



# SIMATIC WinCC Unified V20 Architectures

HMI Unified Basic Panel, HMI Unified Comfort Panels and WinCC Unified PC Runtime

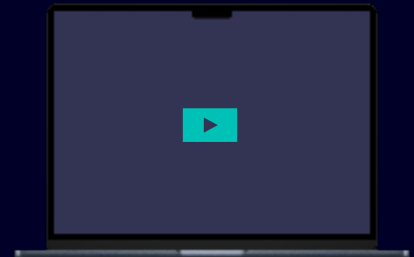
# WinCC Unified V20 Architectures Change Log

Slide 12: New functionality, PLC Communication - S7-Routing

Slide 46: New functionality, User Data file in RT-Folder

Slide 87 - 95: User Authentication updated to include new features from V20 Update 2,  
PM-Logon V3.0 and Unified Air V2.0

Slide 93: An omission in the required software architecture has been corrected. Installation of UMC  
together with PM-LOGON is required.



WinCC Unified Updates may also include functional news. Please make sure to check the provided detailed readme documents, which will be available for each update in future.

# WinCC Unified Architectures

## Content

Time	Topic	Presenter
1	WinCC Unified Basic System	
2	WinCC Unified Options for UCP and PC	
3	WinCC Unified SCADA Options	
4	WinCC Unified PI Options	
5	TIA Portal Options	
6	Advanced Architectures	
7	Additional Information	

# WinCC Unified V20 Architectures

## General information

The WinCC Unified system overview covers the overall functionality of the **WinCC Unified system** for **Panels** and **PC Runtime**. News are marked “as of Vxx”.

Delivery release WinCC Unified V20 ES&RT	<a href="#">SIOS ID 109963696</a>
WinCC Unified PC RT (for simulation of WinCC Unified devices) / Trial Download	<a href="#">SIOS ID 109963699</a>
WinCC Unified PC RT Updates	<a href="#">SIOS ID 109963700</a>
Product information for TIA Portal V20 and options	<a href="#">SIOS ID 109977020</a>
HMI Panel Images (incl. Unified Panels)	<a href="#">SIOS ID 109746530</a>

### **Highspot: “GL – WinCC Unified System”**

- Pitch desk, Ordering Information, References
- WinCC Unified Architecture (typical configurations and use cases), ...

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### **Viva Engage – WinCC Unified Community**

- WinCC Unified Workshop slides by FA SUP (technical details & how to)
- Tips&Tricks Collection
- Tips&Tricks@GitHub
- ...

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### **Viva Engage – Modernize from Comfort Panel to Unified Comfort Panel**

all topics related to the modernization/ conversion of Comfort Panels to Unified Comfort Panels.

# WinCC Unified V20 Architectures

## General information





List of additional tools, which are available as of WinCC Unified V20 as free download via SIOS.

WinCC Unified Corporate Designer	(free download via SIOS)	<a href="#">SIOS ID 109824234</a>
WinCC Unified JS Connector	(free download via SIOS)	<a href="#">SIOS ID 109825899</a>
WinCC Unified RT Debugger	(free download via SIOS)	<a href="#">SIOS ID 109826630</a>
WinCC Unified Station Configurator	(free download via SIOS)	<a href="#">SIOS ID 109827849</a>
SIMATIC MTP Integrator V2.x	(download via SIOS)	<a href="#">SIOS ID 109975087</a>

# WinCC Unified V20 Architectures

## Link to Solution Marketing

The use cases of WinCC Unified are part of solution marketing campaigns. For more details have a look at the WinCC Unified portfolio docking sheet in [GL- Marketing Planning @ DI FA S MP](#) (Restricted).

Solution marketing @ DI FA S MP	<a href="#">Solution marketing @ DI FA S MP</a> (Highspot)
 <a href="http://www.siemens.com/machine-transparency">www.siemens.com/machine-transparency</a>	<a href="#">Machine Transparency</a> (Highspot)
 <a href="http://www.siemens.com/control-operate-discrete-industries">www.siemens.com/control-operate-discrete-industries</a>	<a href="#">Control and Operate for Discrete Industries</a> (Highspot)
 <a href="http://www.siemens.com/standardization">www.siemens.com/standardization</a>	<a href="#">GL- CC FA016 Standardization in Automation</a> (Highspot)
 <a href="http://www.siemens.com/efficient-engineering">www.siemens.com/efficient-engineering</a>	<a href="#">GL- CC FA018 Efficient Engineering in Automation</a> (Highspot)

**Please note:** Click here



to open the related solution use case topic e.g. Control and Operate for discrete industries.

# WinCC Unified V20 Architectures

## Compatibility and Security

Detailed and always up-to-date information regarding compatibility is provided in the Compatibility Tool and SIOS delivery release

Detailed and always up-to-date information is provided in the **Compatibility Tool**

[SIOS ID 64847781](#)

**Delivery Release SIMATIC WinCC Unified**

[SIOS ID 109963793](#)

In order to protect technical infrastructures, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art IT security concept. For information about cyber security, please visit.

**Security guidelines** for HMI operator devices and SIMATIC WinCC Unified

[SIOS ID 109481300](#)

# WinCC Unified V20 Architectures

## Symbol explanations

Unified PC RT System



WinCC Web Client



SIMATIC WinCC Unified Engineering  
WinCC Unified Comfort ES



WinCC Unified Panel



PC without WinCC



S7 system components



Database  
e.g.: SQL, Oracle, Access



Software to be installed on  
the computer



Unified Basic Panel ✓

Unified Comfort Panel ✓

WinCC Unified PC ✓

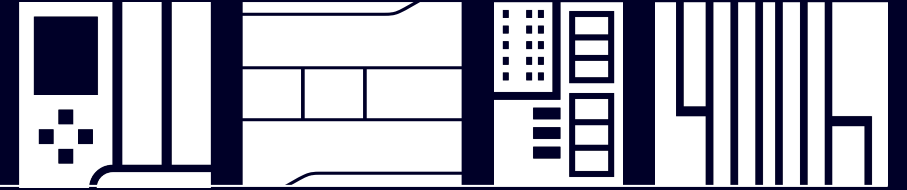
All use cases are valid for Panel + IPC, if not, this will be shown explicitly

# WinCC Unified Architectures

## Content

Time	Topic
1	<b>WinCC Unified Basic System</b>
2	WinCC Unified Options for UCP and PC
3	WinCC Unified SCADA Options
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5	TIA Portal Options
6	Advanced Architectures
7	Additional Information

# Connectivity

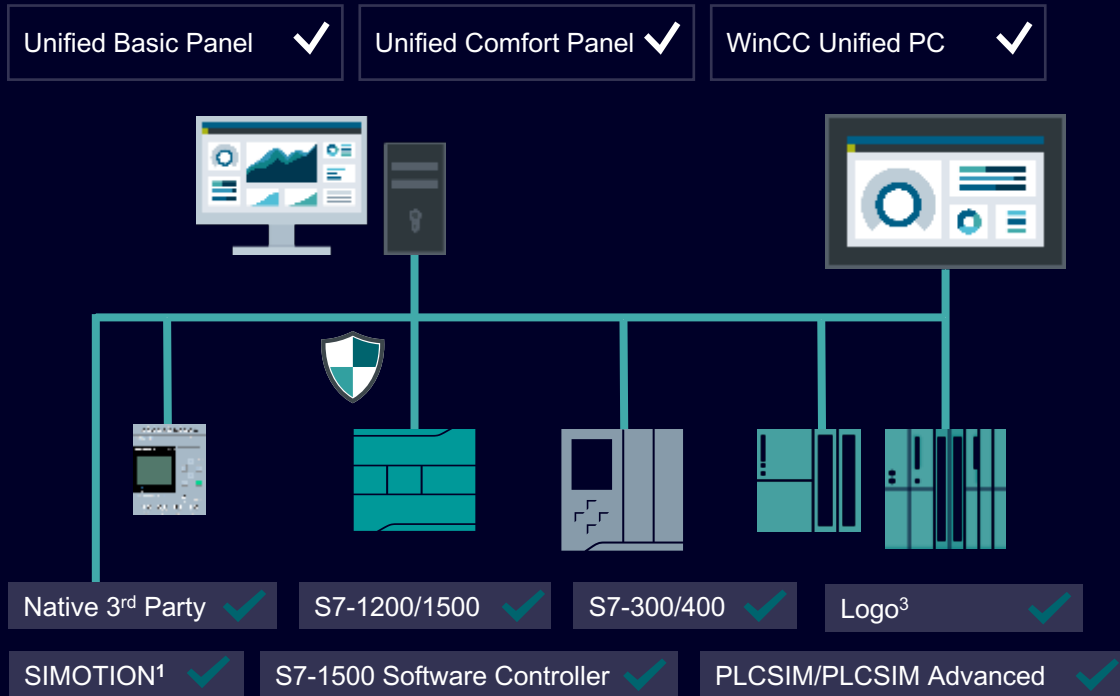


## Connection to automation systems

- S7 Connectivity - SIMATIC NET
- Standard interface OPC UA
- HMI Connection for R/H Systems
- Native 3<sup>rd</sup> Party communication: Mitsubishi TCP/IP
- Native 3<sup>rd</sup> Party communication: Ethernet IP
- Native 3<sup>rd</sup> Party communication: Modbus TCP
- OpenController and Software Controller

# WinCC Unified Connectivity

## S7 Connectivity - SIMATIC NET



### Integrated 3<sup>rd</sup> Party connectivity

- Modicon (Modbus TCP/IP)
- Allen-Bradley & Omron (EtherNet/IP)
- SLMP (Seamless Message Protocol)
- Mitsubishi MC TCP/IP
- Modbus RTU3

1 OPC UA DA (arrays and structures cannot be used yet) | 2 As of V17 | 3 as of V20 | 4 as of V19

**Perfect integration** of SIMATIC PLCs (TIA Portal) via **Secure Communication via TLS V1.3**  
[Link Highspot \(Cyber Security\)](#)

### High number of connections

UBP up to 8 PLCs (S7 **or** 3rd Party<sup>4</sup>)  
UCP: up to 16 S7-PLCs **and** up to 16-3rd party<sup>4</sup> PLCs  
PC RT up to 128 S7-PLCs **and** up to 50-3rd party<sup>4</sup> PLCs  
(extra Softnet-IE license for >10 S7-connections)

**WinCC Unified PC in combination<sup>2</sup> with**  
S7-1500 Software Controller (on one PC)  
Open Controller

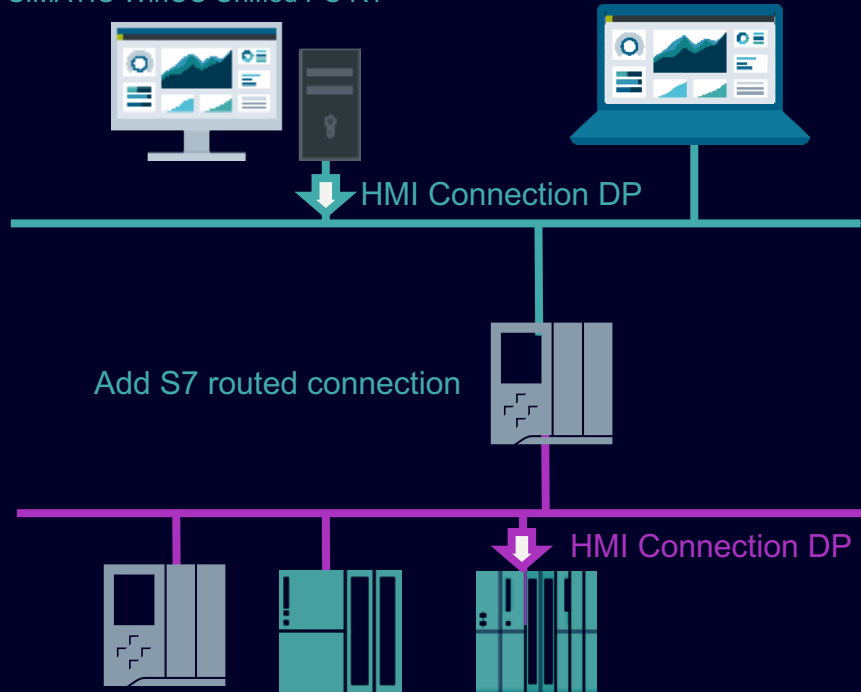
**Simulation support** of PLCSIM and PLCSIM Advanced

# WinCC Unified Connectivity

## PLC Communication | S7-Routing<sup>1</sup>



SIMATIC WinCC Unified PC RT



Note:  
S7 routing for S7-1200 is supported only via PROFINET/IE

### S7-Routing for WinCC Unified devices

- You have the option of setting up a connection from the HMI to a S7-PLC via different subnets.
- **S7-routing enables communication with PROFIBUS devices through a supported S7-PLC**
- S7 routing is possible via PROFINET, Industrial Ethernet and PROFIBUS.
- Can be used with various PLCs such as S7-1200/1500, S7-300/400, virtual PLC, and software controllers, also, in combination with devices such as IE/PB Link or PLC with CP modules as router.

<sup>1</sup> As of V20 Update 3

# WinCC Unified Connectivity

## S7 Connectivity - SIMATIC NET

SIMATIC NET V20 license is required, if more than 10 S7-connections are established.

SIMATIC NET Licenses	Package (DVD)	Online Software Delivery (OSD)
SOFTNET-IE S7 V20 up to 64 connections	6GK1704-1CW24-0AA0	6GK1704-1CW24-0AK0
SOFTNET-IE S7 Extended V20 up to 255 connections (S7-300/400) or 512 connections (S7-1200/1500)	6GK1704-1BW24-0AA0	n.s.
HARDNET-IE S7 V20 up to 120 connections	6GK1716-1CB24-0AA0	6GK1716-1CB24-0AK0

Note:

If you need more than 64 connections, you should relieve your PC processor and use 1-4 hardware CP to reduce the communication load.

Of course you may also operate your system only with the network interfaces integrated in the PC without external CP, but then the communication load must be handled by the PC processor.

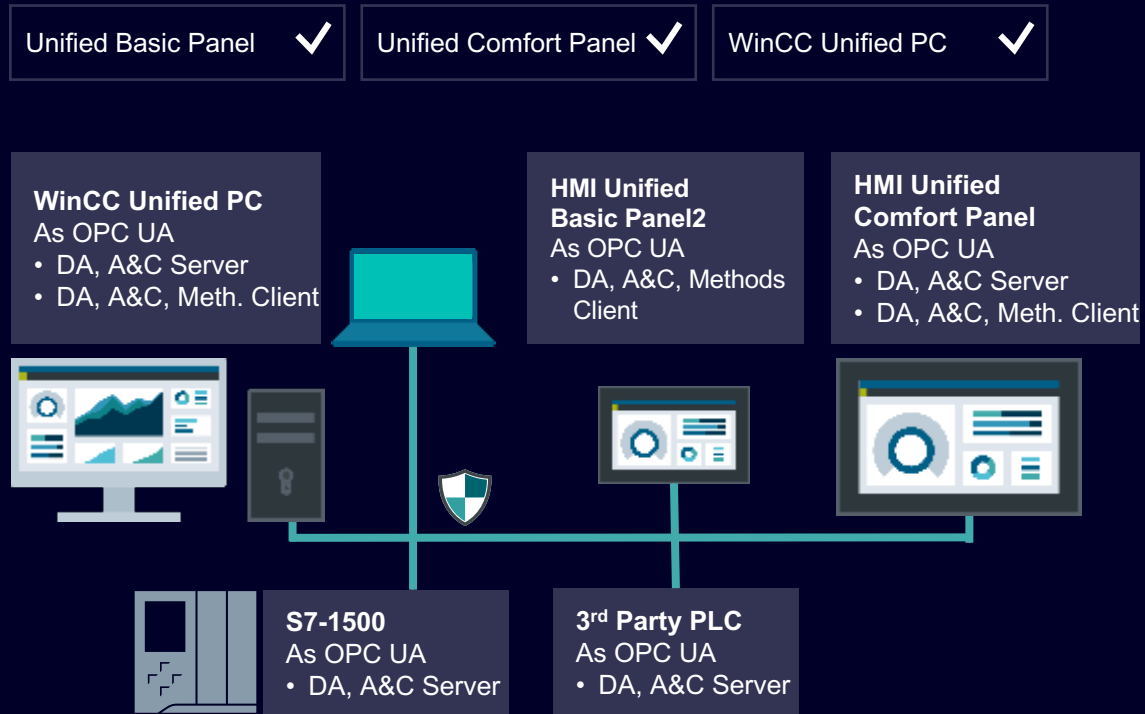
[SIMATIC NET Licences for WinCC Unified PC Runtime](#)

## Trial version SIMATIC NET DVD V20

Product	Version	MLFB
SIMATIC NET DVD V20	V20	6GK1700-0AA24-0AA0

# WinCC Unified – Connectivity

## Standard interface OPC UA

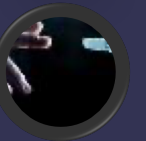


Data Access <sup>3</sup>	Server	✓	Client	✓	Unified Basic Panel: Client only !
Alarms & Condition <sup>3</sup>	Server	✓	Client	✓	
Methods <sup>4</sup>	Server	✗	Client	✓	
HA	Server	✗	Client	✗	

**Standard connectivity** via   
 OPC UA DA Server & DA Client  
 OPC UA A&C Server<sup>1</sup>, AC Client<sup>2</sup>  
 OPC UA Methods Client<sup>4</sup>



**IT/OT connectivity** via OPC UA  
 to forward data to 3<sup>rd</sup> party applications



**Automation connectivity** via OPC UA  
 to integrated 3<sup>rd</sup> party PLCs

**OPU UA DA Server (UCP / PC) : No. of connected clients:**  
 Unified PC RT: 10  
 Unified Comfort Panel: 3

1 As of V17 | 2 As of V18 Updates | 3 OPC UA DA: no arrays and structures, OPC UA AC: no subscription filter possible / Usability ES: tags: online configuration, alarms: offline configuration | 4 As of V20

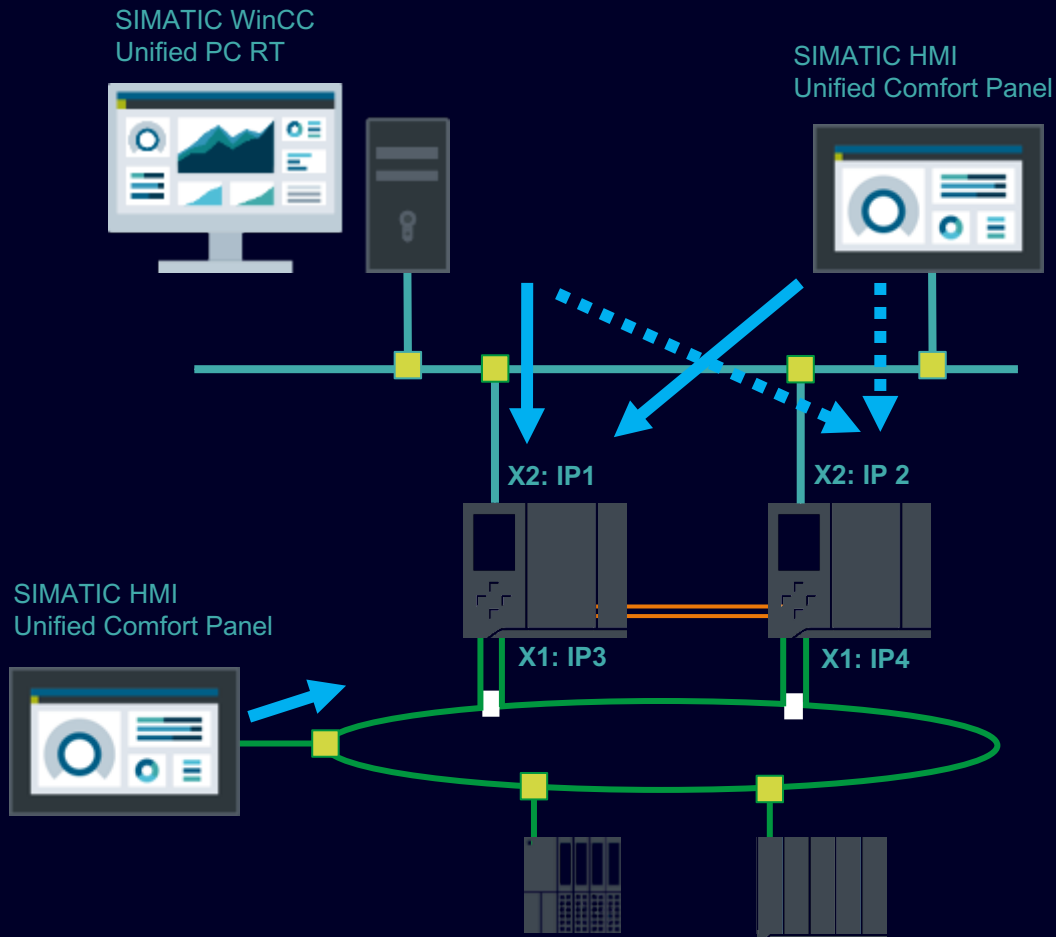
# WinCC Unified Connectivity

## HMI Connection for R/H Systems

Unified Basic Panel ✓

Unified Comfort Panel ✓

WinCC Unified PC ✓



**HMI connection via the device IP addresses requires a switching option on HMI side.** This is supported by

- SIMATIC HMI (Unified) Panels via scripting
- WinCC Unified PC Runtime without scripting

The following application example is available for connecting SIMATIC panels to an R/H system:

[Connecting a SIMATIC HMI operator device with a SIMATIC S7-1500R/H](#)  
[TIP: Connecting a SIMATIC HMI Unified with a SIMATIC S7-1500R/H](#)

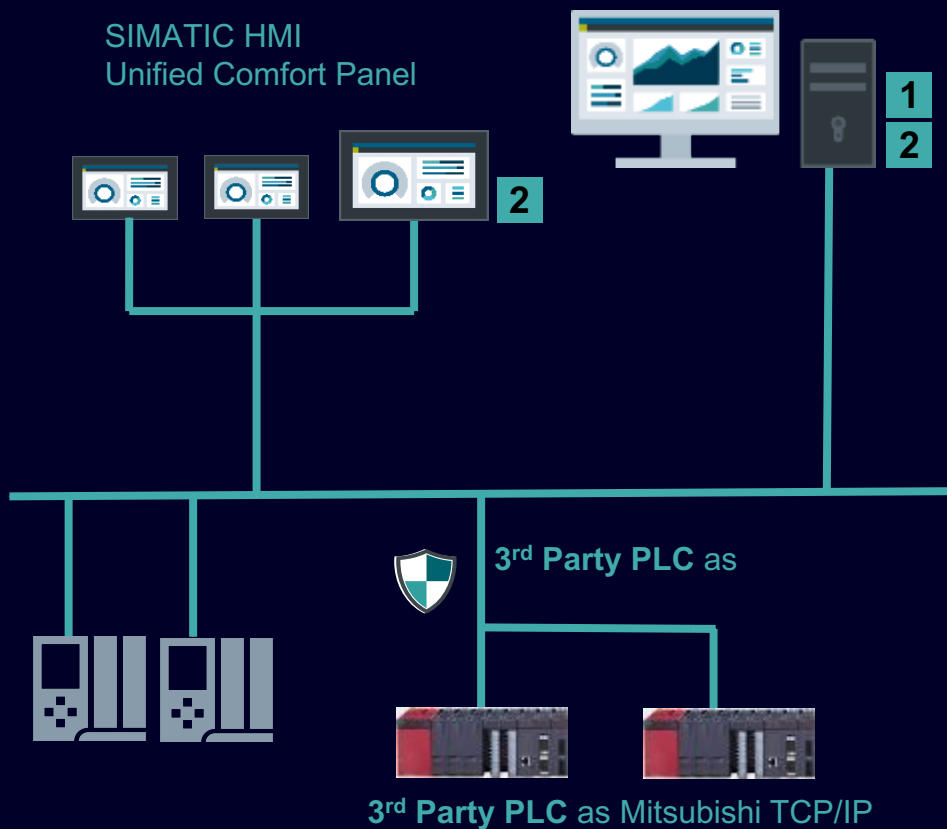
The connection change should be configured without Rack/slot definition.

