





The Science OF MAKING...

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TECHNICAL ACHIEVEMENTS

SUCCESSFUL INSTALLATION AND COMMISSIONING OF MY-300 (II) 5-TONNE MIXER AT ACEM, NASHIK



CMTI successfully completed the installation and commissioning of the MY-300 (II), the second 5-tonne-capacity mixer supplied to the Advanced Centre for Energetic Materials (ACEM), Nashik.

The major challenge during installation was handling the mixer's upper structure, weighing over 30 tonnes, against the existing EOT crane capacity of 20 tonnes. This was overcome by deploying an 80-tonne boom crane inside the mixer building, despite space constraints. Since the mixer was installed in an existing building, certain site-related challenges were encountered and successfully addressed during installation. Following installation, cable-laying and associated electrical activities were completed.

The Site Acceptance Test (SAT) included interlock verification, no-load operation, and load trials. A total of 4 tonnes of dummy material was successfully processed during commissioning trials, marking the successful completion of installation and commissioning at ACEM, Nashik.

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AWARDS/RECOGNITIONS

CMTI SCIENTIST WINS PRESTIGIOUS JACQUET-LUCAS AWARD FOR EXCELLENCE IN METALLOGRAPHY





Shri Champuri Srinivas Rao, Scientist-D in the M&M Group at CMTI, has received prestigious recognition at the 2025 International Metallographic Contest, winning both the Jacquet-Lucas Award for Excellence in Metallography (Best in Show) and the DuBose-Crouse Award. The Jacquet-Lucas Award, presented in the field of metallography since 1946, is co-sponsored by ASM International and the International Metallographic Society (IMS). The award includes a gold medal and a cash prize, recognizing outstanding contributions to metallographic research. His award-winning work, titled "A Novel Approach for Revealing Prior Austenite Grain Boundaries in High-Strength Low-Alloy (HSLA) Steels," introduces an innovative technique combining aluminium diffusion and nital etching to clearly reveal prior austenite grain boundaries. This method overcomes limitations of conventional thermal etching, enabling improved grain boundary identification and more accurate grain size measurements.

This achievement highlights Shri Rao's research excellence and CMTI's continued contributions to advancing materials characterization and metallographic techniques.

CONTRIBUTORY TALKS

CMTI SCIENTISTS DELIVERS KEYNOTE AT LASER WORLD OF PHOTONICS INDIA 2026

Dr. Anusha Epparla, Scientist-C, served as a Keynote Speaker and Panellist at the Laser World of Photonics India, held at BIEC, Bengaluru, from 16–17 September 2026. She delivered a talk on "Smart Manufacturing through Lasers: From In-situ Process Monitoring to AI-Enabled Adaptive Control."



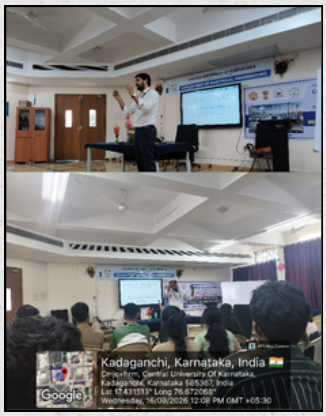
Dr. Nagahanumaiah, Director, CMTI, delivered a keynote talk on "Role of Photonics in India's Smart Manufacturing Mission".





CMTI SCIENTIST DELIVERS TECHNICAL TALK AT YANTRIKA 2026

Mr. Anand Lavudya, Scientist-B, was invited to deliver a technical talk at YANTRIKA 2026, on September 16, 2026, organized by the School of Engineering, Central University of Karnataka (CUK), Kalaburagi.



The technical talk, titled "From Bits to Watts: How Information Controls Power in Energy Systems," highlighted how information and control translate into real-world actions in energy systems. The session featured practical examples and insights aimed at helping students understand the growing significance of interdisciplinary skills in engineering and the career opportunities available in emerging technology domains.

