



TIA Portal V17 Introduction

Your gateway to automation
in the Digital Enterprise

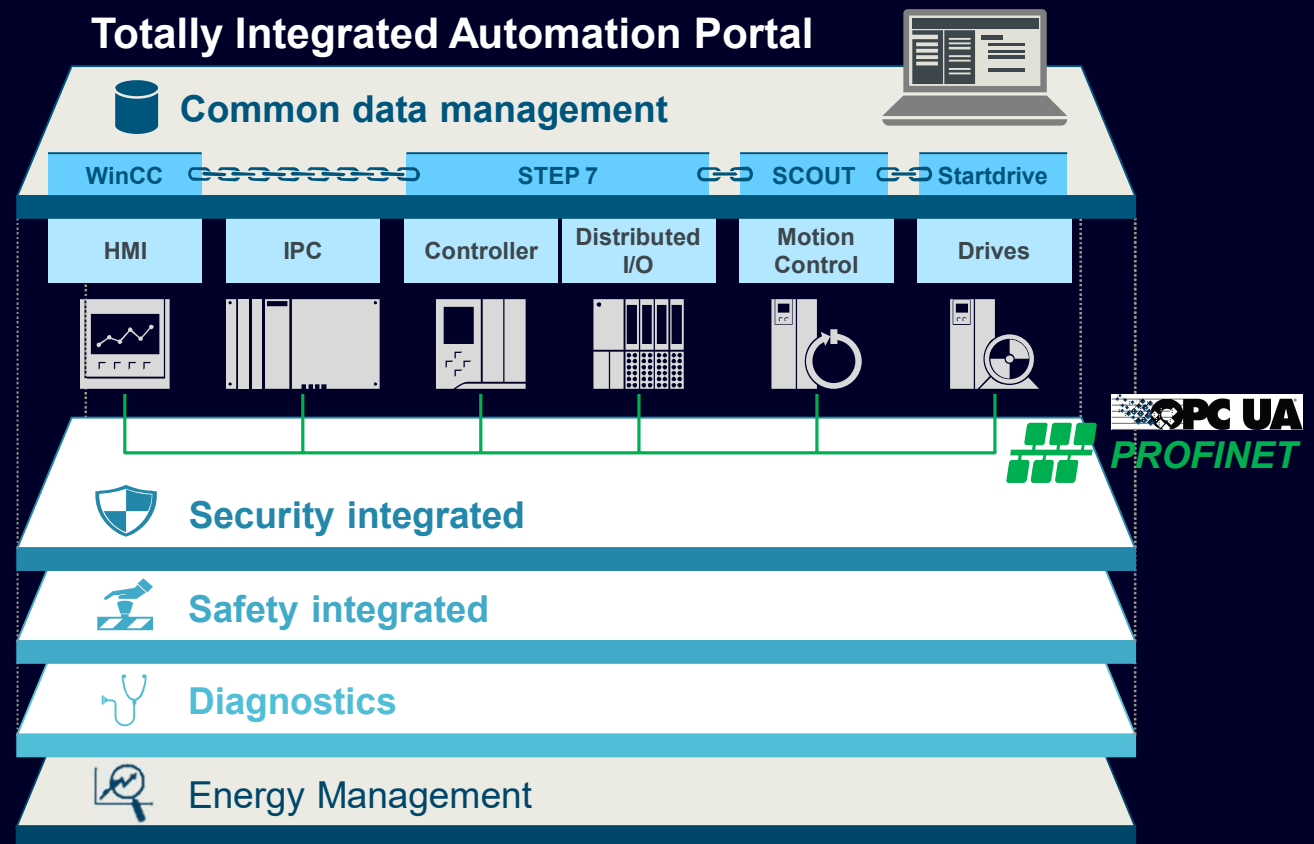
Totally Integrated Automation Portal (TIA Portal)

One for all... The proven basis for innovative solutions

+ One common database

+ Consistent and unified operator concept

+ Common, central services



TIA Portal

Even more than an engineering framework



Work open, virtual and networked!
Digital workflow with TIA Portal



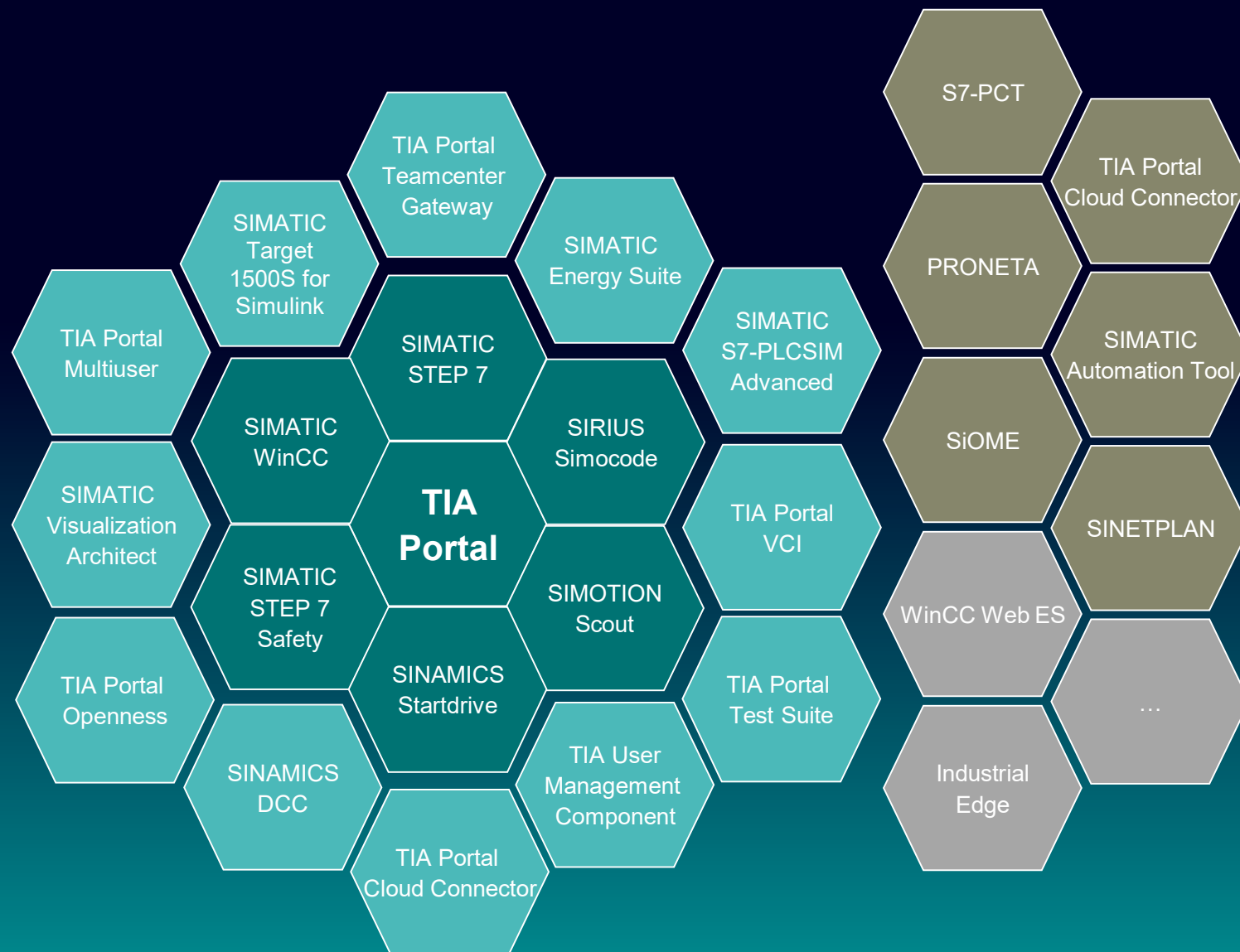
Reduce your time to market!
Integrated engineering with TIA Portal



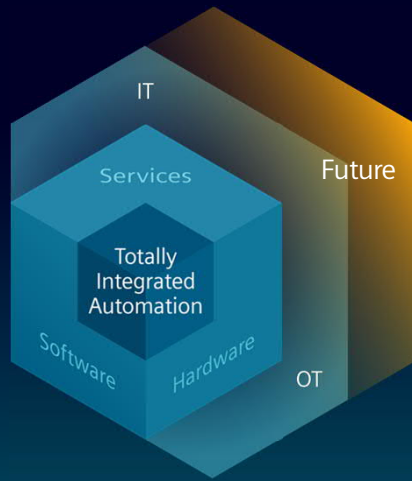
Increase your productivity!
Transparent operation with TIA Portal

Your gateway to automation in the Digital Enterprise

OUR EXISTING TIA PORTAL ECOSYSTEM FOR MAXIMUM FLEXIBILITY



TIA Portal campaign in TIA – Integration³ Future-proof to enter new dimensions



Networked workflows wherever and whenever needed

- TIA¹: TIA Portal V17 and TIA Portal Cloud for different needs and maximum flexibility (subscription); Variety of different TIA Portal options, e.g. Multiuser addressing working in teams, PLCSIM Adv. and Test Suite for testing and simulation scenarios
- TIA²: TIA Use Cases for OT/IT Integration based on OPC UA and involving Security measures in connectivity / TIA Use Case Continuous Integration, a SW development workflow inspired by IT and app development
- TIA³: IT-like engineering

Benefits

- Addressing individualized requirements
- Efficient engineering by standardization
- Increase flexibility in your everyday work while maintaining total data consistency, regardless of the terminal used



Our offering

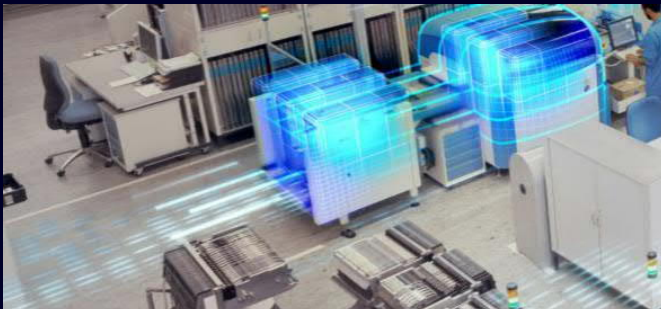
- TIA Portal and options
- TIA Portal Cloud incl. options
- Standardization
- TIA Use Case Continuous Integration
- TIA Use Case Data processing for OT-IT integration

TIA Portal V17

Positioning of highlights in Gateway to automation storyline

TIA Portal V17

TIA Portal Test Suite	Security by Default / TLS + Wizard	SIMATIC OPC UA S7-1200 (Server + Comp. Specs)
TIA Portal Version Control Interface (VCI)	Adv. Motion Control (S7-1518T/TF)	OPC UA A&C / Online diagnosis / Companion Specs
TIA Portal Openness	SIMATIC S7-1500R/H (incl. Safety)	SIMATIC Energy Suite
TIA Add-Ins	Multiuser Engineering & UMAC	Central User Management - UMC
TIA Portal Cloud	Additional editors (CEM & CFC)	ProDiag
	WinCC Unified Unified + View of Things	



Work open, virtual and networked!
Digital workflow with TIA Portal



Reduce your time to market!
Integrated engineering with TIA Portal



Increase your productivity!
Transparent operation with TIA Portal

TIA Portal

Product overview Engineering and Runtime options

		SIMATIC STEP 7	SIMATIC WinCC	SIMATIC WinCC Unified	SINAMICS Startdrive	SIMOTION SCOUT TIA	SIRIUS SIRIUS ES
Engineering options	TIA Portal Multiuser Engineering						
	TIA Portal Teamcenter Gateway						
	TIA Portal Cloud Connector						
	TIA User Management Component						
	SIMATIC Energy Suite ES						
	TIA Portal Test Suite						
	SIMATIC S7-PLCSIM Advanced						
	SIMATIC STEP 7 Safety						
	SIMATIC ODK 1500S						
	SIMATIC Target™ for Simulink®						
Runtime options	SIMATIC STEP 7 CFC						
	SIMATIC ProDiag						
	SIMATIC Energy Suite RT / S7-EE-Monitor						
	SIMATIC OPC UA						
	Safe Kinematics						
	SIMATIC Robot Library						
		SIMATIC STEP 7 CFC					
		Unified RT Options					
		WinCC/WebUX ¹⁾					
		SiVArc					
		SINAMICS DCC					

Available in
TIA Portal Cloud

DVD Download

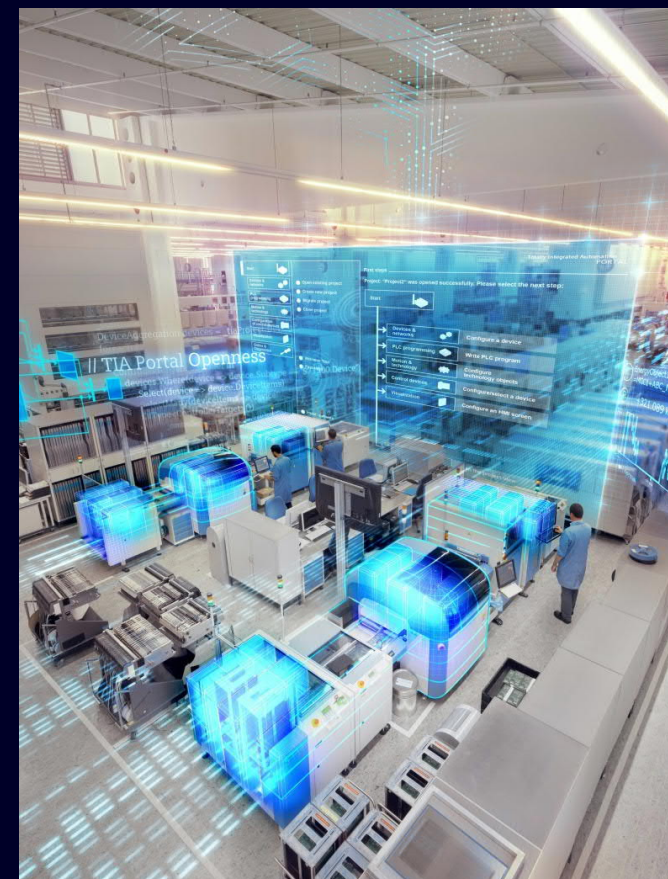
1) Component of
WinCC Runtime Professional

SIEMENS

TIA Portal V17

Digital Workflow with TIA Portal

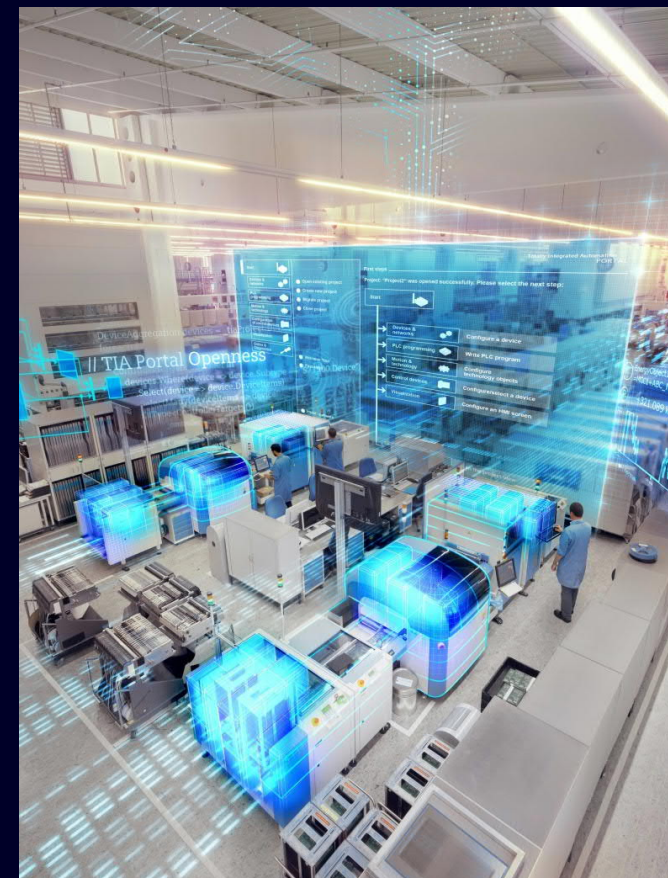
Feature / Function		Benefit
Optimized development of standards <ul style="list-style-type: none"> • more flexible library types • Support of nested (F-) data types • Extension of the Openness API 	>	<ul style="list-style-type: none"> • More flexible use of own standardized library types with own responsibility • Automated library checks
Enhancements for TIA Portal Openness <ul style="list-style-type: none"> • Extensions of the Openness API for multi-user projects • Integration of Openness scripts into the TIA Portal interface with TIA Add-Ins 	>	<ul style="list-style-type: none"> • Automated execution of engineering tasks with scripts • Full import/export interface for software objects • easy integration and use of Openness scripts with TIA Add-Ins
TIA Portal User Management <ul style="list-style-type: none"> • Managing users and user groups in TIA Portal • More detailed user rights for engineering tasks in TIA Portal 	>	<ul style="list-style-type: none"> • Simple cross-project administration and maintenance of users User groups in the system • Defined access rights in production



TIA Portal V17

Integrated Engineering with TIA Portal

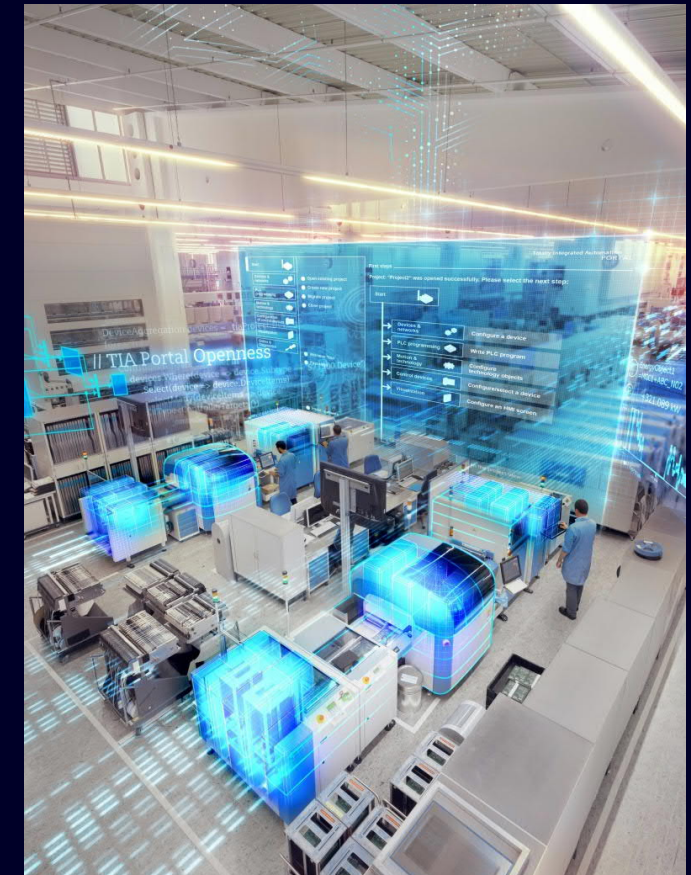
Feature / Function		Benefit
Support of S7-1500HF PLCs <ul style="list-style-type: none"> • SIMATIC S7-1500R/H for fail-safe high-availability applications • Support of PROFIsafe I/O and fail-safe PLC/PLC communication 	>	<ul style="list-style-type: none"> • Seamless portfolio extension of the S7-1500 to include fail-safe applications • Programming like normal safety applications • Implementation of applications for specific industries
New editor Cause-Effect-Matrix (CEM) <ul style="list-style-type: none"> • Efficient and easy to learn project planning language (S7-1200/S7-1500) • Graphical diagnosis in online mode 	>	<ul style="list-style-type: none"> • Enhancement of existing IEC programming languages for efficient project planning of action and reaction • Simplified diagnosis of situations thanks to a cause and effect display
Support of Continuous Function Charts (CFC) <ul style="list-style-type: none"> • Graphical programming and wiring of blocks and signals for S7-1500 • Hierarchical structuring of charts • Migration of TDC applications to TIA Portal 	>	<ul style="list-style-type: none"> • Additional editor for structured programming of SIMATIC S7-1500 • Simplified project planning of signal wiring • Creation and (further) use of CFC libraries in TIA Portal



TIA Portal V17

Transparent Operation with TIA Portal

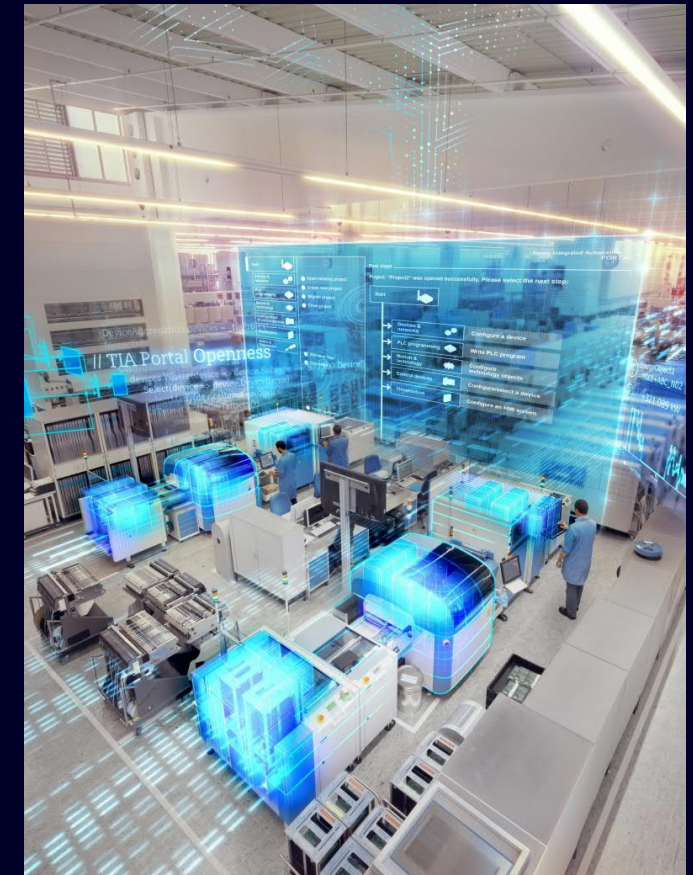
Feature / Function	Benefit
<p>Open communication with OPC UA:</p> <ul style="list-style-type: none"> • S7-1500 OPC UA Server with Alarms & Conditions • Certificate management with GDS • OPC UA Client: Compact blocks 	<ul style="list-style-type: none"> • Integration of messages and alarms in standardized machines and plant concepts with OPC UA • Increased security through management and transfer of access certificates • Simplified programming of OPC UA client applications in the controller
<p>Basic visualizations with Unified View of Things</p> <ul style="list-style-type: none"> • Creation of the basic visualization with WinCC Unified • Use as web visualization on SIMATIC web servers • Access to visualization with any browser 	<ul style="list-style-type: none"> • Creation and use of web-based basic visualizations without HTML knowledge • Seamless integration into the controller and HMI project planning • Access to visualization without additional hardware or installation of tools



TIA Portal V17

Security with TIA Portal

Feature / Function		Benefit
Secure communication: <ul style="list-style-type: none"> • TLS-based protection of communication to PG/HMI (TLS V1.3) • Introduction of individual security keys and certificates • Security Wizard 	>	<ul style="list-style-type: none"> • Integration of the latest security mechanisms • Increased security thanks to management and transfer of own certificates • Easy configuration of security settings through user-friendly wizard
Extended rights management in TIA Portal <ul style="list-style-type: none"> • User Management & Access Control (UMAC) • Central User Management (UMC) 	>	<ul style="list-style-type: none"> • Extended definitions of user rights in engineering • Support of Single Sign-on and SIMATIC Logon protocols
Secure communication with OPC UA <ul style="list-style-type: none"> • Certificate management with GDS 	>	<ul style="list-style-type: none"> • Increased security thanks to access certificate management and transfer



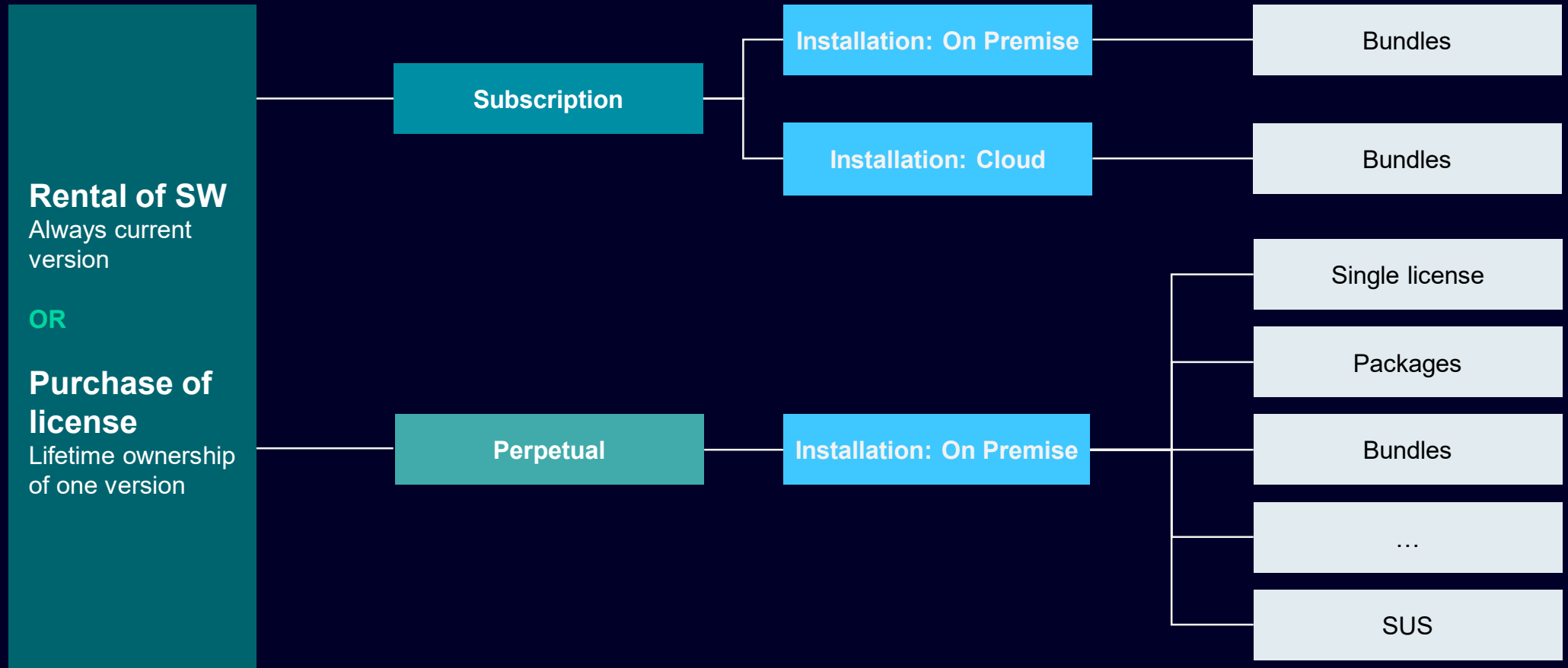
TIA Portal V17

New payment and licensing models

Subscription as additional licensing model to the existing perpetual license

NOT AVAILABLE IN AUSTRALIA – AVAILABILITY TBA

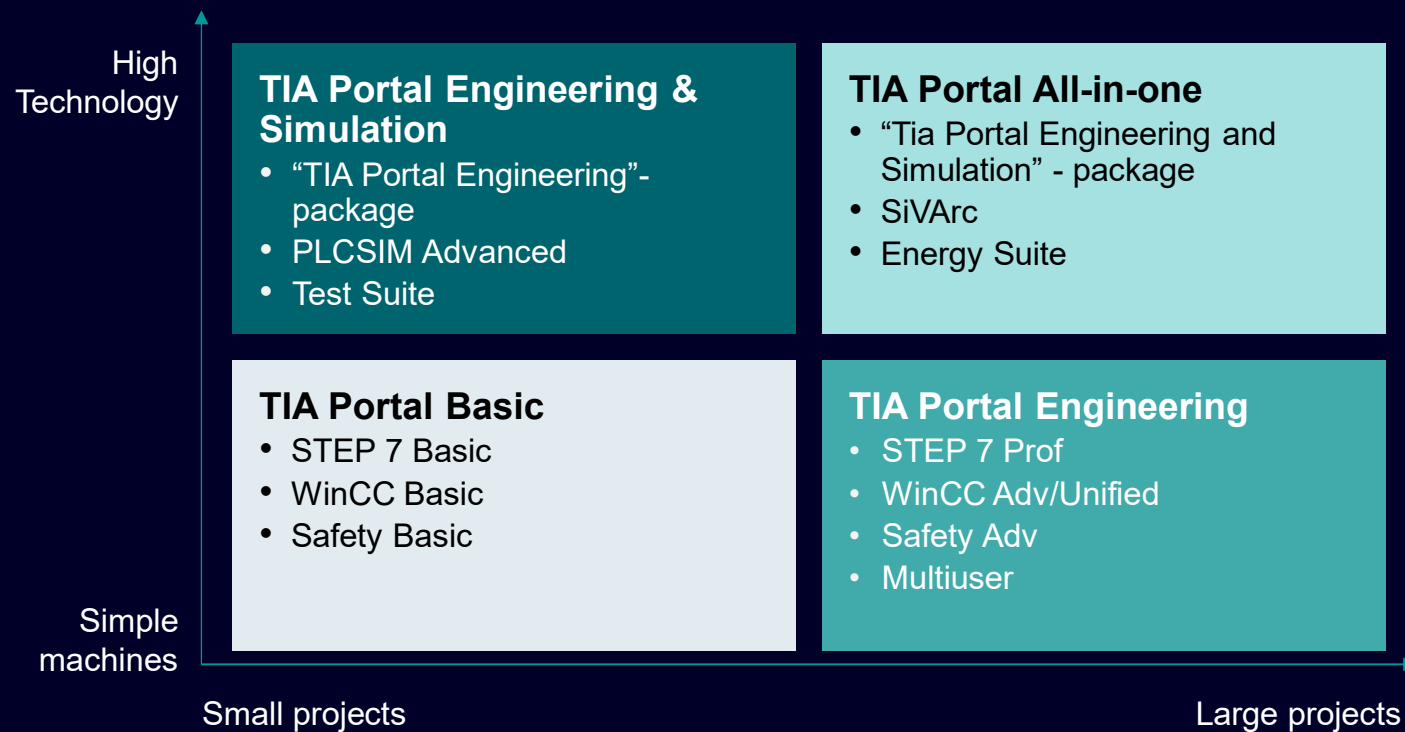
New payment and licensing models available for TIA Portal V17 and TIA Portal Cloud



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Introduction of Subscription packages with TIA Portal V17 (TIA Portal V17 – on premise)

Preliminary



Summary

Introduction of “Easy-to-use” Subscription packages

Easy entry to the TIA Portal Framework

Packages tailored to needs and applications

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Continuous Integration with TIA Portal

3 main parts for transparency and efficiency in development processes

Engineering System

- Multiple programmers work as a team on one TIA Portal project
- Based on a standardized programming guide
- Perfect collaboration and transparency of software changes



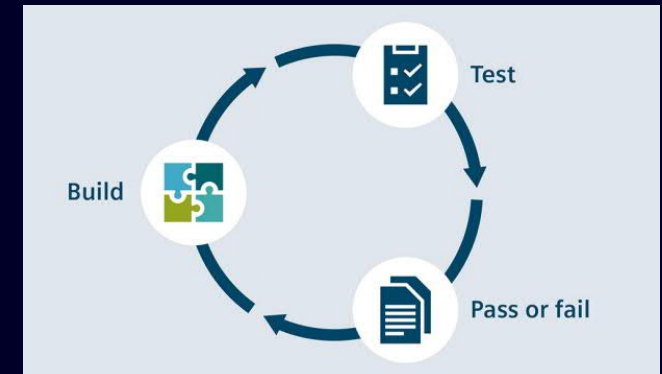
Source Control

- Record changes to software objects and documents
- Coordination of joint access to objects by multiple developers
- simultaneous processing of a project via several development branches



Continuous Integration

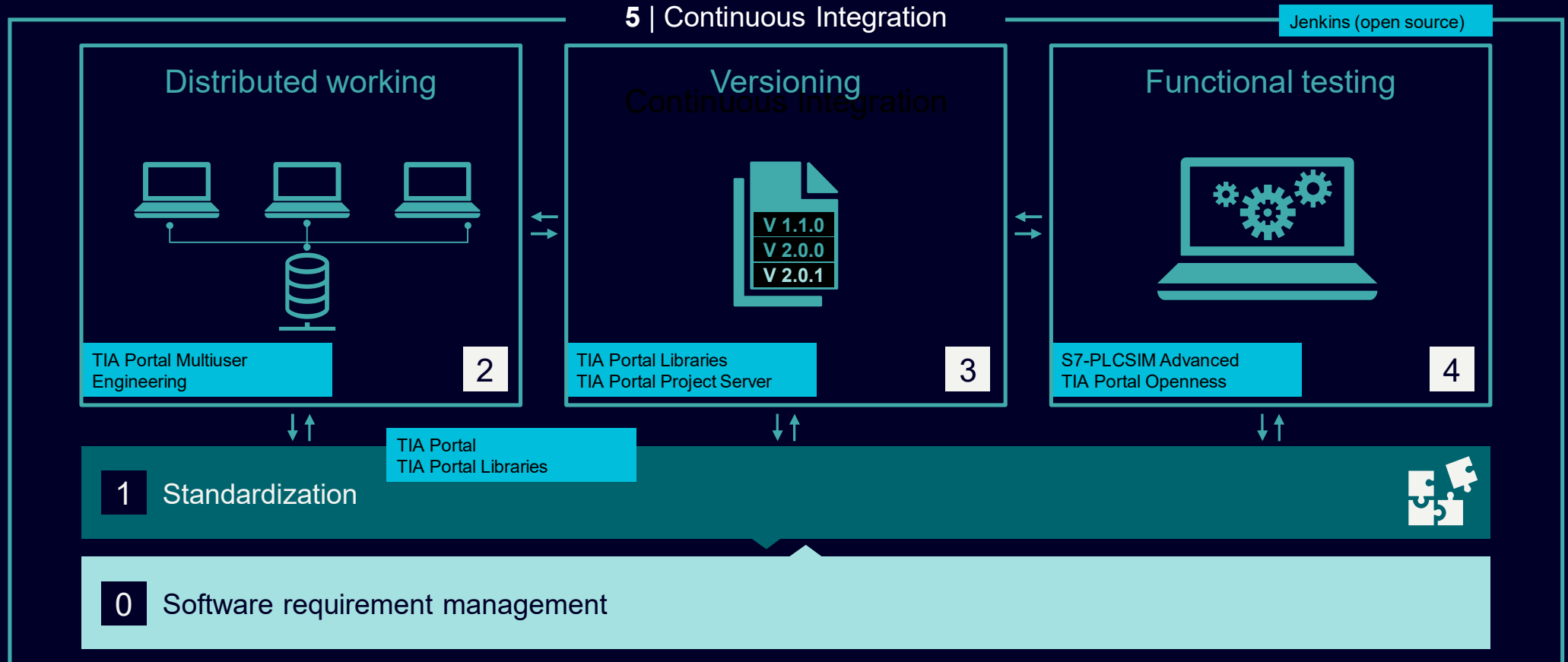
- Automatically generate a build from the individual software modules
- Automatically test the software functions
- Test results as a report to the programmers



Continuous Integration with TIA Portal

Solutions with TIA Portal components and options

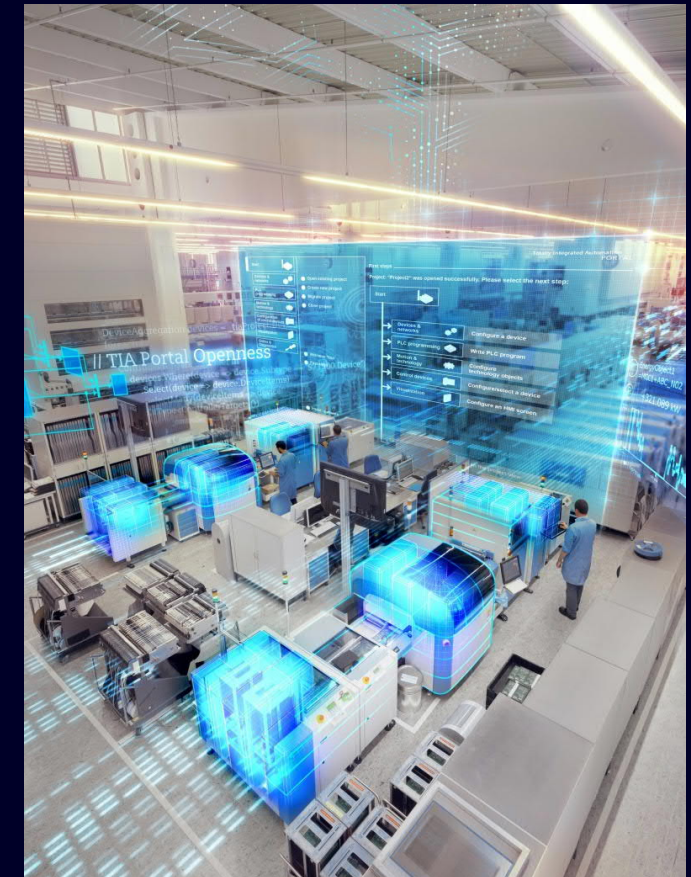
5 | Continuous Integration



TIA Portal V17

Continuous Integration with TIA Portal

Feature / Function		Benefit
Working in a team <ul style="list-style-type: none"> Enhancements for team engineering with multiuser and project server Addressing multiuser projects via TIA Portal Openness Team commissioning with PLC synchronization of folders and units 	>	<ul style="list-style-type: none"> Efficient teamwork during engineering and commissioning Automation of engineering tasks with the help of Openness Generate and check TIA Portal projects thanks to stand-alone tools
Versioning of software objects <ul style="list-style-type: none"> Integrated versioning of software objects in the TIA Portal project server Storage of projects and individual software objects in Teamcenter with Teamcenter Gateway 	>	<ul style="list-style-type: none"> Free management and versioning of software objects in TIA Portal Project Server Simplified integration of TIA Portal projects in Teamcenter
Integration of function tests <ul style="list-style-type: none"> Simulation of the application with extended CPU support in PLCSIM (e.g. S7-1500R/H) Support of CPU1518HF in PLCSIM Adv. Application Test and Styleguide Testing with TIA Portal Test Suite 	>	<ul style="list-style-type: none"> Guarantee constant software quality through the definition and execution of test cases Saving engineering and commissioning time through seamless test integration Support of collaboration in the team



Benefits of Continuous Integration with TIA Portal

Accelerated development process

The continuous cycle of rapid changes and automated function tests reduces the risk of faults.



Lower risk of faults

Automated processes ensure consistency and reduce the time required for engineering. Multiple developers can work on the same project simultaneously.



Increased transparency of processes

Test projects are generated automatically, not manually. Function tests and the testing of programming rules are also automated.



Time savings through automated processes

Version management ensures transparency over changes made by all the developers working on a project and enables traceable workflows.



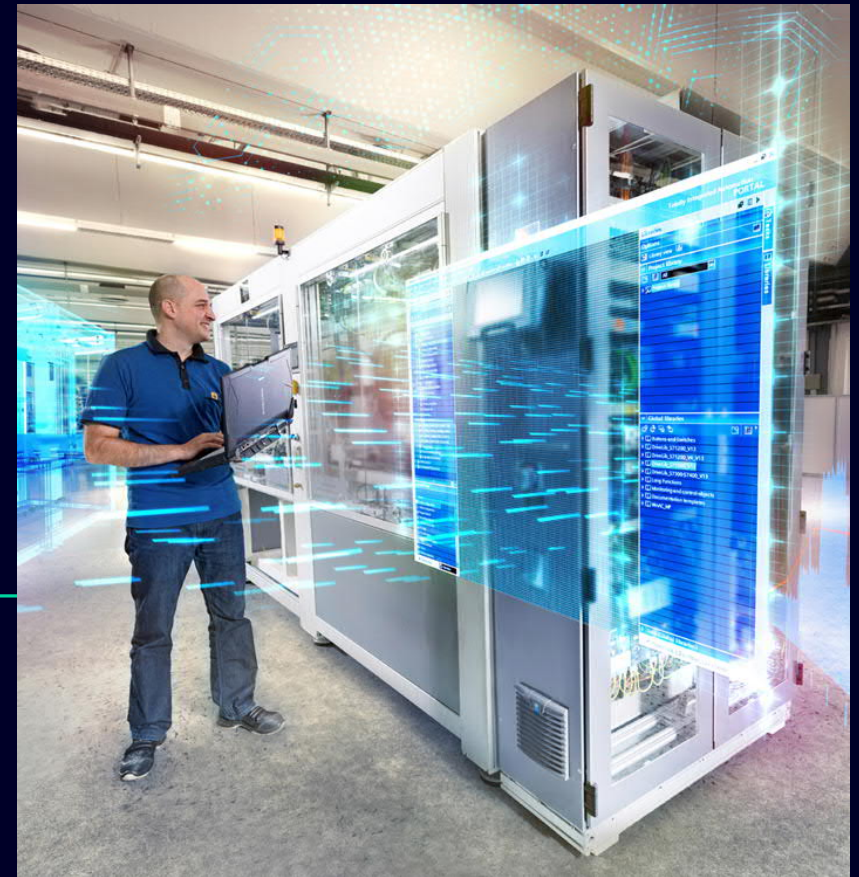
Additional information

Highlight webpages

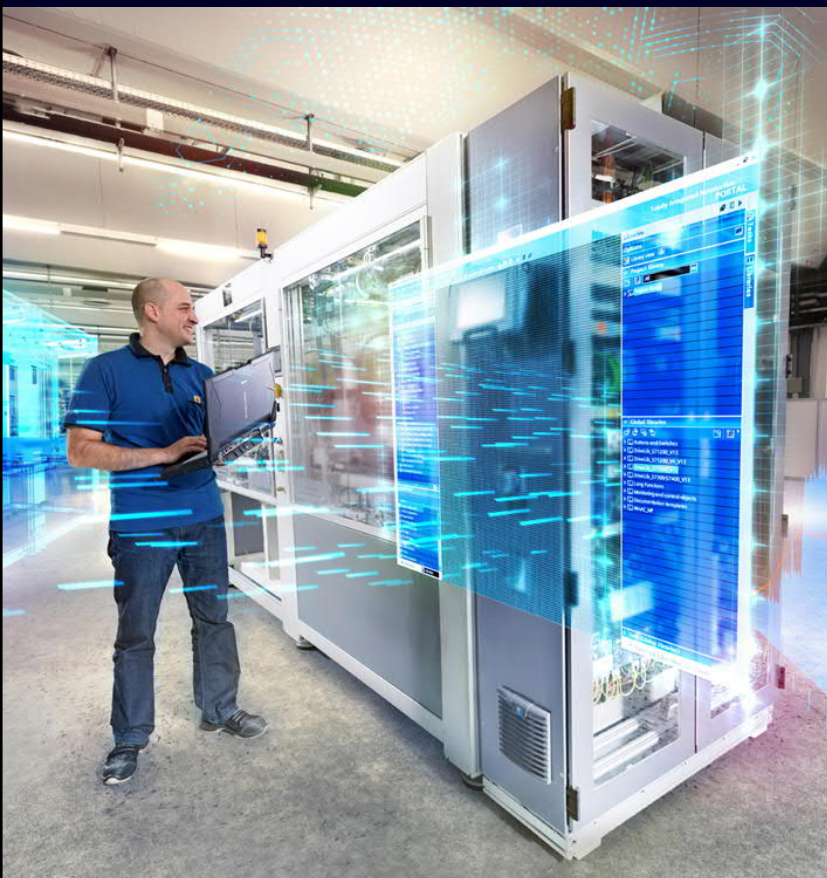
- TIA Portal
www.siemens.com/tia-portal
- TIA Portal Cloud
www.siemens.com/tia-portal-cloud
- Standardization with TIA Portal
www.siemens.com/tia-portal-standardization
- Continuous Integration with TIA Portal
www.siemens.com/tia-portal-ci
- Stage presentation “Inspiration meets Automation”
[EN/DE](#)

Web-based Highlight Trainings

- [SITRAIN Highlight Training V15](#)
- [SITRAIN Highlight Training V15.1](#)
- [SITRAIN Highlight Training V16](#)
- SITRAIN Highlight Training V17 - coming soon



TIA Portal ... find out more!



Your easy introduction to the TIA Portal

Promotional packages

- Trial license (21 days):
 - Download via Siemens Industry Online Support
- SIMATIC hardware starter packages:
 - **SIMATIC S7-1500:**
www.siemens.com/s7-1500-starter-kits
 - **SIMATIC S7-1200:**
www.siemens.com/s7-1200-starterkits
 - **WinCC Unified Comfort Panel:**
www.siemens.com/comfort-panel-starter-kits

TIA Portal Tutorial Center

- Numerous videos provide an overview of the general functions and tools of the TIA Portal.
www.siemens.com/tia-portal-tutorial-center

SIMATIC Automation Tasks

- Web tutorials for Totally Integrated Automation
www.siemens.com/automation-tasks

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TIA Portal V17 – Highlights

May 2021

TIA Portal

Highlights of TIA Portal V17 (Featured Next week)

WinCC Unified



- Improved screen engineering with new style
- Graphics and faceplates (with functional enhancements) in library
- Extended communication and 1st set of system diagnostic
- Audit for PC
- WebClient for panel

Plant Intelligence Options

WinCC – Innovations



- WinCC Advanced:
Template & Popup screens in the library
- WinCC Professional:
Raw data for S7-1500, new system tags

STEP 7 – Innovations



- CEM – Cause Effect Matrix
- CFC – Continuous Function Chart (planned for July 2021)
- Download / Upload of user groups
- Functional enhancements in the cross-reference list
- Openness extensions for project generation

Startdrive – Innovations



- Support of SINAMICS G115D
- S120: Data set switching, manual optimization
- SINAMICS DCC: Know-how-protection

Hardware configuration



- Global Offline/Online comparison
- Offline/Offline comparison at parameter level
- CPU 1518HF-4PN: Safety and redundancy
- Extended quantity structures for S7-1500 and ET200 CPUs
- Extensions for CPU 1518 MFP
- Disable and enable I-Device
- DHCP and DNS for S7-1500 and ET200 CPUs
- Web server innovations
- S7-1200 Highlights with FW4.5 (OPC UA/Webserver)
- CPU 1518T/TF-4 PN/DP: High performance motion control

System functions



- Openness-extensions for libraries and UMAC
- User Management & Access Control (UMAC)
- Library
- Security per Default
- TIA Portal Language Packs
- Last used objects

TIA Portal Options



- **STEP 7 Safety**
Fast Commissioning, nested UDTs, Openness-extensions
- **SIMATIC Safe Kinematics**
Function, advantages an requirements
- **Multiuser**
- **SIMATIC Robot Library**

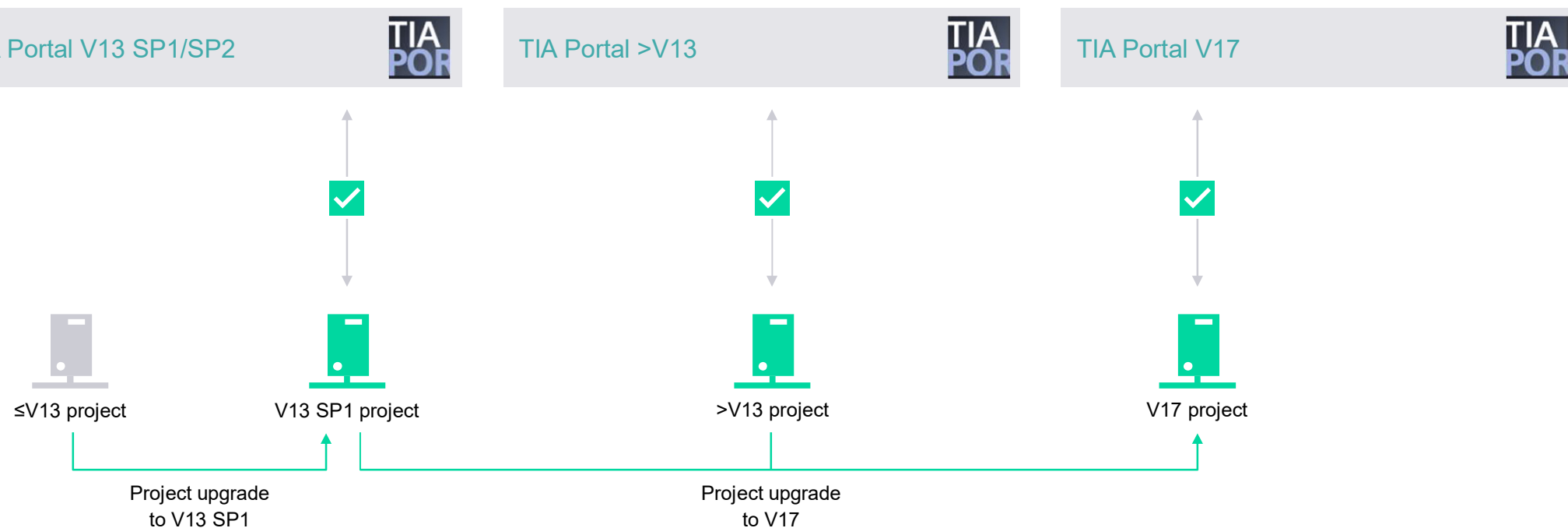
TIA Portal Options



- **OPC UA**
S7-1200: Diagnostics, methods; S7-1500: Alarms and Conditions, Server modelling, Client: new Compact blocks, GDS – certificate handling
- **PLCSIM/PLCSIM Advanced**
Support of S7-1500 R/H CPU, secure communication with OPC UA, OUC und HTTPS
- **SIMATIC Target for Simulink**
Code-generation for SIMATIC Edge & LiveTwin
Integrated S-functions for PLCSIM Adv coupling
- **Test Suite**
Openness Support of style guide Check and application test
- **SiVArc**
Support of WinCC Unified, new expressions, usability enhancements
- **Energy Suite**
Improved load management and flexible energy data connections (by Proxy-DBs)
- **Central User Management (UMC)**
Single Sign-on, SIMATIC Logon-protocol, licensing
- **Modular Application Creator**
- **ProDiag**
Monitoring within PLC Data Types, usability improvements
- **Teamcenter Gateway**
Single Sign-on, PKI, Linking between Teamcenter and TIA Portal objects

System functions

Upgrading projects



Side-by-side installation of V13 SP1/SP2 up to V17 allows access to all project versions.
The V17 license can be used for all available versions from V11.

Spare Parts Compatibility S7-1200 – FW 4.5 with older TIA Portal versions

TIA Portal V12 to TIA Portal V16



V12/V13/V13 SP1
project with
FW 1.0 to FW3.0



Firmware V4.5

V14/V14 SP1
project with
FW 4.0/4.1



Firmware V4.5

V15/V15.1
project with
FW 4.2/FW 4.3



Firmware V4.5

V16
project
with FW 4.4



Firmware V4.5

TIA Portal V17



V17 project
with FW 4.5



Firmware V4.5

Latest firmware version release: Online support: ID 109771672



New functions can be used with TIA
Portal V17 and firmware V4.5

System functions

Spare parts compatibility S7-1500 and ET 200 CPUs – FW 2.9 with older TIA Portal versions

TIA Portal V12 to TIA Portal V16



V12/V13/V13 SP1
project with
FW 1.0 to FW 1.8



Firmware V2.9

V14/V14 SP1
project with
FW 2.0/2.1



Firmware V2.9

V15/V15.1
project with
FW 2.5/FW 2.6



Firmware V2.9

V16
project
with FW 2.8



Firmware V2.9

V17 project
with FW 2.9



Firmware V2.9

TIA Portal V17

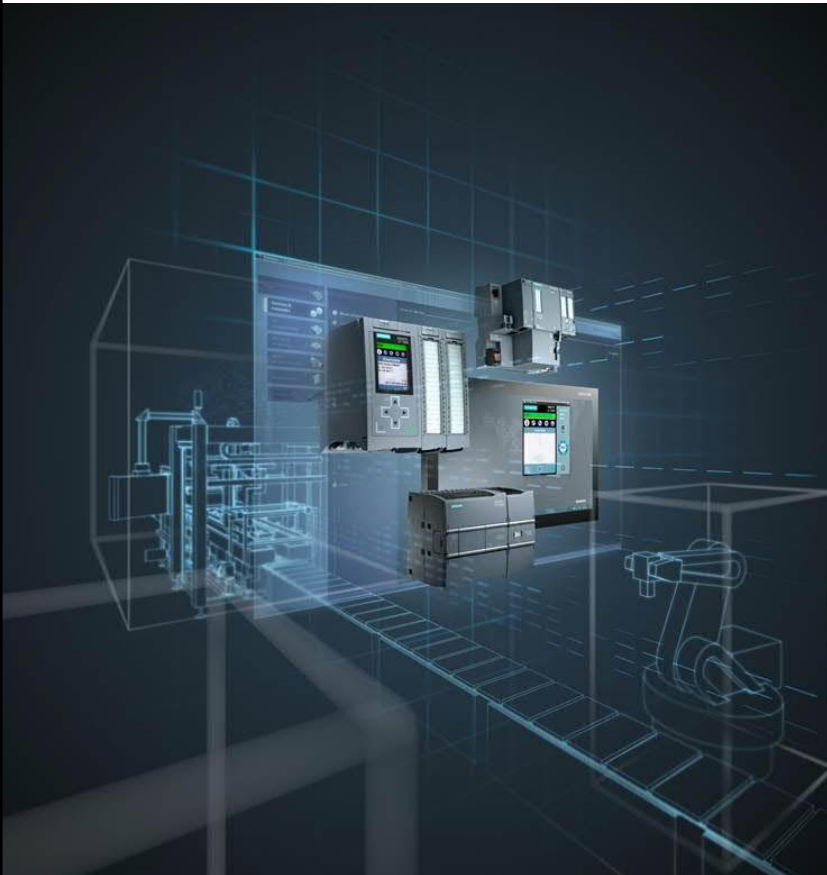


Full spare part functionality: Online support: ID 109744163



New functions can be used with TIA Portal V17 and firmware V2.9

THANK YOU



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