You need to configure one script in the Schedules (reading tags of both reference connections before get the qualities). Connections would be defined directly in HMI (not in Netpro)

# WinCC Unified Connectivity

## Native 3rd Party communication: Mitsubishi TCP/IP

- Unified Basic Panel ✓
- Unified Comfort Panel ✓
- WinCC Unified PC ✓



### 1.- Base Packages WinCC Unified PC RT

System WinCC Unified PC n RT (2 x Clients included)

[MLFB: 6AV2154-....](#)

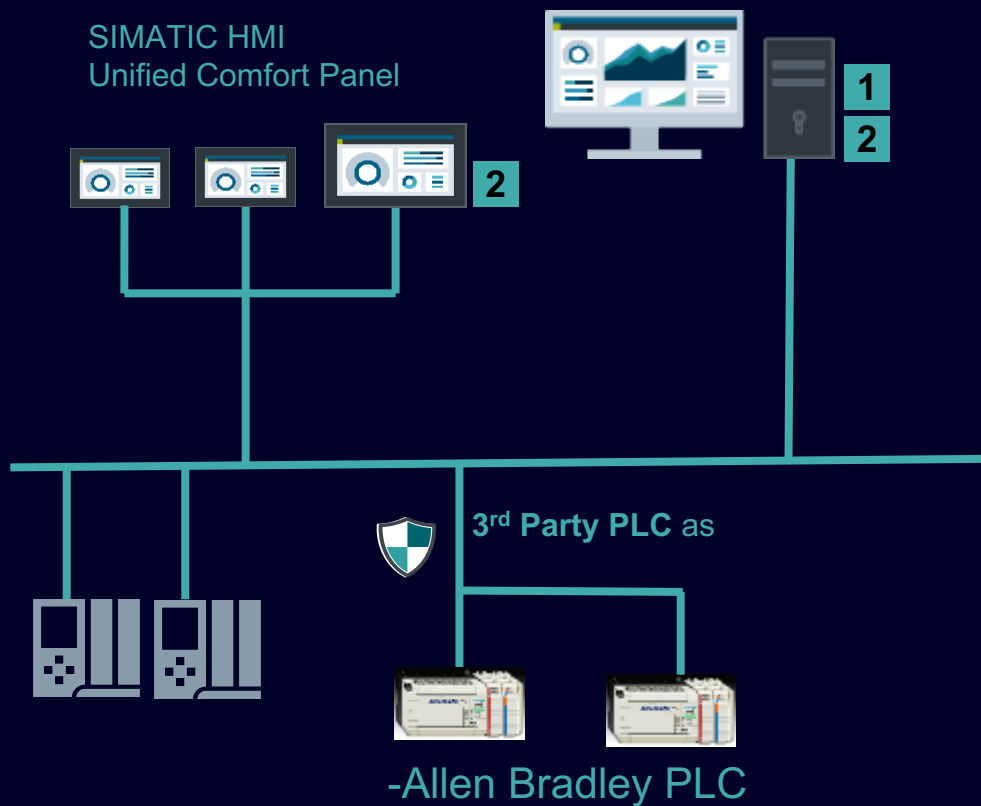
### 2.- Native Communication channel, Mitsubishi TCP/IP

MLFB: free of charge

# WinCC Unified Connectivity

## Native 3<sup>rd</sup> Party communication: Ethernet IP

Unified Basic Panel ✓    Unified Comfort Panel ✓    WinCC Unified PC ✓



### 1.- Base Packages WinCC Unified PC RT System

System WinCC Unified PC n RT (2 x Clients included)

[MLFB: 6AV2154-....](#)

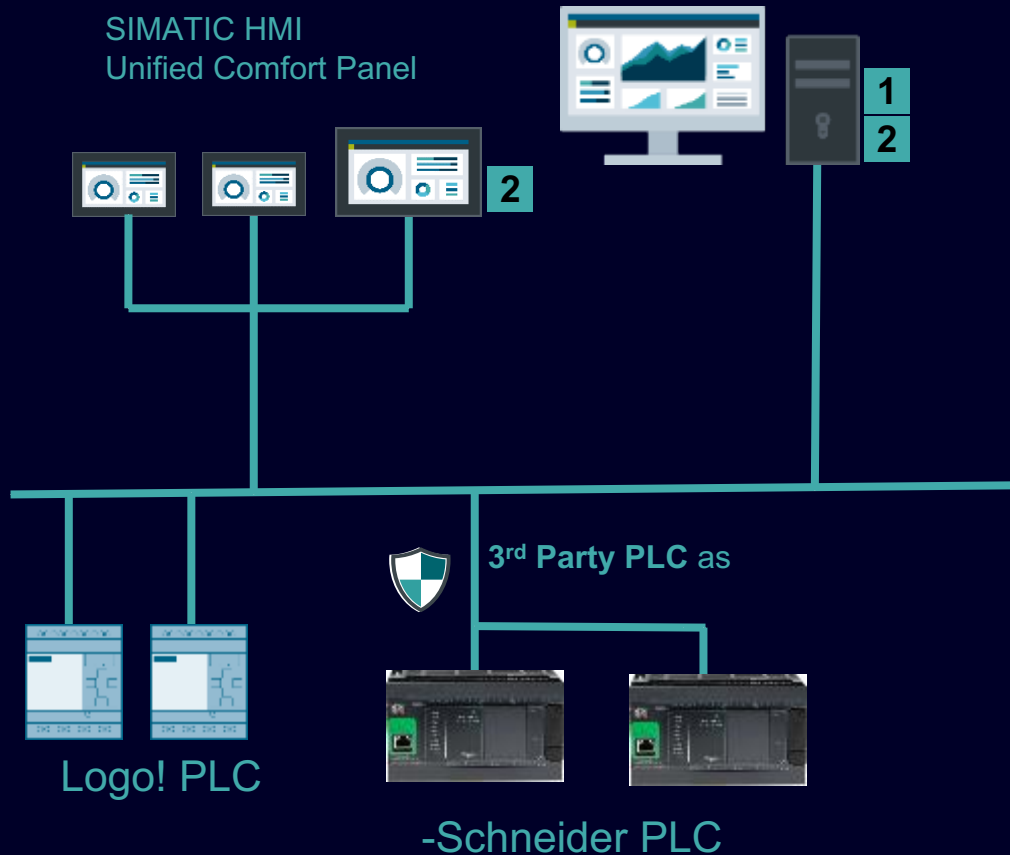
### 2.- Native Communication channel, Allen Bradley PLC

MLFB: free of charge

# WinCC Unified Connectivity

3<sup>rd</sup> Party communication: Using standard interface with Modbus TCP

- Unified Basic Panel ✓
- Unified Comfort Panel ✓
- WinCC Unified PC ✓



## 1.- Base Packages WinCC Unified PC RT System

System WinCC Unified PC n RT (2 x Clients included)

[MLFB: 6AV2154-....](#)

## 2.- Native Communication channel Standar, Modbus TCP/IP

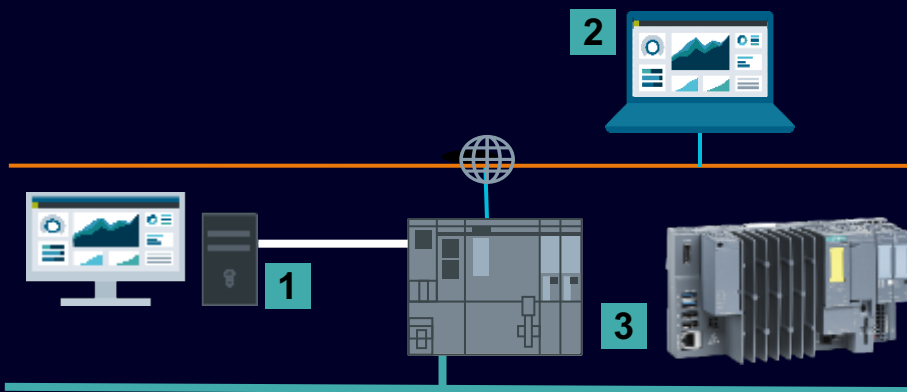
MLFB: free of charge

# WinCC Unified Connectivity OpenController

Unified Basic Panel ✓

Unified Comfort Panel ✓

WinCC Unified PC ✓



## Additional Information :

- The recommended WinCC Unified project size with one OpenController corresponds approximately to a comparable WinCC RT Advanced project.
- Operating system Windows 10 LTSC 2019, then a maximum of **5 clients** are possible at the same time .
- Archiving : both archive databases (SQLite and SQL) are possible. Due to limited system resources, the file-based variant with SQLite should be chosen.
- IPC **Software Packages not available** with OC2

## 1.- Base Packages WinCC Unified PC RT System

System WinCC Unified PC n RT (2 x Clients included)

[MLFB: 6AV2154-....](#)

## 2.- WinCC Unified PC Engineering System

WinCC Unified PC (10k) ES

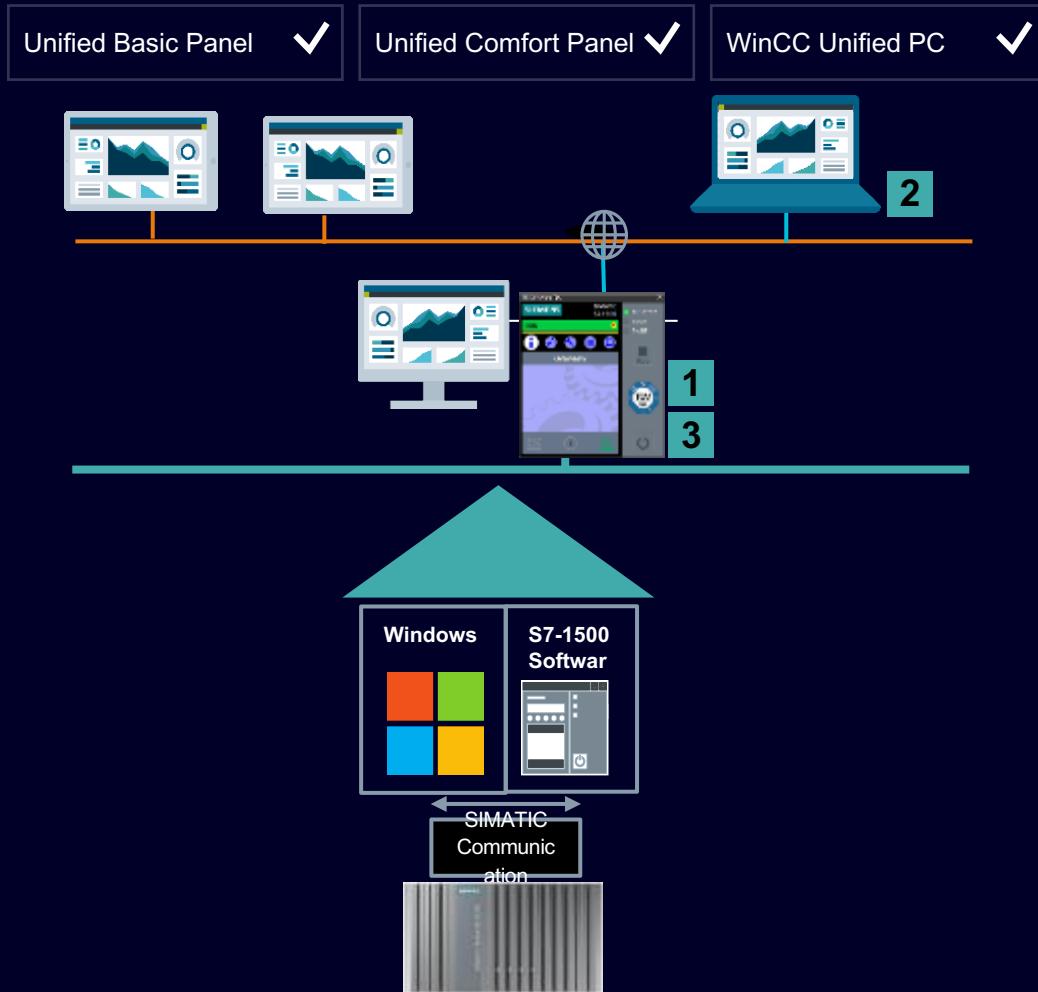
- [MLFB: 6AV2153-....](#)

## 3.- Open Controller (tested HW)

CPU 1515SP PC 2 with CPU 1505 SP (Firmware 21.9)

CPU 1515SP PC – hardware spare part	6ES7677-2D....
SIMATIC CFast card 128 GB (spare part)	6ES7648-2B....
Server module (spare part)	6ES7193-6P....
CM DP module	6ES7545-5D....
Connector, 24 V DC, 2x2-pin, 10 units (Spare parts)	6ES7193-4J....

# WinCC Unified Connectivity Software Controller



## 1.- Base Packages WinCC Unified PC RT System

WinCC Unified PC (5k) RT (2 x Clients include)

[MLFB: 6AV2154-....](#)

## 2.- WinCC Unified PC Engineering System

- WinCC Unified PC (10k) ES [6AV2153-....](#)
- WinCC Unified PC (100k) ES [6AV2153-....](#)

## 3.- SIMATIC S7-1500 Software Controller – CPU 1508S

FW V30.0 (TIA Portal V18)

- IPC2x7G
- BX-39A / PX-39A
- CPU 1508S T/TF for High-End Motion Control (IPC627/677E)

Configuration, programming and diagnostics via Windows Ethernet  
Online access via PROFINET or PROFIBUS interface possible after  
first configuration

Support of Windows 10 LTSC 2019

**For Windows 10, max 5 Clients  
Use SQLite about Resource's**

# HMI

## Unified Basic Panels

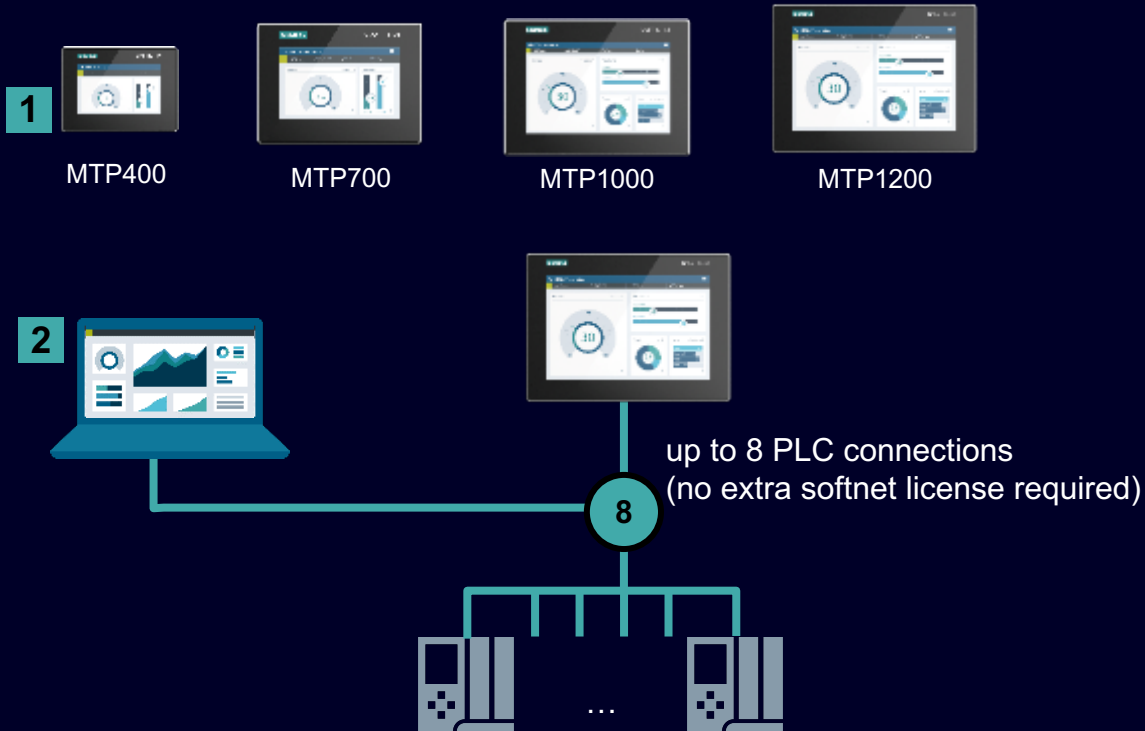


### Basic architectures

- Configuration – Engineering Station V20
- Remote Control: Asynchronous web access
- Remote Control: Asynchronous web access

# HMI Unified Basic Panels

## Configuration – Engineering Station



**Minimum for Engineering: Unified Basic ES V20**  
 For more information see ordering info in Highspot:  
[SIMATIC WinCC Unified System V20 - Ordering Information](#)

### 1.- Base Packages

[SIMATIC HMI Unified Basic Panels \(7 – 12"\)](#)

Device name	MLFB Standard Design
MTP400 Unified Basic	<a href="#">6AV2123-3...</a>
MTP700 Unified Basic	
MTP1000 Unified Basic	
MTP1200 Unified Basic	

### 2.- Engineering

[SIMATIC WinCC Unified Engineering](#)

### Accessories

[Catalog-Link](#)

# HMI Unified Basic Panels

## Remote Control: Asynchronous web access



1x Client Operate included (not extendable)

**Asynchronous access<sup>1</sup> of up to 1 client**  
for independent operation

### 1.- Remote access via Web Browser<sup>1</sup>

- One Client “Operate” included

# HMI

## Unified Comfort Panels \*

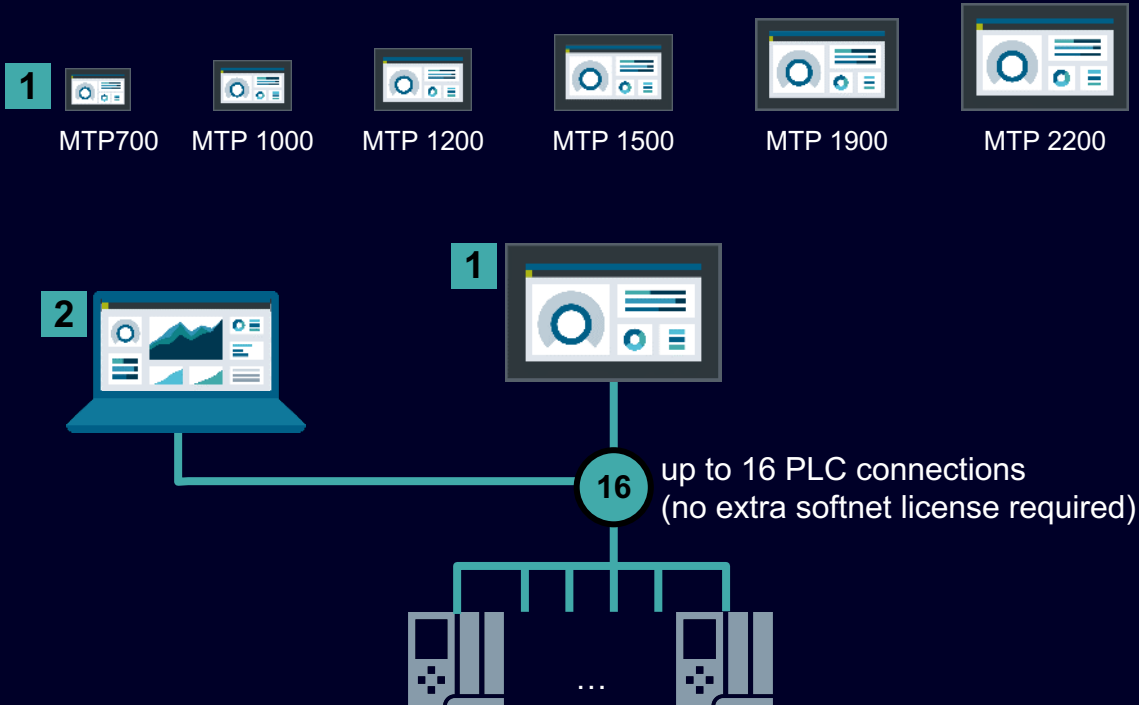


### Basic architectures

- Configuration – Engineering Station V20
- Remote Control: Sm@rt Server
- Remote Control: Asynchronous web access
- Industrial Edge Apps for Unified Comfort Panel

\* All next information regarding advanced Unified Panels applies to PRO, Hygienic and SIPLUS.

# HMI Unified Comfort Panels Configuration – Engineering Station



## Minimum for Engineering: Unified Comfort ES V20

For more information see ordering info in Highspot:

[SIMATIC WinCC Unified System V20 - Ordering Information](#)

## 1.- Base Packages

### [SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

Device name	MLFB
MTP700 Unified Comfort	
MTP1000 Unified Comfort	Standard/Neutral/PRO: <a href="#">6AV2128-3...</a>
MTP1200 Unified Comfort	Neutral:
MTP1500 Unified Comfort	
MTP1900 Unified Comfort	SIPLUS: <a href="#">6AV2128-3...</a>
MTP2200 Unified Comfort	

## 2.- Engineering

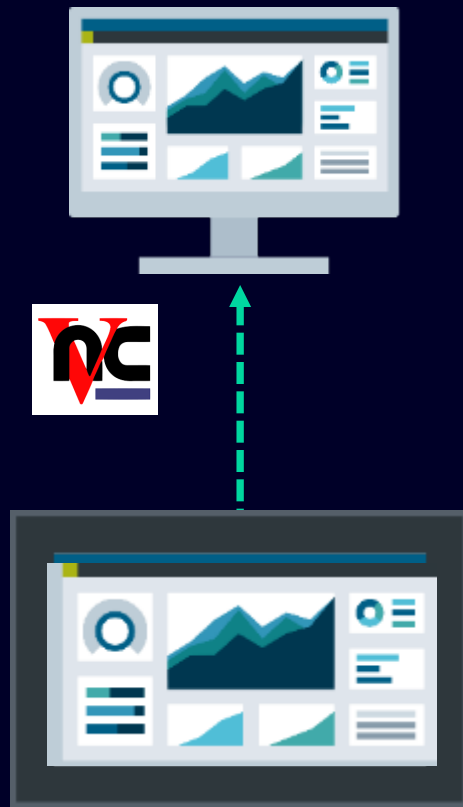
### [SIMATIC WinCC Unified Engineering](#)

## Accessories

[Catalog-Link](#)

# HMI Unified Comfort Panels

## Remote Control: Sm@rt Server



### Remote access via Web Browser<sup>1</sup>

- One Client “Operate” included
- One Client “Monitor” included

### SmartViewer on PC

VNC app only required for Android/IOS

### Synchronous access via app (VNC)

For parallel operation

(all users see the same screen)

### Synchronous access via app (VNC)

VNC - Sm@rt Server is included

<sup>1</sup> Operate: as of V17 / Monitor: as of V18

# HMI Unified Comfort Panels

## Remote Control: Asynchronous web access



### Asynchronous access<sup>1</sup> of up to 3 clients

for independent operation  
(simultaneous access is licensed)

### Remote access via Web Browser<sup>1</sup>

- One Client “Operate” included
- One Client “Monitor” included

### 1.- Clients

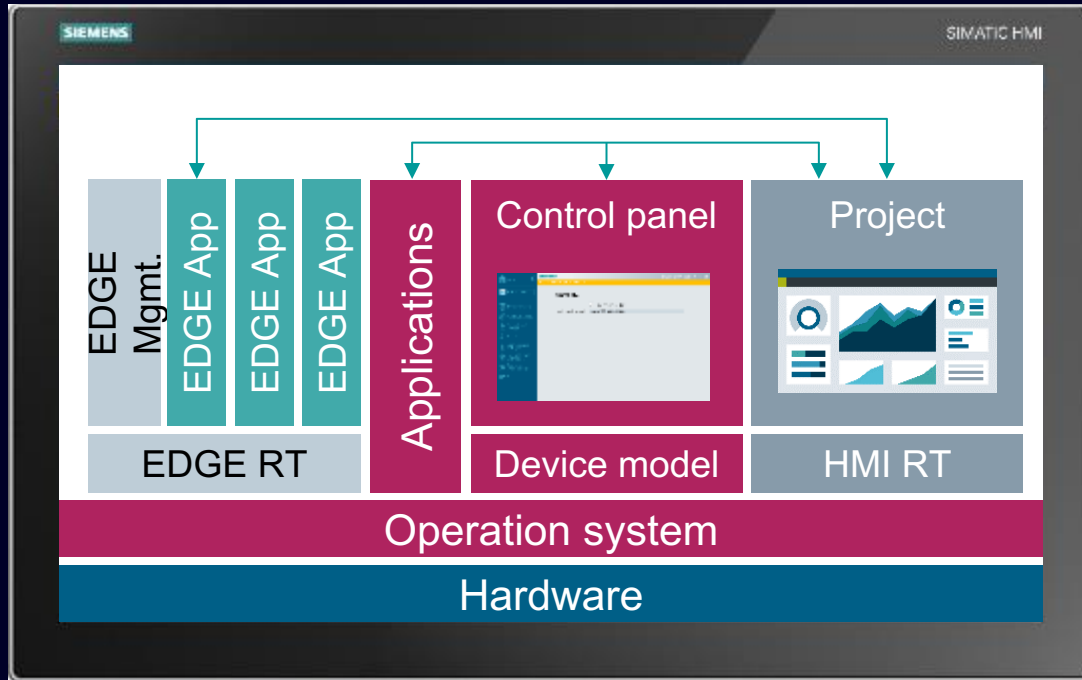
- WinCC Unified Clients Operate Panel  
MLFB: 6AV2151-1...
- WinCC Unified Client Monitor Panel
- MLFB: 6AV2151-1J...

### [SIMATIC WinCC Unified options](#)

<sup>1</sup> Operate: as of V17 / Monitor: as of V18

# HMI Unified Comfort Panels

## Industrial Edge Apps for Unified Comfort Panel



### Industrial Edge Applications

- Industrial Edge applications are Docker-Compose-based
- Choose any programming language available in a Docker container
- Free choose of Linux-based docker images
- Expose ports to get access to your application

**A license is required for productive use!**

**[6AV2170-2B...](#)**

# HMI Unified Comfort Panels

## Industrial Edge Apps for Unified Comfort Panel

### Free of charge



SIOS

#### Send Mail

Send emails

Connect the Unified Comfort Panel to a messaging service. Send E-mails directly from the Panel to different persons.

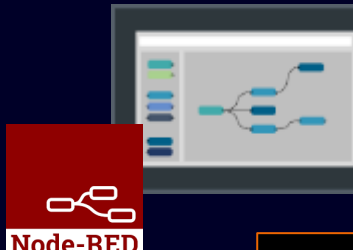


SIOS

#### MQTT

Cloud Connection

MQTT is the most common protocol for the connection of automation equipment to cloud based systems like MindSphere, AWS or Microsoft Azure.



SIOS

#### Node-RED

Low-code programming

Create and deploy your own flows on your Unified Comfort Panel. The standard nodes and custom nodes allow you to process tags and alarms from the Unified Comfort Panel runtime within the NodeRed Edge app.

### Chargeable :



SIOS

#### Energy Manager

Energetic Analysis & Optimization

Define key performance indicators or use pre-defined dashboard to monitor and analyze media consumption, costs and the corresponding CO2 emissions.

MLFB:6AV2170-0JA20-0AA0



SIOS

#### Notifier Notifications

Configure notification rules and monitor the variables stored in the Data Service Configurator to generate globally accessible notifications in case of an event.

MLFB: 6AV2170-0JA00-0AA0

# WinCC Unified

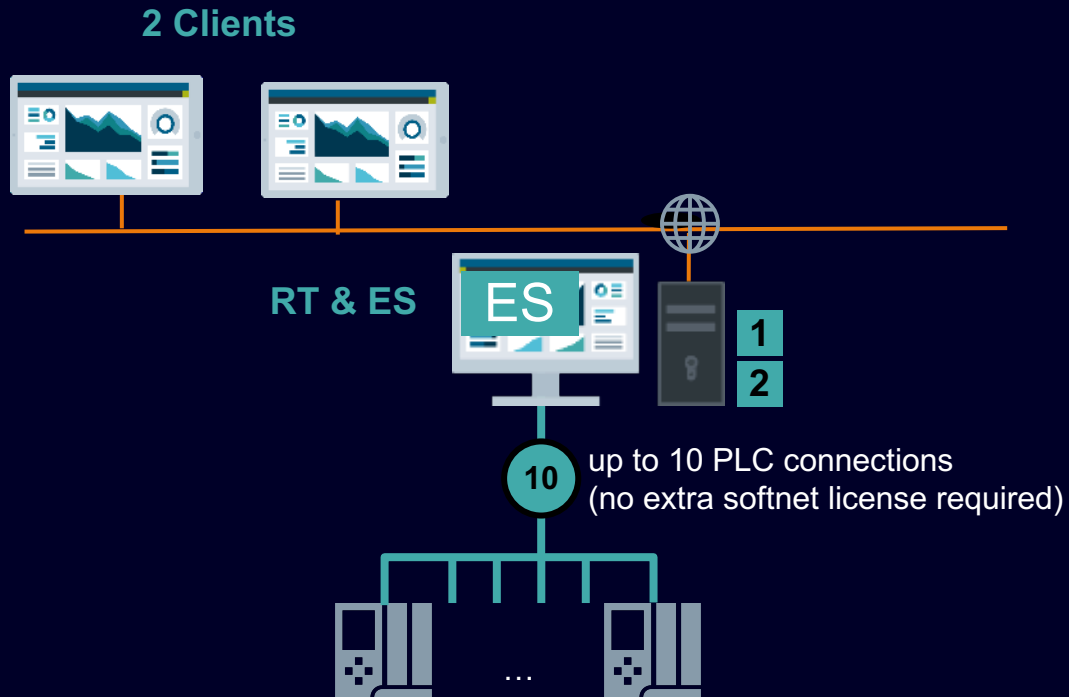
## PC RT V20



### Basic architectures

- Configuration – Engineering Station
- Configuration – Remote Engineering Station
- Remote Control via Clients
- Remote access by Hardware Clients
- Remote access by Internet
- Uses cases (Recommended hardware)

# WinCC Unified PC RT V20 Configuration – Engineering Station



- The equivalent license of WinCC (TIA Portal) is also valid for engineering using WinCC Unified (TIA Portal).
- This applies for versions  $\geq$  V16.
- 2 clients included with RT license.

For more information see ordering info in Highspot:

[SIMATIC WinCC Unified System V20 - Ordering Information](#)

## 1.- Base Packages WinCC

WinCC Unified PC RT n	
WinCC Unified PC (150) RT	6AV2154-...
WinCC Unified PC (500) RT	6AV2154-...
WinCC Unified PC (1k) RT	6AV2154-...
WinCC Unified PC (2,5k) RT	6AV2154-...
WinCC Unified PC (5k) RT	6AV2154-...
WinCC Unified PC (10k) RT	6AV2154-...
WinCC Unified PC (50k) RT	6AV2154-...
WinCC Unified PC (100k) RT	6AV2154-...
WinCC Unified PC (max.) RT	6AV2154-...

