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https://gatewayconsulting.com

# AUTOMATION ENGINEER: PROCESS AUTOMATION & DCS CONFIGURATION

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| **Start Date:** | 20/04/2026 | **End Date:** | 24/04/2026 |
| **Categories:** | Engineering & Maintenan | **Venues:** | London |
| **Formats:** | In Person | **Instructors:** | |

## OVERVIEW

This technical program provides automation engineers with a comprehensive understanding of process automation systems and Distributed Control System (DCS) configuration. Participants will explore control strategies, system architecture, programming techniques, and optimization methods essential for designing, implementing, and maintaining high-performance automated operations across industrial sectors.

## OBJECTIVES

By the end of this course, participants will be able to: – Understand and apply core principles of industrial process automation and control system architecture. – Configure, program, and troubleshoot Distributed Control Systems (DCS) for various process applications. – Optimize process efficiency, reliability, and safety through advanced control strategies. – Integrate DCS with field devices, SCADA systems, and industrial communication protocols. – Diagnose and resolve complex automation system issues using systematic troubleshooting techniques.

## COURSE OUTLINE

1- Fundamentals of Process Automation and Control Systems 2- Distributed Control System (DCS) Architecture, Configuration, and Programming 3- Control Strategies for Process Optimization and Stability 4- Troubleshooting, Maintenance, and Integration with SCADA/PLC Systems 5- Future Trends in Industrial Automation and Smart Manufacturing

## TARGET AUDIENCE

All Supervisory Levels, Automation Engineers, Instrumentation Engineers, Process Control Engineers, Electrical Engineers, Systems Integrators, Control Technicians, and Technical Specialists responsible for process control, system integration, and industrial automation.

## METHODOLOGY

The course features a mix of theoretical instruction, hands-on DCS configuration exercises, case studies from real-world industries, interactive troubleshooting simulations, and group project work to reinforce practical knowledge and technical skills.

## CONCLUSION

Upon completion, participants will possess the skills to design, configure, maintain, and optimize advanced process automation systems, ensuring efficient, safe, and reliable industrial operations. They will also be prepared to adapt automation strategies to meet emerging industry demands and technological innovations.

## DAILY AGENDA

### Day 1: Introduction to Process Automation and Control Systems

Explore the fundamentals of process automation, control system components, control loops, and industrial communication networks.

### Day 2: Distributed Control Systems (DCS) Architecture and Configuration

Detailed study of DCS hardware and software architecture, system configuration, control module development, and workstation management.

### Day 3: Advanced Control Strategies and Optimization Techniques

Learn how to apply control strategies such as cascade control, feedforward control, and model predictive control to enhance process efficiency and stability.

### Day 4: Troubleshooting and Integration with SCADA and PLC Systems

Hands-on exercises in diagnosing system faults, integrating DCS with supervisory control (SCADA) systems and programmable logic controllers (PLCs).

### Day 5: Emerging Trends and Future Automation Technologies

Analyze future trends such as IIoT (Industrial Internet of Things), cybersecurity in control systems, and smart manufacturing innovations.

*For more information, please contact us:*
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