



Industry Information Live

Fremtidens visualiseringsplatform – WinCC Unified

Velkommen




SIEMENS
Ingenuity for Life

SIEMENS
Ingenuity for Life

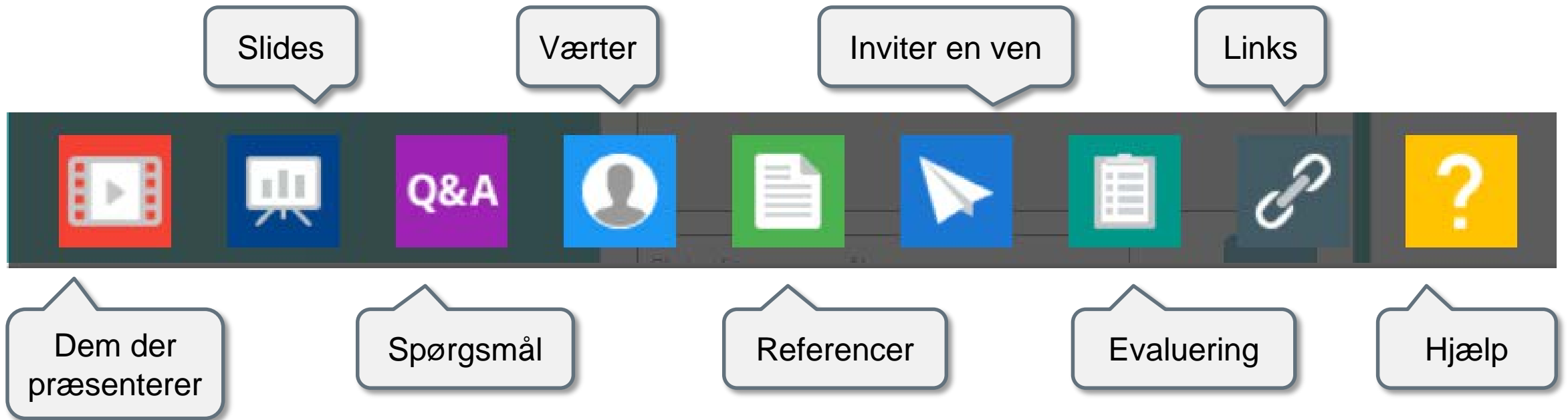
Industry Information Live: Fremtidens visualiseringsplatform - WinCC Unified



Værter

- **Moderator Lars-Peter Hansen**
Technology Specialist
Manager
Siemens Digital
Industries
[in](#) [✉](#)
- **Kim Meyer-Jacobsen**
Technology Specialist
Siemens Digital
Industries
[in](#) [✉](#)
- **Per Møller Hemmingsen**
Technology Specialist
Siemens Digital
Industries
[in](#) [✉](#)





Agenda

Webinar - WinCC Unified

- An overview
- WinCC Unified Hardware
- WinCC Unified software runtime
- WinCC Unified software engineering



The Hosts



Kim Meyer-Jacobsen - Technology Specialist



Per Møller Hemmingsen - Technology Specialist

Moderator – Lars-Peter Hansen





**The future of
industrial visualization
is changing.....**

If you want to master this change you have to deal with...

SVG **Web Technology**
Scalability Manufacturing IT Collaboration Object orientation
Openness **Plant Intelligence**
Device independency
Engineering Automation **One Engineering** Everywhere **Data Backbone**
Access
On Premise IT-Integration Edge computing Connectivity HTML5
Digitalization **Cloud Connectivity** Usability

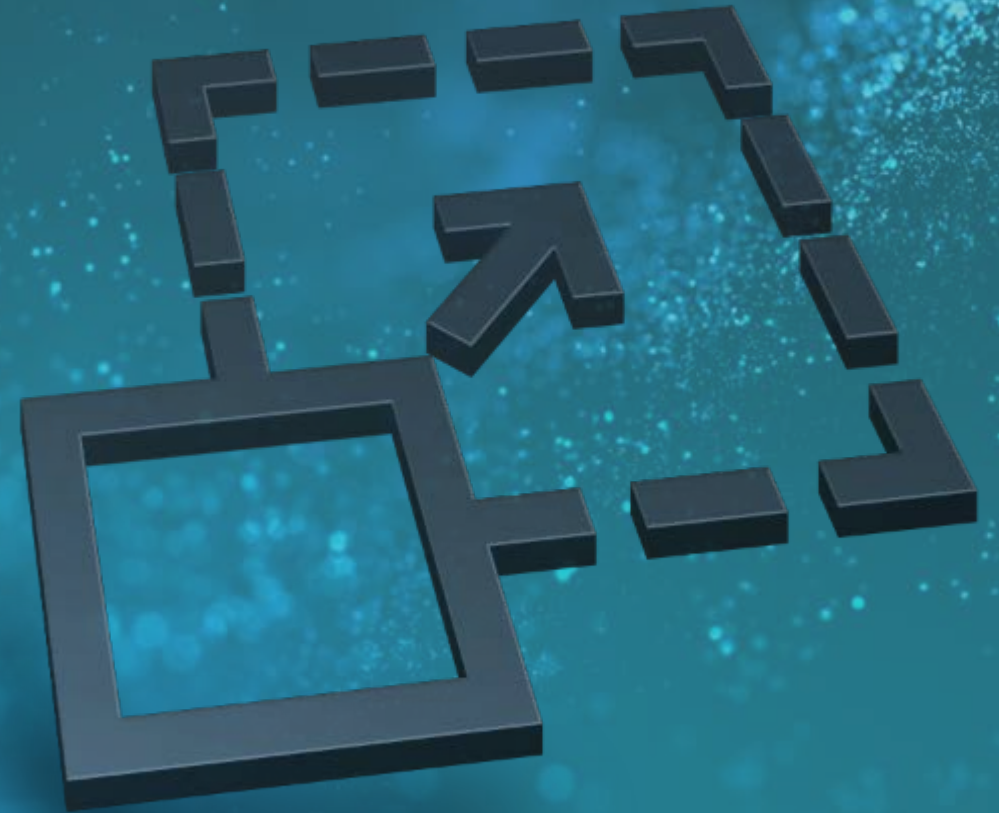
– ”

 These topics define the requirements for the HMI systems of the next decade.

