

The background image shows two women, one with long brown hair and one with dark curly hair, looking intently at a large, curved digital display. The display shows various industrial data visualizations, including a gauge with the number 30, a line graph, and a table of values. The scene is set in a modern, brightly lit environment, possibly a control room or a data center.

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SIMATIC WinCC Unified System

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[siemens.com/wincc-unified-system](https://www.siemens.com/wincc-unified-system)

Human Machine Interface is changing...



Increase of production data

The amount of data generated annually will increase by five times until 2025. (175 Zettabyte)



Increasing number of devices and systems to connect

Gartner IT forecasts that the number of IoT devices will reach 25 billion by 2021



Upcoming user interaction scenarios

Expected sales of virtual reality equipment by 2022: 26.7 million devices (0.8 million in 2018)

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

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

– ”

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

We meet these requirements with the new WinCC Unified system!



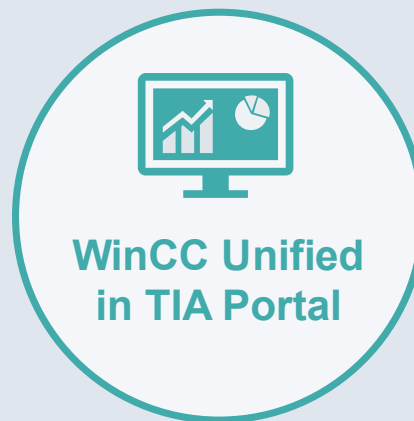
Technology

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



Scalability

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



WinCC Unified in TIA Portal



Everywhere

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



Integration

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

SIMATIC WinCC Unified System V16 – Overview



Platform

Unified Comfort Panels, PC



Common engineering
for all platforms



Software

SIMATIC WinCC Unified
in TIA Portal V16



SIMATIC WinCC Unified – One common HMI platform



Faceplates

Use the same faceplates for Panel- and PC Systems.



Screen structure

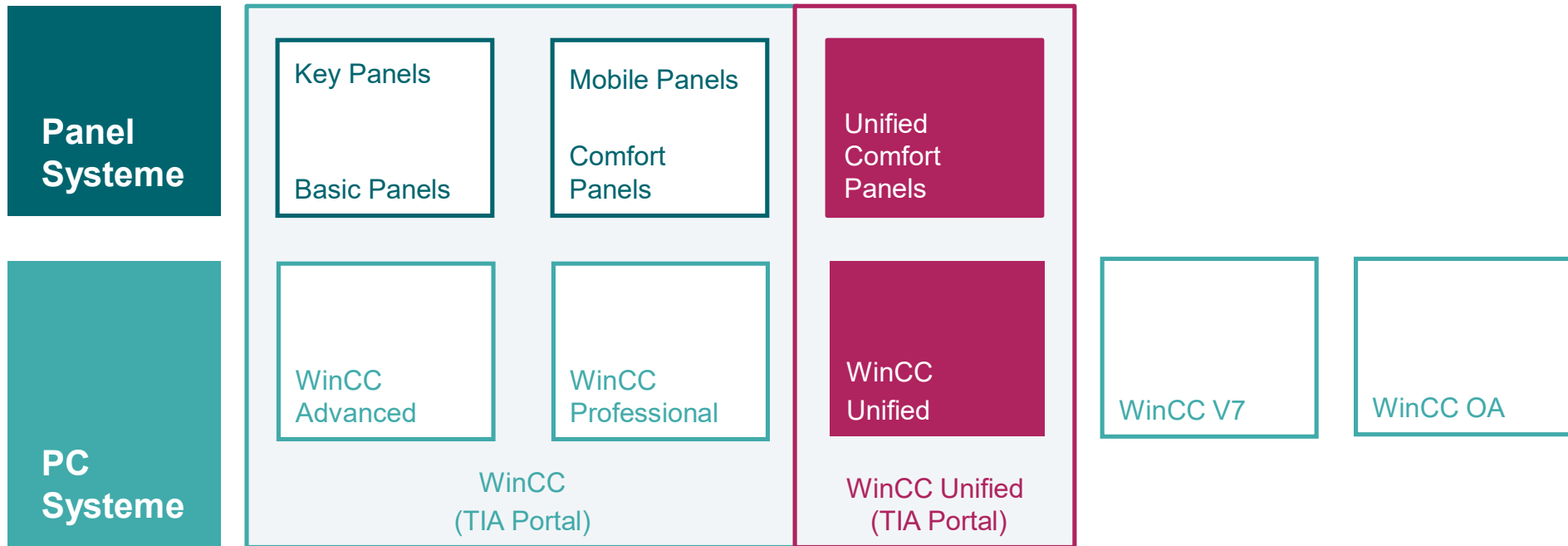
Consistent structuring of screens with picture windows.



Controls

Common UI Controls for Panels and PC to ensure the best Usability.

HMI & SCADA Portfolio – Including WinCC Unified System



No replacement of current portfolio for the moment. WinCC Unified V16 running in parallel for now.
In the long term, the HMI & SCADA portfolio in TIA Portal will consistently be based on WinCC Unified.

