

# TIA, HMI og SCADA

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Michael Nielsen



# | In 1996 something was invented



Entry type: Product note Entry ID: 4326950,  
Entry date: 08/27/1996

STEP 7 Programming Software - New Version V2.1



# In 1996 something was invented

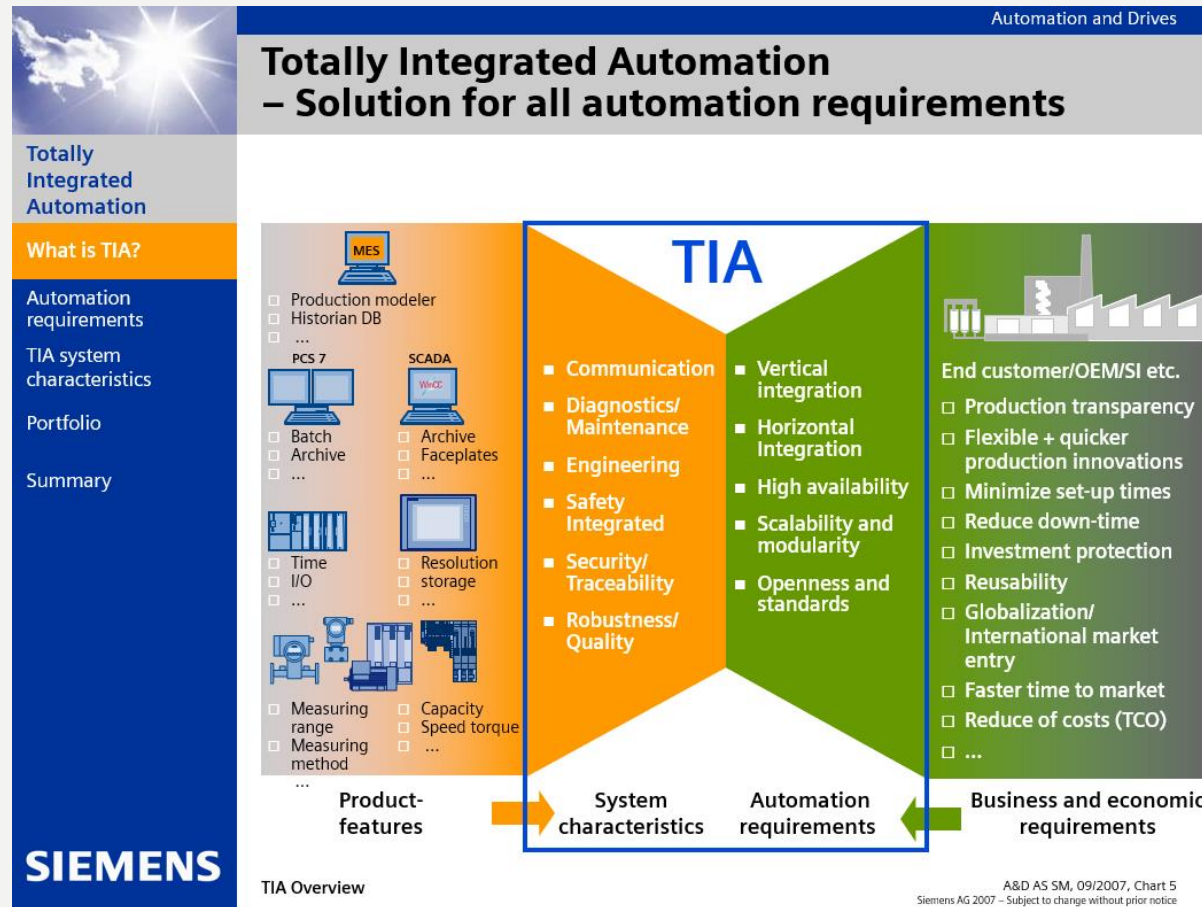


The STEP 7 programming software is now available with version V2.1 as individual license, copy license and upgrade for programming devices and PCs and replaces all existing STEP 7 versions. All software packages (diskette and CD ROM) are copy protected by means of an authorization diskette.

STEP 7 V2.1 is the current configuring and programming software for SIMATIC S7-300/400, M7, C7 as well as for PROFIBUS DP and is also the basis for the S7 SCL, S7 Graph, S7 HiGraph, M7 ProC/C++ and CFC options packages.

