



Future-Oriented Training and Consulting

INDUSTRIAL CONTROL SYSTEMS AND AUTOMATION PROGRAM

Industrial Control Systems & Automation

Equipping engineers to design and manage industrial control and automation systems.

Proven Automation Frameworks Structured frameworks for implementing automated processes.	Executive Discussions Case studies, simulations, and executive discussions from real plants.
PLC and SCADA Platform Exposure Hands-on exposure to PLC and SCADA platforms.	Automated Industrial Processes Practical skills to implement and troubleshoot automated processes.

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Program Overview

This program builds technical expertise in designing and managing industrial control systems and automation solutions.

Through case studies, executive discussions, simulations, and hands-on exposure to PLC and SCADA platforms, participants will develop the practical skills to implement and troubleshoot automated industrial processes.

Program Objectives

- **Understand Control System Fundamentals:** Grasp how control systems govern industrial processes.
- **Program PLC Logic:** Write and test logic that drives automated equipment.
- **Configure SCADA Systems:** Build supervisory interfaces for monitoring and control.
- **Apply Automation Best Practices:** Design safe, reliable automated process logic.
- **Implement Automated Processes:** Deploy and commission control systems in the field.
- **Troubleshoot and Sustain Systems:** Diagnose faults and maintain systems long-term.

Target Audience

This program is designed for professionals designing and managing industrial control systems, including:

- **Controls & Automation Engineers** designing and programming control systems.
- **Electrical Engineers** integrating control systems into electrical design.
- **Plant & Operations Managers** overseeing automated production processes.
- **Instrumentation Technicians** maintaining sensors and control instrumentation.
- **Process & Manufacturing Engineers** optimizing automated manufacturing processes.
- **OT & Digital Transformation Leaders** integrating control systems into enterprise IT.
- **Consultants & Automation Advisors** guiding clients on automation adoption.

Program Impact

Participants will leave this program with practical PLC and SCADA skills. Graduates will return to their organizations ready to implement and troubleshoot automated industrial processes.

Program Outline

MODULE 1: Foundations of Industrial Control Systems

- Core concepts in control system architecture
- How PLCs and SCADA fit into process control
- Overview of sensors, actuators, and I/O
- The engineer's role in automation design
- Common pitfalls in early automation projects

MODULE 2: PLC Programming Fundamentals

- Ladder logic and structured programming basics
- Writing and testing PLC control logic
- Timers, counters, and interlocks
- Hands-on exposure to PLC programming platforms
- Debugging and testing PLC programs

MODULE 3: SCADA Systems and Visualization

- Building supervisory control interfaces
- Configuring alarms, trends, and reporting
- Hands-on exposure to SCADA platforms
- Integrating SCADA with PLC-level control

MODULE 4: Automation Design and Best Practices

- Designing safe, reliable process logic
- Applying industry standards and safety practices
- Reviewing designs for functional correctness
- Using simulation tools to validate logic
- Building a safe, functional automated process

MODULE 5: Implementation, Troubleshooting, and Sustaining Systems

- Commissioning control systems in the field
- Diagnosing faults and resolving system issues
- Upgrading and maintaining systems over time
- Sustaining automation practices beyond the program