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# SIMATIC HMI Efficient to a new level

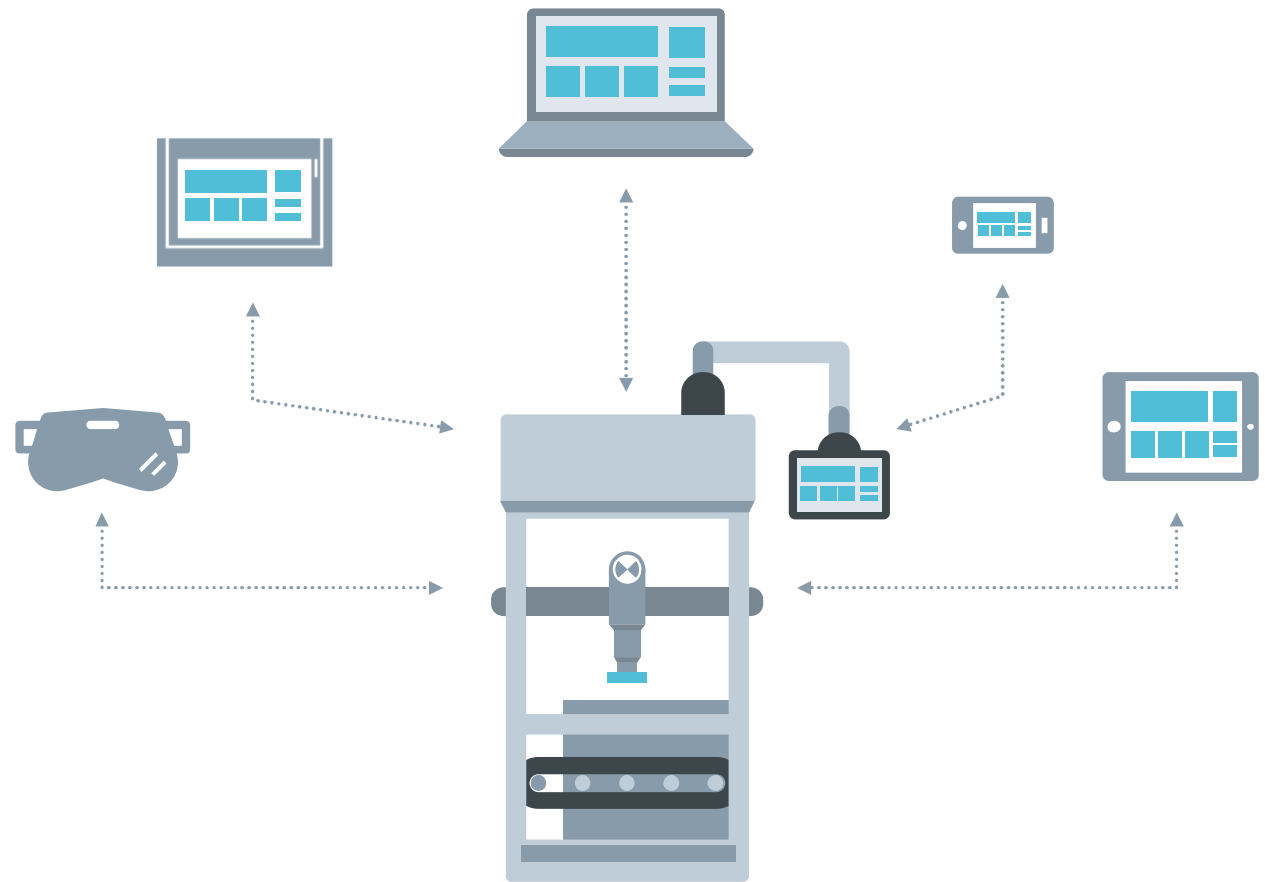


## Visualisation at the machine ...

[www.siemens.com/hmi](http://www.siemens.com/hmi)

## Agenda

- Visualisation at the machine
- Configuration Software
- SIMATIC HMI Added-Value Benefits





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# SIMATIC HMI Panels

Efficient to a new level

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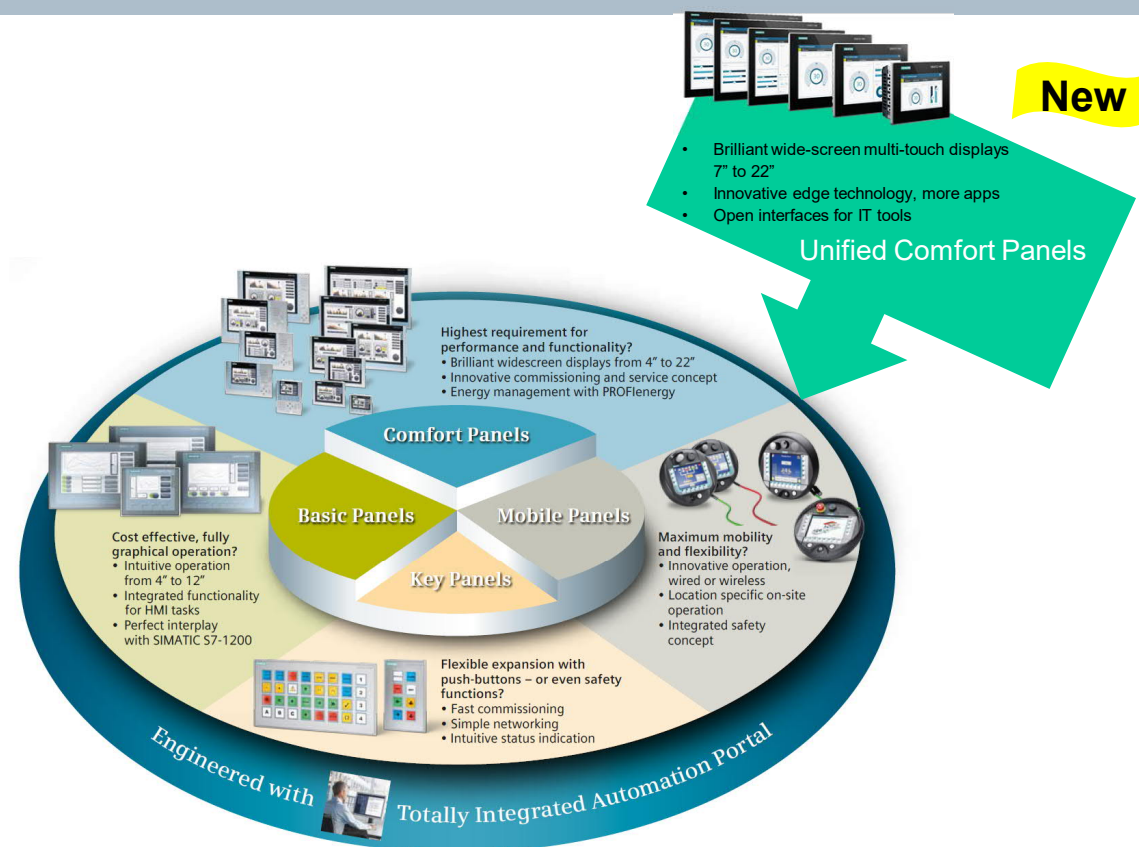
[siemens.com/wincc-tia-portal](https://www.siemens.com/wincc-tia-portal)

