

WinCC Unified System

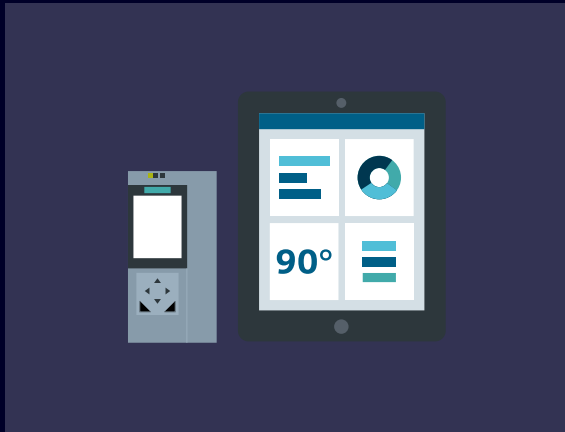
The most cutting-edge system
everywhere from
Panel- to Edge- to PC-based applications

www.siemens.com/wincc-unified-system



Full flexibility in the choice of the runtime environment because WinCC Unified is available on all relevant platforms in industrial automation

TIA Portal



S7-1500

WinCC Unified View of Things for simple use cases hosted on the PLC.



Unified Panels

HMI Unified Basic Panels for cost sensitive, mid-range solutions and HMI Unified Comfort Panels for high-end applications (Industrial Edge enabled).



WinCC Unified PC RT

Scalable from single-station system up to complex, distributed or highly available applications and a Data Hub station for central logging.

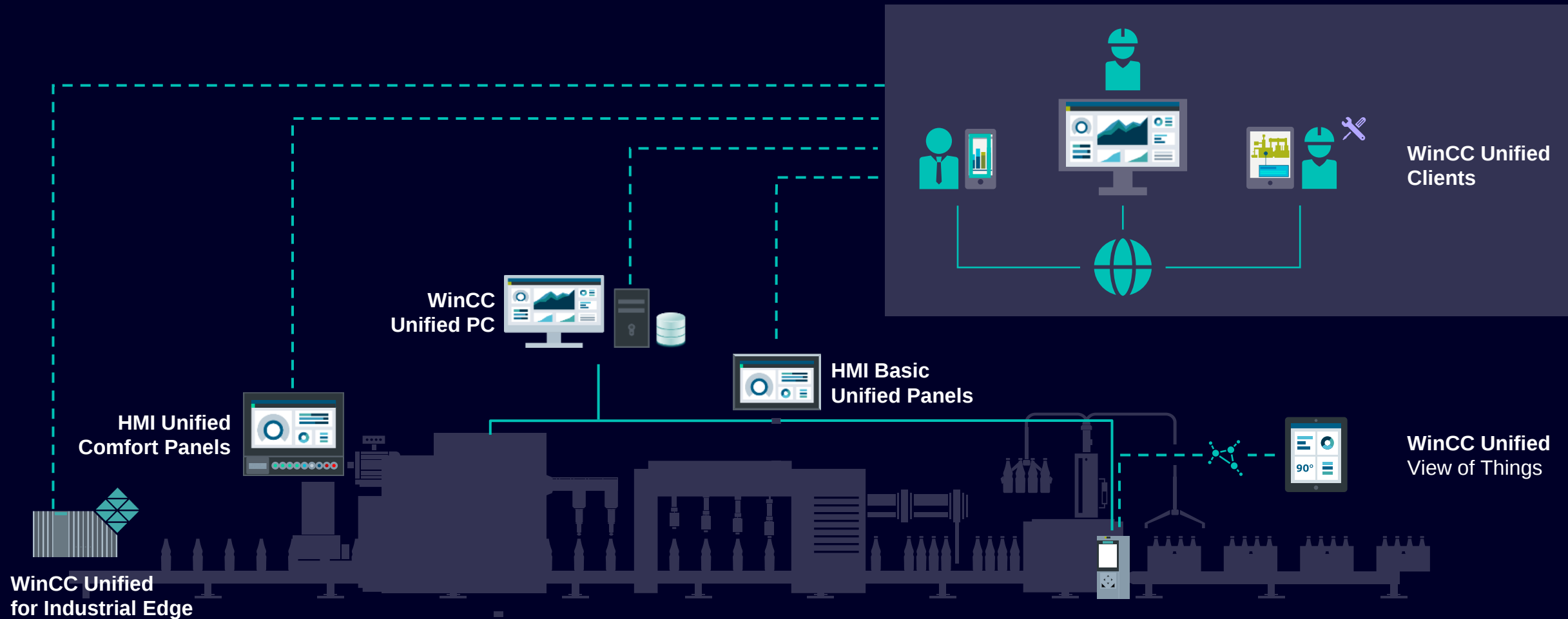


WinCC Unified RT for Industrial Edge

Visualization and Operation in the Industrial Edge environment, enabling flexible app integration.

WinCC Unified System – Scalability

From machine to plant supervision



Homogenous visualization With SIMATIC WinCC Unified



Consistent usability of
SIMATIC HMI Unified Basic Panels
SIMATIC HMI Unified Comfort Panels
SIMATIC HMI Unified PC



Environment does not matter:
SIMATIC HMI Unified Comfort Panels
(PRO/Hygienic/SIPLUS)

Dynamic SVGs and custom web controls



Solution

SIMATIC WinCC Unified:

One scalable visualization system for different platforms, environmental or mounting conditions or use cases

Intuitive user interfaces and best user experience:

Optimized operator guidance

due to realistic SVG graphics that can be easily animated and dynamized depending on process state

