

Day 1 Report

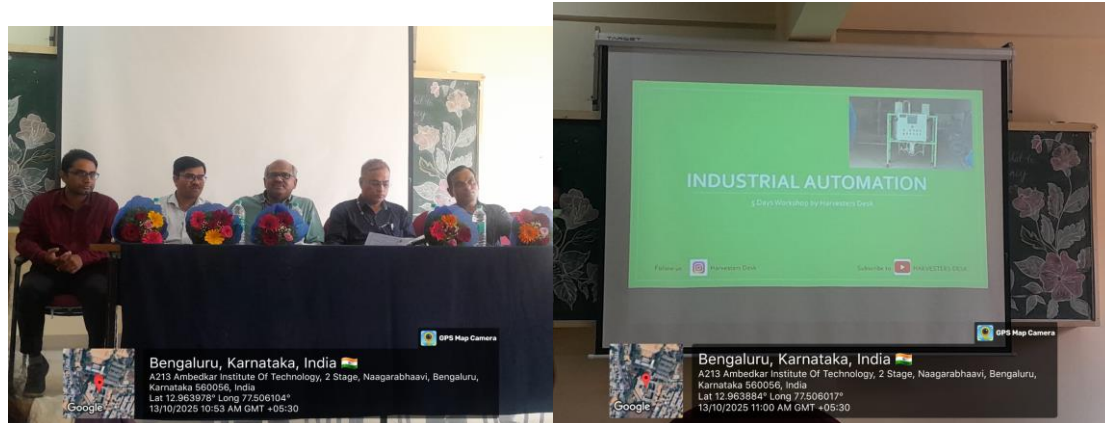
Date: 13th October 2025

Event: One Week Technical Hands-on Workshop on “**Empowering Engineers with Industrial Automation Skills**”

Organized by: Department of Electronics and Instrumentation Engineering, Dr. Ambedkar Institute of Technology, Bengaluru

In Association with: Harvesters Desk, Bengaluru

The first day of the workshop commenced with an inaugural ceremony. The session was graced by the Head of the Department (HOD) and the Principal, who formally inaugurated the event. They addressed the students with motivating words, emphasizing the importance of industrial automation and the need for engineers to gain practical exposure to automation technologies.



Following the inauguration, the resource persons from Harvesters Desk, Bengaluru, **Speakers: Mr. Arun Kumar , Jayanth and Dr.Anjan B N**

Mr. Arun provided an overview of automation, tracing its evolution from Industry 1.0 to Industry 4.0. The session included a detailed discussion on the role of conveyors in automated systems.

Mr. Jayanth elaborated on the automation hierarchy, explaining the different levels and their significance in industrial automation. The session concluded with insights into Open Source Intelligence (OSINT) and its applications.

In the afternoon session, the speakers delivered an informative session on **PLC (Programmable Logic Controller), SCADA (Supervisory Control and Data Acquisition), and HMI (Human Machine Interface) systems**. They explained the basic concepts, architecture, and applications of these systems, along with demonstrations of their respective software tools.

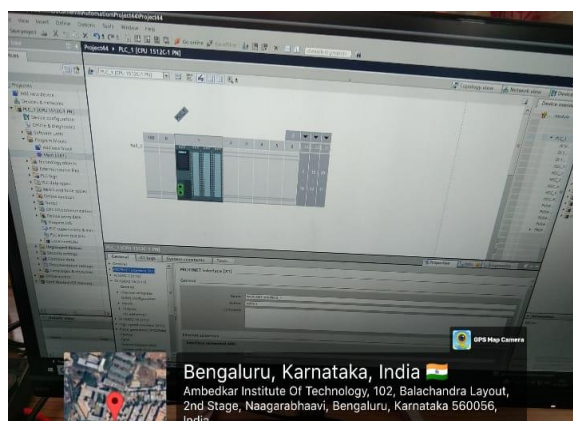
Participants also gained insights into real-time industrial processes and how automation technologies are applied in different industrial environments.

Day 2 Report

Date: 14th October 2025

The second day of the workshop began with an interactive session conducted by the members of Harvesters Desk, Bengaluru. They initiated the day by demonstrating the installation process of the Siemens TIA Portal software, which is widely used for PLC programming.

After successfully installing the software, the trainers explained the procedure to connect the system software with different types of PLC kits such as Siemens S7-1200 and S7-1500. They elaborated on the features, configuration process, and working principles of these PLC versions, highlighting their applications in industrial automation systems.