STEP 7 V2.1 is a 32-bit application for Windows '95 and has the following system requirements: CPU: 486 or Pentium Main memory: 16 Mbytes or more Hard disk: 40 Mbytes to 50 Mbytes STEP 7 (depending on the language) + 80 Mbytes for Windows '95 Operating system:

# In 1996 something was invented

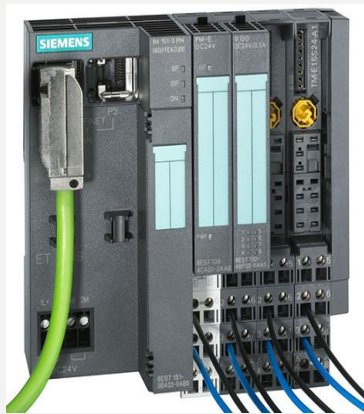


# Status of the ET200 S

The device that changed the I/O world



Hardware



ET200 S

1998



ET200 S CPU

2000



ET200 S CPU PN

2008

2020

# ET200 SP the Scalable Peripheral I/O system From Good to even Better



Hardware



ET200 SP

2012



ET200 SP CPU

2014



ET200 SP CPU

2015



ET200 SP PN/PN-MFP

2021 ->

# SIMATIC Controller

Today and tomorrow



Hardware

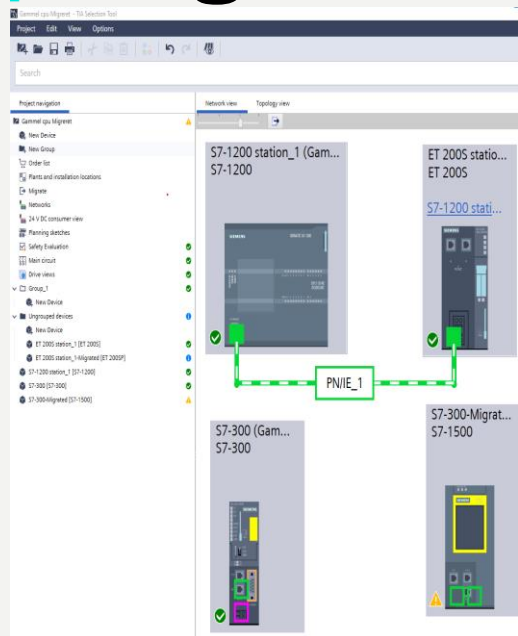


1996

2023

2009 ->

# Migration – Tools



Entry type: Application example Entry ID: 109478811, Entry date: 12/09/2019

★★★★☆ (23)  
> Rate

## Migration Guide: SIMATIC S7-300/400 to SIMATIC S7-1500

Entry Associated product(s)

This migration guide contains recommendations and notes for users who are currently using SIMATIC S7-300/400 automation plan to migrate to the new SIMATIC controller generation S7-1500.

The new controller generation SIMATIC S7-1500 has an up-to-date system architecture and, together with TIA Portal, offers new and configuration options. To be able to use these advantages, it is important that users who are currently using SIMATIC S7-300/S systems and plan to migrate to the new SIMATIC controller generation SIMATIC S7-1500, develop a detailed comprehensive concept implementing the pending migration. This requires thorough clarification in the run-up to migration.

> Home > Product Support

Entry type: Download Entry ID: 58638200, Entry date: 07/13/2021

★★★★☆ (56)  
> Rate

## Migration Tool TIA Portal

Entry Associated product(s)

Description, procedure and download of the Migration Tool TIA Portal (V13 SP2, V14 SP1, V15, V15.1, V16)

