# Industry Information Live

## Fremtidens visualiseringsplatform – WinCC Unified

**Værter: Kim Meyer-Jacobsen og Per Møller Hemmingsen**

**Siemens Digital Industrien**

# Velkommen

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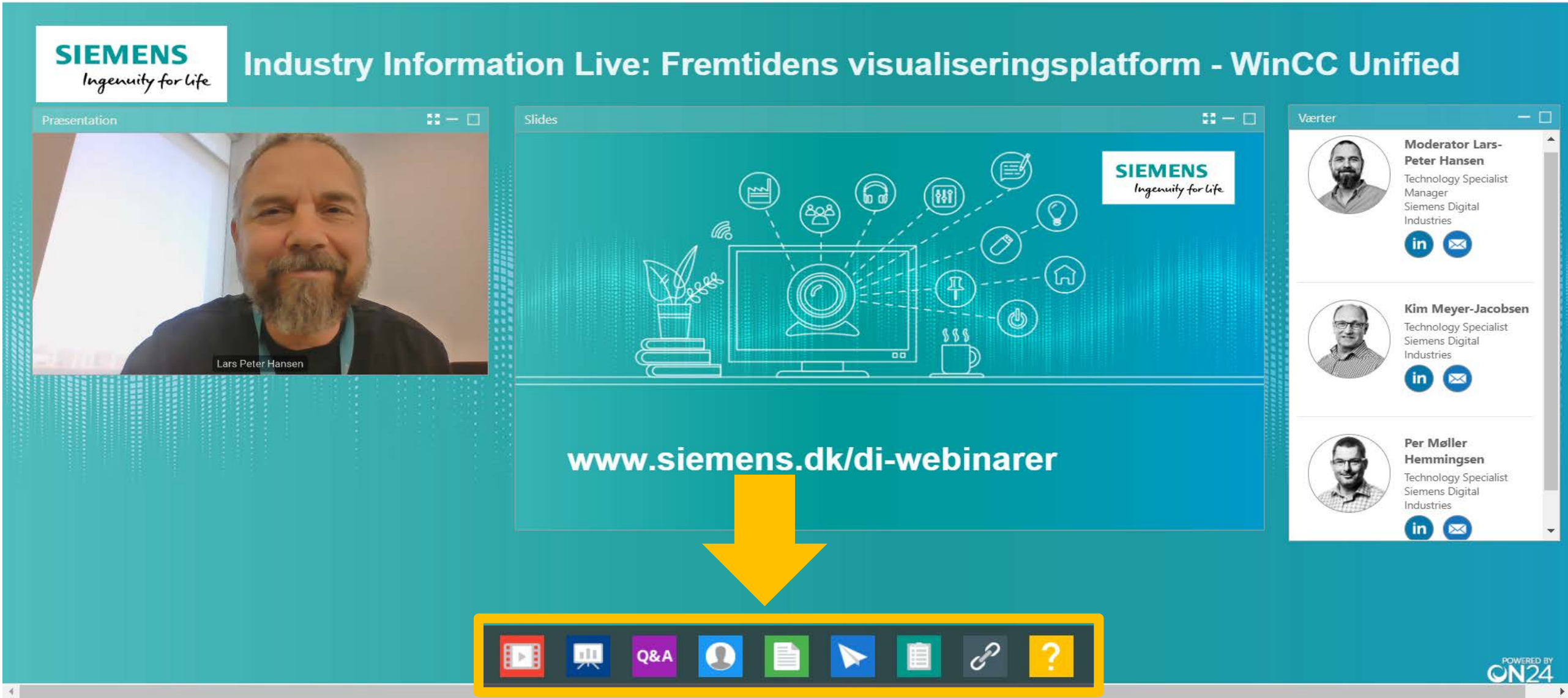

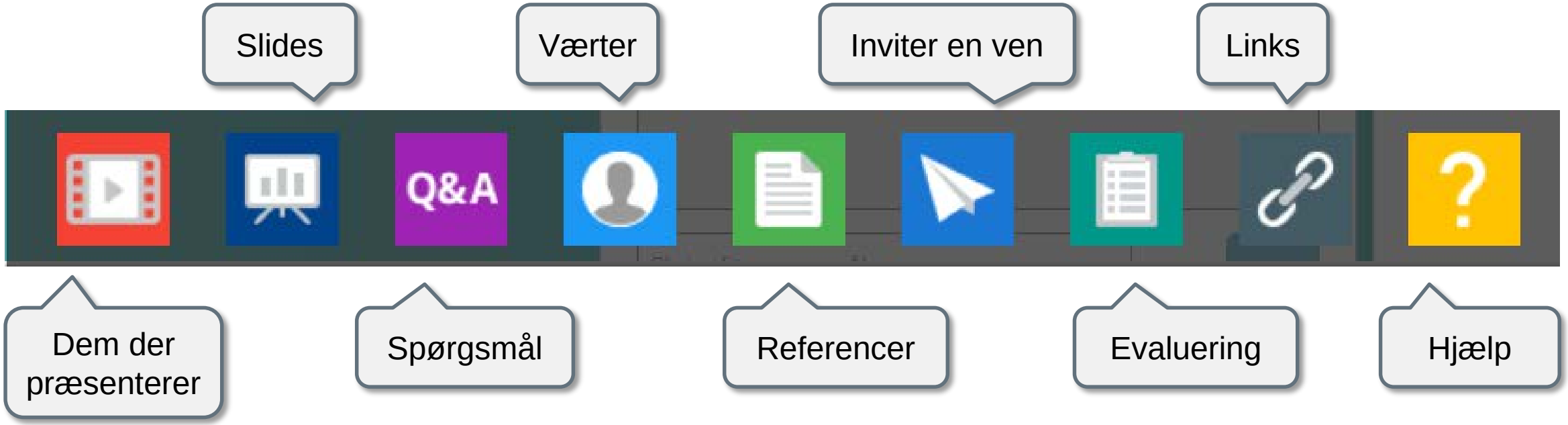
Slides
Værter
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Dem der præsenterer
Spørgsmål
Referencer
Evaluering
Hjælp

# Agenda

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## 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**

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# 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
**Device independency** Openness Plant Intelligence
Engineering Automation One Engineering Everywhere Access **Data Backbone**
**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

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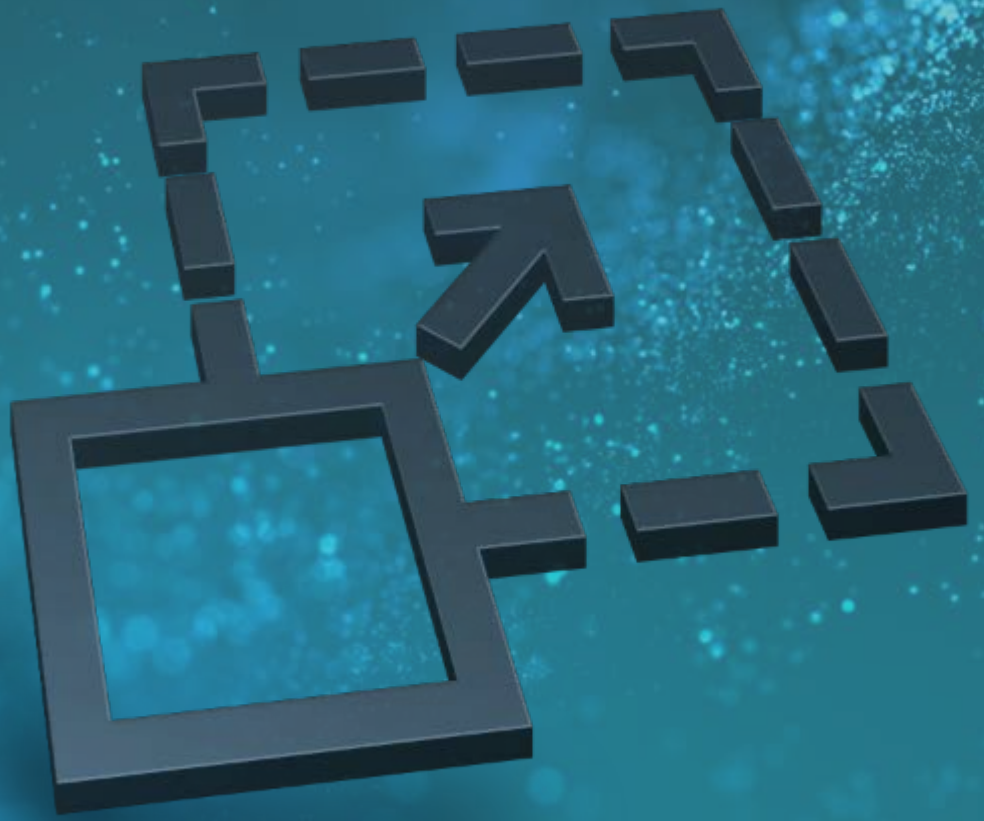
# One visualization system from machine level to control center