# SIMATIC HMI

The right product for simple applications – Part of a great family

**SIMATIC HMI Panels** for every application

- **Basic Panels 2nd Generation:**  
the right product for simple applications
- **Comfort Panels:**  
first choice for demanding applications
- **Mobile Panels:**  
Innovative use with or without cable
- **Key Panels:**  
Innovative alternative to conventionally wired keypad operator panels
- **Unified Comfort Panels** **V16**  
first choice for new demanding applications with multi-touch and openness



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Powered  
by WinCC  
Unified



New

# SIMATIC HMI Unified Comfort Panels

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



# SIMATIC HMI Unified Comfort Panels – Highlights

## Great usability in a brilliant way

Capacitive Multitouch technology combined with bright colors and excellent readability



## Display size doesn't matter

Same interfaces and functionality for all devices from 7" to 22"



## Need more? Add Apps!

Use Siemens Industrial Edge to extend standard functionality by edge apps



## The power to do more

Realize larger applications thanks to increased system limits



## Security Integrated

From access control and encrypted communication to security patches. Everything is inside



## Everything under control

Full commissioning within TIA Portal. No IT-management necessary



## Ready for the future as of today

Take full advantage of WinCC Unified with a Modern UI, openness and full scalability



## Comfort DNA remains

Well known Comfort Panel features like automatic system backup remain



# SIMATIC HMI Unified Comfort Panels – Multitouch from 7" to 22"

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# SIMATIC HMI Unified Comfort Panels – Multitouch from 7” to 22”



**MTP 700**

**800 x 480**  
7.0”



**MTP 1000**

**1,280 x 800**  
10.1”



**MTP 1200**

**1,280 x 800**  
12.1”



**MTP 1500**

**1,366 x 768**  
15.6”



**MTP 1900**

**1,920 x 1,080**  
18.5”



**MTP 2200**

**1,920 x 1,080**  
21.5”

MTP = Multitouch Panel

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# SIMATIC HMI Unified Comfort Panels – Standard- and Neutral design version