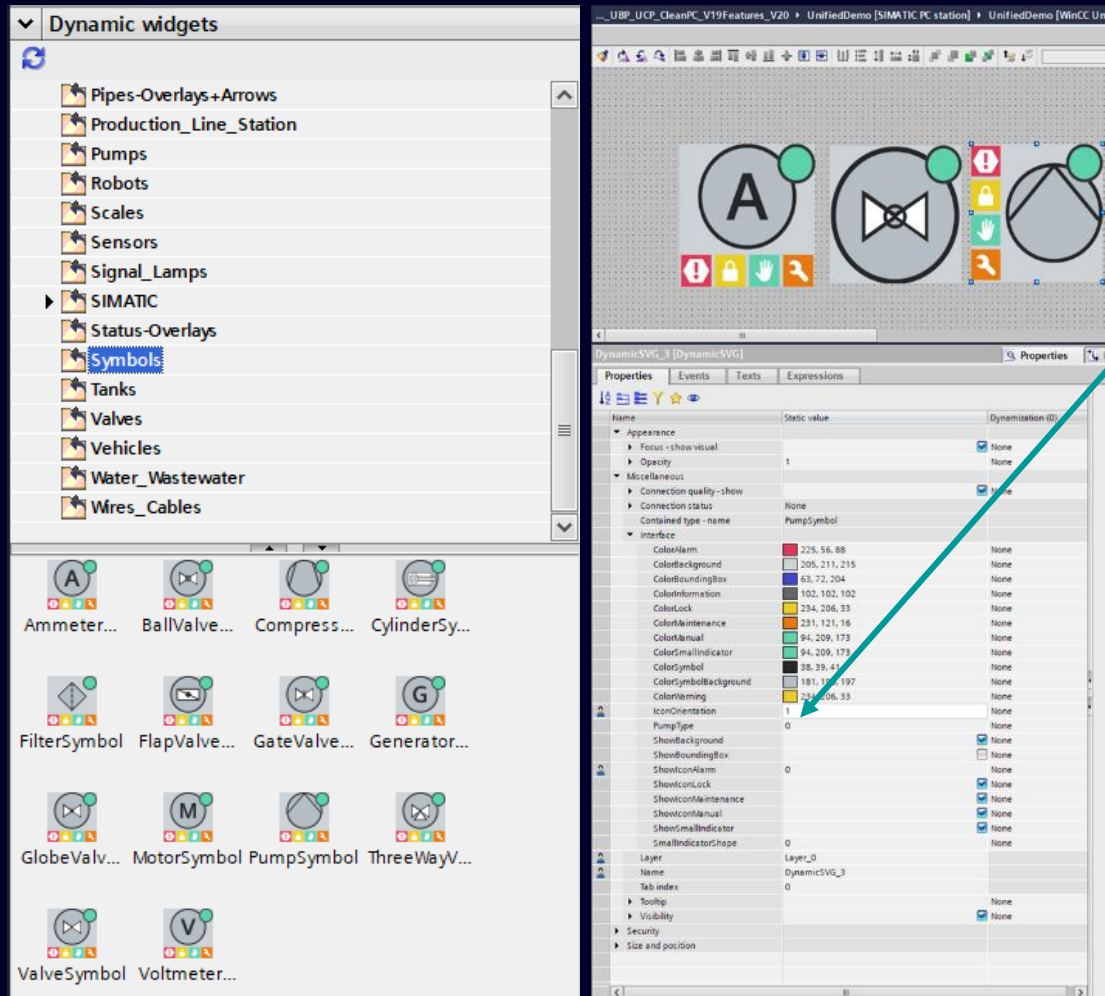
Consistent usability

from machines to plants using controls with comprehensive functionality

Open for extensions

fully integrate web-based tools, controls or applications in the visualization

Standardized Process Graphics to improve operator guidance

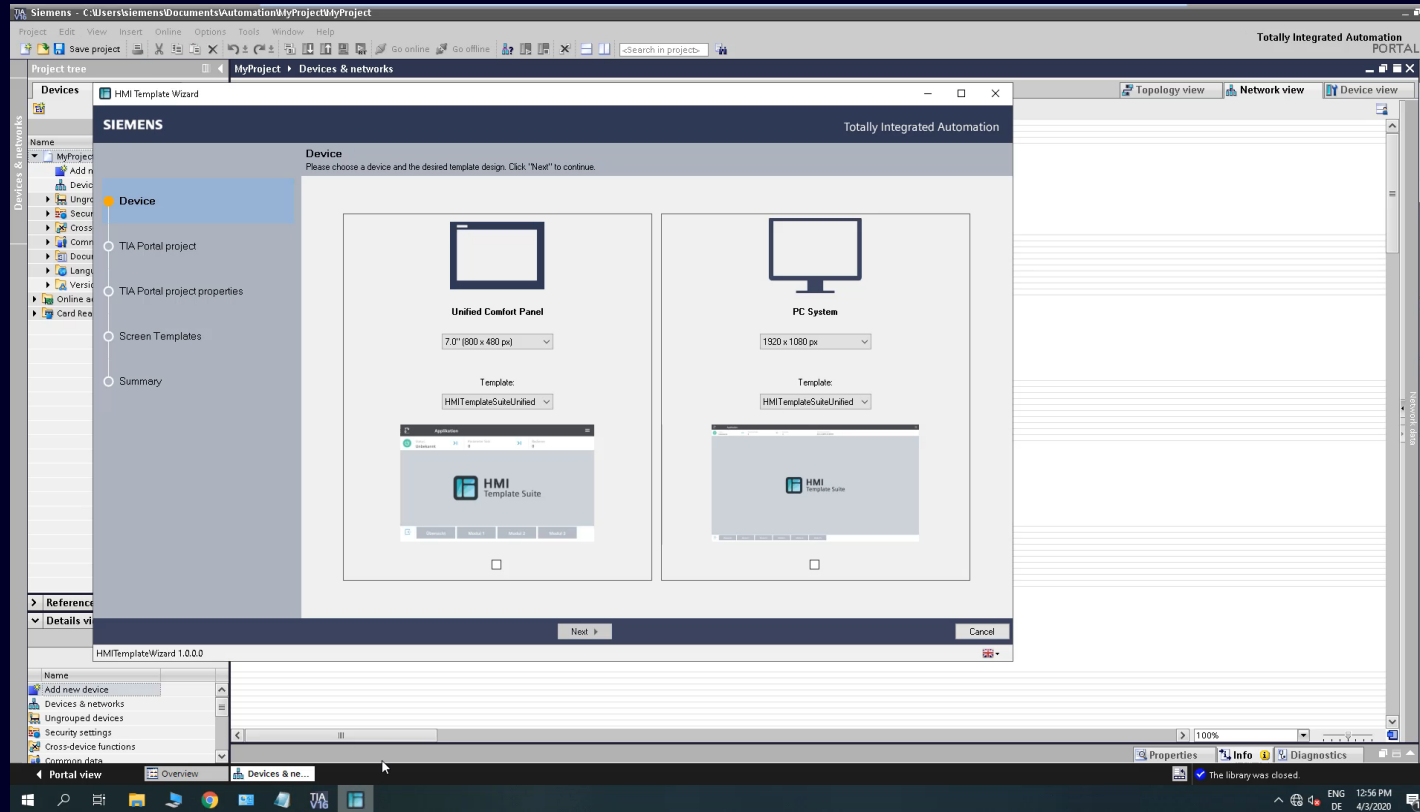


Solution

Ready-to-use Industry Library for WinCC Unified

- More accurate visualization of production assets avoids maloperation (e.g., because of a mix-up of valve variations)
- Using homogenous symbols with different characteristics improves operator guidance and reduces training effort
- Visualize different production data, like state, alarm, etc. directly at the asset
- Provide the operator with the same look and feel across different HMI systems and platforms

Flexible deployment of personnel requires a uniform operating philosophy



Technical Solution

- HMI Template Suite for SIMATIC WinCC HMI Unified Basic Panels, HMI Unified Comfort Panels or WinCC Unified PC RT
- The basis of the "HMI Template Suite" is a fully configured Operator Panel.
