are rooted in Karnataka's cultural heritage. Gombe Laago addresses everyday environmental and social issues, promoting sustainability, safety, and courtesy. Lacher supports local artisans by promoting traditional toy-making for global markets while celebrating the region's rich storytelling legacy.
- The Tern Tales Animation series – This hilarious and heartfelt sitcom follows the misadventures of a family of Arctic Terns as they hit the road in their trusty campervan, ready to make some magical memories

Research Papers

- Research & Development on network analysis to study water flow, linking it to patterns in earthquakes and social media—offering insights that can aid simulations and AI in AVGC
- Research & Development on Photogrammetry – PES University, Department of Comp Science & Engg
- Research & Development on Individuals on the Autism Spectrum Disorder, ADHD, Intellectual Disability and/or Learning Disabilities are known to have difficulty in adapting to unfamiliar environments

White Papers

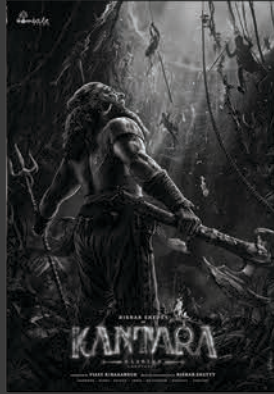
- Digital Twins and Virtual Humans with VOLUMX supported by ABAI
- XR for Medical Science – Virtual Reality as a Non-Pharmacological Intervention for Pain Management, Clinical Applications and Emerging Evidence from India – by Shining cloud supported by ABAI
- Evolution of data centres for Emerging Media Technologies
- Enabling Secure, Low-Latency Media over IP Workflows for AVGC with HP Anywhere (In Collaboration with HP)
- Advancements in Gen AI for AVGC Content Creation

KEY MOVIES THAT AVAILED SERVICES AT AVGC COE



Veerachandrahara

a unique production showcasing Yakshagana, reflecting Karnataka's vibrant cultural heritage,



Kantara

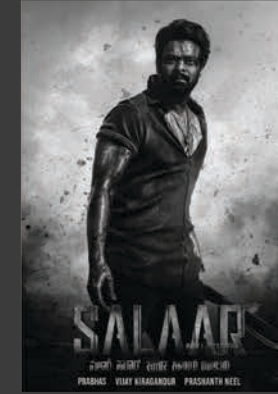
Chapter 1



UI



Ibanni Thabida Ilayalli



Salar



Kalki



Pushpa



Vikram



Stree 2



2018



Mallaikottai Vaaliban



Turbo

NOTABLE EQUIPMENT OR **FACILITIES**

Motion Capture Studio

For high-fidelity performance capture and animation.

Photogrammetry Setup

Enables detailed 3D scanning of real-world objects and environments.

AR/VR/XR Labs

For developing immersive augmented, virtual, and extended reality content.

High -end Post-Production Workstations

High-end systems for editing, VFX, and compositing.

Virtual Production Systems

Real-time workflows for film, TV, and interactive content creation.

Rendering Farms & Storage

Powerful data center for rendering and asset management.

Data Centre

Centralized facility with high-performance computing and secure storage for managing, processing, and rendering large-scale AVGC and XR projects.

33

incubated startups to date.
Mentoring **20 Elevate startups**
winners, **Total 53 startups.**

153

Crores Startup Valuations
(increased from last two
years)

6.73

crores, Elevate, Kitven
VC Fund Investments in
Startup

SUCCESS STORIES OF STARTUPS

- Zebu has delivered award-winning projects including LEGO DreamZzz, LEGO Disney Princess, and LEGO Ninjago, launched original IPs like Gombe Laago, Suppandi, and Tern Tales (now with Netflix), expanded into gaming, VR/XR with Scopely collaborations, produced viral content like Hanumankind's Big Dawgs in LEGO, created 11 Suppandi episodes with 12M+ views on PowerKids (48M subs), and generated 50–75 skilled jobs across Bengaluru, Hubli, and Mangalore through AVGC CoE
- **Comics to Animation** Jatayu Studios and Zebu Animation, both incubated at the AVGC CoE, have collaborated on joint production from comic to animation fostering innovation and original content creation.
- Mayhem Studio uses COE for their marquee project Underworld Gang Wars; a unique AAA Battle Royale game rooted in Indian culture.

ACHIEVEMENTS & SUCCESS STORIES

from COE perspective

To include short brief on accomplishments, awards, global recognitions/ collaborations, funds, etc/. from COE perspectives –

The AVGC Centre of Excellence has successfully executed over 100 projects, creating 1,000+ digital assets across the AVGC-XR spectrum.

AVGC COE has hosted top talent and legendary actors including Kamal Haasan, Mohanlal, Mammooty, Upendra, Prabhas, Allu Arjun, Varun Dhawan, and Rishab Shetty, along with co actors, stunt artist from blockbuster films like Kantara Vikram, Stree 2, Salaar, Pushpa, 2018, Mallaikottai Vaaliban, and and many more.

Veerachandrahara – a unique production showcasing Yakshagana, reflecting Karnataka's vibrant cultural heritage.

The AVGC Centre of Excellence has engaged with over 3,000 professionals, including students, faculty members, actors, directors, deans, and studio representatives from across the India AVGC ecosystem.



COLLABORATION & PARTNERSHIPS

Academic Partners

10 no's Universities, Colleges, Institutes, councils, boards et.

Industry Partners

7 no's – Studios, Technology, VC, investors etc.

Government/Non-Profit Partners

20 nos – Gaming association, AVGC association across India, International association and independent partners.

INVESTMENT IN INFRASTRUCTURE

Percentage of total allotted area available to incubatees
32% from 11,880 sqft.

Value of high-end technology platforms available – 7

NETWORK

Current number of mentors available to incubators – 3

Number of domains from which the mentors belong – AVGC

Average years of experience of the mentors
10 plus years

Number of collaborations with organisations
7 industry partners

Number of funds (VCs, etc.) or funding agencies connected with – 3 partners

OTHER METRICS

Governance structure of the CoE

Diversity in the revenue model of the CoE

Cumulative experience of the employees at CoE

Key expertise domain of the employees

HIGHLIGHTS OF COE

COE 2.0

A strategic upgrade with cutting-edge infrastructure and enhanced industry alignment.

Industry Partnerships

Recognized as an Authorized Training Centre for Adobe, Sony, Unreal Engine, and Wacom.

Netflix Collaboration

Hosted the Women Back to VFX initiative, fostering gender inclusion in the VFX industry.

Student Engagement

Enabled hands-on learning through internships for 56 students across AVGC verticals.

Industry Support

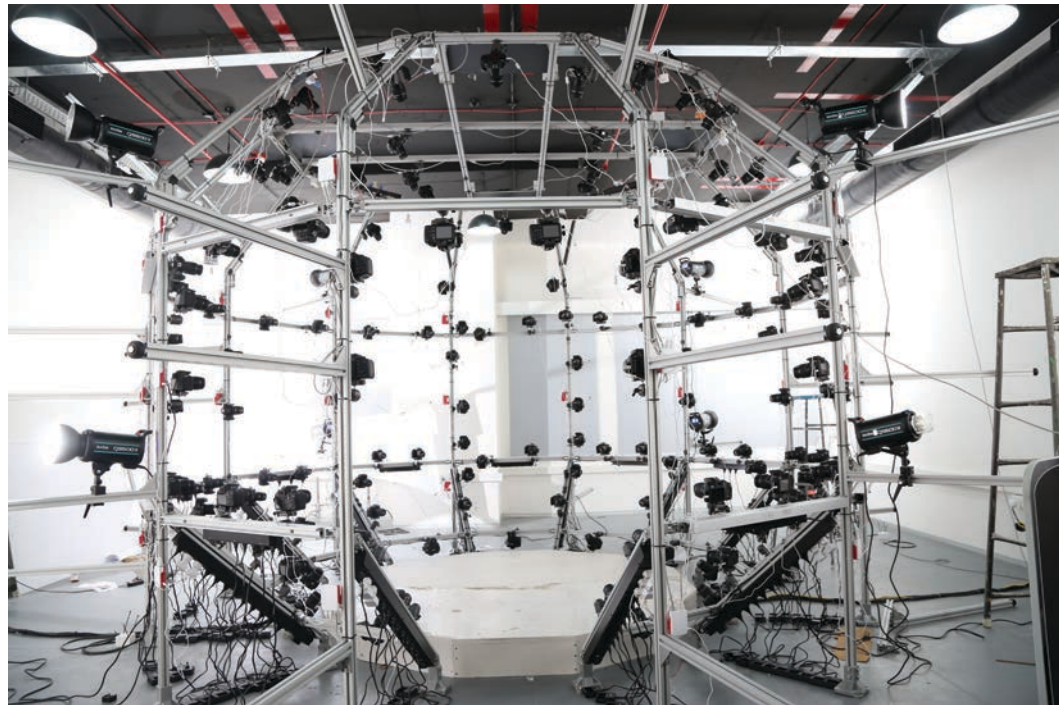
Secured ₹52 lakhs through active collaboration with industry stakeholders.

STARTUP SHOWCASE

Startup Name	Business Solution (Product/Service) / Key Focus areas	Funding / Valuation Increase \$m	Any other accomplishment / achievements
Zebu Animation Studios	Full-service 3D Animation Studio – Specializing in CG asset creation, high-quality animation for films/OTT, and original IP development. R&D Focus Areas: - AI-driven pipeline automation (character animation, lighting, compositing) - Cloud-based rendering for scalable production - Real-time collaboration and asset management tools - Advanced AI/ML for motion capture and stylistic consistency Infrastructure Expansion – Setting up production units and render farms in Tier-2 cities in Karnataka Global Delivery – End-to-end production for international studios and streaming platforms Vision – Driving creativity under “Make in India for the World”	Bootstrapped Valuation Inr 100 Crores (without IP Valuation)	2019 – 2021: - Founded in 2019; debuted with LEGO Hidden Side and Stranger Things LEGO recreation. - CMA-nominated in 2020 for Second One to Know; animated LEGO Batman. - In 2021, began LEGO DreamZzz and launched original IP Gombe Laago. 2022 – 2023: - Produced LEGO Disney Princess (No.1 show on Disney+ Hotstar). - Released LEGO DreamZzz S2, piloted Gombe Laago, developed Tern Tales and Itti Bitti. 2024: - Acquired Suppandi & Wingstar rights; premiered Suppandi trailer at Annecy. - Launched gaming/VR/XR vertical; partnered with Scopely. - Won awards for LEGO Ninjago, Unreal Engine 5.2 use. - Secured Netflix deal for Tern Tales (production begins 2025). 2025: - Released Captain America: MARVEL Strike Force trailer. - Suppandi series launched on Power Kids (48M subs); 12M+ views. - Recreated Big Dawgs LEGO video; partnered with Studio Jatayu for Academy of Gods. Impact: - Generated 50–75 skilled jobs in Karnataka (Bengaluru, Hubli, Mangalore). - Produced 11 Suppandi episodes for Power Kids. - Suppandi series reached 12M+ views on YouTube.

STARTUP SHOWCASE

Startup Name	Business Solution (Product/Service) / Key Focus areas	Funding / Valuation Increase \$m	Any other accomplishment / achievements
Zebu FX	High-end VFX studio focusing on creature animation, character-driven effects, and digital environments. Currently collaborating with national studios and international partners.	A newly incorporated Company in 2025, August. Valuation yet to be commence	Working on a high-profile, undisclosed Kannada film project scheduled for release in October 2025. Due to NDA and contractual obligations, project details cannot be disclosed. ZebuFX supports the Government of Karnataka's 'Beyond Bangalore' vision and is being registered from Hubli, with plans to grow a dedicated VFX group in Hubli
Zebu Films	Regional and children's film production company focused on building original IPs rooted in Kannada culture. Developing stories for national and international kid audiences.	Awarded Elevate Grant of ₹ 40 Lakhs (GoK) Valuation of IP's are in progress	Active contributor to Kannada film ecosystem. Currently developing an original IP for children's screen in partnership with Zebu Animation.
Gillidanda Tech Pvt Ltd (Brand name – MetaShot)	MetaShot is revolutionizing the gaming industry by delivering a console-like experience to a broader audience through homegrown technology. Its flagship product, the MetaShot Smart Bat, tracks real-world cricket shots in real time, seamlessly integrating them into gameplay within the MetaShot app.	INR 11Cr in a combination of equity and debt financing led by Sauce.vc, along with Sharrp Ventures and Panthera Peak INR 2Cr via venture debt from KITVEN	Expanded into international markets like the USA, and UAE, Launching a new SKU – MetaShot GO Bats Expanded into international markets like the USA, and UAE, Launching a new SKU – MetaShot GO Bats
Shining Cloud	XR and AI-driven 3D visualization and animation studio specializing in real estate, industrial applications, architectural walkthroughs, AR/VR experiences, miniature scale model integration, and AI-based conversational 3D characters	Bootstrapped / Valuation ₹40 Cr	Delivered India's first full-length 4K architectural walkthrough powered by AI. Honoured AICTE accreditation for AI-driven conversational 3D characters Before CHATGPT. Established a dedicated architectural 3D sculpture workshop to enhance physical model detailing. Created employment opportunities for 35+ skilled professionals in the XR and animation domain. Successfully completed 150+ projects across India and international markets. Recognized as the leading 3D visualization and XR studio in South India within its niche segment. Trusted by top-tier clients including: Godrej, Brigade, Puravankara, Prestige, Kalpataru, Four Seasons, and Bosch."



CORE FOCUS AREAS

C-CAMP: HEALTHCARE, AGRICULTURE, ENVIRONMENT
COE: AGRICULTURE AND ALLIED AREAS

MISSION STATEMENT

C-CAMP is an initiative supported by Department of Biotechnology, Govt of India is a catalyst of cutting-edge research and innovation in the life sciences since 2009. C-CAMP's Agri Centre of Excellence (Agri CoE), where agriculture meets innovation is India's premier biotechnology and innovation hub with a deep interest in Food Security and One Health, C-CAMP Agri CoE is dedicated to transforming the Indian agri sector through groundbreaking technologies and deep-science solutions.

ACTIVITIES

Key Research Domains

Agriculture, Agri-tech, Precision Agriculture, Farm Mechanization, Plant diseases and diagnostics, Climate resilient agriculture, Animal Husbandry and allied areas.

Objective of COEs

Identify gaps in agriculture through an Immersion program in different regions in the country

Attract innovators to address these identified gaps & challenges and develop solutions for these issues through a Grand Challenges Program

Support and nurture the innovators through incubation, funding, mentorship, industry and investor connect programs to bring their solutions to the market.

Initiatives

Agri Immersion program
Agri Grand Challenges Program
Agri Incubation program
Agri Deployment program
Agri Industry and Investor Connect program

Achievements

42 patents filed since 2020

>90 agri startups and innovators supported through funding, incubation, mentorship and hand-holding

20+ companies have market-ready prototypes deployed in market

Cumulative funding of over ₹500 Cr raised by C-CAMP agri startups.

>5L farmers impacted by the start-ups

Notable Equipment or Facilities

C-CAMP's Bio-incubator offers a "plug & play" model wherein we provide a fully equipped, dedicated lab space, basic benchtop equipment and high end equipment with access to Technology Platforms, services and clean rooms/culture rooms, which allow the start-up companies to "start the ball rolling" to help begin operations in terms of the research projects without any initial funding source. Along with laboratory space startups have access to equipment rooms housing large standalone equipment for their day to day work. The facilities also include state of the art Biosafety facilities for work involving risk group BSL1 and BSL2 and green houses.