Released



## Standard design

Silver frame – With Siemens branding

Step 2

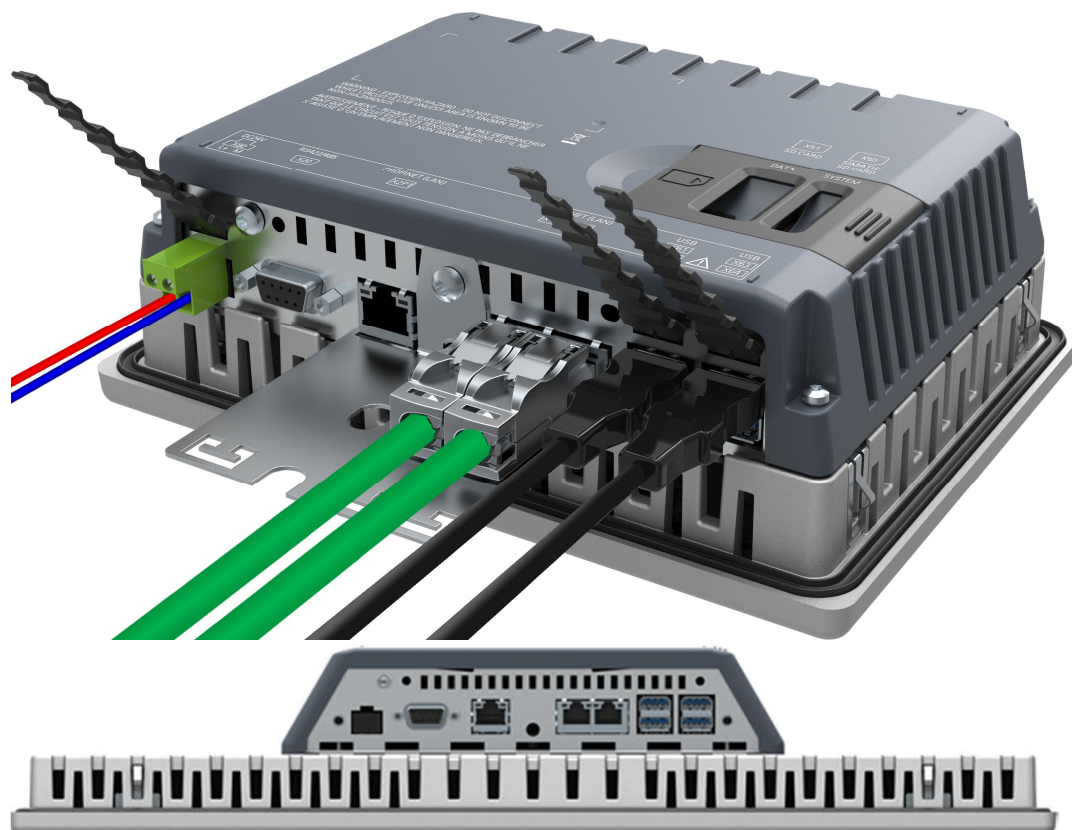


## Neutral design

Black frame – No branding

*Coming ...*

# SIMATIC HMI Unified Comfort Panels Connectivity



## 2 Port PROFINET Switch

1 IP address 100 Mbit

## 1 Port Ethernet

1 IP address 100 Mbit/1 Gbit

## Serial

(422, 485) to support 3<sup>rd</sup> party PLCs<sup>1</sup>

## 4x USB 3.0

Support of USB Hardware e.g., printer,

## 2x SD-Card

Data card for files, logs and customer data

System card for automatic backup

## Reset Button

Set device to reset mode

<sup>1</sup> Available after device release via CSP

## 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
Logs	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

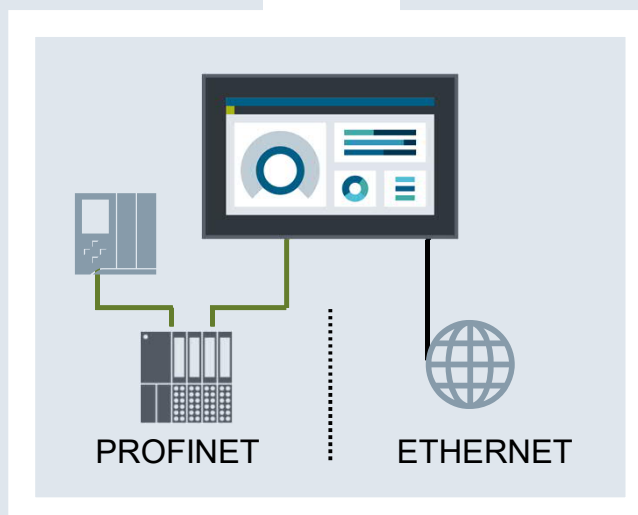
## SIMATIC HMI Unified Comfort Panel

*Temporarily not all services on all interfaces!*

### Integrated Switch

2 Ports

- S7/S7+ Communication
- MRP / HSYNC
- PN Basic Services (assign name, IP,...)
- Project Download via PN



### Gigabit Interface

1 Ports

- Project download and Firmware Update via Ethernet
- Sm@rtServer (VNC) Access
- Web Browser
- Network Access
- Edge Management and Apps
- 3<sup>rd</sup> Party PLC<sup>1</sup> (e.g. Modbus RTU)

- If both communication services are required, two Ethernet wires must be used temporarily
- Will be changed with Update for WinCC Unified V16

# SIMATIC HMI Unified Comfort Panels

## Remote control

Step 2

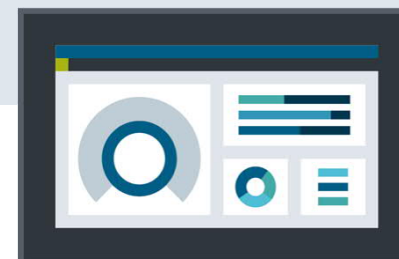
### Synchronous Access via app (VNC)



Remote  
control



### Asynchronous Access via browser (web-client)



## SIMATIC HMI Unified Comfort Panels – Need more? Add apps!



### Expand the standard functionality with Edge Apps on all Unified Comfort Panels

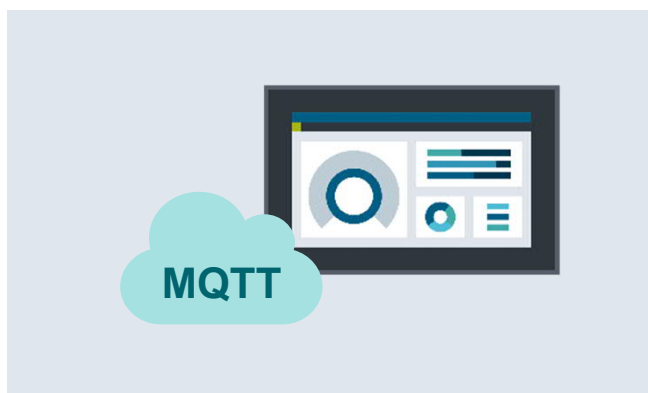
Siemens or others can provide applications  
Access to WinCC Unified Online Tags using the  
OpenPipe interface

- **Device Managed Edge**  
Apps can be managed directly on the device
- **Centrally Managed Edge**  
Apps can be managed centrally  
with the Industrial Edge Management System

