



The Science OF MAKING...



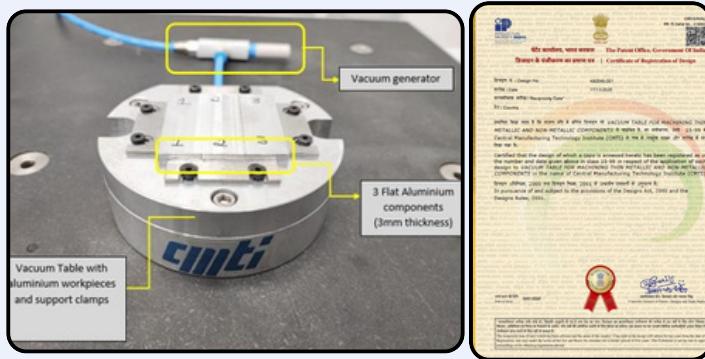
VOLUME 3

ISSUE 2

JANUARY 2026

TECHNICAL ACHIEVEMENTS

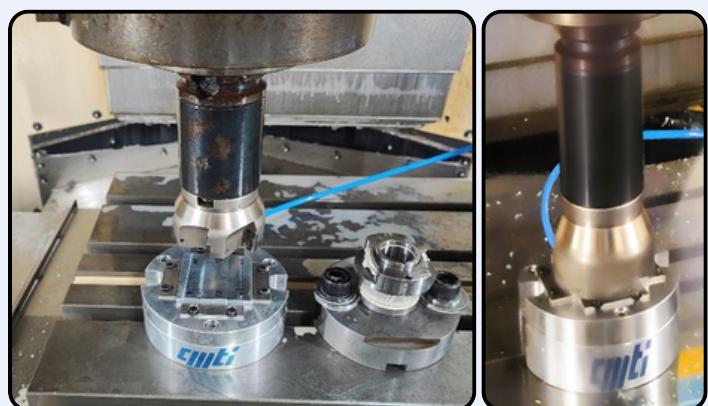
VACUUM TABLE FOR THIN-WALLED COMPONENTS



VACUUM TABLE WITH VACUUM GENERATOR

CMTI has recently developed a high-precision vacuum table specifically custom-designed for machining thin components with excellent flatness and parallelism, addressing the requirements of an industry partner in piston manufacturing. Compatible with both CNC and manual milling machines, the vacuum table offers firm, distortion-free clamping of thin metallic and non-metallic materials such as Aluminium 6061 and Acrylic. Vacuum pressure can be generated using either a vacuum pump or a vacuum generator, depending on the setup. This vacuum table provides a reliable, effective solution for clamping thin parts for machining applications in aerospace and high-precision engineering. In connection

with the said technology, the Institute has been granted a design patent titled "Vacuum Table for Machining Thin Metallic and Non-Metallic components." The technology is highly adaptable and can be customised to manufacture vacuum tables in any required size. CMTI possesses strong in-house capabilities for the design, development, and manufacture of high-precision machine tool aggregates tailored to specific customer requirements. Leveraging its deep expertise in precision engineering, advanced metrology, and system integration, CMTI delivers robust, application-ready aggregates suitable for demanding industrial applications.



ALUMINIUM THIN PLATES HOLDING ON A VACUUM TABLE WHILE MACHINING ON VMC

VISITS AT CMTI

INDUSTRIAL VISIT TO CMTI FROM COMMUNICATION TRAINING INSTITUTE (CTI), INDIAN AIR FORCE , JALAHALLI WEST, BENGALURU

Two batches with a total of 112 participants from the Communication Training Institute (CTI), Indian Air Force, visited CMTI on 28 January 2025 as part of an Industrial Visit



EVENTS/ WORKSHOPS ATTENDED

CMTI DELEGATION ATTENDS TEJAS-25 ORGANIZED BY ADA, DRDO



CMTI delegation, including Mr. Krishna Rathod, Mr. Tom Thampy, Mr. Dattatreya, Mr. Deepak Singh D, Mr. Vinay Kumar P V, and Mr. Bishnu Prasad Sahu, attended the Tejas-25 organized by ADA at New Hangar CABS-DRDO, Bengaluru, during 4-5 January 2026. Dr. Nagahanumaiah, Director CMTI was invited a special guest and he chaired the one of technical sessions.

