

# Nye muligheder med SIMATIC PCS neo version 3.1

Proceskontrollsystemet,  
der sætter nye standarder

SIEMENS



# Dagens vært



Jens Norling Mathiassen,  
Technology and Sales Specialist

SIEMENS



# Agenda

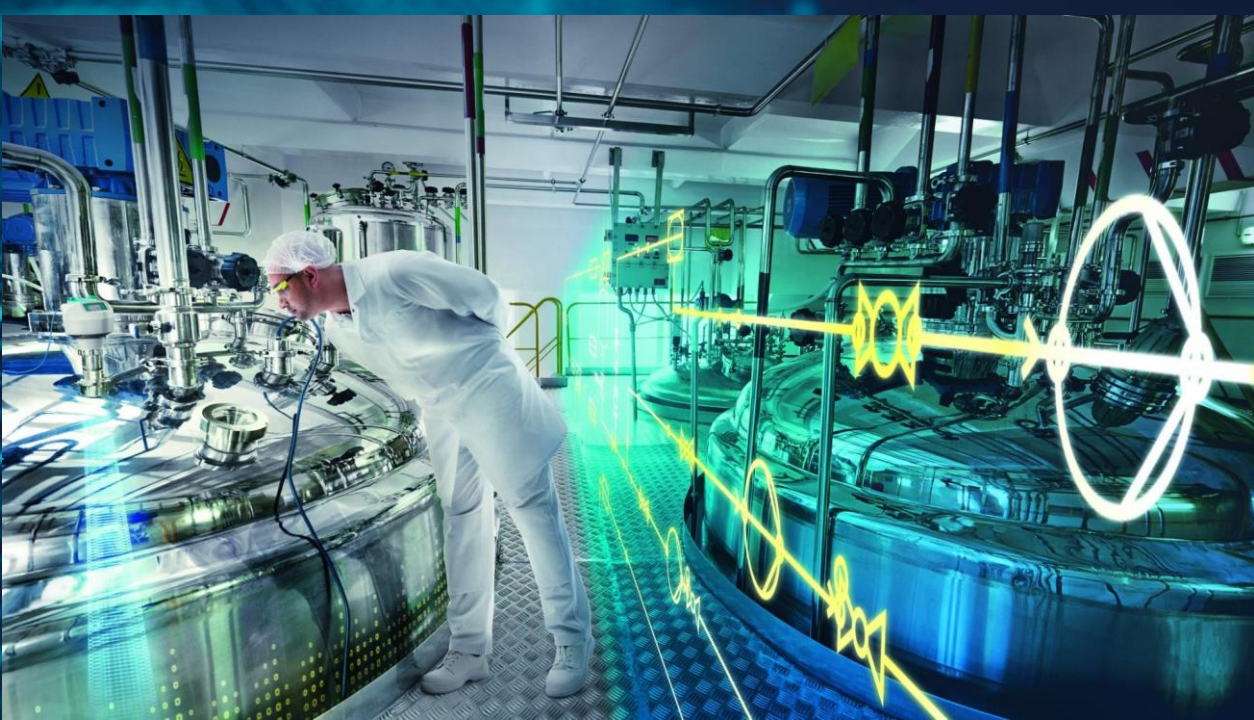
SIMATIC PCS neo: Introduktion og motivation

Fokus på SIMATIC PCS neo under drift

Udvalgte nyheder i SIMATIC PCS neo V3.1

Status på SIMATIC PCS neo V3.1 og Module Type Package

Afrunding



**BASF**  
The Chemical Company



**LANXESS**  
Energizing Chemistry



**BIONTECH**

## Process Industries

The most challenging environment to establish digitalization concepts.

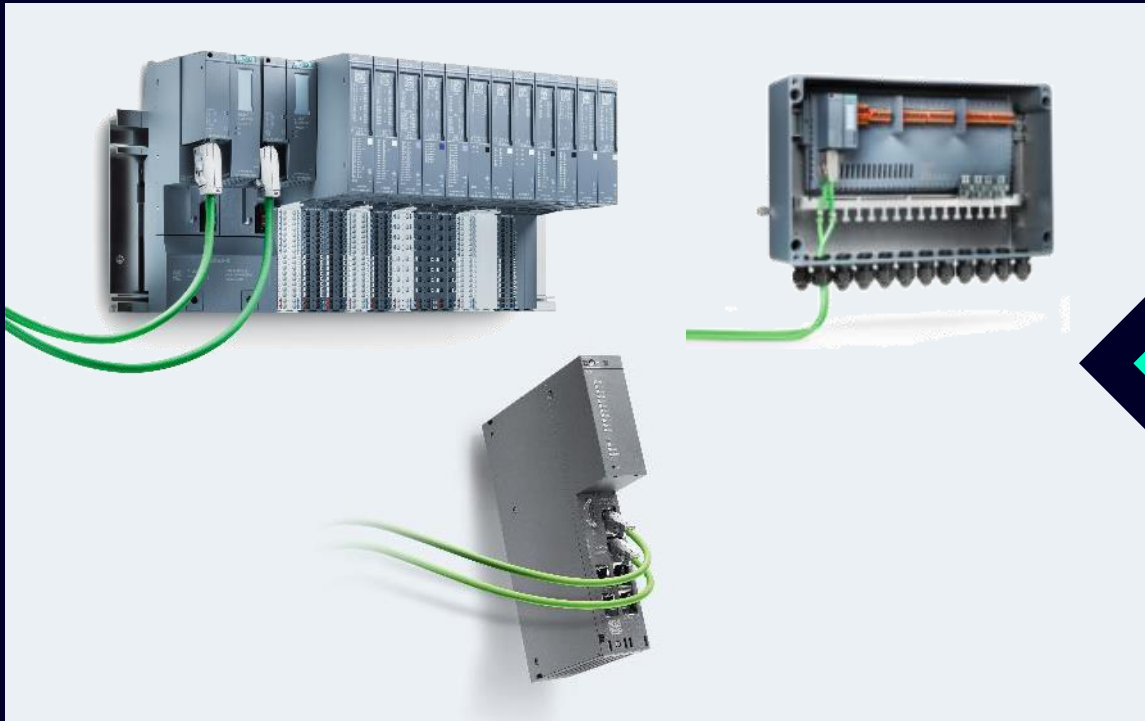
An industry in the field of tension between innovation and highly complex regulations and safety requirements.

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# SIMATIC PCS neo

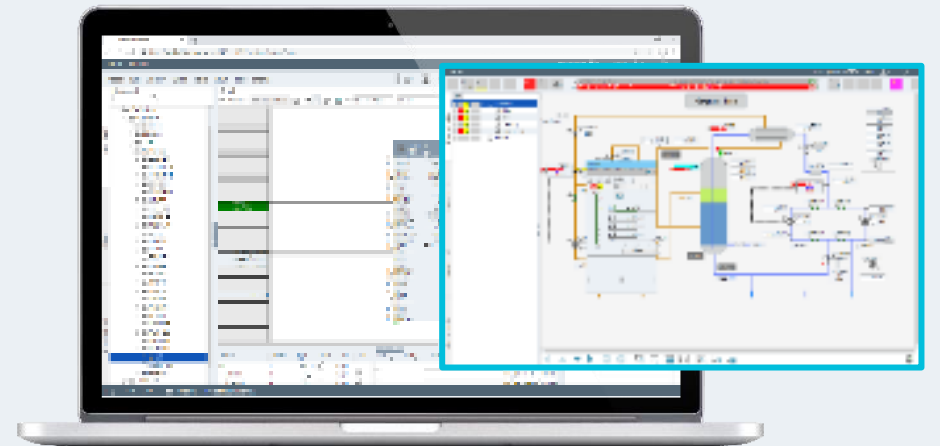
## Motivation for a new Software Architecture

SIMATIC PCS 7 version 9 - Hardware



New System Software

... using the same application architecture  
as SIMATIC PCS 7 ...



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### Object-oriented Data Management

Always up-to-date and consistent information



### neo System Access

Direct and secure connection to the system via web – anywhere, anytime and device independent



## SIMATIC PCS neo

New system software,  
completely web-based (HTML5)



### neo Usability

Easy and intuitive GUI; all tasks in one workbench (Administration, Engineering, Monitoring & Control)



### neo Collaboration

Multi-user web engineering;  
global collaboration on a new level;  
highly efficient



### neo Scalability

From smallest applications  
to world-scale plants



### Support of the open MTP standard

Modularization and  
package unit integration  
made easy

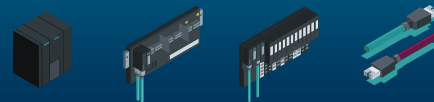


### Investment Protection



### Common Application Architecture with SIMATIC PCS 7

APL, CMT, Technological Products, COMOS, PAA, Recipes ...



