Advanced Industrial Communication

FESTO

Level 3

This certification is structured to encompass the full scope of industrial communication, emphasizing network communication, security, and system verification in an Industry 4.0 setting. This certification focuses on industrial communication and network integration within the Industry 4.0 environment. Students gain hands-on experience with advanced communication protocols, network configuration, and system validation techniques essential for modern automated systems.

Industry Recognized Certification Topics

- OPC UA
- Overview of Industrial Development and Fourth Industrial Revolution
- Understanding and Benefits of OPC-UA
- Integration with PROFINET and Time Sensitive Networking (TSN)
- IP Addresses and Net Masks
- Internet Protocol (IPv4) Basics
- Subnet Masks and CIDR Notation
- Network and Broadcast Addressing
- Functional Principle of a Router
- Basic Routing Procedures
- Static and Default Routes
- Firewall Function
- Firewall Functionality and IP Rules
- Firewall Functional Principles and Evaluation Sequence
- Virtual Local Networks (VLAN)
- VLAN Technology and Trunk Connections
- Coding VLAN Identification and Dynamic VLANs
- Inter-VLAN Routing
- Introduction to Factory Acceptance Test (FAT)
- Structure of FAT
- Typical Headings and Benefits of FAT

Units - 6 / Labs - 6

Industry Recognized Certification Competencies

- Implement OPC-UA Communication
- Configure Network Components
- Apply Routing Principles
- Design and Manage Firewalls
- Establish and Manage VLANs
- Conduct Factory Acceptance Testing (FAT)