

## Learning Journey - TIA Portal Programming Basic (TIA-PRO1-LJ)

### Short Description

Basic knowledge of the SIMATIC S7 PLC automation system with TIA Portal and the Engineering software STEP7, WinCC.

### Objectives

After this learning journey you will be able to ...

- operate the "TIA Portal" engineering platform safely
- understand the basics of the interaction of TIA components
- solve simple programming tasks with elementary STEP 7 instructions
- structure small SIMATIC S7 programs with the help of OBs, FCs and FBs
- apply standards and work with them
- solve simple mathematical programming tasks with STEP 7 instructions
- commission simple/small machines or expand them independently
- test programs and fix simple errors
- configure a distributed I/O via PROFINET

You will deepen your theoretical knowledge through numerous practice-oriented exercises in our virtual learning environment on a TIA system model. This consists of a SIMATIC S7-1500 automation system and a virtual conveyor model.

### Target Group

Programmers  
Commissioning engineers  
Engineering personnel

### Content

The Learning Journey TIA-PROBAS-LJ (Level: Basic ) consists of:

- 8 live modules (3.5 hours each)
- 17 self-study modules (approx. 15 hours); In addition to the live modules, you should plan about 1 hour of self-study time per day as well as dial-in and follow-up times.
- On-demand themed content
- Individual transfer support in the form of a 1:1 coaching (1 hour)

A learning membership to work through the self-learning modules and access to on-demand content is included for 1 year.

#### topics

- Overview and essential features of the SIMATIC S7 system family
- Configuration interface of the TIA Portal STEP 7 engineering system
- Program processing in the automation system, program cycle, process image
- Program structuring and its implementation with the STEP 7 block types (OB, FC, FB, DB)
- Binary and digital operations in function and contact diagram (FBD/LAD)
- Apply standards and work with them using the example of libraries
- Implement data management with data blocks
- Programming of reusable and parameterizable blocks
- Test tools for program testing and commissioning: system information, troubleshooting and diagnostics
- Documentation of the created program with the possibilities integrated in TIA Portal
- Deepening of the content through practice-oriented exercises in the virtual learning environment

### Prerequisites

Basic knowledge of automation technology

With the help of the available online entrance test, you will ensure that the course you choose matches your competences.

- [Online Assessment Test](#).
- [Technical requirements](#)

### Note

Participation in the learning journey is personal and non-transferable.

This learning journey roughly corresponds to the content and objectives of the learning events [TIA-PRO1](#) and [TIA-PRO1 Online](#)

### Type

Learning Journey

### Duration

40 hours

### Language

en

**Fee**

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2,075 EUR