[SIMATIC WinCC Unified Runtime](#)

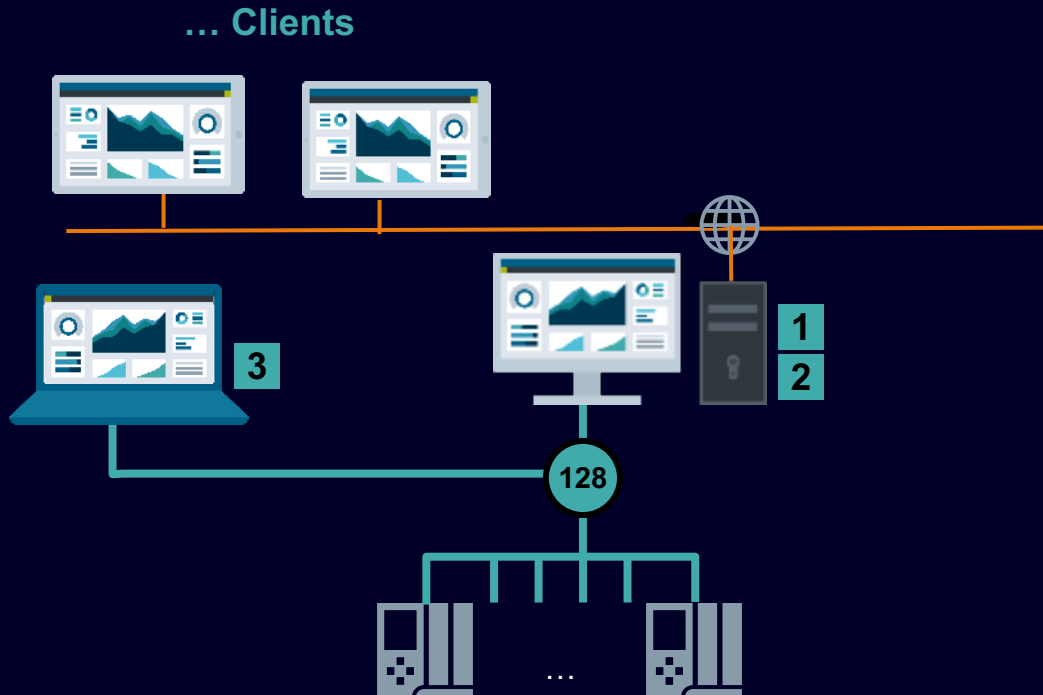
## 2.- WinCC Unified PC Engineering System

WinCC Unified PC (10k) ES V20	6AV2153-...
WinCC Unified PC (100k) ES V20	6AV2153-...
WinCC Unified PC (max.) ES V20	6AV2153-...

[SIMATIC WinCC Unified Engineering](#)

# WinCC Unified PC RT V20

## Configuration – Remote Engineering Station



- Each WinCC Unified PC Runtime includes 3 Clients – for locale HMI plus one Operate and one Monitor remote access.
- Simatic NET must be licensed separately for more than 10 x S7-connections S7- connections (up to 128)

### 1.- Base Packages WinCC

WinCC Unified PC RT n	
WinCC Unified PC (150) RT	6AV2154-...
WinCC Unified PC (500) RT	6AV2154-...
WinCC Unified PC (1k) RT	6AV2154-...
WinCC Unified PC (2,5k) RT	6AV2154-...
WinCC Unified PC (5k) RT	6AV2154-...
WinCC Unified PC (10k) RT	6AV2154-...
WinCC Unified PC (50k) RT	6AV2154-...
WinCC Unified PC (100k) RT	6AV2154-...
WinCC Unified PC (max.) RT	6AV2154-...

[SIMATIC WinCC Unified Runtime](#)

### 2.- SIMATIC NET V20

MLFB: 6GK17...

[SOFTNET-IE S7](#)

### 3.- WinCC Unified PC Engineering System

WinCC Unified PC (10k) ES V20	6AV2153-...
WinCC Unified PC (100k) ES V20	6AV2153-...
WinCC Unified PC (max.) ES V20	6AV2153-...

[SIMATIC WinCC Unified Engineering](#)

# WinCC Unified PC RT V20

## Remote Control via Clients



Every WinCC Unified PC Runtime system includes:

- The local visualization Client (installed or via browser)
- **ONE “Operate” Client**
- **ONE “Monitor” Client**

The maximum number of clients can be extended (optional).

### Client "Operate"

Enables remote operation according to assigned user role

### Client "Monitor"

Enables remote operation in view-only mode

(Process/DB access cannot be written)

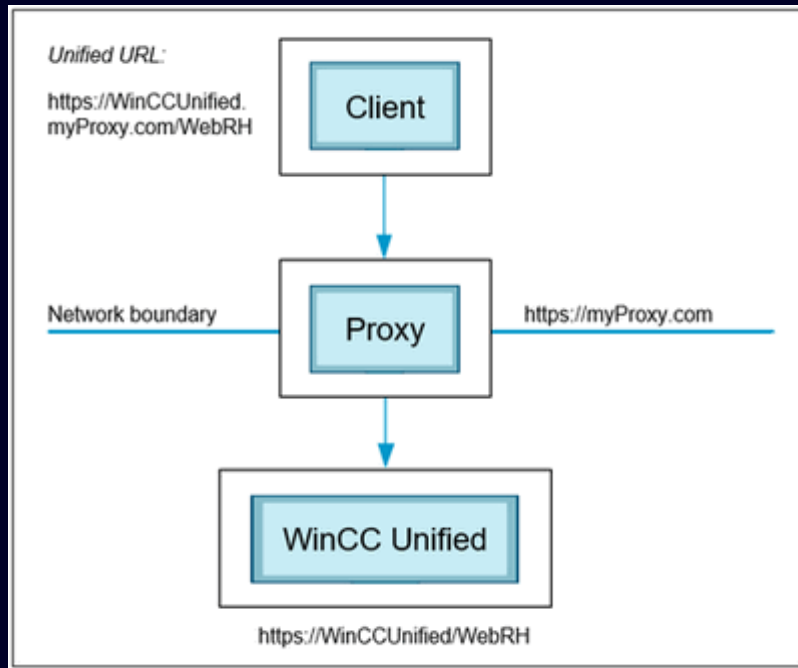
### Asynchronous access of numerous users

(simultaneous access is licensed)

**Windows Server is mandatory  
for more than 5 Clients !**

# WinCC Unified PC RT V20

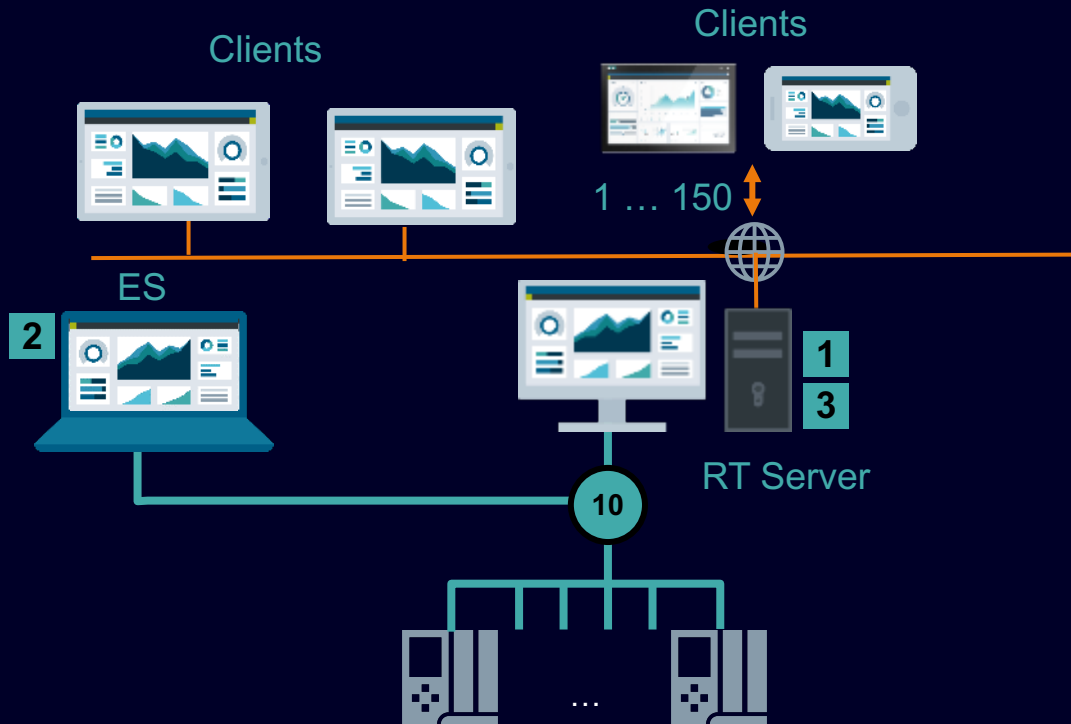
## Remote access by Internet



How do you enable access to a WinCC Unified Runtime from a separate company network or the internet?

# WinCC Unified PC RT V20

## Remote Control via Clients



- Additional Clients (Operate or Monitor ) can be added (countable license).
- The number of clients is unlimited with the Max license.
- “Zero Installation” Clients via state-of-the-art web browsers – (no need to install separate apps or plug-ins)
- Secure remote access using Web standards. Manual Certificate Manager

### 1.- Base Packages WinCC

WinCC Unified PC RT n  
[SIMATIC WinCC Unified Runtime](#)

### 2.- WinCC Unified PC Engineering System

WinCC Unified PC (10k) ES V20 6AV2153-...  
 WinCC Unified PC (100k) ES V20 6AV2153-...  
 WinCC Unified PC (max.) ES V20 6AV2153-...  
[SIMATIC WinCC Unified Engineering](#)

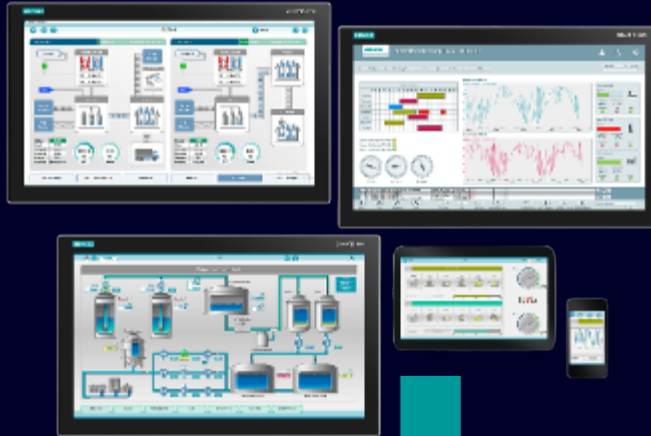
### 3.- WinCC Unified Client

WinCC Unified Clients Operate (1) 6AV2157-...  
 WinCC Unified Client Operate (3) 6AV2157-...  
 WinCC Unified Client Operate (10) 6AV2157-...  
 WinCC Unified Client Operate (max) 6AV2157-...  
 WinCC Unified Client Operate (5x1) 6AV2157-...  
 WinCC Unified Client Monitor (1) 6AV2157-...  
 WinCC Unified Client Monitor (3) 6AV2157-...  
 WinCC Unified Client Monitor (10) 6AV2157-...  
 WinCC Unified Client Monitor (max ) 6AV2157-...  
[SIMATIC WinCC Unified Clients](#)

# WinCC Unified PC RT V20

Use cases: Hardware and software from a single package at a special price Use

HMI &  
SCADA  
Software



WinCC  
Unified

WinCC  
Professional

WinCC V8

WinCC OA

SIOS

- + System-tested solutions reduce testing and verification effort
- + Easy to order and synchronized logistics
- + Price advantage as hardware and software “package”

Industry  
Hardware



Panel PCs, Box PCs and Rack PCs

# WinCC Unified PC RT V20

Hardware: PC Runtime single-user station based on IPC Box and Panel



## Minimum hardware

- x64 processor, Intel Core i3 or better is recommended. For small applications, also Intel Atom or Intel Celeron
- 4 GB of RAM or better
- 10 GB, 8 GB CF available memory or better
- 1027 x 768 or higher

## SIMATIC IPC Box and Panel

- SIMATIC IPC BX-21A
- SIMATIC IPC227G / IPC277G
- SIMATIC IPC BX-32A/PX-32A
- SIMATIC IPC BX-39A / IPC PX-39A
- SIMATIC IPC BX-56A/59A
- SIMATIC IPC527G
- SIMATIC IPC627E / IPC677E

[MLFB: Box PC](#)

[MLFB: Panel PC](#)

# WinCC Unified PC RT V20

Hardware: PC Runtime single-user station based on IPC Rack



## Minimum hardware

- x64 processor, Intel Core i3 or better is recommended. For small applications, also Intel Atom or Intel Celeron
- 4 GB of RAM or better
- 10 GB, 8 GB CF available memory or better
- 1027 x 768 or higher

*\* If the application requires it (e.g. for local operation at the machine), you can opt for a Box PC or Panel PC*

## SIMATIC IPC RW-543A

- Intel 10<sup>th</sup> Gen. CPU Pentium, Core i3, i5, i7, i9 with up to 10 cores
- Up to 128 GB DDR4 RAM
- 2x Intel Ethernet Interfaces (2x 1.0 Gbit)
- 3x independent Graphics Interfaces (1x HDMI, 1x VGA, 1x DVI-D)
- SATA HDD or SATA SSD
- 7x PCI(e) Slots:  
2x PCIe x16 (1x 16L or 2x 8L), 3x PCIe x4 (4L), 2x PCI
- AC Power Supply 350 W, 500 W, 850 W
- Up to 40 °C ambient temperature/Dust protection – overpressure ventilation
- 2x Status LEDs at the front
- Windows 10 IoT Enterprise 2021 LTSC

[MLFB: 6AG4011-3...-...1](#)

# WinCC Unified PC RT V20

Hardware: PC Runtime server station < 5 clients based on IPC Rack



## Recommended hardware

- Core i5-6442EQ
- 16 GB of RAM or better
- SSD with at least 240 GB of available memory

## SIMATIC IPC RW-545A

- Intel 12th Gen. CPU Core i3, i5, i7, i9 with up to 16 cores
- Up to 128 GB DDR5 RAM, TPM 2.0
- 3x Intel Ethernet Interfaces (1x2.5 Gbit, 2x1.0 Gbit)
- 4x independent Graphics Interfaces (3x DP, 1x DVI-D)
- RAID1 with SATA Enterprise HDD or SATA SSD, 7x PCI(e) Slots
- AC Power Supply 550 W, 850 W, 700 W redundant
- Graphics card GPU NVIDIA T400/A2000/A4000/A5000
- Up to 40 °C ambient temperature/Dust protection –overpressure ventilation
- Windows 10 IoT Enterprise 2021 LTSC

[MLFB: 6AG4104-6....-....](#)

# WinCC Unified PC RT V20

Hardware: PC Runtime server station > 5 clients based on IPC Rack



## Recommended hardware

- Core i5-6442EQ
- 16 GB of RAM or better
- SSD with at least 240 GB of available memory

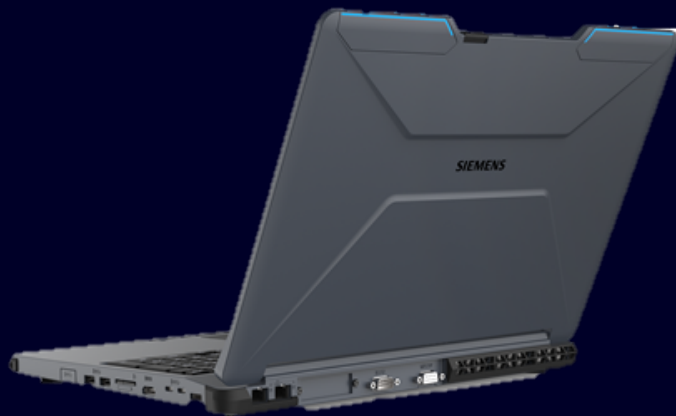
*\* If more than 5 clients are to be connected to a PC-RT station, use of a server operating system (Windows Server) is essential.*

## SIMATIC IPC647E / IPC847E

- Intel 8<sup>th</sup> / 9<sup>th</sup> Gen. CPU Core i3, i5, i7, Xeon E with up to 8 cores
- Up to 128 GB DDR4 RAM, TPM 2.0 (optional)
- 3x Intel Ethernet Interfaces (3x1.0 Gbit)
- 3x independent Graphics Interfaces (2x DP, 1x DVI-D)
- RAID1/5 with SATA Enterprise HDD or SATA SSD
- AC Power Supply 400 W, 850 W, 350 W redundant
- Graphics card GPU NVIDIA T400 / RTX 4000 / A2
- Up to 50 °C ambient temperature/Dust protection –overpressure ventilation
- 12x Status LEDs at the front
- Windows 10 IoT Enterprise 2021 / 2019 /2016 LTSC
- Windows Server 2022 / 2019/ 2016
  
- [MLFB: 6AG4112-3....-....](#)
- [MLFB: 6AG4114-3....-....](#)

# WinCC Unified PC RT V20

## Hardware: Engineering Station



## Recommended hardware

- Intel® Core™ i5-8400H (2.5 to 4.2 GHz; 4 cores + hyperthreading; 8 MB Smart Cache)
- 16 GB or better (32 GB for large projects)
- SSD with at least 50 GB of available memory
- 1920 x 1080 or higher

## SIMATIC IPC MD-57A

12<sup>th</sup> Gen Intel® Core™ I5, Core™ I7

- Up to 64 GB DDR5 memory
- 15,6" Full HD 1.920 x 1.080
- Fast exchangeable IPC slider M.2 storage
- M.2-modul slot to enable fieldbuses, and AI
- Up to T<sub>amb</sub> of 45 °C; Industrial EMC immunity
- Vibration 0.5g/shock 5g
- TIA Portal pre-installed
- MPI/PROFIBUS integrated
- [MLFB: 6ES7718-1....-....](#)

# WinCC Unified PC RT V20

## Hardware: Web Clients

# Recommended browser

## Microsoft Windows

- Google Chrome (preferred): recommended 118 (at least version 106) or higher
- Microsoft Edge Chromium: recommended 118 (at least version 107) or higher
- Mozilla Firefox: recommended 118 (at least version 106) or higher
- Mozilla Firefox ESR: recommended 115 (at least version 102) or higher

## Android

- tested on Samsung tablet: OS Version: Android 13 ONE UI-5.1.1
- Samsung Internet: 22.0.3.1
- Chrome version: 118.0.5993.81

## iOS

- tested on iPad: iPad OS version: 17.0.2
- Chrome version: 119.0.6045.41
- Safari version: 17.0.2 (preferred)



# SIMATIC WinCC Unified WinCC Unified Packages

## WinCC Unified PC start (1k) RT

- WinCC Unified PC (1k) RT
- Parameter Control (PC)
- Logging Tags (100)
- Report Execution

- ✓ 1k Powertags
- ✓ 1 Local Client Operate
- ✓ 1 Remote Client Operate
- ✓ 1 Client Monitor

**6AV2155-2ES02-4LA0**

## WinCC Unified PC small (10k) RT

- WinCC Unified PC (10k) RT
- Parameter Control (PC)
- Logging Tags (1000)
- Report Execution
- Audit Basis

- ✓ 10k Powertags
- ✓ 1 Local Client Operate
- ✓ 1 Remote Client Operate
- ✓ 1 Client Monitor

**6AV2155-2FS02-4LA0**

## WinCC Unified PC medium (100k) RT

- WinCC Unified PC (100k) RT
- Parameter Control (PC)
- Logging Tags (2000)
- Report Execution
- Database Option
- Client Operate (1+1)
- Audit Basis

- ✓ 100k Powertags
- ✓ 1 Local Client Operate
- ✓ 3 Remote Client Operate
- ✓ 1 Client Monitor

**6AV2155-2GS02-4LA0**

## WinCC Unified PC (max) RT

- WinCC Unified PC (Max) RT
- Parameter Control (PC)
- Logging Tags (5000)
- Report Execution
- Database Option
- Client Operate max.
- Audit Basis

- ✓ Max Tags
- ✓ Max Clients Operate
- ✓ 1 Client Monitor

**6AV2155-0XS02-4LA0**

Packages available via Online Software Delivery (OSD) in Industry Mall

## About installations on IPC

### About Windows 10 64-bit LTSC 2019 installations on IPC

- Which browser version is installed together Windows 10 LTSC 2019 on an IPC? currently Microsoft Internet Explorer is installed. In the latest version : IE V11
- Therefore, you should download Edge browser (Chromium) from Microsoft for 2019 LTSC and install it on Windows 10 2019 LTSC.

### **SIMATIC IPC Operating System Packages** with Windows 10 Enterprise 2019 LTSC

Operating system packages with Windows 10 Enterprise 2019 LTSC are now also available for the SIMATIC IPCs.

Windows 10 Enterprise **2016 LTSB** update to Windows 10 Enterprise **2019 LTSC** are available for the current devices

**SIOS**

# WinCC Unified PC RT V20 - Use cases for handling RT projects

## Use cases 1: Use Configurations in other station/Devices

There are settings, which must be specified in Runtime.  
Please note, how to backup / transfer all RT settings and data



**Plant A  
Runtime  
settings**



### Concerns

- Parameter Control
- Calendar data
- Reset RT Data
- Report Control Setting
- User files

### Resetting / deleting the current data

- Is selectable via TIA Portal download (except incl. PI options)
- Is possible via RT Manager via options for tags/alarms
- Plant Intelligence Option
  - PFI : **Not possible in V20**
  - CAL (SES / LCS) : "Clear all" possible at runtime (in RT)



**Plant B  
Runtime  
settings**

# WWinCC Unified PC RT V20 - Use cases for handling RT projects

## Use Cases 2: Project download to other station

### 1) Commissioning ready – (finished PC)

- Project download to other station
- change IP
- PG/PC Settings
- Reset database
- Transfer configuration  
(for example: Recipe data, Report setting)

### 2) Runtime settings of options

- Report settings are only done during RT
- transfer setting to other station
- PaCo Update Recipes

### Archive backups

#### How to attach Archive backups to Unified Runtime?

copying db3-Files to archive-folder doesn't work, "restore segments" at RT Manager is grayed.

Restore segments via RT Manager is the correct way. The button is enabled only if the RT project is started

# WinCC Unified PC RT V20 - Use cases for handling RT projects

## Use Cases 3: Project download with attached files<sup>1</sup>

Unified Basic Panel ✗    Unified Comfort Panel ✗    WinCC Unified PC ✓

The screenshot shows the WinCC Unified Configuration window. The left sidebar contains a menu with the following items: Website settings, User management, Archive settings, Reporting, Download of projects, and Apply settings. The main content area is titled "Storage location for local Runtime projects and password for secure download". It includes a radio button for "Keep the existing configuration", a text box for "Storage location for local Runtime projects" containing "C:\ProgramData\SCADAProjects", and a checkbox for "Move runtime projects". Below this is a section for "Activate secure download" with password fields and a progress indicator. At the bottom, a checkbox for "Activate access for user files" is highlighted with a red rectangle. Navigation buttons "Cancel", "< Back", and "Next >" are at the bottom.

### Define a shared “/user-data” folder for user files

- During a full transfer, all user files of this folder will be copied to the WinCC Unified PC Runtime station
- Full access to user files (CWC, .jpeg...) at runtime via WebControl e.g. display .jpeg files

-Scripts or Browser via the URL e.g.  
`https://<hostname>/UserFiles/filename.ext.`

# WinCC Unified Architectures

## Content

Time	Topic
1	WinCC Unified Basic System
2	<b>WinCC Unified Options for UCP and PC</b>
3	WinCC Unified SCADA Options
4	WinCC Unified PI Options
5	TIA Portal Options
6	Advanced Architectures
7	Additional Information

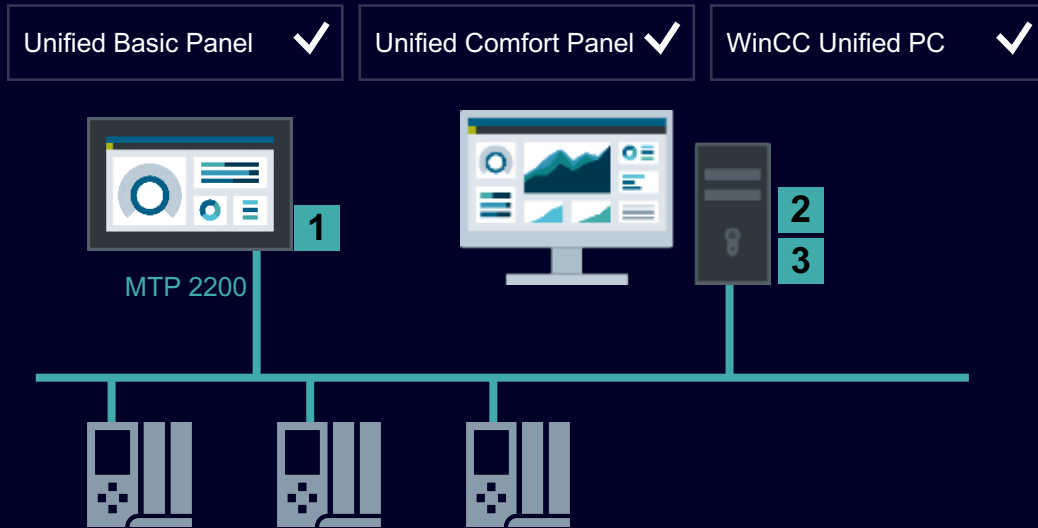
# WinCC Unified Options for UCP and PC

- WinCC Unified Logging
- WinCC Unified Parameter Control
- WinCC Unified Reporting
- WinCC Unified Collaboration
- WinCC Unified Audit Basis/Enhanced



# WinCC Unified Logging

## File-based Logging - SQLite



### Unified Panels (File-based Logging )

- Unified Basic Panels: 50 logging tags are included (not extendable)
- Unified Comfort Panels: 5000 logging tags are included (not extendable)

### Unified PC Systems

File-based Logging up to 5,000 Logging Tags

No logging tags included, purchase up to 5.000 logging tags. The data-based logging option is needed for a higher number of logging tags or if long-term archiving is required.

Internal tags can also be archived without additional logging tag license

### 1.- Base package: Unified Panels

[SIMATIC HMI Unified Basic Panels \(7 – 12”\)](#)

[SIMATIC HMI Unified Comfort Panels \(7 – 22”\)](#)

### 2.- Base Packages WinCC Unified Runtime

[WinCC Unified PC RT n](#)

[SIMATIC WinCC Unified Runtime](#)

### 3.- WinCC Unified Logging Tags

- WinCC Unified Logging Tags (100) 6AV2157-...
- WinCC Unified Logging Tags (500) 6AV2157-...
- WinCC Unified Logging Tags (1000) 6AV2157-...
- WinCC Unified Logging Tags (5000) 6AV2157-...
- WinCC Unified Logging Tags (10000) 6AV2157-...
- WinCC Unified Logging Tags (30000) 6AV2157-...

[WinCC Unified Logging](#)

# WinCC Unified **Parameter Control** Recipes with Parameter Control

Unified Basic Panel ✓

Unified Comfort Panel ✓

WinCC Unified PC ✓



## Unified Panels

File-based Parameter Control (included)

## Unified PC Systems

File-based or MS SQL Parameter control if the Database Storage Option is available.