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

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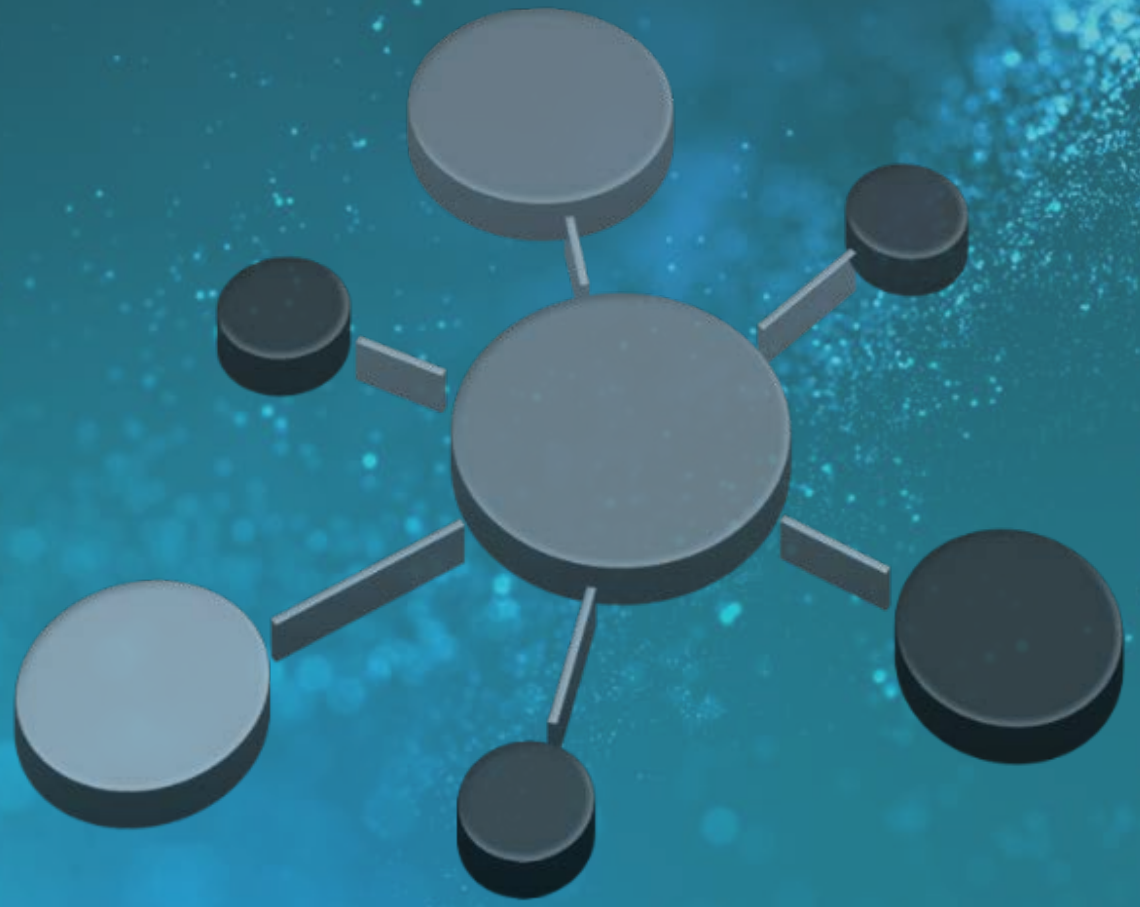
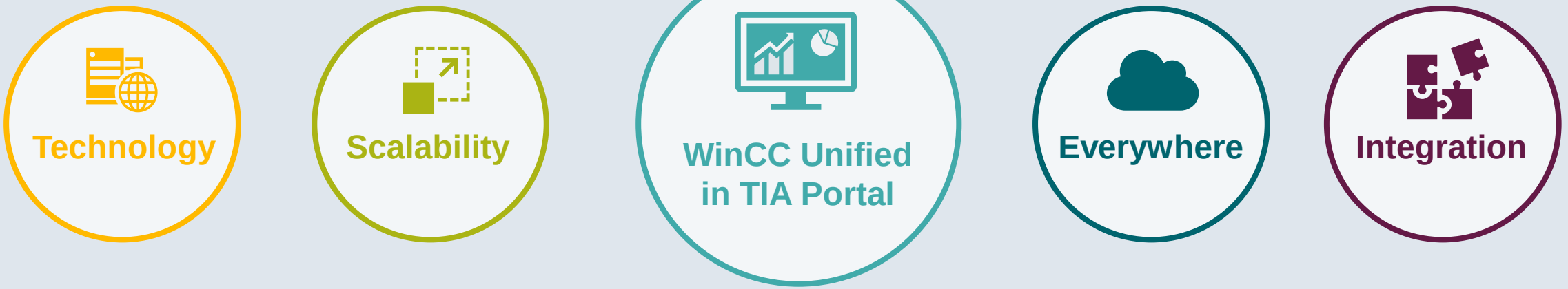
# Open Interfaces, to connect and integrate IT-Tools



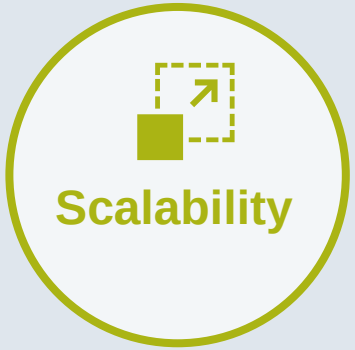
# We meet these requirements with the new WinCC Unified system!



# 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

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# It is Software and Hardware!

## Lets take a look at the **hardware**

# SIMATIC HMI Unified Comfort Panels
## Resolution and mounting compatibility

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### 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**