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SIMATIC WinCC Unified – Highlights



Scalability from panel to control center

One common software platform for all devices



Modern User Interface based on web technologies

Flexible access with any modern web browser



Advanced scripting based on JavaScript

Powerful and platform independent scripting language



Automate engineering tasks with TIA Portal Openness

Create, validate and reuse WinCC Unified components automatically



Technological hierarchy for object oriented engineering

Define plant assets once and reuse them by instances



Calendar and Performance Insight Option

Manage working times and get production insights based on individual KPI calculation



Easy collaboration of WinCC Unified systems

Setup of distributed configurations. Predefined as well as on the fly access

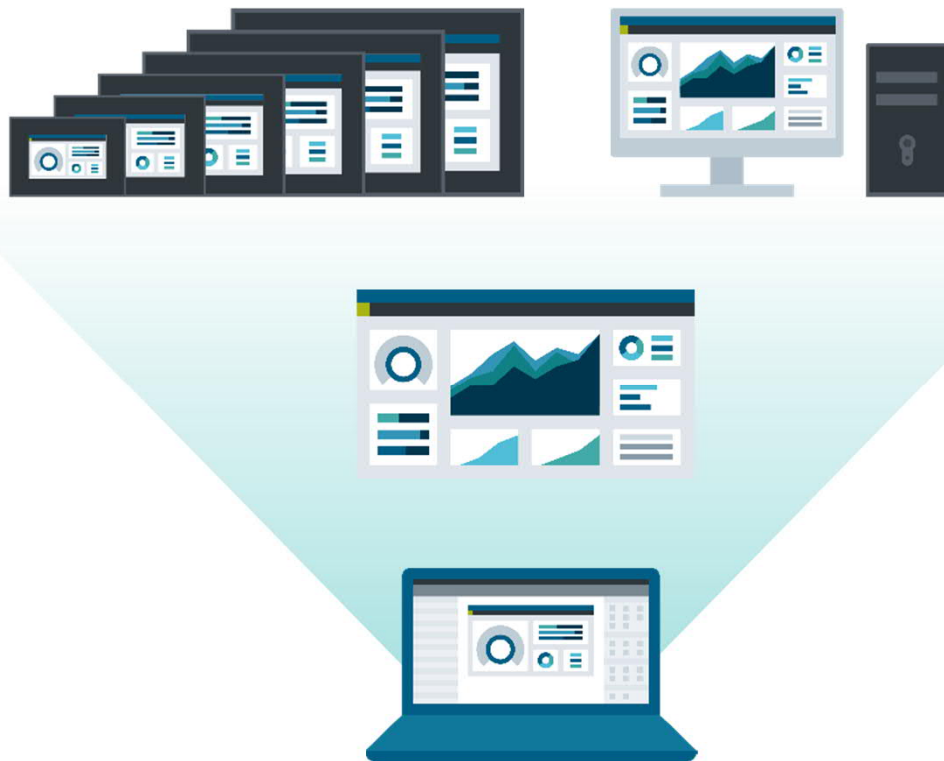


Use WinCC Unified as Integration Platform

Integrate IT-Tools into one user interface and exchange data via interfaces



SIMATIC WinCC Unified – Scalability from panel to control center



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One modern software platform for all runtime environments

- One engineering in TIA Portal
- Reuse components on all WinCC Unified platforms
- Consistent Usability for UI Controls
- Device change between all devices based on WinCC Unified

WinCC Unified – Modern User Interface



A great experience. No matter where you are!

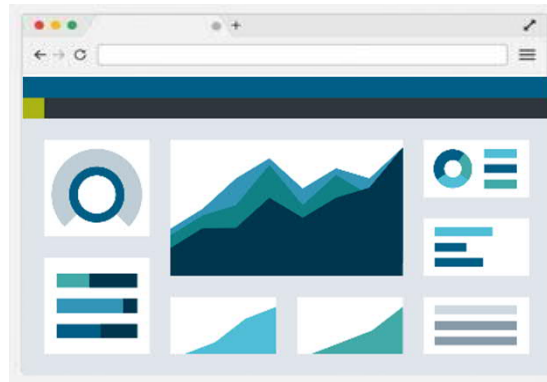


JavaScript



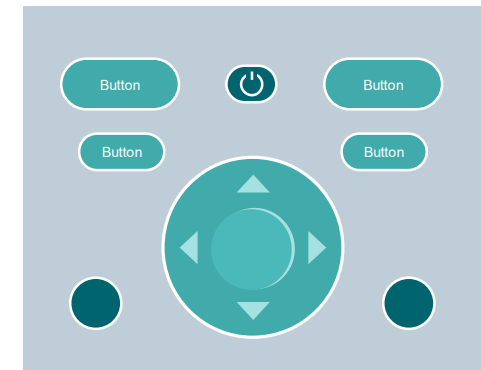
Based on Web Technologies

Like HTML5, SVG and JavaScript.
Lightweight user interface with all the possibilities you're used to.



Access from Everywhere

With any modern web browser.
No need for installing extra plugins –
Also on mobile devices.



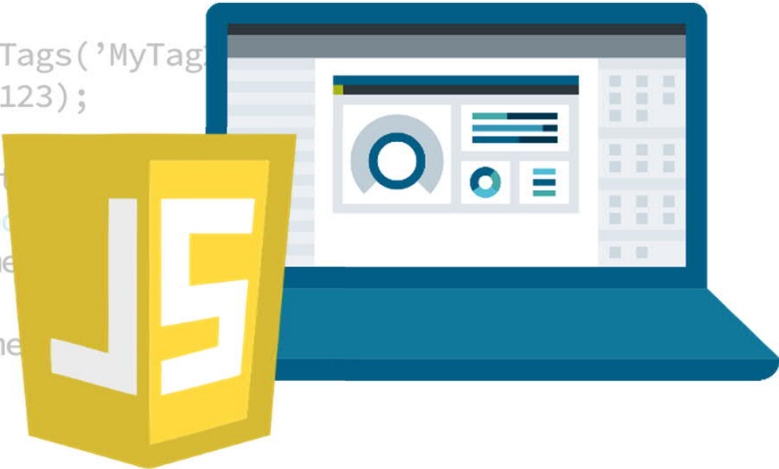
Customize and Animate

Use Dynamic SVGs or Custom
Web Controls to make your HMI
stand out.