### Common Hardware and Network Platform with SIMATIC PCS 7

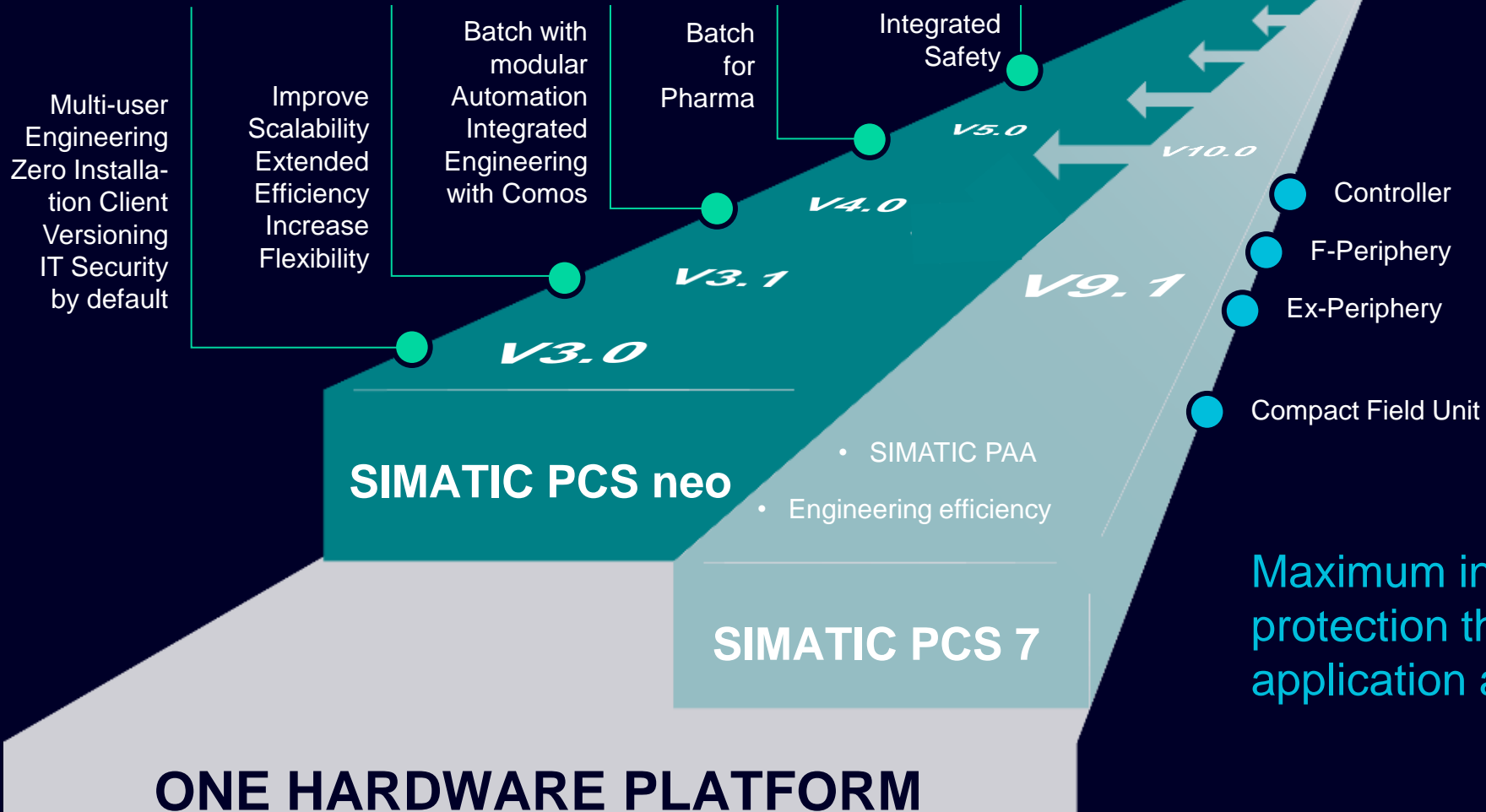


### Know-how Protection



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# Siemens portfolio with SIMATIC PCS 7 and SIMATIC PCS neo



Customers can define the time to switch.

Maximum investment and know-how protection through common HW and application architecture!

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# SIMATIC PCS neo V3.1

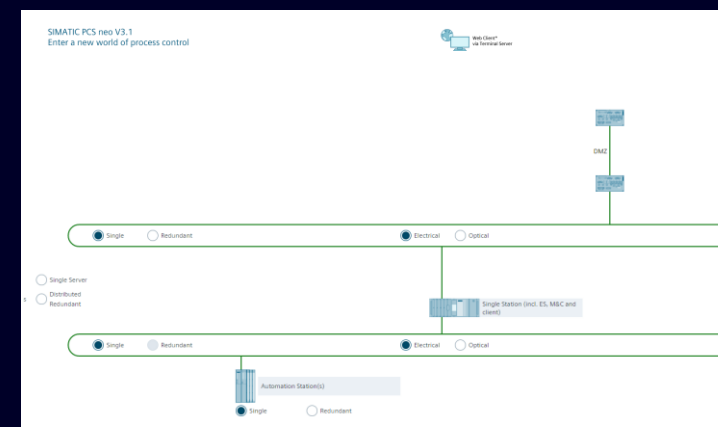
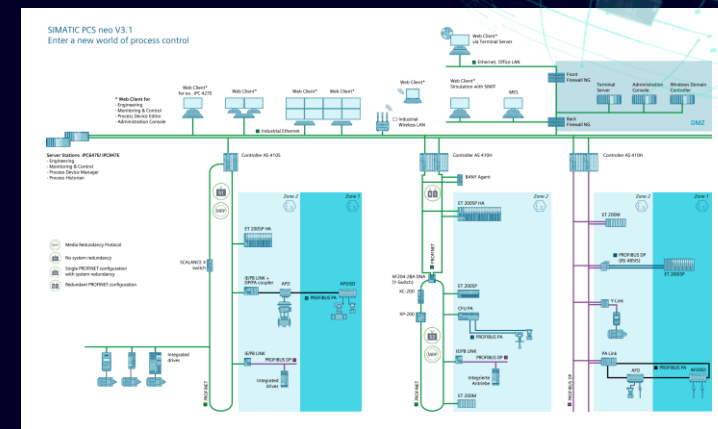
## Improved scalability

### System boundaries

|   | V3.0  | V3.0 SP1 | V3.1          |
|---|-------|----------|---------------|
| Number of POs per project                                 | 4,000 | 6,000    | <b>32,000</b> |
| Number of M&C server (single/redundant)                   | 4/2   | 4/2      | <b>4/4</b>    |
| Number of POs per M&C server                              | 2,000 | 3,000    | <b>8,000</b>  |
| Number of controllers (single/redundant) per M&C server   | 8/4   | 8/4      | <b>8/4</b>    |
| Number of POs per controller                              | 1,000 | 1,500    | <b>2,000</b>  |
| Number of process value changed per second per M&C server | 2,000 | 3,000    | <b>8,000</b>  |

### Small Single Station solution

- One IPC Host with 2 virtual stations
- Single Station and Domain Controller virtualized with HyperV
- UI via local browser on Single Station