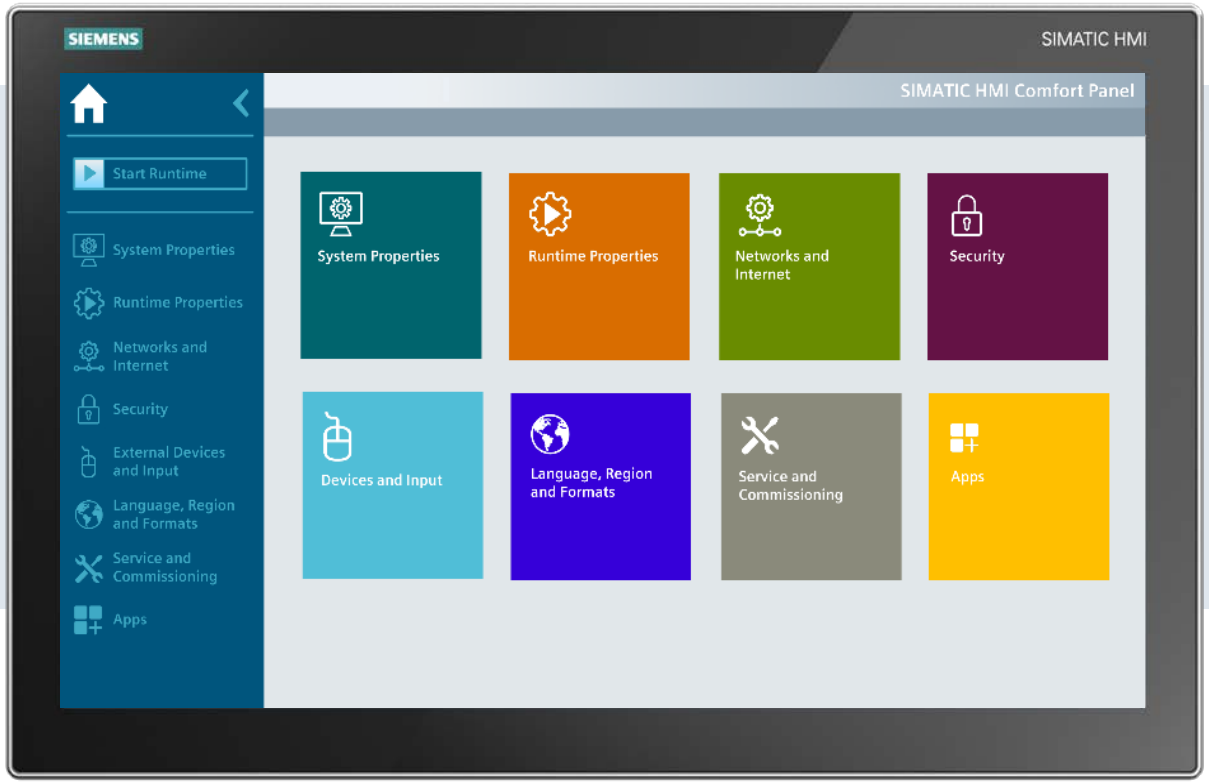
**18.5"**
1,920 x 1,080

**Mounting frame**

**21.5"**
1,920 x 1,080

**Mounting frame**

# SIMATIC HMI Unified Comfort Panel
## Completely new designed control panel



- **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

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Step 2

## Synchronous Access
via app (VNC)

**Remote**
control

## Asynchronous Access
via browser (web-client)

# SIMATIC HMI Unified Comfort Panel
# Increased system performance

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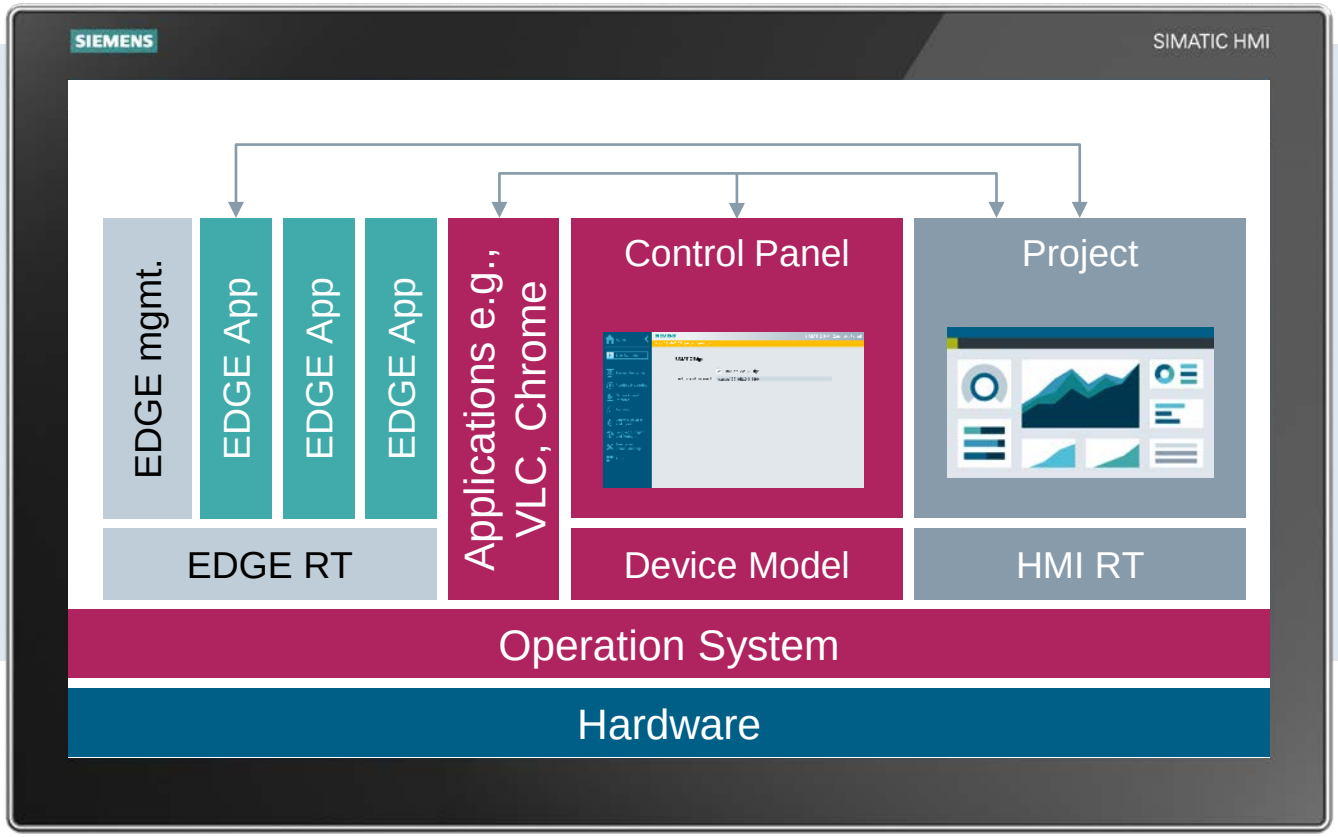
| | Comfort Panel 7 – 12"/15 – 22" | Unified Comfort Panel 7 – 12"/15 – 22" |
|---|---|---|
| **PLC-Connections** | 8 | **16** |
| **Tags** | 2,048 / 4,096 | **8,000** |
| **Alarms** | 4,000 / 6,000 | **9,000** |
| **Archives** | 50 | **50** |
| **Logging Tags** | 2,048 | **5,000** |
| **Scripts** | 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

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# It is Software and Hardware!

## Lets take a look at the **software**

# WinCC Unified – Clients

## Flexible webbased, remote Monitoring and Operation

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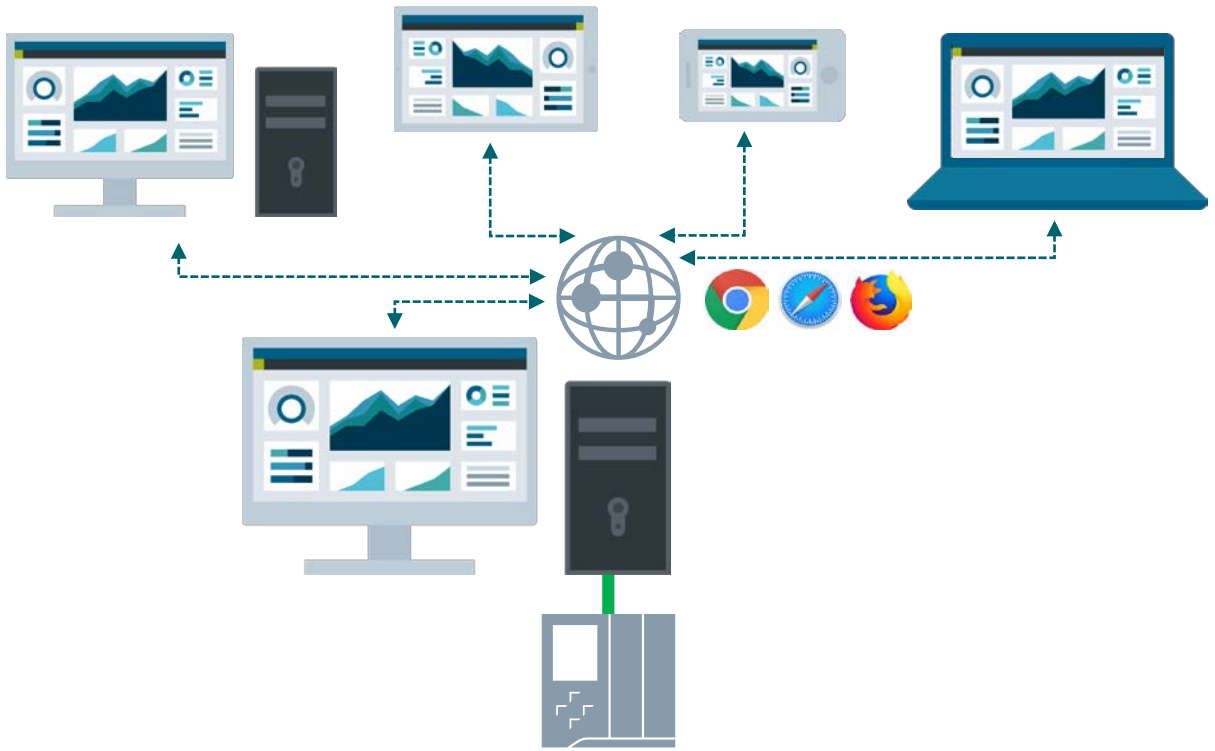