- This Operator Panel contains basic navigation and operating functions.
- On this basis, you can easily build and extend your project modularly using additional HMI objects from the library.



[HMI design with the HMI Template Suite](#)

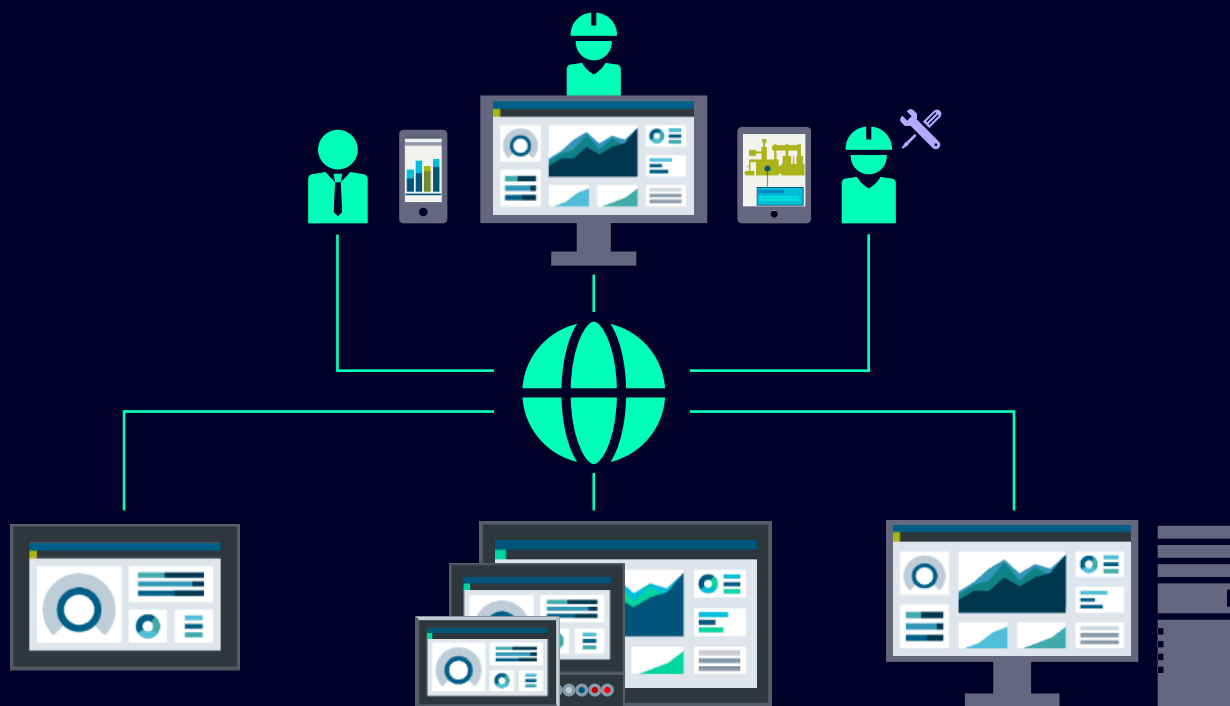


[Toolbox for HMI Projects](#)



Web access

With SIMATIC WinCC Unified Clients



HMI Unified Basic Panels

- ✓ 1x Client Operator included

HMI Unified Comfort Panels

- ✓ 1x Client Operator included
- ✓ 1x Client Monitor included
- Scalable number of clients (max. 3)

SIMATIC WinCC Unified PC

- ✓ 1x Client Operator included
- ✓ 1x Client Monitor included
- Scalable number of clients

Solution

Due to the used web technologies, you always get the best usability, regardless of the device you use.

Authorized access to the system from any device:

Zero installation client

an up-to-date web browser is all that's needed to access the visualization

Direct and secure access

to Unified Panel- or PC-based systems for remote monitoring or operation via a scalable number of clients. Security thanks to web standards (SSL, HTML5) and integrated user management.