Basis: CDT

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# Agenda

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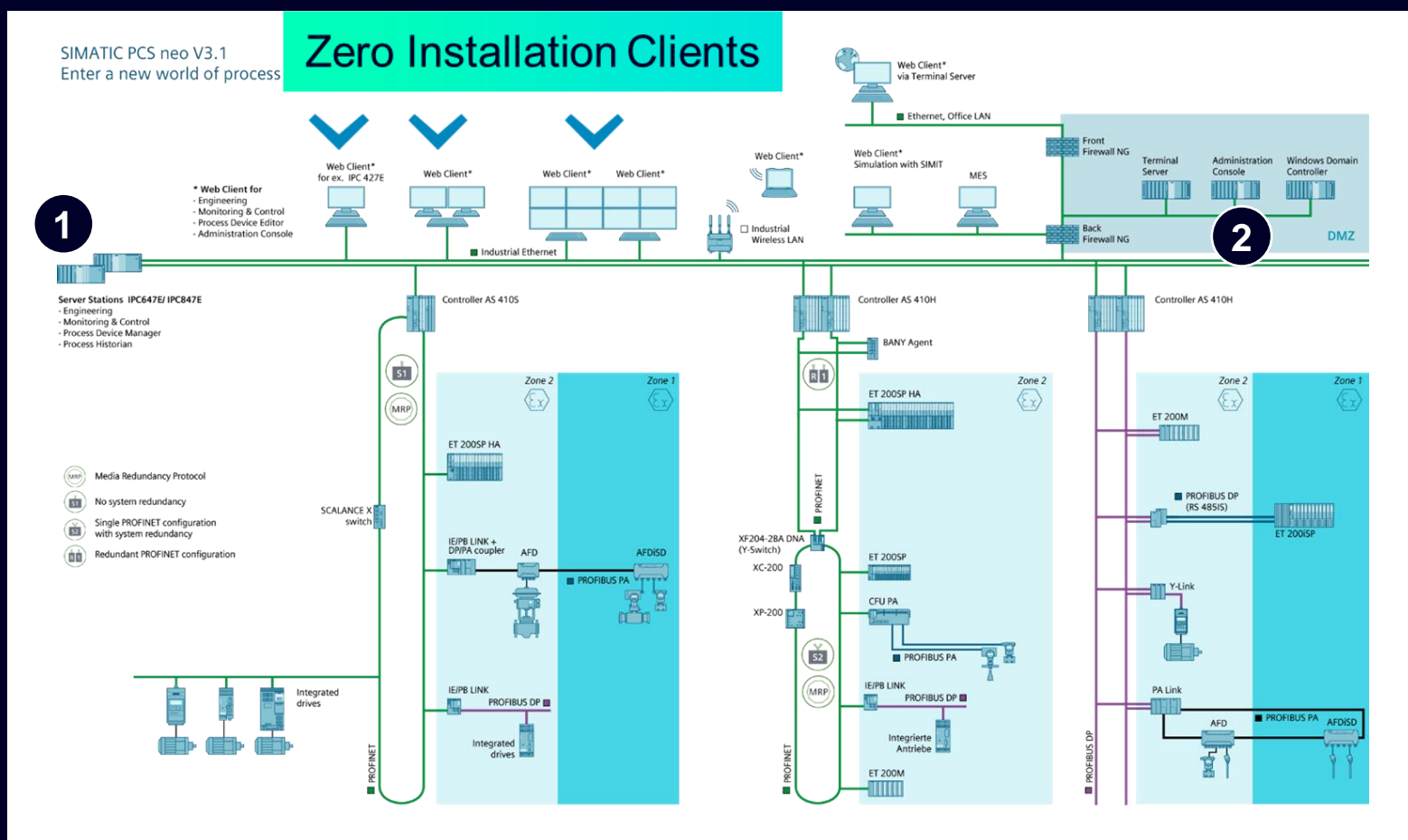
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Afrunding

# SIMATIC PCS neo

## Web-based System can easily be updated



# SIMATIC PCS neo Administration Console Security

## Features

- **Switching between Certificate Authorities (CA)**
  - From PCS neo CA to external CA
  - From external CA “1” to external CA “2”
- **Enhanced certificate management**
  - Renewal and revocation of certificates
  - Automatic renewal of certificates with configurable times

## Benefits

- Flexible transition between engineering CA and operational CA
- Centralized management of PCS neo certificates
- Reduced risk and effort for expiring certificates

The top screenshot shows the 'Certificate authorities' tab in the TIA Administrator. It displays a table with columns: Name, URL, Active, and Root certificate. The table contains two entries: 'PCS neo CA' and 'Customer CA'. The 'Customer CA' entry has a URL: 'https://KATAC001CA.adco.de007.siemens.net/adco-KATAC001CA%20issuing%20CA%202018.1\_CES\_Certificate/service.svc/CES'. The 'Active' column has a dropdown menu with 'Yes' and 'No' options. The 'Root certificate' column has a 'Download' button.

The bottom screenshot shows the 'Certificates' tab in the TIA Administrator. It displays a table with columns: Computer name, Application, Status, Thumbprint, Serial number, Valid from, Valid to, and Subject. The table contains multiple entries for various computer names and applications. The 'Status' column has a dropdown menu with 'Active' and 'Inactive' options. The 'Valid from' and 'Valid to' columns show dates. The 'Subject' column shows the certificate subject. The sidebar on the left shows the 'Plant' and 'Customer CA' sections. The top right corner shows the 'TIA Administrator' title and the user 'KA7SIM19801VM'.

# Software Maintenance Package

## The benefits at a glance

### Benefits Dynamic

SIMATIC PCS neo makes system updates **completely independent from the application** and **revolutionizes the deployment** of new versions (one individual update/upgrade file; easy fleet management via administration console and SIMATIC PCS myExpert).

The software maintenance contract “Dynamic” provides the **transparent and calculable cost framework**.

### Dynamic

≥V3.1

Keeps your software up-to-date with latest versions and functionality by joining the continuous release train.

#### 18% p.a.<sup>1</sup>

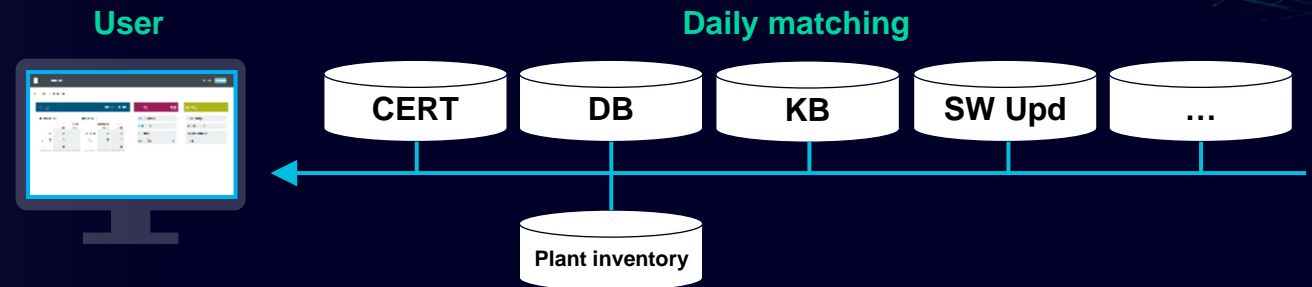
(10% for market introduction phase until first LTS version)

- PCS neo Updates
- PCS neo Upgrades
- Security updates
- Online Support: SIOS (e.g., FAQs, Libraries)
- **SIMATIC PCS myExpert:**  
Ident. of I-base, Inventory based Lifecycle & Vulner. Information
- Technical support<sup>2</sup> 15 hours

# How does SIMATIC PCS myExpert receive the plant information?

## SIMATIC PCS myExpert

- Web-based dashboard across multiple sites
- Correlation with Siemens knowledge base



Automated file transfer (**Health**)  
online connection required



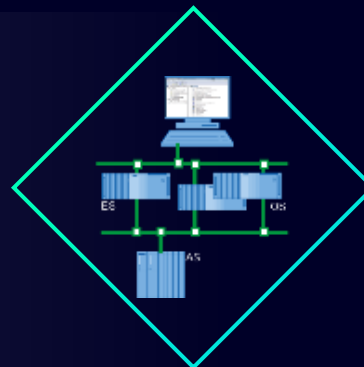
Scope  
of future  
release

SID xyz  
XML  
XLS

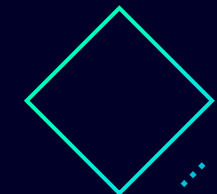
Manual file transfer (**Lifecycle & Ser-  
vice**) no online connection required

## Customer Plant

- System registration based on SID
- System build-in data provider  
SIMATIC PCS neo Administration  
Console (AC)



