



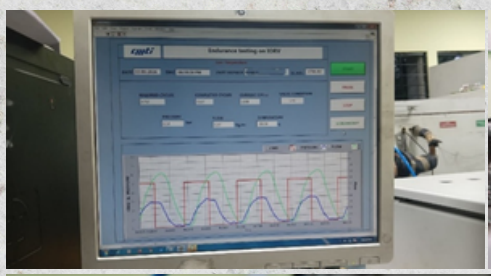


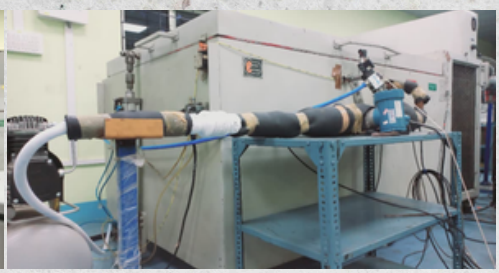
The Science OF MAKING...

VOLUME (खंड) 3 ISSUE (अंक) 1 SEPTEMBER(सितम्बर 2026

TECHNICAL ACHIEVEMENTS

Low-Temperature Endurance Testing of Aircraft IORVs







The Aerospace Laboratory has developed an indigenous, fully automated Low-Temperature Endurance Test Facility for the qualification and endurance testing of Aircraft Inward/Outward Relief Valves (IORVs) used in aircraft fuel tank venting systems. The facility accurately simulates aircraft operating conditions by generating controlled airflow of more than 1.5 kg/min (approximately 1,250 LPM) at pressures up to 10 bar and temperatures down to –40°C. It enables reliable qualification and long-duration endurance testing of aerospace pneumatic components under representative service conditions. The system integrates a sub-zero chamber with a customised cooling arrangement, specifically designed and integrated to optimise cooling requirements. This arrangement enables controlled low-temperature operation while maintaining the required airflow conditions throughout the endurance test.

A dedicated Control and Data Acquisition (DAQ) system automates test execution, real-time monitoring, data logging, and alarm management, ensuring complete traceability, repeatability, and compliance with aerospace qualification requirements.

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CONTRIBUTORY TALKS

CMTI SCIENTIST INVITED AS CHIEF GUEST FOR FACULTY DEVELOPMENT PROGRAMME ON INDUSTRY 5.0





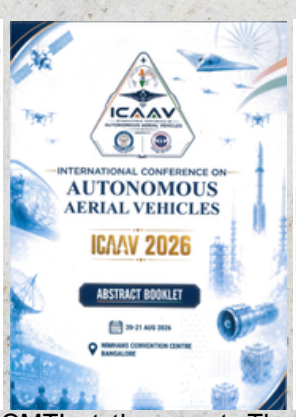

The Department of Industrial Engineering and Management, Ramaiah Institute of Technology, invited Mr. Narendra Reddy, Scientist-D and Group Head, Smart Manufacturing Cell, as the Chief Guest for the inauguration of the Faculty Development Programme on "Human-Centric Manufacturing in the Era of Industry 5.0", held on 24 August 2026. As part of the programme, Mr. Narendra Reddy delivered a guest lecture, sharing valuable insights into human-centric manufacturing, the emerging trends in Industry 5.0, and its significance in shaping the future of manufacturing.

EVENTS ATTENDED

CMTI SPONSORS INTERNATIONAL CONFERENCE ON AUTONOMOUS AERIAL VEHICLES (ICAAV-2026)

CMTI extended its sponsorship support to the International Conference on Autonomous Aerial Vehicles (ICAAV-2026), held in Bengaluru from 20–21 August 2026. The conference was organised by the Aeronautical Development Establishment (ADE), DRDO, in association with the Design Division of the Aeronautical Society of India (AESI).







Mr. Tom Thampy, Scientist-E and Group Head - ASL, represented CMTI at the event. The conference focused on technological advancements and emerging applications of Unmanned Aerial Vehicles (UAVs) across both civil and military domains, providing a platform for knowledge exchange and discussions on developments in autonomous aerial systems.

CMTI OFFICIALS ATTEND CII KARNATAKA SUPPLYCON 2026



Mr. Bishnu Prasad Sahu (In charge – Business Development Team) and Mr. Raghu B (In charge - IPR Cell) represented CMTI at CII Karnataka SupplyCon 2026, held at Hotel Shangri-La, Bengaluru, on 27 August 2026. The event was organised by the Confederation of Indian Industry (CII), Karnataka.

The conference focused on emerging trends and strategic developments in supply chain management, with key sessions covering:

- The Future of Supply Chains in India – Building Resilient, Agile & Competitive Networks.
- Decarbonising Supply Chains – From ESG Commitments to Measurable Action.
- AI, Digital Twins & Autonomous Supply Chains.
- Supply Chain Leadership in an Era of Geopolitical & Economic Disruption.
- Next-Generation Logistics & Supply Chain Ecosystems for Viksit Bharat 2047.

