Manufacturing Technology Training
An IMTMA initiative

# Hands-on training in PLC Programming and Networking
# Date : 12 to 14 February, 2025
# Venue : IMTMA Technology Centre, Bengaluru

## INTRODUCTION

In today's industrial landscape, Programmable Logic controller (PLC) serve as the cornerstone of automation, enabling precise control over machinery and processes. PLC represents a key driver in automation, production & process planning in the manufacturing industry. Many industries of today, including packaging, pharmaceuticals, refineries, mines, machine shops, power plants and food industries use PLC systems for automation of their machinery to produce more, consistently, quickly and efficiently.

Modern PLC systems can be connected to data networks and interfaced with other automation control devices. However, for improvement / modification of the automation system, correct interpretation of the Logics and changes need to be made to the PLC program as and when required.

Keeping this in view, Indian Machine Tool Manufacturers' Association is organizing a 3-day **Hands-on training program in PLC Programming & Networking.** This training is designed to equip participants with practical skills in both PLC programming and networking, crucial for optimizing operational efficiency and troubleshooting in industrial settings.

## FOCUS AREAS

- Basics of Digital Electronics & Relay Logics
- Architecture of PLC
- Concept and clear understanding of Scan Cycles in working of PLC
- Overview of commonly used Hardware (DI/DO and AI/AO Modules)
- Discrete Input / Output modules, interfacing with field devices, concept of Sourcing & Sinking, NPN, PNP, I/O addressing.
- Role of sensors in facilitating industrial automation.
- Overview of PLC Programming Techniques
- Creating & Editing Ladder Logic Program
- Hands-on practice in simulators
- Overview of Communication and Networking.
- Industrial Networking: Device level and Control level
- HMI Basics & Features
- HMI Screen Building
- Integrating Sensors, PLC and HMI by networking
- Live Examples of working on PLC and HMI with sensors.
- Hands-on practice

## KEY TAKE AWAYS

**After undergoing the programme, the participants will be able to learn -**

- Basics of PLC technology and understand the concept of Ladder programming.
- Basics of HMI and creating some screens.
- Simulation of HMI and PLC codes.
- Importance & types of Sensors and Peripherals.
- Integrating the Sensors, PLC and HMI.
- Networking: introduction of RS485 based network and Industrial Ethernet based network .
- Knowledge about various application possibilities using PLCs and HMIs.
- Hands on experience of the PLC and HMI usage so as to get a feel of Industrial automation and networking.

## PARTICIPATION FEE

**Rs. 13750/-**
+18% GST
**IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others**

**USD 550/-**
**Overseas Participants**

**Group Concession : 10% for 3 to 5 and 20% for 6 and more delegates being nominated from the same company**

## PARTICIPANT PROFILE

This programme will benefit Managers, Engineers & Middle management personnel involved in the functions of Design & Development, R&D, Production, Process planning, Application Engg. Maintenance and other related areas from Machine Tool, Auto & Auto Ancillaries, Packaging, Pharmaceuticals, Food Processing and other General Engineering industries.

Faculties from educational institutes can also participate in the programme. Students who are interested in Industrial Automation can participate to get a hands-on feel.

The programme will be totally practical oriented with hands-on practice. Participants would be encouraged to raise questions and solicit feedback from the expert faculty.

## FACULTY

This Program will be conducted by **Dr. Prathima Holla.**

**Dr. Prathima Holla** is a rare blend of Industry and academics. Graduate in Electronics and Communication Engineering from NMAMIT Nitte. Masters in Industrial Electronics from SJCE Mysore. She is MTech Gold Medallist from VTU. She worked in Industry majors like L& T Emsys, Intel, Microview Software Technologies for more than 14 years. She also spent about 8 years in academic institutions, teaching Electronics and Electrical subjects. She completed her Doctorate from VTU in 2021 with her research subjects around Industry 4.0. She has architected an Internet gateway to monitor machine shop activities which involves M2M communication, Data Analytics, Close looping of many manufacturing challenges using digital capabilities. Her research papers are published in international journals like Taylor and Francis, Springer etc. Passionate about teaching, skilling and knowledge transfer. At present she is heading automation division in Distinct Productivity Solutions Pvt. Ltd., Bangalore.


## For Registration Contact

**Digvijay Nath Pandey**
**Programme Coordinator**
7349067391
digvijay@imtma.in
**Back End Operations**
9742626488
enquiry@imtmablr.com

## Contact Address

**INDIAN MACHINE TOOL MANUFACTURERS' ASSOCIATION**
@ BIEC, 10th Mile, Tumkur Road, Madavara Post,
Bangalore - 562 123
Tel : 080-66246600
Fax : 080-6624-6658


imtmatrainning.67038796@hdfcbank

**REGISTRATION :** Prior registration for participation is necessary. Number of participants is limited and will be accepted on 'First Come First Serve' basis. A Certificate of participation will be issued to participants.
**Important Information :** Participation fee includes, course material, working lunch and tea / coffee. Interested companies are requested to register online by clicking on 'REGISTER' button and by filling up the nomination authority and participant's details in specified form.