Sites 2-n



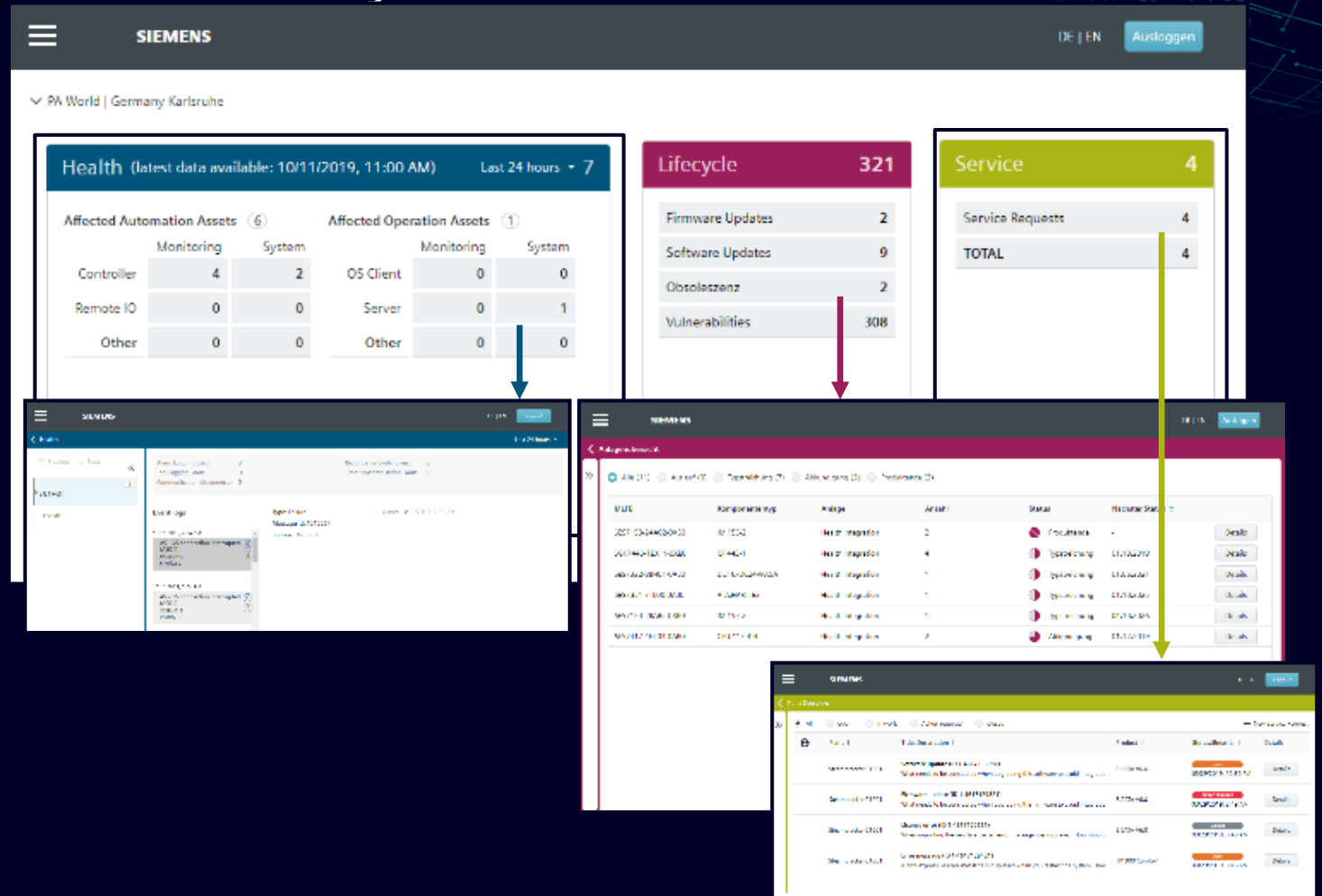
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# SIMATIC PCS myExpert

Your digital Expert for Process Control Systems from Siemens

## SIMATIC PCS myExpert

- Comprehensive overview through cloud-based Dashboard
- Supports preventive operation management – site and enterprise wide



# SIMATIC PCS myExpert

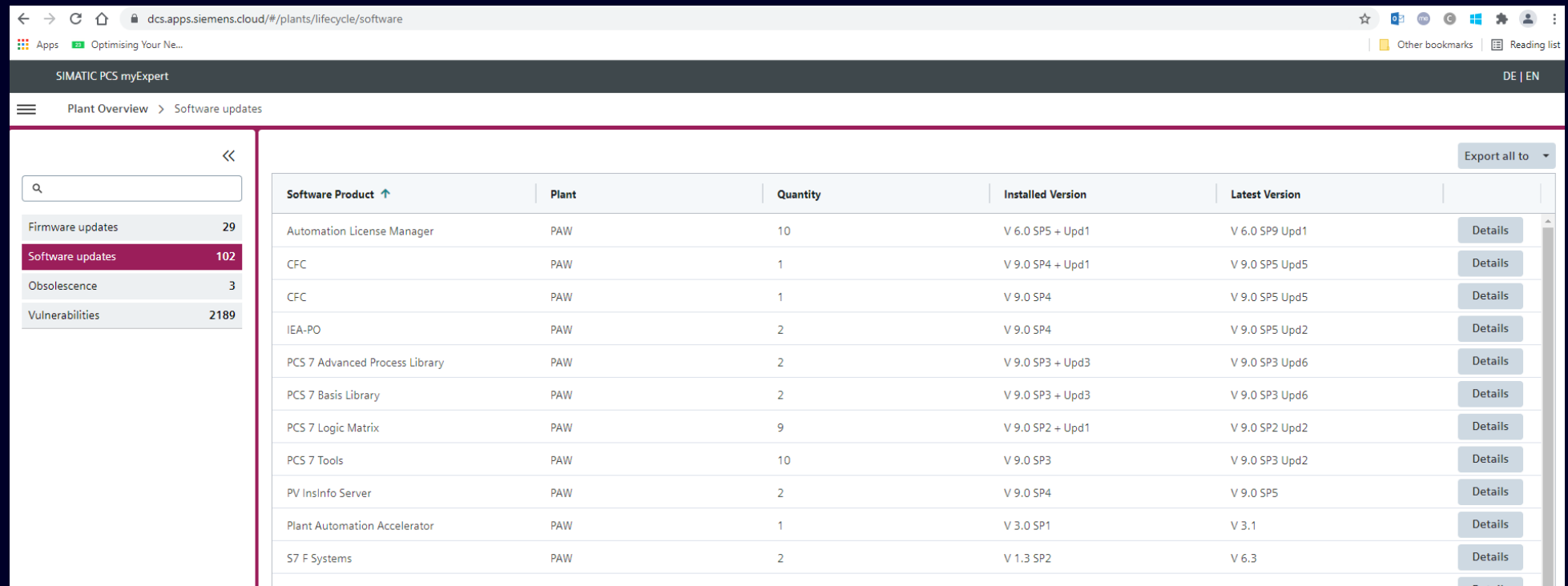
## Your digital Expert for Process Control Systems from Siemens

| Lifecycle        | 2323 |
|------------------|------|
| Firmware updates | 29   |
| Software updates | 102  |
| Obsolescence     | 3    |
| Vulnerabilities  | 2189 |

| SIMATIC PCS myExpert                          |     |   |             |  | DE   EN       |
|---|-----|---|-------------|--|---------------|
| Plant Overview > Firmware updates             |     |   |             |  | Export all to |
| FIRMWARE UPDATED OVERVIEW                     |     |   |             |  | Sorting       |
| Issues filter by Filter Open Planned          |     |   |             |  |               |
| DI16 x 24VDC HA<br>6DL1131-6BH00-0PH1         | PAW | Latest Firmware: V1.0.2<br>Installed Firmware: V1.0.0 | Oct 6, 2021 |  |               |
| DI16 x NAMUR HA<br>6DL1131-6TH00-0PH1         | PAW | Latest Firmware: V1.0.3<br>Installed Firmware: V1.0.1 |             |  |               |
| DQ16 x 24VDC/0.5A HA<br>6DL1132-6BH00-0PH1    | PAW | Latest Firmware: V1.0.2<br>Installed Firmware: V1.0.1 |             |  |               |
| DI16/DQ16 x 24VDC HA<br>6DL1133-6EW00-0PH1    | PAW | Latest Firmware: V1.1.3<br>Installed Firmware: V1.0.0 |             |  |               |
| AI16 x TC/8xRTD HA<br>6DL1134-6JH00-0PH1      | PAW | Latest Firmware: V1.1.1<br>Installed Firmware: V1.0.1 |             |  |               |
| AI16 x I 2-wire HART HA<br>6DL1134-6TH00-0PH1 | PAW | Latest Firmware: V1.1.3<br>Installed Firmware: V1.0.1 |             |  |               |
| AQ8 x I HART HA<br>6DL1135-6TF00-0PH1         | PAW | Latest Firmware: V1.0.3<br>Installed Firmware: V1.0.1 |             |  |               |
| IM155-6-PN-HA-V1.0<br>6DL1155-6AU00-0PM0      | PAW | Latest Firmware: V1.2.1<br>Installed Firmware: V1.1.0 |             |  |               |

# SIMATIC PCS myExpert

## Your digital Expert for Process Control Systems from Siemens



The screenshot displays the SIMATIC PCS myExpert web application. The browser address bar shows the URL `dcs.apps.siemens.cloud/#/plants/lifecycle/software`. The page header includes the title "SIMATIC PCS myExpert" and a language selector "DE | EN". The main navigation bar shows "Plant Overview" and "Software updates". On the left, a sidebar contains a search bar and a list of categories: "Firmware updates" (29), "Software updates" (102), "Obsolescence" (3), and "Vulnerabilities" (2189). The "Software updates" category is selected. The main content area features a table with the following columns: "Software Product", "Plant", "Quantity", "Installed Version", and "Latest Version". Each row includes a "Details" button. The table lists various software products such as "Automation License Manager", "CFC", "IEA-PO", "PCS 7 Advanced Process Library", "PCS 7 Basis Library", "PCS 7 Logic Matrix", "PCS 7 Tools", "PV InsInfo Server", "Plant Automation Accelerator", and "S7 F Systems".