**Step 2**

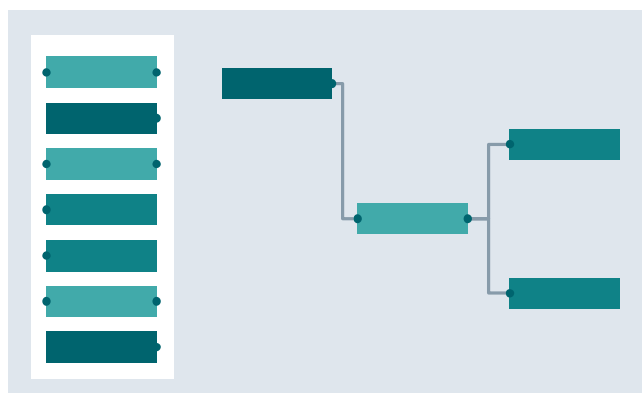


## SIMATIC HMI Unified Comfort Panels – Edge App Examples



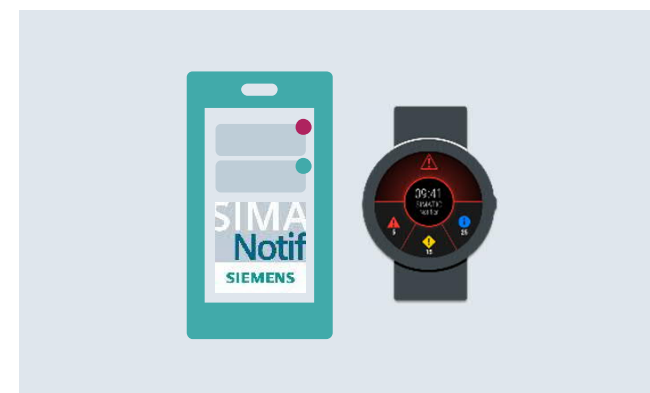
### MQTT App Cloud Connection

MQTT is the most common protocol for the connection of automation equipment to cloud based systems like MindSphere.



### SIMATIC Flow Creator Data processing made easy

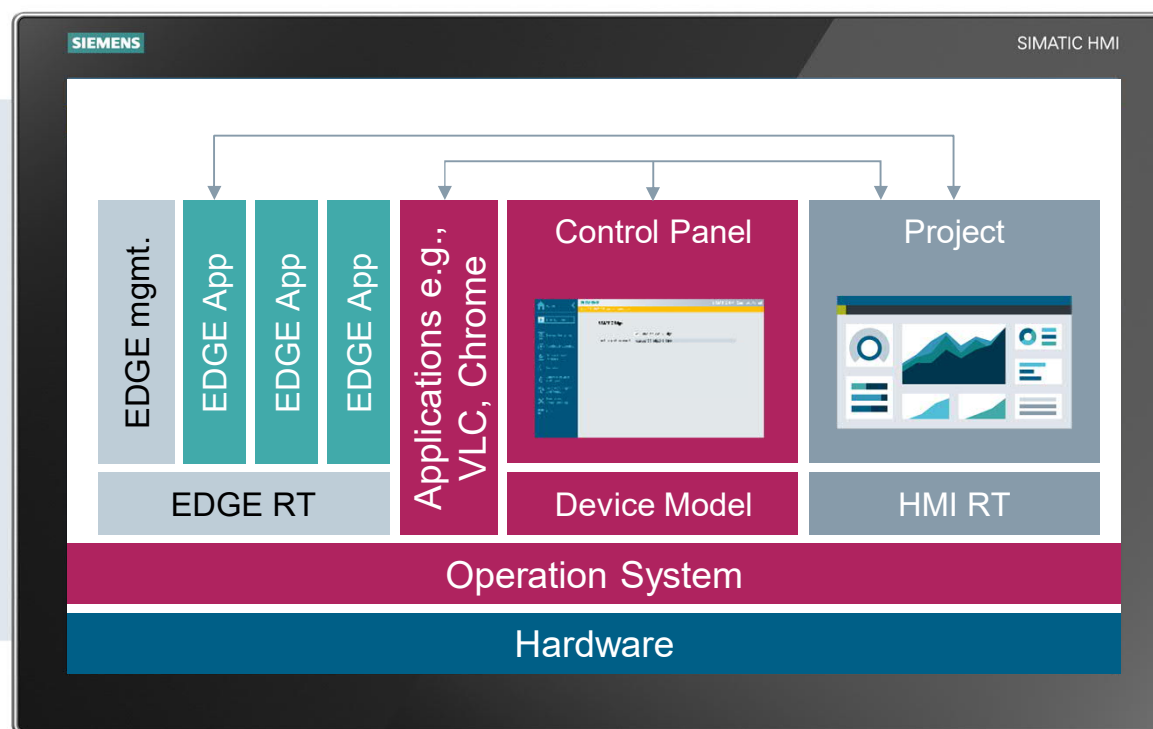
Define your data flow and create rules, KPIs or trigger actions, if threshold values are exceeded or a special event happens.



### SIMATIC Notifier Mobile Notification

Transform the Unified Comfort Panel into a messaging service. Manage and send mobile notifications directly to your Smartphone or Smartwatch.

# SIMATIC HMI Unified Comfort Panel System architecture



# SIMATIC HMI Unified Comfort Panels – Security integrated



## Further information

Security guidelines for SIMATIC HMI devices [SIOS 109481300](#)



## Activate/Deactivate Hardware interfaces

- Mass storage (USB/SD)
- Ethernet/PROFINET (also via RT functions)
- SNMP and Transfer

## Activate/Deactivate applications

- All Applications can be deactivated
- EDGE is deactivated by default

## Security Updates

With TIA Portal or SIMATIC Automation Tool

## Device security

- User management also for control panel
- Access to control panel instead of operating system GUI

# SIMATIC HMI Unified Comfort Panels

## Resolution and mounting compatibility

### 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 Panels

## Glove operation



### Support of commercial work gloves

- UVEX tested gloves ([link](#)):

