BLACKBIRD FOR TRAINING

Remote Site Control And Monitoring

London (UK)

28 July - 1 August 2024

Remote Site Control And Monitoring

Code: IT28 From: 28 July - 1 August 2024 City: London (UK) Fees: 5200 Pound

Introduction

The Remote Site Control and Monitoring Training Course is designed to equip participants with the essential knowledge and skills required to effectively control and monitor remote sites. With the increasing reliance on remote operations in various industries, this course aims to provide a comprehensive understanding of the tools, techniques, and best practices for managing remote sites.

Course Objectives:

- Understand the concept of remote site control and monitoring and its importance in different industries.
- Familiarize participants with remote site control systems' key components and technologies.
- Develop skills for configuring and troubleshooting remote site control systems.
- Learn effective strategies for remote site security and risk management.
- Enhance the ability to monitor and analyze data from remote sites for optimal decision-making.

Course Outlines:

Day 1

- Introduction to Remote Site Control and Monitoring
    - Definition and significance of remote site control and monitoring
    - Applications and industries utilizing remote site control systems
    - Benefits and challenges of remote site control
- Remote Site Control System Components
    - Sensors and data acquisition devices
    - Communication infrastructure wired and wireless
    - Control devices and actuators
    - Data storage and retrieval systems
- Communication Technologies for Remote Site Control
    - Cellular networks and Internet of Things IoT
    - Satellite communication
    - Radio frequency RF communication
    - Ethernet and VPN technologies
- Remote Site Control System Architecture

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- Centralized vs. decentralized control systems
  - Distributed control systems DCS
  - Supervisory control and data acquisition SCADA systems
  - Human-machine interface HMI and visualization
- Configuration and Troubleshooting of Remote Site Control Systems
  - Setting up communication links and protocols
  - Configuring sensors, actuators, and controllers
  - Diagnosing and resolving common issues
  - System maintenance and software updates

Day 2

- Remote Site Security Considerations
  - Threats and vulnerabilities in remote sites
  - Access control and authentication mechanisms
  - Data encryption and privacy measures
  - Intrusion detection and prevention systems
- Risk Management for Remote Site Control
  - Identifying and assessing risks in remote site operations
  - Risk mitigation strategies and contingency planning
  - Disaster recovery and business continuity planning
  - Compliance with industry regulations and standards
- Data Monitoring and Analysis
  - Data collection and storage techniques
  - Real-time monitoring and visualization tools
  - Data analysis and trend identification
  - Performance optimization and predictive maintenance
- Remote Site Control System Integration
  - Integration with enterprise systems ERP, CRM, etc.
  - Integration with cloud platforms and services
  - Interfacing with third-party applications and devices
  - Data exchange protocols and standards OPC, MQTT, etc.
- Hands-on Exercises and Case Studies
  - Practical exercises on configuring remote site control systems
  - Analysis of real-world remote site control scenarios
  - Problem-solving and decision-making exercises
  - Group discussions and knowledge sharing

Day 3

- Remote Site Power Management
  - Power sources and backup systems
  - Power distribution and load balancing
  - Energy efficiency and renewable energy integration
  - Remote site power monitoring and optimization
- Environmental Monitoring and Control
  - Temperature, humidity, and air quality monitoring
  - Water quality and pollution monitoring
  - Environmental compliance and reporting
  - Remote site environmental control systems

- Remote Site Maintenance and Troubleshooting
    - Remote diagnostic tools and techniques
    - Preventive maintenance strategies
    - Troubleshooting common hardware and software issues
    - Remote firmware and software updates
- Remote Site Alarms and Notifications
    - Alarm management and escalation procedures
    - Notification systems email, SMS, etc.
    - Automated reporting and dashboarding
    - Event log and audit trail management
- Remote Site Communication and Collaboration
    - Remote collaboration tools and platforms
    - Video conferencing and remote support
    - Knowledge sharing and documentation
    - Best practices for effective remote communication

Day 4

- Install and configure remote control systems
    - Install and configure remote control systems used in the specific industry, such as SCADA or DCS systems.
- Build and maintain communication infrastructure
    - Set up and maintain the communication infrastructure, such as wired and wireless networks and satellite communication, for remote site control.
- Set up and program sensors and control devices
    - Such as temperature, pressure, and humidity sensors.
- Data monitoring and analysis
    - Collect and monitor data from the remote site in real-time, use analysis tools to analyze the data, and identify trends and potential issues.
- Configure alert and notification systems
    - Set up alert and notification systems to receive immediate notifications for emergencies or issues.
- Device and process control
    - Using appropriate control devices, such as control valves or robots.
- Remote site security
    - Set up identity verification systems, encrypting data, and protecting the infrastructure from security threats.
- Risk management and emergency preparedness
    - Analyze risks, develop risk management strategies, and prepare for emergencies at remote sites, including developing incident response plans.
- Integration with other systems
    - Such as Enterprise Resource Planning ERP systems or Customer Relationship Management CRM systems.
- Case studies and practical project implementation
    - Apply what you have learned in real-world environments, analyze challenges, and implement solutions

DAY 5

GENERAL DIAGRAM OF HOW TO SETUP AND INSTALL DAVICOM:

- Planning before starting the installation process:
    - Planning for the deployment of the monitoring and control system.
    - The specific goals, requirements and features you want to implement with DAVICOM.
    - Determine which devices or equipment you need to monitor and control
    - Determine the required network infrastructure.
- Hardware installation:
    - Set up network devices such as routers, switches, and firewalls
    - Physical installation of sensors, controllers, or other monitoring and control devices
- Network configuration:
    - Set IP addresses
    - Set up communication protocols
    - Ensure proper network connectivity between devices and the central control unit.
- Sensor and device configuration:
    - Sensor calibration
    - Set thresholds for alerts or alarms
    - Determine specific actions or responses based on sensor readings.
- Integration and testing:
    - Integrate your monitoring and control system with any existing infrastructure or third party systems you may have.
    - Test the system to ensure that all devices are communicating properly and that data is being collected accurately.
    - Verify that control commands are executed as expected.
- Training and documentation:
    - Provide training to users who will interact with the system.
    - Create documentation and guides that outline the setup and installation process
    - Guidance for ongoing maintenance and troubleshooting.

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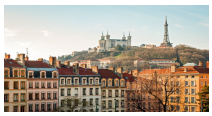
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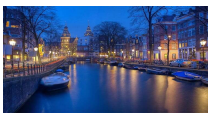
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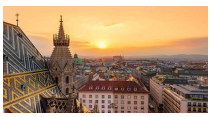
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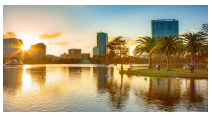
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