Configuration of WinCC Unified PC RT stations

Adjust access and startup behavior:

- PC-based Operator Station (Kiosk mode)
- Define mobile device (mobile or tablet) e.g. for management or a monitor (w/o keyboard) to show key production figures

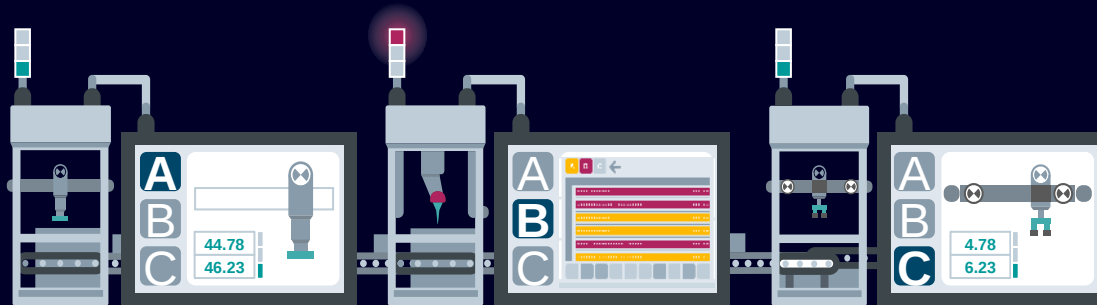
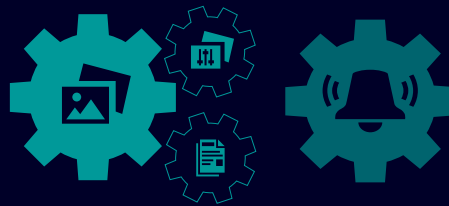
Efficient operation of distributed configurations

With WinCC Unified Collaboration



WinCC Unified PC

Screen and Alarm Collaboration



HMI Unified
Comfort Panel

HMI Unified
Comfort Panel

WinCC
Unified PC

Solution

SIMATIC WinCC Unified Collaboration

Enables to realize distributed configurations with HMI Unified Comfort Panels or PC stations at Runtime. Efficient operation of machines and lines.

“Build-in” access to data of other Unified devices:

Screen Collaboration

“Build-in” access to screens of other Unified devices, including (incl. Reporting or Parameter Control) via screen navigation which is defined during engineering

Alarm Collaboration

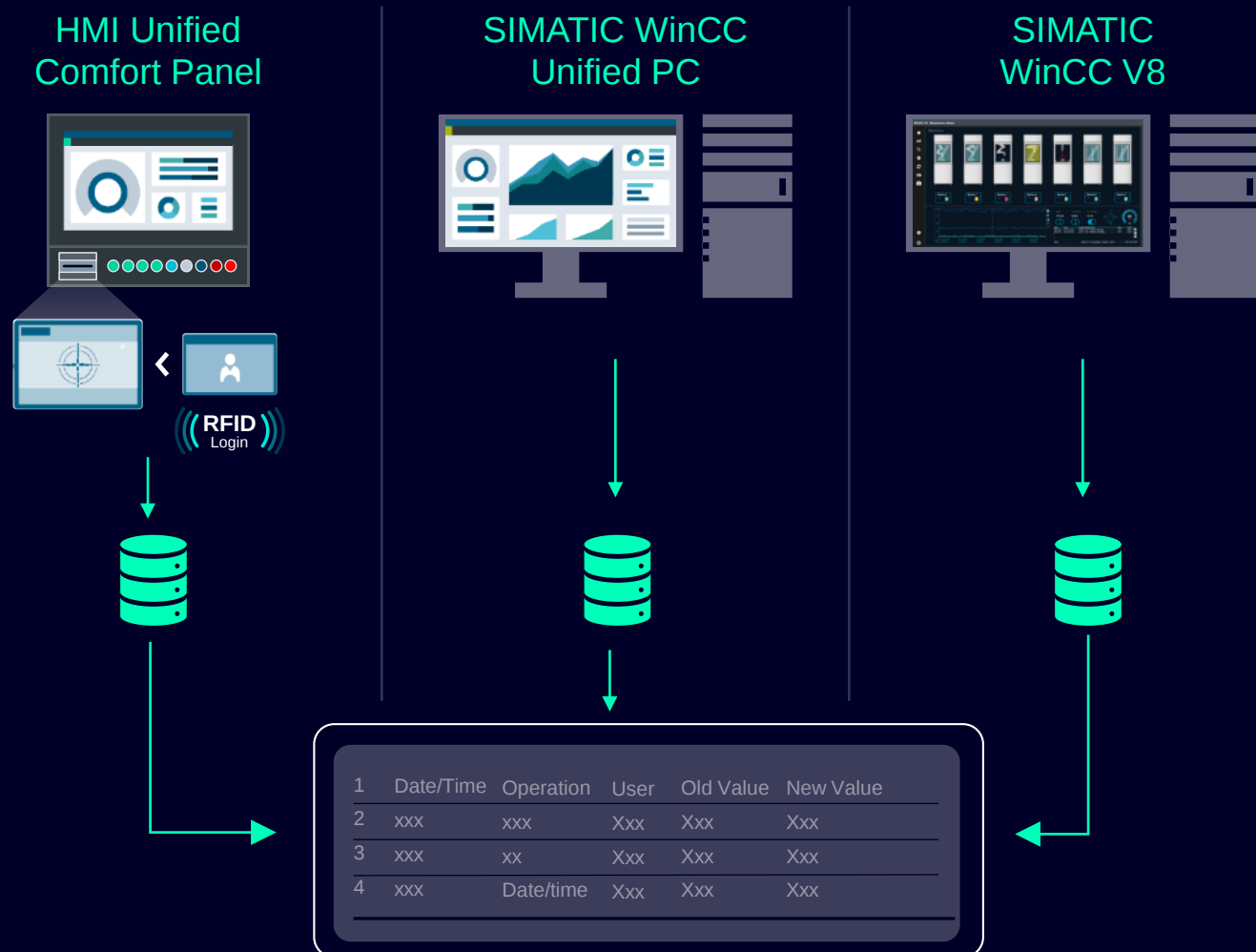
“Build-in” access to alarms of other Unified devices, either pre-defined during engineering or on demand using Alarm / Alarm Hitlist Controls.

Central User Management (UMC)

is recommended for consistency of user rights, permissions and user groups.

