

## SIMATIC Service 1 in TIA Portal - Corso serale (TIA-SERV1/S)

### Short Description

The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC. In this first part of the SIMATIC S7-1500 service training, we teach you the handling of the TIA Portal, basic knowledge about the structure of the SIMATIC S7 automation system, configuration and parameterization of hardware, and the basics of programming. You also receive an overview of SIMATIC HMI, PROFINET IO and connecting drives SINAMICS. You will learn to diagnose and clear simple hardware faults and software errors. You will thus be capable of reducing downtimes in your plant.

### Objectives

After attending the course, you can do the following:

- Understand the fundamentals of interaction of the TIA components
- Reliably operate the TIA Portal engineering platform
- Understand, change, and expand small STEP 7 (TIA Portal) programs
- Configure, parameterize, and exchange SIMATIC S7 modules
- Diagnose and fix simple hardware faults using the wiring test
- Diagnose and fix simple program errors using the status block
- Perform simple commissioning of TIA components

### Target Group

Maintenance personnel  
Service personnel  
Operators

### Content

- Overview and significant performance characteristics of the SIMATIC S7 system family
- The components of the TIA Portal: SIMATIC STEP 7, SIMATIC WinCC, communication
- Program execution in automation systems
- Binary and digital operations in the function block diagram (FBD/FUP) and ladder diagram (LAD/KOP)
- Setup and assembly of the automation system
- Addressing and wiring the signal modules
- Hardware and software commissioning of the SIMATIC S7 automation system with the TIA Portal
- SIMATIC S7 hardware configuration and parameterization
- Presentation of a Touchpanel
- Presentation of the drive
- Setup and parameterization of PROFINET IO
- Saving and documentation of the implemented program changes with the TIA Portal

Theoretical knowledge will be deepened with numerous practical exercises on a TIA system model. This consists of a SIMATIC S7-1500 automation system, a SIMATIC ET 200 distributed I/O, a SIMATIC WinCC Advanced operator control, a SINAMICS G120 drive and a conveyor model.

### Prerequisites

SEP course or equivalent basic knowledge of automation systems.

### Note

This course is also available in Face-to-Face mode: S71500S1.

This course is also available in Virtual Classroom mode: E-1500S1.

At the end of the course you can deepen the topics covered through our **SIE-learning 4.0**: SIE-WEBS, SIE-PNBA, SIE-PNDIAG.

In this course, the SIMATIC S7-1500 automation system and the SIMATIC STEP 7 (TIA Portal) software are used; MICRO1 and MICRO2 courses are available for the SIMATIC S7-1200 automation system.

### Type

Online-Training

### Duration

13 days

### Language

it