Unified Comfort Panel

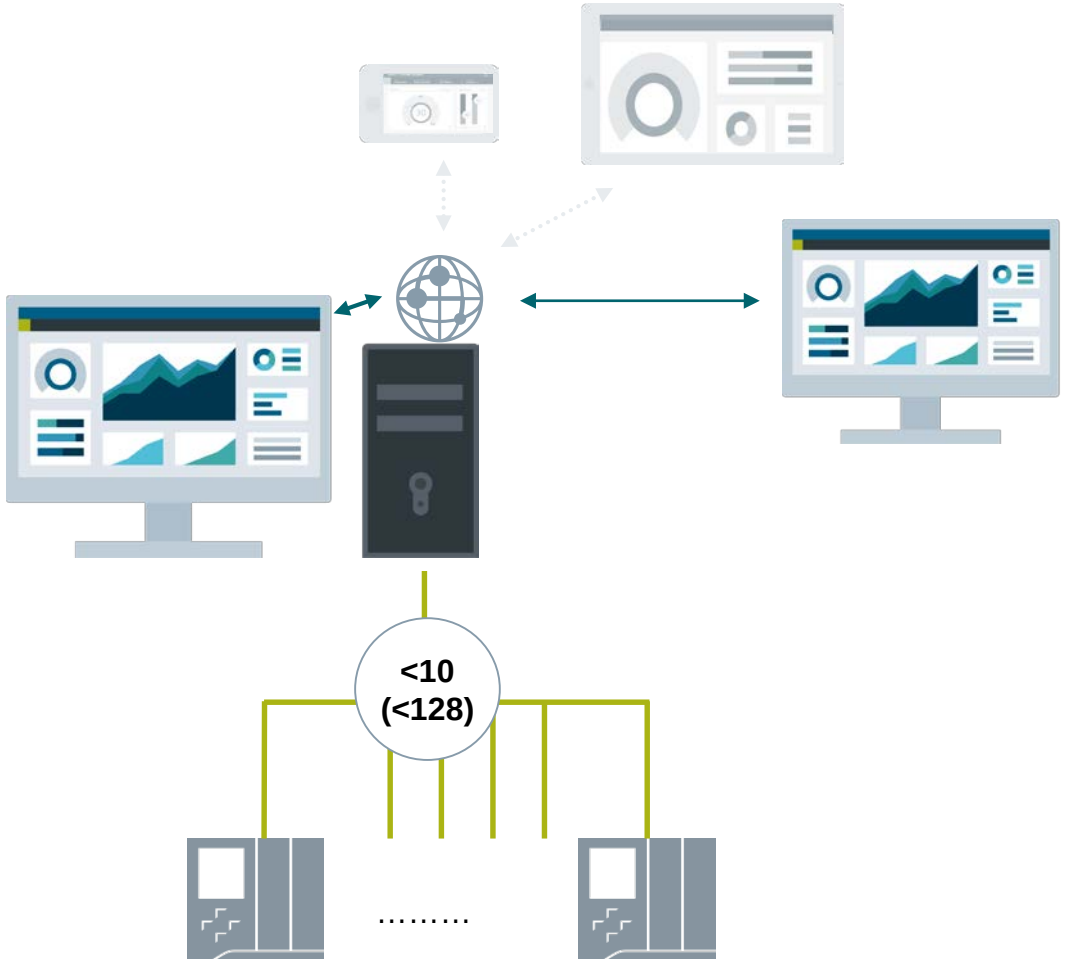
PC

**“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

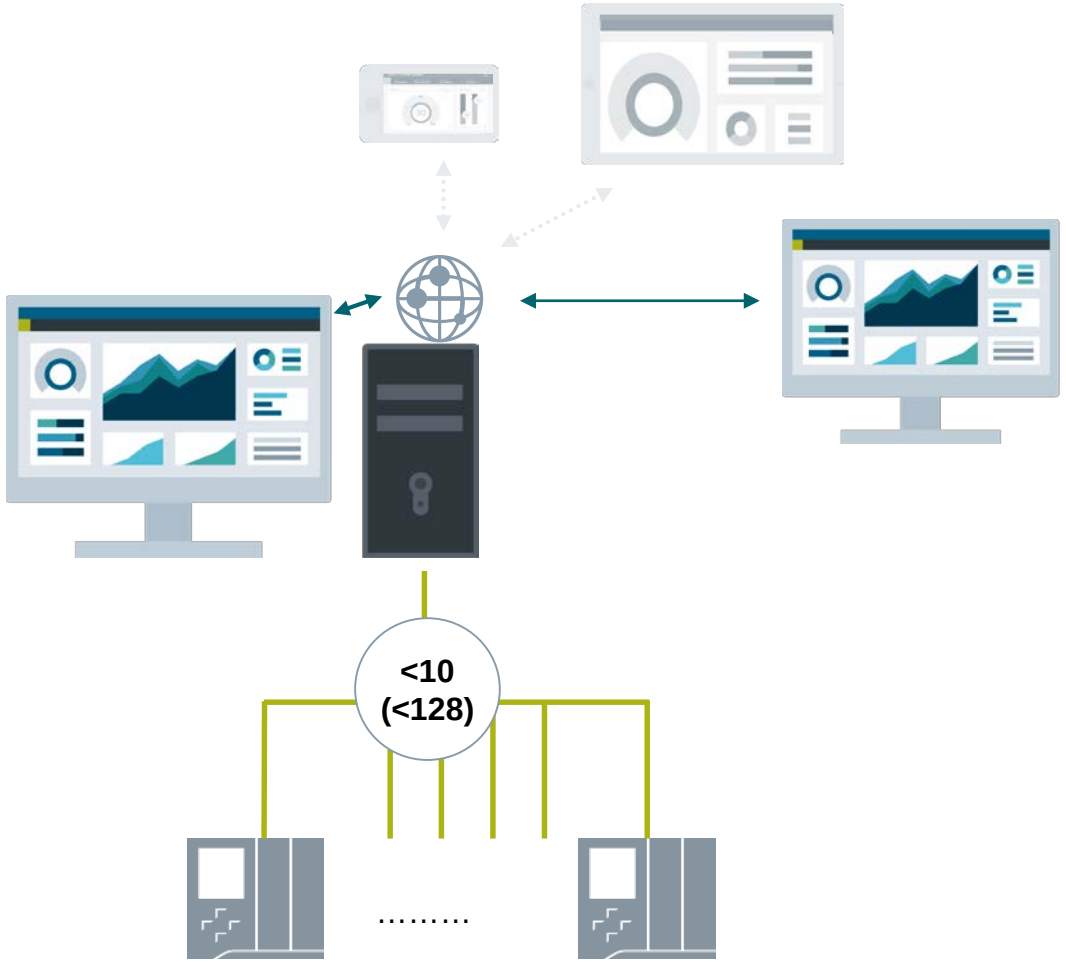



## Grow from small to large applications

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

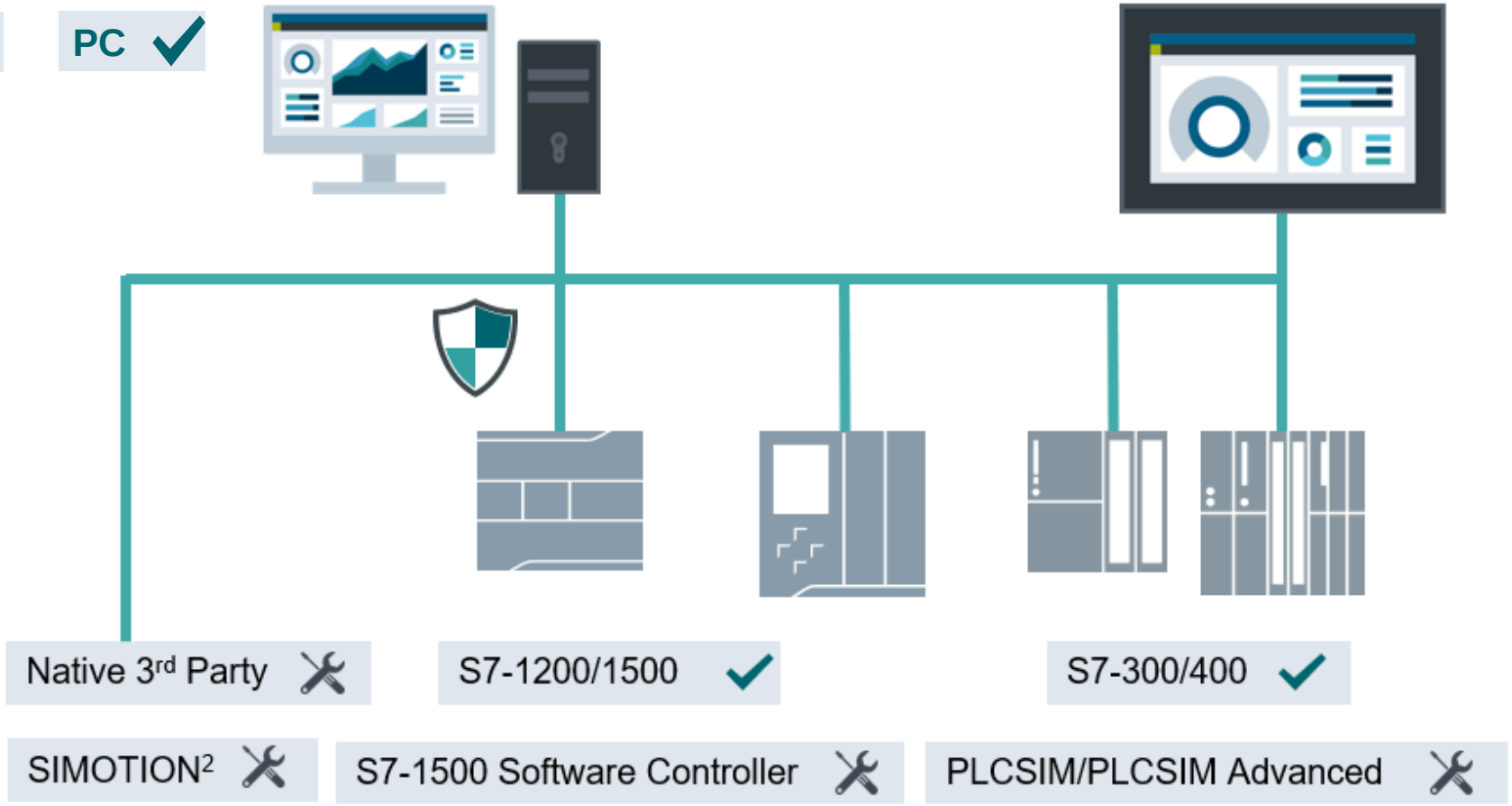



## Expandable via options

- 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 Party[1] 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