Device independent
visualization based
on Web
technologies



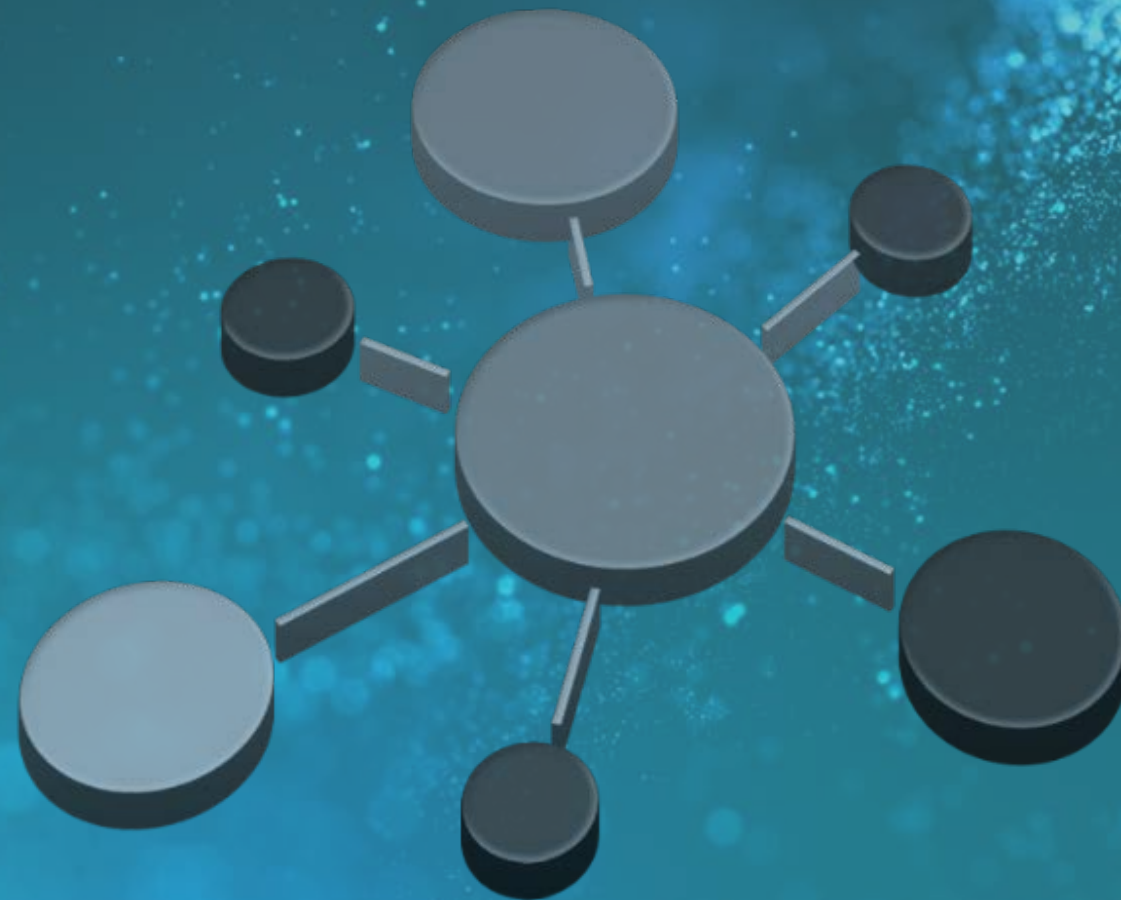
**One visualization
system from machine
level to control center**



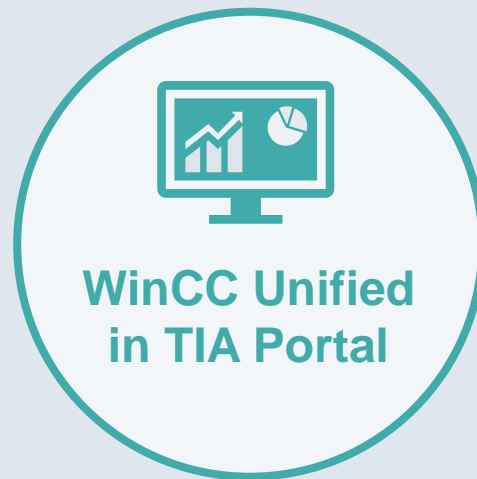


**High-End operator
panels with
Multitouch
and the ability to
use apps**

Open Interfaces, to connect and integrate IT- Tools



We meet these requirements with the new WinCC Unified system!

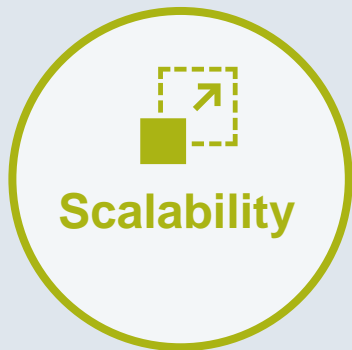


We meet these requirements with the new WinCC Unified system!



- Native Web Technology, HTML5, SVG, JavaScript
- Device independent
- Object oriented – HMI

We meet these requirements with the new WinCC Unified system!



- One Engineering
- Unified Comfort Panels
- WinCC Unified PC
- Collaboration

We meet these requirements with the new WinCC Unified system!



- On Premise
- Unified @Cloud
- Unified @Edge
- MindSphere Apps

We meet these requirements with the new WinCC Unified system!



- Basis for Digitalization
- Plant Intelligence
- Integration Platform for everything north of the PLC
- Openness

WinCC Unified system components



... scalable from operator panel to control center

... expandable to fit every application

... on premise data backbone

... with proven engineering in the TIA Portal

WinCC Unified is a system



It is Software and Hardware!

Lets take a look at the hardware

SIMATIC HMI Unified Comfort Panels

Resolution and mounting compatibility

SIEMENS
Ingenuity for Life

Comfort Panel



4.3"

480 x 272



7.0"

800 x 480



9.0"

800 x 480



12.1"

1,280 x 800



15.4"

1,280 x 800



18.5"

1,366 x 768



21.5"

1,920 x 1,080

Unified Comfort Panel



7.0"

800 x 480



9" → 10.1"

1,280 x 800

Enlarge
Cut-Out



12.1"

1,280 x 800



15.6"

1,366 x 768

Mounting
frame



18.5"

1,920 x 1,080

Mounting
frame



21.5"

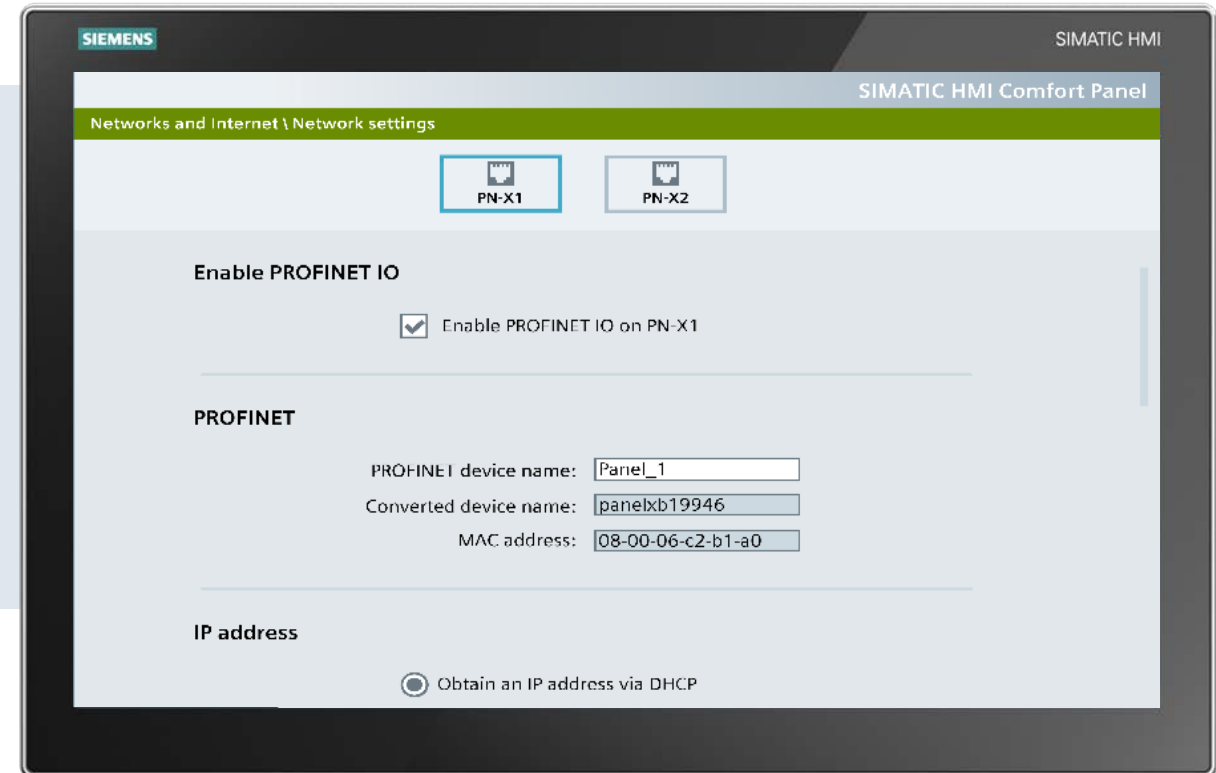
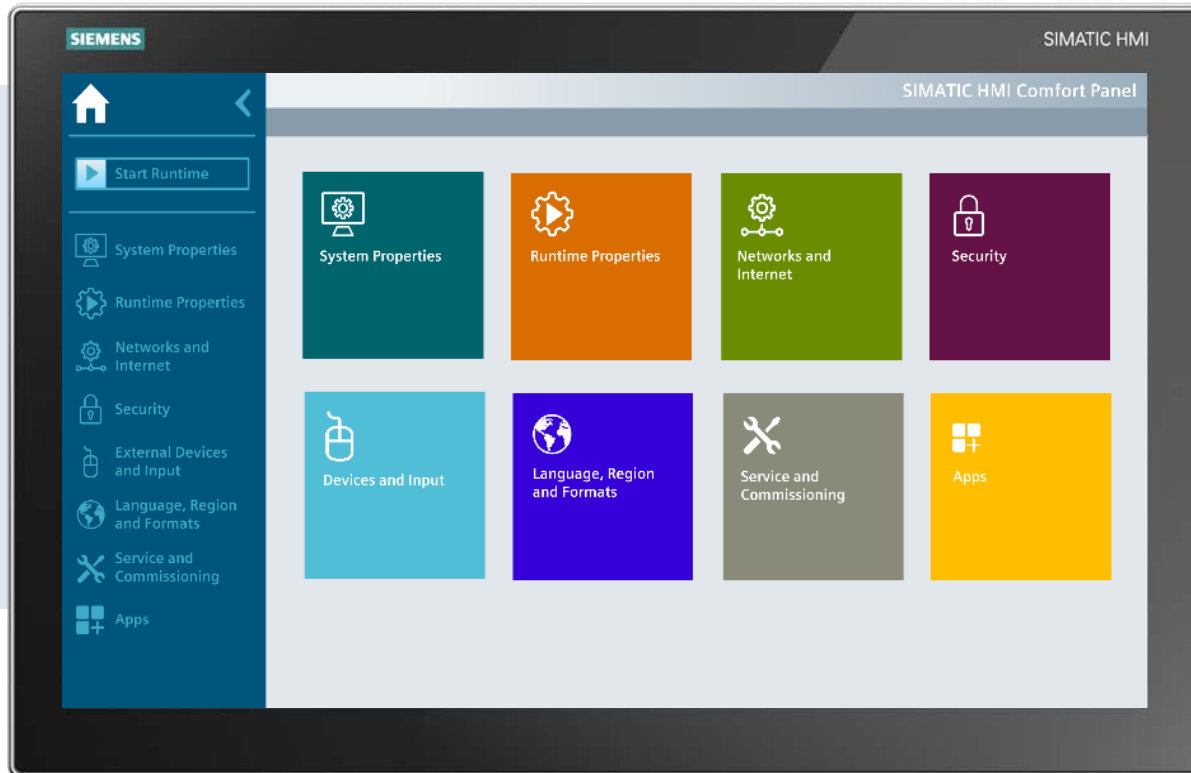
1,920 x 1,080