## 1.- Base package: Unified Panels

[SIMATIC HMI Unified Basic Panels \(7 – 12"\)](#)

[SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

## 2.- Base Packages WinCC Unified Runtime

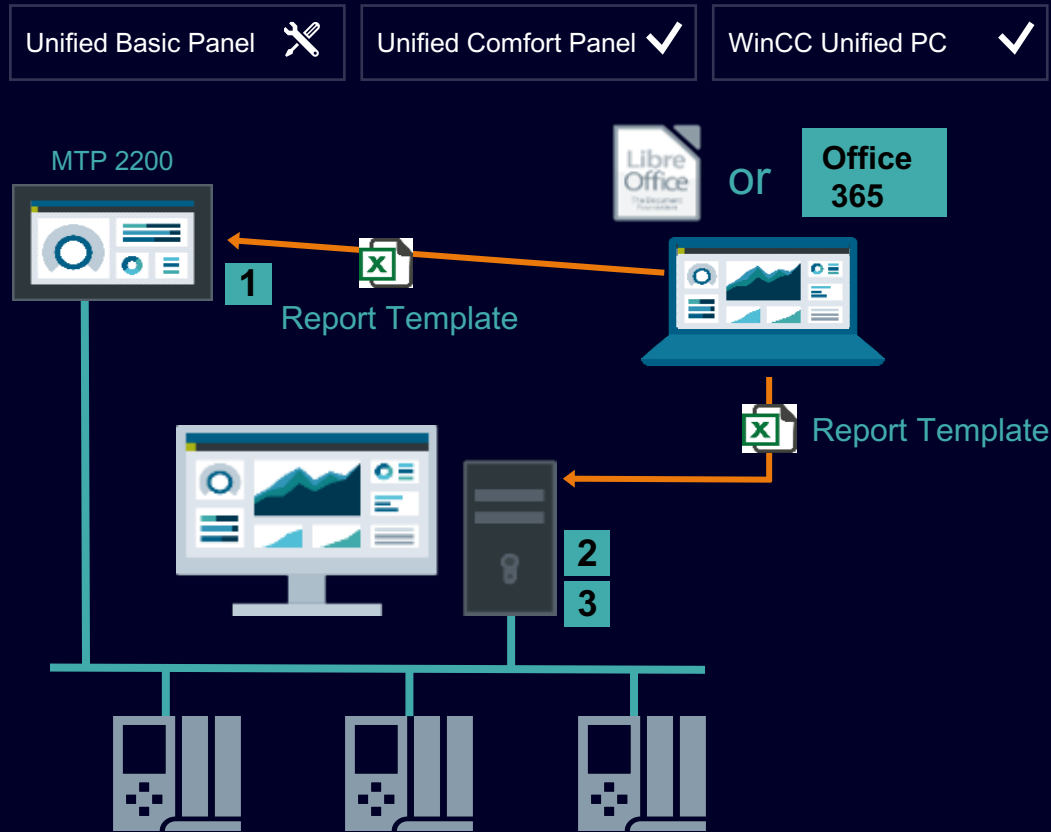
[WinCC Unified PC Runtime](#)

[SIMATIC WinCC Unified Runtime](#)

## 3.- WinCC Unified Parameter Control (PC)

[MLFB: 6AV2154-0BP...](#)

# WinCC Unified Report Execution Reporting



- Report Execution:  
Automatic execution of reports in PC RT

## 1.- Base package: Unified Panels

[SIMATIC HMI Unified Comfort Panels \(7 – 22”\)](#)

## 2.- Base Packages WinCC Unified Runtime

WinCC Unified PC RT n  
[SIMATIC WinCC Unified Runtime](#)

## 3.- WinCC Unified Report Execution

[MLFB: 6AV2157-0B...](#)

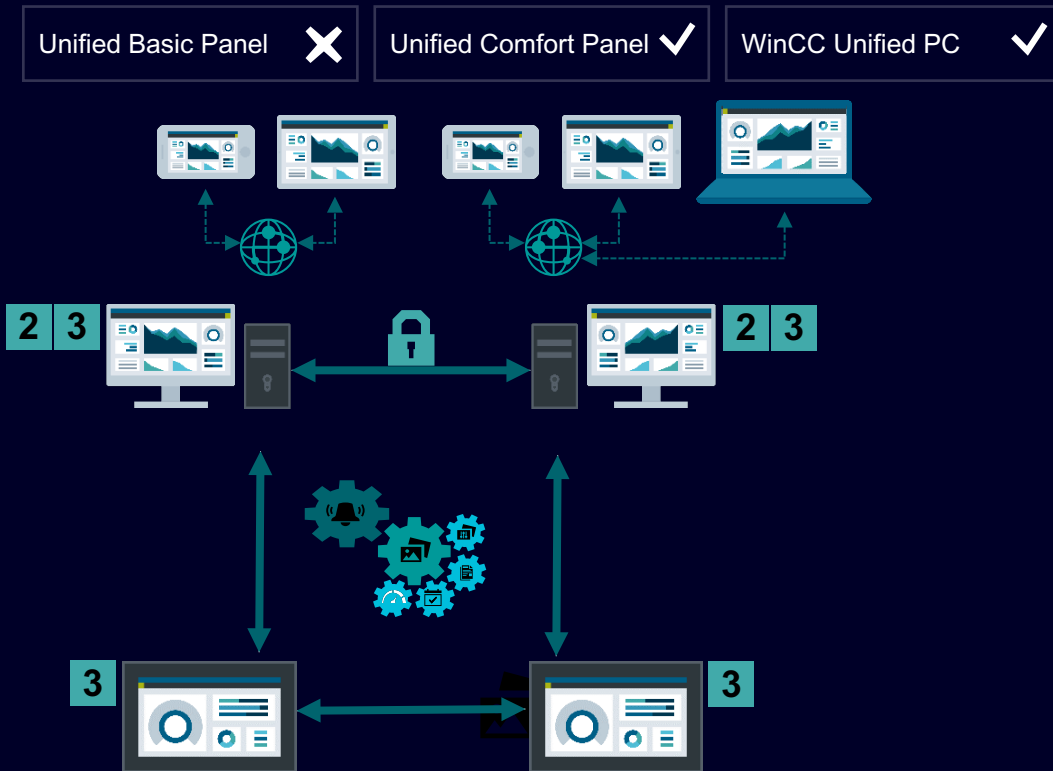
Thu, 07 Jun 2018 14:21:23.491	0	inf
Thu, 07 Jun 2018 14:22:23.491	0	inf
Thu, 07 Jun 2018 14:23:23.491	0	inf
Thu, 07 Jun 2018 14:24:23.491	0	inf
Thu, 07 Jun 2018 14:25:23.491	0	inf
Thu, 07 Jun 2018 14:26:23.491	0	inf
Thu, 07 Jun 2018 14:27:23.491	0	inf
Thu, 07 Jun 2018 14:28:23.491	0	inf
Thu, 07 Jun 2018 14:29:23.491	0	inf
Thu, 07 Jun 2018 14:30:23.491	0	inf



View Report  
Local, Email, HTTPS

# WinCC Unified Collaboration

Exchange data between different stations with collaboration



Enable for distributed system architectures for WinCC Unified systems. Modular and decentralized production units work together by exchanging information between unified stations: Direct access to images of different units e.g. for line monitoring

## 1.- Base package: Unified Panels

[SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

## 2.- Base Packages WinCC Unified Runtime

WinCC Unified PC RT n

[SIMATIC WinCC Unified Runtime](#)

## 3.- WinCC Unified Collaboration

Collaboration licenses are required for all collaboration devices !

[MLFB: 6AV2154-0BR...](#)

- Screens
- Alarms

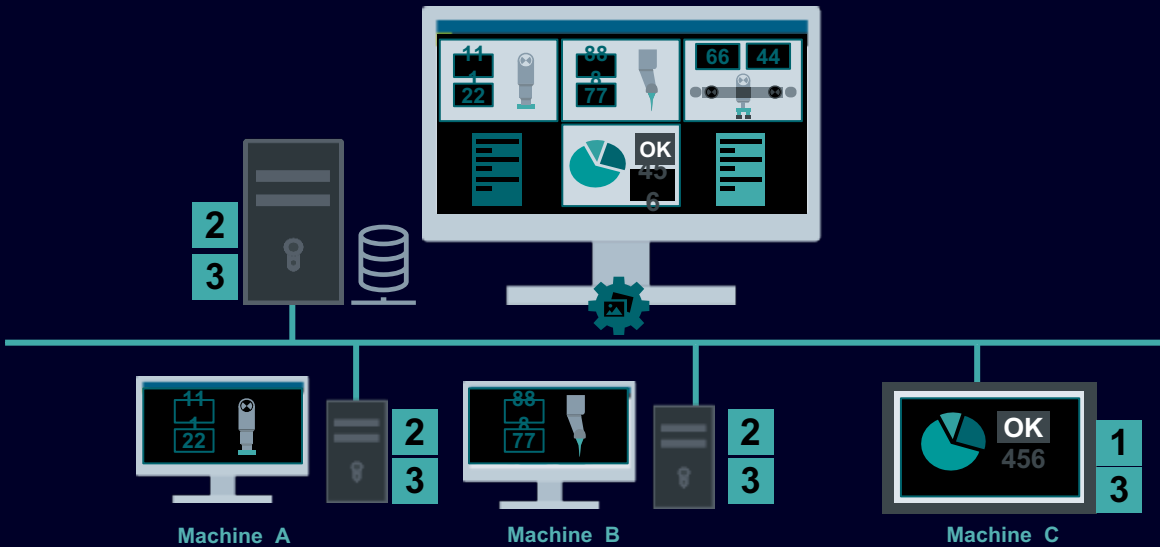
### Preconditions:

- Collaboration certificate has been exchanged [Consider SSL certificate handling!](#)
- Time synchronization (e.g. via NTP)
- All collaboration devices are accessible via the network among each other
- Configure the firewall to allow inbound and outbound traffic through the TCP Port: 5678

# WinCC Unified Collaboration

## Line Visualization with Collaboration

Unified Basic Panel ✗    Unified Comfort Panel ✓    WinCC Unified PC ✓



Flexible configuration scenarios by sharing screens and alarms.

### 1.- Base package: Unified Panels

[SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

### 2.- Base Packages WinCC Unified Runtime

WinCC Unified PC RT n

[SIMATIC WinCC Unified Runtime](#)

### 3.- WinCC Unified Collaboration

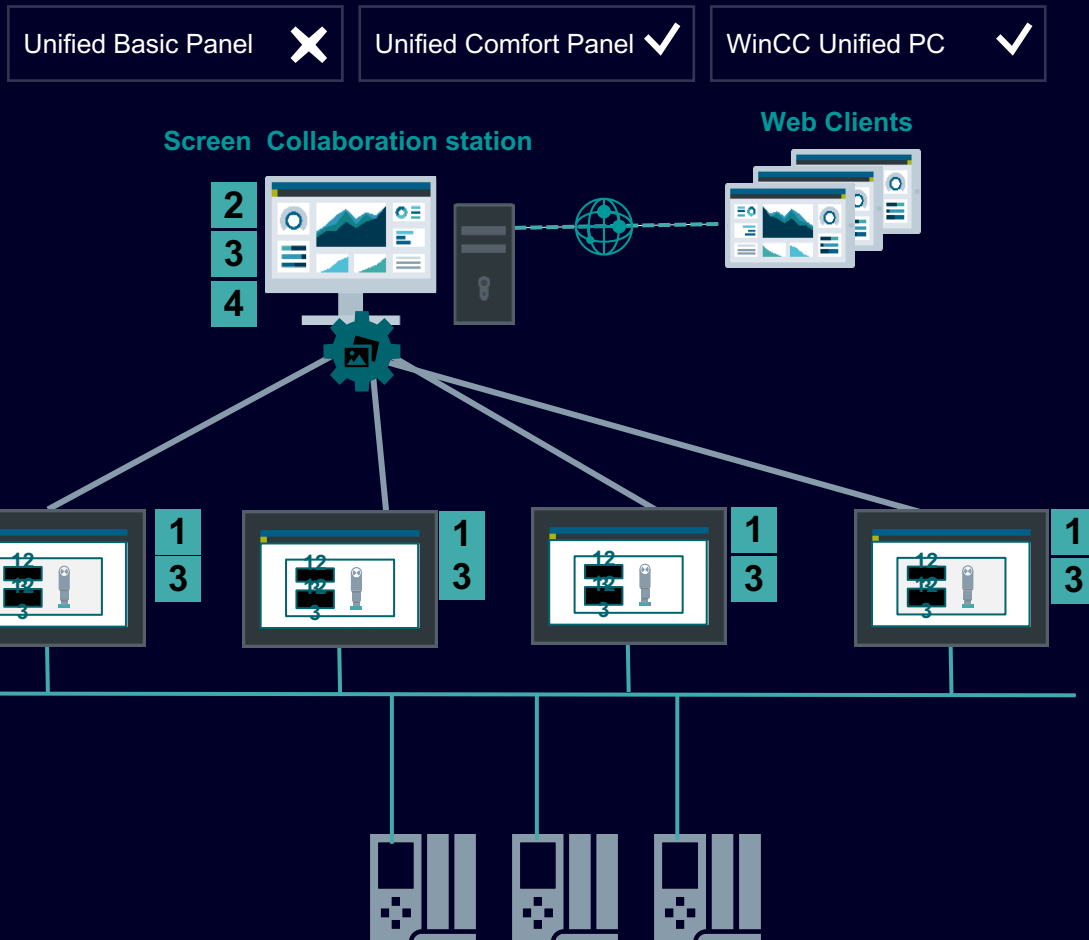
Collaboration licenses are required for all participants!

[MLFB: 6AV2154-0BR...](#)

- Screens
- Alarms

# WinCC Unified Collaboration

## Unified Comfort Panels as central Web Server with Collaboration



### 1.- Base Packages WinCC

[SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

### 2.- Base Packages WinCC Unified Runtime

WinCC Unified PC RT n

[SIMATIC WinCC Unified Runtime](#)

### 3.- WinCC Unified Collaboration

WinCC Unified Collaboration

[MLFB: 6AV2154-3JR...](#)

### 4.- WinCC Unified Clients

WinCC Unified Client Operate Panel (5x1): 6AV2157-5JV...\*

[SIMATIC WinCC Unified Clients](#)

\* It is cheaper than a single licensed by each web server.

# WinCC Unified Collaboration

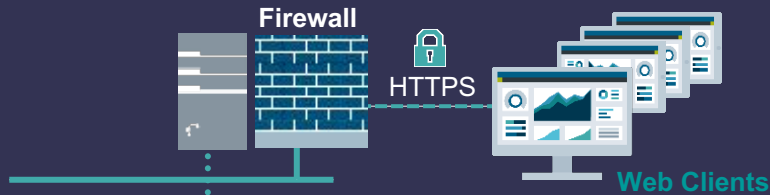
Lines or plants visualization as central Web Server with Collaboration

Unified Basic Panel

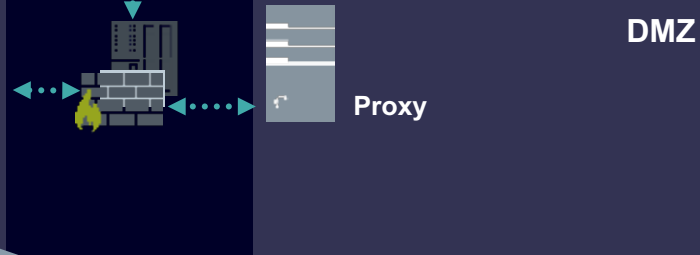
Unified Comfort Panel

WinCC Unified PC

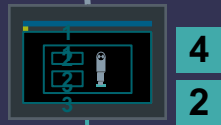
Enterprise Zone



Industrial Zone



Cell Zone



Line 1

Line 2

## 1.- Base Packages WinCC

WinCC Unified PC RT 150 Tags

[WinCC Unified PC \(150\) RT: 6AV2154-...](#)

## 2.- WinCC Unified Collaboration

WinCC Unified Collaboration (3x1) (Cheaper than buy them separately)

[MLFB: 6AV2154-3JR...](#)

## 3.- Base Packages WinCC Unified Runtime

WinCC Unified PC RT n

[SIMATIC WinCC Unified Runtime](#)

## 4.- Base package: Unified Panels

[SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

## 5.- WinCC Unified Clients

WinCC Unified Client Operate (max)

6AV2157-...

WinCC Unified Client Monitor (max)

6AV2157-...

[SIMATIC WinCC Unified Clients](#)

Use case: Calvià 2000

[Digitalization of the water cycle](#)

# WinCC Unified Audit Overview

Unified Basic Panel ✕

Unified Comfort Panel<sup>2</sup> ✓

WinCC Unified PC<sup>1</sup> ✓

## WinCC Unified Audit Enhanced<sup>4</sup>



## WinCC Unified Audit Basis



## WinCC Unified Audit Enhanced<sup>4</sup>

Incl. “WinCC Unified Audit Basis”  
Double Electronic Signature



## WinCC Unified Audit Basis

to create Audit Trail Records:

Audit Trail Logs & Detection of manipulation

Audit Records for Tags

Audit Confirmation and Reports

Audit Records<sup>3</sup> for user management (Login/Logout)

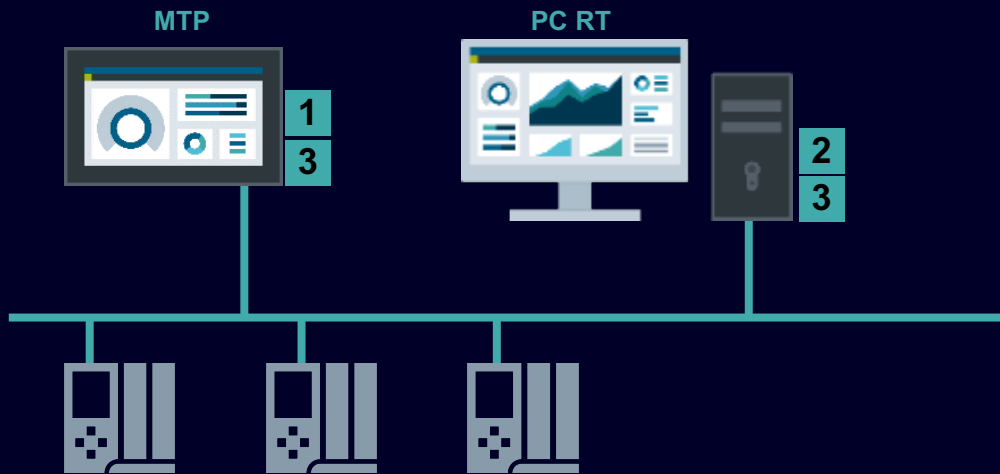
Audit Viewer<sup>3</sup> for direct analysis of Audit Trails

Single Electronic Signature<sup>4</sup>

Support of Parameter control<sup>5</sup>

<sup>1</sup> As of V17 | <sup>2</sup> As of V17 Update 1 (new RT Version required) | <sup>3</sup> As of V18 | <sup>4</sup> As of V18 Update 1 (new RT Version required) | <sup>5</sup> As of V20

# WinCC Unified Audit Configurations with Unified Panels or PC RT



## Hygienic Design

The Unified Comfort Panels Hygienic are characterized by a splinter protection foil. The device design was developed taking into account the EHEDG "Guidelines". The FDA-compliant development was tested and confirmed by the Fraunhofer Institute. The devices are designed for harsh rated conditions and meet impact resistance IK10 and protection class IP69, while cleanability has been tested and certified with ECOLAB cleaning agents.

## 1.- Base package: Unified Panels

[SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)  
[SIMATIC HMI Unified Comfort Panels Hygienic \(7 – 22"\)](#)  
[SIMATIC HMI Unified Comfort PRO \(12" - 22"\)](#)

## 2.- Base Packages WinCC Unified Runtime

[WinCC Unified PC RT n](#)  
[SIMATIC WinCC Unified Runtime](#)

## 3.- WinCC Unified Audit

[WinCC Unified Audit Basis: 6AV2157-0BL0...](#)  
[WinCC Unified Audit Enhanced: 6AV2157-1BL...](#)

# WinCC Unified Architectures

## Content

Time	Topic
1	WinCC Unified Basic System
2	WinCC Unified Options for UCP and PC
3	<b>WinCC Unified SCADA Options</b>
4	WinCC Unified PI Options
5	TIA Portal Options
6	Advanced Architectures
7	Additional Information

# WinCC Unified SCADA Options



- WinCC Unified Database Storage
- WinCC Unified IT Connectivity
- WinCC Unified Redundancy

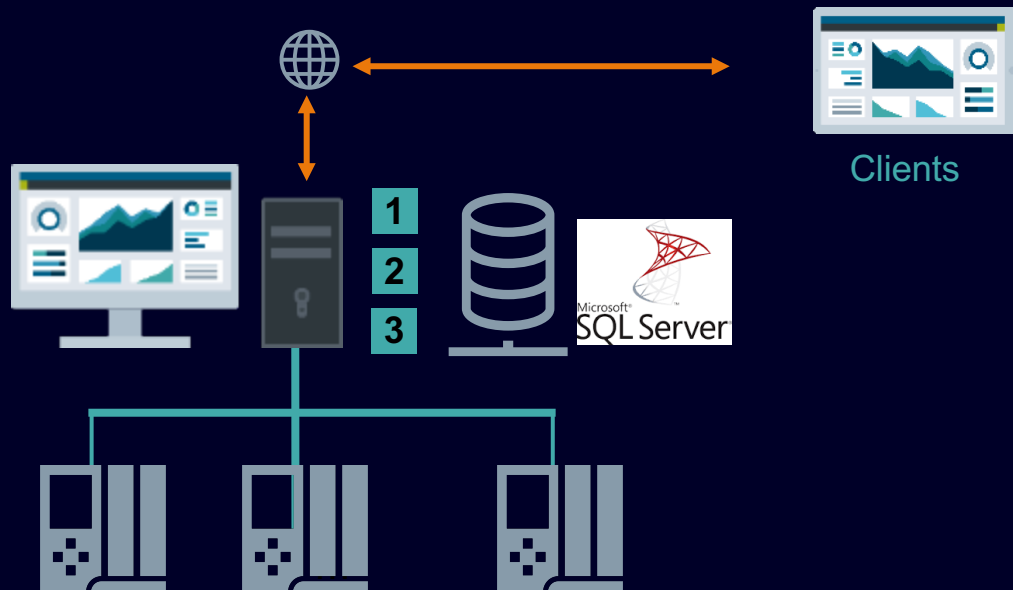
# WinCC Unified Database Storage V20

## Databased Logging - MS SQL 2022

Unified Basic Panel ✘

Unified Comfort Panel ✘

WinCC Unified PC ✔



### 1.- Base Packages WinCC Unified Runtime

WinCC Unified PC RT n

[SIMATIC WinCC Unified Runtime](#)

### 2.- WinCC Unified Logging Tags

- WinCC Unified Logging Tags (100) 6AV2157-2DA00-0LB0
- WinCC Unified Logging Tags (500) 6AV2157-1EA00-0LB0
- WinCC Unified Logging Tags (1000) 6AV2157-2EA00-0LB0
- WinCC Unified Logging Tags (5000) 6AV2157-1FA00-0LB0
- WinCC Unified Logging Tags (10000) 6AV2157-2FA00-0LB0
- WinCC Unified Logging Tags (30000) 6AV2157-6FA00-0LB0

[WinCC Unified Logging](#)

### 3.- Database Storage

[MLFB: 6AV2154-0BS0...](#)

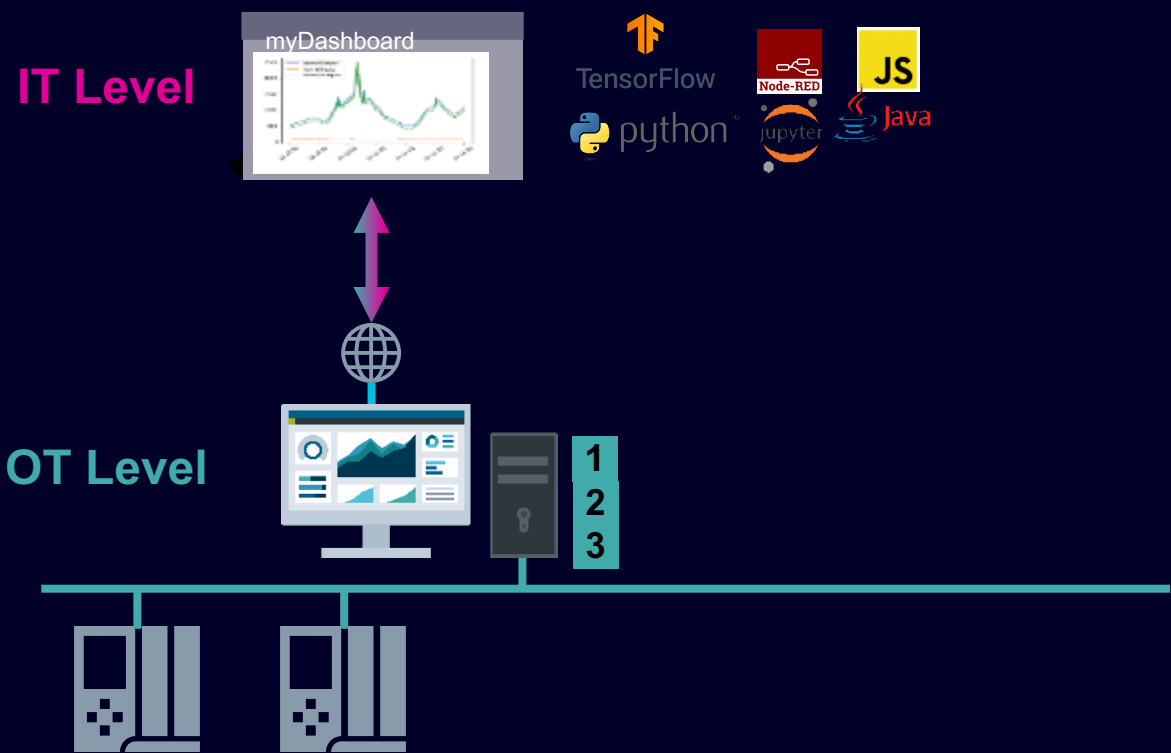
#### Note:

- The number of Logging Tags is scalable (countable)
- The licenses for Logging Tags are valid both logging types: file-based and databased- Logging
- Databased Logging is recommended for more than 5000 logging tags

# WinCC Unified IT Connectivity

## IT Connectivity via GraphQL

Unified Basic Panel ✕    Unified Comfort Panel ✕    WinCC Unified PC ✓



### 1.- Base Packages WinCC Unified Runtime

WinCC Unified PC RT n  
[SIMATIC WinCC Unified Runtime](#)

### 2.- GraphQL for Unified PC Runtime

MLFB: no extra licenses needed

### 3.- WinCC Unified Connectivity GraphQL Logged Data

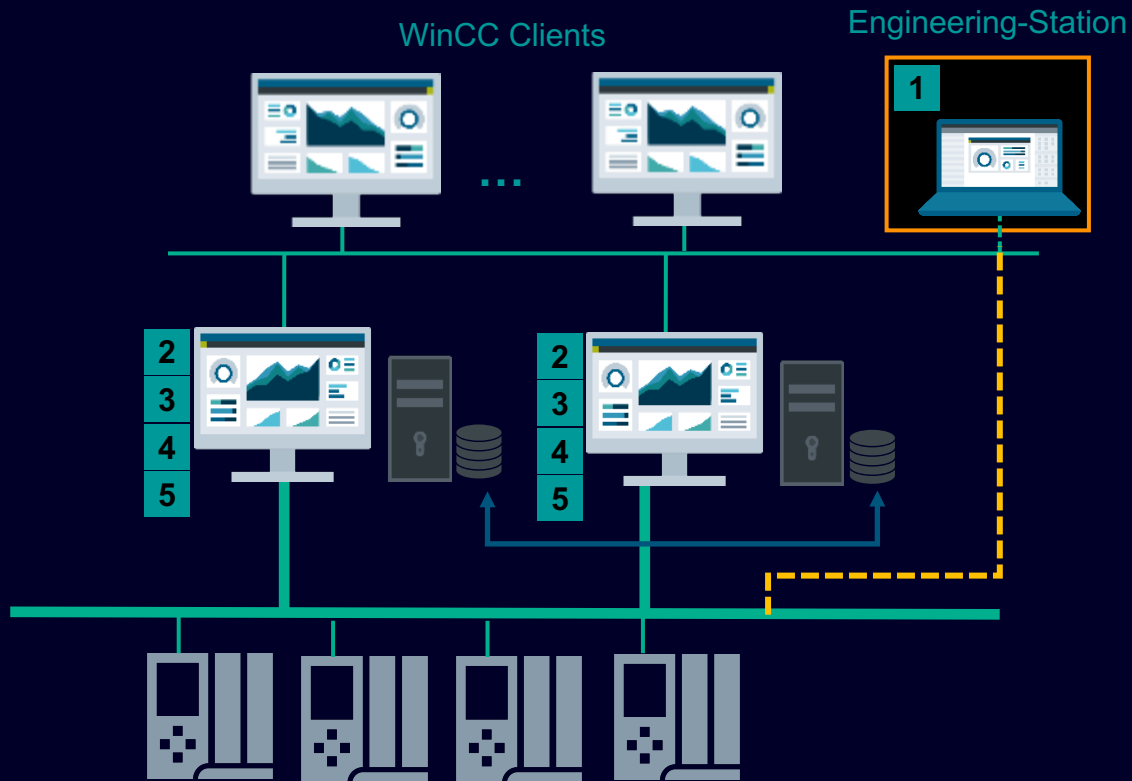
MLFB: [6AV2157-1GK02-4AB0](#)

**Note:** Subscription out of the box  
Access to WinCC Unified PC Runtime data via networks, e.g. in web-, mobile- or IT-applications in a very easy manner in order to:

- Read/write of tags
- Read alarms
  - Read Logged Data (license required: WinCC Unified Connectivity GraphQL Logged Data )

# WinCC Unified Redundancy

## High Availability



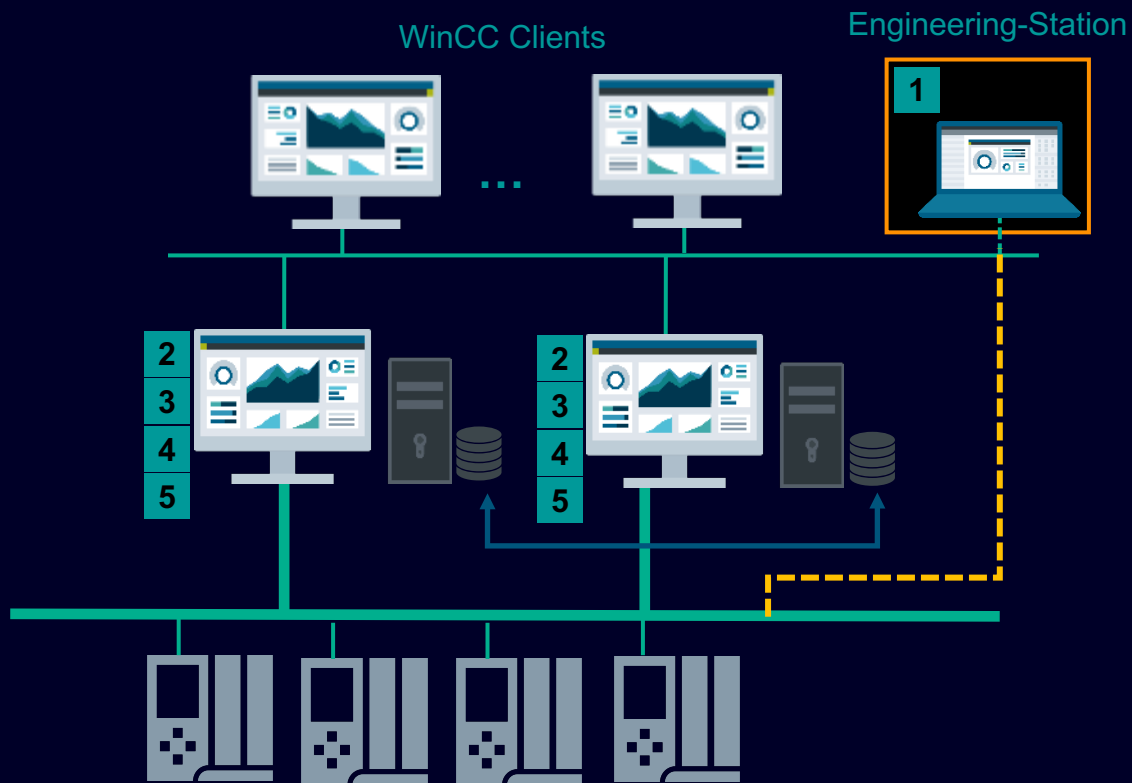
**WinCC Unified** includes support for redundant PC RT stations to provide high availability across a wide range of scenarios.