	Glove model	Norm	Area of application	Properties	Standard touch application	Complex touch application (e.g. zoom)
	uvex phynomic XS uvex phynomic XS-W	EN 388: cut protection level 1	Fine and final assembly work	<ul style="list-style-type: none"> <li>• Breathable impregnation</li> <li>• Mechanical protection</li> </ul>		
	uvex rubipor XS	EN 388: cut protection level 1	Fine and final assembly work	<ul style="list-style-type: none"> <li>• Breathable impregnation</li> <li>• Mechanical protection</li> </ul>		
	uvex profi ergo	EN 388: cut protection level 1	Oily applications	<ul style="list-style-type: none"> <li>• Partially coated</li> <li>• Impermeable to oils and water</li> </ul>		
	uvex C500 foam uvex C300 foam	EN 388: cut protection levels 5 and 3 respectively	Handling sharp parts	<ul style="list-style-type: none"> <li>• Breathable</li> <li>• Cut protection</li> </ul>		
	uvex rubiflex S (blue)	EN 374	Work with chemicals, paints, etc.	<ul style="list-style-type: none"> <li>• Fully coated</li> <li>• Impermeable to chemicals, oils and water</li> </ul>		
	uvex u-fit lite	EN 374	Laboratories, food processing and medicine	<ul style="list-style-type: none"> <li>• Disposable safety gloves</li> </ul>		



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# SIMATIC WinCC in the TIA Portal

Efficient to a new level

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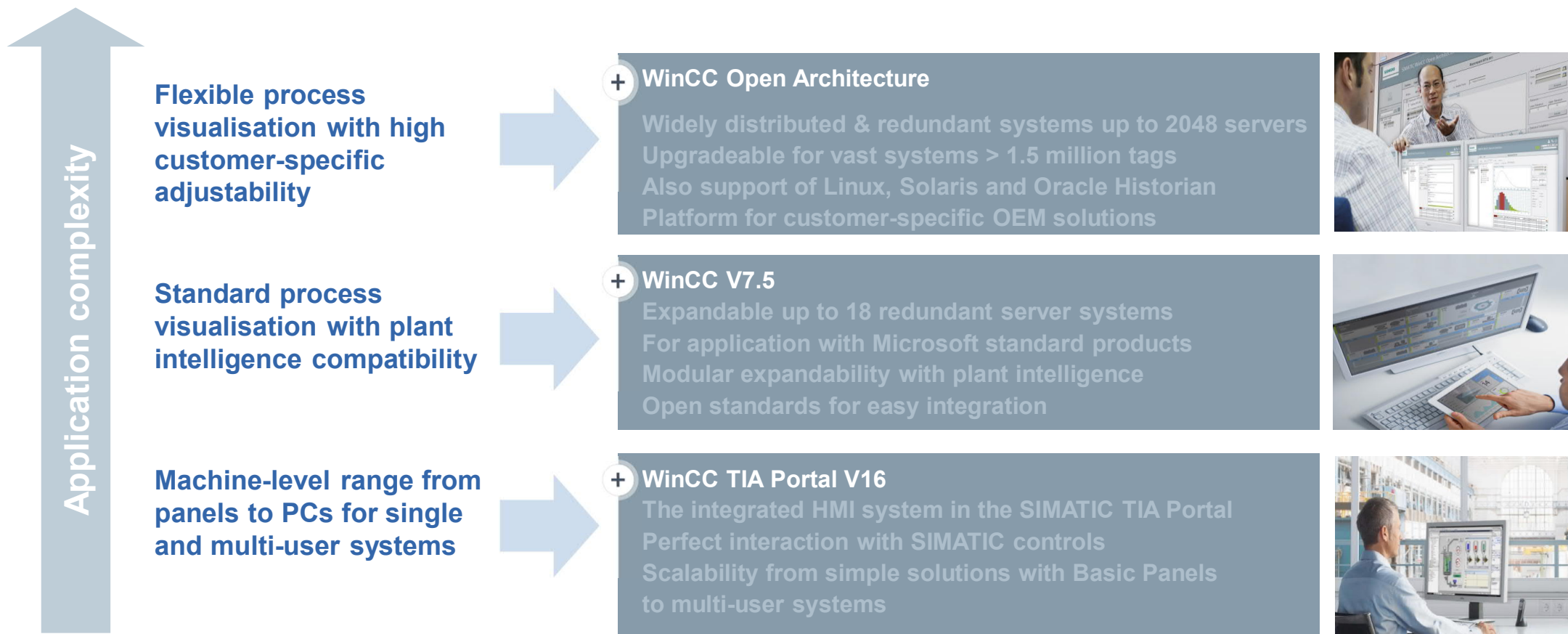
[siemens.com/wincc-tia-portal](https://www.siemens.com/wincc-tia-portal)



# SIMATIC HMI Software

## HMI and SCADA Software Positioning

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# SIMATIC HMI software in the TIA Portal – much more than just a visualization software



From machine-level visualization all the way to the high-performance SCADA system, SIMATIC WinCC in the TIA Portal and its efficient tools covers the entire engineering and visualization software spectrum – integrated across all performance classes!

## Basic HMI



### Panel-based

Optimum in price and performance for **simple** visualization tasks

## Advanced HMI



### Panel-based

High level of user-friendliness for **demanding** visualization tasks



### PC-based single-station systems

For **data-intensive** and **complex** visualization tasks

## SCADA



### PC-based multi-user systems

For processes, production sequences, machinery, and plants in all industries, even cross-site with web clients

## WinCC Unified Visualisation

low


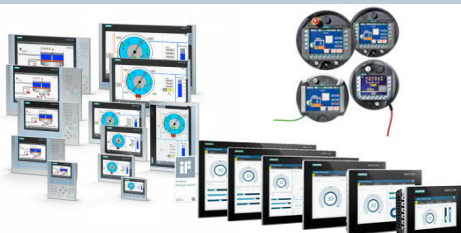

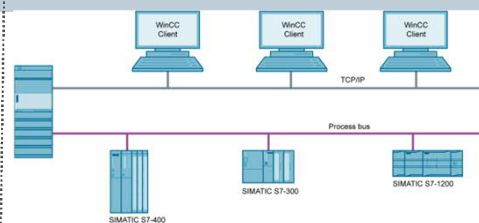
Application complexity and system performance

high

# SIMATIC WinCC TIA Portal V16

## Intuitive, efficient, cutting-edge engineering

Do I need different engineering systems for different HMI applications?

