

# COBONEWS

VOL. V, NO. 2, July 2025 Edition



विज्ञान और प्रौद्योगिकी विभाग  
Department of  
SCIENCE & TECHNOLOGY



NM-ICPS



IHFC

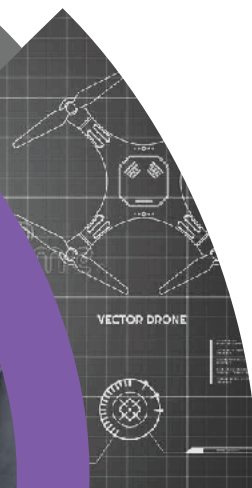


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DEFENCE

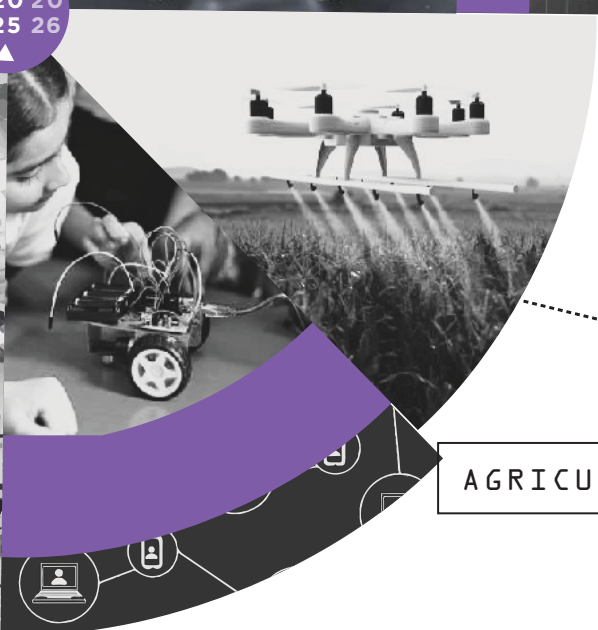


INDUSTRY X.0

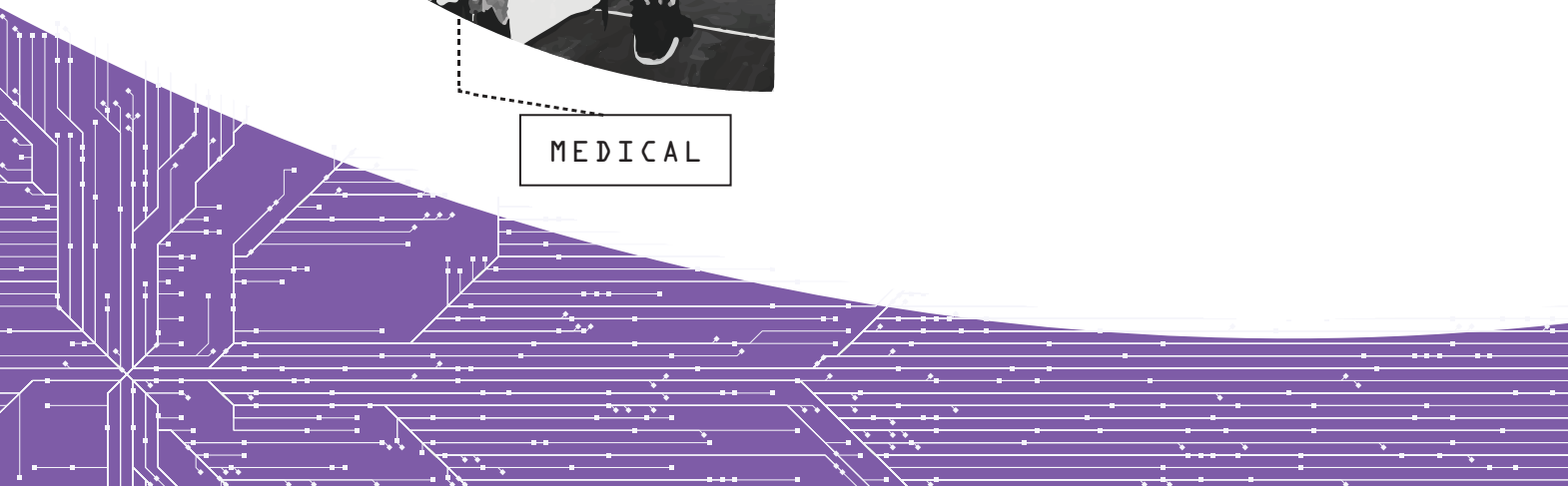


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AGRICULTURE



MEDICAL





**Prof. Rangan Banerjee**  
Director, IIT Delhi

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Greetings from IHFC. I am delighted to be writing this note celebrating five years of our journey in enabling cobotics in India. Our efforts in creating an innovation ecosystem where humans and robots work together to solve real world challenges are seeing the emergence of research groups and startups in drones, medical cobotics and resulting in impact on the ground.