Please do always check, whether your use case or installation-specific requirements is fully covered (e.g. used options,...).

Therefore, it is strongly recommended to consult with your commercial representative to perform a detailed assessment of the system's suitability for your intended deployment environment, including, if necessary, a design-phase validation or factory acceptance test to ensure compliance with critical operational requirements.



# WinCC Unified Redundancy High Availability



Due to the redundancy of the servers, the Clients can continue to work in case of a server fails.

The data is synchronized across the servers and the database is entirely replicated when operations return to normal.

[Redundancy starter packages](#) are available— see ordering information for more details.

## 1. WinCC Unified PC Engineering System

WinCC Unified PC (n) ES V20 6AV2153-...  
[SIMATIC WinCC Unified Engineering](#)

## 2. Base Packages WinCC Unified Runtime

WinCC Unified PC RT n  
[SIMATIC WinCC Unified Runtime](#)

## 3. Database Storage

MLFB: 6AV2154-0BS0...\*

## 4. Redundancy

Includes Licenses for both Servers (Primary and Secondary server)  
[MLFB: 6AV2157-0B...](#)

## 5. WinCC Unified Client

WinCC Unified Clients Operate (n)  
[SIMATIC WinCC Unified Clients](#)

### Note:

**For redundant configurations, identical licenses are mandatory on both servers!**

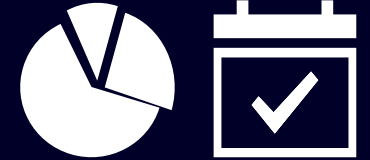
\*Archive synchronization only works for MS SQL data bases

# WinCC Unified Architectures

## Content

Time	Topic
1	WinCC Unified Basic System
2	WinCC Unified Options for UCP and PC
3	WinCC Unified SCADA Options
4	<b>WinCC Unified PI Options</b>
5	TIA Portal Options
6	Advanced Architectures
7	Additional Information

# WinCC Unified PI Options\*

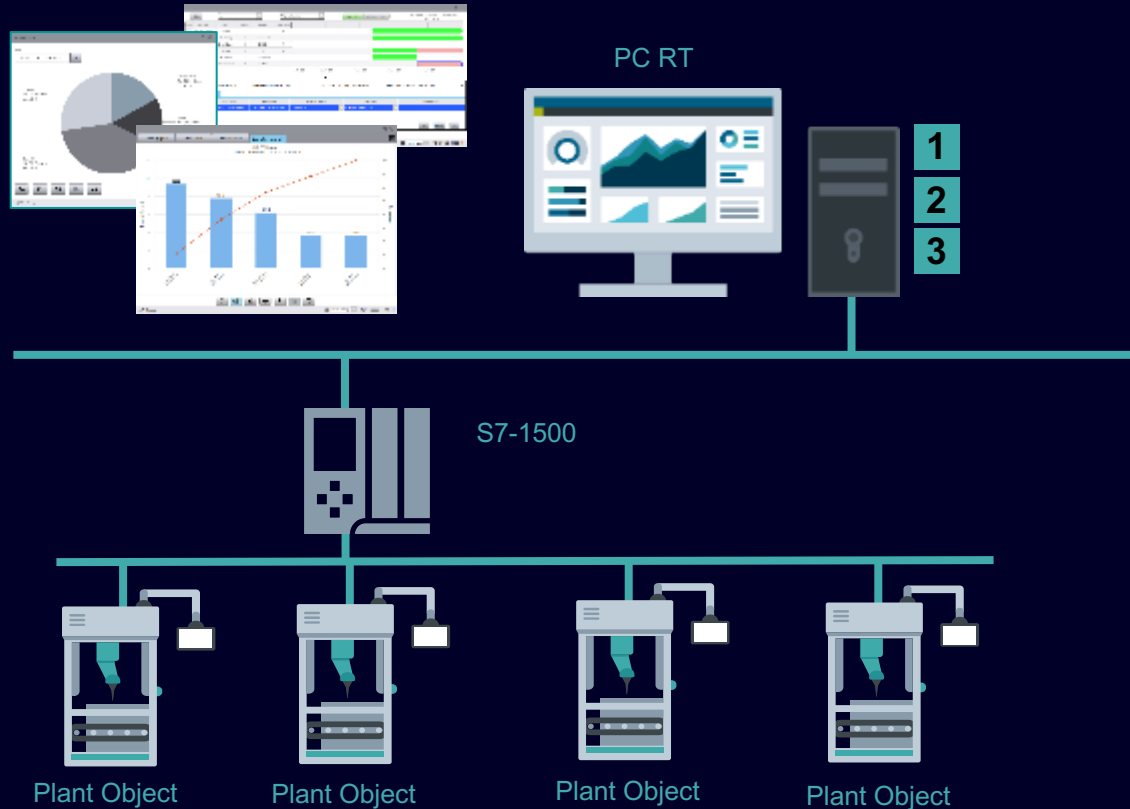


- WinCC Unified Performance Insight
- WinCC Unified Calendar

\* Plant intelligence options incl. Architectures are explained in detail here: [Plant Intelligence Options Overview](#).

# WinCC Unified Performance Insight

Visualization and analysis of plant performance using KPIs and time/status model



## Engineering preconditions:

- S7-1500
- Device WinCC Unified PC available
- Technological Hierarchy defined and assigned to the device

## 1.- Base Packages WinCC Unified Runtime

WinCC Unified PC RT n  
[SIMATIC WinCC Unified Runtime](#)

## 2.- WinCC Unified Performance Insight Base

[MLFB: 6AV2156-0BP02-...](#)

Base License include 3 Plant Object Instance.

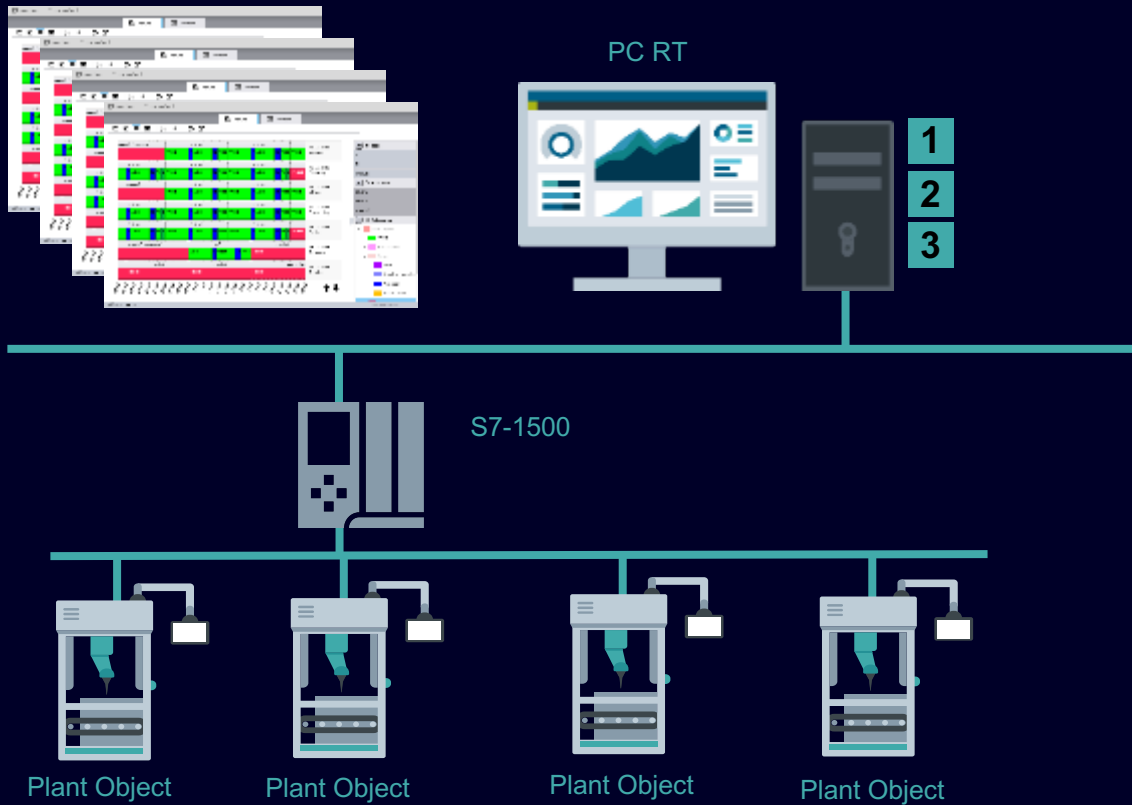
## 3.- WinCC Unified Performance Insight Extension

- WinCC Unified PI Extension (10) 6AV2156-2CP00-...
- WinCC Unified PI Extension (30) 6AV2156-6CP00-...
- WinCC Unified PI Extension (100) 6AV2156-2DP00-...
- WinCC Unified PI Extension (300) 6AV2156-6DP00-...

[Additional plants objects \(Extensions\) can be added \(countable license\).](#)

# WinCC Unified Calendar

## Calendar-based management of events and shifts



### Engineering preconditions:

- S7-1500
- Device WinCC Unified PC available
- Technological Hierarchy defined and assigned to the device

### 1.- Base Packages WinCC Unified Runtime

WinCC Unified PC RT n  
[SIMATIC WinCC Unified Runtime](#)

### 2.- WinCC Unified Calendar Base

[MLFB: 6AV2156-0BP02-...](#)  
Base License include 3 calendars.

### 3.- WinCC Unified Calendar Extension

WinCC Unified Calendar Extension (1)  
[MLFB: 6AV2156-1JC00-...](#)  
Additional calendars (Extension) can be added (countable license).

# WinCC Unified Architectures

## Content

Time	Topic
1	WinCC Unified Basic System
2	WinCC Unified Options for UCP and PC
3	WinCC Unified SCADA Options
4	WinCC Unified PI Options
5	<b>TIA Portal Options</b>
6	Advanced Architectures
7	Additional Information

# TIA Portal Options

---

- Multiuser Engineering
- Central User Management (UMC)
- SIMATIC ProDiag
- SIMATIC Energy Suite
- SiVArc (Phase out)

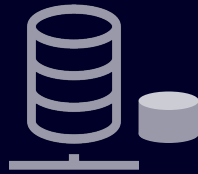
# TIA Portal Options - Multiuser in Engineering

## Multiuser in Engineering for WinCC Unified Screens

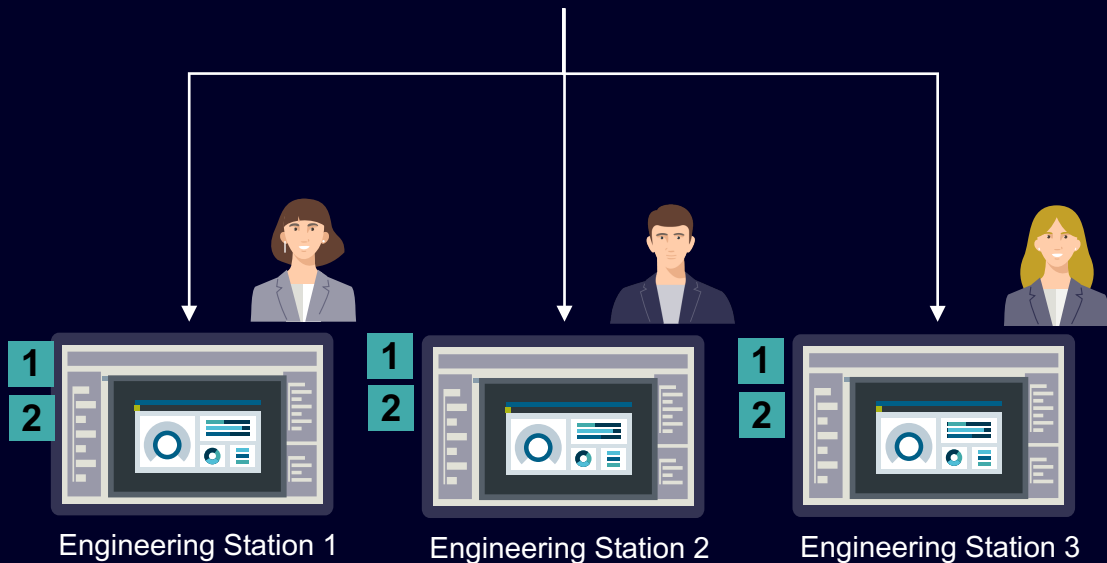
Unified Basic Panel ✓

Unified Comfort Panel ✓

WinCC Unified PC ✓



Server Project



### 1.- TIA Portal Multiuser Engineering V20

MLFB: 6ES7823-1AA08-0YA5

### 2.- Engineering

[SIMATIC WinCC Unified Engineering](#)

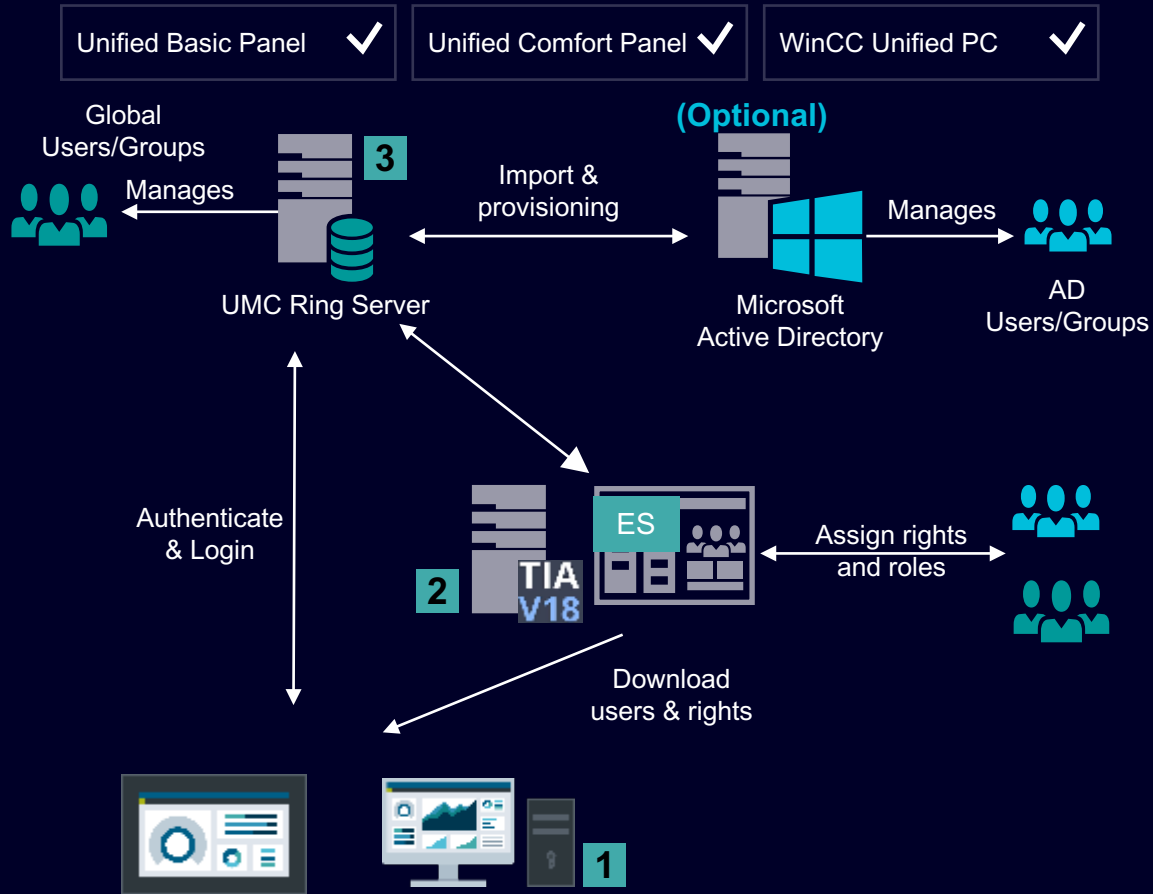
#### Note:

- Reduce engineering and commissioning times
- Minimal effort when working in parallel as a team
- Full transparency for change tracking and improved engineering quality due to the multi-user server all changes can be tracked, and the engineering quality can be improved

\* Select the appropriate engineering package based on the target system.

# TIA Portal Options – Central User Management (UMC)

## Single Server UMC Deployment



### 1.- Base Packages Panel or RT

- [SIMATIC WinCC Unified Runtime](#)
- [SIMATIC HMI Unified Basic Panels \(7 – 12"\)](#)
- [SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

### 2.- Engineering

- [SIMATIC WinCC Unified Engineering](#)

### 3.- TIA User Management Component

- [Certificates for 100 user accounts - Rental / 365 days](#)
- [Certificates for 4000 user accounts - Rental / 365 days](#)
- [Certificates for 100 user accounts - Perpetual](#)
- [Certificates for 1000 user accounts - Perpetual](#)
- [Certificates for 4000 user accounts - Perpetual](#)

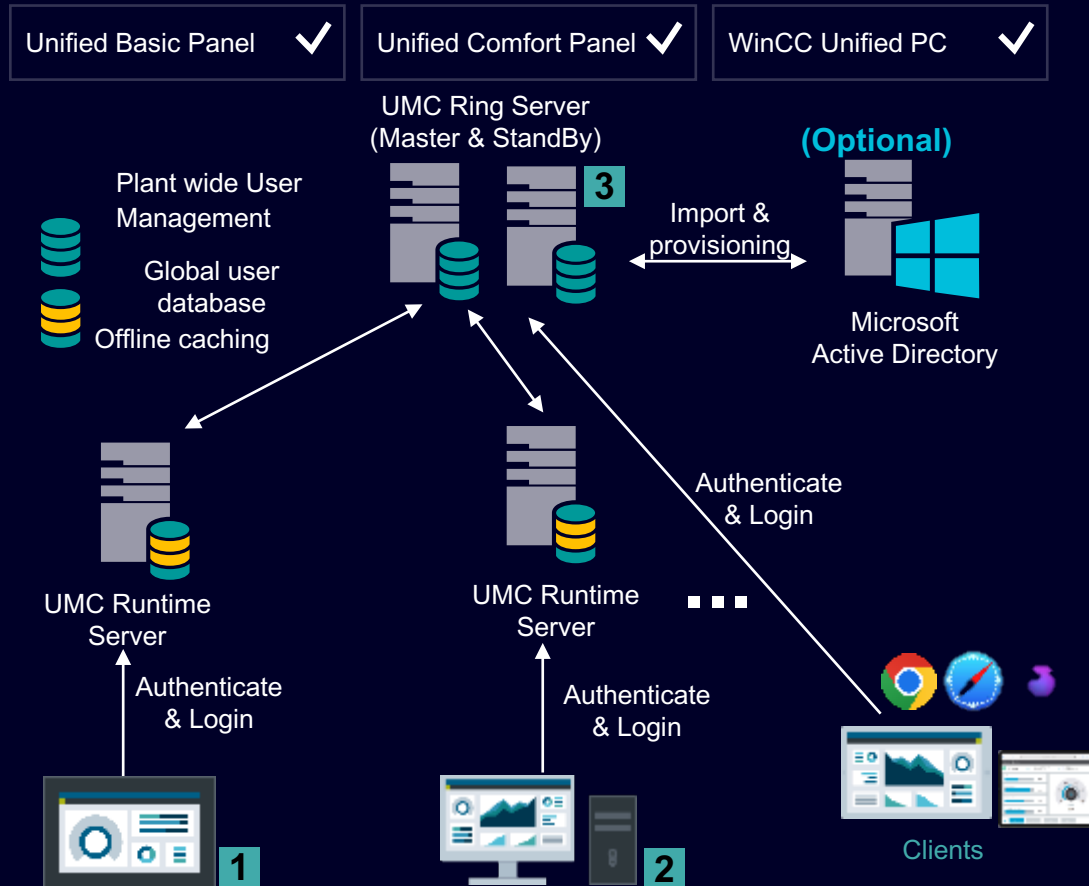
### Note:

- First evaluation of the product is without license costs and can be scaled for the appropriate number of needed accounts
- License model depends on the number of used user accounts per UMC Domain
- 10 Users are included in the product without the need for a license
- 100/4000 accounts as 365-day license available

[Central User Management with "User Management Component \(UMC\)"](#)

# TIA Portal Options – Central User Management (UMC)

## Distributed UMC Deployment



### 1.- Base Packages Panel or RT

[SIMATIC WinCC Unified Runtime](#)  
[SIMATIC HMI Unified Basic Panels \(7 – 12"\)](#)  
[SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

### 2.- Engineering

[SIMATIC WinCC Unified Engineering](#)

### 3.- TIA User Management Component (as 365-day rental)

4000 User Accounts Download [6ES7823-...](#)  
 100 User Accounts Download [6ES7823-...](#)

### 3.- TIA User Management Component (as perpetual)

4000 User Accounts Download [6ES7823-...](#)  
 1000 User Accounts Download [6ES7823-...](#)  
 100 User Accounts Download [6ES7823-...](#)

#### Note:

- License model depends on the number of used user accounts per UMC Domain
- 10 Users are included in the product without the need for a license

# TIA Portal Options - ProDiag

## Process Diagnostics (S7-ProDiag )

Unified Basic Panel ✘

Unified Comfort Panel ✔

WinCC Unified PC ✔



### Monitoring a machine or plant, diagnosing faults in the process

Predefined generic views

- S7-GRAPH Overview controls: overview over the current steps
- PLC Code View for S7-GRAPH: Detail view on LAD/FBD

### 1.- Base Packages Panel or RT

[SIMATIC WinCC Unified Runtime](#)

[SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

### 2.- SIMATIC WinCC Unified – ProDiag

[MLFB: 6AV2157-0BD0...](#)

Only necessary in Runtime or in the Panel

### 3.- SIMATIC – ProDiag

SIMATIC ProDiag S7-1500 for 250 Supervisions

[MLFB: 6ES7823-0AE00-1AA0](#)

or

SIMATIC ProDiag S7-1500 for Unlimited Supervisions

[MLFB: 6ES7823-0AE00-1DA0](#)

### Prerequisites:

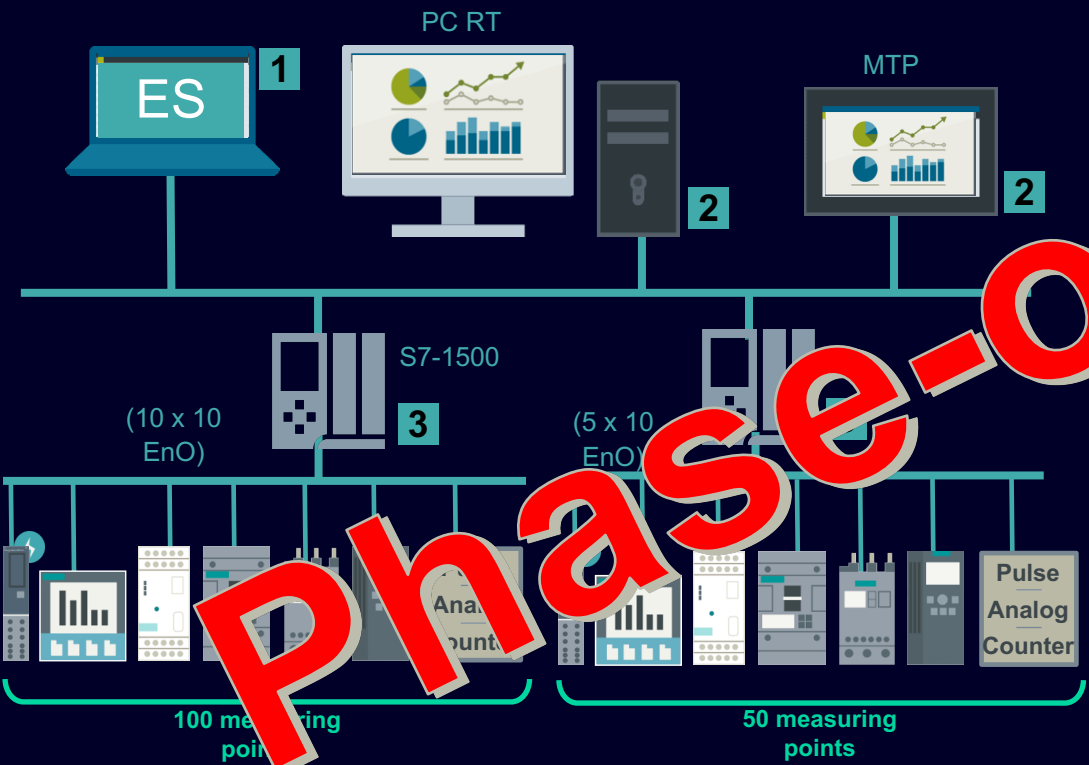
- PLC: SIMATIC S7-1500
- TIA Portal and Unified Runtime installed on same machine.
- Allow start of external processes via Unified Runtime“ enabled in
- SIMATIC Runtime Manager

# TIA Portal Options – Energy Suite

## Integrated energy management in the

**SIMATIC Energy Suite**  
 - is not part of the TIA Portal V20 release.  
 - is announced of discontinuation at January 31<sup>st</sup> 2025.  
 During the phase-out period the products are still available until the termination of delivery date, typically for 1 years unless otherwise stated.  
 Please contact your responsible sales contact if you have any further questions.

