Large Scale Industrial Automation Training Program

Welcome to our comprehensive Industrial Automation training program, designed to transform you into an Automation Specialist. This 270-hour curriculum covers everything from basic electrical concepts to advanced PLC-SCADA interfacing and DCS fundamentals.

Our program aligns with industry demands across manufacturing, automotive, pharmaceutical, oil & gas, food & beverage, and IT sectors. Each program builds upon the previous, creating a solid foundation for your career in automation.

Program Overview

Basic Electrical

Foundation in electrical engineering, components, safety, and maintenance

Fundamentals of IoT

IoT architecture, hardware platforms, sensors, and cloud integration

Industrial Sensors & Interfaces

Sensor types, interfacing techniques, and data acquisition

PLC Programming

Ladder logic, hardware, software, and HMI interfacing

SCADA Design

System architecture, HMI design, and device integration

PLC-SCADA & DCS

Advanced interfacing and distributed control systems

Basic Electrical

1 Electrical Fundamentals & Components

Master core electrical principles and component functionality essential for automation systems

2 Tools, Safety & Wiring

Learn proper use of electrical tools, safety protocols, and installation techniques

3 Diagrams, Motors & Troubleshooting

Interpret electrical diagrams, understand motor operations, and develop maintenance skills

4 Practical Application

Apply knowledge through hands-on mini projects and comprehensive assessments

This program provides the essential foundation for all automation work. Certification is provided by stem.org and prepares you for roles such as Electrical Technician, Maintenance Engineer, and Safety Officer.

Fundamentals of IoT

IoT Architecture

Understanding the layered structure of IoT systems and components

Sensors & Actuators

Working with devices that collect data and perform physical actions

Cloud Integration

Connecting IoT systems to cloud platforms for data storage and analysis

Communication & Networking

Implementing networking protocols for device connectivity

This IBM-certified program prepares you for roles like IoT Developer, IoT Engineer, and Cloud Developer. The curriculum emphasizes hands-on experience with hardware platforms, data communication protocols, and security fundamentals through mini-projects.

Industrial Sensors and Interfaces

Introduction to Industrial Sensors

Explore the fundamental principles and applications of various industrial sensors used in automation and control systems.

Sensor Types and Applications

Explore industrial sensor technologies and their uses in process control, monitoring, and data collection.

Communication Protocols

Explore industrial networking protocols for connecting and integrating sensor devices, including Modbus, Profibus, and Ethernet/IP.

Signal Conditioning

Explore techniques to prepare sensor signals for processing, including amplification, filtering, and analog-to-digital conversion.

This Schneider Electric certified program covers comprehensive sensor technology and interfacing techniques essential for automation systems. Graduates qualify for positions as Automation Engineers, Instrumentation Engineers, and Control Systems Engineers.

PLC Programming

PLC Fundamentals

Understanding PLC architecture, hardware components, and wiring principles

Ladder Logic

Mastering the primary programming language for PLCs with practical exercises

Advanced Concepts

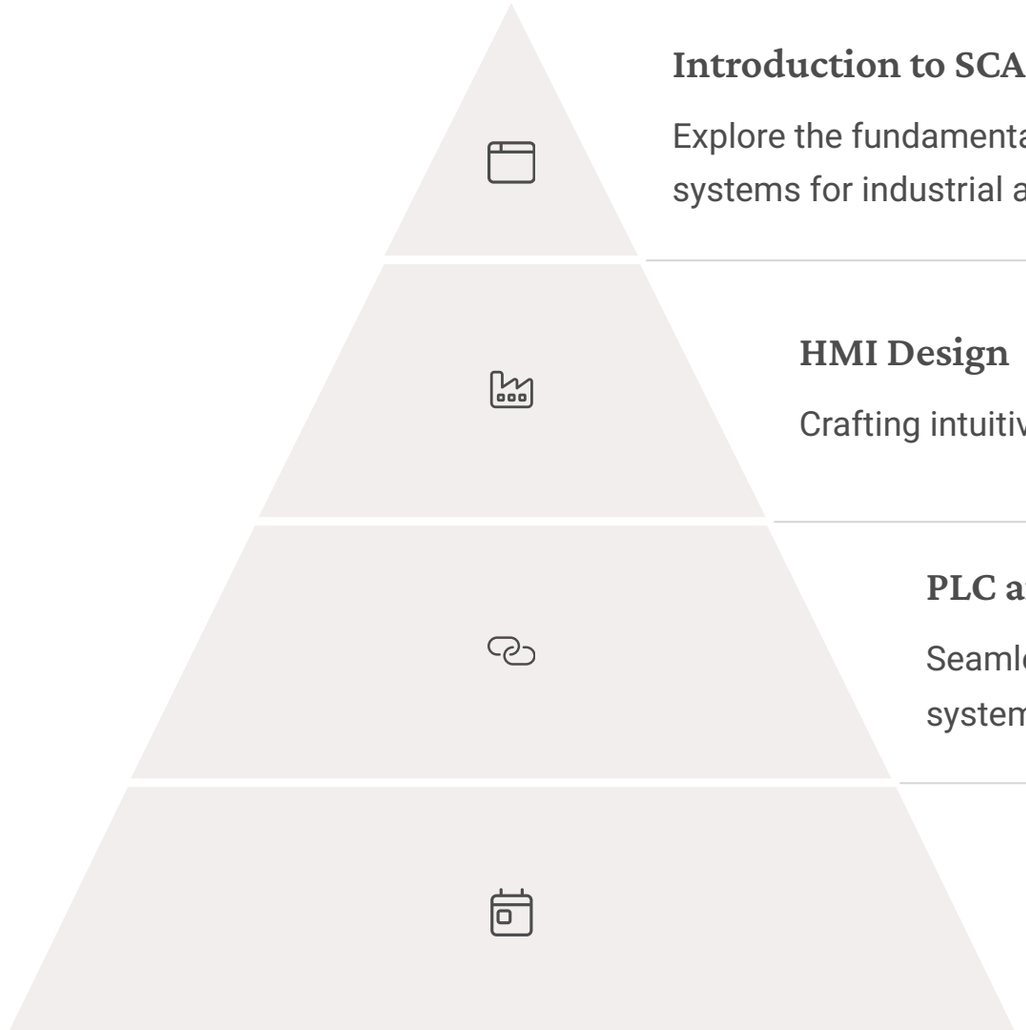
Implementing timers, counters, math functions, and sequential control