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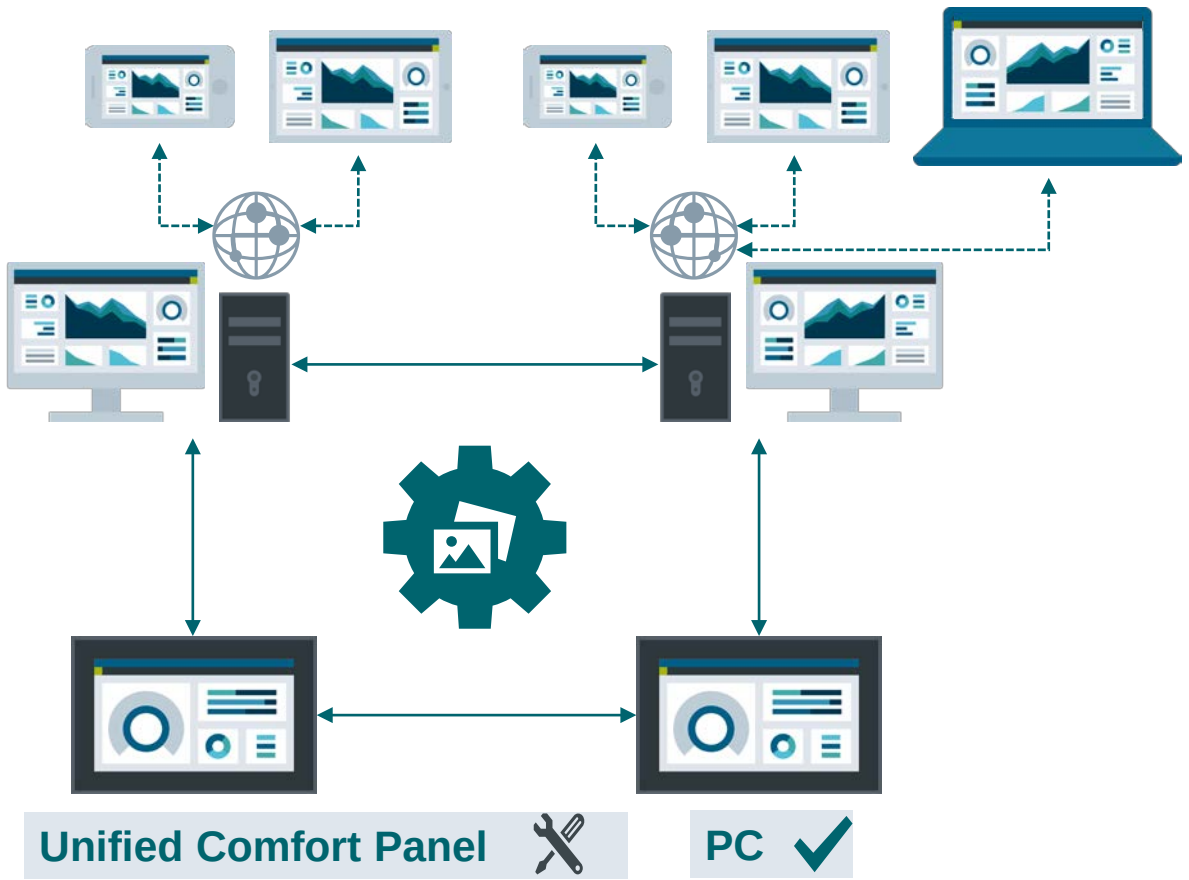


**Enabler for distributed system architectures** with panel and PC systems

**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

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| Operating System (PC-systems) | Configuration | Remark |
|---|---|---|
| Windows 10 Pro | • Windows 10 Pro Version 1809<br>• Windows 10 Pro Version 1903 | |
| Windows 10 Enterprise | • Windows 10 Enterprise Version 1809<br>• Windows 10 Enterprise Version 1903 | 64-Bit |
| Windows 10 IoT Enterprise LTSB (Test for IPC) | • Windows 10 IoT Enterprise 2015 LTSB<br>Windows 10 IoT Enterprise 2016 LTSB<br>• Windows 10 IoT Enterprise 2019 LTSC | |
| • Windows Server 2012 R2 StdE<br>• Windows Server 2016 Standard<br>• Windows Server 2019 Standard | Full Installation | 64-Bit |

# WinCC Unified V16 Preconditions

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| Operating System (Client) | Recommended Browser |
|---|---|
| Microsoft Windows | • **Google Chrome** (Test focus)<br>• Mozilla Firefox,<br>• Microsoft Edge |
| Android | • **Google Chrome** (Test focus)<br>• Firefox<br>• Edge |
| iOS, Mac | • **Safari** (Test focus)<br>• Google Chrome<br>• Firefox<br>• Edge |

# SIMATIC WinCC Unified V16 Engineering Packages

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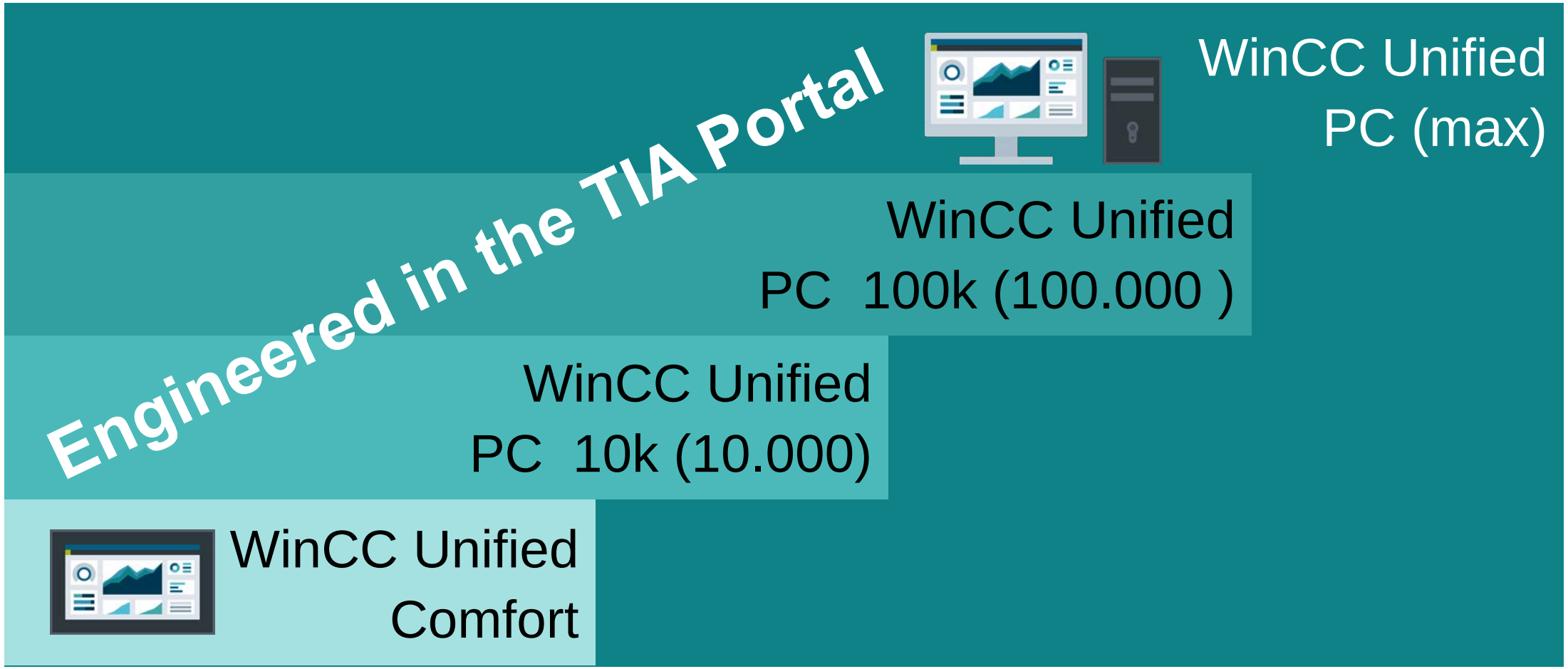

# Which Windows functions must be activated in order to be able to install?

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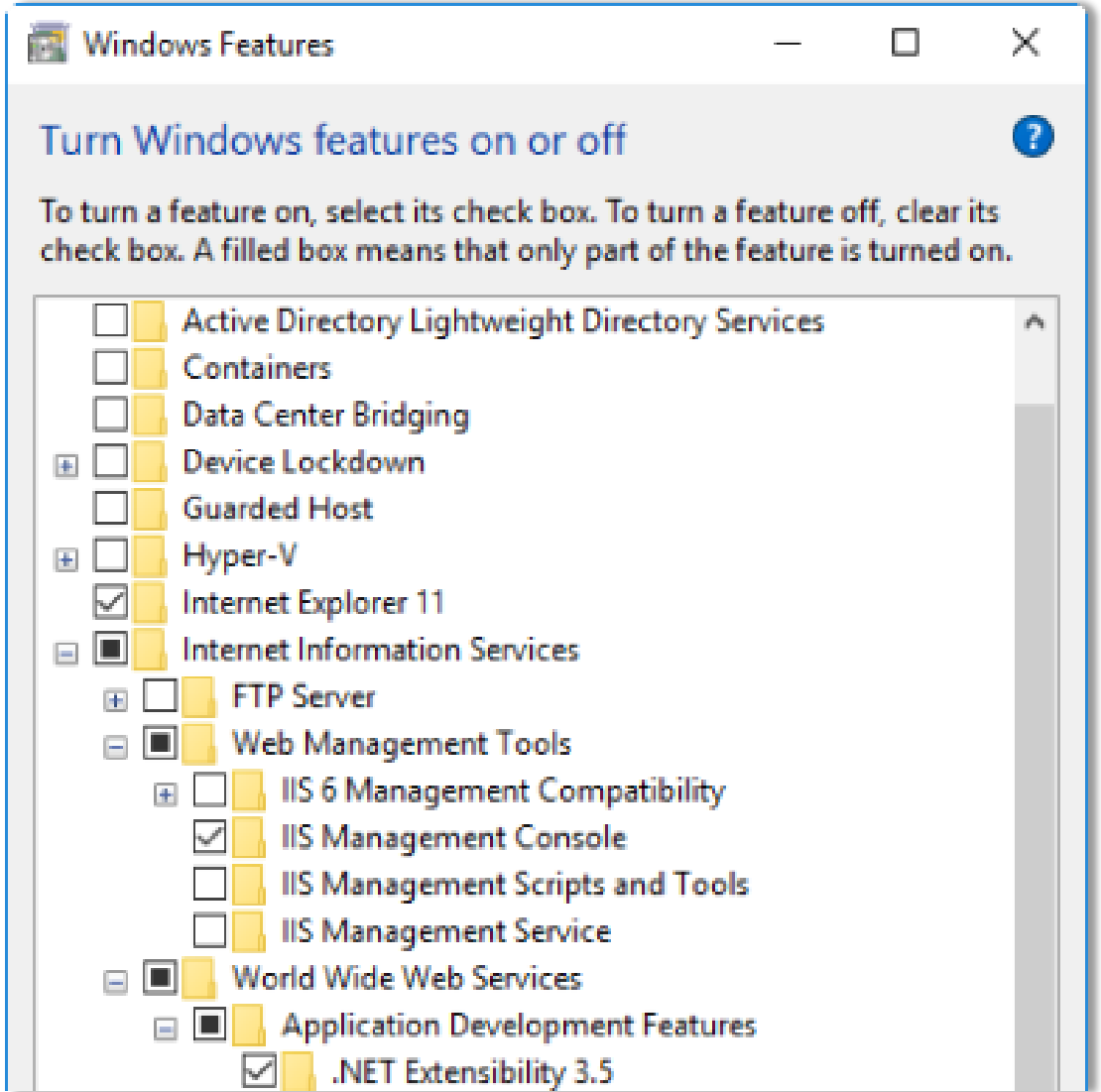


