



Department of Electrical and Electronics Engineering

AICTE - ATAL

Sponsored

Six Day Faculty Development Program

on

Digital Twin Technology and its Role in Industrial Automation

 **18th - 23rd August 2025**

www.newhorizonindia.edu



Department of Electrical and Electronics Engineering

Event Completion Report

Title	Digital Twin Technology and its Role in Industrial Automation	
Department	Department of Electrical and Electronics Engineering	
Date	From: 18.08.2025	To: 23.08.2025
Time	From: 09:00AM	To: 04:00PM

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The Department of Electrical and Electronics Engineering, New Horizon College of Engineering organized a **Six-Day AICTE–ATAL Sponsored Faculty Development Program (FDP)** on “*Digital Twin Technology and its Role in Industrial Automation*” from **18th to 23rd August 2025**. The workshop aimed to provide a platform for **faculty members, researchers, and industry professionals** to gain insights into the concept, architecture, and applications of Digital Twin Technology in modern industrial automation. The sessions focused on bridging the gap between physical and virtual systems through real-time simulation, data analytics, and intelligent control, fostering innovation and skill enhancement in Industry 4.0–driven domains.

Objectives of the Workshop

- ✓ To introduce the fundamentals and concepts of Digital Twin Technology for industrial automation.
- ✓ To provide insights into the integration of physical systems with their virtual counterparts for real-time monitoring and control.
- ✓ To explore the role of Digital Twins in enhancing productivity, predictive maintenance, and decision-making in Industry 4.0.
- ✓ To encourage collaboration between academia, research organizations, and industry professionals for advancements in automation and smart manufacturing.

Inaugural Session

The workshop commenced with a formal inaugural session. The Chief Guest **Mr. Amarnath Durgale, Senior Manager – Technical, Schneider Electric India Pvt. Ltd., Bengaluru**, addressed the gathering and shared valuable insights on the industrial applications of Digital Twin Technology. The Welcome Address was

delivered by **Dr. S. Sujitha, Professor and Head, Department of EEE**, followed by the **Presidential Address by Dr. Manjunatha, Principal, NHCE**. The ceremony was graced by **Dr. Anandhi R. J., Dean–Academics, Dr. Revathi V., Dean–R&D**, and **Dr. Vinod Kumar K., Head of R&D, NHCE**. The session concluded with a **Vote of Thanks by Dr. R. Mohandas and Mr. Vinod Kumar S**, expressing gratitude to all dignitaries and participants for their support and presence.

About the Institution

New Horizon College of Engineering (NHCE) is an Autonomous College affiliated to Visvesvaraya Technological University (VTU), approved by All India Council for Technical Education (AICTE) and University Grants Commission (UGC). New Horizon College of Engineering has been accredited by NAAC with 'A' Grade and National Board of Accreditation (NBA). It is an ISO 9001:2008 certified Institution.

About the Department

The Department of Electrical and Electronics Engineering (EEE) is one of the prestigious branches of Engineering and one among the oldest Departments of NHCE-Bangalore started in 2001. The Department is accredited by NAAC with 'A' Grade and accredited by NBA. The vision of EEE Department is to create contemporary Engineers, Innovators and Entrepreneurs who would make a better nation and in turn, a better world. A critical investigation and innovation into the modern state-of-art and cutting-edge technology lead to the fact that an Electrical Graduate fits better in today's competitive world.

The strength of the Department are highly qualified faculty members with expertise in various fields of Electrical Engineering, state-of-the-art laboratory facilities. The Department is inclined towards bridging the gap between Industry and Academia by collaborating with Multinational Companies in the field of Electrical Engineering.

The Department nurtures the young minds beyond the curriculum by facilitating Technical Clubs in promoting technical events, community development/society impact and universal value/ethics programs. Electrical and Electronics Engineering students have a greater exposure and flexibility in campus placement in the core industries, IT sectors and Public Sector Units.