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EVENTS ATTENDED

CMTI REPRESENTATIVES ATTEND GLOBAL SKILL SUMMIT 2026





Mr. Tom Thampy, Scientist-E and Group Head – ASL, and Mr. Bishnu Prasad Sahu (In charge – Business Development Team) attended the Global Skill Summit 2026, held on September 17, 2026, at the Institution of Agricultural Technologists, Queens Road, Bengaluru. The summit was organized by the Indian Institution of Production Engineers (IIPE) in association with Bravee Multiskilling Academy, Bengaluru.

The event featured focused sessions on skill development and industry-relevant competencies. The organizing committee also approached CMTI for sponsorship, reflecting an opportunity for institutional engagement and collaboration in advancing skill development initiatives.

CMTI TEAM VISITS ENGINEERING DEVELOPMENT AND INNOVATION CENTRE (EDIC), UGANDA

A CMTI team comprising Mr. K. Niranjan Reddy (JD & CH – MNTM), Mr. Krishna Rathod (Scientist F), Mr. V. R. Raju (Scientist E), and Mr. T. Narendra Reddy (Scientist D, GH – SMC) visited the Engineering Development and Innovation Centre (EDiC), Uganda, from September 21 to 26, 2026. The visit focused on activating manufacturing capabilities and initiating commercial operations.



ALONG WITH THE HONOURABLE MINISTER OF SCIENCE, TECHNOLOGY & INNOVATION, UGANDA

During the visit, the CMTI team, along with 10x consultants, discussed EDiC's objectives in contract manufacturing and product development. The team encouraged the EDiC consultants to identify near-term business opportunities ("low-hanging fruit") through import–export data analysis and an assessment of Uganda's priority needs. Potential areas identified for exploration included agricultural products, borewells, public transportation, two-wheelers, and electric vehicles (EVs). These discussions aimed to identify practical opportunities for manufacturing, product development, and commercial engagement aligned with local market requirements.





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CMTI OFFICIALS ATTEND 3RD CII KARNATAKA R&D SUMMIT 2026





Mr. Bishnu Prasad Sahu (In charge – Business Development Team) attended the 3rd CII Karnataka R&D Summit 2026, themed "Delivering Karnataka to the World," held on September 25, 2026, at Hotel Artezia, Bengaluru. The summit was organized by the Confederation of Indian Industry (CII), Karnataka.

Building on the success of its previous editions, the summit brought together senior government representatives, corporate leaders, R&D heads from large enterprises, multinational corporations and Global Capability Centres, deep-tech startup founders, and academic leaders. The event provided a platform for discussions on research and development, innovation, and strengthening collaboration among industry, academia, and government.

EVENTS/CELEBRATIONS

CMTI OBSERVES SWACHHATA HI SEVA 2026 WITH COMMUNITY AWARENESS INITIATIVE

As part of the Swachhata Hi Seva (SHS) 2026 campaign, CMTI undertook a series of initiatives from September 17 to October 17, 2026, promoting cleanliness, environmental sustainability, public health and community participation under the theme "Swachhata Mein Sahbhag, Swachh Bharat, Viksit Bharat." The activities included door-to-door awareness drives in CMTI's residential area and surrounding neighbourhoods, cleanliness drives at the Government High School, Hullegowdanahalli, Sondekoppa, and Shivagange Hills and the adjoining sacred temple pond (Gudi Kola), along with public awareness programmes on hygiene and responsible waste management. Educational initiatives at the government school included drawing competitions, awareness sessions on the Solid Waste Management Rules, 2026, distribution of books, donation of computer keyboards and mice to support digital learning, and planting approximately 25 saplings under the 'Ek Ped Maa Ke Naam' initiative. CMTI also distributed safety gear to Sondekoppa Gram Panchayat sanitation workers, donated rice towards the temple's Anna Dasoha programme, and provided community seating facilities through the installation of benches near the school. Further initiatives included beautification of the public-facing wall near the Metro station, identification and clearance of a garbage-dumping site as a Cleanliness Target Unit (CTU), and implementation of a four-bin, colour-coded waste segregation system in CMTI residential quarters for wet, dry, sanitary and special-care waste. Extending the campaign's focus to employee well-being, CMTI organised a medical camp offering general health check-ups, women's cancer screening, and dental and eye examinations, with special attention to housekeeping and security personnel. Awareness sessions on oncology and cardiology were conducted in collaboration with Sparsh Hospitals, Yeshwanthpur, Bengaluru, including a practical demonstration of cardiopulmonary resuscitation (CPR). An employee-led cleanliness drive further encouraged staff to maintain clean workplaces, homes and neighbourhoods, with prizes awarded to selected participants. Through these diverse initiatives, CMTI reaffirmed its commitment to environmental responsibility, preventive healthcare, community welfare and the collective vision of a cleaner, healthier and more sustainable India.