Trace operator actions

With SIMATIC WinCC Unified or SIMATIC WinCC V8



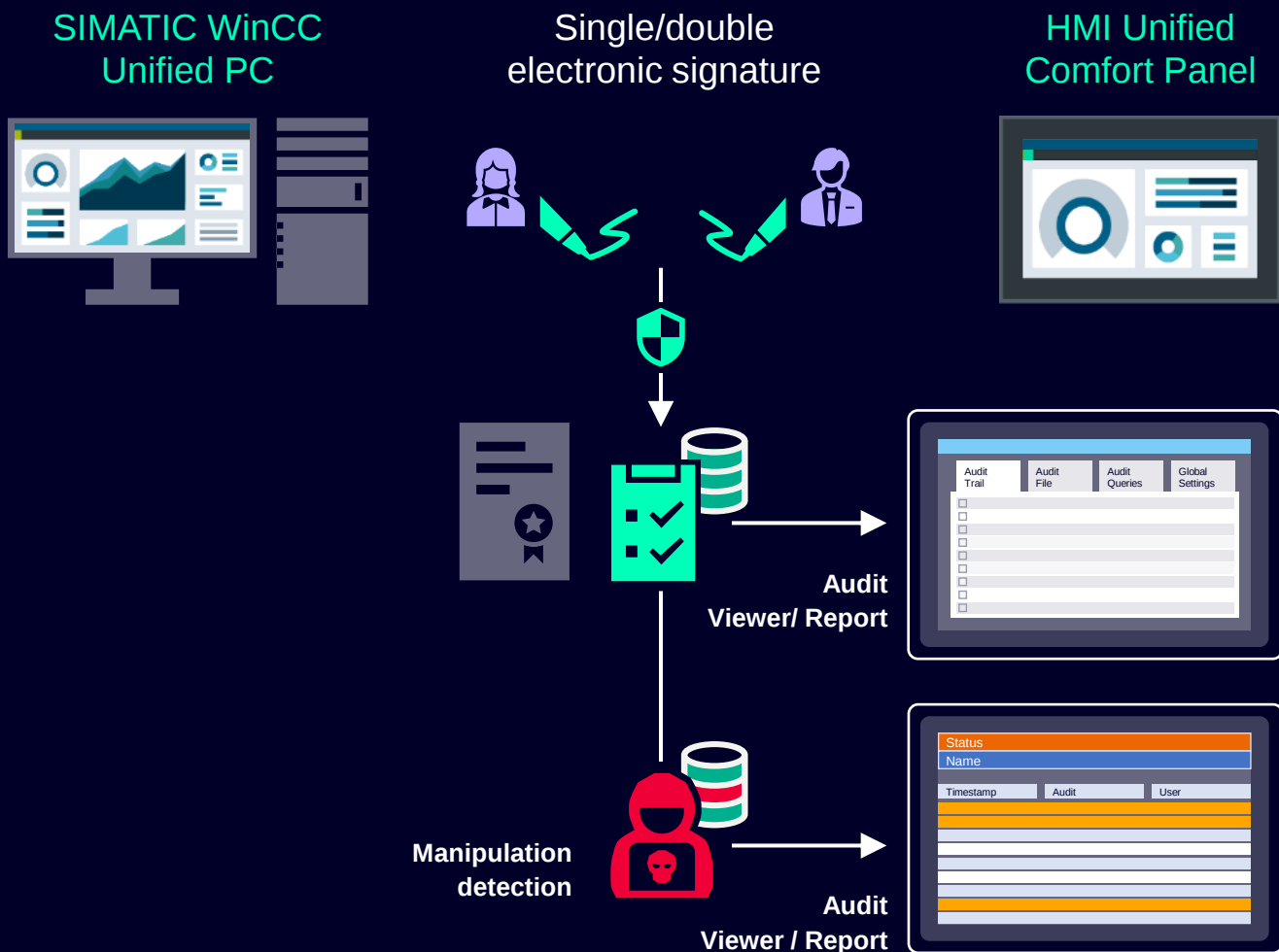
Solution

Track and Trace operator actions

- Any operation can trigger an operator message when:
 - Operator Logon/Logoff
 - Operator changes a setpoint/parameter
 - Operator changes a value, with obligatory comment if required
 - Further operator actions e.g. Alarm acknowledgment
- Operator messages are logged and shown in the Alarm Control with details like old-/new value, computer name, ...

GMP ready

With SIMATIC WinCC Unified Audit Basis/Enhanced



Solution

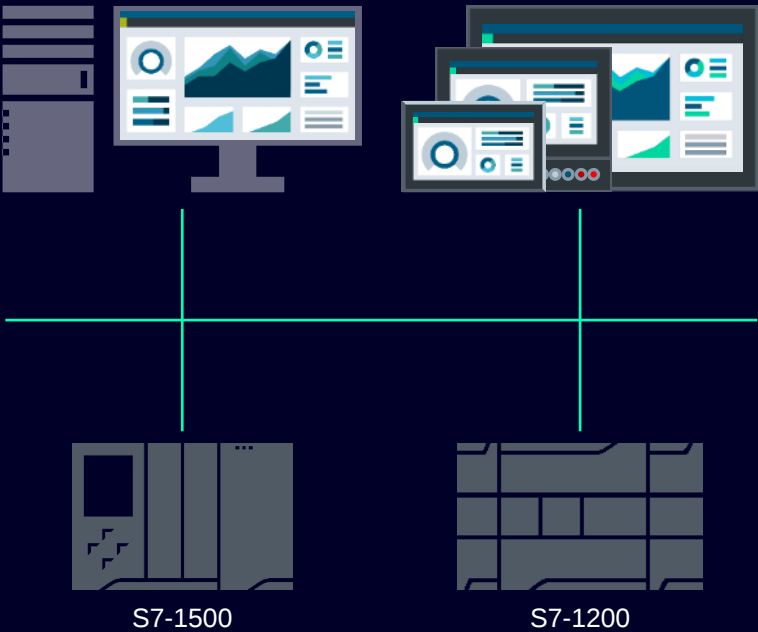
Audit Basis and Audit Enhanced

Electronic records and signatures according to legal requirements

- Document operator logon/logoff as well as changes of process tags via Audit Trails
- View and Analyze Audit trails in Audit Viewer or via report
- Single (Audit Basis) or double (Audit Enhanced) electronic signature for critical operating actions
- Comment the reason of change upon demand (predefined or free text)
- High level of security due to secured communication and manipulation detection
- Base for gmp-conformity as required in certain industries e.g. Food & Beverage or Pharma (ERES compliance response)