Mounting
frame

SIMATIC HMI Unified Comfort Panel

Completely new designed control panel

SIEMENS
Ingenuity for life



- New look for the Control Panel - optimized for touch devices
- User has only access to control panel UI – not operating system UI

SIMATIC HMI Unified Comfort Panels

Remote control

Step 2

Synchronous Access via app (VNC)



Remote
control



Asynchronous Access via browser (web-client)



SIMATIC HMI Unified Comfort Panel

Increased system performance

	Comfort Panel 7 – 12"/15 – 22"	Unified Comfort Panel 7 – 12"/15 – 22"
PLC-Connections	8	16
Tags	2,048 / 4,096	8,000
Alarms	4,000 / 6,000	9,000
Archives	50	50
Logging Tags	2,048	5,000
Scripts	100 / 200	600
Text-/Graphic list	500	750
Screens	500 / 750	1,200
- Objects per screen	400 / 600	800 / 1,200
- Tags per screen	400	600 / 800

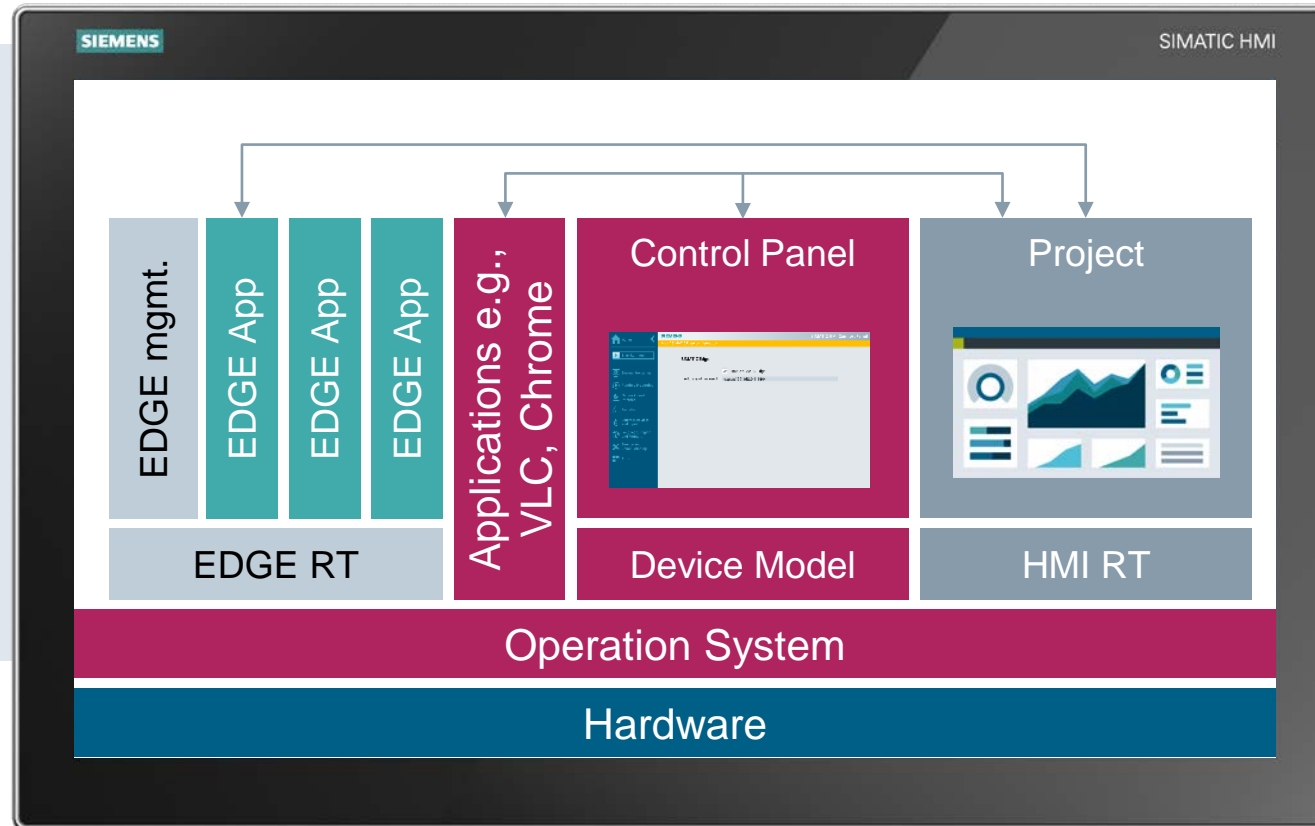
Increased quantity structure
from 7" to 22"

