



INDUSTRIAL AUTOMATION TRAINING WITH SIEMENS PLC

1.0 INTRODUCTION

Zip Automations is a leading control engineering firm with rich experience in industrial automation/control solutions for industries.

Zip Automations, also a control engineering training institute, offers hands on trainings in industrial automations/PLCs (Programmable Logic Controllers) for engineers/technicians using models simulating industrial processes and lots more.

With excellent feedback recorded, Zip Automations has delivered On-Plant training for industries such as Beta Glass Nigeria PLC, Agbara Lagos state for its engineers. Also, we have conducted trainings at our control training laboratory for engineers from various manufacturing industries such as Unilever, Dufil Prima foods, Bulwark services limited, Nigeria Gas Company e.t.c



2.0 TRAINING

Our trainings are 95 percent practical based and is designed for those who seek to pursue a full-time career in industrial automation.

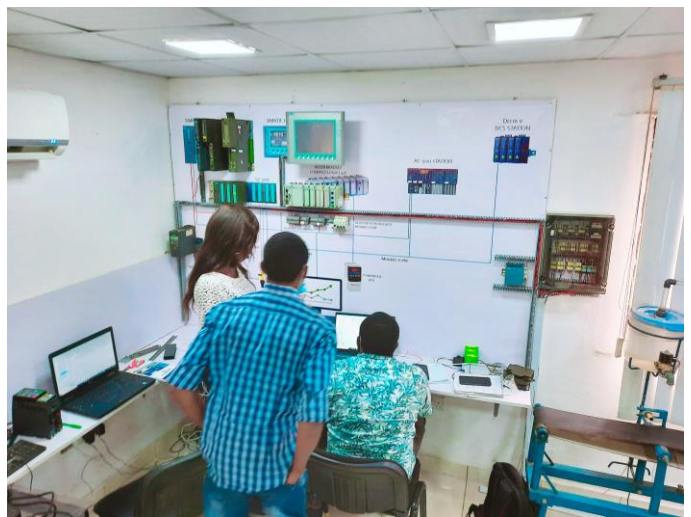
CERTIFICATE IN CONTROL SYSTEMS/AUTOMATION ENGINEERING

SIEMENS PLC – Simatic Manager or TIA Portal

Course Code – AUTM 300

At the end of this training, trainees will be able to

- Set-up, wire and program Siemens PLC control systems from scratch
- Troubleshoot basic programs, trace faulty Siemens s7 PLC/modules and replace them.
- Perform basic PLC programming(discrete signals) and download to PLCs
- Modify existing programs for different applications.
- Design and execute automation projects
- Program, troubleshoot and maintain continuous signal field devices such as level meters, VFDs, temperature sensors, pressure sensors, modulating valves etc
- Establish communication between two or more PLCs
- Design process control systems with PID controls



COURSE DETAIL

- Analog Signal Programming
- Structured programming with Function Blocks, Function Calls, Data Block
- Programming with User Defined Data Types.
- Program, troubleshoot and maintain continuous signal field devices such as level meters, VFDs (Micro-master and others), temperature sensors, pressure sensors, modulating valves etc
- Set-up, Wiring and Configuration of Variable Frequency Drives. (VFDs)
- Introduction to Process control using PID loop programming (with practical sessions)
- Open and close loop controls
- PID programming
- PID tuning



MODULE 2 : HMI/SCADA DESIGN

SOFTWARE: WINCC FLEXIBLE OR WINCC ADVANCED

- Introduction to HMI systems
- Getting Started on WinCC
- Security and passwords
- Object properties and animations
- Alarms
- Bars and trends
- Tags e.tc



- Integrating a HMI project into a PLC project
- Defining communication Parameters
- Using the Tool bar
- Object properties (Events, animations etc)
- Creating a Tag Database
- Security and password of screens
- Adding Screens
- Text lists
- Recipes
- Bar graphs and sliders
- Trends
- Alarms
- Faceplates
- Creating automatic data logging files
- Troubleshooting a HMI Terminal and Application



MODULE 3- ELECTRO-PNEUMATICS SYSTEMS

- Introduction to Electro-pneumatic systems
- Electro-pneumatic diagram
- Basics of electro-pneumatics
- Electro-pneumatics programming with Function Blocks in SIMATIC MANAGER
- Basic principles of compressed air supply, production, and distribution
- Structure and function of pneumatic devices
- Basic principles pneumatic valves, cylinders and solenoid coils
- Reading pneumatic diagrams
- Fundamentals of control and modulating