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MOUS/NDAS

CMTI and the Indian Institute of Technology Palakkad signed an MoU on 25 September 2026 on the occasion of the eighth edition of the Industry-Academia Conclave (IAC 8.0), the flagship industry-academia engagement initiative of IIT Palakkad. Dr Nagahanumaiah, Director, CMTI was the Chief Guest.





CMTI REGIONAL CENTER

VISIT TO THE CMTI REGIONAL CENTRE

The students from Darshan University Mechanical Engineering Dept. visited the CMTI Regional Centre on 24 August, 2026. The students were briefed about the activities of CMTI and the operations of the different machines. They have been shown the demo of the machines such as Coordinate Measuring Machine, Universal Length Measuring Machine, Video Measuring System etc. The visit was fruitful to the young engineers.



TRAINING PROGRAMMES

TRAINING PROGRAMME ON CALIBRATION OF DIMENSIONAL MEASURING EQUIPMENT FOR DIQA BENGALURU



CMTI conducted a three-day training programme on “Calibration of Dimensional Measuring Equipment’s” from 16–18 September 2026. The programme, coordinated by Mrs. Khusboo D, Scientist D, provided participants with the fundamentals of calibration, dimensional metrology, and the concept of Uncertainty of Measurement (UOM). Participants gained hands-on exposure through demonstrations involving various dimensional measuring instruments, including vernier callipers, external micrometers, dial gauges, bevel protractors, thread pitch gauges, height gauges, plug gauges, ring gauges, slip gauges, granite squares, straight edges, surface plates, and coordinate measuring machines (CMMs). The programme also included a visit to CMTI laboratories, providing participants with practical insights into calibration practices and measurement techniques.

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TRAINING PROGRAMME ON MECHATRONICS & MANUFACTURING AUTOMATION AND INDUSTRY 4.0 & SMART MANUFACTURING SYSTEMS (ELECTRICAL NCG) FOR APPLIED MATERIALS



CMTI conducted an exclusive training programme on "Mechatronics & Manufacturing Automation and Industry 4.0 & Smart Manufacturing Systems (Electrical NCG)" for M/s Applied Materials India Pvt. Ltd., Bengaluru, from 11 to 23 September 2026. Coordinated by Mr. Anil Kumar K and Mr. Narendra Reddy T, Scientists-D, the programme aimed to strengthen participants' understanding of manufacturing automation, digitalisation, and smart manufacturing technologies. The programme began with the fundamentals of manufacturing automation, mechatronics, machine elements, sensors and Transducers and data acquisition. It progressed to control panel design, hydraulics, industrial communication protocols, testing automation, machine vision, CNC systems, feedback devices, and PLC programming, including hands-on ladder programming exercises. Demonstrations on FANUC and 840D systems, along with SCADA training and CMTI laboratory visits, provided practical exposure to industrial automation.

The Industry 4.0 sessions covered Industrial Internet of Things (IIoT), legacy machine digitisation, machine-to-machine connectivity, reverse engineering, automated weld-defect detection, smart heat treatment, smart metrology, RFID, edge devices, digital twins, augmented reality, condition monitoring for predictive maintenance, and autonomous mobile robots. Participants also explored IIoT implementation at the SMDDC workshop, undertook practical vibration measurement and data interpretation, and participated in hands-on training on TCP/IP, HTTP, MQTT, OPC UA, and Apache NiFi for IoT data-flow management.