We have established partnerships with our co-innovation centres and are supporting the dreams of young innovators across the country. As we move to the next phase of our journey we need to strengthen our linkages with researchers, academia, industry and government to see that we solve relevant problems and create cost effective sustainable solutions that have mass uptake.

We invite you to partner with us to make India a global leader in cobotics.

”



**Dr. Ekta Kapoor**  
Director,  
NM-ICPS, DST,  
Govt. of India

“

It's popularly said, that time goes fast when you love what you are doing and having fun and it's already been almost **5 years** to the launch of our NMICPS mission and what a fabulous journey has it been.

When we kickstarted this mission the passion and energy was felt within all the hubs. The determination to make India truly Aatmnirbhar was the vision of all and I can proudly say it reflects in their success today with all their targets achieved. The Hubs success is the Mission success by itself with the focus areas to achieve success in being Technology Development, Entrepreneurship Development, Skill Development and International Collaborations and associations which has been greatly accelerated in last few months.

Today our mission is impacting young minds starting from school children to work in the area of Cyber Physical Systems through various programs launched by IHFC particularly such as Delhi Robotics League, Delhi Hackathon, Engineering Design for Green Technology, United Nations Robotics for Good Youth Challenge, India, Emerging Technologies for Environment program with the Punjab State Council for Science and Technology, MoE, forward and climate change, Govt of India, and more such programs for school children. IHFC's Teacher Training Program to about 80+ teachers in Robotics and AI for CISCE has also been implemented to set the ball rolling.

It's remarkable to see such vision and action from the Hubs and it's indeed a promising indication to the success of the mission.

Thanks

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As IHFC completes five years, I take immense pride in what we've built together. The journey so far has been inspiring, fulfilling, and one of constant growth. With 38 startups incubated and over 40 R&D projects supported, IHFC is steadily advancing towards becoming a national leader in collaborative robotics.

At its core, IHFC was created to bridge the gap between research and real-world application and we're proud to see that vision take shape. One of our startups has received recognition from the Hon'ble Prime Minister of India, while others are making breakthroughs in deep-tech innovation

We've forged new global collaborations with the National Association of Entrepreneurship, Embassy of Vietnam and Odense Robotics, Denmark strengthening our international network and innovation pipeline.

As we move forward, our mission remains clear: to build an enabling ecosystem that supports cost-effective, impactful robotics solutions for India and the world. We believe that technology must serve people and at IHFC, that belief drives everything we do.

Let's keep building, innovating, and leading—the IHFC way.

”



**Prof. Subir Kumar Saha**

Project Director, IHFC  
Professor, Dept. of  
Mechanical  
Engineering, IIT Delhi

“

As we celebrate IHFC's five-year journey, I take immense pride in the thriving ecosystem we've built home to nearly 40 startups and 25 early-stage entrepreneurs, some already successful and others showing great promise. We are currently running over 40 translational R&D projects across 25 premier institutes, reflecting our deep commitment to innovation that impacts lives.

Over the years, we have developed robust processes to onboard and nurture high-quality researchers and innovators, fueling the future of deep tech in India. Our 10 Co-Innovation Centres, established in collaboration with forward-looking institutions across the country, are designed to be hubs of co-creation and impact.

IHFC is also working closely with state governments and central education boards to bring this vision to the secondary and senior secondary school level, igniting curiosity and building capability in young minds. These students, we believe, will be the ones to drive the vision of Viksit Bharat 2047.

We remain committed to our mission of empowering India through innovation, collaboration, and human-centric technology.

– Ashutosh Dutt Sharma  
CEO, IHFC

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**Ashutosh Dutt Sharma**

Chief Executive  
Officer, IHFC, IIT  
Delhi



## ABOUT IHFC

IHFC was established by the Department of Science and Technology (DST), Ministry of Science and Technology, Govt. of India under National Mission on Interdisciplinary Cyber Physical Systems (NM-ICPS) as a Section 8 company. IHFC brings together 3 major pillars of success from Academia, Government and Industry. It has four mandates under its application areas. The mandates are R&D, Entrepreneurship and Start-ups, Education and Research Upskilling and International Collaborations.

IHFC is dedicated to advancing collaborative robotics and deep tech innovation. It operates across four key application areas: Medical & Healthcare, Agriculture, Industry X.0 and Defense developing cutting-edge solutions such as tele-operated surgical systems, wearable exoskeletons, bionic prosthetic arms, etc. Through its research, education, and entrepreneurship programs, IHFC fosters a synergistic ecosystem that bridges academia, industry, and startups to drive impactful technological transformation.

