



DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

ACADEMIC YEAR 2023-24 (ODD)

Report - Industrial Visit

Place Visited : Siemens Centre of Excellence in Manufacturing, NIT, Trichy.

Date of Visit : 02.11.2023

Number of Beneficiaries: 40 – Students from IIC students members & 4 Staff Members on 02.11.2023

As part of our curriculum, department has arranged one day Naan Mudhalvan Industrial Visit for IIC students at NIT, Trichy. Our team, comprising three faculty members and final year students, embarked on an insightful industrial visit to the National Institute of Technology, Trichy (NIT Trichy) to explore and understand the practical applications of Programmable Logic Controllers (PLC) in industrial settings.

Objectives of Industrial Visit at NIT Trichy:

The objective of an industrial visit is to provide an insight regarding internal working of industries.

- The primary goal of the visit was to gain hands-on experience and knowledge about PLC schematics, their implementation in real-world scenarios, and the role they play in industrial automation.
- **Automation:** Facilitate the automation of industrial processes by executing predefined logic, reducing the need for manual intervention and enhancing efficiency.
- **Control Logic Implementation:** Provide a platform for implementing and executing control logic diagrams, enabling precise control over various components and devices in a system.
- **Reliability:** Ensure reliable and consistent operation of industrial processes by minimizing errors, reducing downtime, and optimizing response times to input signals.
- **Monitoring and Diagnostics:** Enable real-time monitoring of system parameters and the ability to diagnose faults promptly, facilitating efficient maintenance and troubleshooting.
- **Interfacing with Sensors and Actuators:** Facilitate seamless integration with sensors and actuators, allowing PLCs to receive input data from the field and control output devices based on the programmed logic.
- **Cost Efficiency:** Contribute to cost savings by streamlining operations, reducing the need for manual labor, and optimizing resource utilization within industrial settings.

- **Scalability:** Provide a scalable solution that can accommodate the expansion or modification of industrial processes without significant changes to the control system.
- **Standardization:** Facilitate standardization of control processes, making it easier to replicate and maintain similar systems across different sections of an industrial facility.
- **Enhanced Safety:** Contribute to the overall safety of industrial operations by implementing fail-safe mechanisms and emergency shutdown protocols through the PLC control logic.
- **Data Logging and Reporting:** Support data logging and reporting functionalities, allowing for the collection and analysis of operational data for process optimization and regulatory compliance.
- **Integration with Communication Networks:** Enable communication with other automation and information systems, fostering connectivity and integration within the broader industrial ecosystem.

Overview of NIT Trichy:

NIT Trichy, renowned for its excellence in engineering education, provided an ideal backdrop for our exploration. The institution's state-of-the-art laboratories, experienced faculty, and industry collaborations make it a hub for cutting-edge research and practical learning.