| Software Product               | Plant | Quantity | Installed Version | Latest Version |         |
|--------------------------------|-------|----------|-------------------|----------------|---------|
| Automation License Manager     | PAW   | 10       | V 6.0 SP5 + Upd1  | V 6.0 SP9 Upd1 | Details |
| CFC                            | PAW   | 1        | V 9.0 SP4 + Upd1  | V 9.0 SP5 Upd5 | Details |
| CFC                            | PAW   | 1        | V 9.0 SP4         | V 9.0 SP5 Upd5 | Details |
| IEA-PO                         | PAW   | 2        | V 9.0 SP4         | V 9.0 SP5 Upd2 | Details |
| PCS 7 Advanced Process Library | PAW   | 2        | V 9.0 SP3 + Upd3  | V 9.0 SP3 Upd6 | Details |
| PCS 7 Basis Library            | PAW   | 2        | V 9.0 SP3 + Upd3  | V 9.0 SP3 Upd6 | Details |
| PCS 7 Logic Matrix             | PAW   | 9        | V 9.0 SP2 + Upd1  | V 9.0 SP2 Upd2 | Details |
| PCS 7 Tools                    | PAW   | 10       | V 9.0 SP3         | V 9.0 SP3 Upd2 | Details |
| PV InsInfo Server              | PAW   | 2        | V 9.0 SP4         | V 9.0 SP5      | Details |
| Plant Automation Accelerator   | PAW   | 1        | V 3.0 SP1         | V 3.1          | Details |
| S7 F Systems                   | PAW   | 2        | V 1.3 SP2         | V 6.3          | Details |

# SIMATIC PCS myExpert

## Your digital Expert for Process Control Systems from Siemens

← → ↺ 🏠 dcs.apps.siemens.cloud/#/plants/lifecycle/obsolescence

Apps Optimising Your Ne...

Other bookmarks Reading list

DE | EN

SIMATIC PCS myExpert

Plant Overview > Obsolescence

⏪

Firmware updates29

Software updates102

Obsolescence3

Vulnerabilities2189

☒ All (3) ☐ Phase-out (0) ☐ Cancellation (3) ☐ Discontinuation (0) ☐ End (0)

Export all to

| MLFB               | Component Type | Plant | Quantity | Status ↓     | Next Status |                    |
|--------------------|----------------|-------|----------|--------------|-------------|--------------------|
| 6ES7153-2BA02-0XB0 | ET 200M        | PAW   | 2        | Cancellation | 01/14/2026  | <div>Details</div> |
| 6GK5208-0BA10-2AA3 | SCALANCE X-200 | PAW   | 1        | Cancellation | 10/01/2030  | <div>Details</div> |

SIMATIC PCS myExpert

Plant Overview > Obsolescence > IM 153-2

⬆️ Previous ⬇️ Next ⏪

MLFB: 6ES7153-2BA02-0XB0  
ET 200M

2

IM 153-2

ChColumn\_F\_Prl\AS\_FIUR2ALU (0)\Kolonne-HF-CPU-R052\DP\PROFIBUS\_DP1: ProfibusS05\_01 (1)\S05\_01\_AE (4)

IM 153-2 HF

XYZ

Original Part

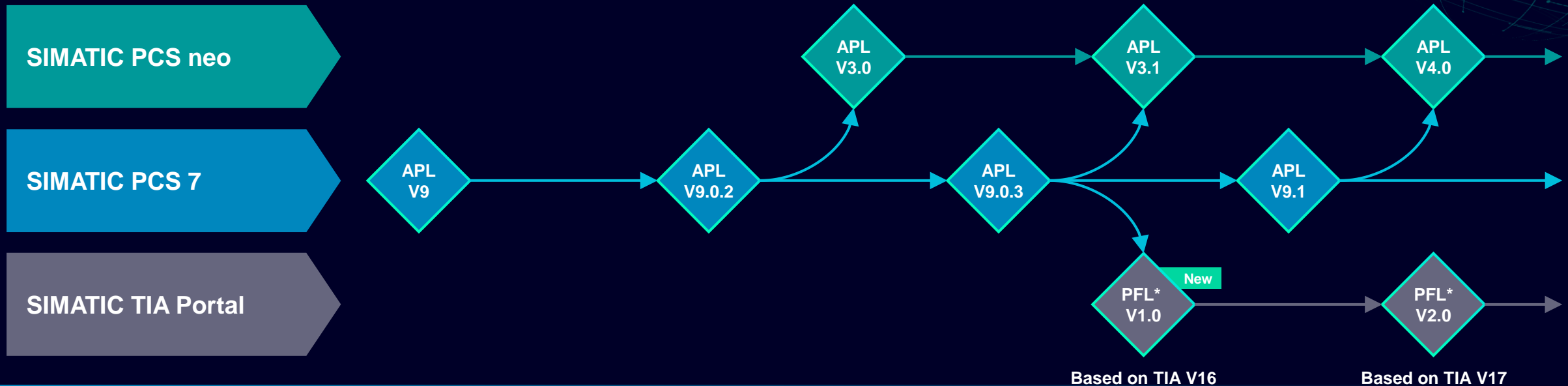
IM 153-2 | MLFB: 6ES7153-2BA02-0XB0

Successor 6ES7153-2BA10-0XB0 can only be operated on BM 6ES7195-7HD10-0XA0

| Code   | Description                       | Date       | Status              |
|--------|-----------------------------------|------------|---------------------|
| P.M500 | End of product lifecycle          | -          | -                   |
| P.M490 | Product discontinuation           | 01/14/2026 | <div>upcoming</div> |
| P.M410 | Product cancellation              | 01/14/2016 | <div>passed</div>   |
| P.M400 | Announcement of product phase-out | 01/14/2016 | <div>passed</div>   |
| P.M300 | Delivery release                  | 08/31/2007 | <div>passed</div>   |

# SIMATIC PCS 7 Advanced Process Library

## One technological Library for all Siemens Systems



- The Advanced Process Library (APL) covers 99% of all applications
- For APL Siemens cares about the upward compatibility
- Own libraries based on the APL concept can be used.  
Lifecycle compatibility lies then in the responsibility of the owner of the library!

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\*Process Function Library

# Lifecycle

## Spotlights on the DNA of SIMATIC PCS neo

What do almost all plants in Process Industries have in common?

- “Process Automation has tremendously long plant lifecycles”
- That’s why SIEMENS with SIMATIC PCS neo are focusing on solving the Lifecycle challenge in Process Industries.”



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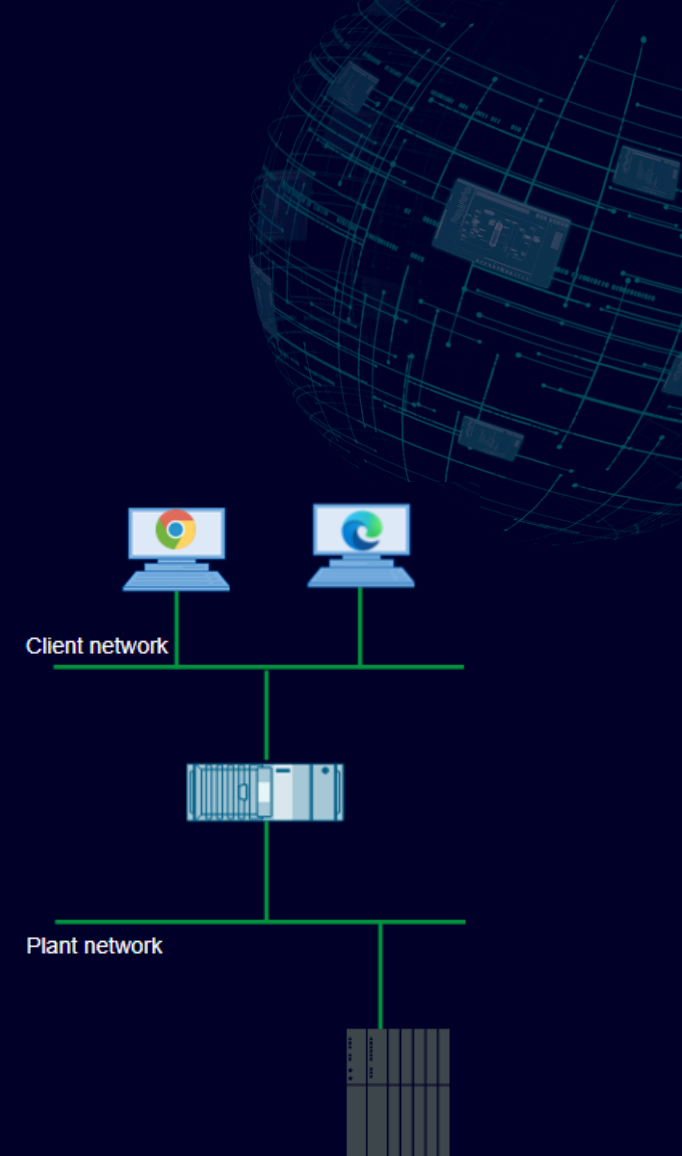
Status på SIMATIC PCS neo V3.1 og Module Type Package