### Startups incubated & accelerated



80L Robotics



Alphoenix



Arka Aerospace



Articulus



Aviate



Aduyog



Botlab Dynamics



Bwise



Cyran Solutions



Jet Aerospace



DTE 4 Calamity & Humanity Pvt. Ltd



Enord



Exobot



Femacare



Gravitaz



IVF Precisions



Intelligent Marine Mobility



Kaidoko



Kelvin 6K



Kineshia



Lightray



Mirasim



Meiyur Technologies



Mountford



Nawe Robotics



Novae Avenue



Pixuate



Rancho Labs



SeiAnmai Technologies



Systemantics



Simhatel



The Innovation Story



Thumbikkai



Trouve



TSAW Drones



Xterra Robotics

### Grand Projects

- Rehabilitation Robotics
- Human-Robot Interaction
- Healthcare Robotics
- Industry 4.0 & Beyond
- Intelligent Sensing & Secure Communication
- Drone Applications
- Nanorobotics
- Agribotics
- Assistive Robotics

### READY Program



The READY program is a **Six month Pre-Seed Incubation Program** for Final Year Graduates with Hi-Potential Ideas in Cobotics, Artificial Intelligence, Drones, Autonomous Systems and Allied Areas. Students ideate, build and prototype their products which are viable for commercialisation and market entry. Since its inception, 28 students have been enrolled in this program

## OUR CO-INNOVATION CENTRES

### CO-INNOVATION CENTRE

Nurturing Excellence in Deep Tech

IHFC has partnered with leading institutes across India to establish 10 Co-Innovation Centres (CiCs) that drive deep-tech innovation and entrepreneurship. Focused on areas like AI, robotics, and IoT, CiCs support students and startups with incubation, funding, and training.

Aligned with Viksit Bharat and Aatmanirbhar Bharat, the initiative promotes research translation and product development, creating a self-reliant tech ecosystem that empowers youth to innovate and compete globally.



Karunya Institute of Technology and Science, Tamil Nadu



B.S. Abdur Rahman Crescent Institute of Science and Technology, Tamil Nadu



Indian Institute of Engineering Science & Technology (IEST), Kolkata



Indraprastha Institute of Information Technology, Delhi



Indian Institute of Technology, Gandhinagar



Delhi Technological University, Delhi



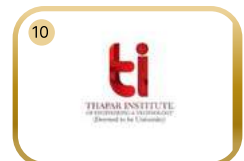
People's Education Society University, Karnataka



Nitte Meenakshi Institute of Technology, Karnataka



SRM Institute of Science and Technology, Tamil Nadu



Thapar Institute of Engineering and Technology, Punjab

## GLIMPSES OF CIC INAUGURATIONS



## OUR KEY PARTNERSHIPS

### Odense Robotics, Denmark

IHFC and Odense Robotics, Denmark, are set to collaborate on research and development, startup initiatives, and student exchange programs. This partnership fosters technological exchange between India and Denmark, driving deeptech innovation through joint efforts to promote collaboration and knowledge sharing in emerging deep-tech technologies.



### National Association Of Entrepreneurship, Vietnam

IHFC and Vietnam's National Association of Entrepreneurship signed an MoU to foster entrepreneurship in youth, strengthen the startup ecosystem, and expand innovation centres across Vietnam. The collaboration aims to provide comprehensive support to startups, encouraging innovation, collaboration, and transformative growth.

### Wadhwani Foundation

IHFC collaborated with the Wadhwani Group to launch the Wadhwani Liftoff Propel Program, a zero-cost, zero-equity initiative that supports Deeptech, AI, and Robotics startups with investor access, mentorship, startup credits, and scaling support.



### Larsen & Toubro (L&T) Infra Ltd, Mumbai

IHFC has facilitated a key industrial collaboration between Jet Aerospace (an IHFC-incubated startup) and Larsen & Toubro (L&T) through an MoU to co-develop and deploy an Autonomous Paint-Spraying Drone for high-wall and pillar applications — a major step in advancing industrial automation.

### Shree Guru Gobind Singh Tricentenary University

IHFC has partnered with Shree Guru Gobind Singh Tricentenary University to drive MedTech innovation in India. The collaboration launched with a call for proposals in medical robotics and healthcare AI, offering funding support of up to ₹25 lakhs for breakthrough solutions.