AICTE Training and Learning (ATAL) Academy

AICTE Training and Learning (ATAL) Academy, established by MOE, Government of India, holds the vision to empower faculty to achieve goals of Higher Education such as access, equity and quality. The Council understands that there is a need of the day to train the young generation in Skill Sector and train Faculty and Technicians in their respective disciplines with latest tools and technologies. The main objective of ATAL Academy is to plan and help in imparting quality Technical Education in the country and to support technical institutions in fostering research, innovation and exchange of experiences such as workshops, orientations, learning, communities peer mentoring and other FDPs.

Chief Patrons

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New Horizon Educational Institution

Mr. Dharmesh Manghnani
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New Horizon Educational Institution

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Professor and Dean - Academics

Dr. Revathi V
Professor and Dean - R & D

Dr. S. Sujitha
Professor & HoD - EEE

Conveners

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Associate Professor
Principal Investigator

Mr. Vinod Kumar S
Senior Assistant Professor
Co - Principal Investigator

Coordinators

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Technical Sessions

The seminar featured a series of expert lectures and interactive sessions by eminent speakers from reputed institutions and industries:

Day 1: 18.08.2025 - Introduction and Foundation

Date and Session	Topic	Resource Person	Designation	Industry
18.08.2025 (FN)	Introduction to Industry 4.0 and Digital Twin	Mr. Amarnath Durgale	Technical Manager	Schneider Electric, Bengaluru
18.08.2025 (AN)	Fundamentals of Digital Twin Technology	Dr. R. Mohandas	Associate Professor NHCE	

Day 2: 19.08.2025 -Pedagogical Strategies and Technology Integration

Date and Session	Topic	Resource Person	Designation	Industry
19.08.2025 (FN)	Types of Digital Twin: Descriptive, Diagnostic, Predictive and Prescriptive	Dr. Siddhartha Nair	Founder & CEO	Zeuron.ai, Bengaluru
19.08.2025 (AN)	Technologies involved: IOT, ML, AI,Cloud Computing	Prof. Vinod Kumar S	Sr. Assistant Professor NHCE	

Day 3: 20.08.2025 - Industrial Applications

Date and Session	Topic	Resource Person	Designation	Industry
20.08.2025 (FN)	Role of Digital Twin in Industrial Automation	Prof. Mamatha G.M	Assistant Professor	MS Ramaiah Institute Of Technology
20.08.2025 (AN)	Industrial applications of Digital Twins	Dr. P. Manikandan	Solution architect	Codenplay Robotic

Day 4: 21.08.2025 - Real time Application-Oriented Learning

Date and Session	Topic	Resource Person	Designation	Industry
21.08.2025 (FN)	Tools and Platform for building Digital Twins	Mr. Ravi Jai Prakash	SCIENTIST F, Deputy Project Director	Aeronautical Develepoment Agency (ADA)
21.08.2025 (AN)	Real World applications of Digital Twins	P. Amit Rao	Technical Manager	IPCS Global-Hyderabad

Day 5: 22.08.2025 Application-Oriented Learning

Date and Session	Topic	Resource Person	Designation	Industry
22.08.2025 (FN)	Smart Factories and Automation using Digital Twins	Mr. Venkata Vinod Pasumathi	General Manager, Program Management and Product Strategy	Ather Energy, Bengaluru

Day 6: -23.08.2025- Challenges and Future Trends

Date and Session	Topic	Resource Person	Designation	Industry
23.08.2025 (FN)	Challenges in Implementing Digital Twins	Mr. Jeykishan	Engineering Officer	CPRI-Bengaluru

Each session provided participants with deep insights into converter design, control strategies, grid integration, and future research directions.

Participation

The workshop received an overwhelming response with participation from:

- ✓ Faculty members and research scholars from various engineering institutions across India.
- ✓ Industry professionals and experts working in the field of automation and digital technologies.
- ✓ Postgraduate and undergraduate students with a strong interest in Industrial Automation and Industry 4.0 applications.

