

Controller Communication for Industry 4.0 and IoT

OEM: Siemens • Code: IC-IPCOM

COURSE DESCRIPTION

This training was conducted until March 05, 2026 under the course number IK_IPCOM.

With developments such as Industry 4.0 or IoT (Internet of Things), the boundaries between IT and OT (Information and Operation Technology) are becoming increasingly blurred. Automation technology is often no longer a closed system and the controller communicates far into the upper levels of the automation pyramid up to the cloud.

In this course, we will give you an overview of current communication standards, give you various options for connecting SIMATIC Controllers to the above levels and equip you for communication in Industry 4.0 and the Internet of Things.

AUDIENCE PROFILE

- Automation engineers
- Programmers

PREREQUISITES

- Basic knowledge of network engineering
- Knowledge according to [TIA-PRO2](#)
- Knowledge of SCL is an asset
- [Technical requirements](#)

Note

- Included in the course price: Free access to the digital learning platform [SITRAIN access](#) – starting one week before the start of the course until two weeks after the end of the course.
- With the Learning Membership, you can deepen or repeat the content of this Learning Event as well as continue your education on other interesting topics.

COURSE OBJECTIVES

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

- You are familiar with various IP-based communication standards, can implement them purposeful in SIMATIC Controllers and effectively implement the requirements of Industry 4.0 and IoT for communication in automation systems.

- You will deepen your theoretical knowledge through numerous practice-oriented exercises in our virtual exercise environment Virtual Lab.

COURSE OUTLINE

Module 1: Content

- Basics Industrial Ethernet
- Overview of communication options of SIMATIC Controllers
- Communication with standard protocols (Open User Communication)
- Network diagnostics (incl. Wireshark)
- Secure communication
- Introduction to OPC UA
- SIMATIC Controllers as OPC UA servers
- Introduction to IoT & cloud communication
- MQTT as standard for IoT and cloud communication
- Overview of communication options to the cloud