WinCC Unified – Scripting – Advanced scripting with the power of JavaScript



```
export function Funtion (parameter1, parameter2){  
    let tag1 = Tags('MyTag1');  
    tag1.Write(123);  
  
    let tag2 = Tags('MyTag2');  
    tag1.Write(123);  
  
    if (tag1 > tag2) {  
        UI.RootWindow.HMIRuntime.  
    } else {  
        UI.RootWindow.HMIRuntime.  
    }  
}
```



JavaScript is a widely spread and easy to learn scripting language

- One scripting language for all platforms (Panel and PC Systems)
- Use the entire object oriented JavaScript scope for handling data, objects, classes, inheritance
- Predefined Code Snippets for common tasks available in TIA Portal
- Integrated debugging functionality

WinCC Unified – TIA Portal Openness



Higher engineering quality in less time



Configurator

Build your machine configurator with a .net programming language and build a UI that fits your needs.

TIA Portal

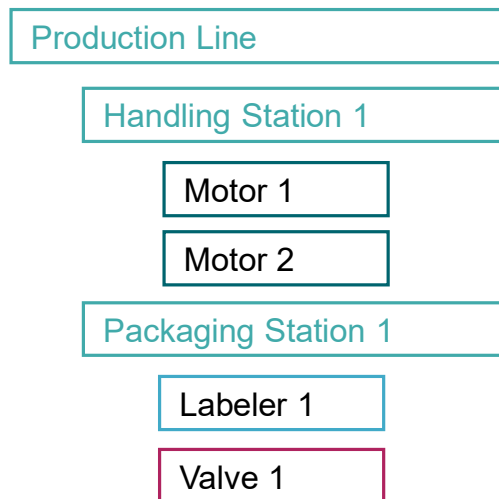
Get access to existing assets or create them automatically from scratch via the Openness API.

Projects

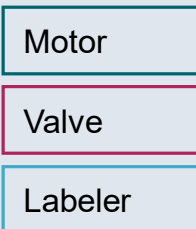
Create individual project configurations within seconds. Reduce risk and save time.

Engineering automation is the power booster for your workflow

WinCC Unified – Technological Hierarchy – Define plant assets once and reuse them by instances

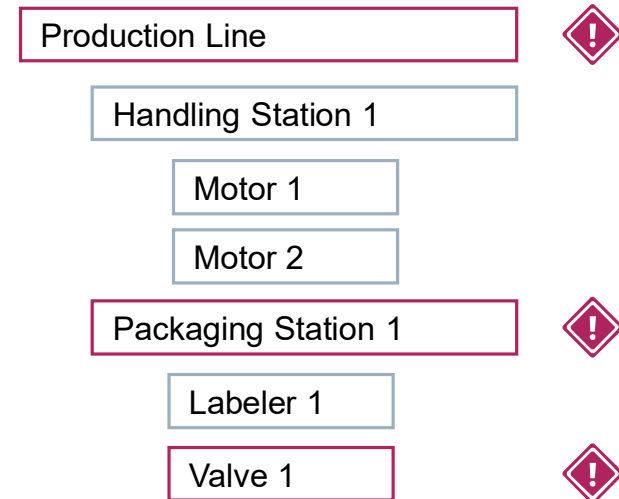


Types



Object oriented engineering approach

Create a technological structure of your plant and build plant assets based on objects that can be updated centrally.

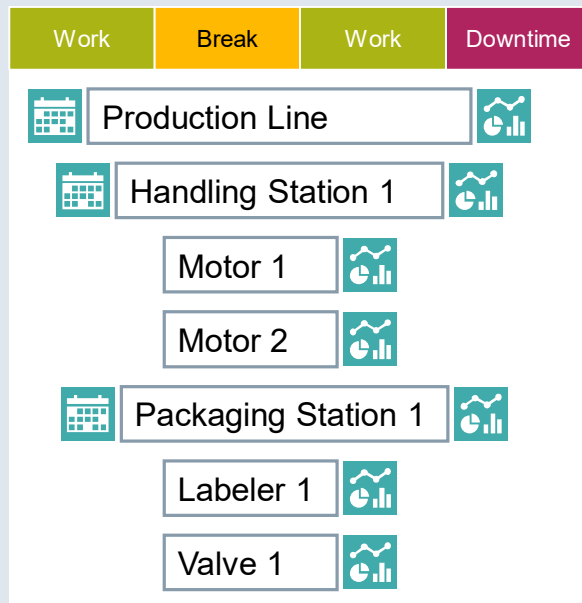


Hierarchically structured operation

Use the technological hierarchy to navigate through all of your plant assets. Get a quick overview of system status based on a hierarchical alarm structure.