>90 AGRI STARTUPS AND INNOVATORS SUPPORTED TILL DATE

>300 M USD cumulative startup
valuations

Over ₹500 Cr raised cumulatively by
C-CAMP-agri startups

SUCCESS STORIES OF STARTUPS

Sea6energy

Sustainable farming, food security and the impact of climate change on agriculture and planet health are critical gaps that are being addressed by C-CAMP supported startup, Sea6 Energy. Their circular economy- based ocean farming to create value added products aims to improve agriculture practices globally to build a sustainable fossil-fuel free planet. Their technology platform allows for large scale mechanized tropical seaweed farming and conversion of seaweed into bio-stimulants, animal feed, biomaterials, renewable chemicals and energy sources. Sea6 Energy has commercialized their "bio stimulant" from red seaweeds in more than 20 countries globally. This globally patented product has received regulatory approvals in 20+ countries and has demonstrated effects in improving soil health, nutrient use efficiency and crop yields. They have raised a cumulative follow-on-funding of INR 2+ billion and have sold 1 million+ products globally.

Website: www.sea6energy.com

Faunatech Solutions

The prevalence of Bovine mastitis ranges from 17.1% to 71% in both clinical and subclinical types. This confers huge losses to dairy and food industries, impacting both milk yield and quality. Misuse of antibiotics to treat this has led to dairy products becoming a significant health threat and a source of antimicrobial resistance. C-CAMP supported startup Faunatech's unique platform technology is addressing this critical issue with their novel smartphone-based diagnostics platform, "Fauna". It measures 10+ key parameters from raw milk, including somatic cell count, fat, antibiotic residue and BHB (β -hydroxybutyrate), within 5 minutes, useful for early detection of critical diseases including mastitis, monitoring cattle health and screening milk & food quality at the farm level, reducing antibiotic usage. They have onboarded Hamul, Nestle, and Gyan Dairy for deployments in India. This patented technology has already demonstrated early-stage mastitis detection and the potential to increase milk production by 22%. Faunatech has won the World Food Forum Startup Innovation Award in 2022.

Website: <https://www.faunatechsolutions.com>

StringBio

Between 2030 and 2050, climate change is expected to cause approximately 2,50,000 additional deaths per year, from undernutrition, malaria, diarrhoea and heat stress alone. String Bio Pvt Ltd., a C-CAMP supported startup is helping address climate change associated challenges by capturing Methane, a greenhouse gas and a major contributor to pollution, from natural sources (like cattle industry, waste dumps etc). Their IP protected bio-fermentation platform 'String Integrated Methane Platform' uses this potent GHG as a source of carbon to make protein which acts as ingredients for animal and human nutrition products, agricultural inputs, and personal care solutions. In 2024, String Bio received the GRAS (Generally Regarded As Safe) status, by FDA for their novel protein for use in crustacean feed in the U.S. and were selected for the World Economic Forum Technology Pioneer 2024 cohort. They received the coveted Economic Times Top Innovator Award in 2023.

Website: <https://www.stringbio.com>

Krishitantra

Rapid and affordable point-of-care testing of soil health is a critical gap in India's agricultural set-up. Krishitantra's IoT-based soil testing device provides rapid (30-minute) comprehensive analysis of soil health with precise fertilizer recommendations on a smart interface, enabling immediate, informed decisions. This boosts productivity by optimizing nutrient use, reducing wastage, and saving time and resources. The technology supports digitization of agricultural practices, increasing crop yield, enabling sustainable farming and improving farmer lives. The startup has been selected by the Govt of India for implementation of the Soil Health Card scheme to digitize end-to-end soil testing and management with its mobile-based soil data and analytics app. They have received the Digital India 2022 award from the Hon'ble President of India.

Website: <https://krishitantra.com>

ACHIEVEMENTS & **SUCCESS STORIES**

from COE perspective

- **Agri Immersion Program:** Over 300 need statements identified through a 6-month deep-dive immersion program. From this, the **top 75 curated problem statements** were drafted by C-CAMP Agri Expert Committee.
- **Agriculture Grand Challenges :** Two calls for applications for top 6 problem statements. **Eleven startups** were selected for support to solve these challenges. These startups are addressing pressing needs in agriculture across Farm Mechanization, Value Chain, Agricultural Inputs, Animal Husbandry and other allied sectors.
- **Agri Incubation Program:** Over **50 agri startups incubated** and provided access to cutting-edge technologies and infrastructure over 5 years.
- **Agriculture Technology Showcase Event:** Completed Investor meet and Industry Tech. Showcase event with participation of **>18 startups/innovators, 25+ top agri investors and 5+ industry partners.**
- **Agri Incubator Training Program:** **17+ incubation managers** from across Karnataka trained on best practices of incubation and program management.
- **Connects with FPOs:** The centre has also conducted workshops to train >100 FPOs on novel agri technologies. The centre is now working with 35+ FPOs to deploy novel technologies on the field for pilot trials and validations. Two technologies have already been deployed with exciting results coming out of the pilot trials.



COLLABORATION & **PARTNERSHIPS**

C-CAMP has partnered with renowned agri-innovation organizations such as the **Israel Consulate to South India, Roslin Institute, the University of Edinburgh, Startlife (connected to Wageningen University in the Netherlands), Krishikalpa, MS Swaminathan Research Foundation MSSRF, Deshpande Foundation and Sandbox Startups, and Agrihub (based in Brazil).** In addition, C-CAMP has on-going collaborations with research institutes such as **UAS-Bangalore, UHS-Bagalkot, UAS-Dharwad and CFTRI-Mysore** to help its startups with scientific expertise and field trials. These collaborations enable the exchange of ideas, address cross-border agri-tech challenges, and bring a global perspective to the Indian agri-tech space. C-CAMP has also partnered with leading industries (**Bayer, Buhler, Orkla, Pi Industries**) and investors (**Omnivore, Menterra, Synapses VC, Beyond Next Ventures**) to enable startup connects and networking opportunities.

MESSAGE FROM THE CoE

C-CAMP's Agri CoE has pioneered a unique **Immersion–Challenge–Deployment Investment** model for agritech innovation. The centre supports diverse startups across soil health, bio-inputs, post-harvest, climate-smart technologies, and digital platforms. Further, C-CAMP is actively contributing to national innovation priorities like **One Health, bioeconomy growth, and Atmanirbhar Bharat** by nurturing IP-led, scalable ventures.

INVESTMENT IN INFRASTRUCTURE

>20000 sqft percentage of total allotted area available to incubatees

>20000 sqft of built lab area available to start-ups

300 sqft of built lab area available to start-ups

7 conference rooms
(6 meeting rooms and 1 seminar hall)

STARTUPS & METRICS

>100 startups supported

7 investments

>20 start-ups already in the market

>40 patents filed by supported start-ups

>300 M USD valuation of the start-ups

NETWORK

>100 mentors across **3** domains (Healthcare, Agriculture, Environment);
15+ years average experience

>45 collaborations
Agri COE: >15

>45 connections

>5 industry connects

>75 physical events conducted

PROGRAMS AT THE COE

3
Active Programs

1
Investment Programs

1
Mentorship Programs

STARTUP SCOUTING PIPELINE

>250 startups
vetted at application stage

1-3 TRL levels of startups applying

2 core domains
in selection committee: Agriculture, Business

<10% conversion
rate from applications to onboarded startups

3 selection metrics
Novelty and Innovation, Team strength, Business plan

GOVERNANCE & OPERATIONAL MODEL

Governance
Headed by Director and CEO

Revenue Model
Diversity in the revenue model

Employee Experience
>75 years (cumulative)

Key Expertise Domains Agriculture, Healthcare, Environment



MISSION STATEMENT

The CoE aims to advance cybersecurity through skill building, industry and startup promotion, government support in cyber risk management, and cutting-edge research and innovation.

ACTIVITIES

Key Research Domains

High-precision side-channel analysis for power and electromagnetic vulnerability assessment.

Fault injection testing systems, including advanced voltage, clock, and laser-based techniques to simulate and analyse real-world attack scenarios.

FPGA-based high-performance hardware platforms to test and prototype resilient hardware security solutions.

Achievements

Two faculty development programs completed at VTU Belagavi, and Mysuru.

Three papers published, and three papers have been submitted till date.

H.A.C.K. Cohort – 4 launched where we shortlisted and signed a MoA with 6 cybersecurity focused startups.

Notable Equipment or Facilities:

- High-precision side-channel analysis for power and electromagnetic vulnerability assessment setup.
- FPGA-based high-performance hardware platform.

Objective of COEs

The Centre of Excellence in Cybersecurity (CySeck) is a flagship initiative by the Government of Karnataka through the Department of Electronics, IT, and Bt, established in 2017 to drive cybersecurity innovation, research, and ecosystem development across the state.

Anchored within the Indian Institute of Science (IISc), Bengaluru, and supported by the Foundation for Science, Innovation and Development (FSID), CySeck serves as a strategic platform that unites government, academia, industry, and startups to create a secure and resilient digital future for Karnataka and beyond.

Drive cybersecurity innovation by providing a world-class research environment supported by state-of-the-art infrastructure and advanced hardware security labs.

Accelerate the growth of cybersecurity startups through structured acceleration programs, mentoring, access to policy support, and opportunities for government validation and pilots.

Bridge the cybersecurity skill gap by enabling state-wide capacity-building initiatives, faculty development programs, and hands-on training for students and professionals.

Foster public awareness and digital safety by promoting cyber hygiene practices and educational outreach for citizens, institutions, and government bodies.

Initiatives

Faculty Development Program: Equip educators with the latest cybersecurity tools and practices and encourage ongoing industry-academia collaboration. Train 180 faculties during year 1.

Finishing School Program: Plan is to launch a specialized Finishing School initiative to train final year undergrad students on advanced cybersecurity topics relevant to industry. Conducted in partnership with academic institutions across Karnataka, this program offers: Classrooms, labs, and residential facilities provided by host institutes. Industry-driven training modules delivered by industry experts. Focus on real-world cybersecurity challenges and employability. Graduate 200 students at the end of year 1.

MOOC: A self-paced online course in collaboration with academic and industry experts on fundamentals of cybersecurity. Year 1 target is to certify 1000 students with the certificate.

Startup Acceleration Program: Supports startups working on cybersecurity products and solutions. Year 1 target is to support 3 startups.

Research & Innovation – Software and Hardware Security Components – Publications in top-tier conference and journal venues. Year 1 target is to publish 2 papers and 1 tape-out.

ACHIEVEMENTS & **SUCCESS STORIES**

from COE perspective

- Two faculty development programs completed at VTU Belagavi, and Mysuru.
- Three papers published, and three papers have been submitted till date.
- H.A.C.K. Cohort – 4 launched where we shortlisted and signed a MoA with 6 cybersecurity focused startups.



COLLABORATION & **PARTNERSHIPS**

Academic Partners:

VTU VIRF
Adeptics

Industry Partners:

SISA

INVESTMENT IN INFRASTRUCTURE

5.5 Cr value of high-end technology platforms available

25 lakhs value of general lab infrastructure

300 sqft of built lab area available to start-ups

1 conference room

STARTUPS & METRICS

6 startups supported

6 startups are in the market

NETWORK

3 mentors across **1** domain;
15 years average experience

3 collaborations
with organizations

20 industry connections

5 physical events hosted

3 virtual events conducted

PROGRAMS AT THE COE

1
Active Program

STARTUP SCOUTING PIPELINE

~18 startups
reached out to

5 TRL levels of startups applying

3 core domains
in selection committee: Cybersecurity, Business Strategy, GTM

6% conversion
rate from applications to onboarded startups

3 selection metrics
Exhaustive Scoring Rubric and Pitching

GOVERNANCE & OPERATIONAL MODEL

Governance

Governing Council: meets twice a year – provides overall guidance to the CoE.

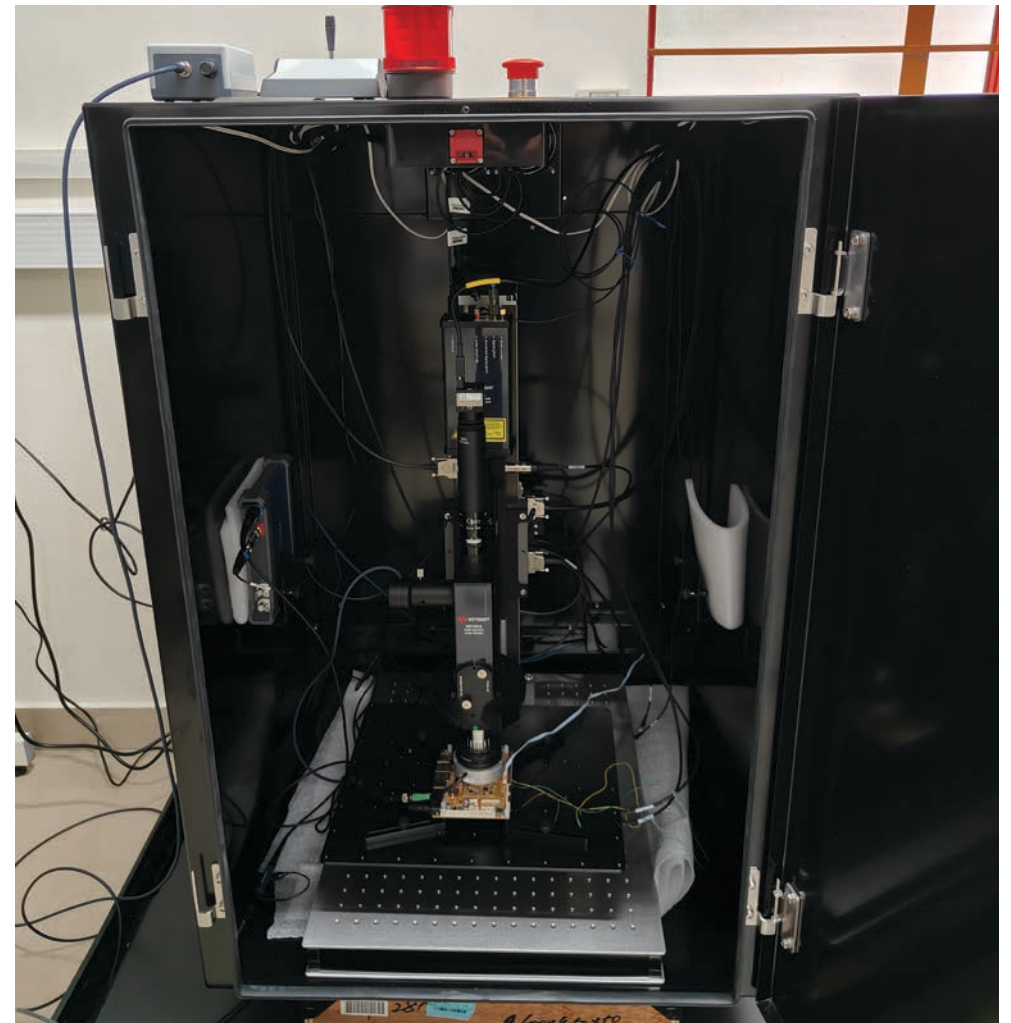
Project Monitoring Committee – Monitors progress and status on deliverables on quarterly basis.

Technical Committee – Provides operational guidance and inputs on regular basis.

Employee Experience

~80 years (cumulative)

Key Expertise Domains IT, Cloud, Cybersecurity, Startup Incubation, Sales, Business Strategy, Academic Research Development, Graphic Designing, Search Engine Optimization, Performance Marketing and Digital Marketing.



CENTRE OF EXCELLENCE IN DESIGN, D-COE

IISC FSID

MR. COL. K JOSHIL RAJ, RETD

COE HEAD

2024

YEAR OF ESTABLISHMENT

CORE FOCUS AREAS

DESIGN EXCELLENCE

MISSION STATEMENT

To empower students, individuals, industry professionals, and start-ups with transformative skills and resources in design thinking, prototyping, and business development, enabling them to create design-led, data-driven innovation across industry and society. To support start-ups by providing facilities and prototyping support, helping enhance their success. To democratize access to design thinking and entrepreneurial success, ensuring opportunities for all, to contribute to and benefit from a thriving ecosystem of innovation and creativity.