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# SIMATIC WinCC Unified – Tools
# Configuration Manager

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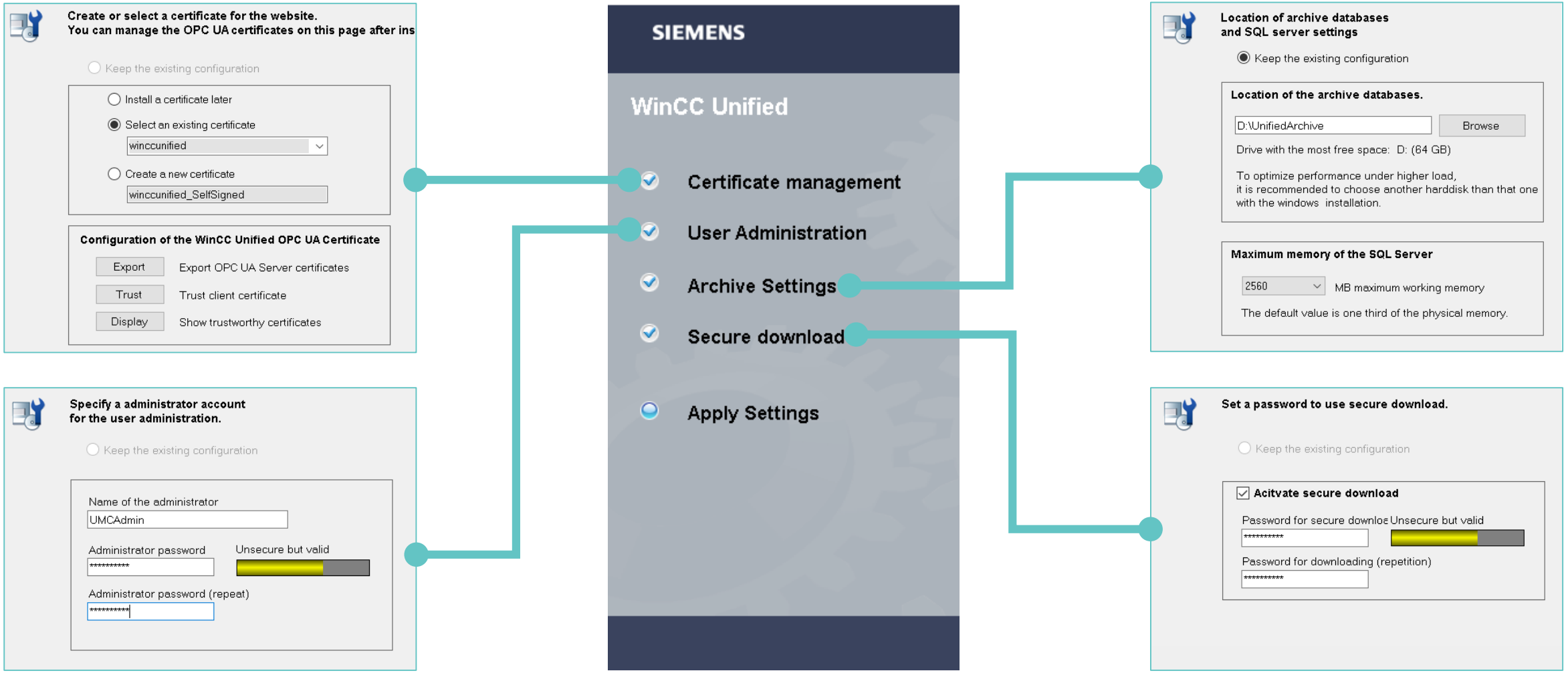
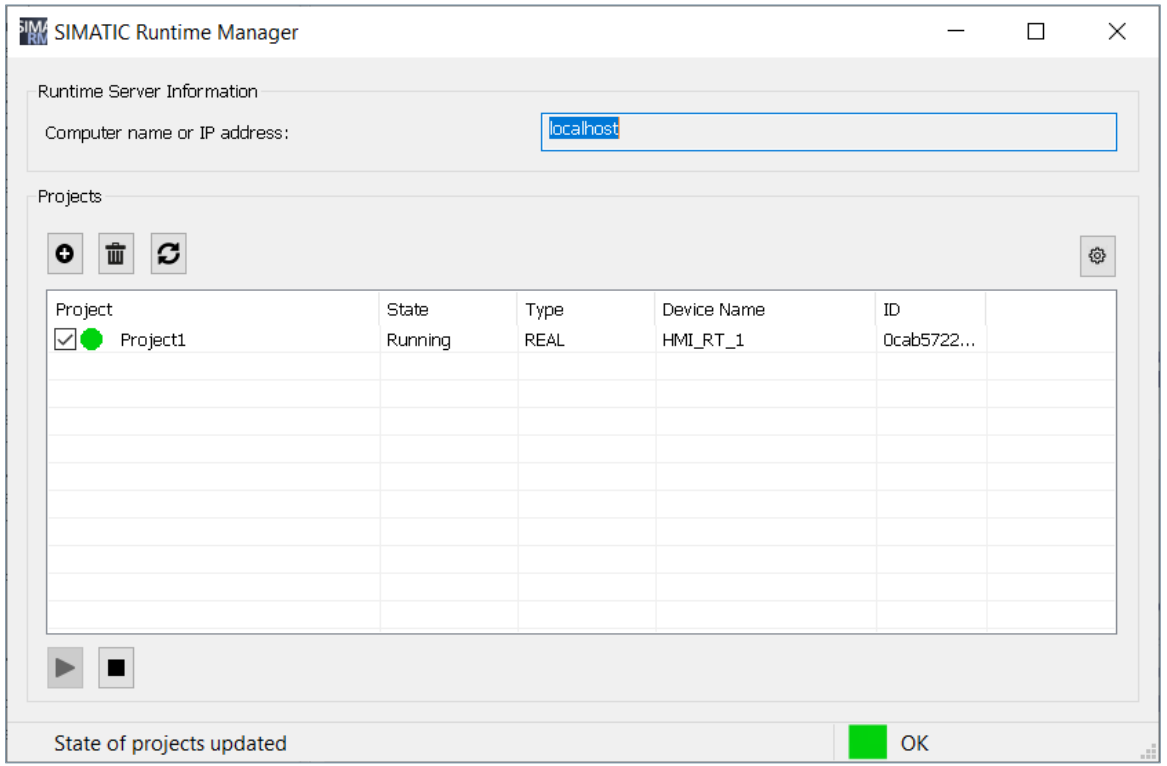