SIMATIC WinCC Unified – Plant Intelligence - Calendar & Performance Insight

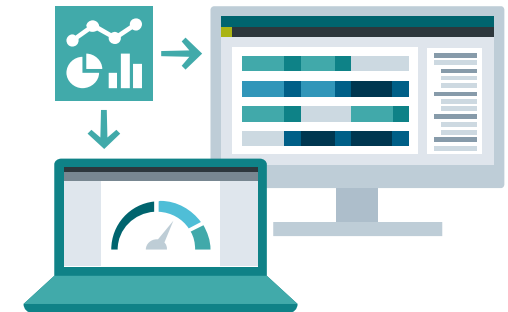
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Standardized **Time model**
as basis for Calendar and
Performance Insight



Calendar
Schedule activities for the
production



Performance Insight
Improving performance by
calculating individual KPIs

WinCC Unified – Calendar Option

Plan your production shifts



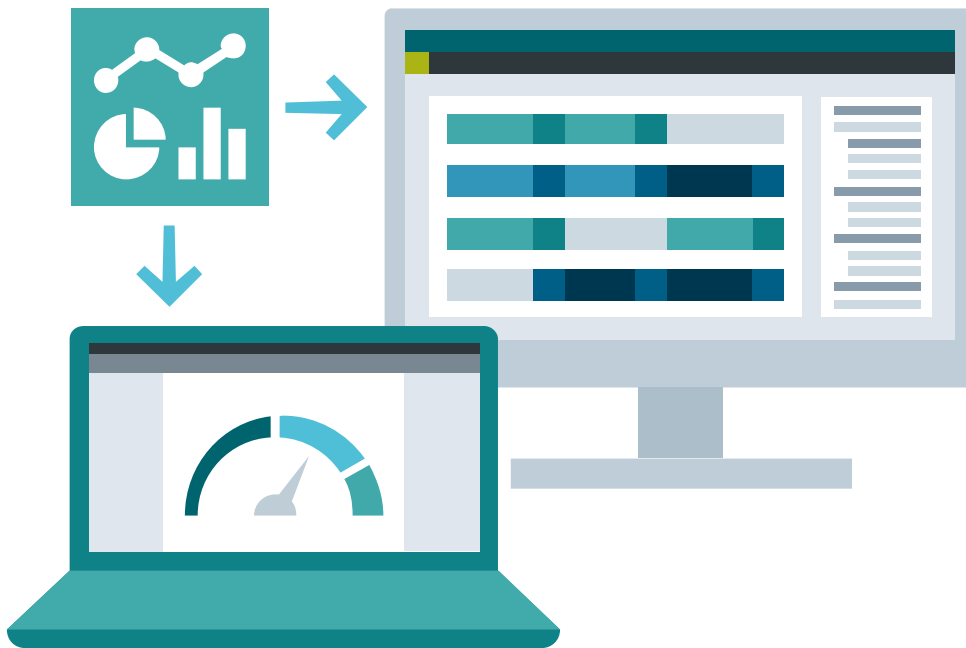
Schedule activities for the production

- Based on the technological hierarchy
- Define working time of machines and systems
- Create standard templates for regular production days and shifts.
- Planning the execution of activities relative to a timeline, for example, machine
 - start 30 minutes before early shift (ramp-up time)

WinCC Unified – Performance Insight Option



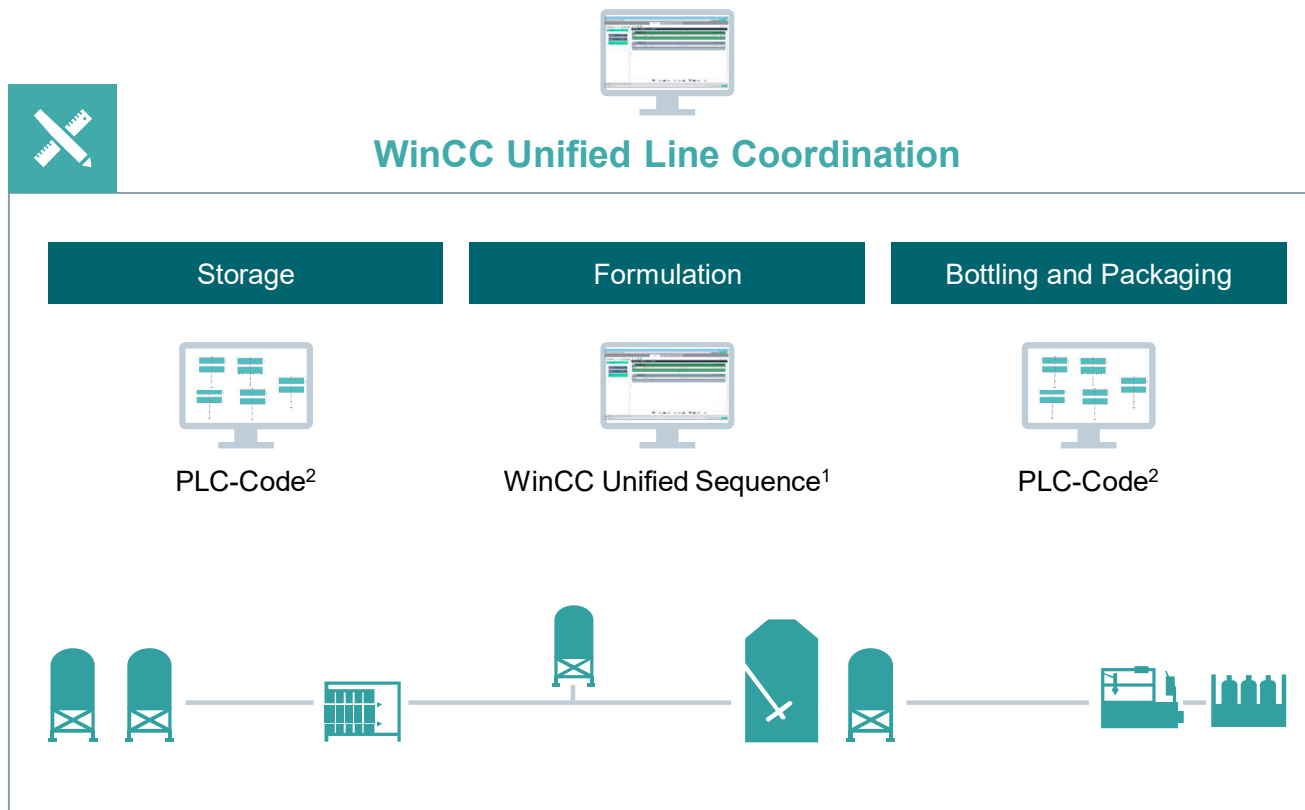
Get value out of your data



Production insights based on individual KPI calculations

- Global definition of KPI formulas according to ISO22400
- Object oriented KPI engineering based on technological hierarchy
- Comprehensive set of WinCC controls for the display of KPIs
- Downtime analysis
- Calculation of the performance of machines / lines / plants according to context (e.g. shift, order, etc.)
- Creating an Excel-based report