Afrunding

# Release of MS Edge

**For PCS neo V3.1, MS Edge is officially released**

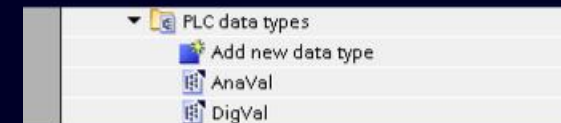
- In V3.01 only Google Chrome Browser was supported
- In 3.1 MS Edge is released as an additional Browser to work with SIMATIC PCS neo



# Creating FB Types

- FB Numbers / FC Numbers  
Reserved / available ranges for user libraries  
Function Blocks    2500 - 3000  
Functions            2500 - 3000
- SCL coding
- UDTs (Example)  
AnaVal        for analog values & Quality Code  
DigVal        for binary values & Quality Code

**Use APL/IL wherever possible (due to Life-Cycle maintenance, support etc.)**



# Flexible support for 3rd party field devices via custom device types

## Features

- Decoding / encoding of protocol data structures for cyclic communication
- Preparation for signal assignment
- **In PCS neo V3.1, custom device types are created & tested by a certified partner**
- **Starting from V4.0 projects will be able to create their own custom device types**

## Benefits

- Support 3<sup>rd</sup> party devices on demand
- Improved plant life-cycle:  
Device types are upgrade-safe

### Hardware



Process Image

### Device Type

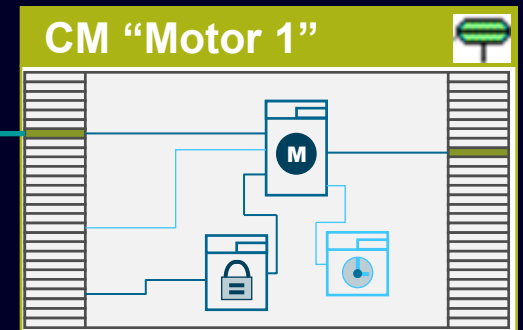
DT



### Signal

| HW       | Signal | EQH     |
|----------|--------|---------|
| Channel1 | FbkRun | Motor 1 |

### Equipment



Define protocol raw data structures in process image

Identify & decode / encode device signals from / to raw data

Link HW with equipment, standard signal processing

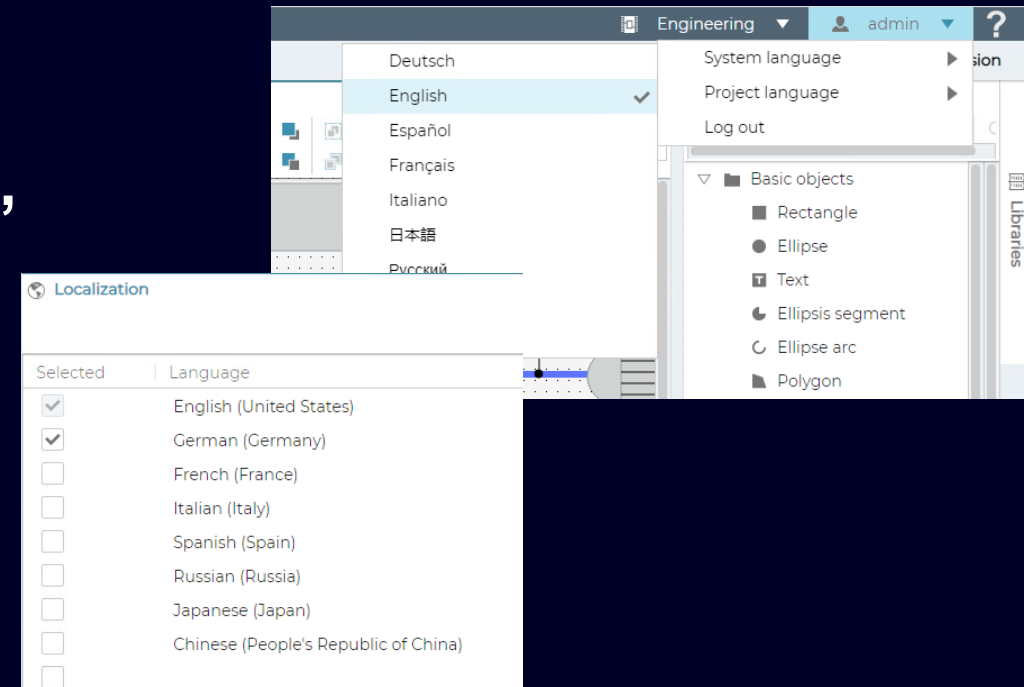
The equipment defines the automation task for or with a device.

# SIMATIC PCS neo V3.1

## Additional project and system languages

New with V3.1:

- French, Italian, Spanish, Russian, Japanese, Chinese



System documentation available in DE, EN, CN

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# SIMATIC PCS neo V3.1

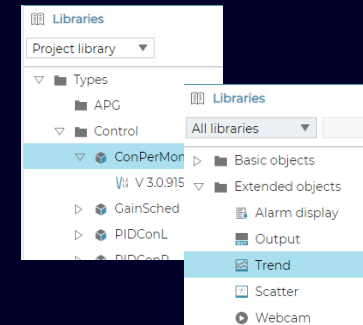
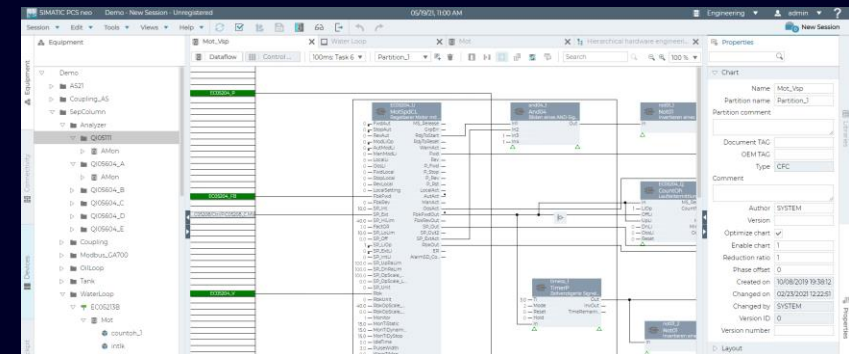
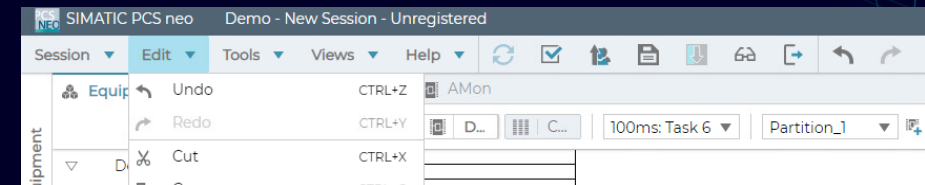
## User interface enhancements

### Features

- Reduced and simplified Main Menu and Main Tool bar
- Layout optimizations provide better focus on workflows
- Updated view state concept

### Benefits

- The system provides a clear and intuitive user interface
- The user experience and efficiency is improved



# SIMATIC PCS neo V3.1 Engineering

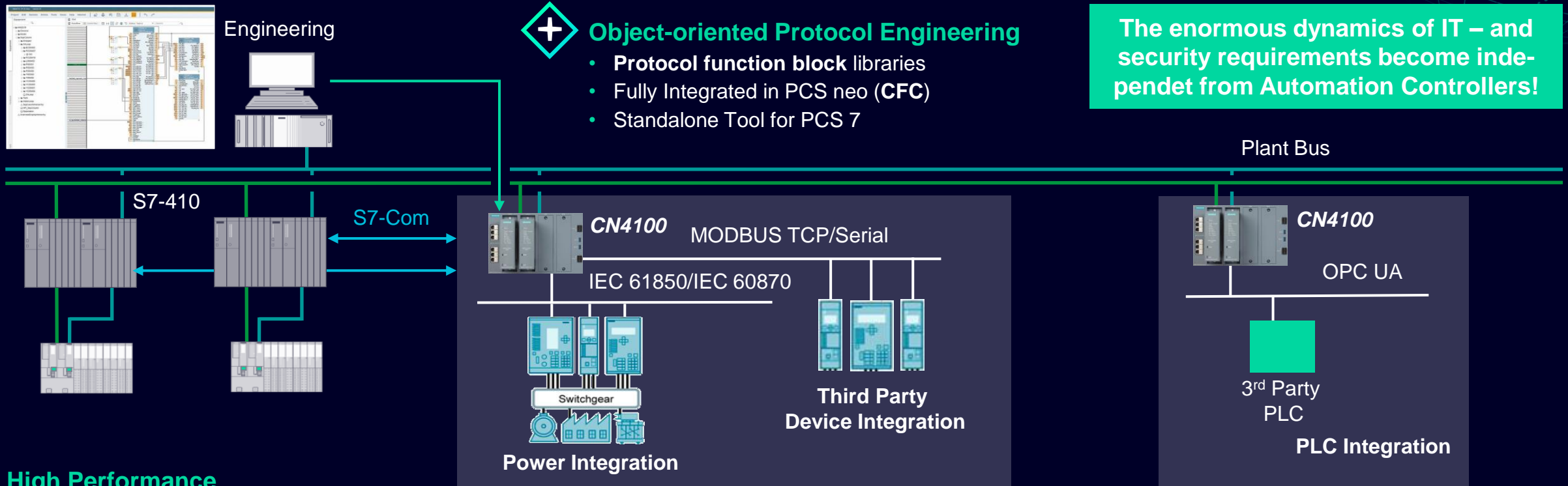
## Software Module Engineering

### New Features V3.1:

- Export / Import of Engineering Data
- Backup & Restore
- Graphical engineering with templates in CFC
- **Connectivity (General engineering concept)**
- Package Unit Integration (Module Type Package)
- Implicit communication
- Device Online Editor (Engineering diagnostic)
- Virtual Controller
- SIMIT Unit
- **Connectivity - SIMATIC CN 4100**
- Documents and Reports



