

## TIA Portal Programming Expert (TIA-PROEXP)

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### Short Description

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Choose this course if you want to become a SIMATIC S7-1500 expert using a higher level programming language (SCL). You expand your knowledge of the runtime and memory-optimized creation of standardized building blocks for a corporate library. Using a practice-oriented exercise environment with a virtual model of a manufacturing plant, you will deepen your knowledge of the higher programming language.

[Also available as online-training](#)

### Objectives

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After attending the course, you can do the following:

- understand the principle of object-oriented programming
- Object-oriented programming of reusable STEP 7 blocks based on IEC 61131-3.
- Create versioning of blocks and user libraries
- Program STEP 7 blocks with program-technical error handling and evaluation
- Develop and implement in-house standards

You will deepen your theoretical knowledge through numerous practice-oriented exercises in our virtual learning environment. This consists of a SIMATIC S7-1500 and a virtual model of a production plant.

### Target Group

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Programmers

### Content

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Reusable building blocks with optimized data access  
Indirect addressing of complex data structures by using the parameter types ARRAY\*, VARIANT and REF\_TO  
Versioning using typing in the project and global library  
Block creation according to the PLCopen standard  
Use of ProDiag to generate block messages  
Deepening of the SCL programming language  
Deepening of the content through practice-oriented exercises on the SIMATIC S7-1500 and a virtual model of a production plant.

### Prerequisites

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SIMATIC S7 knowledge corresponding to TIA-PROADV-LJ, TIA-PRO2 or TIA-SYSUP and practical experience in using the knowledge. Basic knowledge of the SCL programming language according to TIA-SCL1 is mandatory. You can use the available online entry test to ensure that the selected course matches your area of expertise.

- [Online Assessment Test](#)

### Note

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In this course you will work with SIMATIC S7-1500 and software SIMATIC STEP 7 based on TIA Portal.

### Type

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Face-to-face training

### Duration

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3 days

### Language

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