WinCC Unified – Plant Intelligence Options – Sequence and Line Coordination



Comprehensive engineering and line integration of units

Orchestration of production procedures with WinCC Unified Line Coordination

Fast changeability of procedures in the production process with WinCC Unified Sequence

¹ Sales special release in V16 | ² Individual PLC code for control and connection of the units to WinCC Unified Line Coordination
*Unified PC RT only

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WinCC Unified – Plant Intelligence Options – Sequence



Automation with manual interaction



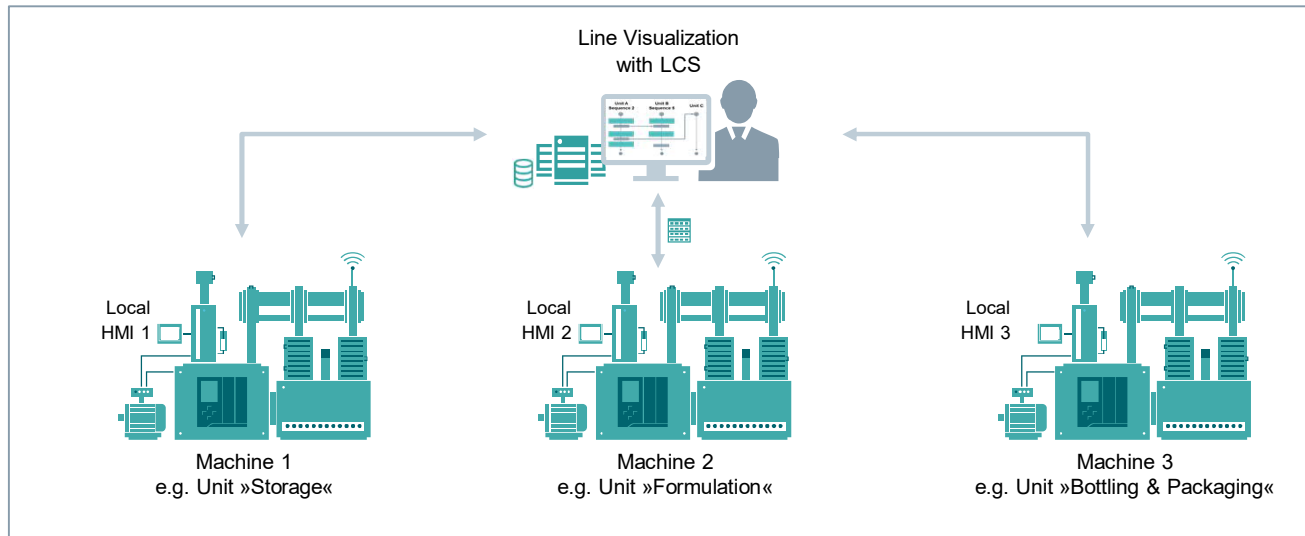
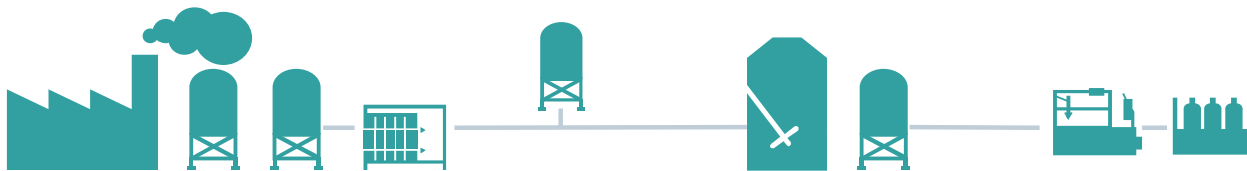
Flexible arrangement of automatic steps within the production process

- Fast and simple changeability of procedures in the production process without program modifications on the PLC
- Clear overview of the manufacturing steps and current status
- Scalability from small to large plants
- Based on standardized operations according to ISA-88

WinCC Unified – Plant Intelligence Options – Line Coordination



Orchestration of production procedures



Efficient engineering due to mapping ISA-88 plant model within Technological Hierarchy

