

## Diagnostics and Optimization of Industrial Networks with SCALANCE (IC-DIOPINE)

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### Type

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Instructor-led Learning

### Duration and Continuing Education Units (CEU)

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3 Days  
0 CEUs

### Target Group

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- Engineer
- Operator
- Programmer
- Reliability
- Maintenance
- Commissioning
- Other
- Sales

### Short Description

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A reliable, robust network is the backbone of any modern industrial enterprise. Since the network requirements can change over the life cycle of a plant, or other application, the diagnostics and optimization of the network are extremely important tasks. Even during planning stages, various aspects regarding the functionality and diagnostic capability have to be taken into account. For instance, clear network documentation, knowledge of enhanced functionalities of modern switches and routers, as well as up-to-date tools for the operation of networks are imperative for diagnostics and optimization. Using practical examples, participants of this course will learn how to diagnose typical error causes in industrial networks, and determine how to prevent them or minimize their impact with the aid of enhanced device functions. You will be trained to secure administrative access to the components, and to restrict access to the network itself. You can deepen your theoretical knowledge with numerous practical exercises on products from the SCALANCE product line.

### Objectives

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- After attending this course, participants are able to diagnose and optimize industrial networks. Participants will also be familiar with the available tools and functions which can be used to ensure the required performance, availability and security of the network.

### Content

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- Introduction to basic tools such as terminal access and network analysis tools, as well as applications for time synchronization and logging of event messages
- Basics of a professional network layout
- Network analysis for troubleshooting
- Detection and prevention of physical errors
- Detection and prevention of Ethernet errors
- Identification and fulfillment of security requirements
- Detection and prevention of overload situations
- Optimization of convergence times

- Comprehensive exercises
- Practical exercises

### **Mandatory Prerequisites**

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[Switching & Routing in Industrial Networks with SC: IC-SWIROS](#)

### **Language**

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English

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