Doubled quantity structure
compared to Comfort Panel

Differentiation only for
tags and objects per screen

SIMATIC HMI Unified Comfort Panel

System architecture



WinCC Unified is a system



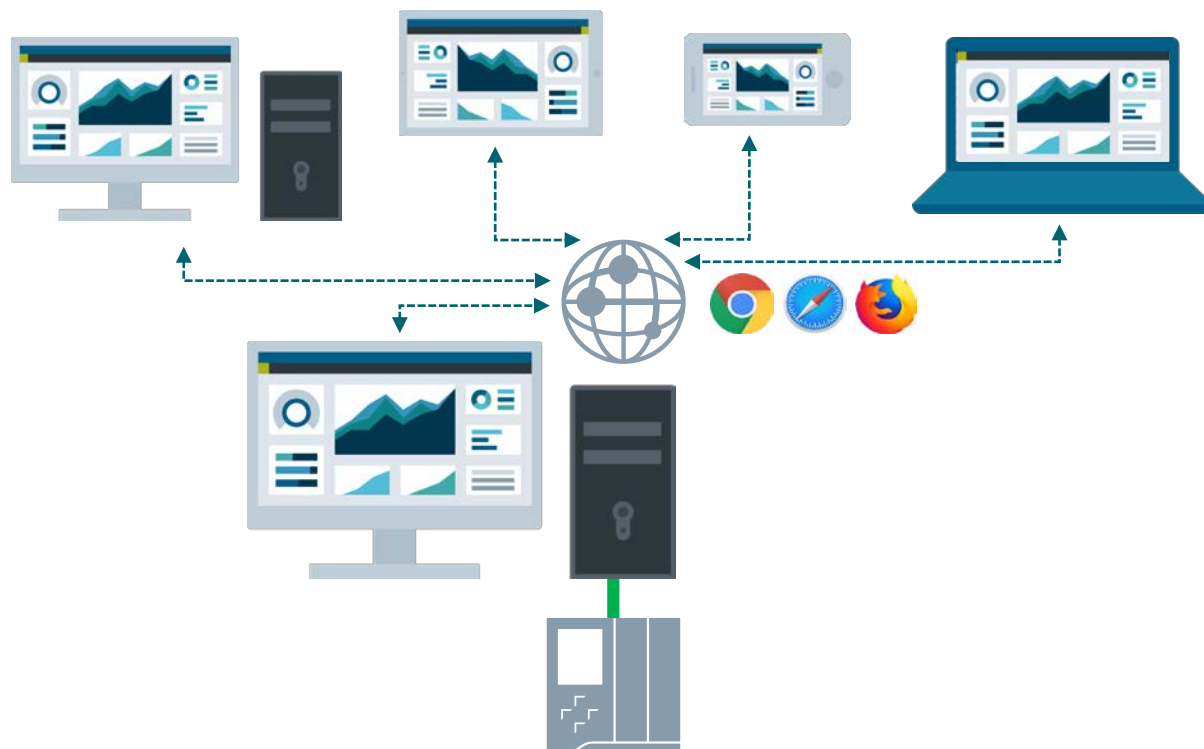
It is Software and Hardware!

Lets take a look at the **software**

WinCC Unified – Clients

Flexible webbased, remote Monitoring and Operation

SIEMENS
Ingenuity for life



Unified Comfort Panel 

PC 

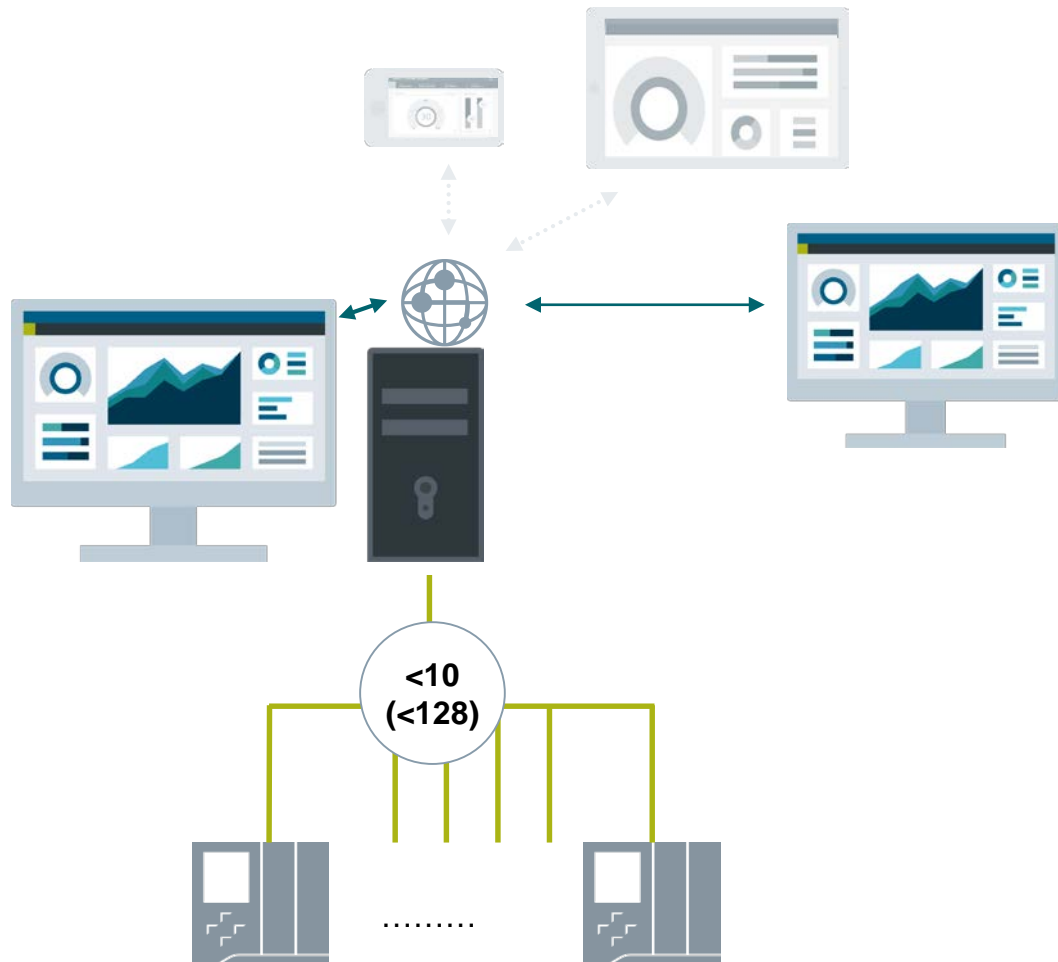
“Zero Installation” Clients, based on native web technology, independent of platform and browser

Flexible, maintenance free 24/7 remote access due to pooled license (concurrent access)

Secure remote access using Web standards (https with SSL)