# SIMATIC WinCC Unified – Tools
# SIMATIC Runtime Manager




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

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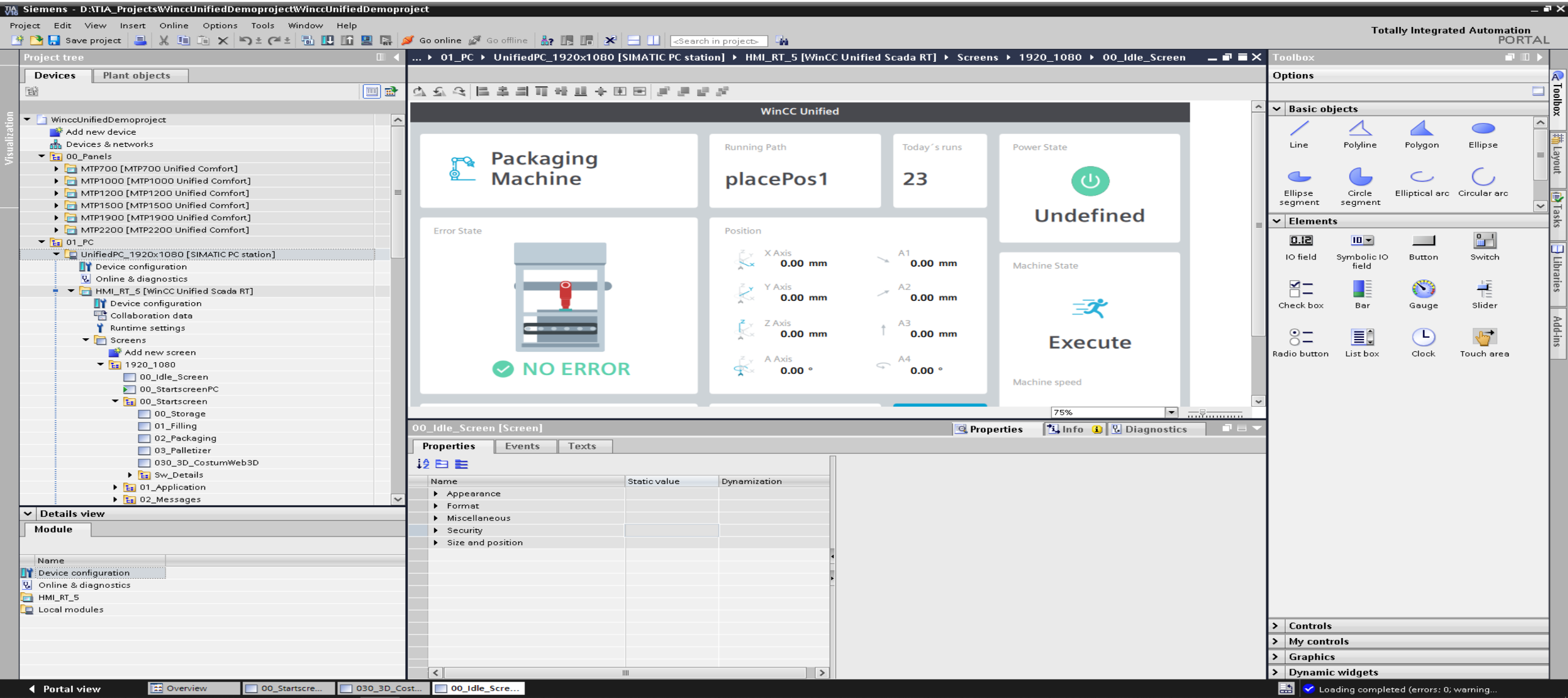

# TIA Portal Engineering

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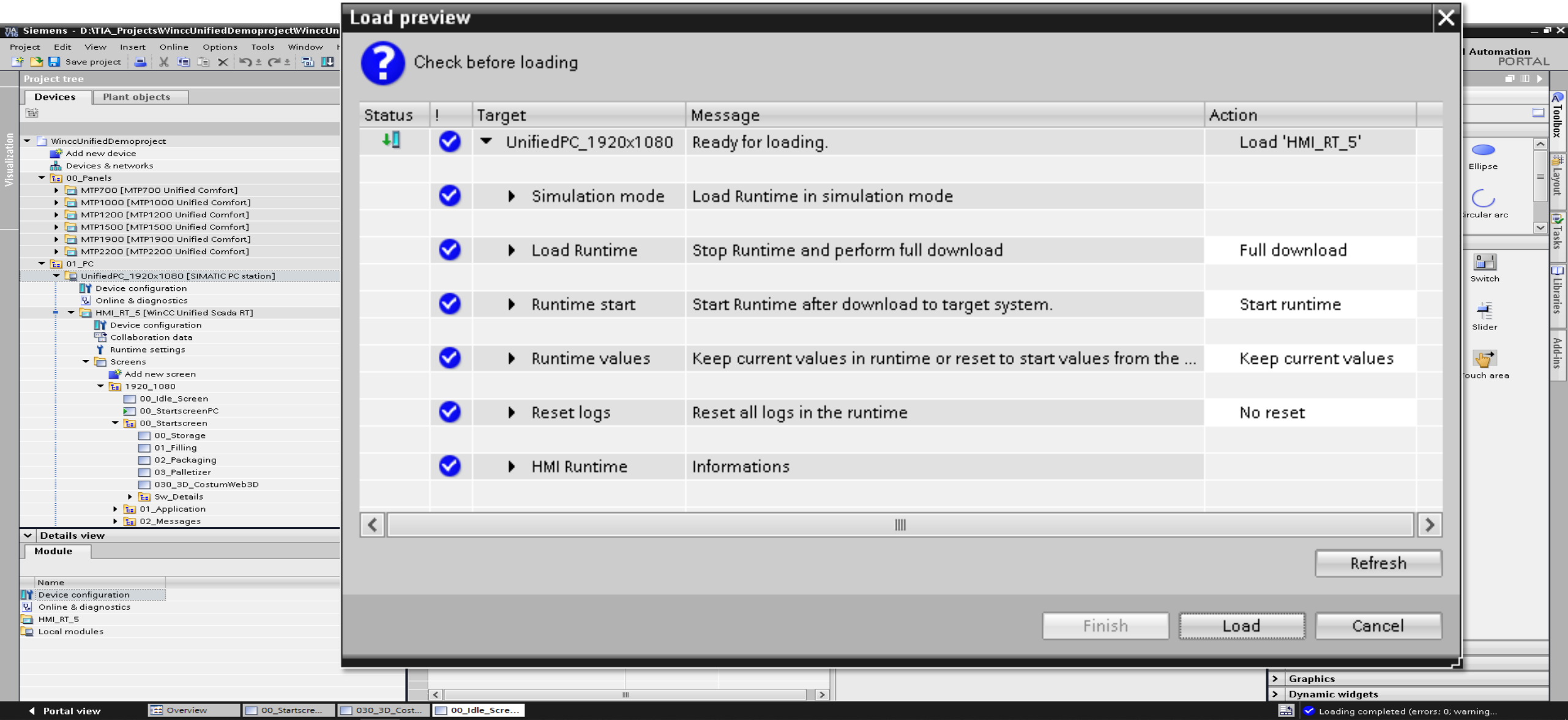

