TPCT: Commitment to Education, Innovation, and Research

Terna Public Charitable Trust (TPCT) is a SIRO RECOGNISED CENTER BY GOI

AIM: Ensure healthy lives and promote well-being for all at all ages (UNSDG 3)

One Week Faculty Development Program On

Industry 4.0: Automation, Connectivity, Security, and Intelligence for Smart Manufacturing

29/06/2026 to 03/07/2026

Organised by

DEPARTMENT OF MECHANICAL ENGINEERING

Convenor

Dr. Deven Shah

Principal, TEC

Coordinator

Dr. C. M. Choudhari

Professor and Head, Mechanical Engg.,

Dean IIPC, SIRO Coordinator

Terna Engineering College

Plot No. 12, Sector-22, Opp. Nerul Railway Station, Phase-II, Nerul (W), Navi Mumbai, Mumbai, 400706, 022-61115444

https://ternaengg.ac.in/

About the Institute

Terna Engineering College, Navi Mumbai, is a reputed NAAC accredited institution committed to academic excellence, innovation, and holistic development. With departments including Artificial Intelligence & Data Science, Computer Engineering, Information Technology, Electronics, Mechanical, Electronics & Telecommunication, Mechatronics, and Civil Engineering, the institute offers a vibrant ecosystem for interdisciplinary collaboration, research, and innovation.

About the Department

The Department of Mechanical Engineering (established in 2014) offers quality education with strong industry focus. It has well-equipped labs including CNC and a CoE-Machine Shop by Godrej & Boyce. The department has professional body like ASHRAE and MESA and students actively participate in various competitions.

About the FDP

The program focuses on emerging technologies such as Big Data Analytics, Cloud Computing, Industrial IoT, Digital Twins, Cybersecurity, Blockchain, Robotics, etc. It aims to enhance participants' knowledge of smart manufacturing in modern industries through expert lectures and hands-on sessions.

Contents to be covered in FDP

- Introduction to Industry 4.0
- Big Data Analytics
- Intelligent Industrial Automation
- Smart Factory Technologies
- Digital Twins for Industrial Systems
- Blockchain and Cybersecurity
- Industrial Internet of Things
- Augmented Reality and Virtual Reality
- Additive Manufacturing (3D Printing)
- Transition from Industry 4.0 to Industry 5.0

Targeted Participants

The faculty members of the AICTE approved institutions, Research scholars, PG Scholars, from concerned branch in Engineering can apply. Participants from concerned Government organisation and

Resource Persons

The resource persons for the FDP are drawn from various departments of Terna College of Engineering, reputed academic institutions, research organizations, and industry. Their expertise covers key Industry 4.0 domains, ensuring a rich blend of academic knowledge and practical insights

Objectives of FDP

- To provide understanding of Industry 4.0 concepts and technologies
- To explore applications of AI, IoT, Cloud and Smart Manufacturing
- To promote a multidisciplinary approach in engineering education
- To enhance faculty capability in teaching and research in emerging areas
- To acquaint participants with industry practices and tools
- To foster continuous learning, innovation, and industry-academia collaboration in emerging technologies

Outcomes of FDP

After completion of FDP, participants will be able to:

- Understand key components of Industry 4.0 ecosystem
- Apply concepts of AI, IIoT, and digital technologies in their domain
- Integrate Industry 4.0 topics into curriculum and laboratory work
- Develop ideas for projects, research, and industry collaboration
- Improve teaching effectiveness using modern tools and approaches

Department Vision and Mission

Vision

To offer value-based education and purse excellence in the field of Mechanical Engineering

Mission

- To create an environment that stimulates students to reach their highest potential in academics
- To impart value-based education for imbibing skills to solve real life problems
- To strengthen the association with industry and research organizations to enhance innovation and entrepreneurship

Certificates

Certificates shall be issued to those participants who have attended the program without absenteeism and who scored minimum 70% marks in the test conducted at the end of the FDP