SIMATIC WinCC Unified PC Systems

SIEMENS
Ingenuity for life



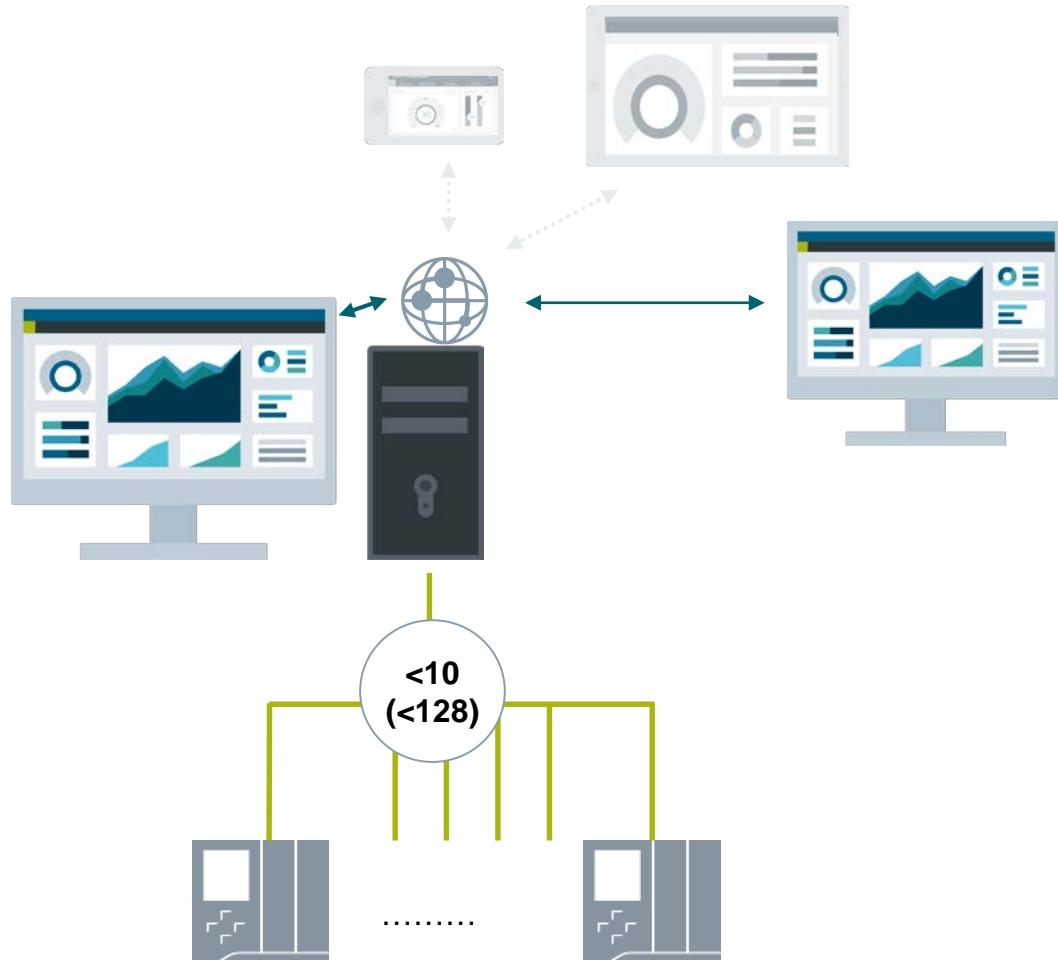
Grow from small to large applications

What is included:

- **Openness** (Engineering, Runtime, Custom web controls) and **Scripting**
- **2 Clients included** one for local HMI plus one for remote access
- **S7 connections** (up to 10)
- OPC UA DA Server & Client
- **Reporting** (manual)
- **Object oriented Technological Hierarchy**

SIMATIC WinCC Unified PC Systems

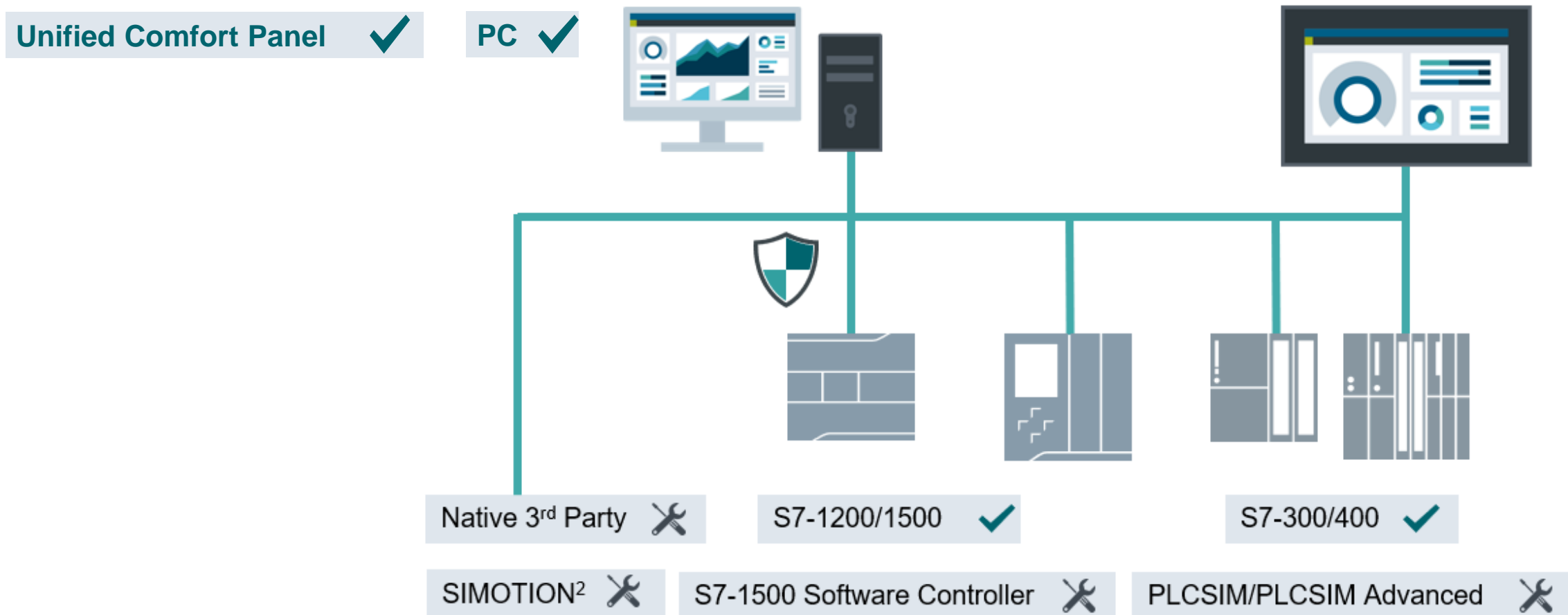
SIEMENS
Ingenuity for life



Expandable via options

- S7 connections up to 128
- Logging concept (w/o, file-based, databased)
- Logging tags (file-based up to 5000, databased no limit)
- Additional Concurrent Clients (up to 150)

WinCC Unified – Connectivity To automation systems

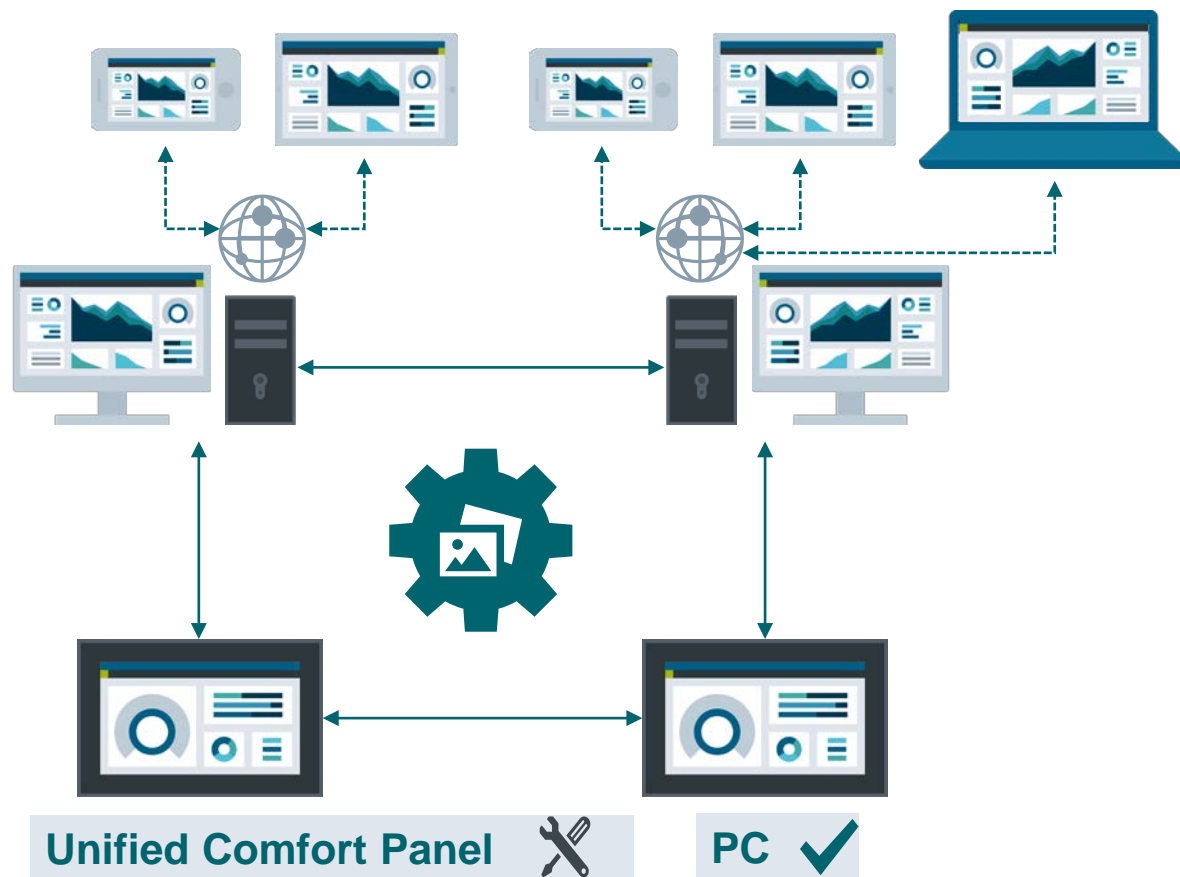


Native 3rd Party¹ communication via Channel Support Package e.g., Modbus TCP, Allen-Bradley EtherNet/IP, ...