Total participants: 60



Outcomes of the Workshop

- ✓ Enhanced understanding of Digital Twin Technology and its applications in industrial automation.
- ✓ Improved knowledge on real-time data integration, predictive maintenance, and process optimization.
- ✓ Identification of key research areas and opportunities for innovation in Industry 4.0 and smart manufacturing.
- ✓ Networking opportunities between participants, speakers, and industry experts for future collaborations.
- ✓ Motivation for faculty members and researchers to explore advanced automation and simulation technologies.

Valedictory Session

The workshop concluded with a Valedictory Function, where participants shared their valuable feedback and expressed appreciation for the informative sessions and practical insights gained. Certificates were distributed to all participants, marking the successful completion of the six-day FDP.

Acknowledgements

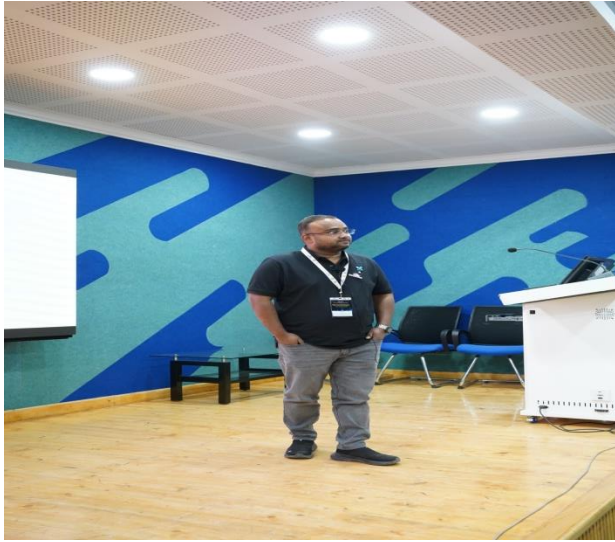
We extend our heartfelt gratitude to **AICTE–ATAL Academy, Pune** for sponsoring the Faculty Development Program, the **management of New Horizon College of Engineering** for their constant support, and all the **distinguished speakers, participants, and organizing committee members** for their active contribution in making the workshop a grand success.

Inauguration: 18.09.2025



Technical Sessions

Expert name with Affiliation	Date	Session No.	Topics of Discussion
Mr. Amarnath Durgale Technical Manager, Schneider Electric, Bengaluru	18.09.2025 (10:00AM-12:30AM)	S1	Introduction to industry 4.0 and Digital Twin
			
Break			
Dr. R. Mohandas Associate Professor, New Horizon College Of Engineering	18.09.2025 (2:00 PM-4:30 PM)	S2	Fundamentals of Digital Twin Technology
			
Day 2			
Dr. Siddhartha Nair Founder and CEO, Zeuron.ai, Bengaluru	19.09.2025 (2:00PM-3:15PM)	S3	Types of Digital Twin: Descriptive, Diagnostic, Predictive and Prescriptive



Break

Prof. Vinod Kumar S
Senior Assistant Professor, New Horizon
College Of Engineering

19.09.2025
(2:00PM–
4:30PM)

S4

Technologies Involved: IOT, ML, AI, Cloud Computing



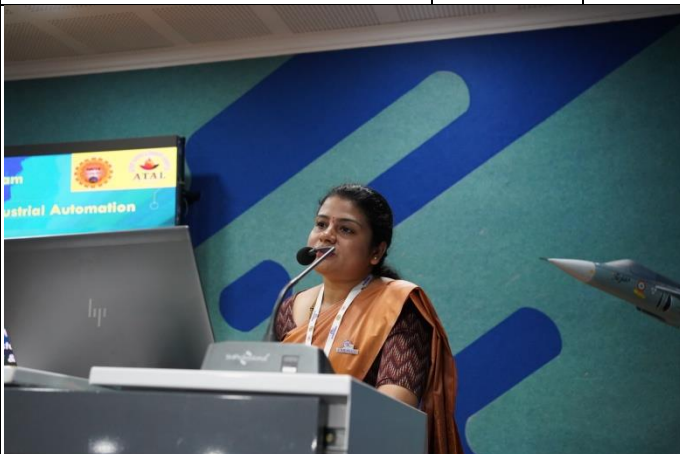
Day 3

Prof. Mamatha G M
Assistant Professor, M S Ramaiah Institute
Of Technology

20.09.2025
(9:30AM–
11:15AM)

