

SCADA, IoT, and Digitalization in Power Systems

COURSE OVERVIEW

This course explores the integration of Supervisory Control and Data Acquisition (SCADA), the Internet of Things (IoT), and digitalization technologies in modern power systems, highlighting their role in improving operational efficiency, grid reliability and real time decision making. The course emphasizes the technological, operational and strategic aspects of digital transformation in the power sector. Through a blend of theory, case studies and practical examples, participants will gain insights into how digital solutions transform traditional power systems into smart, data driven networks, with applications in monitoring, predictive maintenance, load forecasting and energy optimization.

WHO SHOULD ATTEND?

The course is designed for power system engineers, utility professionals, control and automation specialists, ICT professionals in the energy sector, project managers, regulators, and decision makers seeking to understand and apply SCADA, IoT, and digitalization solutions in power systems operations. It is also suitable for researchers, consultants, and professionals aiming to enhance their knowledge of emerging technologies shaping the future of power networks.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Understand the architecture and components of SCADA systems and their roles in power system automation.
- Gain proficiency in configuring, programming, and managing SCADA software and hardware.
- Develop skills to integrate IoT devices for enhanced real-time data acquisition and control.
- Apply communication protocols and network configurations to ensure secure and reliable data flow.
- Analyze digitalization techniques to optimize energy management, fault detection, and system performance.
- Implement cybersecurity measures and best practices to protect digital power infrastructure.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- SCADA architecture for real-time monitoring and control of power systems.
- IoT integration for improved data acquisition, sensing, and predictive analytics.
- Digitalization to optimize grid performance, fault detection, and energy management.
- Automated SCADA–IoT coordination for renewable integration and load balancing.
- Cybersecurity measures to protect data and digital infrastructure.
- Advanced analytics and cloud computing for smarter decisions and efficiency.

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.

1. A GTC end-of-course certificate
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded