



SIEMENS

Totally Integrated Automation Portal

One integrated engineering framework for all automation tasks.

[siemens.com/tia-portal](https://www.siemens.com/tia-portal)

Answers for industry.



“The TIA Portal for me has been pretty beneficial in that I’m able to do my HMI and my PLC and the configuration all through easy-to-use, intuitive tools and features designed in the software that makes it all flow pretty smooth.”

Bruce A. Ritchey
Computer Engineer
Solvere
USA

TIA Portal – the integrated engineering framework

With the Totally Integrated Automation Portal (TIA Portal), Siemens is following a vision of providing an integrated platform for implementing automation solutions in all industries around the globe. TIA has been the core intelligence for more than 100,000 automation products for over 15 years. This system architecture is the foundation for open connectivity and maximum interoperability across all parts of a plant to transform them into a single integrated system.

One Engineering Environment

TIA Portal is the key to unlocking the full potential of TIA. The innovative engineering framework integrates all software automation tools within a single development environment. It represents a milestone in software develop-

ment with the industry’s first automation software with One Engineering Environment – One Software Project for all automation tasks. The user can access all engineering tools from one user interface. The framework enables the engineering of an entire automation system and not only of individual parts of the plant. From designing, installing, commissioning, and maintaining to upgrading automation systems, TIA Portal saves engineering time, cost, and effort.

TIA Portal improves competitiveness by maximizing the return on investment for the engineering with its intuitive operation, efficient engineering, and proven functionality.

SIMATIC STEP 7 V11

Engineering for all SIMATIC controllers

For years, SIMATIC STEP 7 has been the standard and the authoritative engineering system for programming controllers. Now, all SIMATIC S7 controllers and SIMATIC PC based controllers can be configured, programmed, tested and diagnosed with just one single package.

One engineering package for all SIMATIC controllers

For SIMATIC S7-1200, S7-300, S7-400, ET 200 CPUs and WinAC.

Considerable savings in the time it takes to develop a project

Powerful and intelligent editors speed up the programming of the controllers.

Higher-level programming language S7-SCL

In addition to the editors LAD/FBD/STL, a new graphic programming language S7-Graph and high-level programming language S7-SCL is available.

Increased project quality

Proven modular software components and shared projects can be saved to the library, enabling reuse in subsequent projects.

Less time required for training

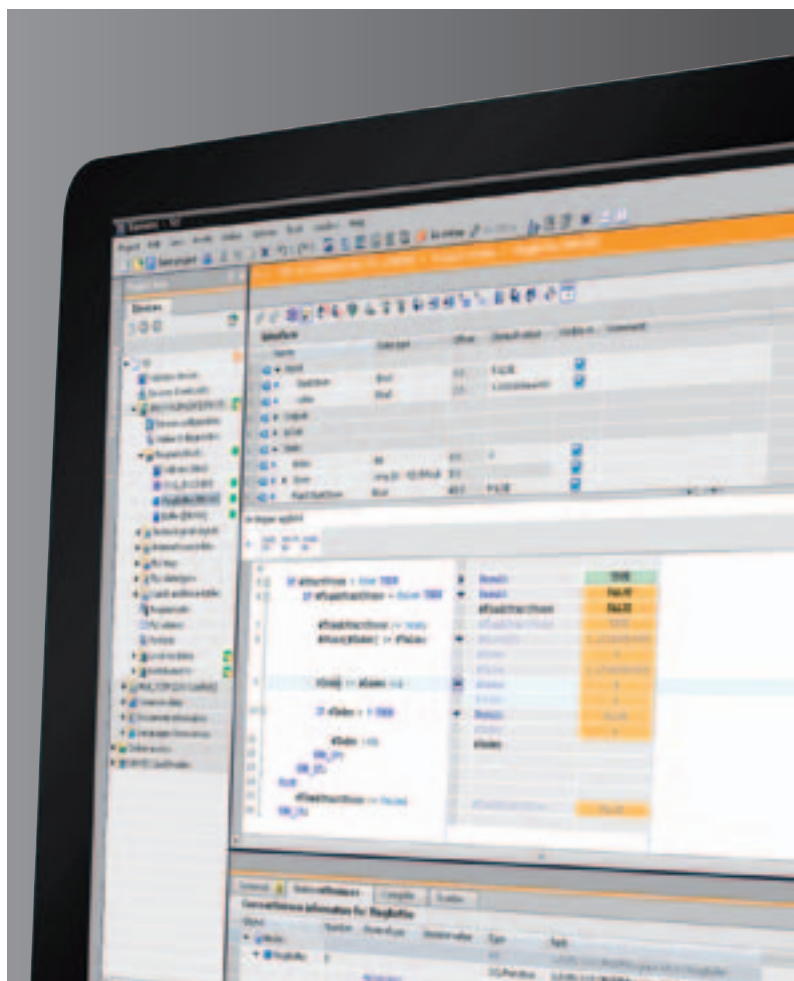
Because of the intuitive nature of the software, new engineers will acquire the knowledge in less time. Experienced engineers already have a good base and will quickly take advantage of new opportunities.

Full integration of machine safety

An engineering system for conventional and machine safety switches.

Protection of investment

Almost all existing software and current hardware can be converted to the new software without any problems.



Fully updated S7-SCL editor

SIMATIC STEP 7 V11 software licenses

SIMATIC STEP 7 Professional V11 is suitable for all current S7 controllers and SIMATIC HMI Basic Panels. SIMATIC STEP 7 Basic V11 is only intended for the SIMATIC S7-1200 controllers and SIMATIC HMI Basic panels.



Device View S7-300 rack with safety IO

SIMATIC STEP 7 V11	
Programming languages > LAD, FBD, SCL, STL*, S7-GRAPH* Option STEP 7 Safety	
BASIC	PROFESSIONAL
	WinAC (incl. Failsafe)
	S7-400 (incl. Failsafe)
	S7-300 ET 200 CPU (incl. Failsafe)
	S7-1200

*Only professional

Totally Integrated Automation Portal

One software framework for all controllers, HMIs and drives

The TIA Portal is advanced software technology packaged in an intuitive user interface. Whether it involves programming a controller, developing an HMI screen or configuring network connections, TIA Portal helps new and experienced users to work intuitively as effectively as possible.

Centralized data management > validation of all engineering data

Cross-reference list > project-wide overview using tags and objects

PLC and HMI simulation > integrated standard feature

Online/offline comparison > quickly visualize differences

Save projects > saving incomplete software is also possible

Project tree > conveniently organized project structure with all objects

Diverse wizards > adding CPUs, HMI panels and technology objects quickly and in structured fashion

Devices and networks > graphic network overview of all hardware components based on PROFIBUS, PROFINET, and AS-i

Structured program setup > conveniently organized program structure

Tag definitions > immediately available in all editors once defined

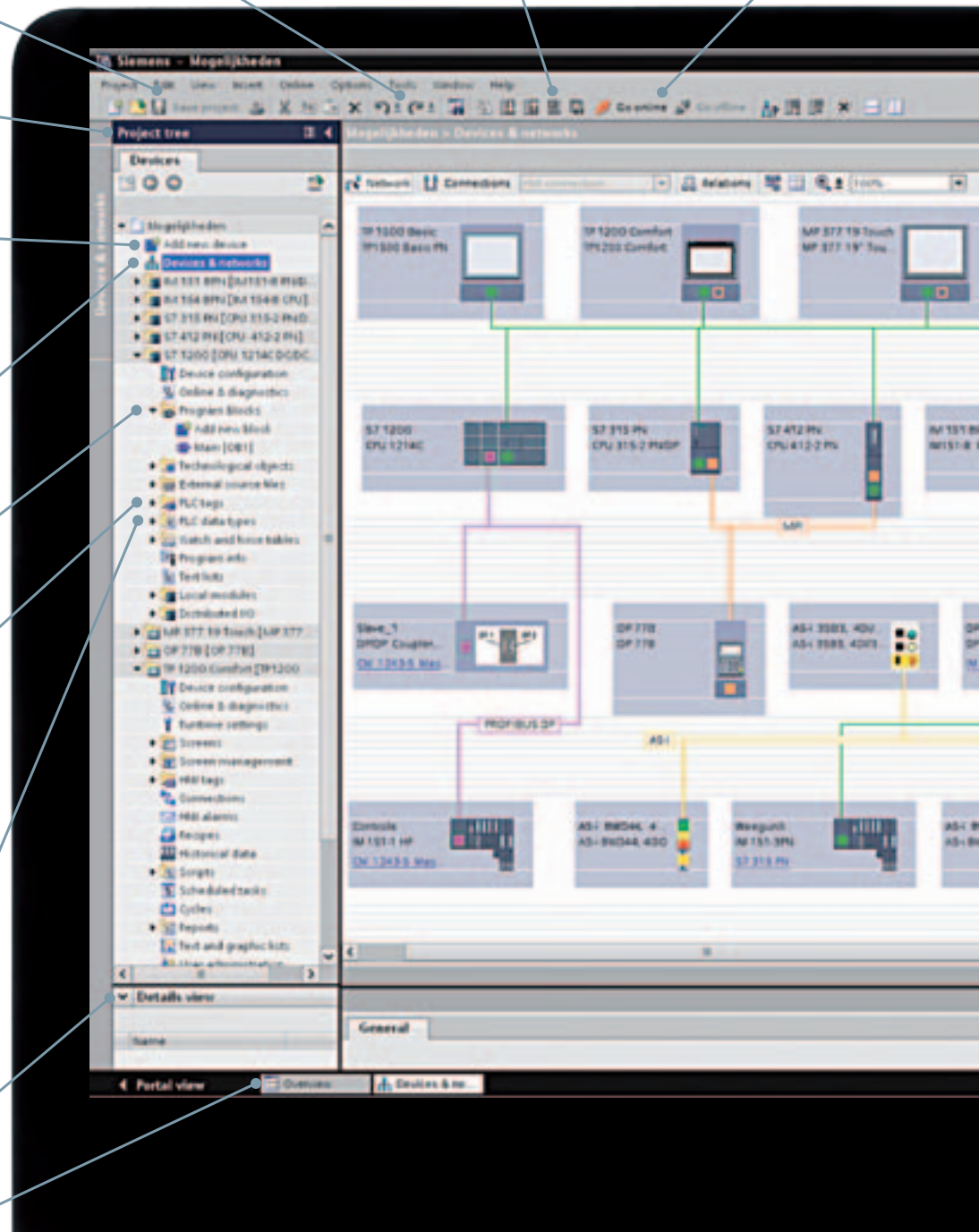
Consistent symbols > program with symbolic names within the whole project as object

PLC Data Types > conveniently arranged display of user-defined types

Drag & drop functionality > dragging data from one editor to another one

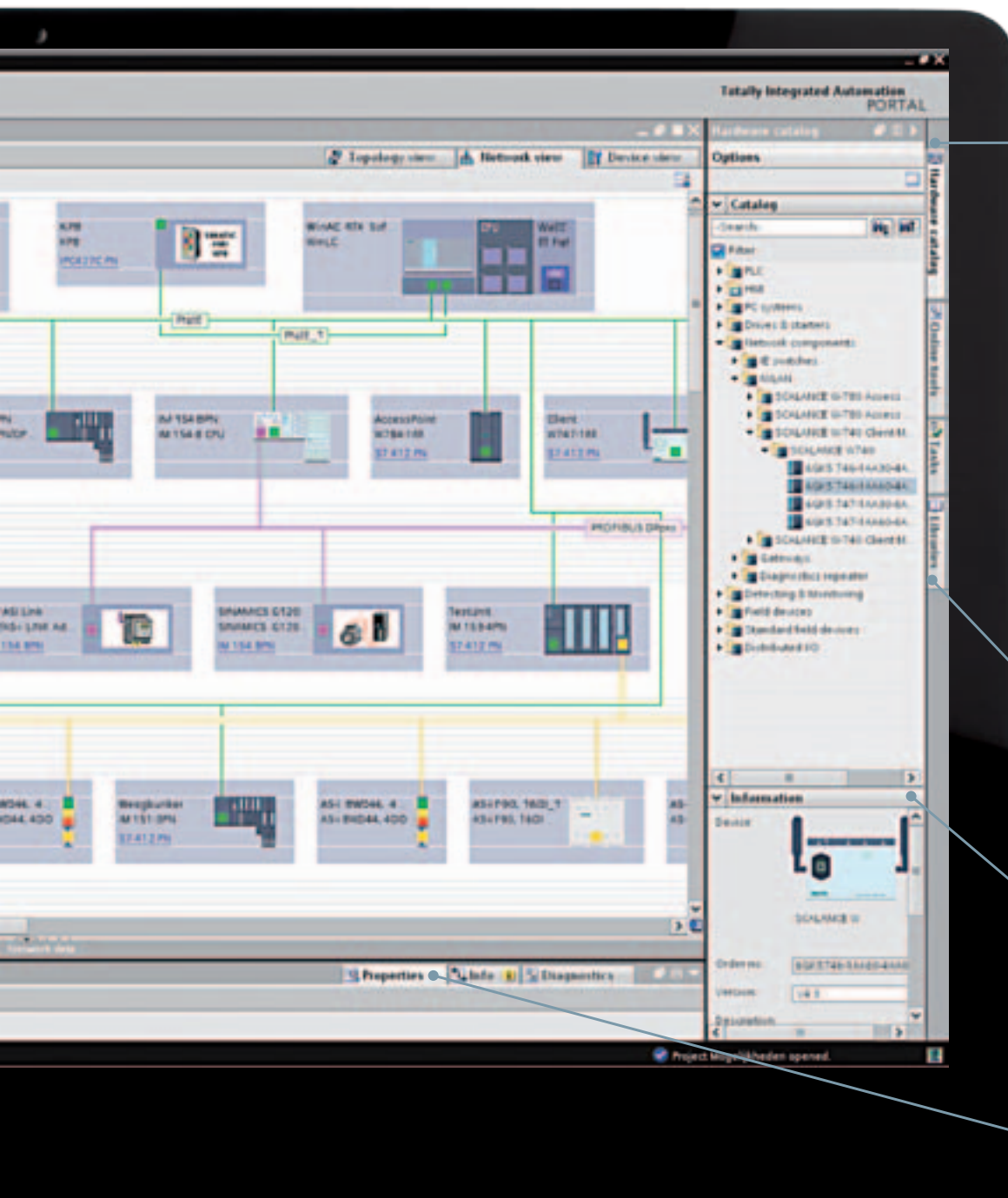
Detail window > displays all details from selected map of the project tree

Window switcher > to switch between opened editors



IntelliSense >
automatically adds data

Functions and information >
always in the same location



Intuitive tab pages >
follows the selected editor, such as a hardware catalog

Universal library >
saving and reusing of engineered parts of projects

Information window >
displays detailed information of the selected hardware

Proportion window >
displays all relevant parameters of the selected object in the editor

SIMATIC WinCC V11

Engineering for all SIMATIC HMI Panels and SCADA

The new HMI software SIMATIC WinCC V11 supports the whole spectrum of HMI devices, of SIMATIC HMI Basic and even Panels, Comfort Panels, PC stations SCADA process visualization. All these systems can be programmed within the same software with the accompanying efficient and intuitive tools.

Uniform engineering

The same tools and editors for all HMI devices. From the smallest HMI panel to the SCADA operating system. HMI objects are interchangeable.

Test and simulation of an HMI project

An HMI project can be fully simulated and tested in the software without a need for hardware or runtime licenses.

Perfect teamwork with controller

A shared database ensures data consistency in the whole project. PLC tags may be linked directly to an HMI device through drag & drop.

Scalable

System expansion or functional enhancements can be executed quickly because of the modularity and scalability of the software.



HMI editor for screen configuration of HMI Comfort Panels

SIMATIC WinCC V11 software licenses

Engineering licenses for the configuration

Depending on the HMI target system, a license may be necessary. SIMATIC WinCC V11 Professional is the most extensive license. It allows you to configure the HMI target systems.

Runtime licenses

A runtime license is required for each HMI target system. Those are pre-installed on HMI Panels. Separate runtime licenses are necessary for PC and SCADA.



Controller and HMI editor opened next to each other

SIMATIC WinCC V11		HMI target system
License		
		SCADA
		PC Single User
		Comfort Panels
		Basic Panels
BASIC	COMFORT	
	ADVANCED	
	PROFESSIONAL	

Engineering redefined

Totally Integrated Automation Portal

One shared software framework for all your automation software

Daily questions

How can we solve increasingly complex problems and make optimal use of the increasing hardware functionality? And how can we accelerate the project time? Is it possible to reduce the number of software errors? Are better programming languages available to program more efficiently?

Solution

Intuitive, efficient and proven: successful engineering has never been so easy. Siemens, the world market leader in automation products, has developed a new generation of engineering software for industrial automation. This development redefines the whole engineering process and offers the following benefits: excellent efficiency and user friendliness, which leads directly to higher profits.

Unique features

Intuitive

- Uniform user interface provides comfort in engineering
- Portal view ensures a fast startup
- All editors share a similar setup and are accessible from a single screen

Efficient

- IntelliSense ensures a quick selection of data and instructions
- Flexible screen layout allows large and conveniently organized work area
- Drag & drop for copying data quickly in and between editors

Proven

- Based on many years of experience in the market
- Available for all current and future hardware
- Developed in collaboration with customers

Result:

minimum 10% savings in project costs

The TIA Portal software ensures a shorter project lead time and savings in the following project phases:

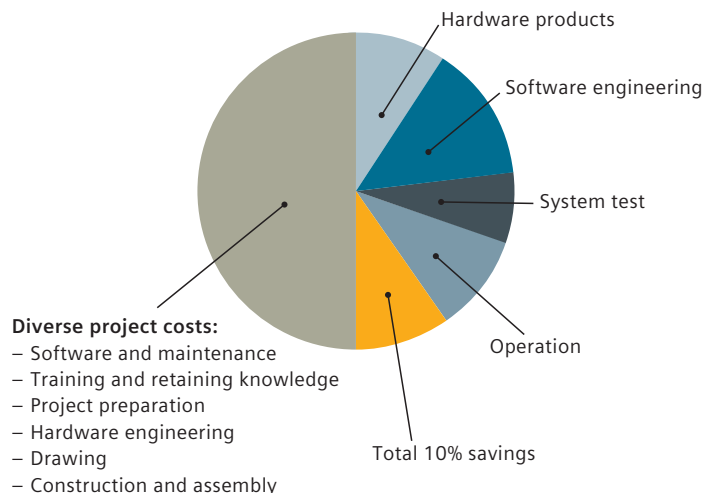
- Software engineering
- System test
- Operation

Time savings because of:

- Centralized data management
- Cross-referencing throughout the project
- Programming with symbols
- Updated SIMATIC S7 SCL editor
- Complete simulation PLC and HMI
- Quick setup of watch tables
- Full integration HMI
- Reuse of library objects
- Graphic network and device configurator
- Quickly online via Ethernet
- Comparison online/offline
- Wizards for technology objects

	Software engineering	System test	Operation
	+++	++	+
	++	++	+
	+++		
	+++	+++	+++
	+	++	
	+	+	++
	++		
	++		
	++	+	+
	+	++	++
		++	++
	+++	++	+

Improvement compared to existing software



Intuitive – efficient – proven



Learn more

siemens.com/tia-portal



You will learn

- **how to reduce engineering time for highest engineering efficiency**
- **in a Guided Tour how intuitive engineering with the TIA Portal is**
- **in our videos what customers say all over the world**

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