# Connectivity with Control Node CN 4100



## High Performance

- **High data throughput** (app. 5,000 values/sec.)
- High availability with **redundant** CN4100 module
- **Very low load** in S7-410
- **Security Inside** (Embedded Linux Firewall)

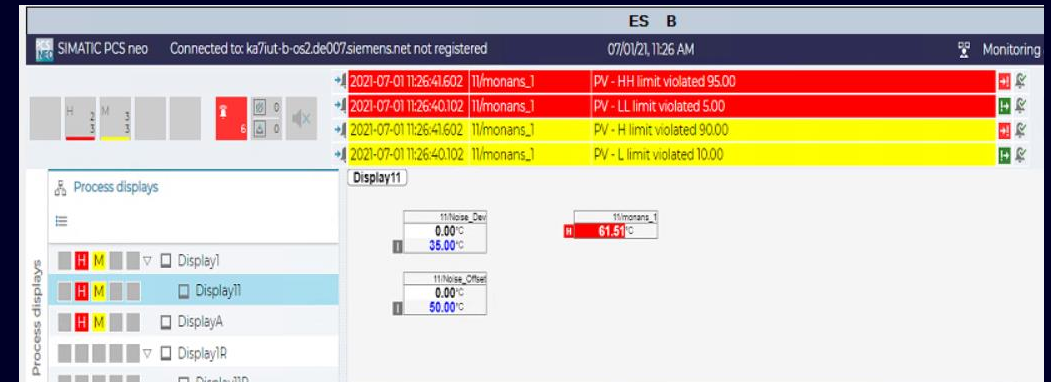
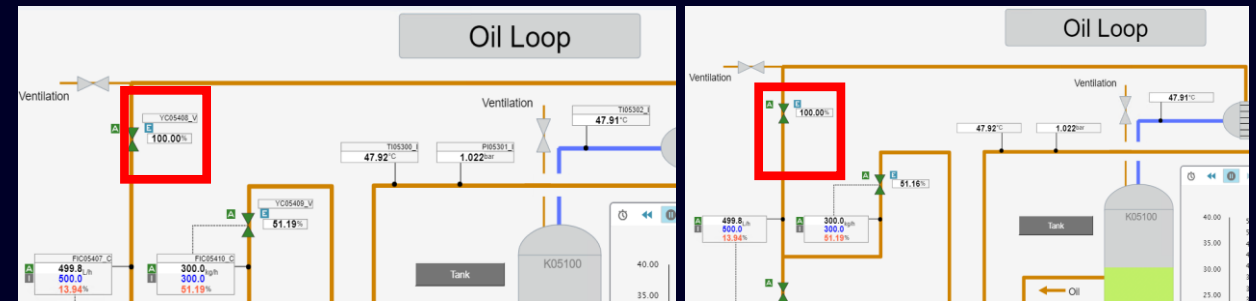
# SIMATIC PCS neo V3.1 Monitoring & Control

## Software Module Monitoring & Control

M&C

### New Features V3.1:

- Bulk engineering of block icons
- Tag name hiding
- Alarm Out-Of-Service function
- *Extension of alarm banner*
- *Configurable number of lines in the alarm banner*
- OPC UA Server - Alarms and Conditions



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# SIMATIC PCS neo V3.1

## Intrinsically safe I/O modules at a glance

**Intrinsically Safe I/O modules** in one SIMATIC ET 200SP HA or ET 200SP station (Released for PCS 7 and TIA-PORTAL)



SIMATIC ET 200SP HA  
with Ex-ia I/O modules

**Full range of Ex-ia I/O modules**  
(2/4 channels at 20mm wide)

- Ex-DI 4xNAMUR
- Ex-DQ 2x17.4VDC/27mA (54mA)
- Ex-DQ 2x23.1VDC/20mA
- Ex-AI 2xI 2-wire HART
- Ex-AI 4xTC/2xRTD 2-/3-/4-wire
- Ex-AQ 2xI HART

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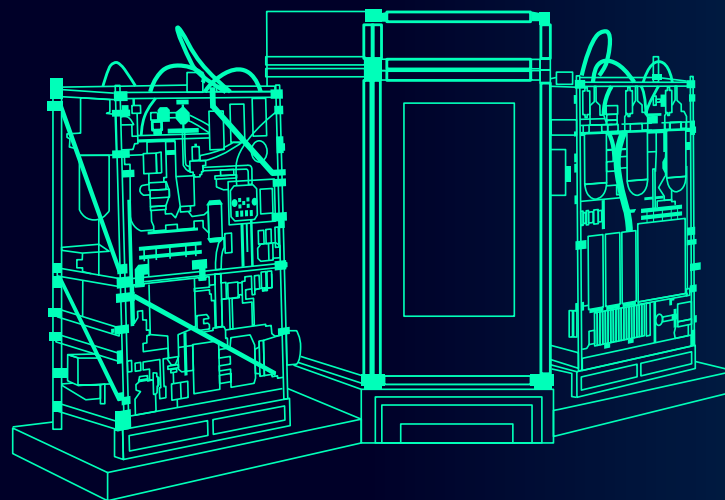
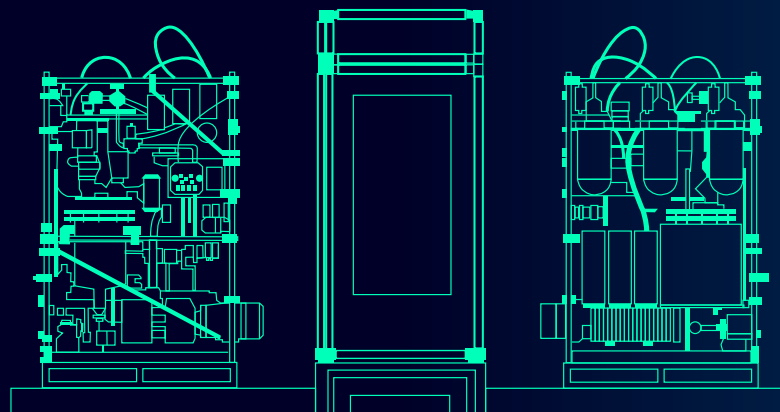
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Afrunding

# SIMATIC PCS neo

## The future becomes modular

**Modular Production leads to modularization of assets** – and the modularization of assets requires a new way of automation.