Engineering Edition	WinCC Professional 512 - incl. Unified PC 10k			
	WinCC Advanced - incl. Unified PC 10k			
	WinCC Comfort - incl. Unified Comfort			
	WinCC Basic			
Devices	Basic Panels	Unified Comfort Panels, Comfort Panels, Mobile Panels	Panel PCs	SCADA
				

# SIMATIC WinCC Unified V16

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## License Compatibility Engineering - Existing customers

WinCC (TIA Portal) V16			
Engineering System valid for...	Comfort Panels	WinCC RT Adv.	WinCC RT Prof.
WinCC Prof. (max)	✓	✓	✓ (max.)
WinCC Prof. (4k)	✓	✓	✓ (4k)
WinCC Prof.(512)	✓	✓	✓ (512)
WinCC Advanced	✓	✓	✗
WinCC Comfort	✓	✗	✗



WinCC Unified (TIA Portal) V16	
Unified Comfort Panels	Unified PC Runtime
✓	✓ <b>(100k)</b>
✓	✓ (10k)
✓	✓ (10k)
✓	✓ (10k)
✓	✗


### Existing customers with WinCC (TIA Portal):

The license of WinCC (TIA Portal) is also valid for engineering using WinCC Unified (TIA Portal).

# SIMATIC WinCC Unified V16

## License Compatibility Engineering - New Customers

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WinCC Unified (TIA Portal) V16				WinCC (TIA Portal) V16		
Engineering System  valid for..	Unified Comfort Panels	Unified PC Runtime		Comfort Panels	WinCC RT Advanced	WinCC RT Professional
PC (max.)	✓	✓ (max.)	➡	✓	✓	✓ (max.)
PC (100k)	✓	✓ (100k)	➡	✓	✓	✓ (max.)
PC (10k)	✓	✓ (10k)	➡	✓	✓	✗
Comfort	✓	✗	➡	✓	✗	✗

### New customers WinCC Unified:

The license of WinCC Unified (TIA Portal) is also valid for engineering using WinCC (TIA Portal).

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## SIMATIC HMI Efficient to a new level



## HMI Added Value Topics in Detail

[www.siemens.com/hmi](http://www.siemens.com/hmi)



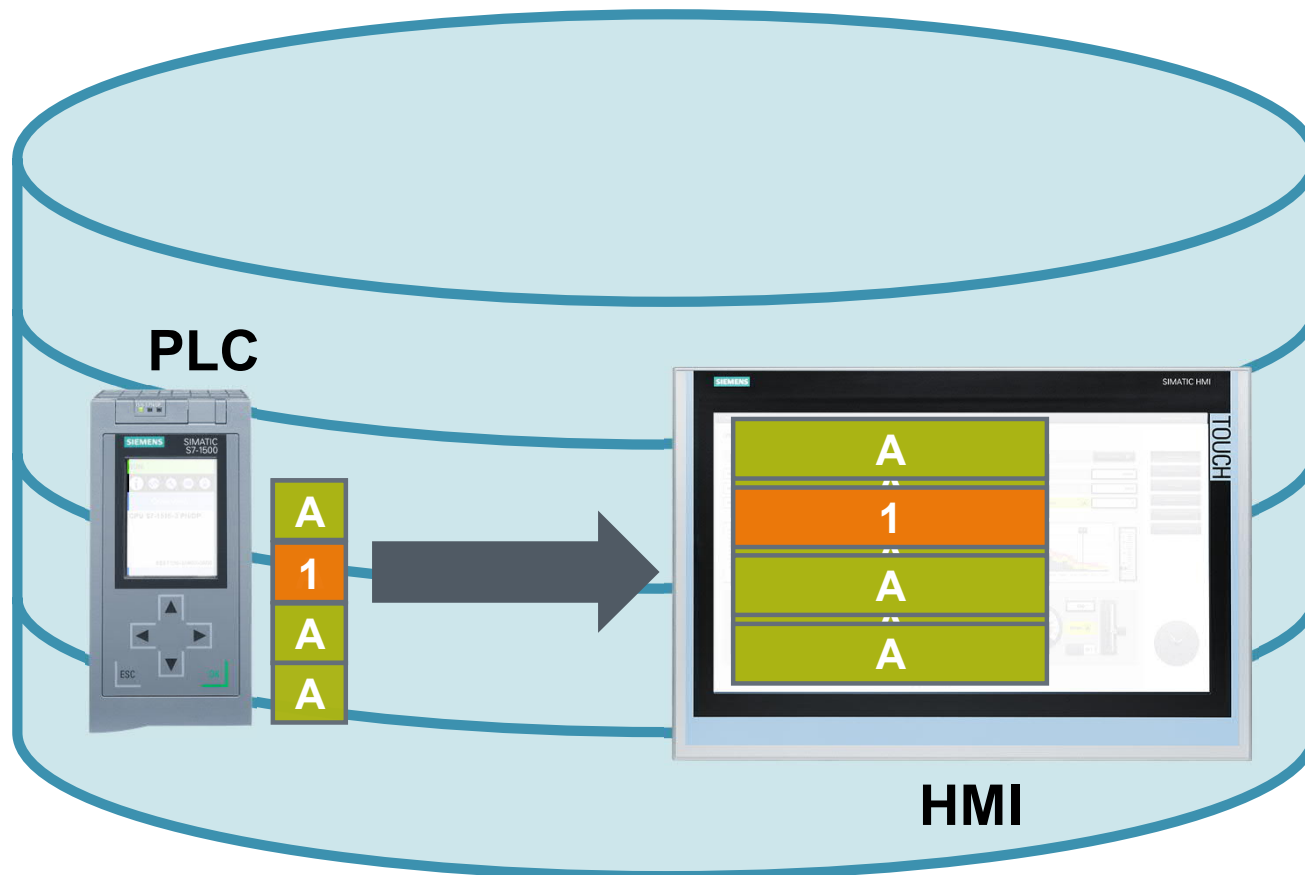
Visualization with  
minimal effort!