ACTIVITIES

Key Research Domains

In the context of Product Design and Innovation

- Industry 4.0 technologies
- Design Thinking and Methodology
- Aesthetics and Semiotics
- Ergonomics and Human Factors
- Design Prototyping
- Mechanical Prototyping
- Electronic Prototyping
- Business Development and Entrepreneurship

Initiatives

Project A

Description -The 8-week immersive program is a comprehensive, in-depth certification course offered by the Centre of Excellence in Design (D-CoE), IISc. Each module is crafted to blend theory and hands-on prototyping using industry-grade tools and technologies. It includes hands-on sessions in design labs and prototyping studios, providing participants with practical exposure. Upon completion, participants receive a PG Level certification on Product design and innovation. The program also offers access to advanced tools such as CAD, 3D printing, CNC machining, sensors, AR/VR, and more.

Outcome -The outcome of the 8-week program is the development of industry-ready skills in design and prototyping. Participants gain the capability to build functional, tested prototypes and benefit from strong portfolio development, which is particularly advantageous for job seekers. The program prepares individuals for a variety of roles related to product design and innovation.

Project B

Description - Description-The One-Day Foundation Workshop is an introductory-level workshop offered as a precursor to the main hands-on modules. It provides a broad overview of the D-CoE's approach to design, technology, and innovation. Designed for students, faculty, and professionals, it focuses on awareness-building and exposure to the facilities and topics available at D-CoE. This workshop includes demonstrations, walkthroughs, and design thinking primers, and is led by instructors and mentors in an interactive format. Participants also receive a certification of participation.

Outcome -The outcome of the foundation workshop is to provide orientation to design-led innovation and technology. It offers a first-hand understanding of the D-CoE training ecosystem and serves as a motivation for participants to pursue the full training modules offered by the Centre.

OBJECTIVE OF COE

Purpose of COE

The Centre of Excellence in Design (D-CoE) at IISc, initiated in collaboration with the Government of Karnataka, is committed to shaping the future of design through cutting-edge certification programs and advanced skills training. The primary purpose of D-CoE is to empower students, startups, and professionals with industry-relevant knowledge in product design, prototyping, and innovation. It envisions becoming a national platform for design-led technological advancement, supporting entrepreneurial ventures, and driving innovation across sectors through practical exposure, expert mentoring, and access to state-of-the-art manufacturing and prototyping infrastructure.

Key Activities

D-CoE conducts a range of programs tailored to different levels of engagement. The One-Day Foundation Workshop introduces participants to the core concepts of design thinking, innovation, and digital technologies through interactive sessions and facility walkthroughs. The Skill Spotlight initiative is a curated outreach program that creates awareness at academic institutions about emerging product design journeys and their impact. The flagship offering, the 8-Week Certification Module, is an intensive, hands-on training program covering end-to-end product design—from ideation and prototyping to business modeling—using tools like CAD, 3D printing, digital simulation, and more. Each activity is designed to build competence, spark innovation, and ensure sustained capacity development in design and technology.

Areas of Impact

D-CoE's programs are designed for a diverse group of beneficiaries, including undergraduate students, MSMEs, startups, faculty, and industry professionals. These stakeholders gain exposure to interdisciplinary skills across areas such as Industry 4.0, IoT, robotics, ergonomics, aesthetics, and entrepreneurship. The Centre's approach is focused on real-world applicability—enabling job seekers to gain employable skills, entrepreneurs to create and iterate on market-ready prototypes, and academic institutions to align with modern design and manufacturing standards. The broader impact lies in strengthening India's innovation ecosystem by creating a skilled and future-ready design workforce.

Achievements: The FlexiStation

The Flexistation is a multifunctional, electronically height-adjustable workstation designed to meet the evolving needs of the Design Centre of Excellence (DCoE). It bridges the gap between traditional classroom learning and hands-on prototyping, offering seamless transitions between lecture-based sessions and practical applications. This workstation supports eight interdisciplinary modules, enabling dynamic role switching and converting from a clean flat table for lectures and ideation sessions into a full-fledged electronic workstation.

It eliminates the need for separate lab and classroom setups, integrating functionalities in a compact footprint. The adjustable height mechanism caters to varied user preferences and task-specific postures, supporting both seated and standing work modes. The Flexistation directly supports practical sessions for Electronic Prototyping, Aesthetics & Semiotics, and Design Thinking Workshops, providing collaborative working surfaces adjustable for group dynamics and presentation modes.

The table's sleek, engineered profile blends well with DCoE's contemporary classroom aesthetics, ensuring a clean and professional environment. By addressing space constraints, workflow inefficiencies, and ergonomic diversity, the Flexistation empowers both instructors and students to engage with content dynamically.

The Flexistation is a strategic enabler of interdisciplinary design education, standing as a testimony to the DCoE's commitment to functional innovation and adaptive learning environments.

INVESTMENT IN INFRASTRUCTURE

Value of high-end technology platforms available- 37 Lakhs

Value of general lab infrastructure- 50 Lakhs

INVESTMENT IN INFRASTRUCTURE

Current number of mentors available to incubators: **5** Technical leads & **4** technical supports of D-CoE are available for prototyping support & mentoring.

Number of domains from which the mentors belong: Design Thinking, Design, Mechanical and Electronics prototyping

Number of collaborations with organisations: **1** (MoU with BCIC)

Number of industry connections: **4**

Number of physical events conducted by CoE: **14**

Number of virtual events conducted by CoE: **4**

START-UP SCOUTING PIPELINE

Number of start-ups reached out to: **18**

Number of institutes reached out to in last financial year: **33**

PROGRAMS AT THE COE

Number of programs currently active: **2**

OTHER METRICS

Governance structure of the CoE

- **Governing Council**
- **Project Management Committee**
- **Operational Committee**

Cumulative experience of the employees at CoE: **115**

Key expertise domain of the employees: Product Design, Design Thinking, Prototyping

COLLABORATION & PARTNERSHIPS

Academic Partners

BIT, CHRIST, SDMIMD, MEI POLYTECHNIC

Industry Partners

BCIC, IIMM, ELCIA

Government/Non-Profit Partners

FSID





DR. SANJAY TYAGI

COE HEAD

2024

YEAR OF ESTABLISHMENT

CORE FOCUS AREAS

INDUSTRY 4.0, AI/ML, BIG DATA, HARDWARE/INTERNET OF THINGS (IOT)

MISSION STATEMENT

CoE in EA has been setup by STPI in collaboration with the Government of Karnataka, supported by HPEIPL. The CoE is the first of its kind in India which is an immersion of innovation, creativity, and new business development for augmentation of the efficiency in all the business verticals, service sector & also in Government operations/projects leveraging emerging Industry 4.0 technologies.

ACTIVITIES

Key Research Domains

Smart Manufacturing, Home/Office Automation, Smart City Water, Smart Farming, Connected Transportation, Smart Weather Monitoring, Smart Hospital

Smart Security

Intelligent Asset Monitoring
Smart City Energy

Initiatives

STPI – INTEL Startup
Acceleration Program (in
progress)

Startup Valuations

301 Cr

Objectives

Transform ideas into market-ready solutions for efficiency augmentation

Build startup capacity, provide prototyping, mentor networks, market connect, and facilitate pilot projects with industry/government partners

Accelerate the adoption of Industry 4.0 in core and service sectors

Achievements

48 Products Developed

98 Prototypes

19 IPR filed

Number of Startups Incubated to Date

10

VC Fund Investments in Startups

4.3 Cr

SUCCESS STORIES OF STARTUPS

Here are brief success highlights of top STPI CoE startups based on accomplishments, awards, IPs, global recognition, funds, exits, and GCC collaborations

Ignomagine: Winner Startup Mahakumbh 2025, TiE50 Global awardee, multiple patents, raised ELEVATE grant.

Evoride Motors: APAC #SolarX Challenge winner, funded by IIT Madras and Wadhvani Foundation.

Prayogik Energy: Pilots with BHEL/ONGC, national innovation awards, government grants.

Abhiyantrik Solutions: INR 25L NDBI funding, deployed smart home energy tech.

DOPAMINE TECHNOLOGY: Industry 4.0 pioneer, innovation forum awards, developing proprietary IP.

WaterBot (BharatPi): Enabled 10,000+ IoT devs, academic/industry partnerships.

Amlaan RiverCorp: EarthON Changemakers Award, patented water skimmer, municipal pilots, GCC expansion plans.

Artitech (Kosha): Blockchain textile traceability platform, national and circular economy recognitions.

mSiren: Smart ambulance platform, health innovation awards, government-backed grants.

Kuber Protocol: Blockchain MSME finance pilot, seed funding, GCC fintech collaborations.

ACHIEVEMENTS & SUCCESS STORIES

from COE perspective

The STPI CoE-Efficiency Augmentation has established itself as a key catalyst for Industry 4.0 innovation in India. Since inception, the CoE has:

Incubated a growing cohort of startups who have secured major national and global awards (e.g., Startup Mahakumbh, TiE50 Global Silicon Valley, EarthON Changemakers).

Facilitated multiple startups in raising significant seed and grant funding, including NDBI, government, and private venture backing.

Enabled advanced IP creation, with robotics, IoT, and cleantech patents filed by cohort members.

Triggered high-impact pilots—such as agri-waste energy, water cleaning tech, smart ambulance platforms, and blockchain MSME finance—with public sector and GCC-region collaborators.

Supported global recognitions for startups in sustainability, digital transformation, and health innovation forums.

Advanced deep-tech deployments at scale, strengthening Karnataka's and India's status as Industry 4.0 leaders.

COLLABORATION & PARTNERSHIPS

Academic Partners: IEEE

Industry Partners: HPE India, Intel India, Schneider Electric, Bosch Global Software Pvt. Ltd.

Government/Non-Profit Partners: KITS (Govt. of Karnataka), KDEM



STARTUP SHOWCASE

Startup Name	Business Solution (Product/Service) / Key Focus areas	Funding / Valuation Increase \$m	Any other accomplishment / achievements
BharatPi Labs	Modular single board computers for scalable edge AI/IoT prototyping and deployment	Pre-seed funding closed; valuation increased	Academic and industry pilots; rapid adoption in prototyping clusters
Ignomagine	Robotics, automation, and IoT solutions for industrial efficiency and smart factories	Received ELEVATE Grant and private investments	Showcased at national summits; launched pilot with PSU
mSiren (Small Acts Tech)	AI-driven smart ambulance booking and "golden hour" healthcare response platform	Secured grants and pilot projects	Deployed in cities; recognized for public health impact
Kosha	AI-powered platform focused on affordable, clean, and healthy modular housing solutions	Early funding secured; ongoing pilot programs	Collaboration with sustainable builders; innovation in modular housing
Amlaan RiverCorp	Waterbody cleaning (indigenous skimmer boats), plastic recovery, and circular economy tech	Won startup innovation prize and donor backing	Partnership with municipal authorities; patent filed for cleaning tech

INVESTMENT IN INFRASTRUCTURE

38% of total allotted area available to incubates

3 Cr value of high-end technology platforms available

6.5 Cr value of general lab infrastructure

2000 Sq. ft. of built lab area available to start-ups

4 conference rooms
(2+2 Training rooms)

NETWORK

14 mentors across **6** domains;
15 years average experience

8 collaborations
with organizations

26 VC's funding agencies connected with

4 industry connections

60 physical events conducted

5 virtual events conducted

STARTUP SCOUTING PIPELINE

100 startups
reached out to

5-6 TRL levels of startups applying

10 institutes reached out to in last financial year

6 core domains
in selection committee: Automation, IOT, Systems Engineer, AI, Industry 4.0, Manufacturing

20% conversion
rate from applications to onboarded startups

5 selection metrics
Ideation, MVP, Revenue, Team, Funds/grants received

STARTUPS & METRICS

41 startups supported

5 investments (in progress)

10 lakhs quantum of investments

30 start-ups already in the market

19 patents filed by supported start-ups

301 Cr valuation of the start-ups

PROGRAMS AT THE COE

1
Active Programs

On the need basis
Investment Programs

On the need basis
Mentorship Programs

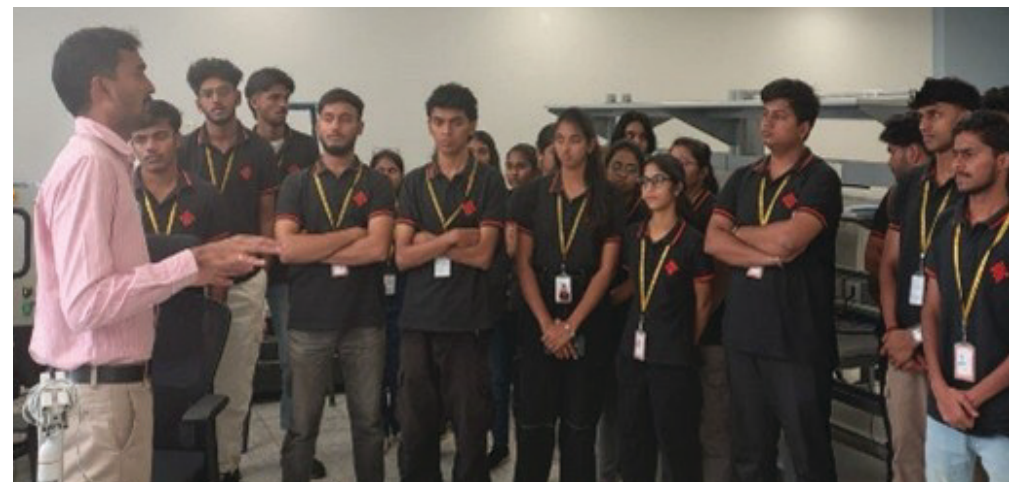
GOVERNANCE & OPERATIONAL MODEL

Governance
Governing Council is the Apex body followed by Project Management Group followed by specific committees like Tariff, Startup screening, Manpower Selection, Investment Management etc.

Diversity in the Revenue Model
Incubation rentals, lab tariff, training/skilling programs, Internships, equity-based investment etc.

Employee Experience
10 years (cumulative)

Key Expertise Domains
Startup Ecosystem, Materials Scientist, Investment Advisory, IP Management.



CoE FINTECH

MR. SITARAMAN SHANKAR

COE HEAD

2025

YEAR OF ESTABLISHMENT

CORE FOCUS AREAS

FINTECH

MISSION STATEMENT

To empower aspiring and current professionals with in-demand fintech skills through an industry-aligned online curriculum, delivered by a mix of academicians and practitioners. We aim to make world-class education accessible and affordable, preparing participants for strategic roles and entrepreneurial ventures in the rapidly evolving fintech sector.



OBJECTIVE OF COES

The CoE FinTech IIMBx is creating the FinTech Certificate Programme for Young Professionals, a 9-month online certificate programme aimed at empowering youth from Karnataka by giving them a broad understanding of the industry. The objective is to make these youth – college graduates, final-year college students, women returning to the workforce and people wanting to pivot into FinTech – employment-ready.

The CoE FinTech IIMBx curates courses to arrive at programmes made up of instructional videos featuring IIMB faculty and industry experts. The team identifies the instructor, interacts with them to create course content and assessments using various pedagogical tools and midwives the production from camera shoot to post-produced video output. The CoE will also complement these asynchronous sessions with a limited number of live online interactions.

The programme will be made up of 17 courses divided into foundation and advanced certificate stages. Students who complete the foundation stage will get a good understanding of essential management concepts and of industry verticals. Those who opt for the advanced certificate will gain a deeper understanding of topics important for a closer engagement with industry.