The event provided valuable insights into resilient and sustainable supply chains, digital transformation through AI and digital twins, and next-generation logistics ecosystems supporting India's vision of Viksit Bharat 2047.

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EVENTS/CELEBRATIONS

SWACHHATA PAKHWADA 2026 OBSERVED AT CMTI

CMTI observed Swachhata Pakhwada 2026 from 16–31 August 2026, with a series of activities promoting cleanliness, environmental sustainability, waste management and community participation.

The campaign began with the Swachhata Pledge and workplace cleanliness activities, followed by Shramdaan and neighbourhood cleaning initiatives. Employees also participated in Clean Home – Griha Shuddi, Pick & Speak, and Conserve Fuel – Jana Sarige Jagruthi, encouraging responsible practices at the workplace, home and during daily travel.

As part of its community outreach, CMTI organised “Cultivate/Nurture Young Minds – 1 & 2” at Government Primary and High School, Jalahalli. Drawing and essay competitions were conducted for students, along with the distribution of colour-coded dustbins to promote waste segregation. An awareness programme for street vendors was also conducted to discourage single-use plastics, with reusable steel plates, glasses and jugs distributed as sustainable alternatives.

The Sapling Plantation Drive was held on 25 August with active participation from CMTI employees, promoting a greener workplace. On 29 August, around 52 employees participated in an Eco Cleanup – Shramayaana at Sri Revanasiddeshwara Betta.



The concluding session was held on 3 September 2026, with Dr. Shanthi Tummala, Dentist and Environmentalist, as the Chief Guest. She delivered a talk on “Sustainability”. Winners of the student competitions and CMTI employees who participated in the “Think and Speak Instantly” and “Pick & Speak” competitions were felicitated with prizes and certificates.

The campaign reinforced CMTI's commitment to cleanliness, sustainability, environmental responsibility, and active community participation

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“Swachhata begins with each of us and grows through collective action.”



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NATIONAL SPORTS DAY 2026 CELEBRATED AT CMTI

CMTI celebrated National Sports Day 2026 with great enthusiasm, promoting fitness, teamwork and sportsmanship among employees.

A variety of indoor and outdoor sporting events, including Shuttle, Carrom, Table Tennis, Chess, Volleyball, Throwball, Tug of War, Shot Put and Marathon for men and women, were organised as part of the celebrations.

The event provided an opportunity for employees to showcase their sporting spirit, strengthen team bonding and promote a healthy and active lifestyle beyond the workplace.

The celebrations reinforced CMTI's commitment to fostering a healthy, energetic and collaborative work environment through sports and physical well-being.











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SKILL DEVELOPMENT PROGRAM

CMTI–AEAMT FINISHING SCHOOL: INDUSTRY-ORIENTED SKILL DEVELOPMENT PROGRAMME

The CMTI–AEAMT Finishing School offers an industry-oriented skill development programme aimed at bridging the gap between academic learning and industry requirements by providing graduates and diploma holders with technical knowledge, hands-on practical skills and industry exposure.

The programme comprises six months of training at CMTI, Bengaluru, followed by six months of On-the-Job Training at CMTI. It is open to Degree/Diploma holders in Mechanical and allied disciplines, Electronics & Communication, Electrical, Computer Science and allied disciplines.

The 2026 registration window is from 1–23 September 2026, with selection through application evaluation, written test and interview. The programme is conducted in physical/offline mode at CMTI, Bengaluru.

How to Apply:

Interested candidates can register through drishti.cmti.res.in

Email: drishti@cmti.res.in

Contact: 9449842686 / 9449842678

Learn • Practice • Excel | Build Skills. Gain Industry Exposure. Shape Your Career.



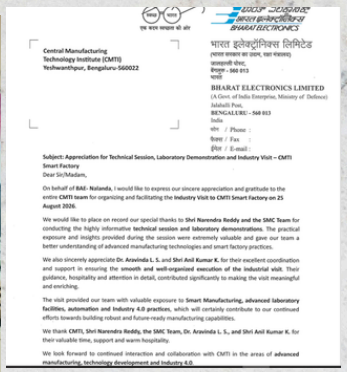
DEMONSTRATION/ VISITS AT CMTI

BHARAT ELECTRONICS LIMITED (BEL) DELEGATION VISITS CMTI'S SMART MANUFACTURING CELL

A delegation comprising 35 officials from various units of BEL across India visited the Smart Manufacturing Cell (SMC), CMTI, on 25 August 2026.

During the visit, the delegates explored various Smart Manufacturing solutions and their implementation in industrial applications. They also witnessed live demonstrations of Industry 4.0 technologies and indigenous solutions developed at the Smart Manufacturing Cell. The delegates appreciated the facilities, technologies, and indigenous solutions developed at SMC, CMTI.





