

## TIA-S7-1500 Programming 1 (TIA-PRO1)

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### Short Description

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Excellent starting point for working with the TIA portal, the comprehensive software solution for programming SIMATIC Controllers, and S7-1500 /1200 CPUs.

### Objectives

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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 TIA Portal programming 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 standard PLC programming. You also receive an overview of HMI, PROFINET IO, and connecting drives.

After attending the course, you can do the following:

- Understand the fundamentals of interaction of the TIA components
- Solve simple programming tasks using elementary STEP 7 instructions
- Reliably operate the "TIA Portal" engineering platform
- Program simple plant functions with basic STEP 7 instructions in the ladder diagram (LAD) or function block diagram (FBD)
- Perform simple commissioning of TIA components

### Target Group

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Programmers  
Commissioning engineers  
Engineering personnel

### Content

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- Overview and significant performance characteristics of the SIMATIC S7 system family
- The components of the TIA Portal: STEP 7, WinCC, Startdrive
- Program execution in automation systems
- S7 block types and program structuring
- Binary and digital operations (FBD/LAD)
- Programming of parameterizable blocks
- Data management with data blocks
- Programming organization blocks
- Test tools for system information, troubleshooting, and diagnostics
- Hardware configuration and parameterization of the SIMATIC S7 modules, a PROFINET IO system (ET-200), a Touch Panel, and a drive
- Program Cycle, Process Image and Process Image Partition
- Explanation and usage of different organization blocks
- Startup of a drive (G120 + standard telegram 1)
- Deeper understanding of contents through practical exercises.

### Prerequisites

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Basic knowledge of automation technology.

### Note

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The course teaching and material language is English. The material is provided for students in electrical form as pdf document.

Training Devices:

- SIMATIC S7-1500
- Profinet I/O ET200 SP
- Comfort-panel
- Sinamics G120
- Belt model

1 training set / 2 students

### Type

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Face-to-face training

### Duration

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4 days

**Language**

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en

**Fee**

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1,520 EUR