

FULL-TIME · 12 WEEKS · COIMBATORE

Become an Industrial IoT & Industry 4.0 Engineer.

A hands-on programme for fresh engineering and diploma graduates. Wire real panels, program industrial PLCs, connect machines to data systems and build the dashboards factories run on.



Sensors

24 V I/O, analog



PLC + HMI

Delta · Mitsubishi ·
Siemens



Connectivity

Modbus · OPC UA



Edge + MQTT

ESP32 · Python · Linux



Historian

PostgreSQL



Insight

Grafana · OEE · MES

12

weeks, full-time

480

learning hours

300

hours of supervised lab

15

students per batch, max

Factories are going digital. They need engineers who can connect them.

Manufacturers are connecting machines to track output, downtime, energy and quality in real time. Doing that needs people who understand both the shop floor and software: wiring and PLCs on one side, protocols, data and dashboards on the other. That combination is rare in fresh graduates. This programme builds it in 12 weeks.



Real industrial hardware

Every station has a Delta PLC and HMI, sensors, an energy meter and ESP32 boards. Rotation stations add Mitsubishi and Siemens.



Small batches of 15

Two to a station, so everyone wires, programs and debugs. A trainer leads each morning; a lab instructor supervises all afternoon.



Practical, not slides

300 of 480 hours are supervised lab work. 95% of your score comes from what you build, test and explain.



AI-assisted engineering

Learn to code with AI the way working engineers do, and to prove every line works before it reaches a machine.



Built by practitioners

Designed by the Maestro team behind M-Connect, an IIoT platform running on live shop floors.



Portfolio and placement support

Graduate with eight builds, a defended capstone, a CV and mock interviews, plus introductions to hiring companies.

Who can join

- ✓ Fresh BE/BTech or diploma graduates, or final-semester students joining after exams
- ✓ EEE, ECE, EIE, Mechatronics, Mechanical, CSE and related branches
- ✓ Able to attend full-time, 8 hours a day, for 12 weeks

What you need

- ✓ Basic maths, electrical concepts and PC skills
- ✓ No prior PLC or coding needed; a short pre-course is provided
- ✓ Your own laptop (Windows, 8 GB RAM recommended)

AI writes. **You prove it.**

Employers want engineers who use AI and can be trusted with the result. You will learn a five-step discipline, and you are tested without AI to show you truly understand your work.

01

Specify

Tags, register maps, failure cases

02

Generate

Small, testable pieces

03

Read

Explain every line

04

Verify

Against meters, tools, manuals

05

Defend

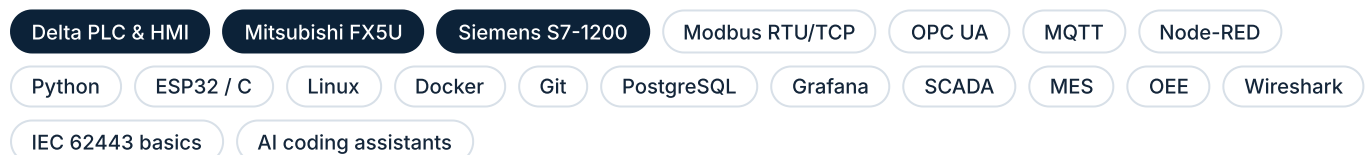
Break it, fix it, explain it

CURRICULUM

12 weeks. One complete factory data system.

WEEK 01	Electrical & industrial basics 24 V circuits, sensors, PNP/NPN, 4–20 mA. Build and debug a protected panel.	WEEK 07	OPC UA & machine connectivity Secure OPC UA, gateways, and how to connect an unfamiliar machine.
WEEK 02	PLC & HMI programming Ladder logic and HMI screens on Delta, then port your machine to Mitsubishi or Siemens.	WEEK 08	Linux & edge deployment Services, VLANs, firewalls, Git and Docker on an edge computer.
WEEK 03	Serial, Modbus & networking RS485, Modbus RTU/TCP, IP addressing. Read a real energy meter.	WEEK 09	PostgreSQL & Grafana A machine historian and a live energy dashboard with alerts.
WEEK 04	Python for automation AI A fault-tolerant machine-data collector, verified value by value.	WEEK 10	SCADA, MES & OEE Turn machine events into downtime, OEE and production reports.
WEEK 05	ESP32 & embedded C AI Build a sensor node with RS485 and compare it with an industrial gateway.	WEEK 11	OT security & commissioning Harden the system; FAT/SAT and multi-layer troubleshooting.
WEEK 06	MQTT & Node-RED Move machine data reliably through a publish/subscribe pipeline.	WEEK 12	Capstone & career readiness Deliver and defend your system; CV, portfolio and mock interviews.

Technologies you will use



CAPSTONE PROJECT

Smart Manufacturing Monitoring System

Built up over eight staged projects, then delivered, tested and defended in Week 12. It tracks machine state, production count, cycle time, downtime, rejects, energy and OEE.



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A TYPICAL DAY

Every day has a build goal

3 h · Trainer-led

Concepts, live demo, manual reading, guided start

4 h · Supervised lab

Build, test, fault injection, peer integration

1 h

Docs, Git, sign-off

95% of your score is practical: weekly labs, eight mini-projects, troubleshooting tests, the capstone and a final technical viva.

Where this takes you

You will be prepared for entry-level roles with automation companies, system integrators, machine builders and manufacturing plants.

Automation / PLC Engineer

Program, test and maintain machine control.

IIoT Integration Engineer

Connect machines and gateways to data platforms.

SCADA / MES Engineer

Build operator views, alarms and production tracking.

Edge Application Engineer

Deploy and support software on the factory edge.

Commissioning Engineer

Install, test and hand over systems on site.

Manufacturing Data Engineer

Turn machine data into OEE, energy and quality insight.

You graduate with

- ✓ Eight hands-on builds and a working capstone system
- ✓ A GitHub portfolio, lab workbook and handover pack
- ✓ Experience on three PLC brands
- ✓ A CV, project story and mock technical interviews
- ✓ A Maestro course completion certificate
- ✓ Placement assistance and employer introductions

How to join

- 1 Register**
Call, WhatsApp or visit the website.
- 2 Entry check**
A short basics test and conversation.
- 3 Counselling**
Course, schedule and fee details.
- 4 Pre-course**
Self-paced Python, Linux and number basics.
- 5 Start building**
Day 1 in the lab.



Learn on the same stack used in real deployments

The course is built around how the Maestro team connects machines with M-Connect: legacy PLCs, energy meters, gateways, MQTT and dashboards. Your capstone follows the same steps as a real shop-floor rollout, from tag list to acceptance test.

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A VELAVA FOUNDATION INITIATIVE WITH MAESTRO TECHNOLOGY SERVICES

Only 15 seats per batch

Next batch: 11 November 2026 · Apply by 3 November 2026



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