S5

Role of Digital Twin In Industrial Automation



Break			
Dr. P Manikandan Solution Architect, CodenPlay Robotic	20.08.2025 (02:15AM-04:00PM)	S6	Industrial Application Of Digital Twin
			
Day 4			
Mr. Ravi Jay Prakash Scientist F, Deputy Project Director, ADA	21.08.2025 (10:00PM–12:15PM)	S7	Tools And Platform for Building Digital Twin
			
Break			
Mr. Amit Rao P Technical Manager, IPCS Global Hyderabad	21.08.2025 (2:30PM–4:30PM)	S8	Real World Applications of Digital Twin



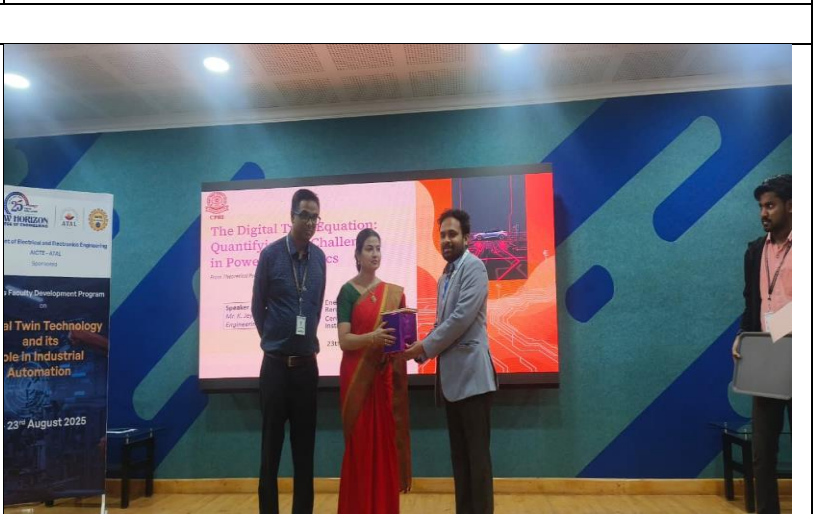
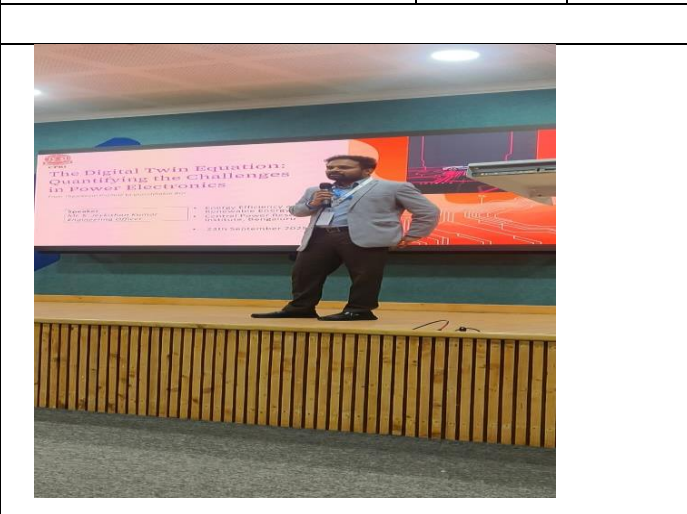
Day 5

Mr. Venkata Vinod Pasumathi General Manager, Program Management and Product Strategy Ather Energy	22.08.2025 (10:00PM– 12:15PM)	S9	Smart Factories And Automation using Digital Twin
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Day 6

Mr. Jey Kishan Engineering Officer, CPRI	23.09.2025 (3:30PM– 4:45PM)	S8	Challenges in implementing digital twin
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