

## Distributed Control System

*Barcelona (Spain)*

*30 December 2024 - 3 January 2025*

UK Training

# PARTNER



# Distributed Control System

Code: OG28 From: 30 December 2024 - 3 January 2025 City: Barcelona (Spain) Fees: 5100 Pound

## Introduction

This course provides participants with a thorough understanding of Distributed Control Systems DCS, emphasizing system architecture, control methodologies, and the distinctions between DCS and other industrial control systems. Through this training, participants will acquire the skills necessary to efficiently operate, manage, and troubleshoot DCS across diverse applications.

## Course Objectives

By the end of this training, participants will be able to:

- Comprehend the basics of control systems and programming methods.
- Distinguish between centralized and distributed control systems.
- Understand the architecture and components of DCS.
- Identify the differences between DCS, SCADA, and PAC systems.
- Apply practical knowledge of DCS applications and hierarchical control structures.

## Course Outlines

### Day 1: Introduction to Control Systems

- Overview of control systems and their importance.
- Programming methods for control systems and their uses.
- Types and functions of controllers and monitoring devices.
- Basics of Direct Digital Control DDC and Analog Control.
- Hands-on exercises with foundational control setups.

### Day 2: Centralized vs. Distributed Control Systems

- Fundamentals of centralized and distributed control systems.
- Benefits and advantages of distributed control systems.
- Hierarchical control methods and their levels in DCS.
- Industry case studies of DCS implementations.
- Practical exercises in system setup and configuration.

### Day 3: DCS Architecture and Components

- Detailed exploration of DCS architecture and core components.
- Communication protocols commonly used in DCS systems.
- Hardware and software integration within DCS.



- Overview of DCS tasks and operational workflows.
- Troubleshooting techniques and maintenance strategies for DCS components.

#### Day 4: Comparison of Industrial Control Systems

- Key differences between SCADA and DCS: functionalities and use cases.
- Comparison of PAC and DCS: strengths, weaknesses, and applications.
- Criteria for selecting the appropriate industrial control system.
- Real-world case studies of SCADA, PAC, and DCS applications.
- Group discussions on strategies for selecting industrial control systems.

#### Day 5: Applications and Practical Implementation

- Examination of key DCS applications across various industries.
- Real-time system monitoring and control using DCS.
- Simulation exercises to practice DCS operations.
- Best practices for enhancing DCS performance.
- Wrap-up session, Q&A, and course evaluation.



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