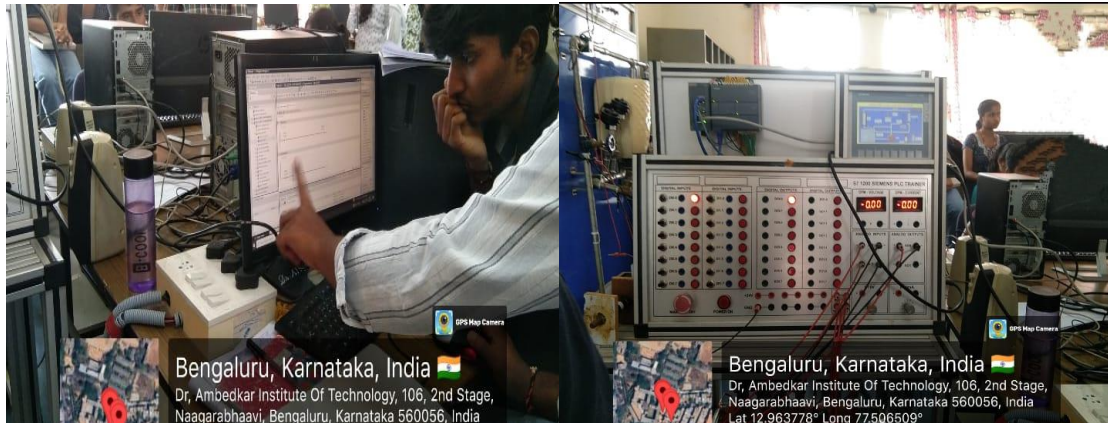
In the latter part of the session, students were introduced to simple PLC programming using the installed TIA Portal. They performed basic programming exercises by connecting the software with the PLC board to observe the output responses. This hands-on experience helped students understand the real-time interaction between software commands and hardware execution.

Day 3 Report

Date: 15th October 2025

The third day of the workshop continued with an in-depth learning session conducted by the members of Harvesters Desk, Bengaluru. The trainers provided further insights into the Siemens TIA Portal software, explaining its advanced tools, interface, and features used for PLC programming.

Participants were guided through various functions available in the TIA Portal, which help in efficient programming, simulation, and monitoring of automation processes. The trainers also discussed the importance of these features in real-time industrial applications.



Introduction to PLC programming environment and software interface Step-by-step demonstration of programming logic for controlling motors using push buttons, Practical exercises on inching operations and motor control, Explanation and implementation of essential PLC instructions and functions, including: Comparators, Timers, Counters, Mathematical functions

Detailed walkthrough of ladder diagrams and logic circuits for real-world automation tasks Application examples such as emergency push button logic, proximity sensor integration, and holding circuits

In the practical session, students were instructed to perform programming tasks using counters and timers within the TIA Portal. This exercise helped them understand how timing and counting operations are implemented and controlled in automation systems using PLCs.

Day 4 Report

Date: 16th October 2025

The fourth day of the workshop was focused on practical programming and industrial process applications using the Siemens TIA Portal. The session was conducted by the members of Harvesters Desk, Bengaluru, who guided the participants through advanced exercises in PLC programming.

The trainers explained how to perform programming tasks using the TIA Portal tool and introduced the concept of using a rotor within the PLC setup. They demonstrated how the rotor component interacts with the PLC and the control logic associated with it.

Detailed explanation of the working process and logic behind common appliances such as washing machines and iron boxes, with a focus on fuzzy logic and its role in automation The importance of resume building for aspiring professionals Insights into core companies in the automation sector and the need for in-depth knowledge about them



Additionally, the session covered topics related to processing and other systems, which are important automation processes used in industries. Students learned how to design and implement basic control logic for these applications using the TIA Portal environment.

Day 5 Report

Date: 17th October 2025

The fifth day of the workshop focused on Human Machine Interface (HMI) and its integration with PLC systems. The session was conducted by the members of Harvesters Desk, Bengaluru, who began by explaining the concept of the Simatic Comfort Panel and its functionalities.



They introduced the HMI software used for developing user interfaces and demonstrated how it interacts with PLC systems. The trainers also explained the color sorting process and discussed how main screen operations in PLC and root screens in HMI are designed for efficient industrial control and monitoring.

During the session, the participants were shown videos of various industrial plants that operate based on automation technologies. These examples provided valuable insights into real-world applications of PLC and HMI integration in industries such as manufacturing, process control, and quality management.