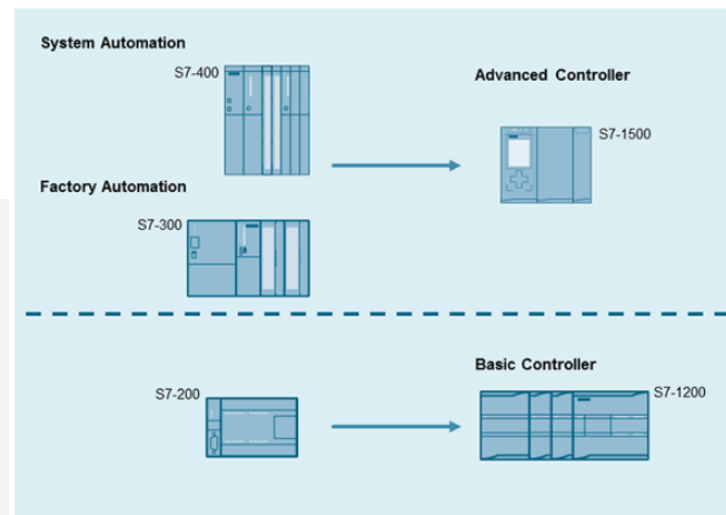
### Description

In many cases, a project that you want to migrate is not on the same programming device / PC as the one on which the TIA Portal is installed. The original project must therefore first be converted to a compatible format for the migration. Then copy the migration file to the programming device or PC with the latest installation of the TIA Portal. There, you can then import the file into the TIA Portal and create a project in the current file format of the TIA Portal.

### Procedure

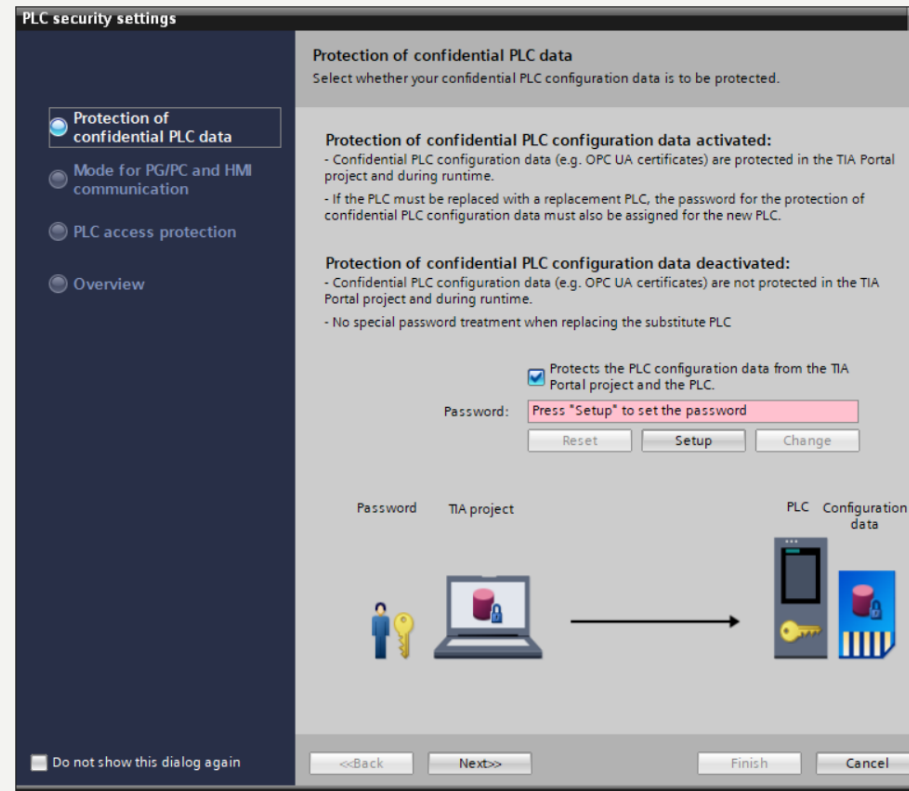
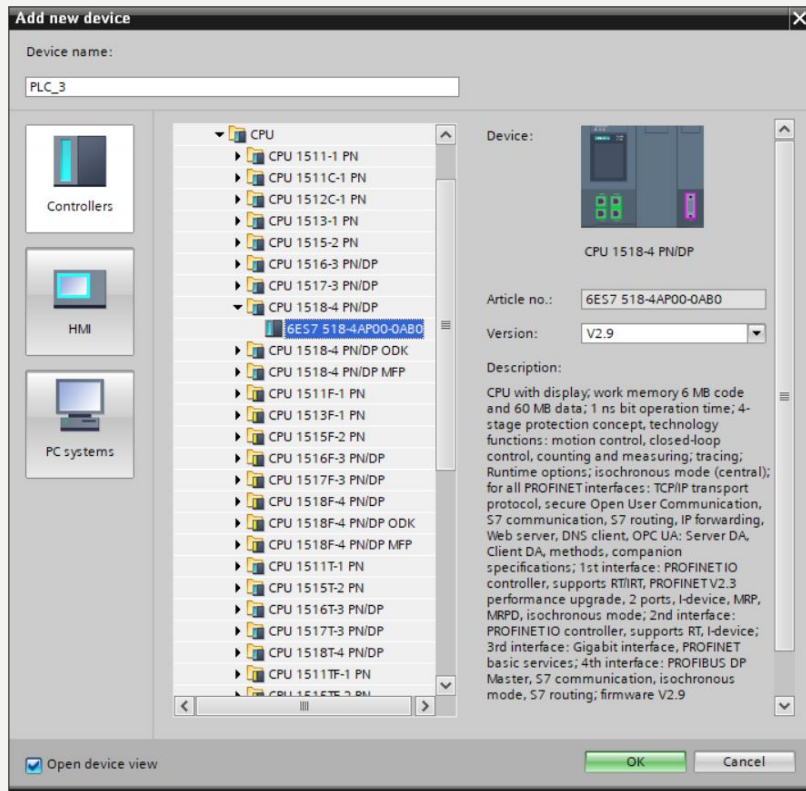
To perform migration without the original software, you need to take the following steps:

