€TRAINING

Conference on PLC Telemetry and SCADA Technologies

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Introduction:

This conference is a premier event uniting experts in programmable logic controllers PLC, telemetry, and SCADA systems. Attendees gather to explore cutting-edge developments, share best practices, and network with industry leaders. It serves as a vital platform for professionals seeking insights into the latest trends and innovations shaping the field.

Conference Objectives:

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

- Gain insight into PLC operation, architecture, and application for control purposes.
- Develop hands-on skills in designing, building, and testing ladder programming on industry-standard PLCs.
- Build confidence in navigating PLC, Telemetry, and SCADA environments.
- Understand Radio Telemetry concepts, including application, limitations, and frequency band use.
- Learn common wire-based communication protocol concepts.
- Foster knowledge sharing and networking opportunities among delegates through open discussions.

Targeted Audience:

- Electronic, Electrical, and Communication Engineers/Technicians.
- Control and Instrumentation Engineers/Technicians.
- I.T. and Software Engineers/Technicians.
- Design and Mechanical Engineers/Technicians.
- Operations, Process, and Production Professionals.
- Project Design Professionals.

Conference Outlines:

Unit 1:

Introduction to Control Strategies:

- Continuous and Sequential Control systems.
- Relay based systems.
- Relay based programming examples.
- PLC v relay systems.
- Programming formats.
- Logical continuity.
- Software familiarisation.
- Introduction to industry-standard PLC programming software.
- Construction of test program.

Unit 2:

PLC Architecture:

- System architecture.
- Memory and I/O types.
- Scanning algorithms.
- Program Scan cycle.
- Elements of a Radio Link.
- The radio spectrum.
- Frequency ranges.
- System design considerations.
- Serial transfer of Programs.
- Design exercise 1.

Unit 3:

PLC Programme Development:

- Analysis of PLC programs.
- Design methodology and development of PLC programs.

- Timer method of program development.
- Design exercise 2. - Program design of Process Controller.
- Communication methods Simplex, Half-Duplex, Full-Duplex:
- RS232 standard.
- RS422 standard.
- RS485 standard.
- Sequence Controller and Application boards.

Unit 4:

Analog I/O and Processing:

- Analog inputs.
- A/D and D/A conversion.
- Programming analog modules and advanced instructions.
- Implementing PID control using a PLC.
- System architecture.
- Configuration and operation.
- Introduction to industry-standard SCADA software.
- Design and development of a new SCADA project.

Unit 5:

PLC/SCADA v DCS Systems:

- Design and development of a new SCADA project continued.
- Case Study - An Industrial Process.
- Consolidation of Previous practical activities.