ACHIEVEMENTS

In the short period of eight months, the CoE FinTech IIMBx has taken the FinTech certificate programme from ideation to a high-quality programme ready to be released to learners.

CoE FINTECH

MR. ANAND SRI GANESH

COE HEAD

2025

YEAR OF ESTABLISHMENT

CORE FOCUS AREAS

FINTECH

MISSION STATEMENT

NSRCEL aims to identify and support fintech startups with strong growth potential, helping at least 20 startups each year strengthen their business models, scale sustainably, and secure investor backing.



NSR
CEL

ACTIVITIES

Key Research Domains

- Wealth tech
- Lending and Credit, Underwriting Tools
- InsurTech
- RegTech
- Financial Inclusion & Embedded Finance
- Green Finance
- Blockchain & Cybersecurity
- Verticalised and Integrated Fintech

Initiatives

Fintech Workshops: Around Fintech and allied themes – Conducted workshop on Tokenization of Real World Assets with Regulators and Market Leaders.

Fintech Clinics: 1:1 diagnostic sessions with startups to assess regulatory, infra, GTM, and fundraising readiness.

Peer Connects: Initiatives to connect and Support for startups within the cohort – First PeerConnect was on “Cross Border Expansion” which will be followed by topics around Fintech, Product, Expansion, etc.

AMAs: Sessions with Scaled founders and experts on Business, Scaling and insights from their journey in an “Ask Me Anything” format.

Mentorship: 1:1 Sessions with BFSI and Entrepreneurial experts with founders to help them grow in their growth journey.

BFSI, Enterprise Connects: Enabling connections for the founders around Business, Innovation and Investment with the industry.

OBJECTIVE OF COES

The Fintech Centre of Excellence at NSRCEL, IIM Bangalore, aims to build a thriving, and innovation-first fintech ecosystem. It supports startups through incubation, mentorship, ecosystem connects, and regulatory alignment, thereby accelerating their journey to market scalability.

The centre creates pathways for:

- Market access
- Regulatory compliance and sandboxing
- Product-market fit and go-to-market scaling
- Capacity-building and knowledge sharing
- Investor readiness

20 Startups Incubated to Date

VC Fund Investments in Startups

Out of the 20 startups onboarded,

- 7 ventures have raised a Pre-Seed Round
- 9 ventures have raised a Seed Round
- 3 ventures have raised a Pre Series A round

ACHIEVEMENTS & SUCCESS STORIES

from COE perspective

- Conducted workshop and discussions around consultation paper from IFSCA with Regulators and Industry Leaders.
- Conducted curated Fintech Clinic to curate conversations around GTM, Infra, compliance and hosted closed-door AMAs with SEBI and RBI leadership
- Strategic partnerships initiated with Banks, Insurance Firms, Infrastructure Providers and other fintech allied organizations.
- Startup Recommendations: Conducted conversations with VC Firms for Startup recommendations and sectoral insights.
- Enabled active startup participation in innovation discussions with Lloyds Banking, ICICI Bank, Citi Bank, etc.

COLLABORATION & PARTNERSHIPS

Academic Partners

IIM Bangalore

Industry Partners

RBiH, Federal Bank, Protean Tech, HDFC Life, ICICI Bank, HDFC Bank, Lloyds Bank, IIMA Ventures, etc.

Government/Non-Profit Partners

KITS, Govt of Karnataka

ABOUT THE COE

The Fintech Centre of Excellence at NSRCEL, IIM Bangalore, aims to build a thriving, inclusive, and innovation-first fintech ecosystem. It supports startups through incubation, mentorship, ecosystem connects, and regulatory alignment, thereby accelerating their journey to market scalability.

Vision

To make India a global fintech innovation hub by enabling early to growth ventures.

Focus Areas

- LendingTech
- WealthTech
- InsurTech
- RegTech
- Digital Payments
- Embedded Finance
- DeepTech applications in BFSI

Unique Positioning

- Hosted at a premier management institute with access to academia, and industry networks.
- Backed by KITS, Govt of Karnataka
- Have networks with regulators and infrastructure players

Deliverables

A summary of key deliverables achieved so far. For COEs under extension, kindly include a recap of both past and ongoing deliverables.

Deliverables Achieved So Far

- Launched Fintech Accelerator with 20 high-potential startups
- Fintech Clinic hosted with regulatory and industry participation
- 20+ expert interventions, 50+ mentor hours (20 Hours for Cohort)
- BFSI and Industry Connects curated for the fintech startups
- Partnered with Infrastructure and BFSI Industry providers like ICICI Bank, Federal Bank, HDFC Life, Protean Tech, etc.
- Fintech Clinic Initiative - Cohort Virtual Launch

Equipment & Facilities

NSRCEL Infrastructure



INVESTMENT IN INFRASTRUCTURE

Percentage of total allotted area available to incubates – **Upto 20%**
Value of high-end technology platforms available – Overall **100+ Partners** under the Startup Toolkit
Number of conference rooms – **3**

NETWORK

Current number of mentors available to incubators – **30**
Number of domains from which the mentors belong – **10**
Average years of experience of the mentors – **10**
Number of collaborations with organisations – **8**
Number of funds (VCs, etc.) or funding agencies connected with – **7**
Number of industry connections – **7**
Number of physical events conducted by CoE – **3**
Number of virtual events conducted by CoE – **2**

START-UP SCOUTING PIPELINE

Number of start-ups reached out to – **362**
Domain expertise of the selection committee – BFSI & Entrepreneurship
Percentage of start-ups on-boarded from the total applications – **5%**
Metrics on which start-ups are selected – Product Readiness, Business Model, Stage of the Startup

START-UPS AND ITS METRICS

Number of start-ups supported till now – **20**
2. Number of start-ups already in the market – **20**

PROGRAMS AT THE COE

Number of programs currently active – **1**
Number of mentorship programs – **1**

OTHER METRICS

Governance structure of the CoE –

- Governing Council
- Executive Council
- CEO, NSRCEL
- AVP, Programs





CENTER FOR INTERNET OF ETHICAL THINGS



PROF. MADHAV RAO

COE HEAD

2021

YEAR OF ESTABLISHMENT

CORE FOCUS AREAS

IOT, HEALTH TECH, AGRITECH, MANUFACTURING

MISSION STATEMENT

To advance research and innovation in Internet of Things (IoT) technologies by embedding ethical principles and aligning with the UN Sustainable Development Goals, ensuring that technological progress contributes to a sustainable, equitable, and human-centric future.

ACTIVITIES

Key Research Domains

Software Framework for Ethics, Ethical Policy Drafts, IoT – Healthcare, Agriculture, Digital Twin, Security & Privacy in IoT Systems, Ethical Hardware Design.

Objective of COEs

2 Ethical Policy Drafts Namely, (1) Ethical Assessment Framework for IoT solutions in Smart Cities, (2) Ethical Assessment Framework for IoT solutions in Digital Health and 3 POCs.

Purpose of COE is twofold – help the government with policy drafts in 3 domains – Smart City, Healthcare, and Agriculture – and also develop technologies incorporating ethical dimensions

Achievements

60 Research papers
2 Indian Patents

Initiatives

IoT- Rehabilitation Systems – Developing low-cost rehabilitation device for physiotherapy patients and DVT syndrome patients.

DigitalTwin based simulation of security attacks in Smart Irrigation Systems – Developed the logical equivalent of Smart Irrigation systems and explored security attacks.

Software Guard Rail Architecture – Software Architecture to exercise ethically filtered data.

CIET Policy drafts – Designed and assessed Ethical Framework Policy drafts for the domain of Smart City & Healthcare.

Notable Equipment or Facilities

IoT Rehab System
Domestic IoT Rehab System
IoT based Agricultural System (Auto-Grow)

Number of Startups Incubated to Date

6

ACHIEVEMENTS & **SUCCESS STORIES**

from COE perspective

- Published around 60 Peer Reviewed International Conferences & in Journals.
- Indian Patents – 2
- Hon'ble Minister Shri Priyank Kharge, Chief Guest at K-VLSI PG Diploma Valedictory Ceremony, Visits CIET Projects.
- HON. SEC. Ms. Dr. Ekroop Caur , Additional Chief Secretary to the Government, Department of Electronics, Information Technology, Biotechnology and Science & Technology visits CIET centre.



COLLABORATION & **PARTNERSHIPS**

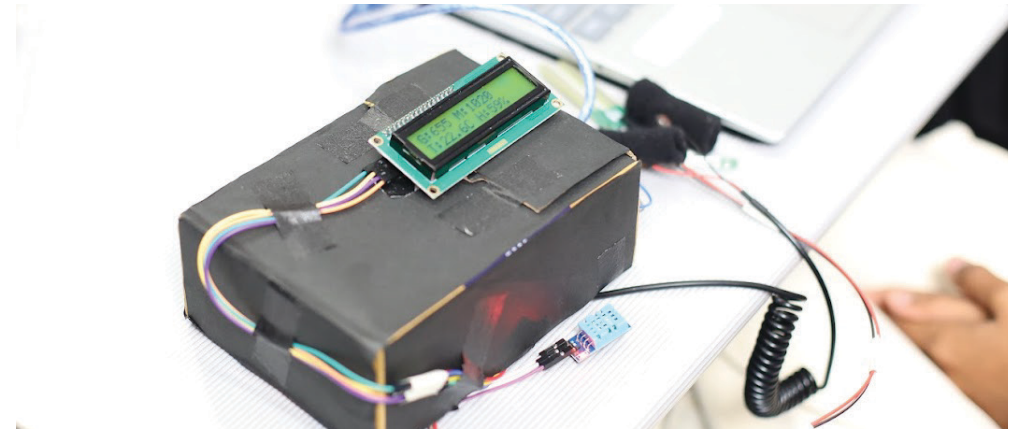
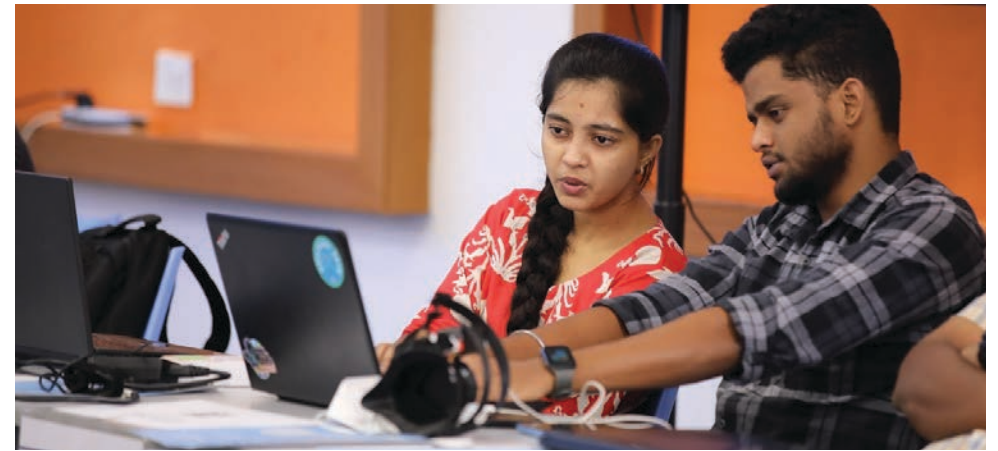
Academic Partners:

NIMHANS

Government/Non-Profit Partners:
Not Applicable

STARTUP SHOWCASE

Startup Name	Business Solution (Product/Service) / Key Focus areas
Agri lifeline solutions	Focus on building a robust Agri Value Chain and starting B2B business for Inputs.
Gokrit	Integrated Digital Framework for: • Farmer Connectivity • Data Integration • AI-Driven Insights • Traceability
Gormal One LLP(NITARA)	NITARA aims to build a comprehensive digital dairy platform connecting all stakeholders, fostering collaboration, productivity, and empowerment.
Agri genius solutions	First digital consultancy for solving farmers' problems by connecting them with experts through AI-driven personalized solutions
Agri vitals pvt ltd	Urban Crew provides technology-driven cold storage solutions to extend shelf life and revolutionize supply chain management with IoT, AI, and blockchain



MISSION STATEMENT

The Center of Excellence is India's largest deep tech innovation ecosystem, uniting startups, enterprises, innovators, and the government. It is dedicated to addressing real-world challenges using IoT, AI/ML, AR/VR, Robotics, and Drones, while fostering academia-industry research collaboration. The CoE is structured to fast-track the implementation and adoption of innovative solutions.

ACTIVITIES

Key Research Domains

Innovation using IoT, AI/ML, AR/VR, Robotics, Drones for Health Tech, Manufacturing, Agritech, Enterprise, Smart city

Achievements

33 Patents Filed
168 Prototypes Developed

Lab Equipment & Infrastructure

Includes high-end oscilloscopes, waveform generators, logic analyzers, signal generators, power supplies, and DMMs.

Notable Equipment or Facilities

High-end Oscilloscopes, waveform generators, Logic analyzer, Vector signal generator & analyzer, power supplies, DMMs etc.

Objective of COEs

Co-create and facilitate adoption of innovative solutions of not only incubatees but from all startups in the ecosystem. Engaged in 435+ use cases across sectors and domains in last 9 years

VC Fund Investments in Startups

\$271m, 15 elevate grant winners

Success Stories of Startups

5338 connects made for ~2500 unique startups to 186 entities for market (domestic and International), investments

Startup Valuations

(increased from last two years)

\$498m (last 2 years approximate increase \$300m)

Key Initiatives

Enterprise: Addressing enterprise digital and AI challenges

Manufacturing: Over 20 SME solutions deployed across Karnataka

Healthcare: IVF simulator, autism assessment/training, hearing loss diagnostics

Agritech: Precision farming, yield prediction, drone-based pest control

Ecosystem Engagement: Regular funding connects, tech/IP/legal workshops

ACHIEVEMENTS & **SUCCESS STORIES**

from COE perspective

One of the very early and successful PPP programs with Central (MeitY), State of Karnataka (hub) and spokes in 3 other states for IoT and AI. From CY2025, it will now focus on India AI Mission's pillar: AI Application Development Initiative: including AI solutions for government needs. With 435+ use cases engaged in deep-tech areas, we aim to pursue the

Center of **A**ppplied-AI & **T**echnology **S**olutions (CATS).



COLLABORATION & **PARTNERSHIPS**

02

Academic Partners

44

Industry Partners

20

Government/Non-Profit Partners
includes Infra, Ecosystem, International

ADDITIONAL ACCOLADES

We have hosted 261 Govt and International delegations which include high level CxOs, politicians, bureaucrats, investors, ecosystem enablers and startups from over 40 countries.

We have been engaged with 50 academia entities for evangelizing the students to think with gaining knowledge and approach to innovation.