## INTERNATIONAL ENGAGEMENT



### Delegation Visit- Odense Robotics

IHFC recently hosted a delegation from Odense Robotics (Denmark) as a part of GINP building robotics network launch phase 1 to explore opportunities for joint innovation in the field of robotics and cobotics exploring areas of MedTech, Agritech, Drones and Industry X.O. This visit marked the beginning of our association, aimed at fostering cross-border collaboration in deep-tech and applied research.

The delegation visited IHFC's core innovation facilities, including the Medical Robotics Centre (MCC), and Co-Innovation Centres (CiCs). They engaged with IHFC-supported startups, researchers, partners and VCs. The visit set the stage for potential joint projects, student exchange programs, and deeper engagement in shaping the future of collaborative robotics in India and Denmark.

## IHFC IN MEDIA



IHFC's CEO, Mr. Ashutosh Dutt Sharma was specially selected by the U.S. Department of State to participate in the prestigious International Visitor Leadership Program (IVLP) on "Workforce Development for Critical and Emerging Technologies in the Quad."

His insights and contributions, learnings and takeaways have been featured in SPAN Magazine—the official online newsletter of the U.S. Embassy in India.

IHFC and Vietnam's National Association of Entrepreneurship signed an MoU to foster youth entrepreneurship, strengthen the startup ecosystem, and expand innovation centres across Vietnam. This was spotlighted on ET Now Swadesh.

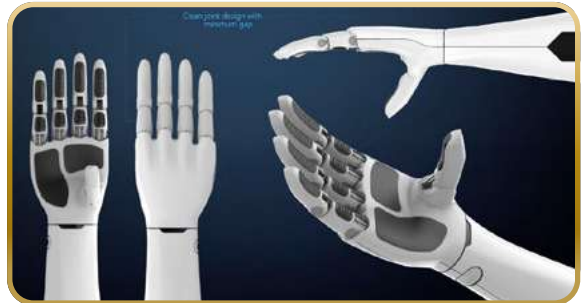


## OUR CSR DRIVEN PROJECTS



### Drone Technology Training with IRCON

IHFC partnered with IRCON, a Government of India undertaking, to offer a CSR-backed training program in Drone Technology for underprivileged youth. By February 2025, 50 students were trained for roles like Drone Technicians, Engineers, and Quality Control Specialists. The program combined technical knowledge with hands-on training.



### Grand Project on Affordable AI-driven Bionic Hand

IHFC started off the GP 2.0 Affordable AI-driven Bionic Hand project under the domain of Assistive Robotics with four PIs from Tezpur University, IIT Jodhpur, Karunya Institute of Technology, and IIT Delhi. They aim to develop a smart prosthetic hand that uses AI to interpret muscle signals and adapt in real time, offering intuitive control, enhanced mobility, and improved quality of life for individuals with upper limb amputations.

## IHFC'S INNOVATION SHOWCASE



### IHFC at TIPS 6.0

IHFC actively participated in TIPS 6.0 organized by DST, Govt and hosted by IIT DRISHTI CPS FOUNDATION presenting cutting-edge technologies and facilities. IHFC's incubated Startups Arka Aerospace and Ayudyog pitched to top VCs, seizing opportunities to scale impact and innovation.



### IHFC at Pravasi Bharatiya Divas, Bhubaneswar

IHFC's incubated startup Ayudyog presented their AI and spectroscopy-based technology for quality control in the 18th Pravasi Bharatiya Divas in Bhubaneswar. The event was attended by distinguished guests, including India's External Affairs Minister Dr. S. Jaishankar, Minister of Labour and Employment and Youth Affairs and Sports Shri Mansukh Mandaviya, and Odisha's Chief Minister Shri Mohan Charan Majhi.



## EVENT HIGHLIGHTS



### IHFC AT TRYST 2025

As the innovation partner for IIT Delhi's annual tech fest Tryst, IHFC organized a panel on Robotics, AI, and Cobotics, fostering innovation, industry-academia collaboration, and startup investment insights.



### AI DAY FOR STARTUPS

IHFC hosted "AI Day for Startups – Delhi" with Google for Startups to equip early-stage startups with tools and insights on Generative AI, AI Agents, Multimodal AI, and AI commercialization.



### LAB TO MARKET WORKSHOP

IHFC hosted a Lab to Market Workshop at IIT Delhi Sonipat, guiding researchers, startups, and students on translating innovation and market-ready products and promoting indigenous tech development.



### WORKSHOP ON INNOVATION IN MEDICAL DEVICES

IHFC, in collaboration with the SET Facility at AIIMS Delhi, organized a workshop on Innovation in Medical Devices, featuring expert talks, live demos, and panels on co-creation, clinical validation, and commercialization of MedTech solutions.