# 1) Efficient Engineering

... generate your visualization quicker and easier than ever before!

## Efficient Engineering

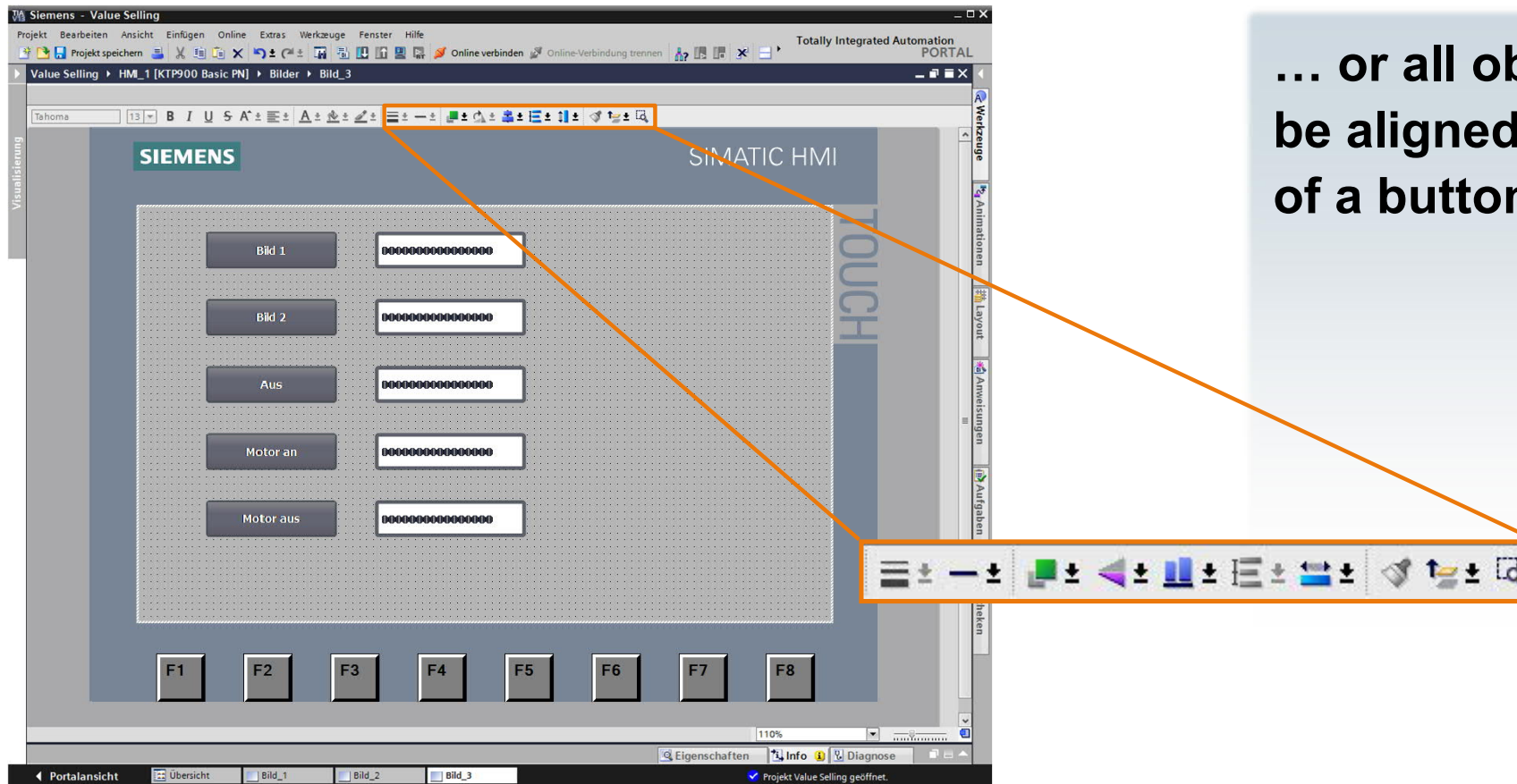
Avoidance of multiple Entries for 100% Data Consistency



**... these changes are automatically followed suit in the HMI!**



# Efficient Engineering Intelligent Screen Editor



**... or all objects can  
be aligned at the push  
of a button!**



# SIMATIC SiVArc

Simple, fast and flexible creation of HMI projects on TIA Portal



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## PLC program



## HMI library



## SiVArc



Automatic generation

Rules regarding the generation of...  
...pictures & screen objects  
...variables & tables  
...text lists



## Visualization



Unified Comfort HMI – coming ...

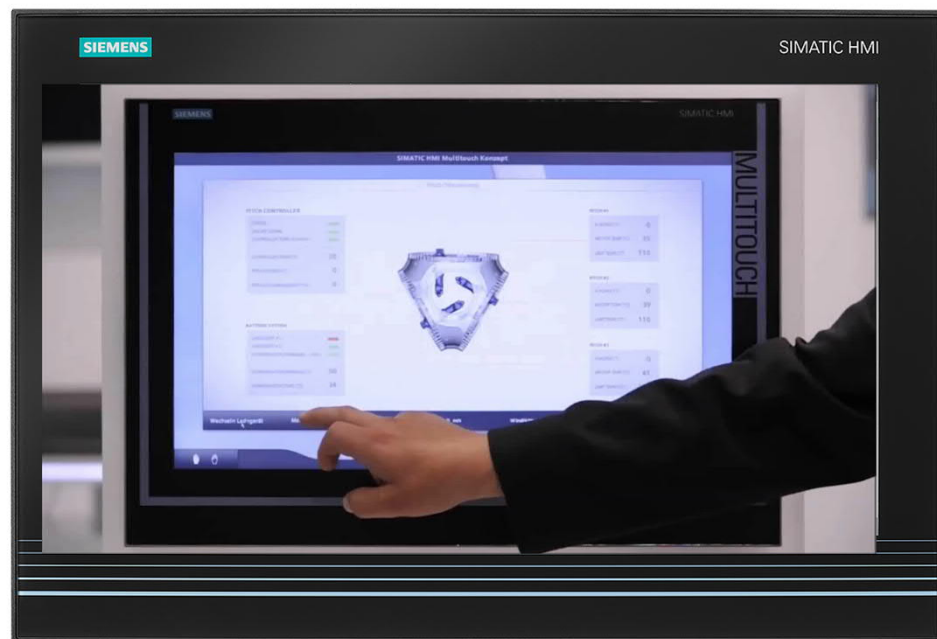
Exceptional  
flexibility that  
pays off for you!