¹ In preparation ² only tag communication via OPC UA DA

WinCC Unified – Collaboration

Establish distributed configurations




Enabler for distributed system architectures with panel and PC systems

Modular and decentralized production units collaborate by sharing information between Unified stations

Direct access to screens of different units e.g., for line supervision

WinCC Unified V16 Preconditions

Operating System (PC-systems)	Configuration	Remark
Windows 10 Pro	<ul style="list-style-type: none"> Windows 10 Pro Version 1809 Windows 10 Pro Version 1903 	 Windows 10
Windows 10 Enterprise	<ul style="list-style-type: none"> Windows 10 Enterprise Version 1809 Windows 10 Enterprise Version 1903 	64-Bit
Windows 10 IoT Enterprise LTSB (Test for IPC)	<ul style="list-style-type: none"> Windows 10 IoT Enterprise 2015 LTSB Windows 10 IoT Enterprise 2016 LTSB Windows 10 IoT Enterprise 2019 LTSC 	
<ul style="list-style-type: none"> Windows Server 2012 R2 StdE Windows Server 2016 Standard Windows Server 2019 Standard 	Full Installation	64-Bit

WinCC Unified V16 Preconditions

Operating System (Client)

Recommended Browser

Microsoft Windows

- **Google Chrome** (Test focus)
- Mozilla Firefox,
- Microsoft Edge



Android

- **Google Chrome** (Test focus)
- Firefox
- Edge



iOS, Mac

- **Safari** (Test focus)
- Google Chrome
- Firefox
- Edge



SIMATIC WinCC Unified V16 Engineering Packages

SIEMENS
Ingenuity for life

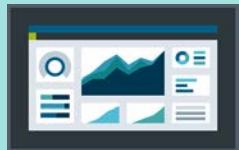
Engineered in the TIA Portal



WinCC Unified
PC (max)

WinCC Unified
PC 100k (100.000)

WinCC Unified
PC 10k (10.000)

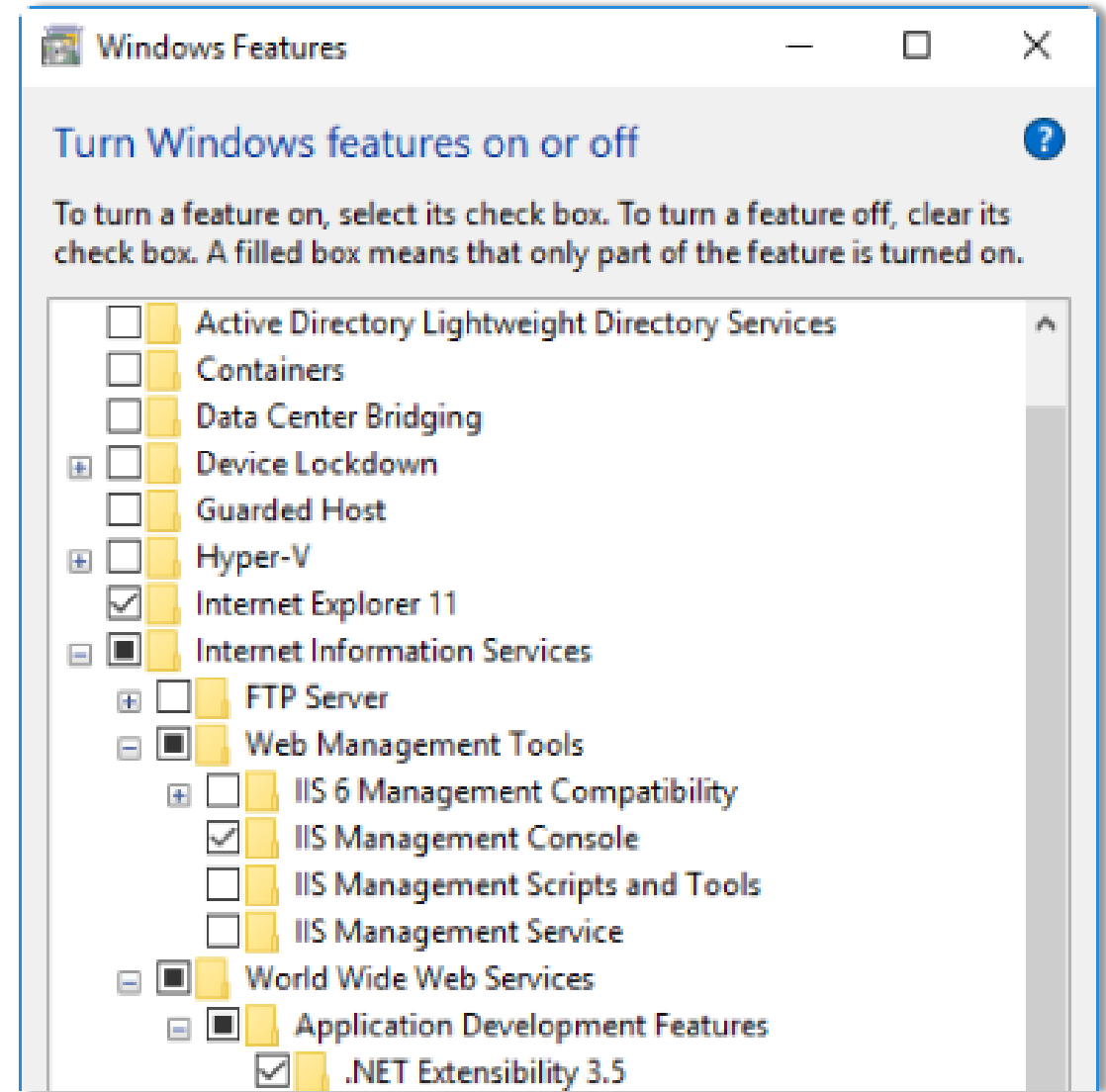


WinCC Unified
Comfort

Which Windows functions must be activated in order to be able to install?