- Install the Migration Tool on the programming device / PC with the source project.
- Start the Migration Tool and use it to convert the source project into the migration file format with the corresponding file extension ".amxx".
- When performing this step, ensure that the complete software required for processing the source project is installed on the programming device / PC. This includes all required service packs, hardware support packages and all the add-on software necessary for processing the original project. If some products are not installed, the migration cannot be performed or can only be partially performed.



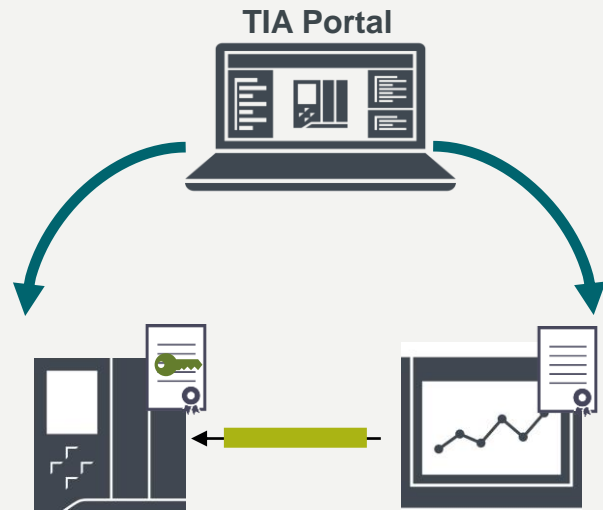


# Secure SIMATIC PC/ HMI Communication Configuration with Security Wizard

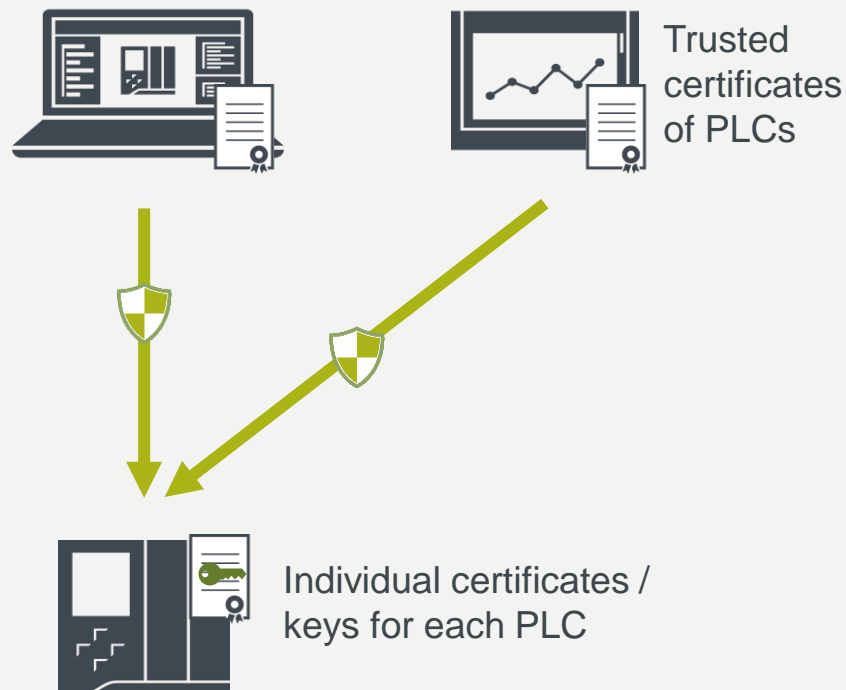


# What does secure communication mean?

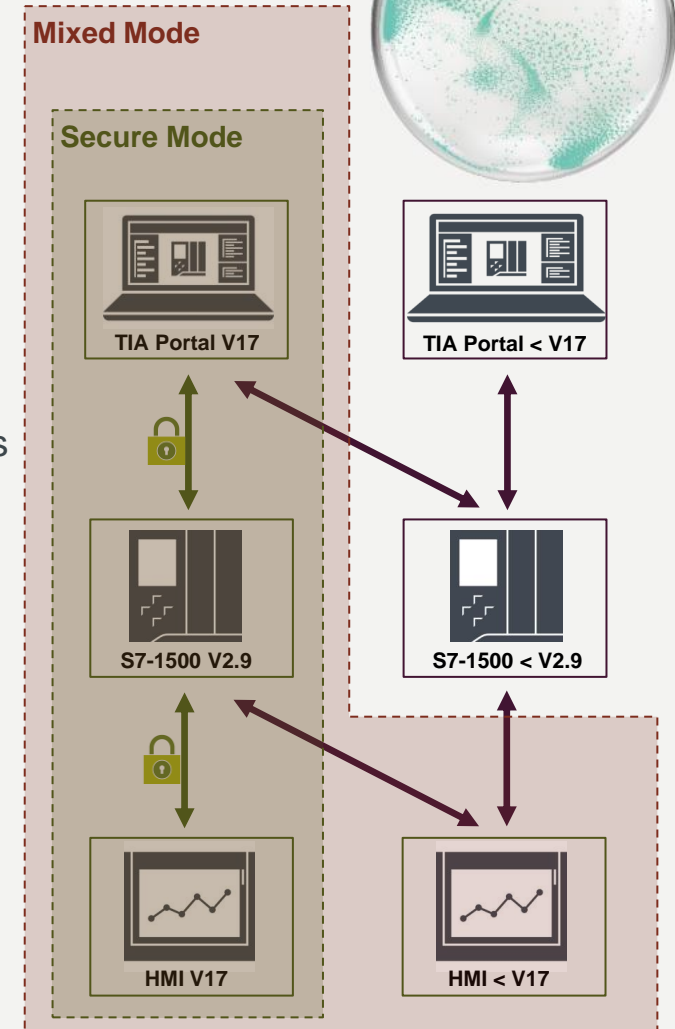
## How can we secure the communication?



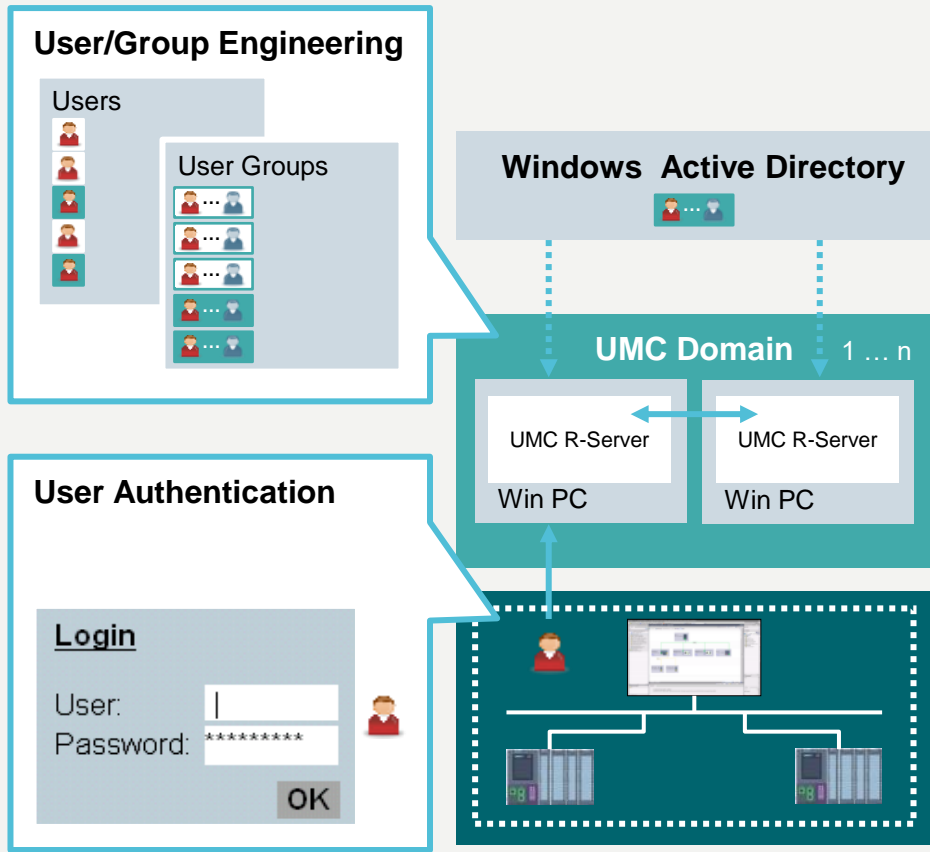
Certificate with private key eg. for PG/HMI communication