Startup Name	Business Solution (Product/Service) / Key Focus areas	Funding/ Valuation Increase \$m	Any other accomplishment/ achievements
Cynlr	Visual object intelligence platform for industrial robotic arms	15.2/ 24.7	Started with 2 founders in our lab, now 40 with an 13000sqft in Bangalore and in Switzerland now, planning in USA. Senses motion, depth, and color simultaneously, providing 10x faster depth perception at 3x the resolution compared to traditional methods.
Abee research labs (Switchon)	AI-powered visual inspection for manufacturers	6.1 / 30	They started as 2 to (now 70) people from our lab, now catches defects as small as 150micro, and can do 1200+ products-per-minute. Clients include Global ones Unilever, P&G, Diageo, ITC, SKF, and Tata
Subhahu (Rezler)	Smart Electronic Beat crime preventive solutions for law enforcement & Home land security agencies	0.2 / 1.5	Smart EBeat for Karnataka state officially inaugurated on 5-Apr-22 by Union Home Minister. From a simple solution, getting into more than 6 states (including Karnataka) police force high impact needs. 3000 police stations digitized
Reprosci Biosciences	Medical education technology for reproductive science training. Fertilator is a high-fidelity IVF-ART simulator integrating AI/ML to train Fertility doctors	2 / 5	Developed over 8 years of R&D across medicine, hardware, and compliance. Validated by 2,000+ educators, clinicians, and researchers from 14 countries and published in ESHRE 2024, the Fertilator is now commercially available across India, the Far East, and EMEA
Nymble Labs (Posha now)	Automated home kitchen robots for cooking	16.8 / 54	4 people to 62 now is a good journey in a tough consumer market, from beta to production stage
Neurofin AI Technologies	AI powered software suite for financial institutions and document processing	1.6 / confidential	Elevate grant enabled \$1.6mn and NBFC clients quickly and employ 10

INVESTMENT IN INFRASTRUCTURE

75% of carpet area allotted to startups for incubation

USD 856,000 in cloud credits provided to 202 startups

₹200 Lakhs value of general lab infrastructure

₹20 Lakhs committed. HigherG future investment in Innoverse & CATS expansion

3900 sq ft of built lab area available to startups

6 conference rooms
(2 on CoE 3rd floor + 4 common on Ground Floor)

STARTUPS & METRICS

241 startups supported (including virtual incubation)

80 startups have received external funding

\$271M total funding raised

~50% of startups are in the market

33 patents filed

\$498M total valuation of supported startups

NETWORK

9 mentors across **6** domains;
24 years average experience

30 collaborations
with organizations

15 VCs or funding agencies
(informally connected)

44 industry connections

0 formal joint proposals, but close
coordination with all CoEs

202 physical events hosted

60 virtual events conducted

PROGRAMS AT THE COE

Incubation

Virtual Acceleration

Co-creation with Innovation Adopters

STARTUP SCOUTING PIPELINE

~2500 startups
reached for GTM, incubation, investment
connects

3–7 TRL levels of startups applying

7 academic institutes
reached in the last financial year

3 core domains
in selection committee: IoT, AI/ML, Energy

90% conversion
rate from applications to onboarded startups

3 selection metrics
Innovation, Feasibility, Market Relevance

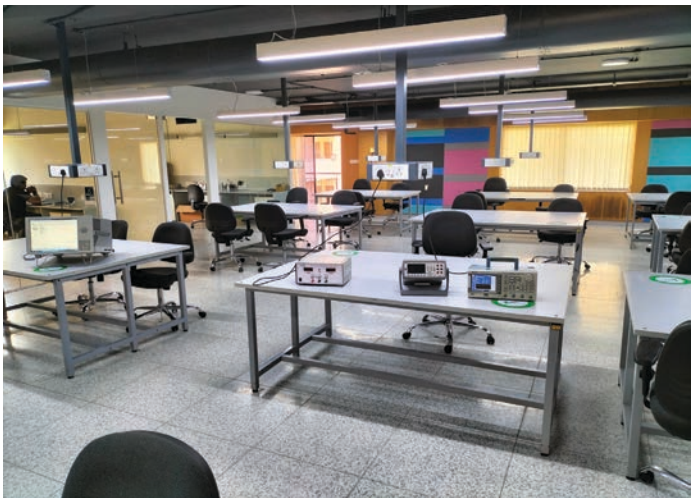
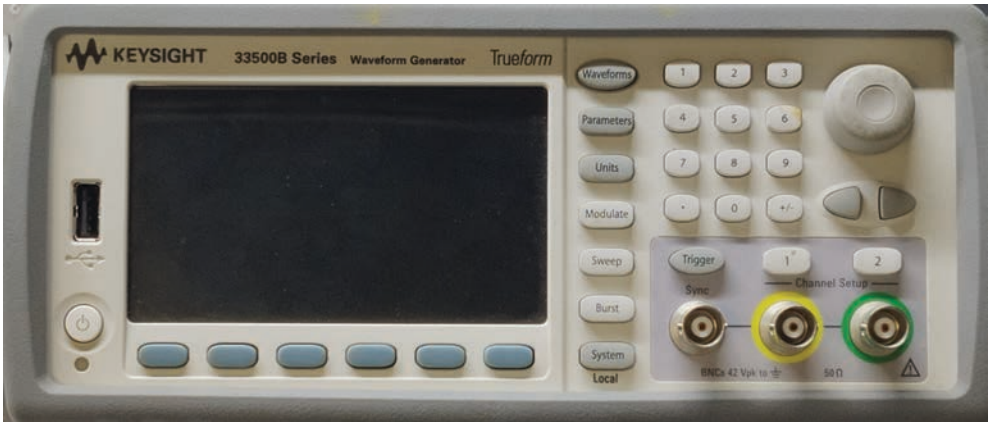
GOVERNANCE & OPERATIONAL MODEL

Governance
Governing Council, Steering Council (Govt & Industry)

Revenue Model
Approx. 1/3rd each from Central Govt, State Govt, and
Industry

Employee Experience
~75 years (cumulative)

Key Expertise Domains Semiconductor, R&D, Energy,
IoT, AI/ML



MISSION STATEMENT

To advance cutting-edge research, innovation, and education in machine intelligence and robotics, addressing critical societal and governance challenges through interdisciplinary collaboration, and fostering impactful solutions for Karnataka and the nation.

ACTIVITIES

Key Research Domains

- Multi-modal language translation and understanding
- Robotics
- IOT and Drones
- Machine Learning
- Smart Governance
- Urban mobility and Transportation

Achievements

- **35** Total Projects
- **85+** Research Publications
- **1** Licensed Patent

Hexis

is a new generation refreshable braille reader designed specifically for a visually impaired child in a special or inclusive school
Autonomous robotics-based solution for warehouse applications, such as object picking and putting-away

25+

Startups Incubated to Date

INITIATIVES

Projects (OUTCOMES)

- **Web Observatory and Social Media** AI based Social Media Intelligence - to detect concerted campaigns, understand online social cognition, understand opinion drivers and detect fake news.
- AI based Cognitive Interview Assistance System for Administrative Services Interviews (KAS and IAS): GoK Minority Affairs Department (through Keonics) has procured **4000 licenses of Margadarshi** and distributed to Rural candidates
- **Development of a unified system for the autonomous identification and manipulation of 3-D objects with diverse physical properties.**
- **Smart body-attachment system for a robotic exoskeleton for rehabilitation to patients who have paralytic disabilities.**
- **Development of Upper Limb rehabilitation device** (The device in the project aims to supplement the hand, wrist, and forearm and arm related activities without deterring the existing capabilities of the disabled patients.)
- **Intelligent multi-lingual speech-technology based e-gov applications** (developed local-language –to– English / Indian language – to–Indian language translation solutions for e-gov applications (e-gov document processing, citizen user interfaces etc)
- **Medical Signal Analysis:** Fundus image segmentation for diabetic retinopathy; Emotion recognition with EEG signals

OBJECTIVE

MINRO's objective is to be a "best-in-class" Center of Excellence (COE) in Karnataka for Machine Intelligence and Robotics, involved in fundamental research addressing problems in the Indian context in a collaborative multi-disciplinary environment. The COE aims to take research beyond academic public publications in developing **open-source platforms** and **data sources, mentoring startups** and ensuring scalability and reliability of the technology for real-world deployment.

EXOSKELETON CLINICAL TRIALS IN NIMHANS

Startup Partner – Bionic Yantra IIIT-B's Alumna, **Vidhya Y** was honoured with the National Award for Empowerment of Persons with Disabilities under the category "**Sarvshresth Divyangjan**" by the President of India.

She was chosen for this award for her inspiring journey and her efforts in making education accessible to visually impaired students and for working as an evangelist in developing affordable assistive technologies including "**the world's most affordable**" **electronic Braille book**, a reading solution for visually impaired children.

SUCCESS STORIES OF STARTUPS

India4IAS Academy: AI based Cognitive Interview Assistance System for Administrative Services Interviews (KAS and IAS), Beneficiary Partner

Vision Empower: Refreshable Braille Reader, Beneficiary Partner

BionicYantra: Exoskeleton (Assistive robotics) for neuro rehabilitation, Beneficiary Partner. Research PartResults presented in the 12th World Congress for Neurorehabilitation in Vienna, Austria

Timetooth Technologies: NIMHANS; Medical grade, open source, indigenous, low-cost ventilator, Beneficiary Partner

Timetooth Technologies: Patent filed for Smart Harness projects

Greendzine: Autonomous robotics-based solution for warehouse applications, such as object picking and putting-away demonstrated in BTS 2023

ACHIEVEMENTS & SUCCESS STORIES

from COE perspective

GoK Minority Affairs Department (through Keonics) has procured **4000 licenses of Margadarshi** and distributed to Rural candidates.

Beneficiary partner Vision Empower's Refreshable Braille Reader have impacted

- More than **5000 blind students**
- More than **500 teachers**
- More than **90 schools across 11 states**



COLLABORATION & PARTNERSHIPS

Academic Partners

- IISc
- IIT-M
- IIT-H
- IIIT-H

Industry Partners

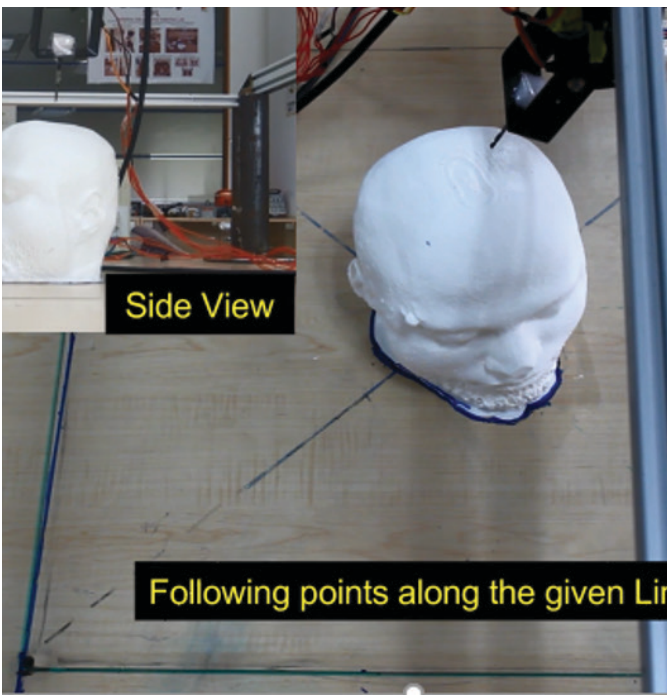
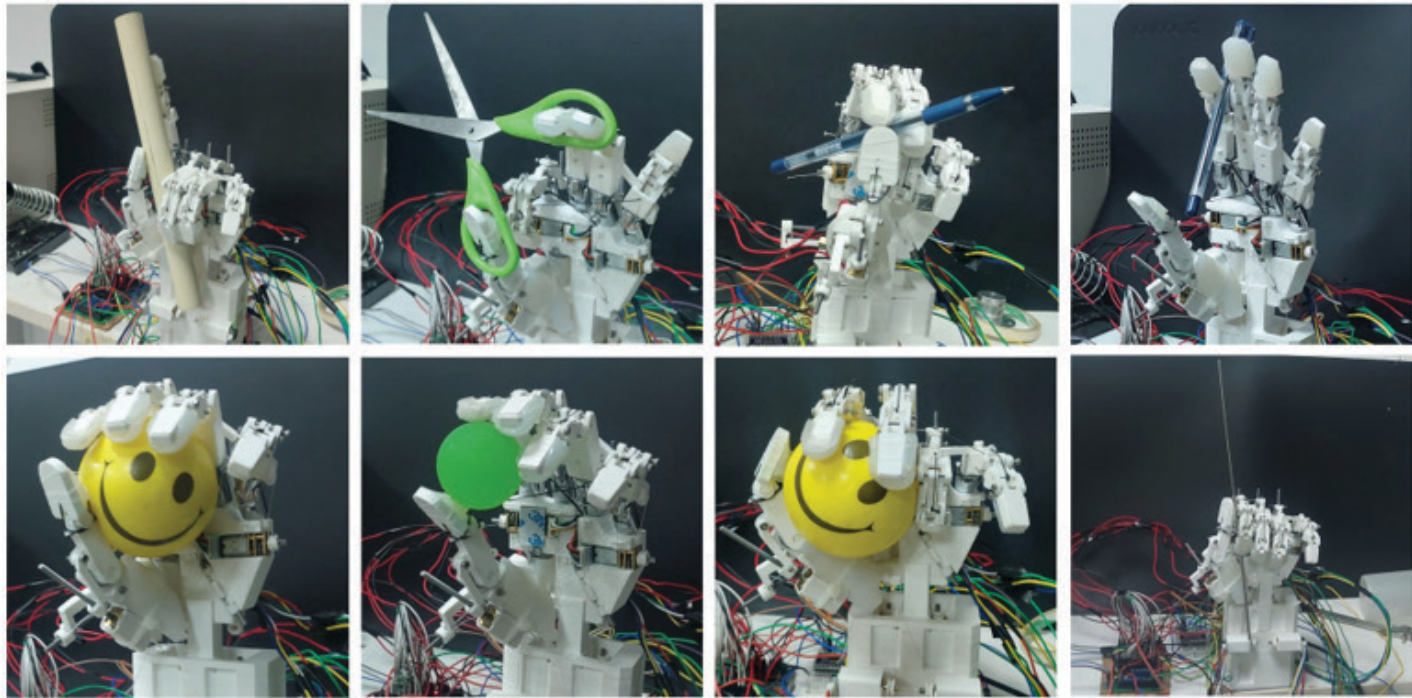
BCIC Partners

- Intel Plugin Alliance
- TVS Motor Co Ltd
- Buhler India Pvt Ltd
- Ace Designers
- EDS Technologies Pvt. Ltd
- m2nxt
- ANCM MANAGEMENT CONSULTANTS
- Maini Group
- Continental India
- IAMPL
- Samuthána Consultancoaching LLP



ASDC Partners

- Brigade BCIC Skill Development Academy (BBSDA)
- Jesons Technologies Pvt Ltd
- Altair Engineering India Pvt Ltd
- ABB
- Bosch
- Kushagramati Analytics Pvt Ltd
- CM Enviro Systems Pvt Ltd
- ITI Consultants
- TVS AUTOMOTIVE SYSTEMS LIMITED
- BSGH Business Consulting Partners LLP





MR. AKSHAY NAIK

COE HEAD

2022

YEAR OF ESTABLISHMENT

CORE FOCUS AREAS

QUANTUM COMPUTING, QUANTUM COMMUNICATION
QUANTUM MATERIALS, QUANTUM IMAGING, QUANTUM SENSING

MISSION STATEMENT

To accelerate innovation, research, and skill development in quantum computing and related technologies by fostering collaboration between academia, industry, and government, positioning Karnataka as a global hub for quantum advancements.



ACTIVITIES

Key Research Domains

- Quantum Computing
- Quantum Communication
- Quantum Materials
- Quantum Imaging
- Quantum Sensing

Initiatives – Projects

Equipment Cluster: QuRP has set up an Equipment Cluster featuring high-value equipment, including lasers, cryostat etc, which are available for use by academic institutions, startups, and industry experts. This cluster is designed to support research and development needs in quantum technologies.

Q-Daksha Summer Internship Program: This stipend-based internship program runs from May to August and is aimed at senior UG and PG students. Over the past three years, 30 students from Karnataka have participated, gaining valuable hands-on experience in Quantum Technology research at IISc.

Q-Karyashala: Held annually in June, it serves as a platform for students, researchers, faculty, and industry professionals to deepen their understanding of quantum technologies through expert talks, hands-on sessions, and interactive discussions. Over the past three years, the workshop has seen participation from over 350 individuals, with representation from leading universities, research institutions, and industries across India.

