ISA/IEC 62443 Lead Implementer Training

Duration: **4 Day**

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ISA/IEC 62443 Lead Implementer is a four-day professional course designed to provide participants with the knowledge and practical skills required to implement the **ISA/IEC 62443** family of standards for securing Industrial Automation and Control Systems (IACS).

Throughout the programme, participants will gain a comprehensive understanding of the structure, scope, and principles of the ISA/IEC 62443 standards while learning how to establish, implement, and maintain an effective cybersecurity programme for industrial control environments.

The course covers industrial cybersecurity, SCADA systems, operational technology (OT), industrial networking, risk management, and the protection of critical infrastructure. It also explains how ISA/IEC 62443 complements ISO/IEC 27001 while addressing the unique security requirements of industrial environments.

Through practical exercises and real-world scenarios, participants will develop the skills required to assess industrial cybersecurity risks, determine appropriate security levels, and implement security programmes that strengthen the resilience of industrial operations.

Prerequisites

Participants are recommended to have:

- A basic understanding of Industrial Automation and Control Systems (IACS), Operational Technology (OT), or industrial automation environments.
- Familiarity with cybersecurity concepts and risk management principles.
- Previous experience in industrial environments is beneficial but not mandatory.

Who Should Attend

This course is designed for:

- Industrial Control System (ICS) Engineers.
- Automation and Control System Designers.
- Cybersecurity Professionals.
- IT and OT Managers and Engineers.
- Industrial Network Administrators.
- System Integrators.
- IACS Security Analysts.
- Risk and Compliance Managers.
- Control System Operators.
- Industrial Maintenance and Support Personnel.
- Professionals responsible for Critical Infrastructure Resilience (CER).

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What You Will Learn

Upon successful completion of this course, participants will be able to:

- Explain the structure, purpose, and scope of the ISA/IEC 62443 family of standards.
- Interpret the core concepts, terminology, and security models used within Industrial Automation and Control Systems.
- Identify security requirements for industrial systems, networks, and components.
- Assess cybersecurity threats and evaluate risks affecting industrial control environments.
- Apply Security Levels and Maturity Levels within IACS security programmes.
- Design, implement, and manage an Industrial Automation and Control Systems security programme, including risk assessment, policy development, training, incident response, and monitoring.
- Explain how ISA/IEC 62443 aligns with ISO/IEC 27001 while addressing the specific requirements of industrial environments.
- Apply foundational and system security requirements to strengthen the cybersecurity posture of industrial systems.

Training Outline

Part 1 - ISA/IEC 62443 Foundations (Days 1 and 2)

Introduction to Industrial Automation and Control Systems

- Fundamentals of Industrial Automation and Control Systems (IACS)
- Core IACS technologies and terminology
- Structure and purpose of the ISA/IEC 62443 family of standards
- Core security concepts based on ISA/IEC 62443-1-1
- Industrial networking and system security requirements
- Security Levels and Maturity Levels
- Threat landscape and common threat actors within industrial environments
- Critical security concerns unique to IACS
- Foundational Requirements (FR)
- System Requirements (SR)

Overview of ISA/IEC 62443 Standards

- **ISA/IEC 62443-2-1** – Establishing an Industrial Automation and Control Systems Security Programme
- **ISA/IEC 62443-2-3** – Patch Management for Industrial Automation and Control Systems
- **ISA/IEC 62443-3-3** – System Security Requirements and Security Levels
- **ISA/IEC 62443-4-3** – Security Technologies for Industrial Automation and Control Systems
- **ISA/IEC 62443-4-4** – Component Security Requirements and Assurance Levels

Part 2 - Building an IACS Security Programme (Day 3)

Developing the Security Programme

- Establishing an industrial cybersecurity programme

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- Performing risk assessments
- Developing security policies
- Organizing governance and security responsibilities
- Delivering training and awareness initiatives
- Establishing incident response processes
- Conducting security testing and validation
- Implementing continuous monitoring activities

Additional ISA/IEC 62443 Standards

- Secure product lifecycle management
- Supply chain security considerations
- Overview of complementary ISA/IEC 62443 standards and guidance

Course Summary

- Review of the key concepts covered throughout the programme
- Best practices for implementing Industrial Automation and Control Systems security programmes
- Final course review and wrap-up

Exams and Assessments

Upon completion of the course, participants are eligible to apply for the**PECB Certified ISA 62443 Lead Implementer** certification examination.

Candidates who successfully pass the examination may apply for the**PECB Certified ISA 62443 Lead Implementer** credential, demonstrating their ability to design, implement, and manage Industrial Automation and Control Systems security programmes based on internationally recognized best practices.