Central Manufacturing Technology Institute (CMTI)
Yeshwanthpur, Bengaluru-560022

BHARAT ELECTRONICS LIMITED
(A Govt. of India Enterprise, Ministry of Defence)
Jalahalli Post,
BENGALURU - 560 013
India

Subject: Appreciation for Technical Session, Laboratory Demonstration and Industry Visit – CMTI Smart Factory

Dear Sir/Madam,

On behalf of BEL- Nalanda, I would like to express our sincere appreciation and gratitude to the entire CMTI team for organizing and facilitating the Industry Visit to CMTI Smart Factory on 25 August 2026.

We would like to place on record our special thanks to Shri Narendra Reddy and the SMC Team for conducting the highly informative technical session and laboratory demonstrations. The practical exposure and insights provided during the session were extremely valuable and gave our team a better understanding of advanced manufacturing technologies and smart factory practices.

We also sincerely appreciate Dr. Aravinda L. S. and Shri Anil Kumar K. for their excellent coordination and support in ensuring the smooth and well-organized execution of the industrial visit. Their guidance, hospitality and attention in detail, contributed significantly to making the visit meaningful and enriching.

The visit provided our team with valuable exposure to Smart Manufacturing, advanced laboratory facilities, automation and Industry 4.0 practices, which will certainly contribute to our continued efforts towards building robust and future-ready manufacturing capabilities.

We thank CMTI, Shri Narendra Reddy, the SMC Team, Dr. Aravinda L. S., and Shri Anil Kumar K. for their valuable time, support and warm hospitality.

We look forward to continued interaction and collaboration with CMTI in the areas of advanced manufacturing, technology development and Industry 4.0.

The accompanying letter captures the key observations and feedback shared by the visiting delegation.

ADG (NORTH & CENTRAL ZONE), DGAQA VISITS CMTI AEROSPACE LABORATORY

Mr. R. Jaiganesh, ADG (North & Central Zone), DGAQA, along with representatives from HAL, Lucknow, visited CMTI and explored various facilities at the Aerospace Laboratory. During the visit, they also witnessed the performance testing of the HP-30 pump.



MOUS/NDAS

- CMTI & CSIR- Central Glass & Ceramic Research Institute (CGCRI), Kolkata, entered into an MoU in connection with "Collaborative Research Initiatives"
- CMTI and KSB Limited entered into an NDA in connection with "Abrasive Flow Machining (AFM) for pump components"



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TRAINING PROGRAMMES

TRAINING PROGRAMME ON UNCERTAINTY OF MEASUREMENTS FOR DIMENSIONAL MEASUREMENTS

CMTI conducted a three-day training programme on “Uncertainty of Measurements for Dimensional Measurements” from 17–19 August 2026. The programme, coordinated by Mr. Shashikumar, Senior Technical Assistant-II, provided participants with an understanding of calibration, measurement uncertainty, and methods for evaluating uncertainty in dimensional measurements. The programme covered the concepts and methods of evaluation of uncertainty of measurements, supported by practical demonstrations and case studies. Participants gained hands-on exposure to the estimation of uncertainty of measurement (UOM) for instruments such as micrometers and plug gauges, along with demonstrations on vernier calipers, dial gauges, angle gauges, spirit levels, and slip gauges. The training provided participants with practical knowledge of measurement uncertainty evaluation and its application to commonly used dimensional measurement instruments.



TRAINING PROGRAMME ON PART PROGRAMMING OF CNC MACHINES



CMTI conducted a five-day hands-on training programme on “Part Programming of CNC Machines” from 24–28 August 2026. The training programme, coordinated by Mr. Bharath P, Scientist-D, provided participants with a comprehensive understanding of CNC machine concepts, CNC tooling and latest technologies, CNC lathe and milling machine programming, canned cycle programming, and practical part programming techniques. The programme included hands-on exercises on CNC Lathe and VMC/HMC, demonstrations of CNC machines, tools and machine elements, and a visit to the CMF shop floor and CMTI facilities. Participants were also introduced to 2D and 3D programming using CAD/CAM software and witnessed a demonstration on CMM. The five-day programme provided participants with practical exposure to CNC programming and machining operations, enabling them to develop and apply part-programming skills for CNC turning and milling applications.

UPCOMING TRAINING PROGRAMMES

1. "Industrial Machine Automation & Controls - PLC, HMI, SCADA", Course Code: 5103, from: 05- 07 October 2026 at CMTI, Bengaluru.
   Click for more information
2. "Nano Material Characterization - SEM, XRD, SPM, Nanoindenter, etc.", Course Code: 2301, from: 06 - 09 October 2026 at CMTI, Bengaluru.
   Click for more information
3. "Single Point Diamond Turning (Machine Technology & Characterization Techniques)", Course Code:2101, from: 07- 09 October 2026 at CMTI, Bengaluru.
   Click for more information

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