<https://support.industry.siemens.com/cs/ww/en/view/109773589>

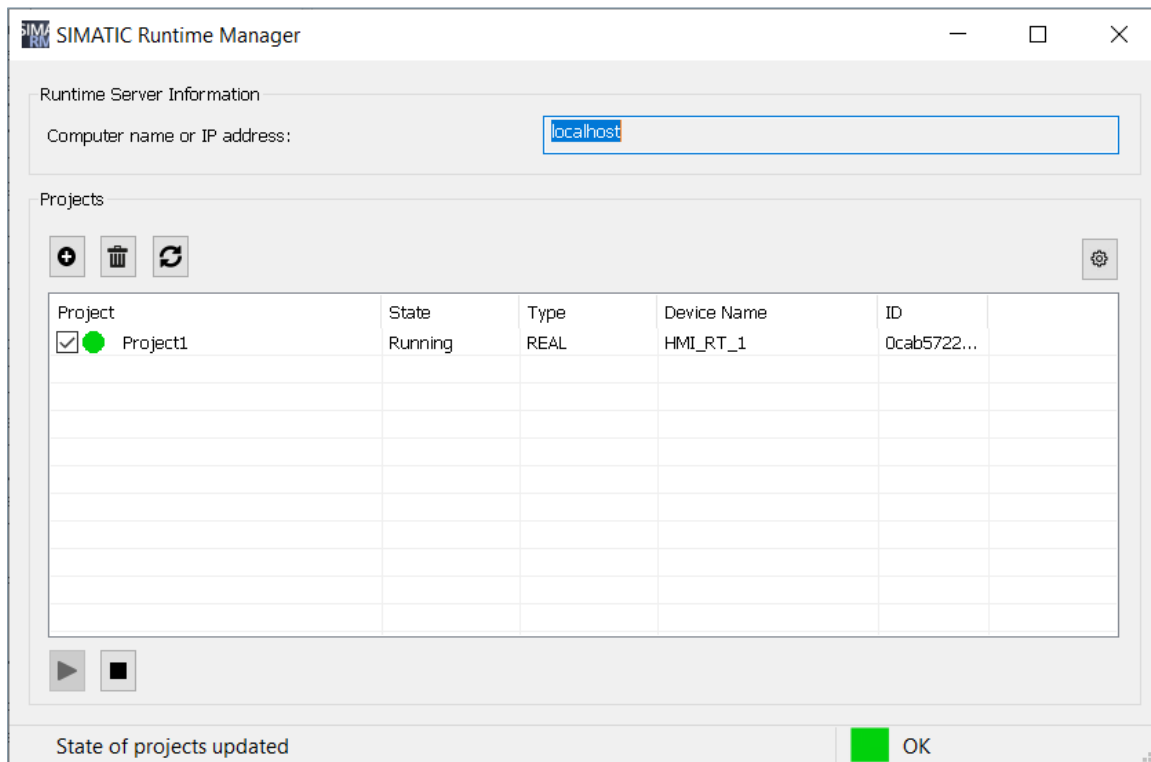


SIMATIC WinCC Unified – Tools Configuration Manager



SIMATIC WinCC Unified – Tools

SIMATIC Runtime Manager



Several WinCC Unified projects can be downloaded to one PC station.

Manage WinCC Unified projects

- Run, stop or switch projects
- Show project state
- Activate / Deactivate Debugging
- OPC UA Export

TIA Portal Engineering

SIEMENS
Ingenuity for life

The screenshot displays the Siemens TIA Portal software interface. The main window shows a WinCC Unified HMI screen titled "Packaging Machine" with the following data:

- Running Path: placePos1
- Today's runs: 23
- Power State: Undefined (indicated by a power button icon)
- Machine State: Execute (indicated by a running person icon)
- Machine speed: (empty field)
- Error State: NO ERROR (indicated by a green checkmark icon)
- Position data:
 - X Axis: 0.00 mm
 - Y Axis: 0.00 mm
 - Z Axis: 0.00 mm
 - A Axis: 0.00 °
 - A1: 0.00 mm
 - A2: 0.00 mm
 - A3: 0.00 mm
 - A4: 0.00 °

The interface includes a Project tree on the left, a Properties panel at the bottom, and a Toolbox on the right. The status bar at the bottom indicates "Loading completed (errors: 0, warning...)".

TIA Portal Engineering

SIEMENS
Ingenuity for life

The screenshot displays the Siemens TIA Portal interface. A 'Load preview' dialog box is open, showing a table of loading steps for a SIMATIC PC station. The table includes columns for Status, Target, Message, and Action. The 'Load' button is highlighted, indicating the next step in the process.

Status	!	Target	Message	Action
↓	✓	UnifiedPC_1920x1080	Ready for loading.	Load 'HMI_RT_5'
	✓	▶ Simulation mode	Load Runtime in simulation mode	
	✓	▶ Load Runtime	Stop Runtime and perform full download	Full download
	✓	▶ Runtime start	Start Runtime after download to target system.	Start runtime
	✓	▶ Runtime values	Keep current values in runtime or reset to start values from the ...	Keep current values
	✓	▶ Reset logs	Reset all logs in the runtime	No reset
	✓	▶ HMI Runtime	Informations	

Buttons: Refresh, Finish, Load, Cancel

Bottom status bar: Portal view, Overview, 00_Startscree..., 030_3D_Cost..., 00_Idle_Scre..., Loading completed (errors: 0, warning...

TIA Portal Engineering

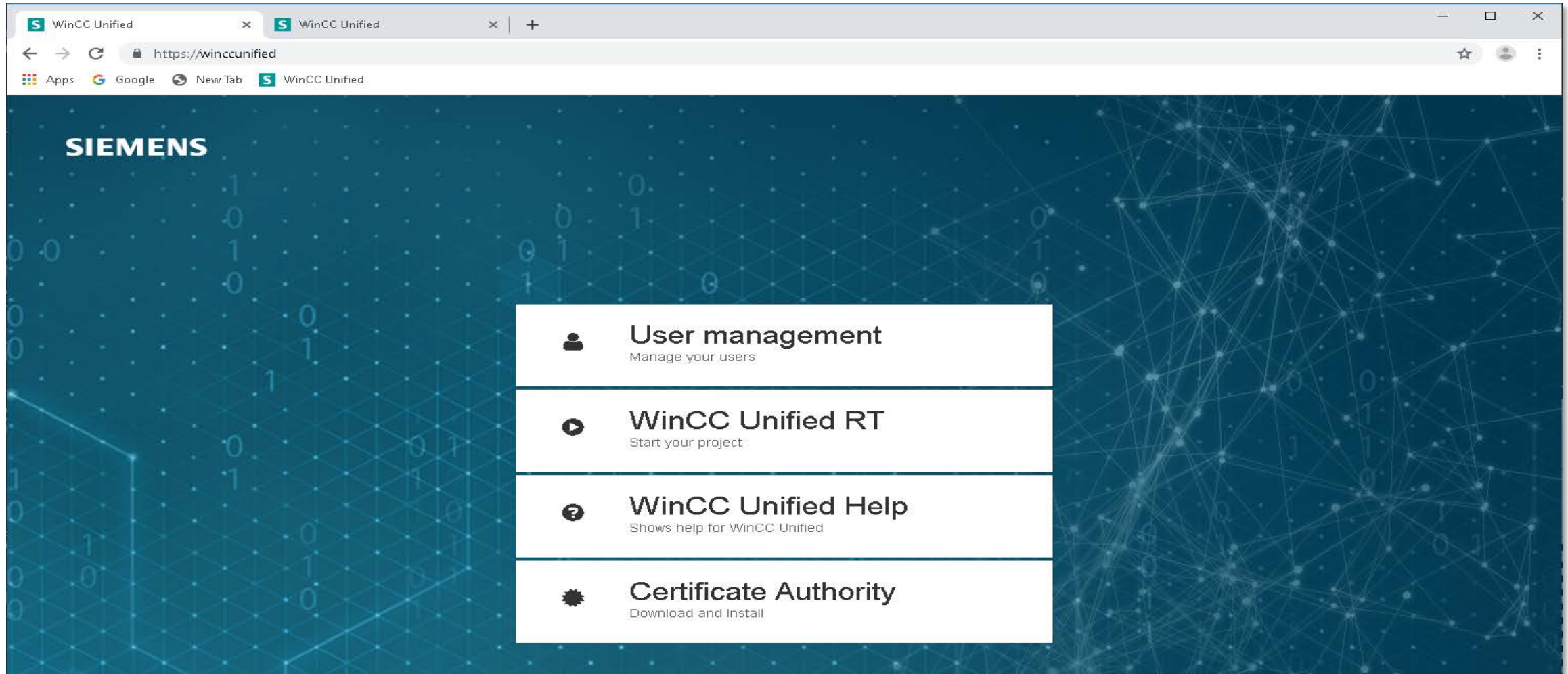
SIEMENS
Ingenuity for life

The screenshot displays the SIMATIC Runtime Manager window, which provides a central view of the runtime status of various projects. The window is titled "SIMATIC Runtime Manager" and features a "Runtime Server Information" section with a text field containing "localhost". Below this, the "Projects" section contains a table listing the current state of several simulation projects.