## 2) Innovative in Design and Operation

... the Flagship of your Automation Solution!

# Innovative in Design and Operation

## Gestures and Multi-Touch for excellent Usability



**Maximum ease of operation through ...**

**Two-handed Operation**



**Scrolling**



**Zooming**



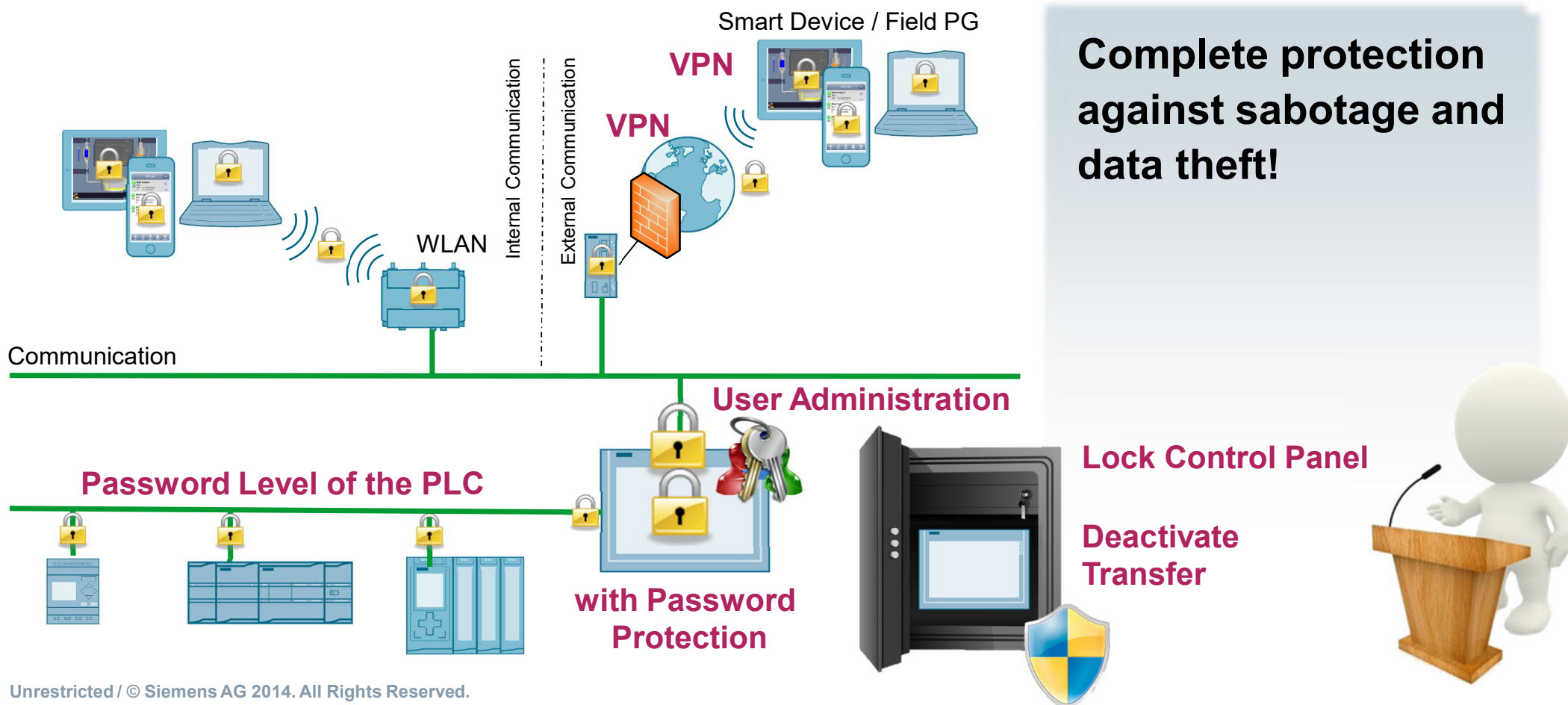


For your protection,  
absolutely no  
compromises are  
made!

## 3) Protection – with Certainty

... of your investments, your know-how and for a safe operation!

## Protection – with Certainty Security Integrated



## Protection – with Certainty Safety Integrated



**“Safety Integrated”  
with SIMATIC HMI!**



(Re-)  
Commissioning of  
your plant in  
record time!

## 4) Rapid Commissioning

... don't waste time during testing and servicing!

# Rapid Commissioning Simulation of Visualization



**... either with a  
connected PLC or by  
means of a PLC  
simulation!**



## Rapid Commissioning Automatic Backup



**Your visualization  
incl. all parameters  
is automatically  
up-to-date again!**



# Rapid Commissioning Integrated System Diagnostics



**... and if something is out of order, you can see right away, where the error source is!**





Thanks for your time !



**Mark Karalapillai**  
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DI FA HMI IPC  
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