### FACULTY DEVELOPMENT PROGRAM

As part of our collaboration with Uttarakhand Board of Technical Education (UBTE), IHFC hosted a week-long program for polytechnic teachers of UBTE upskilling them in emerging technologies in Electric Vehicles.

## OUR RECENT SUCCESS STORIES



Intelligent Marine Mobility

### i4-MARINE TECHNOLOGIES

i4-Marine Technologies is pioneering autonomous marine mobility with its remotely operated surface and underwater vehicles, designed for maritime surveillance, environmental monitoring, and resource management. Their efforts were recently **recognized as the Top Startup the Government of Maharashtra**, marking a significant milestone in their journey.

STARTUP

### THUMBIKKAI BUSINESS SOLUTIONS



IHFC's incubated startup, Thumbikkai Business Solutions Pvt. Ltd., received a letter of appreciation from Hon'ble PM Shri Narendra Modi for their indigenous innovation in secure smart living through V SAFE—the world's first smart locker and smart door lock system. This marks a proud milestone in promoting Made-in-India deep-tech solutions.

STARTUP

### SMART PROSTHETIC SOCKET



Amaresh Tripathi, a READY student of IHFC has developed a Smart Prosthetic Socket which combines advanced sensors and active ventilation in a custom 3D-printed design to reduce humidity-related discomfort for amputees, offering a more comfortable and adaptive prosthetic experience.

READY PROGRAM



### KAERE - BREATH ANALYZER FOR DIABETES



Kaere by IHFC's READY student, Achyut Agrawal delivers a painless, 30-second blood-glucose estimate from a single breath using VOC + CO<sub>2</sub> sensors and offline TinyML model, syncing with AWS for continuous learning. This compact, zero-consumable tech reveals India's hidden diabetes

READY PROGRAM

### AUTOMATED AND PRECISE ORTHOPEDIC PLATE BENDING



A fully automated Orthopedic Recon Plate Bending machine developed by Prof. Sunil Jha (IIT Delhi) and Dr

Lalit Maini from MAMC and backed by IHFC. It uses CNC precision to pre-bend plates, eliminating surgeon's manual effort and improving surgical outcomes.

R&D PROJECT



### DRONE TECHNOLOGY IN AGRICULTURE DEVELOPED BY PROF. SPANDAN ROY

Thanos Agri Drones, in collaboration with Prof. Spandan Roy (IIIT-H) and IHFC, developed a drone-based precision pollination system. This automated solution reduces human risk, improves crop yields, and demonstrates how technology can directly uplift and modernize farming practices.

R&D PROJECT



Monthly

# COBOTALKS

EVERY SECOND WEDNESDAY

*"Exploring Robotics Innovations, Industry Trends, And  
How Technology Is Shaping The Future Of Work And Life."*

 <p>8th January'25 <b>47th</b></p> <p><b>Mr. Gareth Tucker</b></p> <p>Title: Investigating the use of robotics &amp; automation for train maintenance, inspection &amp; servicing</p>	 <p>12th February'25 <b>48th</b></p> <p><b>Mr. Ramana Vinjamuri</b></p> <p>Title: Emerging frontiers in human-robot Interaction</p>
 <p>12th March'25 <b>49th</b></p> <p><b>Mrs. Akshata Kari</b></p> <p>Title: Reach for the top! Stop at nothing!</p> <p>Women's Day Special</p>	 <p>9th April'25 <b>50th</b></p> <p><b>Dr. Anju Gupta</b></p> <p>Title: Investment readiness for founders</p> <p>50th Cobotalk</p>
 <p>14th May'25 <b>51st</b></p> <p><b>Mr. Suraj Bonagiri</b></p> <p>Title: Innovating at the edge</p>	 <p>11th June'25 <b>52nd</b></p> <p><b>Mr. Rupesh Tripathi</b></p> <p>Title: Leading through change in the era of Cobotics</p> <p>IHFC's 5th Year Anniversary Special</p>

### Watch More on YouTube

Scan the QR code to visit our YouTube channel & watch all the insightful Cobotalks sessions, featuring top experts showcasing their groundbreaking ideas in collaborative robotics.





# WATCH OUT FOR:

## ROBOTICS FOR GOOD YOUTH CHALLENGE



Date: 8 October 2025  
Venue: Yashobhoomi  
Convention Centre  
Theme: Food Security  
Challenge

# I-HUB FOUNDATION FOR COBOTICS



## EDITORIAL TEAM

Piya Basu      Akshay Mangal  
Neha Gupta      Shubham Gupta

Articles contributed by IHFC's  
R&D, Startup, CiC and READY  
and Education, Research and  
Upskilling Team

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