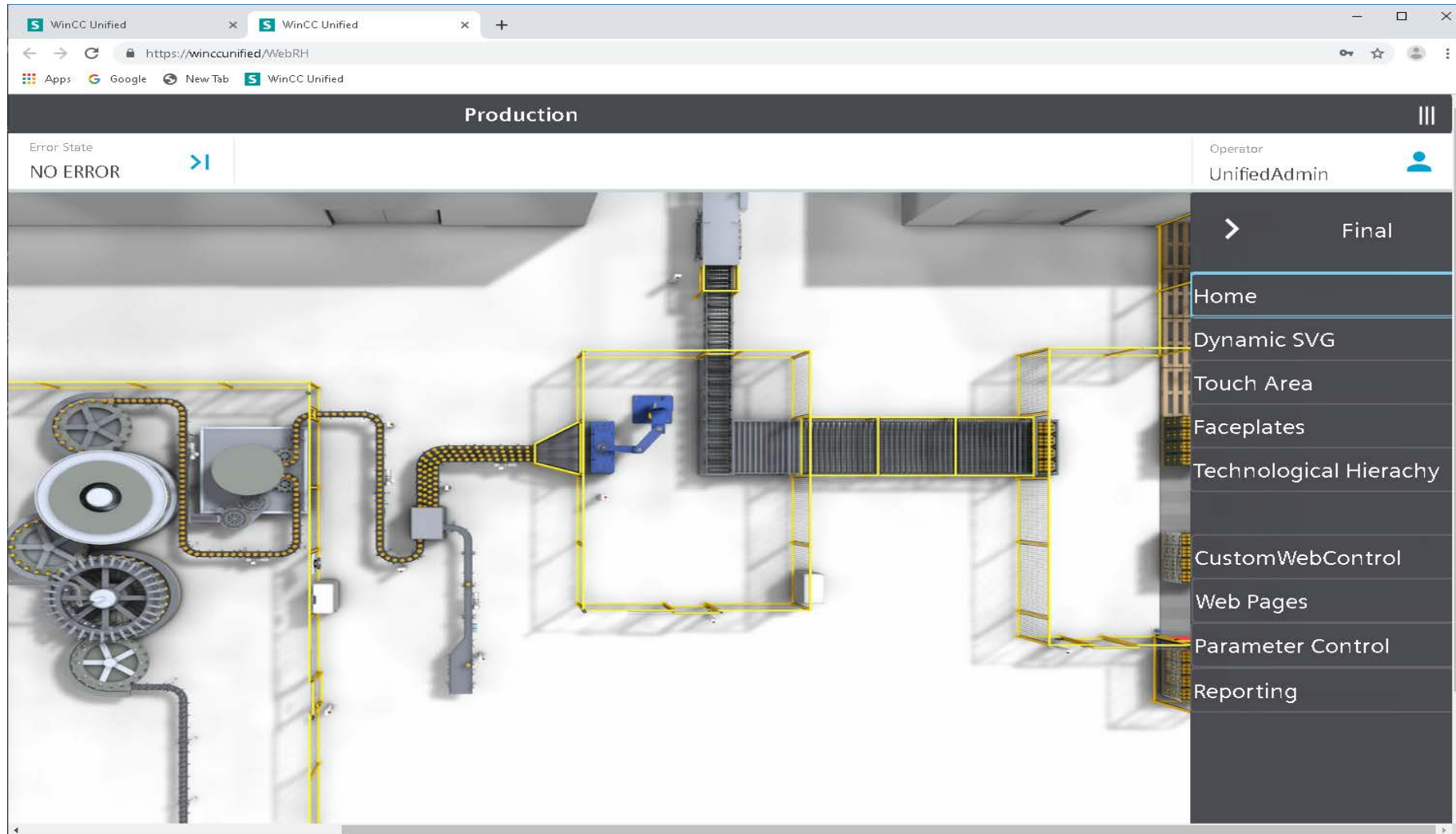
Project	State	Type	Device Name	ID
<input checked="" type="checkbox"/> WinccUnifiedDemoproject	Running	SIMULATION	HMI_RT_5	f4f561f0
<input type="checkbox"/> testFaceplatesInPopUps6	Stopped	SIMULATION	HMI_RT_1	1f6b8cff
<input type="checkbox"/> SimplePopup	Stopped	SIMULATION	HMI_RT_1	62fe557
<input type="checkbox"/> HI_New_Std_V16_4	Stopped	SIMULATION	HMI_RT_1	8ad3761
<input type="checkbox"/> StdLib_PMH	Stopped	SIMULATION	HMI_RT_1	5fcd55c
<input type="checkbox"/> ClassicComfortToUni	Stopped	SIMULATION	HMI_RT_3	8e81c92
<input type="checkbox"/> AlarmPopUp	Stopped	SIMULATION	HMI_RT_1	07701a1
<input type="checkbox"/> ClassicComfortToUni	Stopped	SIMULATION	HMI_RT_2	a208438
<input type="checkbox"/> TCC_Infoshop_10_startproject	Stopped	SIMULATION	HMI_RT_1	3b8a621

At the bottom of the window, a status bar indicates "State of projects updated" and includes an "OK" button. The background shows the TIA Portal interface with a project tree on the left and a graphics toolbar on the right.

WinCC Unified Runtime



WinCC Unified Runtime



What comes next ..

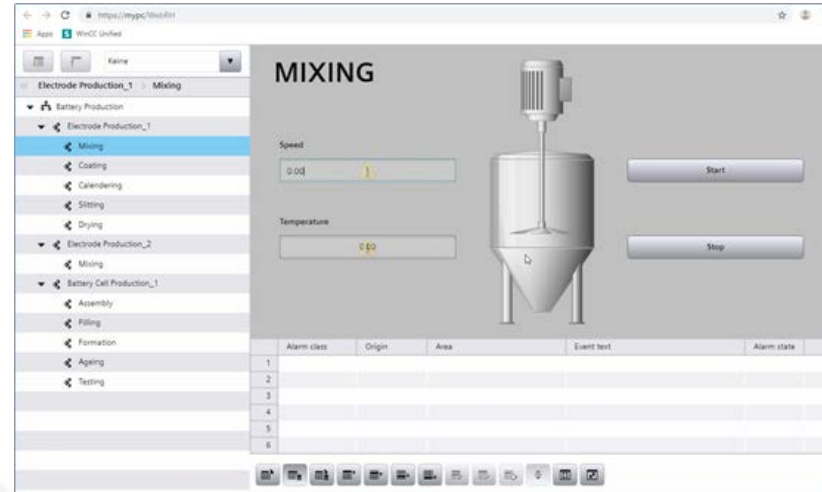
System Diagnostics UI Enhancement
Library Collaboration enhancements Controls, Styling,..

Process Diagnostics Central Logging
Faceplate Enhancement **Redundancy**
Additional Com-Drivers SiVARC

Central User Management
Responsive Design Audit ...

More will come in the next WinCC Unified webinar: Egde, Faceplate, CPM etc...

SIEMENS
Ingenuity for life





Spørgsmål

Yderligere information



Gense webinar og download materiale på **www.siemens.dk/di-webinarer**

Find tips og trick på YouTube

Kontakt

Kim Meyer-Jacobsen – kim.meyer-jacobsen@siemens.com

Per Møller Hemmingsen – per.m.hemmingsen@siemens.com

Lars-Peter Hansen - lars-peter.hansen@siemens.com

www.siemens.dk/di-kontakt

Næste webinar

Spar tid og penge med **SIMATIC Robot Integrator**

Nem integration og programmering af standard industrirobotter og/eller eget robotdesign

Onsdag d. 29. april kl. 11.00

Værter: Technology Specialists

Søren Jakobsen og Simon Sonne





www.siemens.dk/di-webinarer