System diagnostic

With SIMATIC WinCC Unified



✓ S7-1500

Xxx

Xxx

✓ ET200SP

Xxx

Xxx

Home

Menu

Back

Forward

1

✓ i

Date/time

Xxx

2

i

Date/time

Xxx

3

✓ i

Date/time

Xxx

4

✓ i

Date/time

Xxx

Home

Refresh

Stop

Start

Menu

Back

✓ PROFINET IO System ID

IP address

Xxx

Next

Home

Menu

Back

Forward

Solution

Predefined generic controls

System Diagnosis Indicator
indicates the current system state

Detailed information of

- field bus
- I/O stations
- I/O channels
- PLC diagnostic buffer

Predefined generic controls

Diagnostic view, Matrix view and Distributed I/O view

Process diagnostic

With SIMATIC ProDiag and SIMATIC WinCC Unified

SIMATIC HMI Unified
Comfort Panels



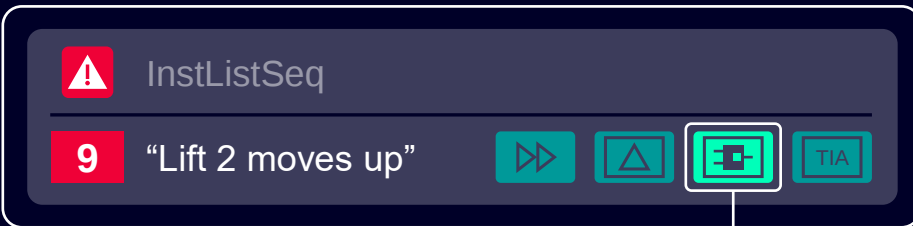
SIMATIC WinCC
Unified PC



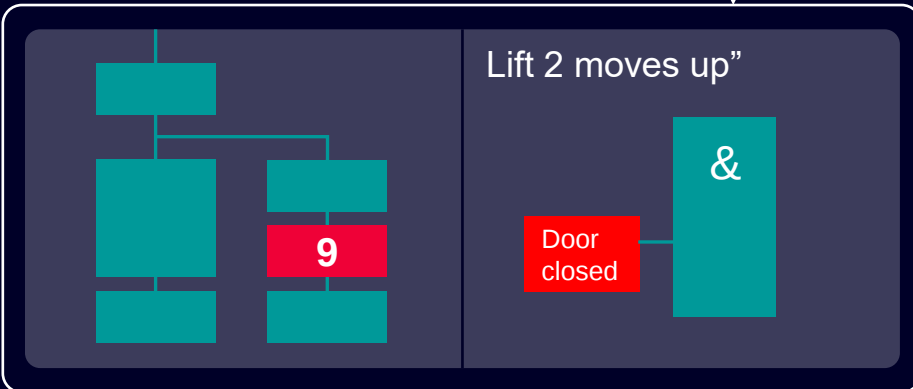
Diagnose Overview Control



Diagnose
Overview Control



S7-GRAPH
Overview Control



Solution

Integrated and standardized process diagnostics without additional programming device

Diagnose Overview Control

Monitoring in runtime and gathering of diagnostic information if an error occurs

S7-GRAPH Overview Control

Shows the current program status for executed steps of the S7-GRAPH sequencer

PLC Code Viewer for S7-GRAPH

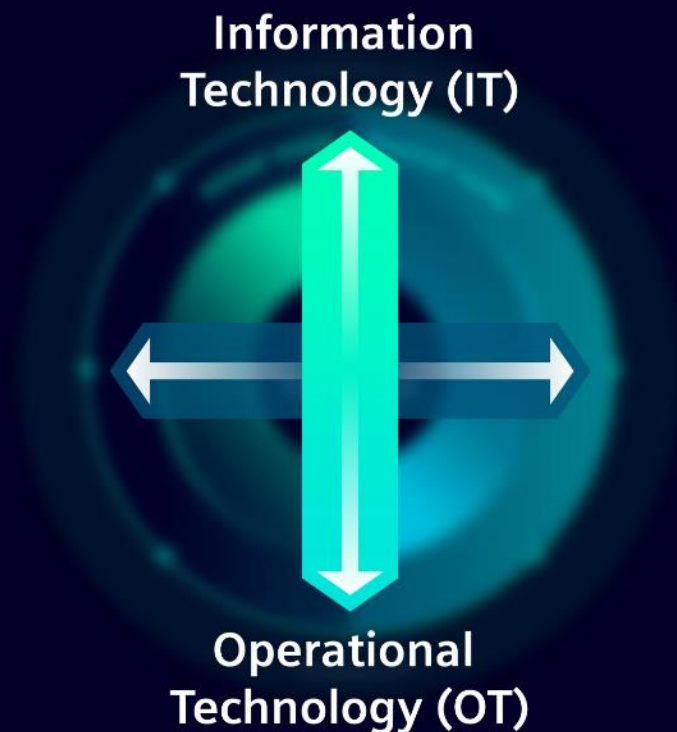
Shows the GRAPH, LAD and FDB Blocks with “Status” of the steps and the assignment list of the utilized operands

Criteria AnalysisControl

Shows the operands in the user program that contain errors and have triggered a selected alarm

WinCC Unified PC Runtime – Integration Platform

Connectivity



- ✓ GraphQL enables easy and secure web-based access to data and messages via IT applications over networks



- ✓ Standardized server and client interface for Data Access as well as OPC UA Alarms & Conditions



- ✓ Process Orchestration Layer (POL): Easy integration of cross-vendor package units/machines via SIMATIC MTP Integrator



- ✓ Native (e.g., S7, Modicon, SLMP, Modbus. ...) and 3rd party connectivity e.g., Allen-Bradley & Omron (Ethernet IP), Mitsubishi MC TCP/IP, ...