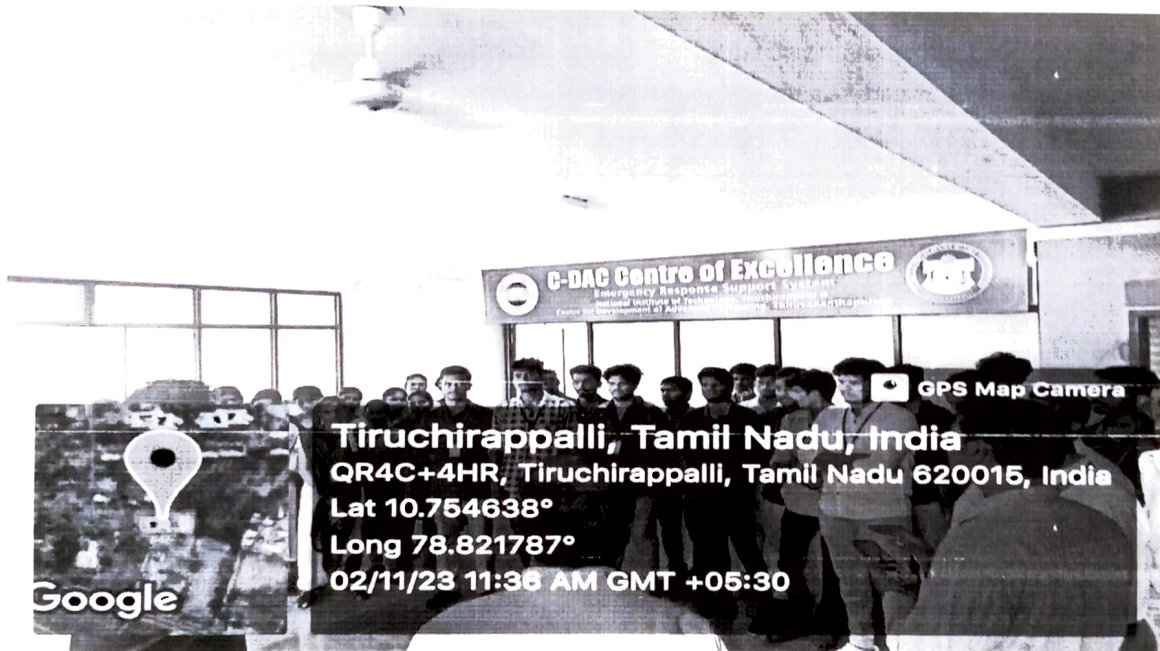
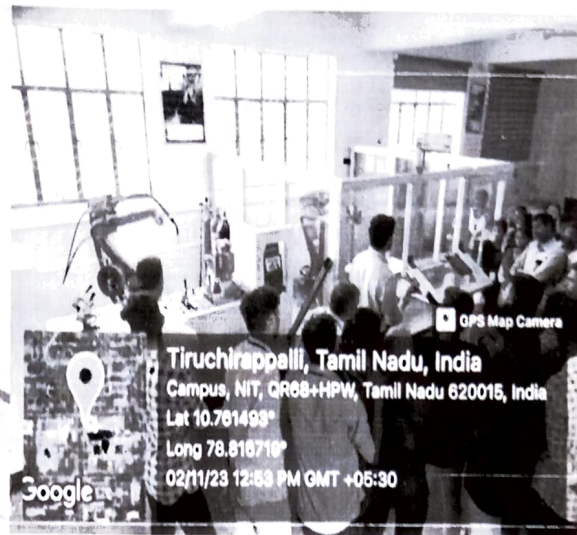
Introduction:

We recently visited the National Institute of Technology (NIT), Trichy, accompanied by three esteemed faculty members and a group of final year students. The purpose of the visit was to gain insights into Programmable Logic Controller (PLC) schematics in an industrial setting.

The Students visited the following places at NIT:



Students discussed with resource person



Snapshot at NIT, Trichy

Outcome:

- Industrial visits help students to enhance their interpersonal, communication skills, and teamwork abilities.
- This visit not only broadened our understanding of PLC schematics but also underscored the importance of experiential learning in preparing students for the challenges of the industrial landscape.
- At the end of this visit, students should be able to improve their knowledge relevant to PLC to the learn new technologies and areas.

Key Observations:

Our visit to NIT Trichy provided invaluable insights into PLC schematics, reinforcing theoretical knowledge with practical applications. The hands-on sessions allowed students to interact with PLC systems, enhancing their problem-solving skills and familiarity with real-world scenarios.

Faculty Collaboration:

The collaboration with NIT Trichy's faculty members facilitated in-depth discussions and clarification of doubts. Their expertise in the field added depth to our understanding of PLC schematics and their role in modern industrial automation.

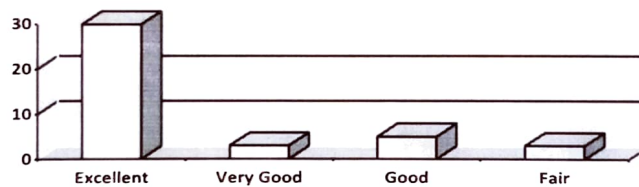
Practical Application:

Witnessing the real-time application of PLC schematics reinforced the importance of practical knowledge in engineering education. The hands-on experience allowed students to grasp concepts beyond the theoretical realm.

Conclusion:

The industrial visit to NIT Trichy was a resounding success, offering a comprehensive understanding of PLC schematics. The practical exposure provided a bridge between theoretical concepts and their practical implementation, enriching the learning experience for both faculty and students.

Students Feedback:



Principal