Q-Unnathi: This initiative was launched to support quantum startups and early-stage ventures, and it offers access to the Equipment Cluster for R&D purposes. It also provides opportunities for collaboration with members of the IISc Quantum Technology Initiative (IQTI). 2 start-ups were selected for support under the Q-Unnathi program.

Q-Pragathi: Aimed at promoting R&D in quantum technology within Karnataka universities, Q-Pragathi provides faculty members with access to advanced equipment and expert mentorship. It also offers funding support for research across various verticals of quantum technology. The Q-Pragathi Mini Project Scheme has received a total of 221 proposals (including Cohort I & II) from various institutions across Karnataka. A total of 9 Proposals are funded from Cohort I and II.

IQTI Industry Conclave: Held annually, the IQTI Industry Conclave brings together industry experts, entrepreneurs, and startup professionals to discuss advancements and foster collaborations in quantum technology.

R&D Seed Fund: This unique competitive seed fund scheme for IISc faculties promotes QT research and international collaboration. Eleven IISc faculty members started researching quantum technology across five different verticals to advance its Technology Readiness Levels (TRLs). This includes 2 startups, 2 industries, and 10 international academic collaborations.

QuantNews: This newsletter provides layperson summaries of advancements in quantum technology, bridging the gap between technological developments and the public. Three issues have been launched so far.

OBJECTIVE OF CoE

- Create, maintain, and share world-class facilities for fabrication and characterization devices in quantum technologies domains. These shared facilities will be made available to all industry and startup partners and academic users of Karnataka.
- Initiate and nurture collaboration between industry and academia in this domain. This can be in the form of either joint projects between IISc, partnering academic institutions and industry with funding from external funding agencies, or projects funded by industry at a partner educational institute.
- Mentor and support translation of research by offering a broad range of technical/fabrication/characterization infrastructure to startups in the wide area of quantum technologies. This will strengthen the position of Karnataka as a hub of the next generation of technologies.
- Support advanced skill development for students/academic scientists from Karnataka and industry partners.
- Advancements in QT products and market penetration can materialize only through Indigenous R & D. Support to QT research projects to scale up in TRL and identify appropriate use cases in one of our focuses.



KEY ACTIVITIES AND AREAS OF IMPACT

Equipment Cluster

QuRP hosts a high-value Equipment Cluster with advanced instruments such as lasers and cryostats, accessible to academia, startups, and industry for R&D in quantum technologies.

R&D Seed Fund

Competitive internal grant for IISc faculty to advance QT research and TRLs, involving 11 faculty, 2 startups, 2 industry partners, and 10 international collaborations.

Q-Daksha – Summer Internship Program

A stipend-supported internship from May to August for UG/PG students. 30 Karnataka students have gained hands-on research exposure at IISc over the past three years.

Q-Pragathi – Mini Project Scheme

Enables R&D in quantum domains across Karnataka universities. Of 221 proposals received from Cohort I & II, 9 have been selected for funding.

Q-Karyashala – Annual Workshop

Conducted every June, this workshop engages students, faculty, and industry professionals through pedagogical talks, hands-on sessions and lab visits. Over 350 participants have attended since inception.

IQTI Industry Conclave

An annual platform bringing together industry leaders and startups to foster engagement and collaboration in the quantum ecosystem.

ACHIEVEMENTS

350+

participants including faculty, researchers, and students across India engaged through schools and interactive workshops, with lab visits and expert sessions.

30

students completed hands-on internships in quantum research labs at IISc.

02

quantum startups received sustained mentorship and technical support through the Q-Unnathi initiative.

50

JRFs/SRFs trained under IISc faculty, contributing to long-term quantum research capacity building.

11

faculty-led quantum research projects are advancing Technology Readiness Levels (TRLs) across 5 verticals, involving:

- 2 startups
- 2 industry collaborators
- 10 international academic part

Number of Startups Incubated to

Date: QuRP is not an incubation center and hence does not incubate any startups.

ACHIEVEMENTS & **SUCCESS STORIES**

from COE perspective

Established a state-of-the-art Equipment Cluster, making high-end research infrastructure available to academia, startups, and industry.

Supported 11 faculty-led research projects at IISc under the R&D Seed Fund, across five quantum verticals.

Facilitated 9 funded projects from over 220 proposals received through the Q-Pragathi Mini Project Scheme, encouraging faculty members from universities in Karnataka.

Trained over 350 individuals through Q-Karyashala workshops and offering hands-on internships to 30+ students from across the state under the Q-Daksha Summer Internship Program.

Mentoring 2 quantum startups through the Q-Unnathi program, supporting them with expert guidance, infrastructure access, and networking opportunities.

Hosting multiple industry-academia networking events, including the IQTI Industry Conclaves and the Quantum Conclave 2025 with over 400 participants.

Awards and Recognition

Sustainable Stall Award at the Bengaluru Tech Summit 2024, recognizing QuRP's efforts toward environmentally responsible innovation and outreach.

Global Collaborations and Visibility:

- Co-sponsored and facilitated participation in the RPGR 2023 international conference, enabling faculty and students to present research on 2D materials and quantum applications.
- Established 10 international academic collaborations through seed-funded research projects.

Funding and Ecosystem Growth

- Secured ₹999 lakhs in funding from the Government of Karnataka through KITS, enabling QuRP to operationalize its mission over three years.
- Established a Karnataka-centric quantum network, involving multiple state universities, research institutions, and startups.

COLLABORATION & PARTNERSHIPS

Academic Partners

International collaborations through R&D projects: University of Waterloo, Rice University, Université Paris-Saclay, CNRS, Weizmann Institute of Science, University of Toronto, Institut National des Sciences Appliquées Toulouse, UC Berkeley, University of Illinois, Max Planck Institute of Microstructure Physics

Industry Partners

Industry collaborations through R&D projects: Superhard Research Centre, Texas Instruments

INVESTMENT IN INFRASTRUCTURE

Value of high-end technology platforms available
– **449 lakhs INR**

Future investment plans in infrastructure – plans to expand Equipment Cluster with more quantum specific devices in **Phase 2** of QuRP.

START-UP SCOUTING PIPELINES

Number of start-ups reached out to – **5**

START-UPS AND ITS METRICS

Number of start-ups supported till now – **5**

NETWORK

Number of industry connections – **2**

Number of physical events conducted by CoE – **6**

PROGRAMS AT THE CoE

Number of programs currently active – **9 Core** programs

Number of mentorship programs – **3**

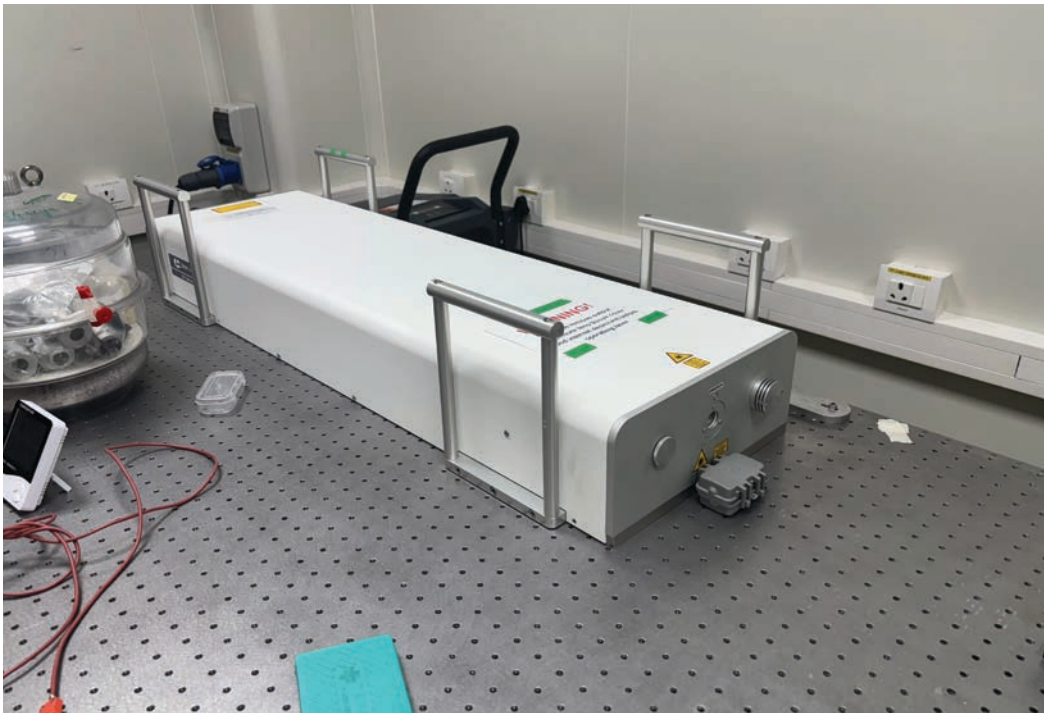
OTHER METRICS

Governance structure of the CoE: Governing council committee & Project monitoring committee.

Cumulative experience of the employees at CoE–**20 years**

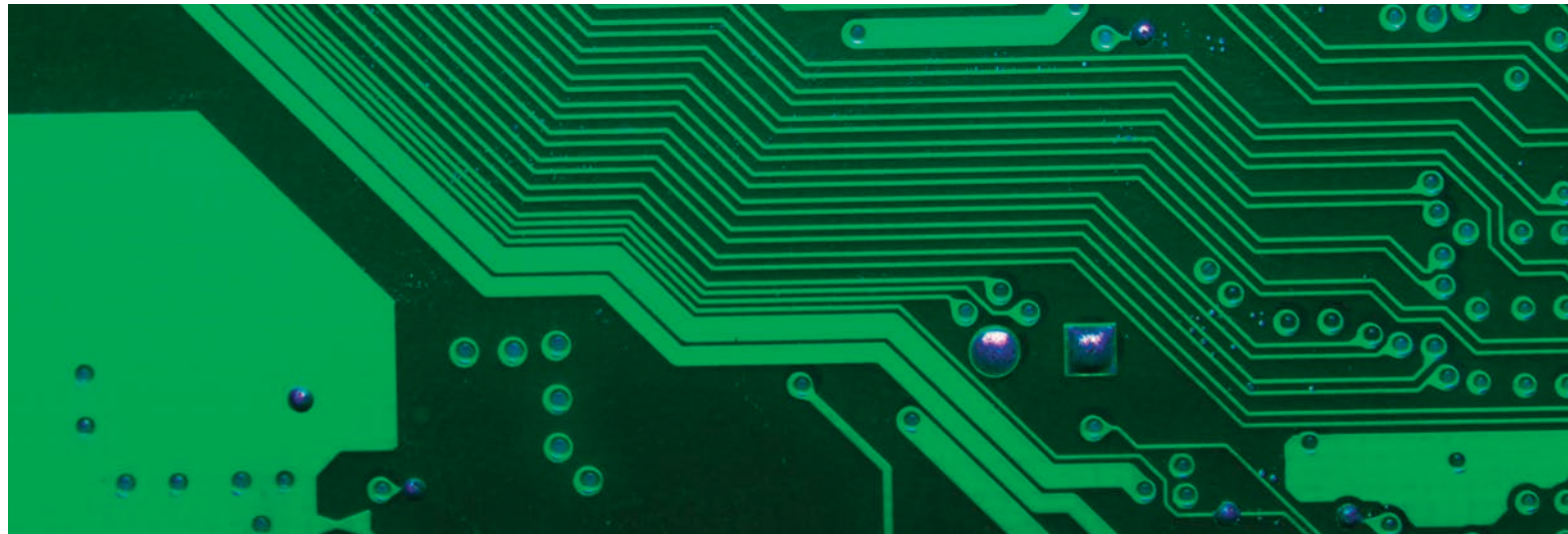
Key expertise domain of the employees–Physics, Quantum technology, Outreach & Industry Coordination.





MISSION STATEMENT

To accelerate the development of Semiconductor and electronics, Products/IPs from India by enabling semiconductor and ESDM startups and SME's.



Key Research Domains

- Semiconductor Design
- Electronic System Design and Manufacturing
- Semiconductors Products and IP development
- Advanced Semiconductor Skills Development

OBJECTIVE OF COES

To accelerate the development of Semiconductor and electronics, Products/IPs from India by enabling semiconductor and ESDM startups and SME's

NOTABLE EQUIPMENT OR FACILITIES

- EDA tools, FPGA, Other required tools.
- Connect to ecosystem partners for Testing, Foundry and ATMP access, EMS Partners.

ACTIVITIES

- Adaptable Microprocessor design – Morphing Machines
- World's first Posit IC – Calligo Technologies
- 7+ Patents, 100's of Innovations
- The premier fabless semiconductor accelerator in the country established in 2019
- Significant Ecosystem partnerships and Global Alliances
- Directly and indirectly impacted 90+ companies
- 43 Companies selected and Several in Pipeline
- Significant impact on the fabless semiconductor ecosystem with IPR filings and products developed
- Generating revenue through successful incubate investment exits (Lightspeed.ai), Workforce development initiatives, EDA tools pay-per-view, In Kind industry contributions.
- SFAL Companies selected for GoI C2S Scheme
- SFAL Companies selected for GoI DLI Scheme
- Successful workforce development initiatives
- Several states have approached SFAL to replicate the SFAL model in their states
- Recognized by govt. of Karnataka at BTS 2024
- Recipient of Skoch award
- Several SFAL companies have received Multiple rounds of VC investment.

NUMBER OF STARTUPS INCUBATED TO DATE

17 Incubated 51 Selected 100⁺ supported

Startup Valuations

(increased from last two years)

- Total value of Portfolio of startups exceeding **500 Cr.**

VC Fund Investments in Startups

- Lightspeed
- Morphing Machines
- Calligo Technologies
- Piersight

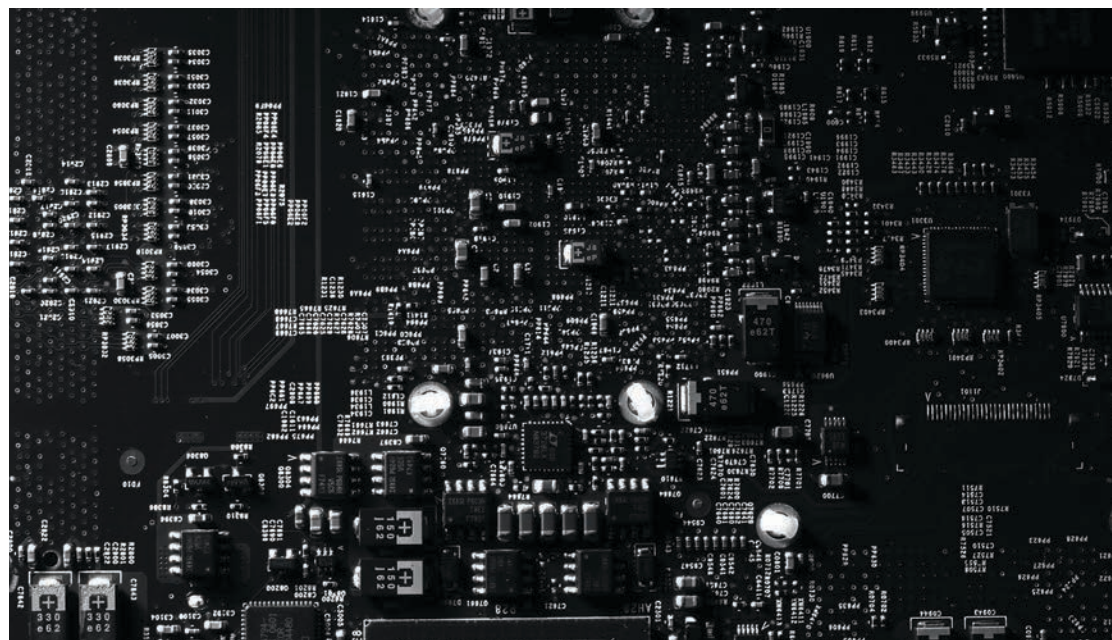
SUCCESS STORIES OF STARTUPS

Calligo Technologies

Embark on the remarkable journey of Calligo Technologies, a trailblazing fabless semiconductor startup based in Bengaluru, India. Since its inception in 2012, Calligo has been a driving force in the realms of High-Performance Computing (HPC), Big Data, and AI/ML, reshaping the global semiconductor landscape with cutting-edge innovations. Guided by a leadership team boasting over a century of collective experience in VLSI, systems design, and software engineering, Calligo has introduced revolutionary products such as CRISP-core and TUNGA Silicon. These advancements highlight their expertise in optimizing computing performance through innovative hardware solutions.