- Unified Basic Panel
- Unified Comfort Panel
- WinCC Unified PC



**SIMATIC Energy Suite V19 - SIOS (109822237)**

Phase-out

### 1.- Engineering

- [SIMATIC WinCC Unified Engineering](#)
- [SIMATIC STEP 7 Professional V19 Floating License](#)
- [SIMATIC Energy Suite Engineering](#)

### 2.- Base Packages Panel or RT

- [SIMATIC WinCC Unified Runtime\\*](#)
- [SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

### 3.- SIMATIC Energy Suite - Energy Objects

SIMATIC Energy Suite (1 x 5 EnO)	6AV2108-0CF00-0BH0
SIMATIC Energy Suite (1 x 10 EnO)	6AV2108-0CH00-0BH0
SIMATIC Energy Suite (2 x 5 EnO)	6AV2108-0DF00-0BH0
SIMATIC Energy (5 x 10 EnO)	6AV2108-0FH00-0BH0
SIMATIC Energy Suite (10 x 10 EnO)	6AV2108-0HH00-0BH0.

[Energy Objects](#)

\* It will depend on the number of tags in the project. Tags from energy objects do not count towards engineering or RT licensing.

## TIA Portal Options – SiVArc

Create standardized HMI projects in TIA Portal easily, flexibly and quickly



Use generation rules to specify which HMI objects are generated for which blocks and devices.

**Efficient, automated generation of recurring visualization objects**

e.g.c, tags, screen objects, screens, ...

**Performant**

due to fast (Delta-) generation

**Stay up-to-date**

automated updating of visualizations,  
e.g., after changes in control program

**1.- Engineering**

[SIMATIC WinCC Unified Engineering](#)

[SIMATIC STEP 7 Professional V20 Floating License](#)

[SIMATIC Visualization Architect](#)

# WinCC Unified Architectures

## Content

Time	Topic
1	WinCC Unified Basic System
2	WinCC Unified Options for UCP and PC
3	WinCC Unified SCADA Options
4	WinCC Unified PI Options
5	TIA Portal Options
6	<b>Advanced Architectures</b>
7	Additional Information

# PM Add-ons

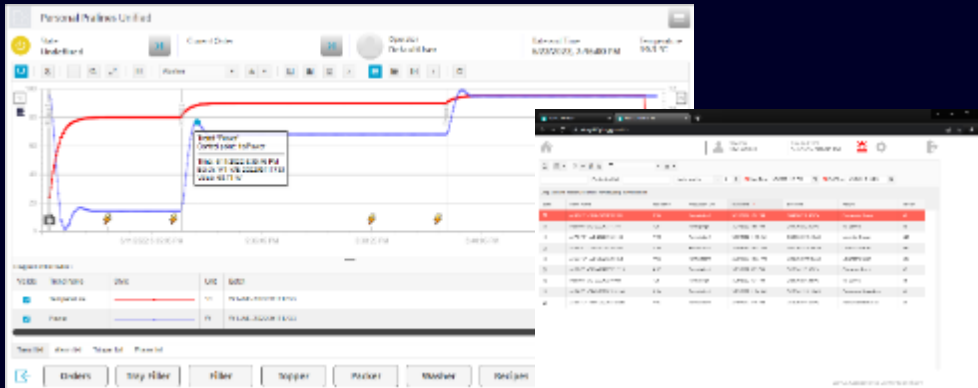


- PM-QUALITY
- PM-CONTROL
- PM-ANALYZE
- PM-WEB

- PM Add-ons, incl. Architectures are explained in detail here: [GL- Process Management System](#)
- Please note the separate release info of PM-add-ons provided by CoC Mannheim in [SIOS](#).

# WinCC Unified V20 and PM-Products

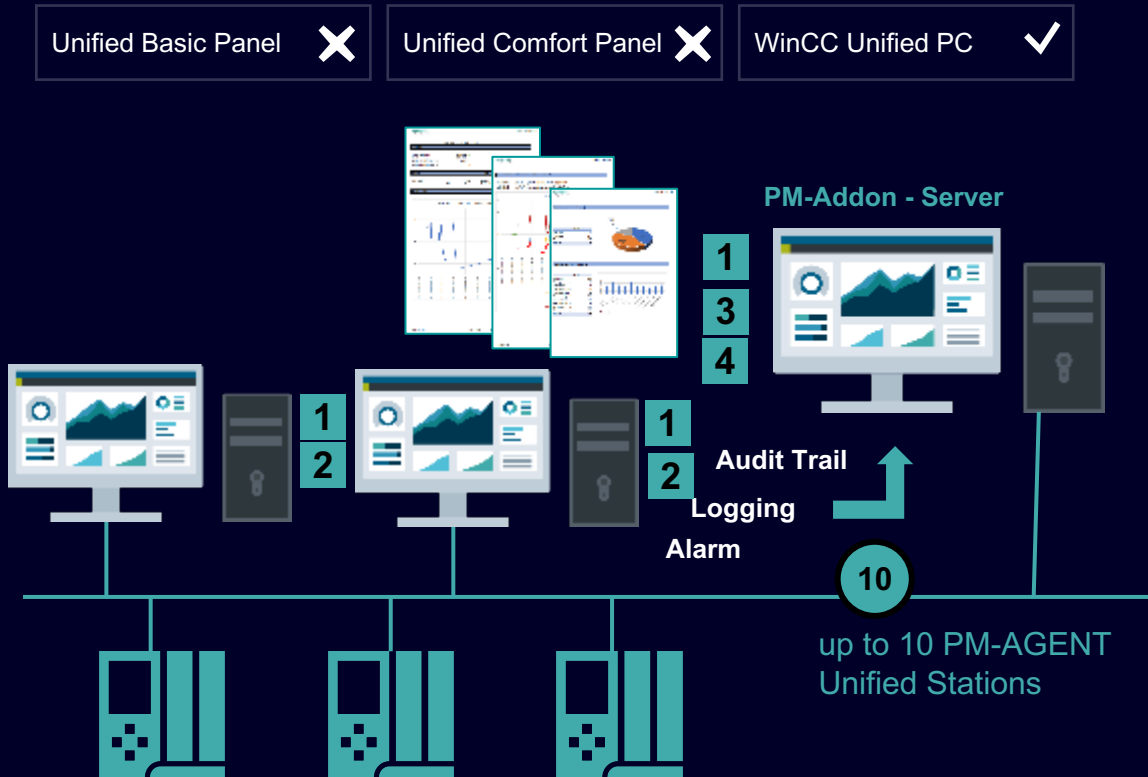
## PM-QUALITY: Batch based archiving and reporting on UCP / Unified PC



- Batch based data recording of Trends
- Alarm messages / audit trail messages
- Event triggered readings (Snapshots)
- Manual input values
- Display of trends, alarms, snapshots and comments from current and historical trends in one diagram
- Comfortable creation of report-layouts
- Long term archiving
- Scalable server editions
- Embeddable clients for different HMI's
- Available languages:  
English, French, German, Chinese

# WinCC Unified V20 and PM-Products

## PM-QUALITY: Batch based archiving and reporting on Unified PC RT



### Additional Information

The PM-QUALITY Server includes 1 Unified Client

For the PM-QUALITY Server, a server operating system and a separate Microsoft SQL Server license is required.

PM-QUALITY clients can be embedded into UCP / Unified PC screens

### 1.- Base Packages WinCC

WinCC Unified PC RT n

[SIMATIC WinCC Unified Runtime](#)

### 2.- PM-AGENT Unified

- USB Dongle 9AE7 117-2SS01-1AA0
- License file 9AE7 117-2SS01-1AA1

### 3.- PM-QUALITY Server

- Standard 9AE7 111-2SS20-1AA0
- Professional 9AE7 111-2SS30-1AA0

[PM-QUALITY](#)

### 4.- PM-QUALITY Unified Client Package

- 1 Unified Client 9AE7 111-4SW00-1AA0
- 3 Unified Clients 9AE7 111-4SW00-1AA1
- 10 Unified Clients 9AE7 111-4SW00-1AA2
- 30 Unified Clients 9AE7 111-4SW00-1AA3
- 100 Unified Clients 9AE7 111-4SW00-1AA4



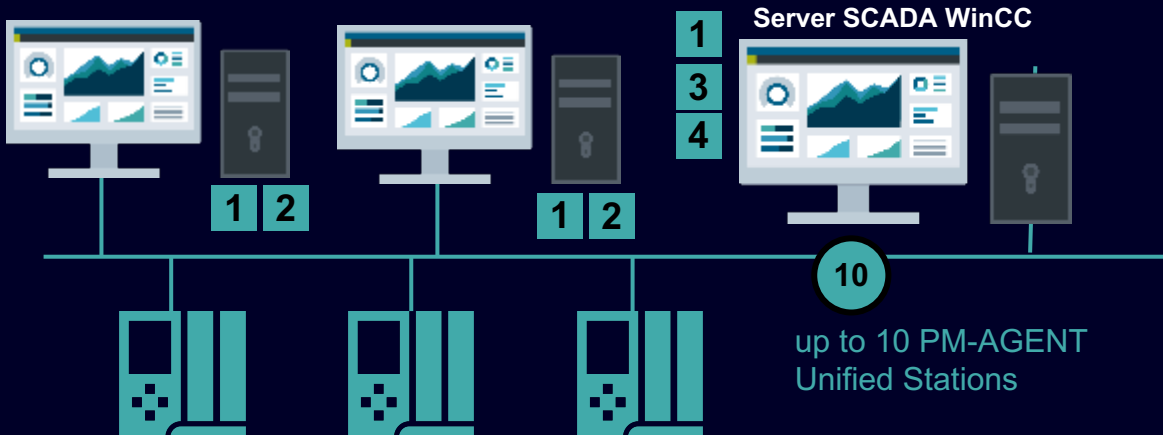
# WinCC Unified V20 and PM-Products

## PM-CONTROL: Advanced recipe management and order processing on Unified PC RT

Unified Basic Panel ✗

Unified Comfort Panel ✗

WinCC Unified PC ✓



### Additional Information

The PM-CONTROL Server includes 1 Unified Client

For the PM-CONTROL Server, a server operating system and a separate Microsoft SQL Server license is required.

PM-CONTROL clients can be embedded into UCP / Unified PC screens

### 1.- Base Packages WinCC

WinCC Unified PC RT n

[SIMATIC WinCC Unified Runtime](#)

### 2.- PM-AGENT Unified

- USB Dongle 9AE7 117-2SS01-1AA0
- License file 9AE7 117-2SS01-1AA1

### 3.- PM-CONTROL Server

- Compact 9AE7 110-2SS10-1AA0
- Standard 9AE7 110-2SS20-1AA0
- Professional 9AE7 110-2SS30-1AA0

[PM-CONTROL](#)

### 4.- PM-CONTROL Unified Client Package

- 1 Unified Client 9AE7 110-4SW00-1AA0
- 3 Unified Clients 9AE7 110-4SW00-1AA1
- 10 Unified Clients 9AE7 110-4SW00-1AA2
- 30 Unified Clients 9AE7 110-4SW00-1AA3
- 100 Unified Clients 9AE7 110-4SW00-1AA4

# WinCC Unified V20 and PM-Products

## PM-ANALYZE: Archives, analysis and reports

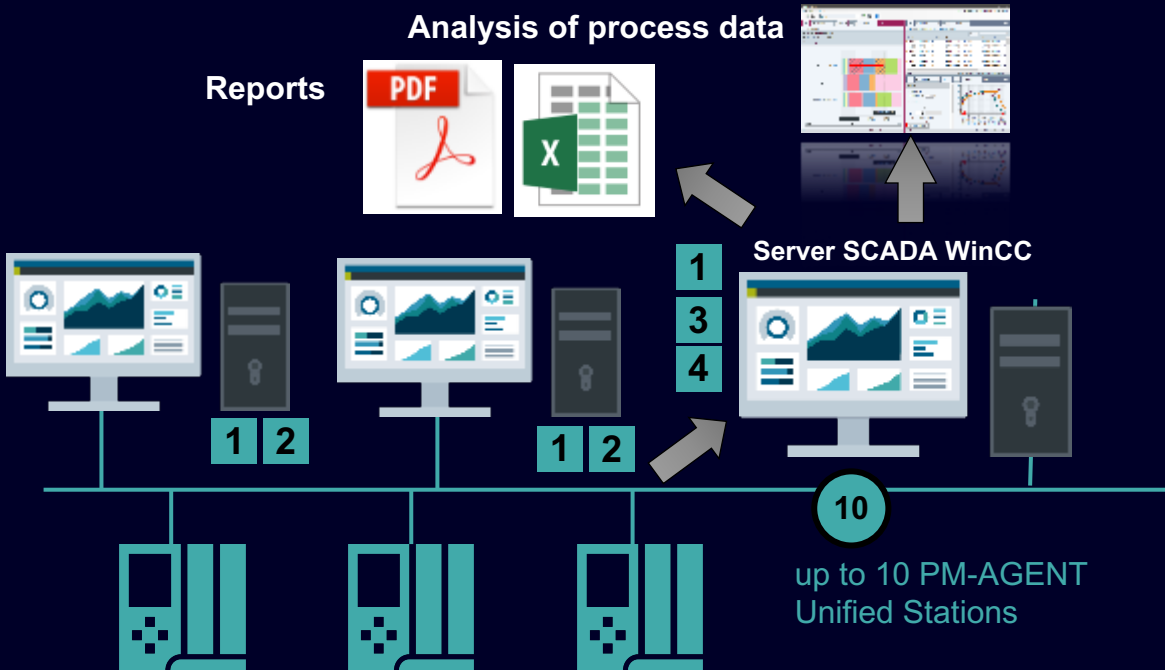


- Archiving and analysis of process data from
  - WinCC V7, V8, PCS 7, WinCC Professional / Advanced / Comfort / Unified
  - Event log of the operating system,
  - Third party via OPC DA/UA and text import
- Archiving, display and analysis of alarms
  - Even from multiple different systems in the correct time sequence
- Process value archives for historical data with flexible calculation and aggregation functions
- Comfortable trend and alarm viewer
  - As stand-alone application in the office
  - Integrated in HMI screens
- Report generation with Microsoft Excel

# WinCC Unified V20 and PM-Products

## PM-ANALYZE: Archives, analysis and reports

Unified Basic Panel  Unified Comfort Panel  WinCC Unified PC



### Additional Information

The PM-ANALYZE Server includes 1 Unified Client  
 For the PM-ANALYZE Server, a server operating system and a separate Microsoft SQL Server license is required.  
 PM-ANALYZE clients can be embedded into UCP / Unified PC screens

### 1.- Base Packages WinCC

WinCC Unified PC RT n  
[SIMATIC WinCC Unified Runtime](#)

### 2.- PM-AGENT Unified

- USB Dongle 9AE7 117-2SS01-1AA0
- License file 9AE7 117-2SS01-1AA1

### 3.- PM-ANALYZE Server

- 9AE7 112-1SS01-1AA0  
[PM-ANALYZE](#)

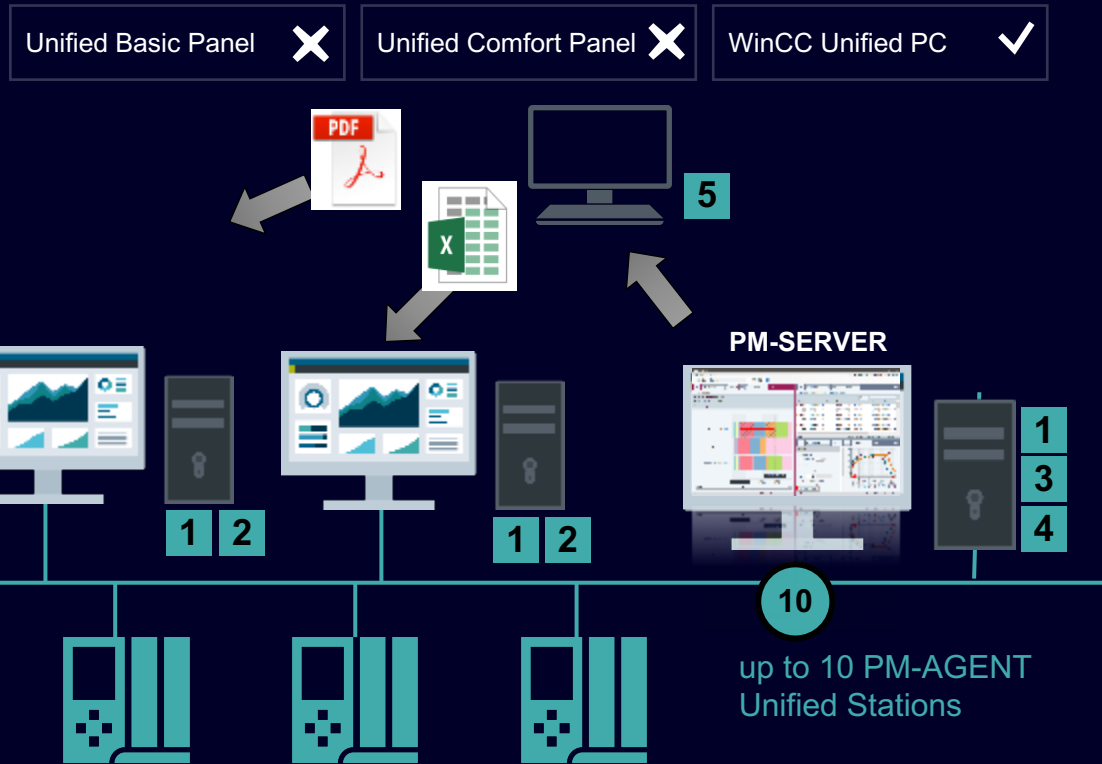
### 4.- PM-ANALYZE Unified Client Package

- 1 Unified Client 9AE7 112-4SW00-1AA0
- 3 Unified Clients 9AE7 112-4SW00-1AA1
- 10 Unified Clients 9AE7 112-4SW00-1AA2
- 30 Unified Clients 9AE7 112-4SW00-1AA3
- 100 Unified Clients 9AE7 112-4SW00-1AA4



# WinCC Unified V20 and PM-Products

## PM-ANALYZE & PM-WEB: Archives, analysis and reports with web access



### Additional Information

PM-WEB can be installed independently of the PM products on a separate computer, the connection to the PM products is made via the PM-API.

PM-WEB can be embedded into UBP, UCP and Unified PC screens

### 1.- Base Packages WinCC

WinCC Unified PC RT n  
[SIMATIC WinCC Unified Runtime](#)

### 2.- PM-AGENT Unified

- USB Dongle 9AE7 117-2SS01-1AA0
- License file 9AE7 117-2SS01-1AA1

### 3.- PM-ANALYZE Server

- 9AE7 112-1SS01-1AA0
- [PM-ANALYZE](#)

### 4.- PM-ANALYZE Unified Client Package

- 1 Unified Client 9AE7 112-4SW00-1AA0
- 3 Unified Clients 9AE7 112-4SW00-1AA1
- 10 Unified Clients 9AE7 112-4SW00-1AA2
- 30 Unified Clients 9AE7 112-4SW00-1AA3
- 100 Unified Clients 9AE7 112-4SW00-1AA4

### 5.- PM-WEB

- USB Dongle 9AE7121-1SW01-1AA0
- License file 9AE7121-1SW01-1AA1

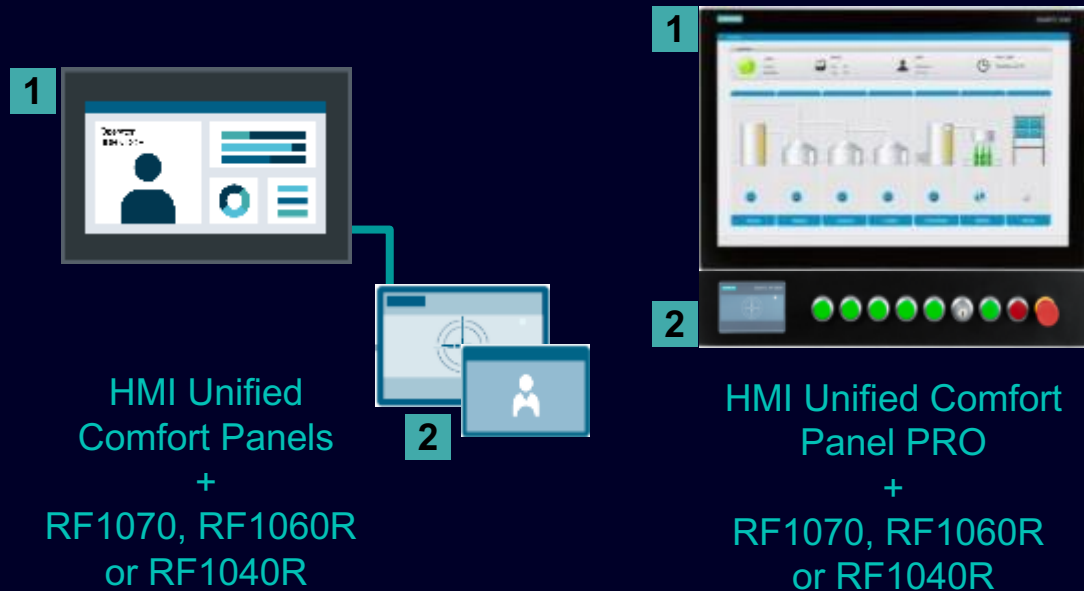
# User authentication



- RFID authentication
- Biometric authentication

# RFID authentication

Natively supported on the Unified Comfort Panel



## Additional Information

- No additional PM-LOGON license is necessary.
- User in Local User Management (UMAC)
- Supported exclusively through the desktop application; remote web clients are not supported
- Assign cards to users using Unified Control Panel
- All RF10x0-R Siemens readers are supported.

## 1.- Base Packages UCP or UCP PRO

[SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

[SIMATIC HMI Unified Comfort PRO \(12" – 22"\)](#)

## 2.- SIMATIC RFID Reader:

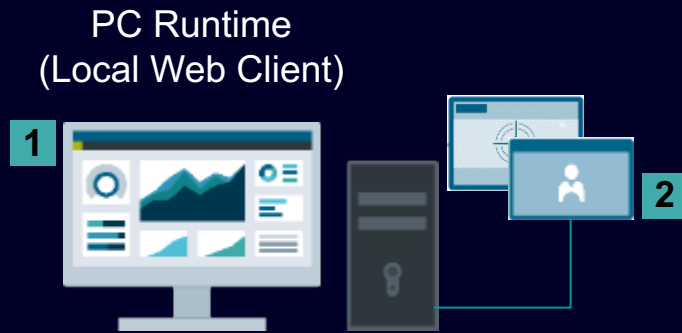
- Siemens RF1040R                      6GT2831-6CA50
- Siemens RF1060R                      6GT2831-6AA50
- Siemens RF1070R                      6GT2831-6BA50

Readers: [SIMATIC RF1000](#)

**Note:** Use RFID authentication with or without PIN !

# RFID authentication

Natively supported on the PC Runtime station (single-station)



## Additional Information

- No additional PM-LOGON license is necessary
- User in Local User Management (UMAC)
- Local web client only
- All SIMATIC RF10x0-R(USB) Siemens readers are supported.
- **Native RFID support on local PC from V20 Upd2**

## 1. Base Packages WinCC (native RFID support)

WinCC Unified PC RT n

[SIMATIC WinCC Unified Runtime](#)

## 2. SIMATIC RFID Reader:

- Siemens RF1040R 6GT2831-6CA50
- Siemens RF1060R 6GT2831-6AA50
- Siemens RF1070R 6GT2831-6BA50

Readers: [SIMATIC RF1000](#)

## Authentication

- State full & state less according to configuration
- Push card to card reader
- Login w/wo additional PIN

## Manage RFID settings of users added in

### My WinCC Unified:

- Assign cards
- Configure login via PIN
- Assign default PIN

# RFID authentication

## PM-Logon V3.0: Authentication via RFID Card Reader



Central Endpoint for PM-Logon Runtime

Server



User Repository:  
RFID tag to User teach-in

Configurator



Client component

Runtime

### New features in PM-LOGON 3.0



**Combined** repository for  
SIMATIC Logon & UMC devices



**Remote** PM-LOGON configurator  
for UMC installations



PIN support for  
SIMATIC Logon devices



Integrated software reader simulator

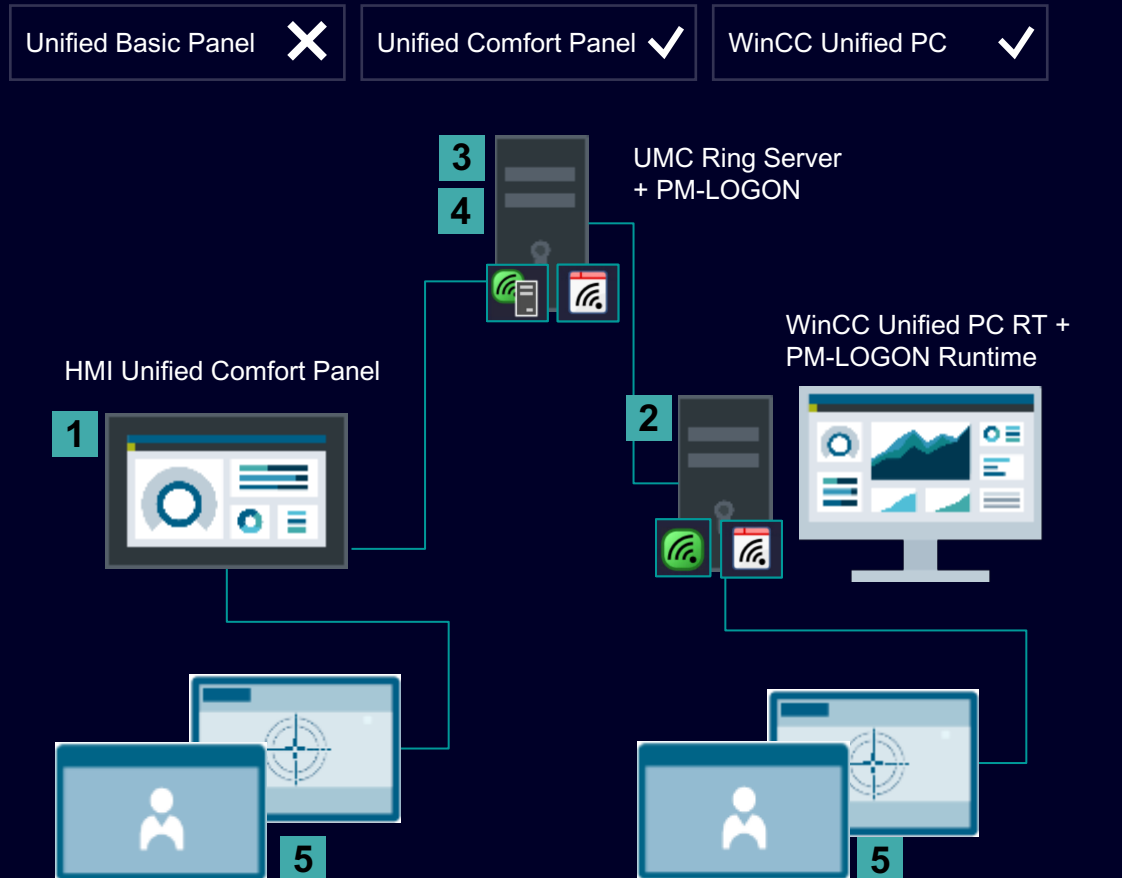


Support for the MD-34A tablet

**PM-LOGON V3.0** [SIOS \(109987463\)](#),

# RFID authentication at UCP & PT RT (Single-Station)

## PM-Logon V3.0 & UMC: User authentication and Central User Management



For WinCC Unified and UMC you must use RFID authentication with PIN !