HMI & SCADA

Connecting PLCs to human-machine interfaces and supervisory systems

This Schneider Electric certified program provides comprehensive training in Programmable Logic Controllers, the backbone of industrial automation. Graduates are prepared for roles in automation engineering, control systems, and maintenance.

SCADA Design



Introduction to SCADA

Explore the fundamentals of Supervisory Control and Data Acquisition (SCADA) systems for industrial automation.

HMI Design

Crafting intuitive human-machine interfaces for seamless industrial control.

PLC and Device Integration

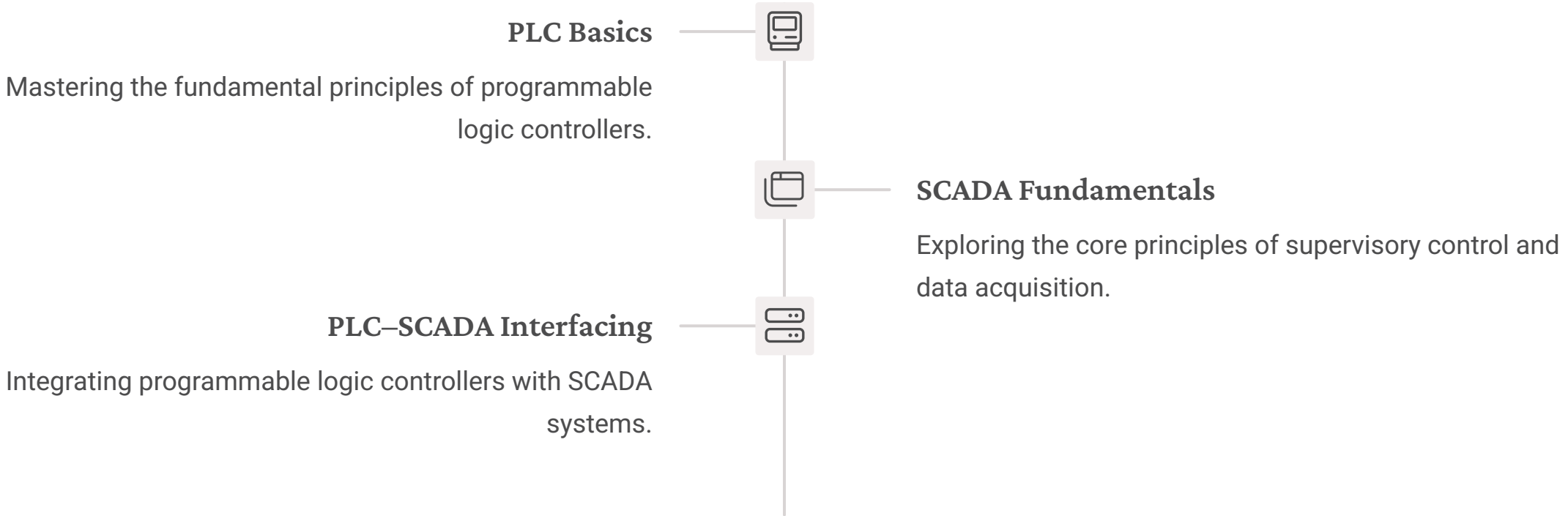
Seamless connectivity between PLCs, field devices, and control systems.

Alarms and Events

Proactive monitoring and notification for reliable industrial operations.

This Schneider Electric certified program covers Supervisory Control and Data Acquisition systems used to monitor and control industrial processes. Graduates are prepared for roles in SCADA Engineer, Automation Engineer, Control Systems Engineer, Instrumentation Engineer, Maintenance Engineer.

PLC-SCADA Interfacing & DCS Fundamentals



This advanced program, certified by Schneider Electric, brings together previous knowledge to create fully integrated automation systems. Students learn to interface PLCs with SCADA systems and understand the fundamentals of Distributed Control Systems (DCS) used in large-scale industrial applications. Graduates are prepared for roles in Automation Engineer, Control Systems Engineer, Instrumentation Engineer, Maintenance Engineer, Project Engineer.

Exit Profile: Automation Specialist

System Design

Automation Specialists design comprehensive control systems that integrate various technologies to create efficient, reliable industrial processes. They translate operational requirements into technical specifications.

Implementation

These professionals develop and maintain automated systems using PLCs, SCADA, robotics, and scripting tools. They write code, configure hardware, and ensure all components work together seamlessly.

Optimization

Specialists continuously monitor and improve automated systems to increase efficiency, accuracy, and productivity. They analyze performance data and implement enhancements to streamline operations.

Certification Value

100%

Industry Recognition

All certifications are recognized by leading industry players

3+

Major Providers

Certifications from stem.org, IBM, and Schneider Electric

6+

Career Paths

Multiple specialized career trajectories available

∞

Validity Period

No fixed expiration, though continuous learning recommended