At the forefront of industry collaboration, Calligo was the inaugural partner of the Semiconductor Fabless Accelerator Lab (SFAL), leveraging state-of-the-art EDA tools and forging key partnerships with leading foundries like TSMC and GlobalFoundries. Supported by India's Design Linked Incentive (DLI) Scheme, administered by C-DAC through the ChipIN centre, Calligo has received crucial financial incentives and design infrastructure support, further enhancing its capabilities in semiconductor design and fabrication.

With investor interest on the rise, recognizing their potential to revolutionize HPC, AI, and Big Data sectors, Calligo Technologies is poised for its next phase of growth. As they continue to set new benchmarks in semiconductor innovation, Calligo exemplifies the successful synergy between government initiatives and industry leadership, paving the way for future advancements in computing technology.



ABCRL

Discover the inspiring journey of AB Circuits and Research Labs (ABCRL), a trailblazer in the automotive semiconductor industry. Founded in 2019 by Rajesh Jagasia and later joined by semiconductor expert Tushar K. Bhattacharyya, ABCRL has quickly become a leader in smart automotive electronics. Their flagship product, Tire Synapse®, is a groundbreaking tire monitoring ASIC with integrated Bluetooth®. This innovative chip offers advanced features such as tire wear prediction, road condition detection, load detection, wheel alignment measurement, and balancing assessment, setting new standards in vehicle safety and efficiency.

Supported by India's prestigious Chips to Startup (C2S) scheme, ABCRL has advanced its chip design capabilities, aligning with India's goal of becoming a silicon manufacturing nation. Despite initial funding challenges, ABCRL has attracted significant investor interest due to their cutting-edge technologies and proven track record.

With plans to tape out their first chip soon, ABCRL is poised for a major milestone. Incubated at SFAL and tested at the Center for Electric Vehicle and Intelligent Transport Systems (CEVITS) at IIT Indore, ABCRL is ready to meet the automotive industry's demands. Backed by strong government initiatives and industry partnerships, ABCRL is revolutionizing the automotive semiconductor landscape, contributing to India's emergence as a global leader in semiconductor design and manufacturing.

Morphing Machines

Founded in 2006 through the Technology Entrepreneurship initiative of the Indian Institute of Science (IISc) at Bangalore, Morphing Machines embarked on a mission to revolutionize the semiconductor industry. With a vision anchored in innovation, the company introduced its groundbreaking product, REDEFINE™—the world's first truly runtime reconfigurable many-core processor.

Securing \$2.76 million in seed funding led by Speciale Invest, Morphing Machines accelerated its growth, solidifying its position as a leader in high-performance, energy-efficient systems. The company's cutting-edge technology, incubated at the Semiconductor Fabless Accelerator Lab (SFAL) and supported by the Ministry of Electronics & Information Technology, continues to gain recognition and support.

Under the expert leadership of Deepak Shapeti and the pioneering efforts of Dr. Ranjani Narayan and Dr. S. K. Nandy, Morphing Machines is driving the future of telecom, AI-ML, healthcare, and high-performance computing. This success story is a testament to their dedication and groundbreaking innovations in the semiconductor sector.

ACHIEVEMENTS & SUCCESS STORIES

from COE perspective

- The premier fabless semiconductor accelerator in the country established in 2019
- Significant Ecosystem partnerships and Global Alliances
- Directly and indirectly impacted 90+ companies
- 43 Companies selected and Several in Pipeline
- Significant impact on the fabless semiconductor ecosystem with IPR filings and products developed
- Generating revenue through successful incubate investment exits (Lightspeed.ai), Workforce development initiatives, EDA tools pay per view, In Kind industry contributions.
- SFAL Companies selected for GoI C2S Scheme
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- Successful workforce development initiatives
- Several states have approached SFAL to replicate the SFAL model in their states
- Recognized by Government of Karnataka at BTS 2024
- Recipient of Skoch award
- Several SFAL companies have received multiple rounds of VC investment.

COLLABORATION & PARTNERSHIPS

Academic Partners
5 (Ganpat University, ESSI, etc.,)

Industry Partners
47 (Kaynes, Siemens, Aimtron, IMEC, etc.,)

Government/Non-Profit Partners
(Govt. of Karnataka, Govt. of Odisha etc.,)

STARTUP SHOWCASE

Startup Name	Business Solution (Product/Service) / Key Focus areas	Funding / Valuation Increase \$m	Any other accomplishment / achievements
Lightspeed	Silicon Photonics	Confidential	Exited SFAL
Morphing Machines	Adaptable Microprocessor	Confidential	Govt of India DLI recipient Govt. Of India C2S receipient Multiple VC rounds of Funding
Calligo Technologies	Worlds first POST I.C.	Confidential	Govt. of India DLI Recipient Worlds First Posit Based I.C. taped out Received funding from KITVEN Received Multiple rounds of VC Funding
Calligo Technologies	Tyre Health Monitoring ASIC	Confidential	Received Govt. of India C2S Funding
Piersight	Asynchronous Radar	Confidential	Working with NASA and ISRO

INVESTMENT IN INFRASTRUCTURE

Percentage of total allotted area available to incubates – **85%**

Value of high-end technology platforms available
Annually it is half a million \$(INR 4 Cr.)

Value of general lab infrastructure
Annually it is half a million \$(INR 4 Cr.)

Future investment plans in the infrastructure – NA

Built lab area available to start-ups – **3,804 Sq. Ft**

Number of conference rooms – **Shared**
Conference rooms in KEONICS

PROGRAMS AT THE COE

Number of programs currently active – **4+**

Number of investment programs – **1**

Exits from the past investments done – **1 Exit, 1 Partial Exit**

NETWORK

Current number of mentors available to incubators – **70+**

Number of domains from which the mentors belong – **10+**

Average years of experience of the mentors – **20+**

Number of collaborations with organisations – **50+ (Ecosystem Partners)**

Number of funds (VCs, etc.) or funding agencies connected with – **10+**

Number of industry connections – **50+(Partners)**

Number of physical events conducted by CoE – **6**

Number of virtual events conducted by CoE – **1**

START-UPS AND ITS METRICS

Number of start-ups supported till now – **100+ (beneficiaries)**

Number of investments – **5+**

Total quantum of investments made – **100+ Cr.**

Number of start-ups already in the market – **3+**

Number of patents filed by supported start-ups – **50+**

Total valuation of the start-ups – **600+ Cr.**

START-UP SCOUTING PIPELINE

Number of start-ups reached out to – **100+**

Number of institutes reached out to in last financial year – **2**

Domain expertise of the selection committee – IP/Product, Semiconductor, Image/Visual, Electronics, Investment& Business, Academics, Systems/Architecture, Network/Telecom, Memory/Storage, Design/Services, Automotive/EV, Outreach/GTM

Percentage of start-ups on-boarded from the total applications – **35% (Engaged)**

Metrics on which start-ups are selected – Strategic Vision/Value Proposition, Product/Technology/IP, GTM and Competitive strategy, Founding Team, Financial Plan, Exit Potential, Preparedness for SFAL incubation/acceleration with project plans/timelines

OTHER METRICS

Governance structure of the CoE:

Governing Council – SFAL CEO – SFAL team

Diversity in the revenue model of the CoE – Pay and Use revenue, Revenue from Equity exits, Revenue from Work Force Development programs, Advisory services Revenue

Cumulative experience of the employees at CoE – **50+ years + (60 + of consultants)**

Key expertise domain of the employees – Semiconducors, Electronics, IT, Strategy, Management, Business, Startups



MISSION STATEMENT

To foster cutting-edge, innovative market-ready solutions based on deep-tech communications and AI technologies that will have societal scale impact. Network technologies such as 5G play a critical role in the development of deep-tech and AI-based innovations, which require advanced communication technologies capable of faster, seamless exchanges of data.

The centre promotes innovations based on AI, ML and NextGen Communication technologies leading to development of novel and effective solutions across various verticals like (and not restricted to) manufacturing, mining, logistics, retail, agriculture and health.

On one hand, the centre collaborates with research institutions and academia with access to advanced technologies, and on the other hand with innovators and startups to develop the solutions. Constant collaborations with the industry and industry associations ensure the solutions address the needs of the market and of the society.



ACTIVITIES

Initiatives

- Technology Demonstration: 5G Enabled Multi-Drone Innovation Cluster
- Technology Demonstration: 5G Enabled Semantic Digital Twin
 - Modelling of RGB-D and LIDAR based SLAM algorithms
 - Gaussian Splatting based representations
 - LIDAR based map support for robot navigation

2 Startups Incubated to Date

OBJECTIVE OF CoES

Foster Innovation through research and innovation projects:

Research projects undertake cutting edge research in developing new concepts/ideas/knowledge, resulting in one or more white papers, tech reports, peer reviewed publications, and patents.

Innovation projects focus on creating technologies with the aim of translation. They look to either license the technology out, create a startup, or release it open source. The center supports innovation projects and programs around 5G by providing (a) platform for test and demonstration, (b) expertise through interaction with research and industry bodies, and (c) collaboration opportunity with industries.

Beneficiaries: Startups, SMEs, Individuals, Research and Academic Institutions

Contributors: Industries developing technology and solutions for 5G, Research Institutions, Industries intending to deploy 5G use cases in the market

Platform Creation (5G Test and Use Cases Lab)

An environment or setup to test and demonstrate technology innovations and application use cases around 5G.

Beneficiaries: Startups, SMEs, Industries, Research and Academic Institutions, Technology Users

Contributors: Industries developing technology and solutions for 5G

Skilling Program

To train the workforce with 5G and advanced communication technologies towards making them industry ready.

Beneficiaries: Individuals, Startups, SMEs, Industries, Research and Academic Institutions

Contributors: SMEs, Industries, Industry Associations

SUCCESS STORIES OF STARTUPS

- Startup **AlgoBotix** is winner of GoK's ELEVATE 2024 program for startups.
- Startup Vistaarnksh (**Velastra**) is one of the 51 participants shortlisted at the national level for DoT's 5G Innovation Hackathon 2025.



KEY RESEARCH DOMAINS

Institution	Primary Investigator	Sponsored University Research Projects (FY24-25)
IIIT-Dharwad	Animesh Roy	Data Dissemination and Resource Optimization in Post-Disaster Scenarios using Hybrid 5G-Mobile Ad hoc Networks (5G-MANETs)
IIIT-Dharwad	Aswath Babu H	Simulating the Robust Quantum-Secure Internet for a Quantum Connected World
IIIT-Dharwad	Prakash Pawar	Smart Crop Management System Enabled by 5G Drone Surveillance and Digital Twin Technology for Enhanced Precision Agriculture
IISc	Anurag Kumar	COCO-WiNETs: Control Of and Control Over Wireless NET works for Industrial Cyber-Physical Systems
MIT-Bangalore	Harini G S	Capacity Maximization and Energy Minimization of RIS-assisted UAV-enabled NOMA Wireless Networks
IISc	Varun Raghunathan	Building Integrated Photonic Transceiver for Indoor Li-Fi Communication
RVCE	H R Aneesh Tejas	Automated E-waste Segregation and Treatment with AI and Robotics

ACHIEVEMENTS (RESEARCH PAPERS TILL DATE):

Institution	Primary Investigator	Sponsored University Research Projects (FY24-25)	Outcome
IIIT-Dharwad	Animesh Roy	Data Dissemination and Resource Optimization in Post-Disaster Scenarios using Hybrid 5G-Mobile Ad hoc Networks (5G-MANETs)	Paper submitted to VTC '25
IIIT-Dharwad	Aswath Babu H	Simulating the Robust Quantum-Secure Internet for a Quantum Connected World	Paper submitted to RASSE '25
MIT-Bangalore	Harini G S	Capacity Maximization and Energy Minimization of RIS-assisted UAV-enabled NOMA Wireless Networks	Paper submitted to IEEE Access

STARTUP SHOWCASE

Startup Name	Business Solution (Product/Service) / Key Focus areas	Funding/ Valuation Increase	Any other accomplishments/ achievements
AlgoBotix	Software Solutions for Autonomous Systems	-	Winner of GoK's ELEVATE 2024 program for startups.
Velastra	NB IoT Gateways	-	One of the 51 participants shortlisted at the national level for DoT's 5G Innovation Hackathon 2025.

ACHIEVEMENTS & **SUCCESS STORIES**

from COE perspective

- 5G Use Case Lab and Test Lab that have been set up in CoE WWT are not only aiding internal technology demonstrations but also external users – startups, SMEs and researchers. It is also helping in skilling activities by providing hands-on experience to participants. .
- The concept of innovation and research clusters is bringing together startups, industry and academic institutions with complementary skills and solutions to achieve a common goal.
- More than 300 individuals have been trained in the area of 5G and communication technologies during the first year of operation.
- Received invitation to participate in Qualcomm University Platforms Developer Conference to present the work done in CoE WWT in collaboration with Qualcomm (16 May '25)
[\[Video Link\]](#)

COLLABORATION & **PARTNERSHIPS**

Academic Partners

- IISc, IIIT-Dharwad, Manipal Institute of Technology - Bangalore, RVCE
- In discussions: KLE Technological University - Hubballi, Atria University - Bangalore, RNSIT - Bangalore

Industry Partners

- Qualcomm, Nokia, Signaltron, Niral Networks, Resonous Technologies
- In discussions: Intel, Lekha Wireless, Tejas Networks, Airtel

Government/Non-Profit Partners

- DoT, GSMA, IOS-MCN
- In discussions: ELCIA, BSNL

DETAILS OF **EVENTS** **CONDUCTED AND** **PARTICIPATED**

Workshop on 5G Landscape (17-18 Sep '24)

Tutorials on 5G Essentials (26-Feb to 14-Mar '25)

Lab Partner for DOT's 5G / 6G Hackathon (26-27 Sep '24)

WWT CoE 'Open House' for Startups (11 Dec '24)

Participation in IMC '24

Participation in Bangalore Tech Summit '24

Participation in Nokia Bangalore Innovation Days (28-30 Nov '24)

Participation in COMSNETS (6-10 Jan '25)

ARTtalk on 'Key Technologies in 5G and 6G wireless networks' (4 Apr '25)

5G Workshop at IIIT-Dharwad (16-18 Jul '25)





INVESTMENT IN INFRASTRUCTURE

~**3 Cr** value of high-end technology platforms available

~**3.5 Cr** value of general lab infrastructure

~**2.25 Cr** (over next 4 years) future investment plans in the infrastructure

Built lab area available to start-ups – Same as ARTgarage facility

Number of conference rooms – Same as ARTPARK facility

NETWORK

14 collaborations
with organizations

6 industry connections

4 physical events conducted

4 virtual events conducted





ಬೆಂಗಳೂರು ಜೈವಿಕನಾವೀನ್ಯತೆ ಕೇಂದ್ರ

BANGALORE
BIOINNOVATION
CENTRE

Sculpting the Future of Bioinnovation
(A Government of Karnataka Undertaking)