Updates [SIOS \(109987466\)](#) & [User Manual SIOS\(109987686\)](#)

### 1.- Base Packages UCP, UCP PRO

[SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

[SIMATIC HMI Unified Comfort PRO \(12" – 22"\)](#)

### 2.- Base Packages WinCC

WinCC Unified PC RT n

[SIMATIC WinCC Unified Runtime](#)

### 3.- PM-LOGON UNIFIED basic package

- Install and configure PM-LOGON System package
- Include 10 users.
- Connect RFID Reader to HMI Unified PC
- Assign cards with PM-LOGON Configurator
- [MLFB: 9AE7123-1SS00-....](#)

### 4.- User Management Component

[Certificates for 100 user accounts - Rental / 365 days](#)

[Certificates for 4000 user accounts - Rental / 365 days](#)

[Certificates for 100 user accounts - Perpetual](#)

[Certificates for 1000 user accounts - Perpetual](#)

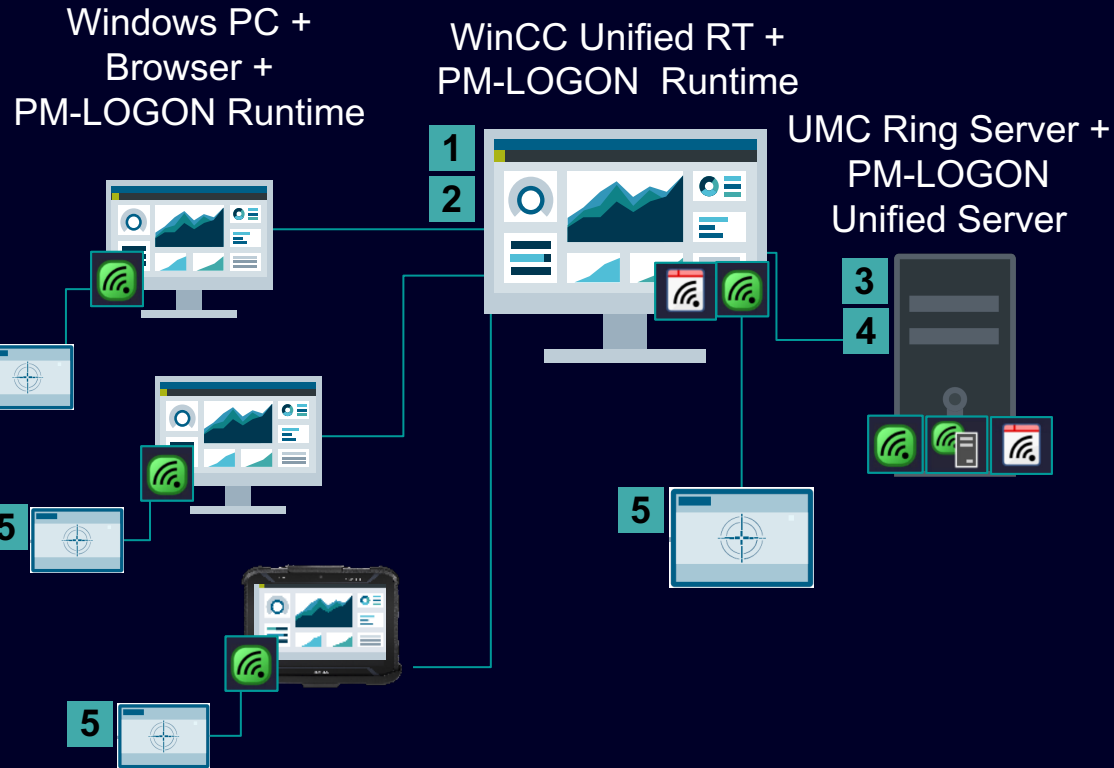
[Certificates for 4000 user accounts - Perpetual](#)

### 5.- RFID Reader

- All RF10x0-R Siemens readers are supported: [SIMATIC RF1000](#)

# RFID authentication at PC RT and Web Clients

## PM-Logon V3.0 & UMC: User authentication and Central User Management



### RFID authentication with PIN for WinCC Unified and UMC !

#### Additional Information

- Supported in V18 and V20 update 1

### 1.- Base Packages WinCC

WinCC Unified PC RT n  
[SIMATIC WinCC Unified Runtime](#)

### 2.- WinCC Unified Client

[SIMATIC WinCC Unified Clients](#)

### 3.- PM-LOGON UNIFIED basic package

- Install and configure PM-LOGON System package
- Include 10 users.
- Connect RFID Reader to HMI Unified PC
- Assign cards with PM-LOGON Configurator
- [MLFB: 9AE7123-1SS00-....](#)

### 4.- User Management Component

[Certificates for 100 user accounts - Rental / 365 days](#)  
[Certificates for 4000 user accounts - Rental / 365 days](#)  
[Certificates for 100 user accounts - Perpetual](#)  
[Certificates for 1000 user accounts - Perpetual](#)  
[Certificates for 4000 user accounts - Perpetual](#)

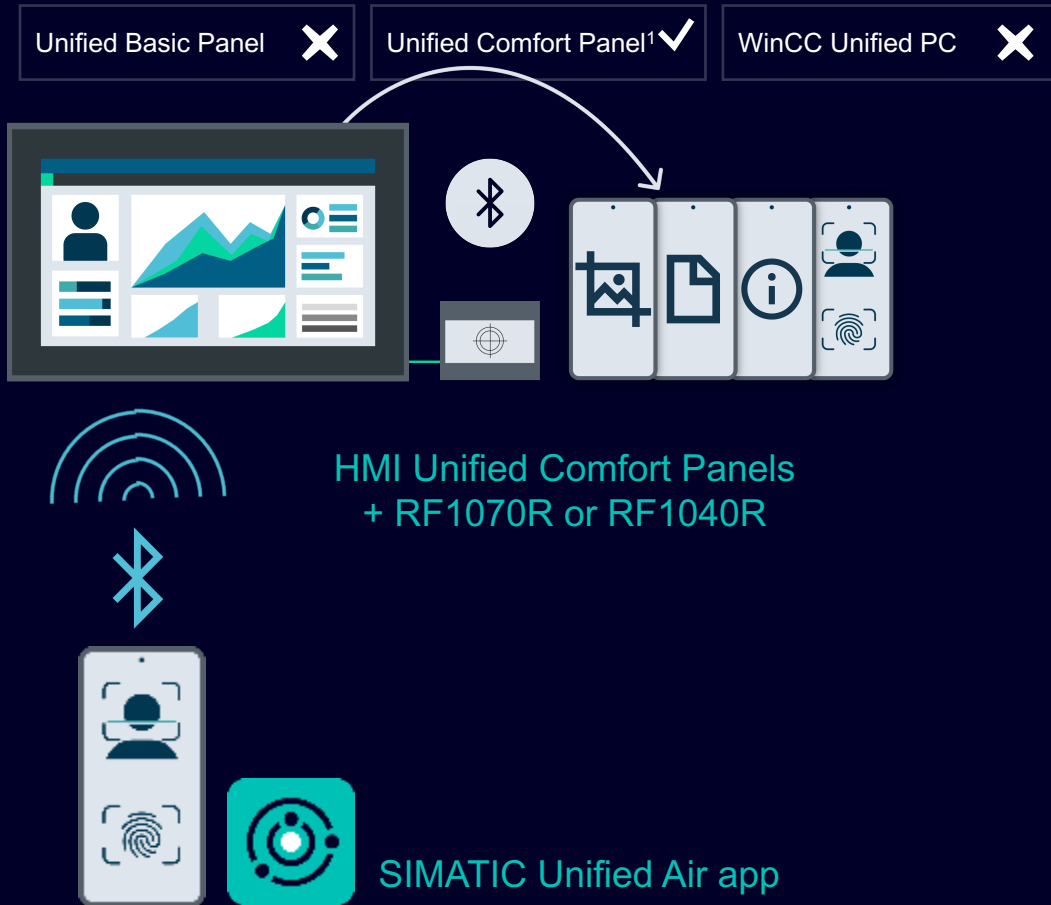
### 5.- RFID Reader

- All RF10x0-R Siemens readers are supported: [SIMATIC RF1000](#)



# Biometric authentication

## SIMATIC Unified Air app (iOS, Android)



1 As of V19 Update 1 | 2 As of UCP Image V20 Update 2

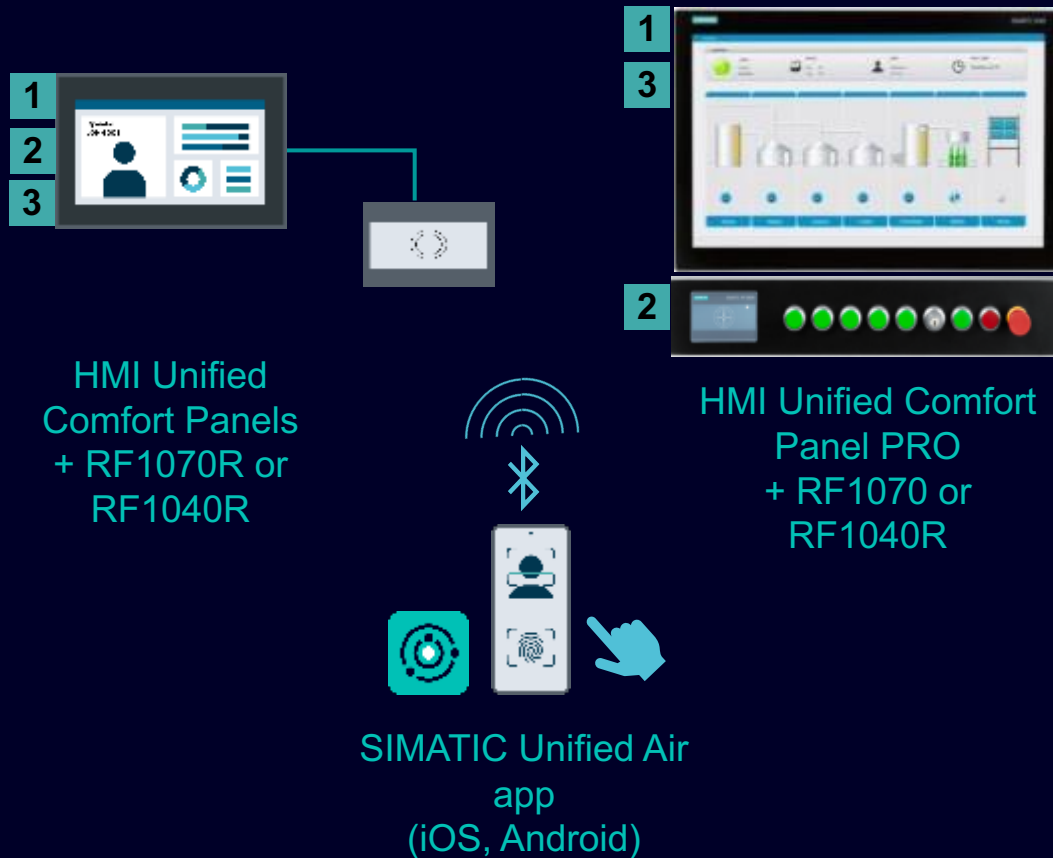
**Authenticate yourself on SIMATIC HMI Unified Comfort Panels with the fingerprint or face recognition sensors of your mobile device.**

- Built into Unified Comfort Panels
- Biometric data never leaves your mobile device.
- Find nearby Unified Comfort Panels and visualize whether someone, no one, or yourself is logged in.
- Support of Local User Management.
- Securely connect nearby devices through Bluetooth Low Energy with encrypted communication. Compatible with SIMATIC RF1000 readers as Bluetooth dongles (requires additional software).
- Generate & Download HMI Reports, Capture & Download HMI Screenshots Device Information<sup>2</sup>

Delivery Release Unified Air V2.0<sup>2</sup> via [SIOS \(109988254\)](#)

# Biometric authentication

## User Administration locally at the Panel



### 1.- Base Packages UCP or UCP PRO

[SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)  
[SIMATIC HMI Unified Comfort PRO \(12" – 22"\)](#)

### 2.- RFID Reader

- SIMATIC RF1070R MLFB: 6GT2831-6BA60
- SIMATIC RF1040R MLFB: 6GT2831-6CA60

Readers: [SIMATIC RF1000](#)

### 3.- SIMATIC Unified Air - Paper License

- SIMATIC Unified Air for SIMATIC HMI Unified Comfort Panels  
[6AV2151-0BR01-....](#)

### 3.- SIMATIC Unified Air App (iOS, Android)

- Free of charge

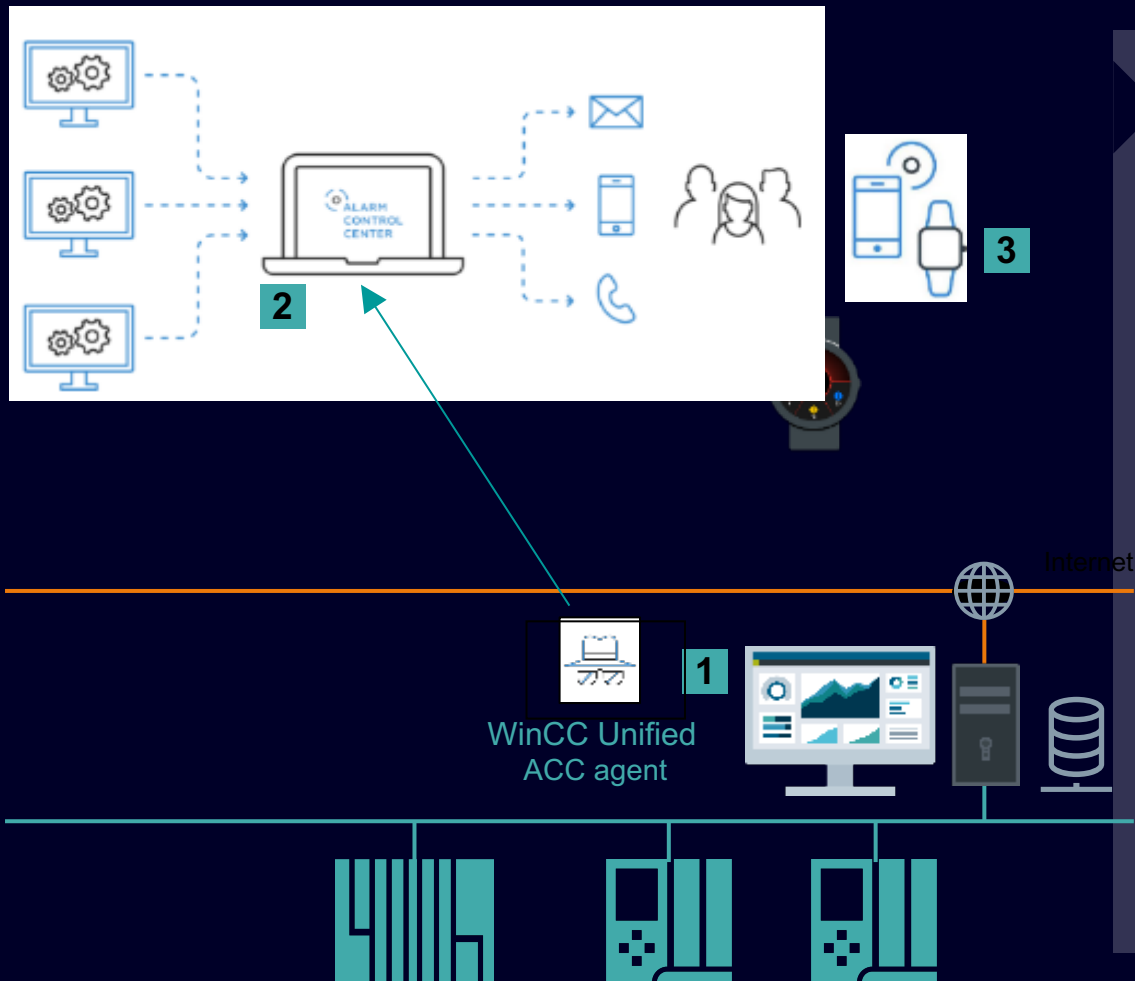
**Note:** The starter kit includes an RF1070R + Unified Air license:

[SIMATIC Unified Air Starter Kit](#)

# Partner Architectures



- Premium Addon: Alarm Control Center



### 1.- Base Packages WinCC

WinCC Unified PC RT n

[SIMATIC WinCC Unified Runtime](#)

### 2.- [Alarm Control Center ACC V24](#)

Alarm IT Factory GmbH

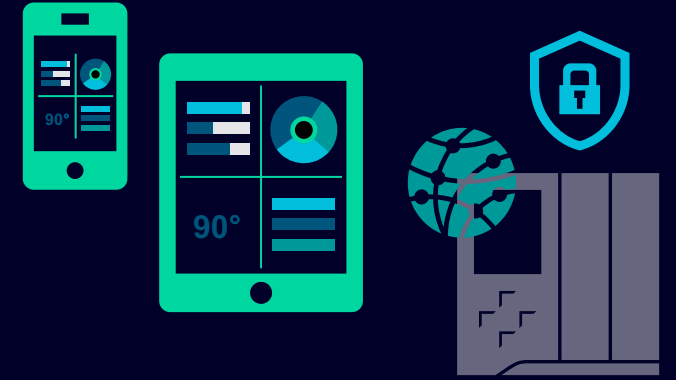
[www.alarm-it-factory.de](http://www.alarm-it-factory.de)

### Additional Information

The [Alarm Control Center Agent for WinCC Unified](#) can be easily **connected** to the process control system or visualization system via **agents**

A maximum of 20 agents can be connected to an ACC to receive messages from the connected system  
Maximum number: 50.000 messages in 24 hour

# SIMATIC WinCC Unified View of Things (VoT)

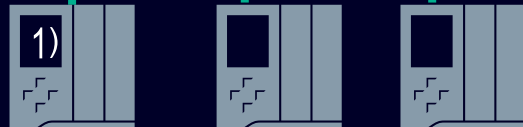


S7-1500

# WinCC Unified View of Things (VoT) Maintenance and service scenarios



Access with every  
HTML5 Web Browser



<sup>1)</sup>New Hardware for CPUs  $\leq 1516$   
as of **FW V3.0** & TIA Portal V18

## TIA Portal V17

- VoT is available for all S7-1500 controllers as of TIA Portal V17 (FW V2.9)

## TIA Portal V18 (FW V3.0)

VoT application is now also available for

- SIMATIC Software Controller
- via SINUMERIK Toolbox V18 for
  - SINUMERIK ONE and
  - SINUMERIK Motion Control

## User Administration

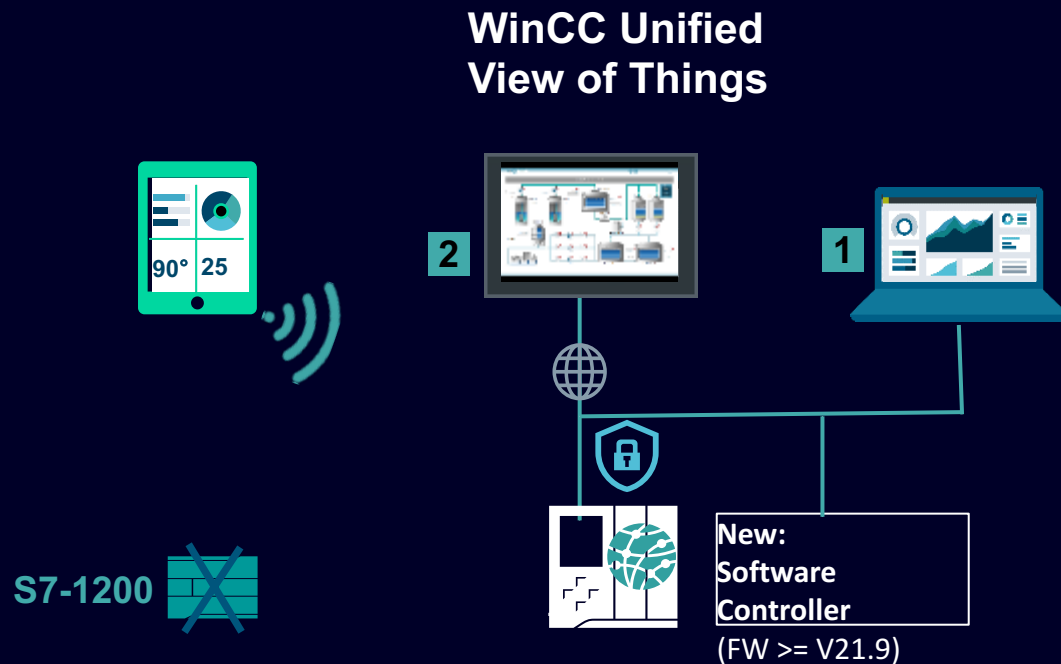
with S7-1500 Web Server

## Limits

- No faceplates, no symbol. IO fields / no text/graphic lists
- no alarms, archives, recipes
- no Controls
- Limitation to about 100 Tags

[WinCC Unified: View Of Things - VoT, Getting started](#)

# WinCC Unified View of Things (VoT) PLC Webserver Access



## Access to the S7-1500 Webserver

- UCP Access to the S7-1500 Webserver with the WinCC Unified Web Browser Control
- or Possibility of limited display of values from S7-1500 Web Server via WinCC Unified View of Things

## 1.- Engineering

[SIMATIC WinCC Unified Engineering\\*](#)

[SIMATIC STEP 7 Professional V20 Floating License](#)

## 2.- Remote Control via Web Clients

- [SIMATIC Industrial Thin Clients](#)
- [SIMATIC IPC MD-34A](#)
- [Web Panel 15"](#)
- Other web clients, like mobile phone.

**Note:** Creating web screens easily for PLC (S7-1500, ET200SP, SW Controller (min. FW 2.9 ) ) with SIMATIC WinCC Unified View of Things.

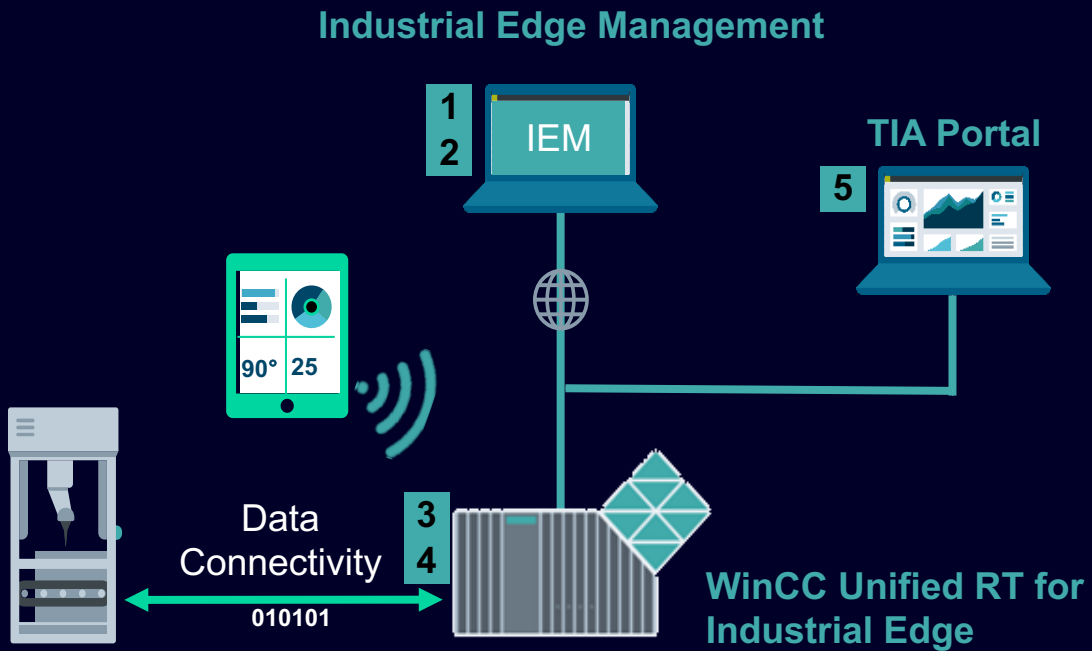
- -Maximum number of 10 screens
- -Maximum number of 100 tags

\* Comfort license minimum

# WinCC Unified for Industrial Edge



# WinCC Unified for Industrial Edge



For more information contact:

[Thomas Genau,\(DI FA HMI SW PPM\)](#)

Tutorial & manuals:

[How- To- Tutorial on Git Hub](#)

[Industry Online Support User manuals](#)

## 1.- Industrial Edge Hub Access

Get Initial Access to IE Hub

[S-DEX - Marketplace](#)

## 2.- Industrial Edge Management License – IEM

per managed Edge device per year

[S-DEX - Marketplace](#)

## 3.- Industrial Edge Devices - IED

MLFB : Device specific

## 4.- Industrial Edge App: WinCC Unified for Industrial Edge

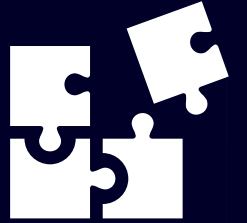
Runtime 2K5 Power Tags: [S-DEX - Marketplace](#)

## 5.-Engineering with TIA Portal

Hardware Support Package: [SIOS Download \(109963394\)](#)

WinCC Unified Comfort ES license or higher.

