

## On line-Training SIMATIC Service 2 in TIA Portal (TIA-SERV2)

### Short Description

The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC. The second part of the SIMATIC S7-1500 service training is based on the knowledge of the TIA Portal gained in the SIMATIC S7-1500 Service 1 course, including SIMATIC STEP 7, SIMATIC HMI, connection of drives and PROFINET IO. You will expand your troubleshooting and error correction knowledge using the TIA Portal diagnostic tool in the commissioning and productive phase. Alarms are displayed on an operator control and monitoring system. You will learn about the included test functions for controlling programs in Structured Control Language (SCL). You will implement a sequence control in SIMATIC S7-GRAPH and integrate the analog value processing. You will thus be able to adapt your plant to new demands and to reduce downtime.

### Objectives

After attending the course, you can do the following:

- Understand the interaction of TIA components
- Understand, adapt, and expand given STEP 7 (TIA Portal) programs, including with step sequences and analog value processing
- Systematically diagnose and correct hardware and software errors in the SIMATIC S7 automation system with the diagnostic tools of the TIA Portal engineering portal
- Use the test functions in Structured Control Language (SCL)
- Perform specific commissioning of TIA components
- Adapt your SIMATIC WinCC configuration to new requirements through small modifications or extensions

### Target Group

Maintenance personnel  
Service personnel  
Operators

### Content

- Hardware diagnostic functions of the TIA Portal in the SIMATIC S7 automation system
- Software diagnostic functions of the TIA Portal in the SIMATIC S7 automation system
- Possible applications of various block types: function (FC), function block (FB), organization block (OB) and data block (DB)
- Principles of analog value processing
- Sequence control with SIMATIC S7-GRAPH
- Commissioning of distributed I/O on PROFINET IO
- Alarm configuration in SIMATIC WinCC
- Parameterization of the drive SINAMICS
- Test functions in Structured Control Language (SCL)

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

S71500S1 course or equivalent basic knowledge of automation systems.

### Note

This course is also available in Virtual Classroom mode: E-1500S2.

This course is also available as an evening course: S71500S2/S.

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

30 hours

### Language

it