Important Dates

Last Date for Online-Registration : 25-06-2026

Registration Link

https://forms.gle/5p2PZpD7e6P4rJbu5

Chief Patrons

- Dr. Padmasinhaji B. Patil (Chairman of the trust)
- Shri. Ranajagjitsinha Padmasinh Patil (Trustee)
- Shri. Malharji R Patil (Trustee)
- Shri. P. T. Deshmukh (Chief Executive Officer)
- Dr. Deven Shah (Principal, Terna Engineering College)

Organising Team

Coordinator

Dr. C. M. Choudhari - 98197 67199
cmchoudhari@ternaengg.ac.in

Co-coordinator

Dr. Prashant Ambadekar – 9224636634
prashantambadekar@ternaengg.ac.in

Dr. Mahesh S. Karve – 9821199339
maheshkarve@ternaengg.ac.in

Committee Members

Dr. Mayur Bembade
Dr. Devakant Baviskar
Dr. Sachin Kamble
Prof. Sharad Bargat
Prof. Chetan Deshmukh
Prof. Mangesh Nalawade
Prof. Jitesh Shewale
Prof. Ashutosh Shingare
Prof. Sumit Shinde

TERNA COLLEGE OF ENGINEERING, NERUL

Schedule One Week Faculty Development Program (FDP)

Title of the FDP: Industry 4.0: Automation, Connectivity, Security, and Intelligence for Smart Manufacturing

29/06/2026 - 03/07/2026

Date/ Session	10.00AM to 11.00AM (Theory)	11:15AM to 12.15PM (Theory)	12:15PM to 1:15PM (Theory)	2:00PM to 4.00pm (Lab)
29/06/2026 10.00 am to 4.30 pm	**Inauguration of FDP Introduction to I 4.0** *(Dr. Deven Shah Dr. C M Choudhari)*	**Big Data Analytics for Intelligent Manufacturing** *(Dr. V. B. Gaikwad Dr. U. V. Gaikwad)*	**Cloud Computing for Smart Manufacturing in I 4.0** *(Prof.Mohini Misale Prof.Preeti Patil)*	**Big Data Analytics** *(Dr. V. B. Gaikwad Dr. U. V. Gaikwad)*
30/06/2026	**Software Defined Automation in Industry 4.0: Concepts and Perspectives** *(Prof. Vikram Vyawahare)*	**Intelligent Industrial Automation Systems** *(Prof. R. B. Waghmare)*	**Role of Smart Cities with Digital Infrastructure in I 4.0** *(Dr. Sucheta Kakade)*	**Robotics lab** *(Prof. Vrishali Walang Prof. Abhijit Chate)*
01/07/2026	**Digital Twins for Industrial Systems** *(Prof. Vikram Vyawahare)*	**Role of Block chain & Supply Chains in I 4.0** *(Dr. Deven Shah)*	**Role of Cybersecurity in Industrial Systems for I 4.0** *(Dr. Deven Shah)*	**Simulation (Digital Twins)** *(Prof. Vikram Vyawahare & Prof. Ashwini Tidke)*
02/07/2026	**IIoT Unleashed: From Sensors to Smart Factories** *(Dr Anjali Rochkari)*	**Augmented Reality/ Virtual Reality** *(Dr. Ramesh Shahabade. Prof. Sonali Nayan, Prof Ujwala Chavan)*	**IIoT and its Application I 4.0** *(Prof. Prachi Kamble)*	**IoT Lab** *(Prof. Prachi Kamble)*
03/07/2026	**Additive Manufacturing for Smart Factories** *(Dr. Prashant Ambadekar Dr. Mahesh Karve)*	**Role of IT in I 4.0** *(Dr. Vaishali Khairnar)*	**Journey to I 5.0** *(Dr. C M Choudhari Dr. Mahesh Karve)*	**Valedictory**

Dr C M Choudhari
HoD Mechanical Engineering

Dr Deven Shah
Principal