Powered by
WinCC Unified

SIMATIC HMI

Unified Basic Panels

www.siemens.com/unified-basic-panels



Maintenance free
HTML5 Web Client



TIA Portal



Java Script



Multi-Touch

1k

Tags

Standard Design



Asynchronous remote access
with Web Client



Gigabit Ethernet



SIMATIC HMI Unified Basic Panel 4" – 12"



Essential set
of controls



Broad range of certifications



Powered by
WinCC Unified



Brilliant Glass
Front



Embedded
System



Industrial
Operating System



Secured
Communication

SIMATIC HMI Unified Basic Panels

Display information¹

				
	MTP 400	MTP 700	MTP 1000	MTP 1200
Resolution	800x480	800x480	1280x800	1280x800
Diagonal	4.3"	7"	10.1"	12.1"
PPI (Points per inch)	217	133	149	125
Aspect ratio	15:9	15:9	16:10	16:10
Viewing Angle	>150°	> 150°	> 150°	> 150°
Brightness (cd)	min 250	min 250	min 250	min 250
MTBF (hours)	Min 20,000	Min 20,000	Min 20,000	Min 20,000

¹ This data is not included in the technical data of Siemens Industry Online Support, as the values can vary in the event of a change of supplier.

SIMATIC HMI Unified Basic Panels

Higher Performance

	Basic 2 nd Gen. Panel	Unified Basic Panel
PLC Connections	4	8
Tags	800	1,000
Alarms	430	2,100
Archive	2	10
Logging Tags	10	50
Scripts	--	50
Trends	35	35
Trends per Trend Control	4	5
Text/Graphics List	300/100	300/100
Pictures		
• Objects per image	600	600
• Tags per image	100	300



Increased quantity structure compared to Basic 2nd Gen Panel

Java Scripting

Much higher resolution

SIMATIC HMI Unified Basic Panels – Optimized user-friendliness through Multi-touch gestures

Intuitive operation for industrial applications

- Ease of use comparable to smartphones
- Modern design with new robust, tempered glass front
- Operation with glove
- Glass front with anti-reflective layer for brilliant display and very good legibility
- Detection of operating errors, e.g., back of the hand
- High electromagnetic compatibility (EMC)

Gesture recognition and multi-touch

- **Zoom and moveable Zoom Range** for details in curve display, web control and document display
- Scroll in lists, e.g., notification display, text lists, documents
- **2-hand operation**



SIMATIC HMI Unified Basic Panels

Connectivity

1 port Ethernet

1 IP address 100 Mbit/1 Gbit

2 x USB 2.0

Support von USB Hardware

Reset Button

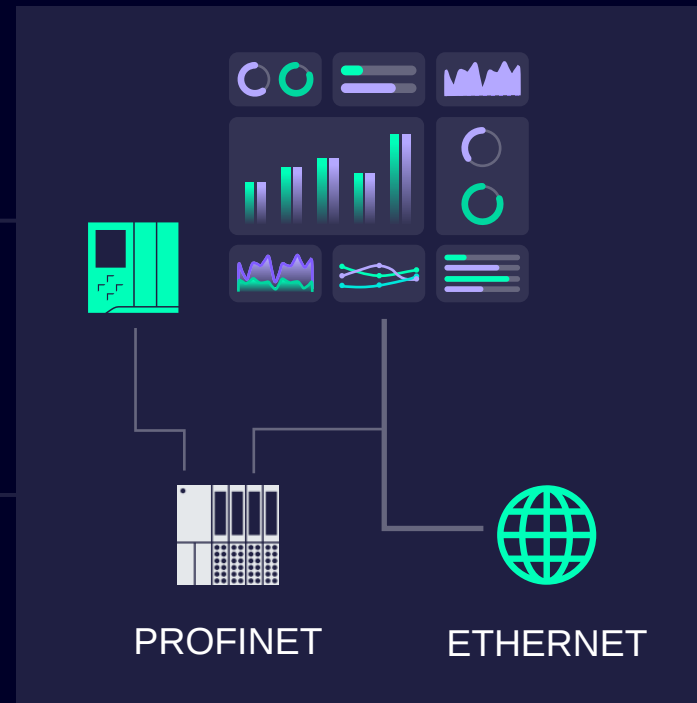
Device in "Reset mode"



SIMATIC HMI Unified Basic Panels Interface

Full connectivity via Ethernet interface

- S7/S7+ Communication
- PN Basic Services (Assign name, IP, ...)
- Project Download above PN