# Standardization



- Graphics **Industry Library**
- **SIMATIC Control Function Library (CFL)**
- **Process Orchestration with the MTP Integrator for WinCC Unified (UCP/PC)**

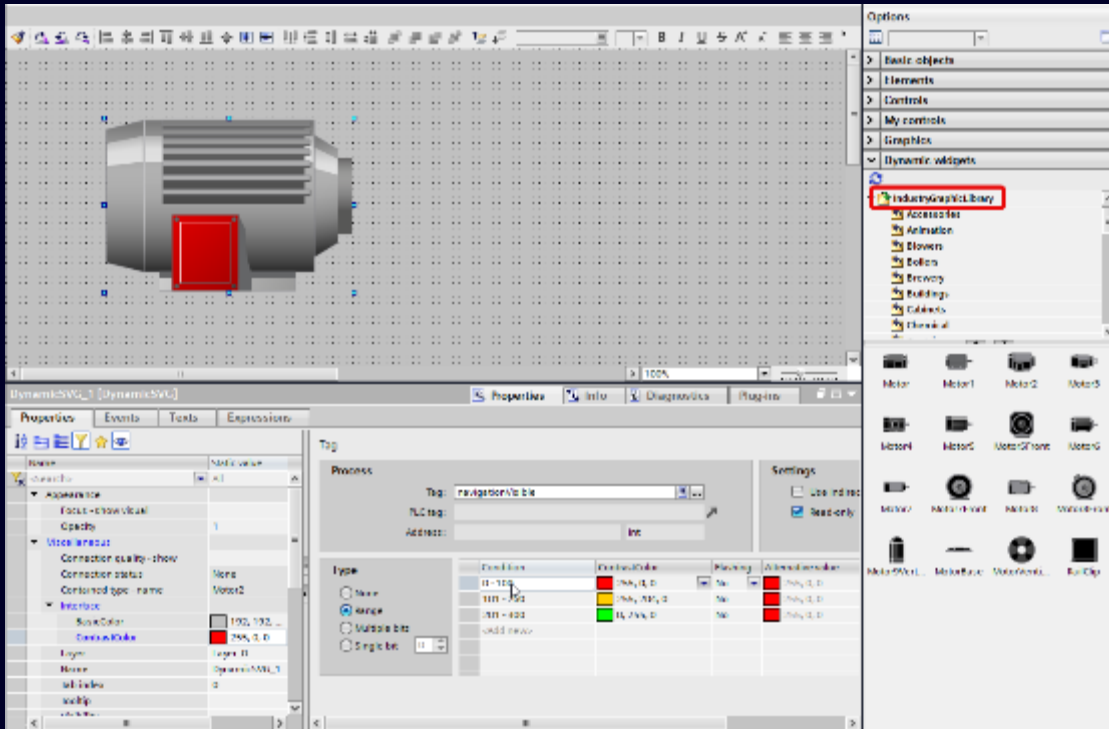
# Standardization

## Standardized Process Graphics to improve operator guidance with **Industry Library**

Unified Basic Panel ✓

Unified Comfort Panel<sup>1</sup> ✓

WinCC Unified PC ✓

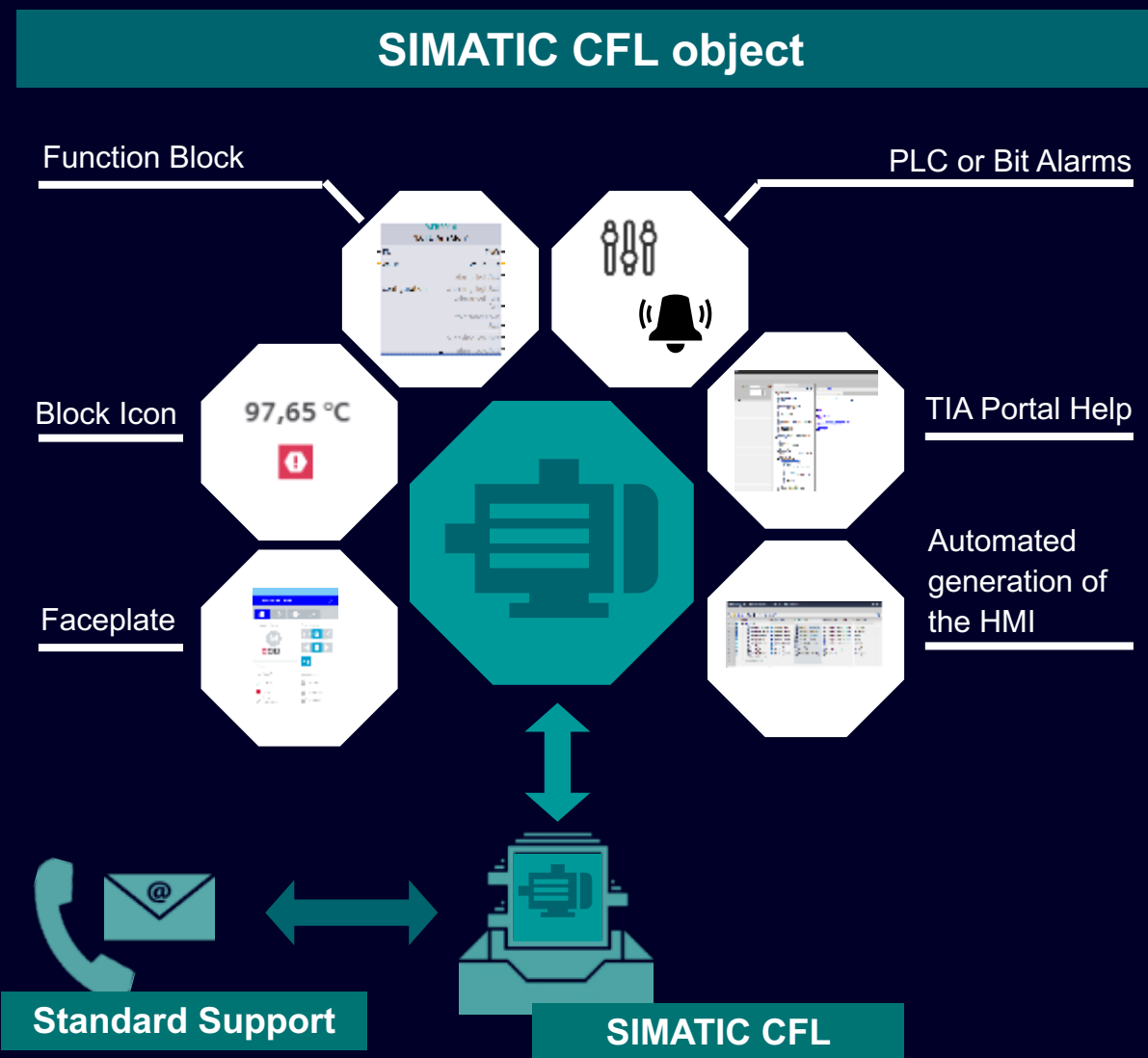


### Ready-to-use **Industry Library** for WinCC Unified

- 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

# SIMATIC Control Function Library

## Added value

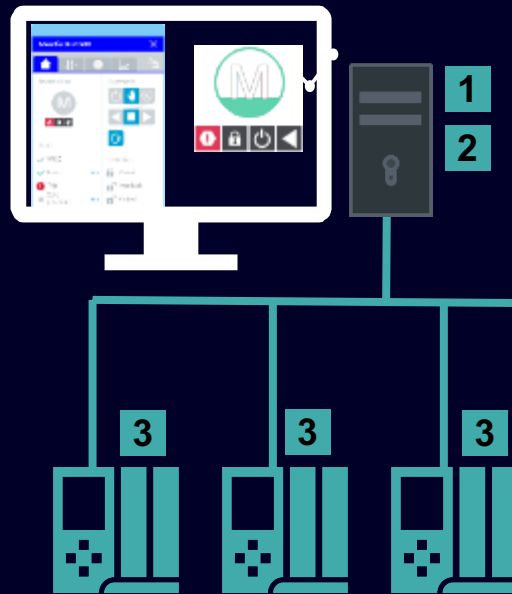


# Standardization


## SIMATIC Control Function Library - CFL



WinCC Unified PC RT



### [- More infos regarding CFL release](#)

SIMATIC CFL is ready for SIMATIC controller and SIMATIC WinCC Unified. The SIMATIC Control Function Library Vx.0 offers function blocks and faceplates for SIMATIC TIA Portal Engineering and WinCC Unified monitoring & control. Furthermore, dedicated functions for the modular type package (MTP) engineering based on  are an essential part of the library.

### 1.- Base Packages WinCC Unified

WinCC Unified PC RT n

[SIMATIC WinCC Unified Runtime](#)

### 2.- SIMATIC CFL Library for WinCC Unified PC RT\* [HMI Runtime License](#)

### 3.- SIMATIC CFL Library for PLC [S7\(AS\)Runtime License](#)

#### SW:

- TIA Portal
- SIMATIC STEP 7 Professional
- SIMATIC WinCC Unified PC Engineering System

#### HW:

- SIMATIC S7-151x / S7-121x, S7-Open/Software Controller
- SIMATIC HMI Unified Panel or Desktop

\* As of V20: HMI RT license for WinCC Unified PC RT only

# MTP is a cross-industry trend with WinCC Unified we can actively address the market!



Chemicals



Pharma



F&B



Batteries



Hydrogen



Marine



W&WW



Intralogistics

## MTP: the uprising standard for Plug & Produce in Process & Hybrid industries

hosted by:

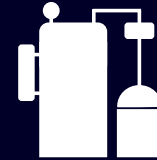


building on:



## We enable our customers to implement MTP based on our standard portfolio (PLCs, HMIs, TIA Portal, ...):

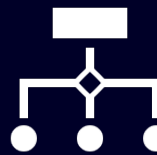
1



**OEMs-Enablement:**  
enable the delivery of MTP-compliant process equipment



2



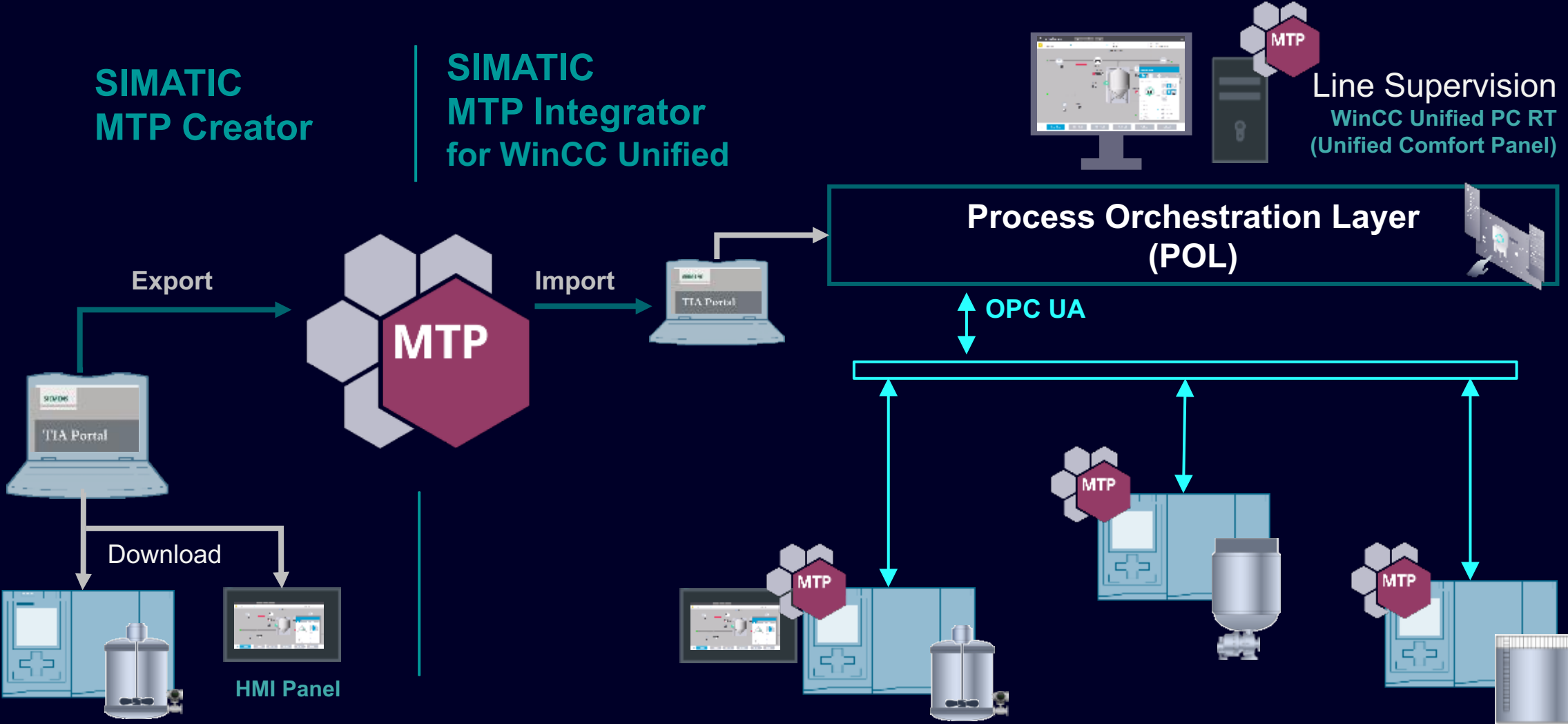
**Plant Operators & System Integrators:**  
orchestrate modular plants with WinCC Unified



[SIMATIC Module Type Package \(MTP\) - Overview SIOS\(109795370\)](#)

# Modular Automation Workflow

## Module Engineering and Runtime Orchestration

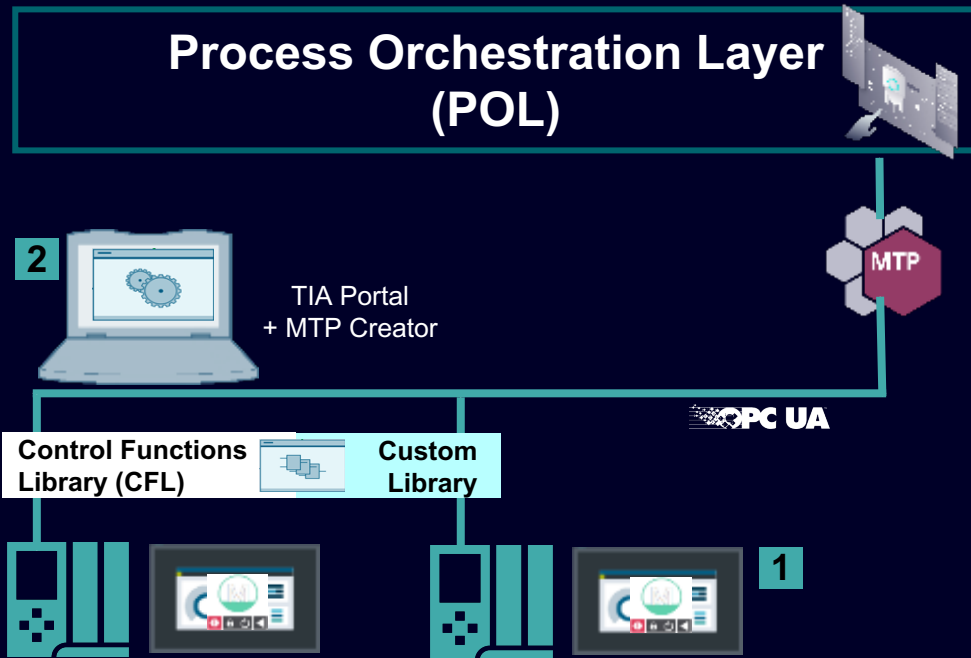




# OEMs-Enablement:enable the delivery of MTP-compliant process equipment

## MTP Creator with Control Function Libraries (CFL)

Unified Basic Panel ✕    Unified Comfort Panel ✓    WinCC Unified PC ✓



Quickly use modules in demanding applications. Module Type Package MTP information here: [Modular Automation \[Standard. Modularity. Flexibility.\] Module Type Package \(MTP\) flexible production for changing demands in challenging environments | Highspot](#)

### 1.- Base Packages WinCC / HMI Unified Panel SIMATIC HMI Unified Comfort Panel

### 2.- OEM – MTP-based Machines 1 x SIMATIC MTP Creator (Vx.0)

#### SW:

- TIA Portal (as of V17)
- SIMATIC STEP 7 Professional
- SIMATIC WinCC Unified PC Engineering System

#### HW:

- SIMATIC S7-151x, S7-Open/Software Controller
- SIMATIC HMI Unified Panel or Desktop

#### Note:

- [Application Example for SIMATIC Control Function Library and SIMATIC MTP Creator](#)

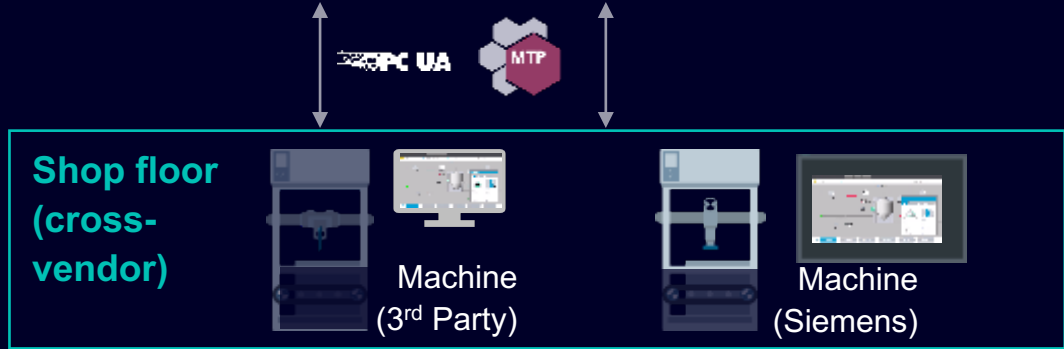
[- More infos: MTP Creator release](#)



# WinCC Unified – Process Orchestration

## MTP Integrator<sup>1</sup> for WinCC Unified (Special sales release)

Unified Basic Panel ✗    Unified Comfort Panel ✓    WinCC Unified PC ✓



**Integrate standardized MTP package units / machines in WinCC Unified, including PLC and HMI components**  
Standardized, line operation of package units / machines

**Use MTP files (Siemens or 3rd party) to integrate (cross-vendor) machines automatically:**

By instantiating the machine type within your project, the OPC UA connections, PLC tags and HMI components are created with just one click.

**Controlling complete units / machines in an abstract way**

- Operators can focus on the production without needing to understand details of each multi-vendor machine.
- Maximized operational efficiency, reduced training effort and consistency regarding operation, even if new modules are added modified due to changing market demands.

[SIMATIC Module Type Package \(MTP\) - Overview SIOS\(109795370\)](#)

**No. of Package Units / Machines :** Unified PC RT: 10 // Unified Comfort Panel: 3

<sup>1</sup> released separately [SIOS \(109982993\)](#)



# WinCC Unified – Process Orchestration MTP Integrator

- Unified Basic Panel ✗
- Unified Comfort Panel<sup>1</sup> ✓
- WinCC Unified PC ✓



Quickly use modules in demanding applications. Module Type Package MTP information here: [Modular Automation \[Standard. Modularity. Flexibility.\] Module Type Package \(MTP\) flexible production for changing demands in challenging environments | Highspot](#)

## 1.- Base Packages WinCC Unified PC / HMI Unified Panel SIMATIC WinCC Unified Runtime

## 2.- SIMATIC MTP Integrator for WinCC Unified 1 x SIMATIC MTP Integrator (Vx.x)

**SW:**

- TIA Portal (as of V20)
- SIMATIC WinCC Unified PC Engineering System

**HW:**

- SIMATIC HMI Unified Panel or PC Runtime

**Note:**

- If the 3rd party is not MTP ready a Edge device as proxy interface can be used.

[- More infos: MTP Integrator release](#)

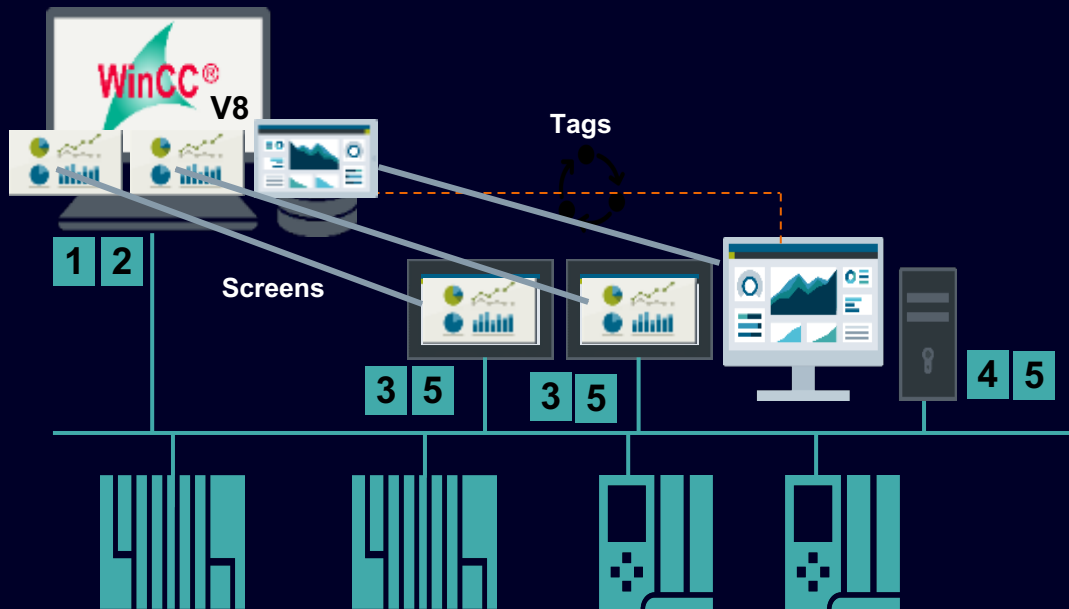
# Mixed architectures with SIMATIC WinCC V8



- Operator control and monitoring with **Collaboration** between WinCC V8 and WinCC Unified
- Operator control and monitoring by **Web Access** between WinCC V8 and WinCC Unified
- WinCC V8 Server with **Redundancy and additional HMI** from OEM (Unified Collaboration)

# Mixed architectures with SIMATIC WinCC V8

Operator control and monitoring by **Collaboration** between WinCC V8 and WinCC Unified



**Unified Collaboration** enables to share information (screen and tags) with other HMI devices. Both HMI devices must be configured accordingly and located in one network. Unified Collaboration supports cross-project access. To display the screens of the Collaboration device in runtime, use screen windows.

## 1.- SIMATIC WinCC V8.0

The Collaboration's connected tags do not count in the project PowerTag counting.  
[WinCC V8 RT n](#)

## 2.- WinCC V8 Connectivity Pack

[WinCC/Connectivity Pack](#)

## 3.- Base package: Unified Panels

[SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

## 4.- Base Packages WinCC

WinCC Unified PC RT n

[SIMATIC WinCC Unified Runtime](#)

## 5.- WinCC Unified Collaboration

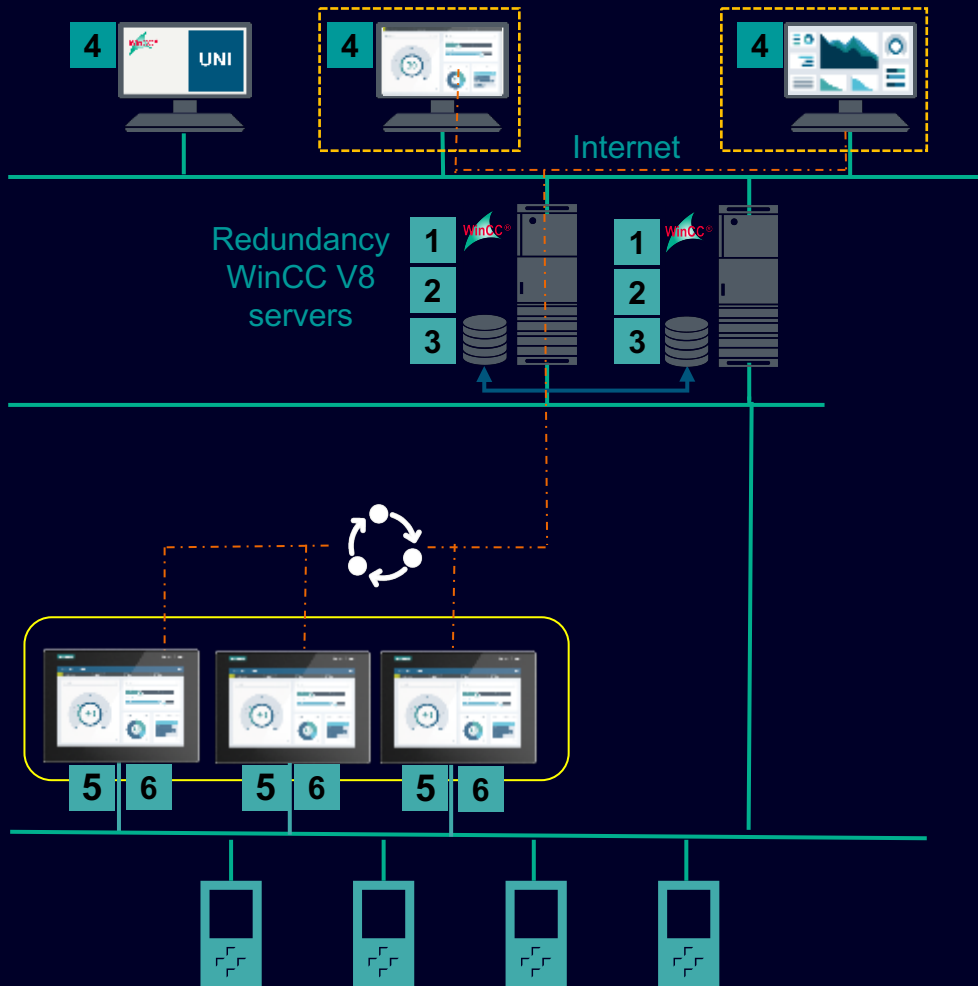
Collaboration licenses are required for all Unified participants!

[MLFB: 6AV2154-0BR...](#)



# Mixed architectures with SIMATIC WinCC V8

## WinCC V8 Server with Redundancy and additional HMI from OEM



### 1.- SIMATIC WinCC V8.0

The Collaboration's connected tags do not count in the project PowerTag counting.  
[WinCC V8 RT n](#)

### 2.- WinCC Connectivity Pack

[WinCC/Connectivity Pack](#)

### 3.- Server

[WinCC Server](#)

### 4.- WinCC RT Clients

[WinCC RT Clients](#)

### 5.- Base package: Unified Panels

[SIMATIC HMI Unified Comfort Panels \(7 – 22"\)](#)

### 6.- WinCC Unified Collaboration

WinCC Unified Collaboration (3x1)

[MLFB: 6AV2154-3JR...](#)

# WinCC Unified Architectures

## Content

Time	Topic
1	WinCC Unified Basic System
2	WinCC Unified Options for UCP and PC
3	WinCC Unified SCADA Options
4	WinCC Unified PI Options
5	TIA Portal Options
6	Advanced Architectures
7	<b>Additional Information</b>

# Get started smoothly with the WinCC Unified System Supporting Materials

## Tutorial Center

Video series for an easy start with the WinCC Unified System. Learn all the things you need to get started smoothly.



## Template Suite

Ready-to-use screen templates for PC Systems and the Unified Comfort Panels in a free TIA Portal library incl. Wizard.



## Get started or modernize

Everything you need know when you want to switch from an existing visualization to the WinCC Unified System



Find all the supporting materials for the WinCC Unified System at a glance

<https://support.industry.siemens.com/cs/ww/en/view/109777887>

Modernize **NOW**:

[www.siemens.com/modernize-now](http://www.siemens.com/modernize-now)

# WinCC Unified System

## Additional Information

### Slides & Demos

- Ordering Information
- System Overview
- HMI Unified Comfort Panels
- WinCC Unified VoT
- Architecture and typical configurations

### Community

- Know-How Transfer (Tutorial Center, Demo projects, SIOS Topic page)
- Tips & Tricks Collections
- Technical & Screencasts
- GitHub

### And more ...

- Demos
- References
- MarCom Overview
- Teaser Videos
- Flyer

**WinCC Unified System**  
[WinCC Unified \(Highspot\)](#)

**Information System**  
[WinCC Unified](#)  
[Panel Modernization](#)

**TIA Selection Tool**  
[TIA Selection Tool](#)

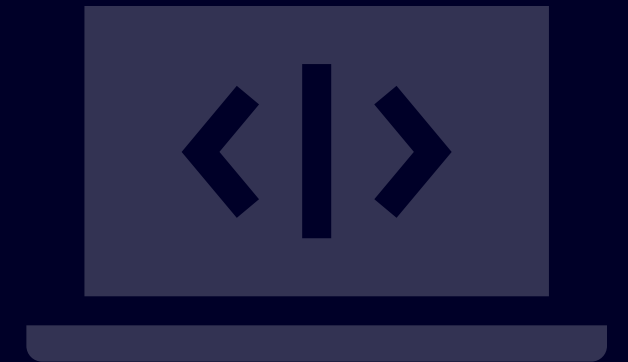
**Viva Engage**  
[WinCC Unified Community](#)

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- Software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)
- This product includes cryptographic software written by Eric Young ([eay@cryptsoft.com](mailto:eay@cryptsoft.com))
- This product includes software developed by Eric Young ([eay@cryptsoft.com](mailto:eay@cryptsoft.com))
- Portions were derived from the RSA Data Security, Inc. MD5 Message-Digest Algorithm
- This product includes software developed by Bodo Moeller



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"Contains portions or was derived from the RSA Data Security, Inc. MD5 Message-Digest Algorithm"