Overall definition of complete procedure and recipe at line level

Transparent monitoring of production procedures in different units

WinCC Unified – Collaboration – Making collaboration more flexible



Exchange process data between WinCC Unified systems

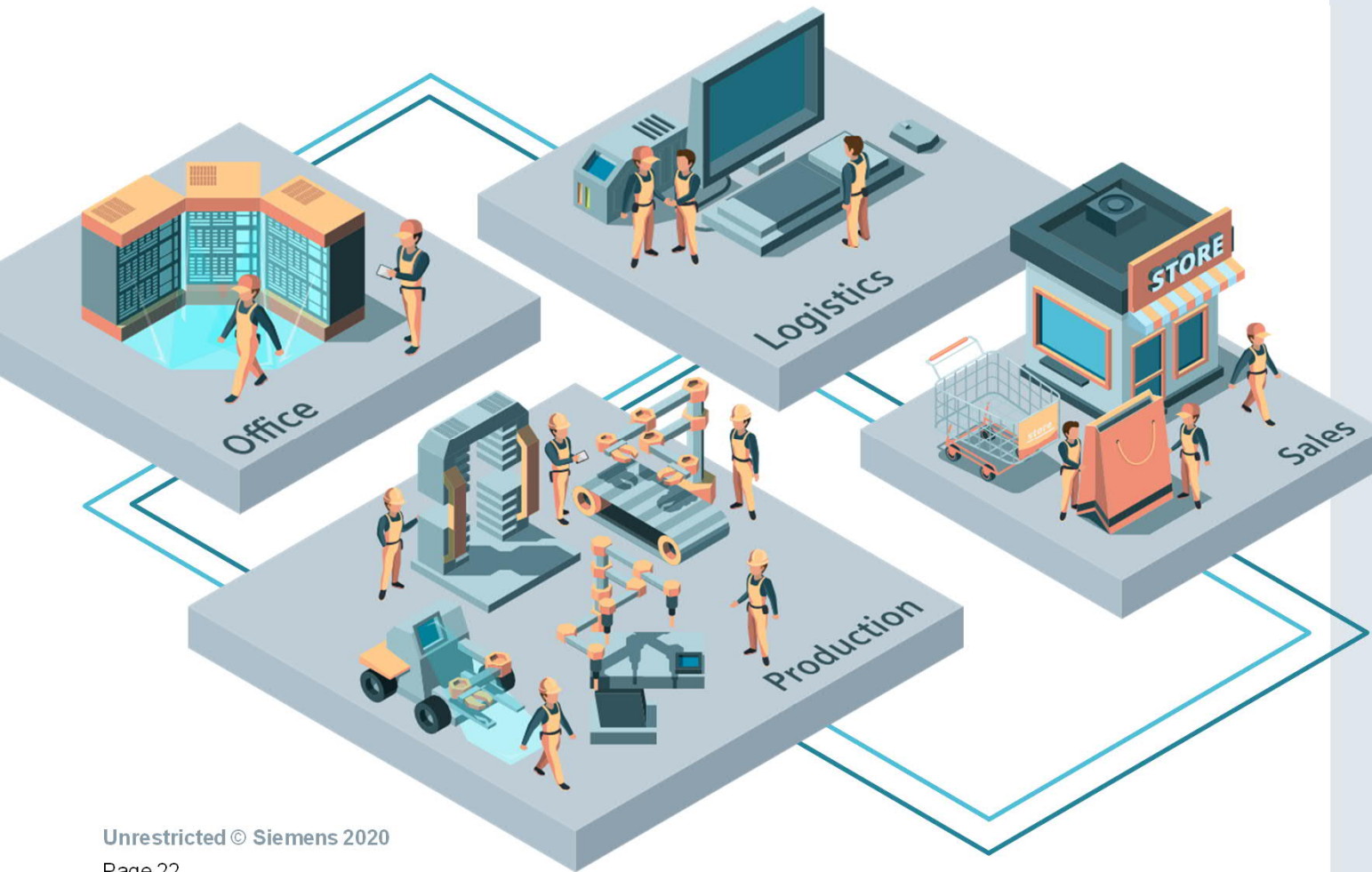
- Every machine can provide different types of data to other WinCC Unified systems
- Share screens, tags, archives and alarms
- Access to data of other Unified platforms during Runtime



Combine production data from several machines for supervision

- Setup of distributed configurations for lines and plants
- Increases the flexibility and simplifies the connection of different machines to one unified system
- Connect systems while commissioning or later

WinCC Unified as integration platform – Connect and integrate 3rd party tools



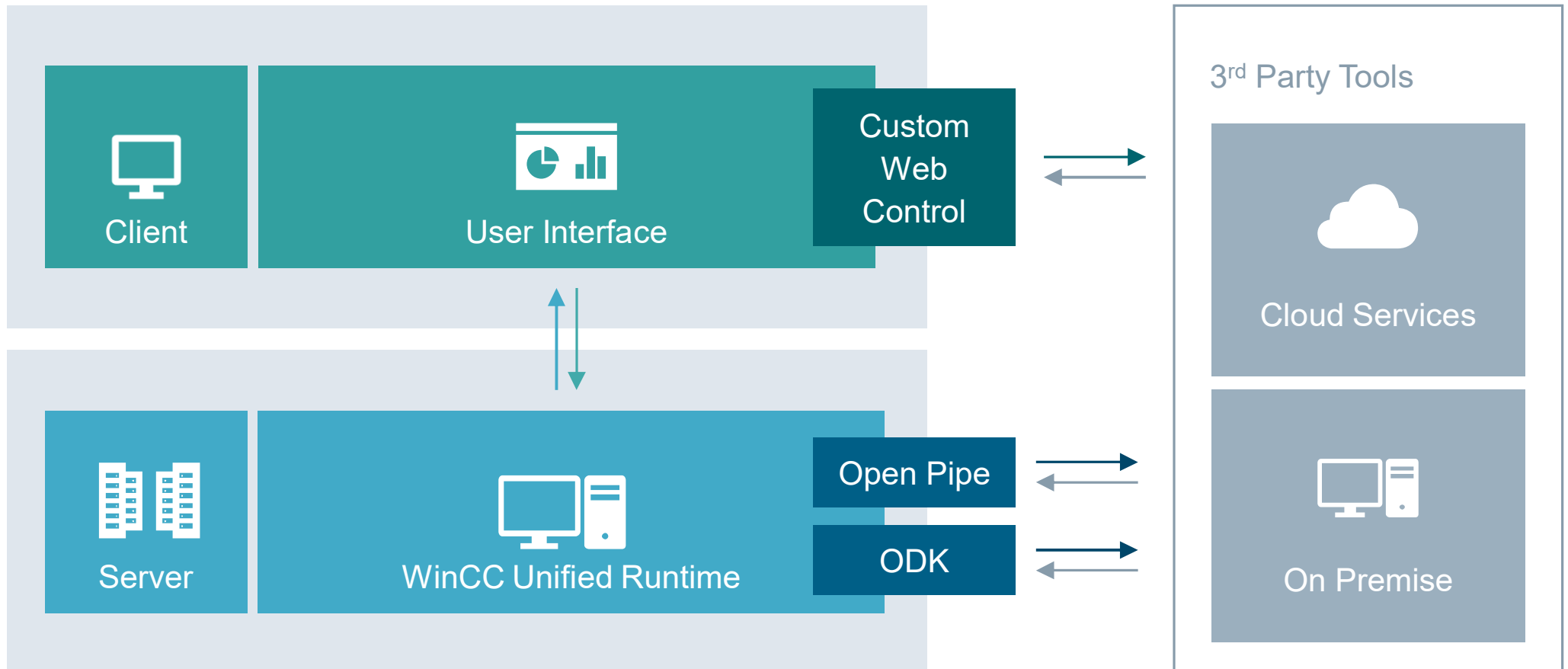
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Different departments use
different software system