## 2. TLS\* based communication



# User Management Access Control "UMAC"



**Configuration of user-roles**

**Restricts actions and changes in editors**

Engineering rights	
Name	Group
<input checked="" type="checkbox"/> Open the project read-only	General
<input checked="" type="checkbox"/> Open and edit the project	General
<input checked="" type="checkbox"/> Monitor PLC program	PLC
<input checked="" type="checkbox"/> Edit online PLC program	PLC
<input checked="" type="checkbox"/> Download to PLC	PLC
<input checked="" type="checkbox"/> Edit PLC program	PLC
<input type="checkbox"/> Modify safety PLC program	CPU
<input type="checkbox"/> Security: Open security devices with write rights	Security
<input type="checkbox"/> Security: Open security devices read-only	Security
<input checked="" type="checkbox"/> Change hardware configuration	General
<input checked="" type="checkbox"/> Maintenance	HMI
<input checked="" type="checkbox"/> Download	HMI
<input type="checkbox"/> Manage users and roles	General
<input type="checkbox"/> Upgrade project	General
<input checked="" type="checkbox"/> Modify project via Openness API	General
<input checked="" type="checkbox"/> Projekttexte importieren	General
<input type="checkbox"/> Download to other devices	General
<input checked="" type="checkbox"/> Change library type versions	General

Color\_Filling\_Station\_V15.1\_V17 > Color\_Mixing\_CPU [CPU 1515F-2 PN] > Safety Administration

The editor is read-only because your user account does not have the following functional rights: Modify safety PLC program .

You can check the functional rights of your user account in [Users and roles](#) .

General

- F-runtime group
  - F-runtime group 1 [RTG1]
    - F-blocks
    - F-compliant PLC data types
    - Access protection
    - Web server F-admins
    - Settings
    - Flexible F-Link

F-runtime group 1 [RTG1]

Fail-safe organization block

Name: FOB\_RTG1

Event class:  Cyclic interrupt

Number: 123

Cycle time: 100000 µs

Phase shift: 0 µs

Priority: 12

calls

Main safety block

Main\_Safety\_RTG1 [FB6]

I-DB

Main\_Safety\_RTG1\_DB [DB11]

# Så I det?

(Se link til fim på website)



**Ja det var HMI  
i webinterfacet på 1500 controlleren**

# **View Of Things**



# View Of Things



The screenshot displays a software interface for 'View Of Things'. The central area features a large circular gauge with a scale from 0 to 50, a green needle pointing to 0, and a 'Start' button below it. To the right of the gauge is a vertical bar with a scale from 0 to 50 and a smaller circular gauge also showing 0. The interface is surrounded by several panels:

- Left Panel:** A tree view showing the project structure. The 'ViewOfThings\_1 [MnCC Unified V...]' folder is selected, showing sub-items like 'Runtime settings', 'Screens', 'HMI tags', 'Device proxy data', 'Program info', 'PLC supervisions & alarms', and 'PLC alarm text lists'.
- Bottom Left Panel:** A 'Details view' panel.
- Right Panel:** A 'Toolbox' panel with sections for 'Options', 'Basic objects' (containing various shapes and symbols), and 'Elements' (containing various UI components like buttons and gauges).

# WinCC Unified



Platform



SIMATIC WinCC Unified  
View of Things  
**S7-1500**



SIMATIC HMI  
**Unified Comfort  
Panels**



SIMATIC WinCC Unified  
**PC**

Engineering



**Engineering  
(in TIA Portal)**

# Kontakt

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