Gigabit Interface

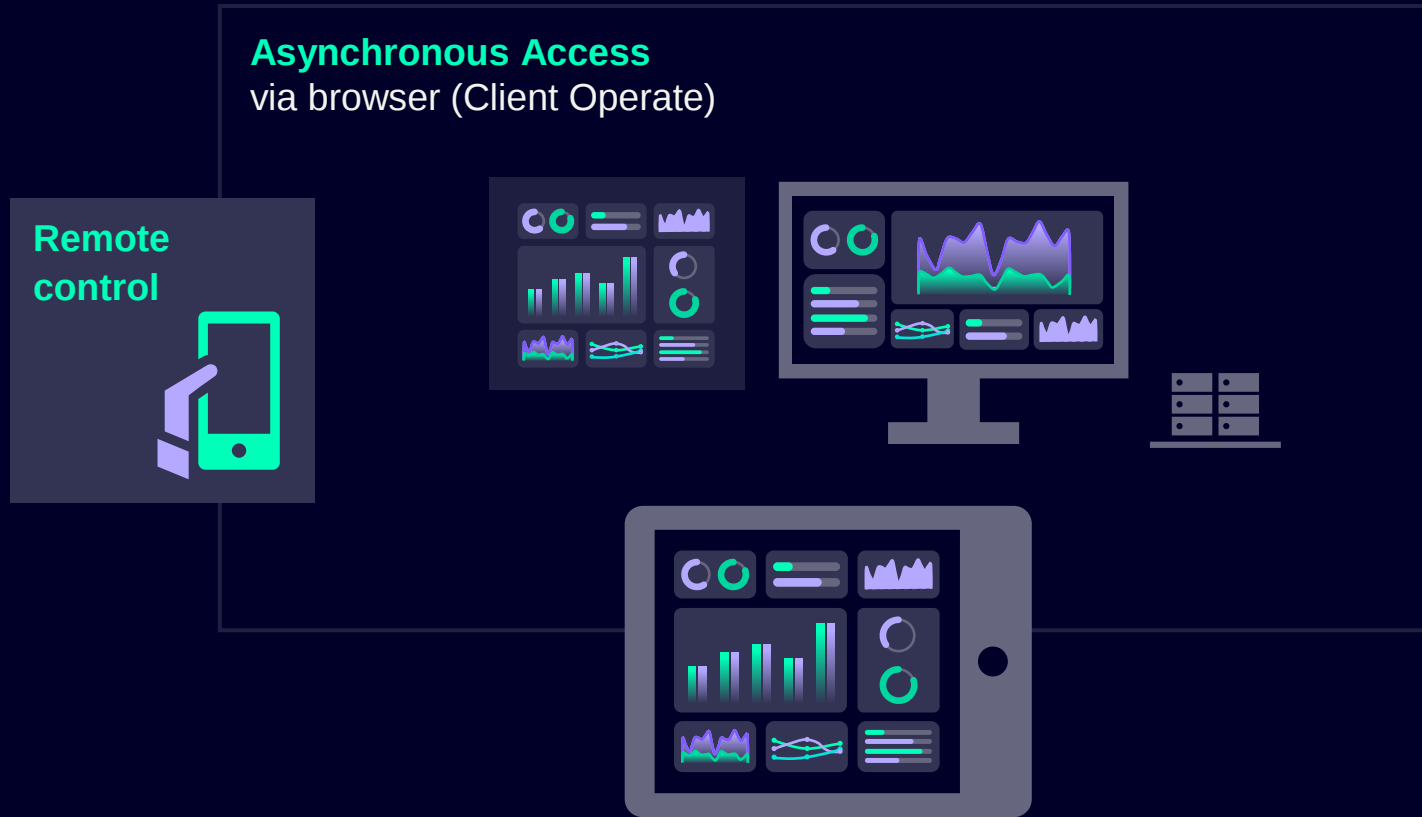
1 Ports

- Project download and firmware update above Ethernet
- Network Access
- Integrated 3rd Party PLC (e.g., Mitsubishi, Allen-Bradley) or via CSP)

[SIOS \(109779920\)](#)

SIMATIC HMI Unified Basic Panels

Remote control



**1x Client Operate
included**

not extendable

SIMATIC HMI Unified Basic Panels

Security Integrated

Disabling/Enabling Interfaces

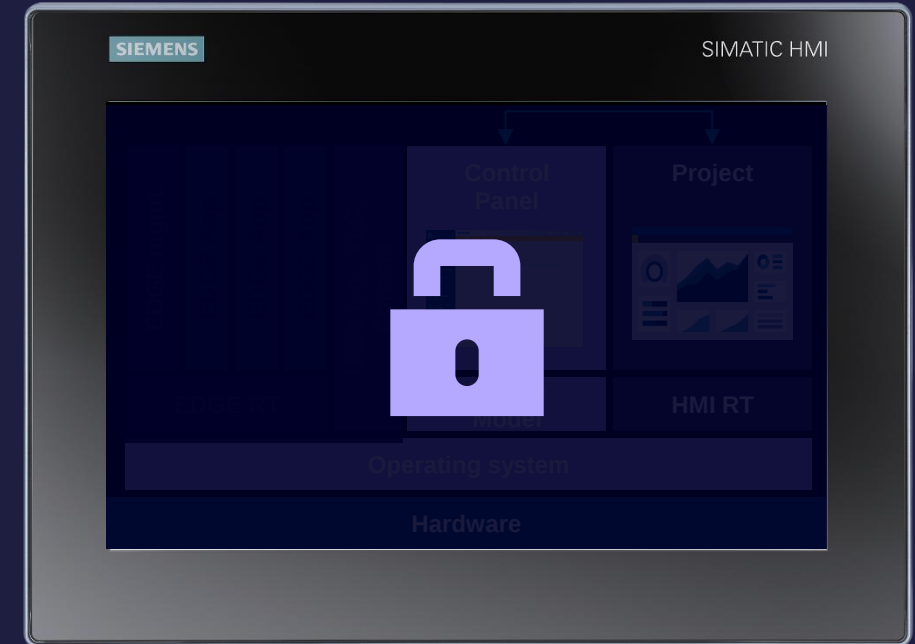
- Mass storage (USB) via Control Panel
- Ethernet/PROFINET via Control Panel or RT Functions
- SNMP and Transfer via Control Panel

Security Updates

- Firmware updates with TIA Portal or SIMATIC Automation Tool

Device Security

- Runtime user management (username – password) also for the control panel
- Control panel instead of operating system GUI



More information:

Safety Guidelines for SIMATIC HMI Devices [SIOS 109481300](#)

Why SIMATIC HMI Unified Basic Panel

Better performance

- Control More.
More Data, Connections, Alarms, Images.
- Better Resolution with smooth operation + Multi Touch & Gesture recognition

High quality modern visualization

- Improved readability due to anti-reflective coating on tempered glass front
- Static and dynamic SVG graphics + JavaScript for advance tasks

Make your panel your business card

- Let your machines stand out with the great visualization and performance that the Unified Basic Panel provides.
- Use one panel for all your machines with sizes starting at 4" and up to 12"

Upgrade the look, feel and ease of control for your machine

Modern design and usability comparable to smartphones

Cost- and function optimized

More basic features, performance and system limits increasing the value of your system in the same price range

Ready for Industry

- Usage of standard working gloves
- Security integrated (Simatic Industrial OS)
- Remote access
- Firmware updates



Connect with Siemens

Published by Siemens SG

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