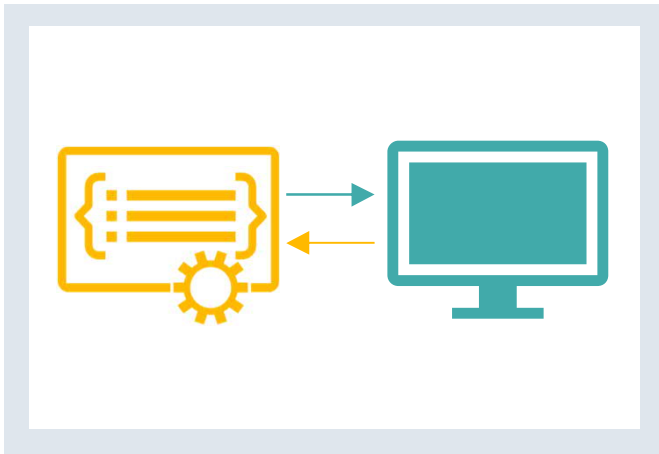
Digitalization requires
seamless data flow

Open interfaces are required
for all systems

WinCC Unified – Integration platform – Connect and integrate 3rd party tools



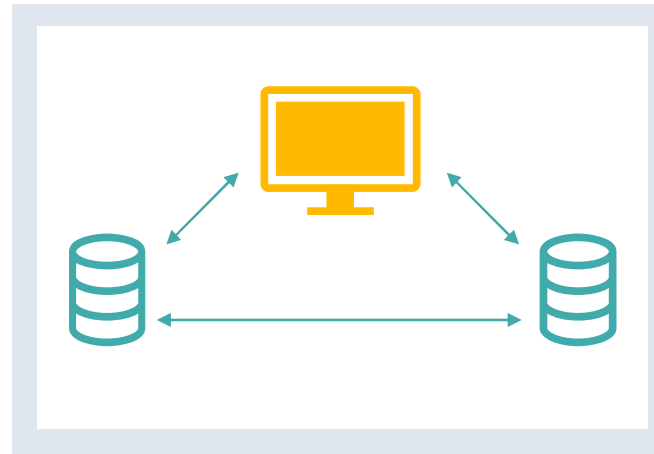
WinCC Unified – Integration platform – Examples



Open Pipe Data Interface

Server sided data interface
for online tags and alarms.

Independent from programming language.
Can be used to connect several software
tools to WinCC Unified.



Runtime Openness Data Interface

Server sided data interface for online
and historical tags and alarms with
.net or C++ programming.

Exchange huge amounts of data
with Databases or IT systems.



Custom Web Control Container for Web Content

Add custom UI controls (e.g. 3D Viewer)
or visualize and exchange data of 3rd party
services (e.g. weather data). Can be used
to get access to sensors of mobile clients
(e.g. camera, GPS)

Get Started



SIMATIC HMI Template Suite – The TIA Portal library for good HMI design

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Ready to use screen
templates for WinCC Unified
and Unified Comfort Panels