The programme concluded with sessions on Industry 4.0 deployments and smart foundry technologies, demonstrations of collaborative robots and AR/VR applications, laboratory visits, and a valedictory session with certificate distribution. Faculty members from across CMTI combined classroom instruction with practical demonstrations, providing participants with comprehensive exposure to manufacturing automation and advanced smart manufacturing systems.

TRAINING PROGRAMME ON GD&T, MANUFACTURING AND INSPECTION FOR APPLIED MATERIALS



CMTI conducted an exclusive training programme on "GD&T, Manufacturing & Inspection (Mechanical NCG)" for Applied Materials India Pvt. Ltd., Bengaluru, from 11 to 25 September 2026. Coordinated by Mr. Anil Kumar K, Scientist-D, the programme covered GD&T fundamentals, datum referencing, precision metrology, CMM-based inspection, positional tolerancing, and tolerance stack-up. Participants also gained exposure to manufacturing processes, heat treatment, surface finishing, non-destructive testing, material characterisation, and additive manufacturing through practical demonstrations and industrial visits. The programme combined classroom instruction with hands-on training to strengthen participants' knowledge of precision inspection and manufacturing processes.

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TRAINING PROGRAMME ON NOISE AND VIBRATION ANALYSIS



CMTI conducted a four-day training programme on “Noise & Vibration Analysis Methods – Dynamic Balancing, FRF, FFT, Vibro Acoustic” from 21 to 24 September 2026. Coordinated by Mr. Girish Kumar M, Scientist-E, the programme covered vibration and noise measurement, Fourier analysis, predictive maintenance, bearing and gearbox diagnostics, frequency response function (FRF), order tracking, modal analysis, dynamic balancing, and sound power measurement. Expert lectures, practical demonstrations, and case studies provided participants with hands-on insights into machinery diagnostics, condition monitoring, and noise and vibration analysis.

TRAINING PROGRAMME ON SMART MANUFACTURING SYSTEMS AND INDUSTRY 4.0/5.0 FOR HAL, BENGALURU

CMTI conducted a three-day Skill Development Training Programme on “Smart Manufacturing Systems & Industry 4.0/5.0” for 25 participants from Hindustan Aeronautics Limited (HAL), Bengaluru, from 28 to 30 September 2026. Coordinated by Mr. Narendra Reddy T, Scientist-D, the programme covered IIoT, legacy machine digitisation, smart sensors, machine vision, digital twins, edge devices, augmented reality, predictive maintenance, smart metrology, and autonomous mobile robots.The training combined expert lectures with live demonstrations and hands-on sessions on vibration measurement, data acquisition, PLC automation, hydraulics, pneumatics, mechatronics, collaborative robots, and IIoT implementation. Laboratory visits and practical exercises provided participants with insights into the industrial deployment of smart manufacturing technologies.



UPCOMING EVENTS

1. “Introduction to CMM & its applications”, Course Code: 4105, from: 18 – 20 November 2026 at CMTI, Bengaluru.
   Click for more information
2. “Materials, Metallurgy & Heat Treatment of Metals and Alloys”, Course Code: 1307, from 18 – 20 November 2026 at CMTI, Bengaluru.
   Click for more information
3. “Geometric Dimensioning & Tolerancing”, Course Code: 7101, from: 30 November – 04 December 2026 at CMTI, Bengaluru.
   Click for more information

Editorial Team

Dr. Debeshi Dutta - 8670958202
Dr. Anusha Epparla - 7382413886
Ms. Pallavi M
write to us: directoroffice@cmti.res.in

Central Manufacturing Technology Institute
केंद्रीय विनिर्माणिकारी प्रौद्योगिकी संस्थान
ಕೇಂದ್ರ ಉತ್ಪಾದನಾ ತಂತ್ರಜ್ಞಾನ ಸಂಸ್ಥೆ
Tumkur Road, Bengaluru - 560022,
Karnataka, India Tel: +91-80-23372048
E-mail : director@cmti.res.in
Website : www.cmti.res.in