DR MOHAMED ADILA.A

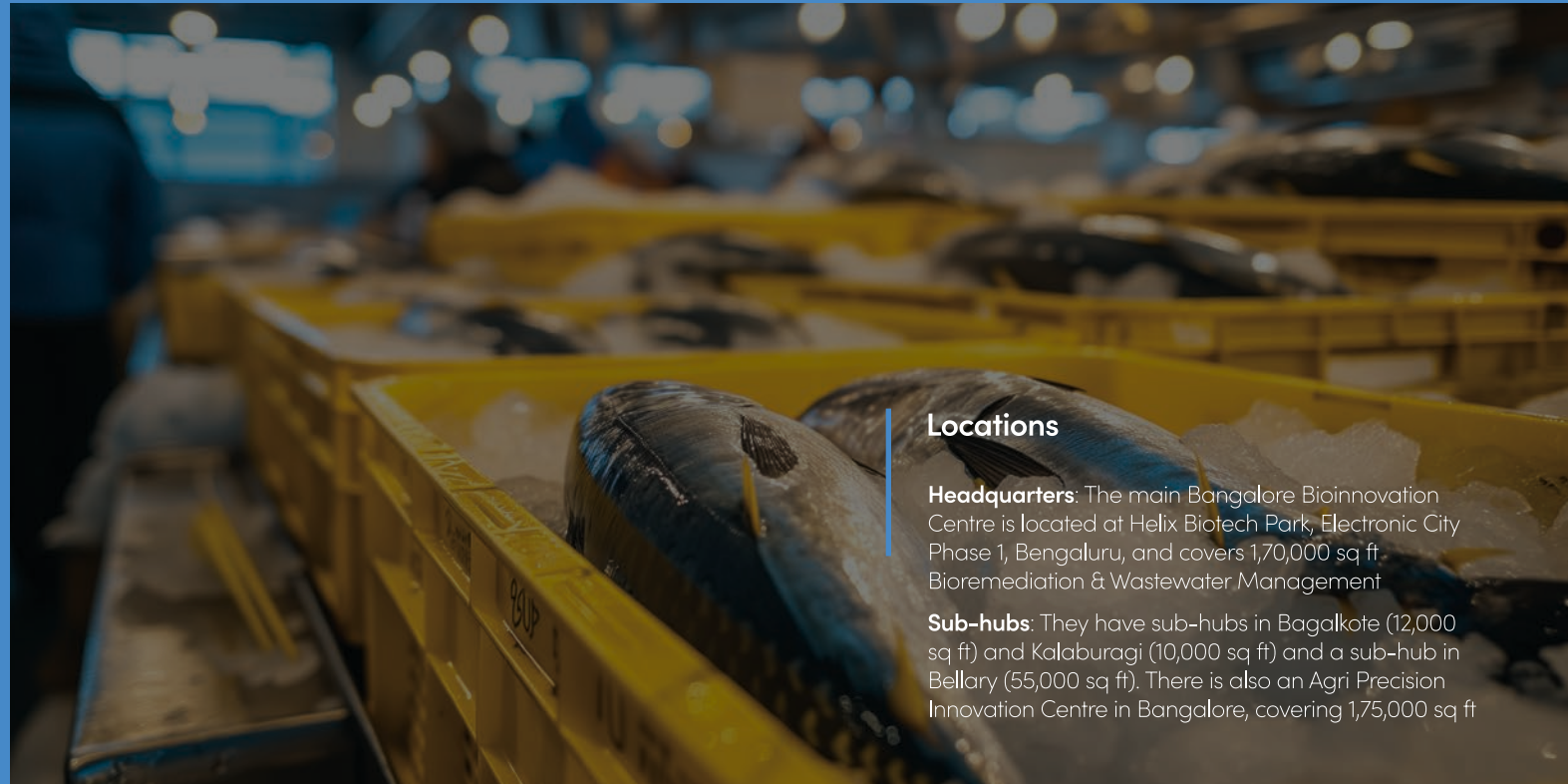
MANAGING DIRECTOR

THE BANGALORE BIOINNOVATION CENTRE

(BBC)

MISSION STATEMENT

To create a robust ecosystem that accelerates the growth of Karnataka's biotechnology and life sciences sector by fostering deep science innovation and startups, promoting advanced life sciences manufacturing, encouraging global capability centers, enabling talents and technical skill development across Karnataka.



Locations

Headquarters: The main Bangalore Bioinnovation Centre is located at Helix Biotech Park, Electronic City Phase 1, Bengaluru, and covers 1,70,000 sq ft. Bioremediation & Wastewater Management

Sub-hubs: They have sub-hubs in Bagalkote (12,000 sq ft) and Kalaburagi (10,000 sq ft) and a sub-hub in Bellary (55,000 sq ft). There is also an Agri Precision Innovation Centre in Bangalore, covering 1,75,000 sq ft

OBJECTIVES AND PROGRAMS

The BBC facilitates advanced research for innovators and researchers. It also offers collaboration and connects with industry-centric research translation programs for academia. Other programs include:

Supporting Global Capability Centers (GCC) with pain points.

Nurturing innovative solutions.

Industry-centric support for start-ups.

Entrepreneurial programs for innovators and start-ups.

Technology skill development and entrepreneurship training for the general public.



KEY IMPACT NUMBERS INCLUDE

486+ startups have been incubated.

75 startups have graduated.

45+ products have been launched.

6,000+ jobs have been created.

>200 events have been conducted.

\$9.63 million in investments facilitated by BBC

71 IPR & Patents.

30 awards received.

100+ industrial delegations and **85** international ministerial delegations hosted.

2,300+ international visitors and **5,000+** Indian visitors welcomed by the center.

\$2 billion+ valuation of startups.

INFRASTRUCTURE & FACILITIES

Plug and play incubation suites.

Workstations.

Laboratories including digital and automation labs, open labs, and green labs.

Instrumentation facility.

Makers space and fab labs.

BSL1 & 2 facilities and CDSCO BSL2.

GMP facility and clean rooms.

Scale-up fermentation facility.

Other facilities include: Central Research Facilities, Analytical Facility, Fermentation Facility, Drosophila & Animal Facility, High End Imaging Facility, Biobank Facility, Sequencing Facility, Flowcytometry & High Throughput Screening, Biopharma Facility, Microfluidics & Microfabrication Facility, Bioelectronics Manufacturing Facility, Bio-UAV & Drone Facility, AR VR Simulation Facility, and Quantum in Lifesciences.

THRUST AREAS

AGRICULTURE & AGRITECH

The focus is on agricultural biotechnology, fodder & forage, precision agriculture, digital agriculture, and sustainable agriculture.

FOOD & NUTRITION

This includes food technology & processing, dairy technology

HEALTHCARE

The BBC works on medical biotechnology

INDUSTRIAL BIOTECHNOLOGY

Areas of focus include integrated veterinary medicine, enzyme technology, FMCG production, bio-processing, pharmaceutical biotechnology, digital tech/automation/instrumentation, bio-economics, and the production of flavors, perfumes, dyes, and bio-textiles

BIOPHARMA

This area includes biologics and advanced therapy facilities.

CLIMATE TECH & SUSTAINABILITY

The focus is on clean tech, biomass production, and bioenzymes

ENVIRONMENTAL BIOTECHNOLOGY

The BBC focuses on blue economy, marine technology, bio-fuel, biosensors, bio-augmentation, and bio-remediation

BLUE ECONOMY

The BBC focuses on marine and freshwater product processing

MEDTECH, BIO IT, BIOELECTRONICS, & SAAS

The BBC works in the areas of Bio-IT, bioelectronics, bioinformatics, bio-UAV & drone facilities, microfluidics & microfabrication, Medtech facilities, Bio-AI & SaaS, ML & Robotics, AR VR simulation, and quantum in life sciences



COE SENSOR AI

ELCIA



MISSION STATEMENT

The ELCIA intends to leverage the opportunity to enhance the domestic sensor manufacturing ecosystem by positioning Bengaluru as India's premier hub for sensor technology. It also aims to establish a vibrant sensor ecosystem for start-ups, develop a skilled workforce, and promote R&D and the creation of intellectual property.

The E-CoE is centered on AI-powered accelerated productization of sensors, specifically focusing on developing "Lab ready" sensors (TRL 4) to "Market Ready" sensors (TRL 8). It also aims to create a "Sensor GPT" in India, which is a unique, sensor-centric high-computing engine that uses algorithms and ML integration for precision modeling and predictive intelligence.

- To establish India as a global sensor productizing hub powered by the Artificial Intelligence (AI) Engine leveraging the current national R&D sensor assets.
- To facilitate accelerated product development of the "Lab ready" sensors (TL4) to "Market Ready sensors (TL8).
- To enable the indigenous sensor development and the creation of Sensor GPT in India leading to enhanced Self Reliance.

ELCIA – CENTRE OF EXCELLENCE (E-COE) FOR SENSORS

COE NAME

2025

YEAR OF ESTABLISHMENT

THE ELCIA COE FOCUSES ON SENSORS AND AI-POWERED ACCELERATED PRODUCTIZATION.

CORE FOCUS AREAS

ACTIVITIES

- ELCIA is working to set-up CoE for sensors in Electronics City, Bengaluru
- The E-CoE aims to position India as a global hub for sensor productization, driven by an "Artificial Intelligence (AI) engine" that leverages existing R&D sensor assets from CMTI, CSIR-CSIO, IISc amongst others. This initiative aims to accelerate the transition of "Lab-ready" sensors (Technology Readiness Level (TRL) – 4) to "Market-ready" sensors (Technology Readiness Level (TRL)– 8), ensuring faster commercialization. Additionally, it seeks to promote indigenous sensor development and the creation of "Sensor Knowledge" in India, fostering greater self-reliance in advanced sensor technologies.
- While this is a project done in collaboration with ELCINA and IESA Industry associations as co-promoters, ELCIA is a lead promotor. We have signed MoU with CMTI, IISc, CSIR for sensors technologies.
- Govt Of Karnataka (IT, BT Ministry) had agreed to participate, financially. We have submitted DPR to MeitY (Ministry of Electronics and Information Technology) are expecting Govt of India approval soon.
- This is a great opportunity to get value added co-created sensors products at the ELCIA CoE. This will enhance product innovation at Lower cost.
- Total investment is projected at ₹99 Cr, comprising a CAPEX of ₹66 Cr and OPEX (Working Capital) for first three years, estimated at ₹33 Cr.
- GoK is keen to commit Rs 20 crore towards the establishment of the CoE sensors

MEDTECH



ACTIVITIES

- Key Research Domains: Medical electronics, Imaging technologies, Diagnostic devices, Surgical tools, Wearables, Assistive devices
- Objective of COEs: To support Bengaluru's thriving MedTech and biotechnology ecosystem, the Centre of Excellence aims to enhance regional competitiveness by providing end-to-end support for startups and enterprises—from product ideation to prototyping, low-volume manufacturing, and incubation. It will facilitate innovation, improve access to technology, foster skill development, and offer advocacy support to high-growth startups and MSMEs. The CoE also seeks to strengthen ecosystem linkages between emerging innovators and established manufacturing units, driving sustainable growth in the sector.

COE MEDTECH AND HEALTH-TECH

(ESTABLISHED AT KARNATAKA INSTITUTE OF ENDOCRINOLOGY RESEARCH, BENGALURU)

COE NAME

2024

YEAR OF ESTABLISHMENT

MEDICAL DEVICE, PHARMACEUTICAL, AND BIOTECHNOLOGY

CORE FOCUS AREAS

MISSION STATEMENT

To accelerate the development of Semiconductor and electronics, Products/IPs from India by enabling semiconductor and ESDM startups and SME's.

- Notable Equipment or Facilities: (Proposed)
 - Innovation & Design Services: Support in concept creation, POC, product design, patenting, lean manufacturing, MedTech guidelines, and cost engineering consultancy.
 - Prototyping, Testing & Calibration: Advanced Manufacturing lab with BSL-2/BSL-3 facilities for prototyping and low-volume production. End-to-end testing and calibration for medical devices.
 - Manufacturing Incubation Centre: Shell infrastructure, business support facilities, and equipment available on rent for startups and MSMEs.
 - Training & Skill Development: Industry-aligned workshops, seminars, and customized training programs to build a future-ready MedTech workforce.

INNOVERSE

INNOVERSE is envisioned as the first of its kind deep-tech incubation and innovation centre which will focus on cutting edge deep-tech research and development activities to address future challenges globally.

This pioneering innovation centre dedicated to deep tech and emerging technologies shall be situated in NGEF at Byappanahalli, Bengaluru. The centre will have in-house global deep-tech startups, deep-tech focused global academia and research organizations, corporate with deep-tech operations, country landing pads and venture capitalist ecosystem under one roof.



- The broader vision of INNOVERSE is to integrate industry, academia, startups, and government stakeholders to create a synergy that accelerates the adoption of emerging technologies, creating solutions with deep rooted social cause at the centre.
- INNOVERSE is conceived as a multi-phased initiative, strategically designed to catalyze innovation across various sectors and instigate progress even before the full-fledged campus becomes operational. Phase one will focus on cutting edge research and development in areas such climate tech, space tech, and quantum with AI as underlying technology.
- In following phases, INNOVERSE shall expand its capabilities into additional emerging technologies.
- To ensure equitable access and regional innovation, the centre will also establish a hub-and-spoke model across Karnataka, with virtual or hybrid extensions in Mysuru, Hubballi-Dharwad, and Mangaluru—bringing deep-tech incubation closer to talent pools Beyond Bengaluru.
- INNOVERSE aims to shape scalable solution, nurture talent and innovation across Karnataka and beyond through joint R&D, infrastructure support, mentorship, and market access.
- INNOVERSE shall foster strategic partnerships across industry, academia, startups, and government, INNOVERSE aims to create a synergistic ecosystem that accelerates the development and adoption of emerging technologies. This integrated approach will not only fast-track commercialization of cutting-edge research but also ensure that innovations are anchored in social good, addressing global challenges.

CATS

THE CENTER FOR APPLIED AI AND TECHNOLOGY SOLUTIONS

The Center for Applied AI and Technology Solutions (CATS) is envisioned as a forward-looking national platform that will drive the accelerated adoption of emerging technologies such as Artificial Intelligence (AI), Internet of Things (IoT), Augmented/Virtual Reality (AR/VR), and Blockchain across India's public and private sectors.

While it will also develop focused capabilities in areas like manufacturing, healthcare, and lifesciences, CATS is primarily designed to enable innovation across a wide spectrum of applications. A key pillar of its approach will be to actively leverage India's vibrant startup ecosystem's innovation potential: identifying, nurturing, and scaling breakthrough solutions that address real-world challenges.

Closely aligned with the goals of the India AI Mission, CATS will support the transformation of core sectors through AI, promote the growth of indigenous technologies, and strengthen India's global leadership in frontier tech. By fostering solution co-creation, IP generation, and a steady pipeline of high-impact use cases, CATS will serve as a bridge between research, startups, enterprises, and government – laying the foundation for a future where technology fuels inclusive, sustainable, and competitive growth.

SPACETECH

COE - SPACETECH

COE NAME

2025

YEAR OF ESTABLISHMENT

SPACETECH

CORE FOCUS AREAS



MISSION STATEMENT

The SpaceTech Centre of Excellence (CoE) is envisioned as a cutting-edge hub dedicated to accelerating innovation, R&D, and entrepreneurship in the aerospace and satellite technology sectors. By facilitating close collaboration between academia, industry, and government, the CoE is positioned to nurture a new wave of talent and deep-tech startups, thereby advancing India's capabilities in the global space economy.