# TIA Portal Engineering

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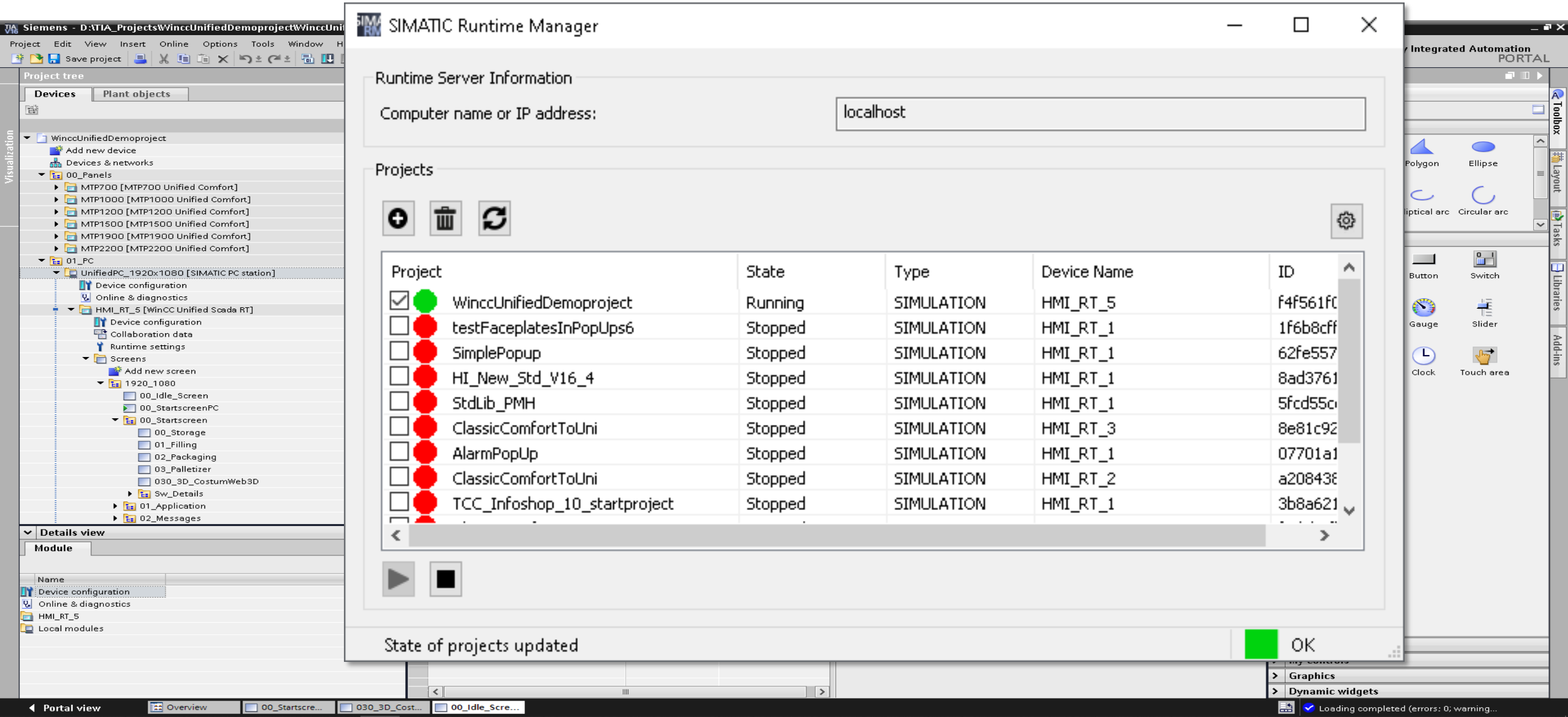
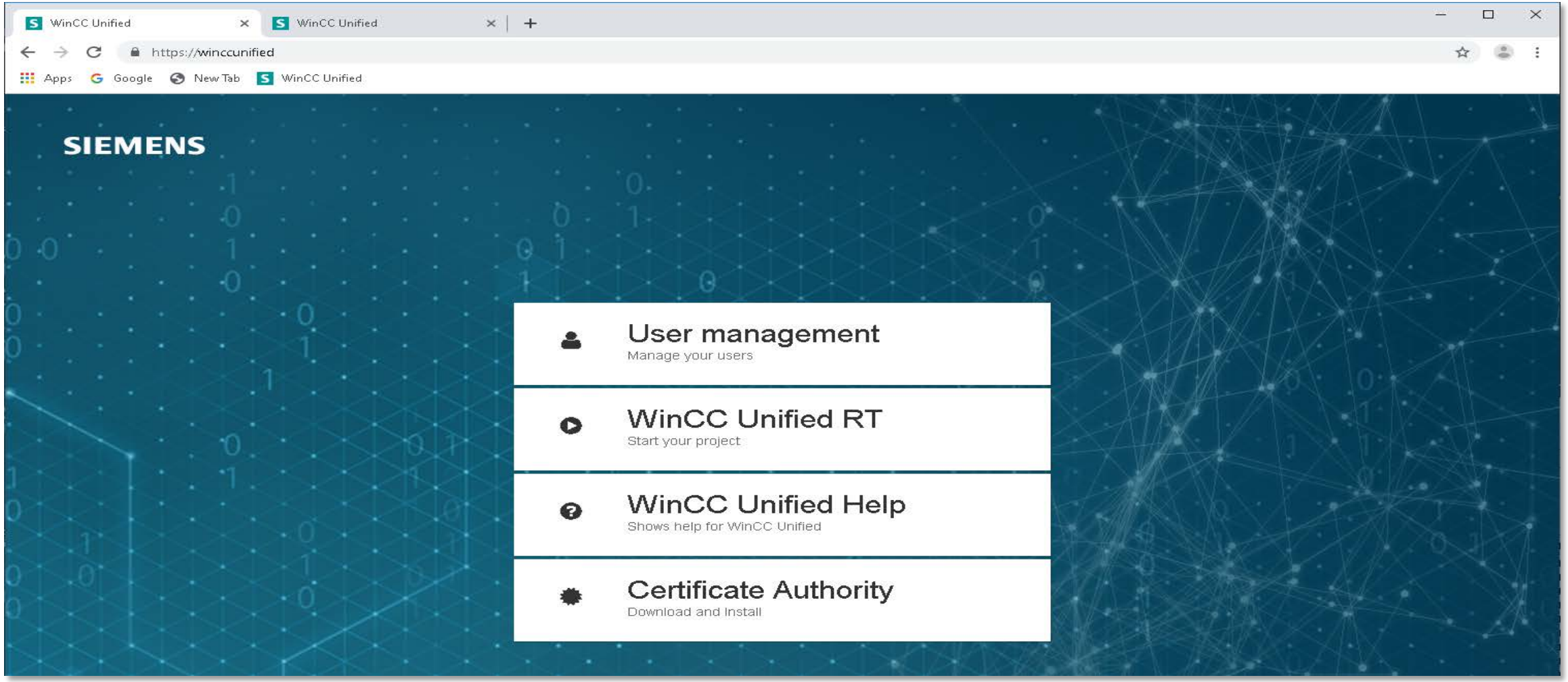
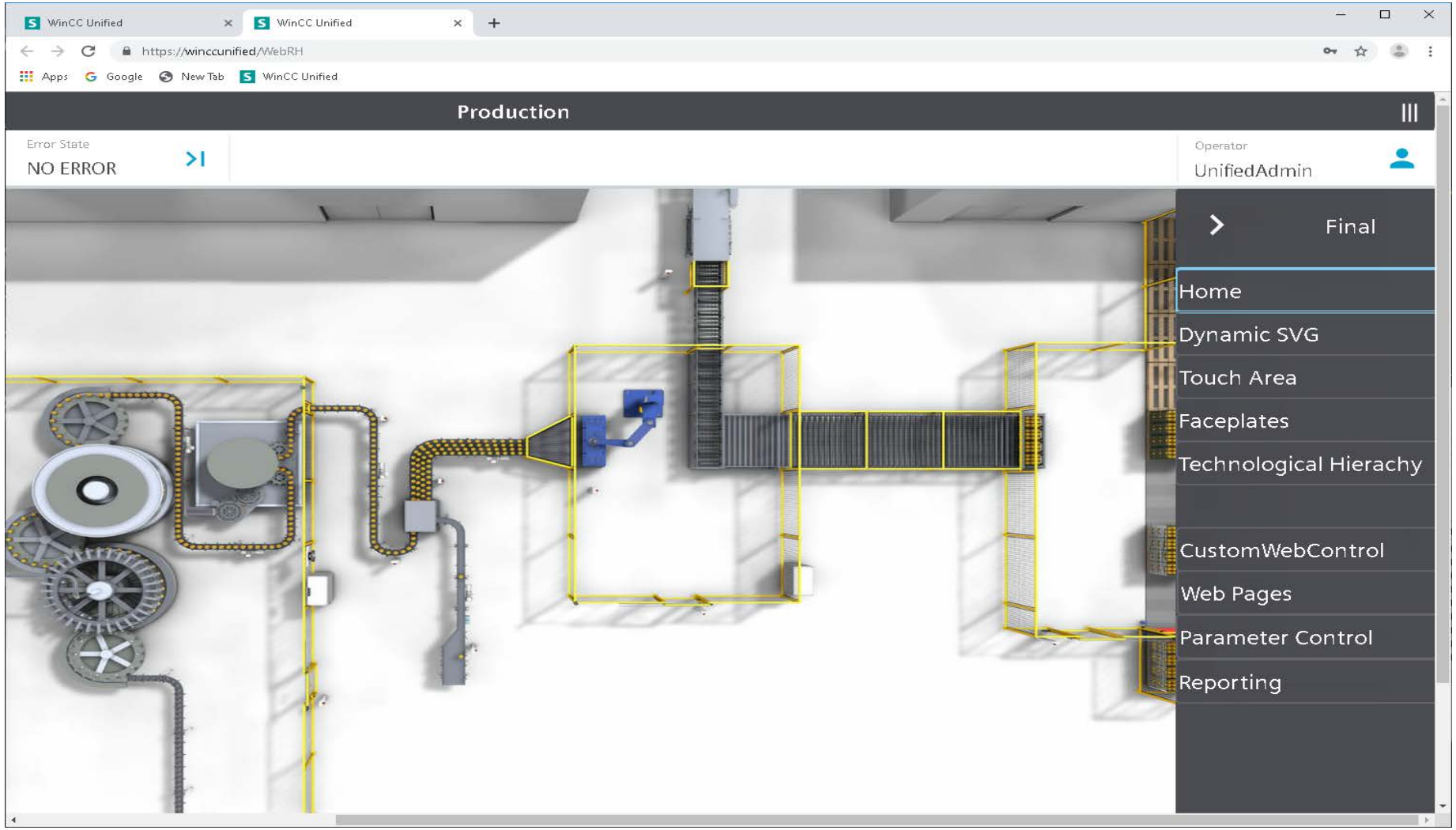


# WinCC Unified Runtime



# 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…

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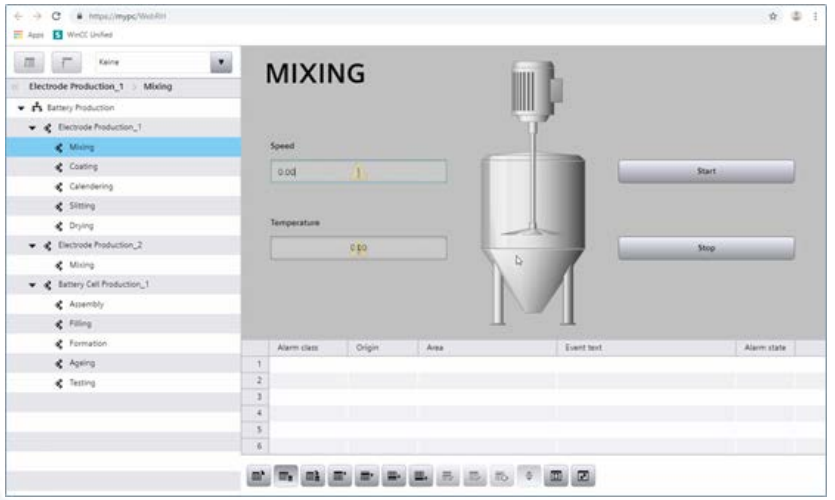

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# Spørgsmål

# Yderligere information

Gense webinar og download materiale på **www.siemens.dk/di-webinarer**
Find tips og trick på YouTube

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**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

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