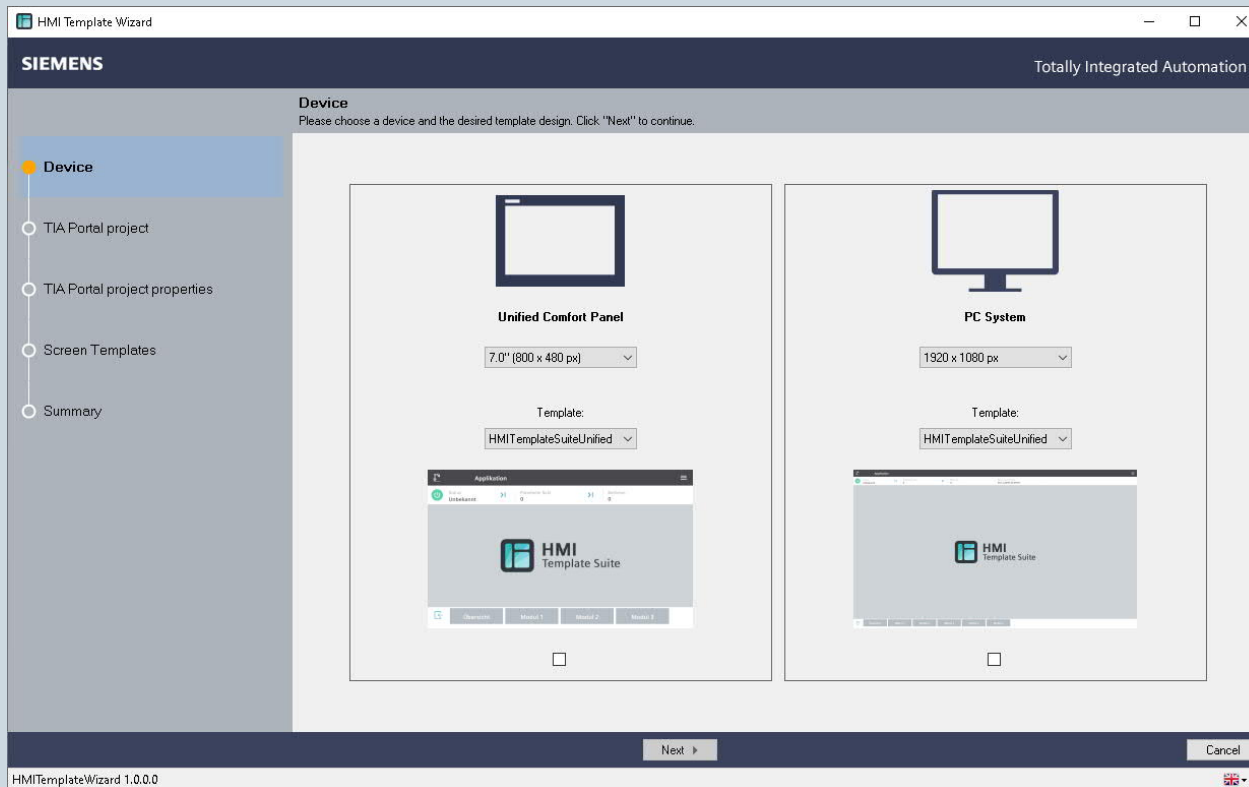
Available for all common
resolutions from 7" - 22"

Available free of charge in
Industry Online Support

SIMATIC HMI Template Wizard

Live Demo

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Wizard based configuration of
the navigation structure

Activate the screens and
elements you want to use

The device will be generated
fully automatically

SIMATIC HMI Template Suite Download



The complete application example contains:

- Documentation
- Wizard (Tool)
- TIA Portal Library
- TIA Portal Example Project

Download under entry ID **91174767** or from Industry Online Support via the following link:

<https://support.industry.siemens.com/cs/ww/en/view/91174767>

Ordering Information



SIMATIC WinCC Unified – Promotion Packages

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Available until 31/12/2020

WinCC Unified PC (1k) RT

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

6AV2155-2ES01-6AL0

WinCC Unified PC (10k) RT

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

6AV2155-2FS01-6AL0

WinCC Unified PC (50k) RT

- WinCC Unified PC (50k) RT
- Parameter Control (PC)
- Logging Tags (1000)
- Report Execution
- Database Option
- Client Operate (1)

6AV2155-1GS01-6AL0

Packages only available via Online Software Delivery (OSD)

**~ 30%
discount**

SIMATIC WinCC Unified – Promotion Packages Plant Intelligence Options

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Available until 31/12/2020

WinCC Unified Plant Intelligence Optionen

- Calendar Option (Basis)
- Performance Insight Option (Basis)
- Logging Tags (100)

6AV2155-0XP01-6AL0

Packages only available via Online Software Delivery (OSD)

**~ 30%
discount**

SIMATIC WinCC Unified V16 Engineering – Ordering information



WinCC Unified Engineering	Package (DVD)	Online Software Delivery (OSD)
WinCC Unified Comfort ES	6AV2151-0XB01-6AA5	6AV2151-0XB01-6LA5
WinCC Unified PC (10k) ES	6AV2153-2FB01-6AA5	6AV2153-2FB01-6LA5
WinCC Unified PC (100k) ES	6AV2153-2GB01-6AA5	6AV2153-2GB01-6LA5
WinCC Unified PC (Max) ES	6AV2153-0XB01-6AA5	6AV2153-0XB01-6LA5
WinCC Unified PC (1k) ES Trial	6AV2153-2EB01-6AA7	Download via SIOS

**The complete list for WinCC Unified
(Engineering and Runtime) can be found in the product announcement [here](https://support.industry.siemens.com/cs/ww/en/view/109771724)**
<https://support.industry.siemens.com/cs/ww/en/view/109771724>

WinCC Unified V16 – IPC Packages



Package	Order Number
WinCC Unified V16 PC RT 150, Package	6AV2155-3DB01-6AA0
WinCC Unified V16 PC RT 500, Package	6AV2155-1EB01-6AA0
WinCC Unified V16 PC RT 1k, Package	6AV2155-2EB01-6AA0
WinCC Unified V16 PC RT 2.5k, Package	6AV2155-2MB01-6AA0
WinCC Unified V16 PC RT 5k, Package	6AV2155-1FB01-6AA0
WinCC Unified V16 PC RT 10k, Package	6AV2155-2FB01-6AA0
WinCC Unified V16 PC RT 50k, Package	6AV2155-1GB01-6AA0

Further information: <https://support.industry.siemens.com/cs/de/en/view/99860269>

Thank you for your attention!

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