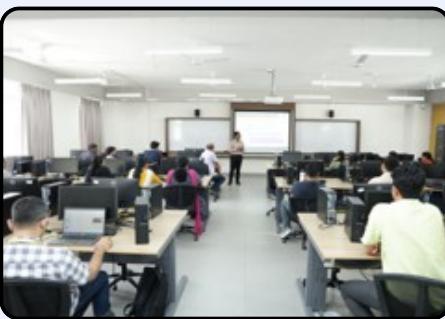


TECHNICAL PRESENTATION/CONTRIBUTORY TALKS

INVITED TALK ON METAL ADDITIVE MANUFACTURING FOR INDUSTRIAL APPLICATIONS

Mr. A. R. Vinod, Scientist-D and Group Head (Additive Manufacturing), delivered an invited talk titled “Metal Additive Manufacturing: Laser Powder Bed Fusion and Direct Energy Deposition for Industrial Applications” during the Five-Day National-Level Online Faculty Development Program (FDP) on “Advanced Manufacturing and Materials Systems: Processing, Characterisation and Testing,” organized by Ramco Institute of Technology, Rajapalayam, on 5 January 2026.

INVITED TALK AT PRISM 1.0 ON SEMICONDUCTOR PACKAGING OF SENSORS



Mr. Harsha S, Scientist and Group Head (Sensor Technology Development Centre), delivered an invited talk on “Semiconductor Packaging of Sensors for Manufacturing” at the “Principles of Robotics Intelligence and Smart Manufacturing (PRISM 1.0)” on 9 January 2026 at RV University, Bengaluru.

TECHNICAL PRESENTATION AT VIBRANT GUJARAT REGIONAL CONFERENCE 2026

Mr Abhishek Suchak, Scientist-C, C-MNTM, delivered a technical presentation on Emerging Gujarat Manufacturing: Enhancing Instrument/Machine Performance by Calibration Process at the Vibrant Gujarat Regional Conference 2026 organised by IMTMA. The event was held on 12 January 2026 at Marwadi University, Rajkot.



In his presentation, Mr Abhishek Suchak highlighted the critical role of calibration in improving the accuracy, reliability, and efficiency of instruments and machines in the manufacturing sector. He emphasised best practices, standards, and the impact of systematic calibration on productivity, quality assurance, and competitiveness of Gujarat's emerging manufacturing ecosystem. The session was well-received by industry professionals and academia, fostering meaningful discussions on advancing manufacturing performance through robust calibration processes.

VISITS/SURVEILLANCE

NABL SURVEILLANCE AUDIT AT METROLOGY LABORATORY-REGIONAL CENTRE, CMTI, RAJKOT



The NABL Surveillance Audit of the Metrology Laboratory – Regional Centre, CMTI, Rajkot was successfully conducted on 8 and 9 January 2026 as per the NABL accreditation requirements. The audit covered the evaluation of the laboratory's compliance with ISO/IEC 17025 standards.

This includes technical competence, quality management system implementation, calibration and measurement capabilities, traceability, personnel competence, equipment management, environmental conditions, internal audits, corrective actions, and record maintenance. Overall, the audit was completed smoothly, and the Metrology Laboratory – Regional Centre, CMTI, Rajkot continues to maintain its competence and compliance with NABL accreditation criteria, subject to closure of audit observations.

MOUS/NDAS

- » CMTI and M/s. Prolithium India Pvt Ltd, Uttar Pradesh, entered into an MoU in connection with "Commercialization of Indigenously Developed machinery for Battery Pack machinery".
- » CMTI and M/s. Ramiah University of Applied Science (MSRUAS) Bengaluru, entered into an MoU in connection with "Recognition of CMTI as MSRUAS academically affiliated research centre for (M.Tech./M. S by Research), PhD & Integrated PhD".



TRAINING INITIATIVES

TRAINING PROGRAMME ON MATERIALS, METALLURGY, AND HEAT TREATMENT OF METALS AND ALLOYS



A three-day training programme on “Materials, Metallurgy & Heat Treatment of Metals and Alloys” was conducted from 7–9 January 2026, under the coordination of Mr Champuri Srinivasa Rao, Scientist-D. The programme was attended by 21 participants from various industries and encompassed fundamental to advanced aspects of materials science, metallurgy, mechanical testing, non-destructive testing, microstructural analysis, and heat treatment practices. The training featured expert lectures, interactive sessions, and extensive laboratory visits to CRMF, mechanical testing, metallography, and NDT facilities, providing participants with a strong theoretical understanding complemented by practical exposure to industrial testing and inspection methodologies.



UPCOMING TRAINING PROGRAMS

- “Scanning Electron Microscopy”, Course Code: 2305, on 13 February 2026.
[Click for more information](#)
- “Advanced Laser Machining”, Course Code: 4202, on 20 February 2026.
[Click for more information](#)
- “Advanced Surface Finishing and Characterization Techniques”, Course Code: 4205, on 20 February 2026.
[Click for more information](#)
- “CMM & Machine Tool Calibration”, Course Code: 4106, from 26 – 27 February 2026.
[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
Tumkur Road, Bengaluru - 560022,
Karnataka, India Tel: +91-80-23372048
E-mail : director@cmti.res.in
Website : www.cmti.res.in