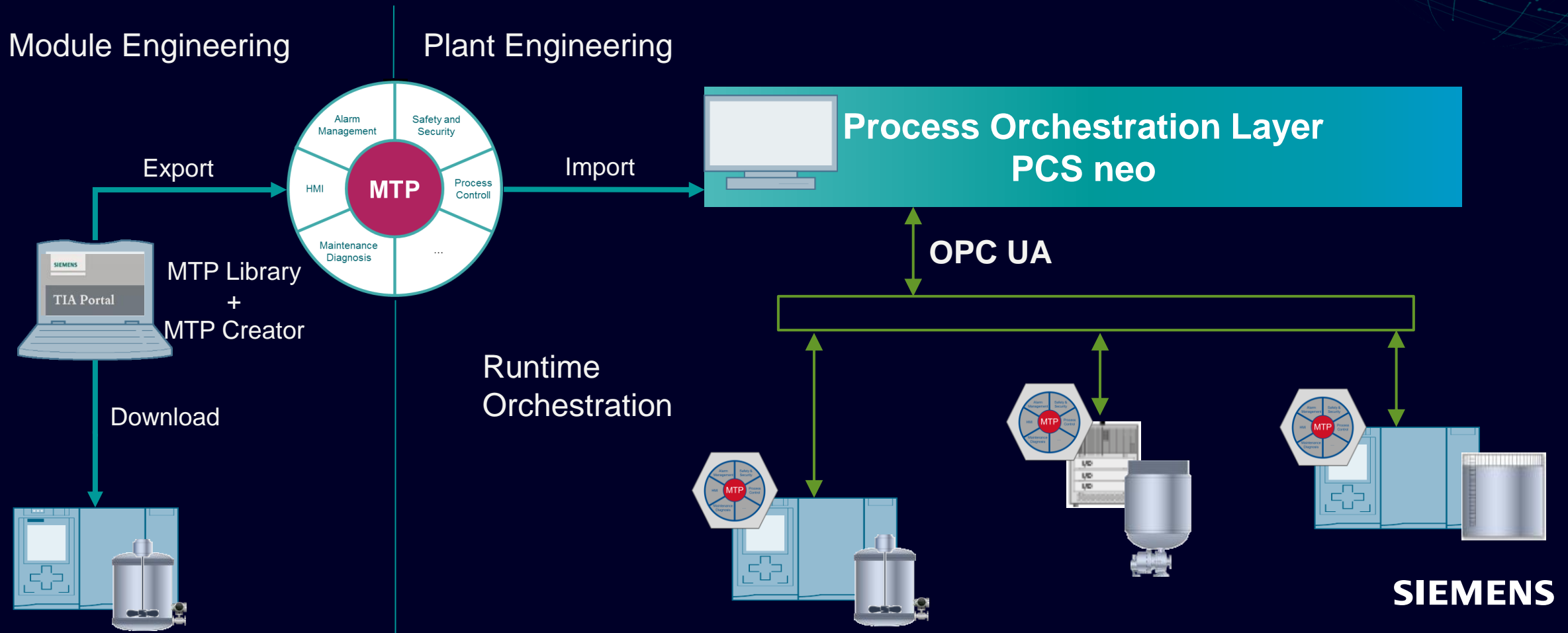
SIMATIC PCS neo meets all requirements for orchestration and module automation of the plant and desired operation.

Fast & efficient modularization with COMOS Modularized Engineering, TIA Portal enhanced by MTP library, and SIMIT.

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# MTP, a new trend in process industries

## SIMATIC PCS neo and TIA Portal are ready

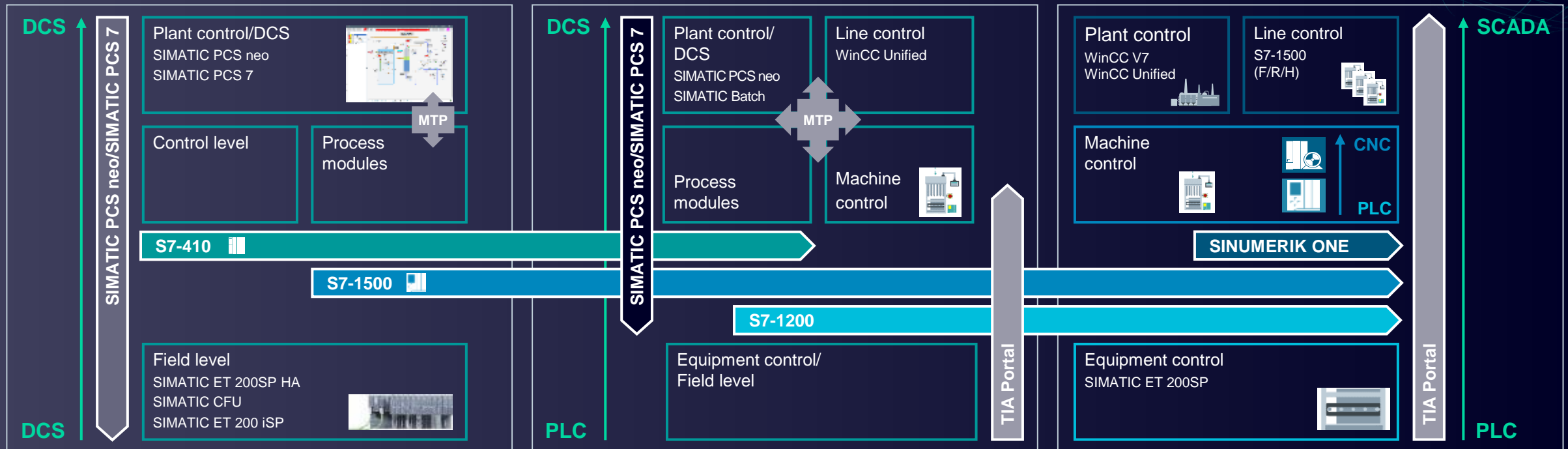


# MTP Use cases

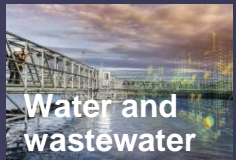
Process industries

Hybrid industries

Discrete industries



Process industries



Refining & Chemicals



...

Pharma



Hybrid industries

Food and Beverage



...

Wind



Discrete industries

Machine Building



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# SIMATIC PCS neo

## Much more to be said

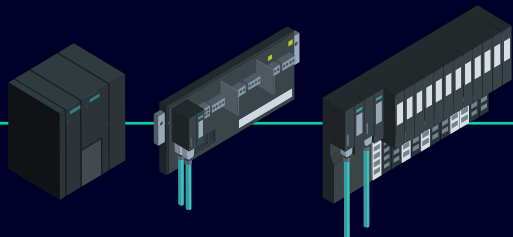
### SIMATIC PCS neo

New system software



### SIMATIC PCS

Hardware



**SIMATIC  
PCS neo**



SID

System Identification Number



Licenses

Scalable license model



Maintenance

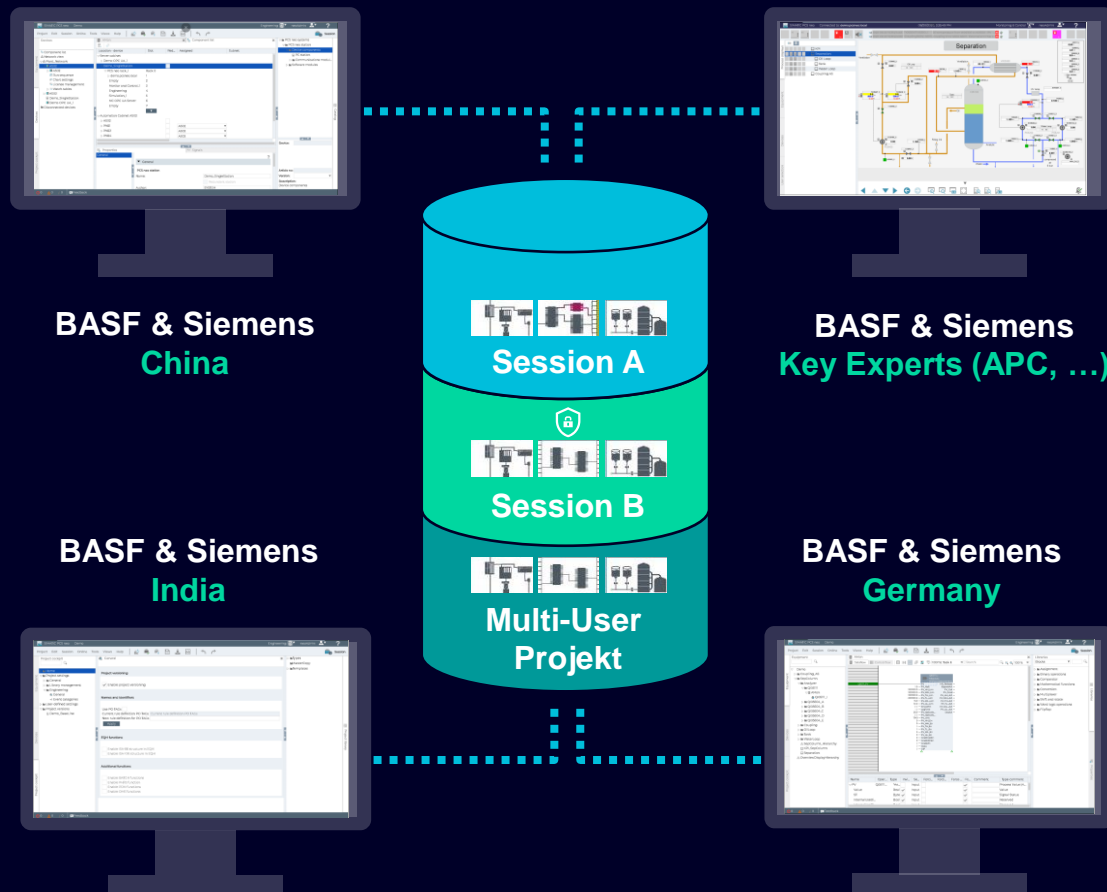
Individual Maintenance Packages



my SIMATIC PCS neo  
Lifecycle Web Platform

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# For instant about efficient collaboration for Engineering and Operation



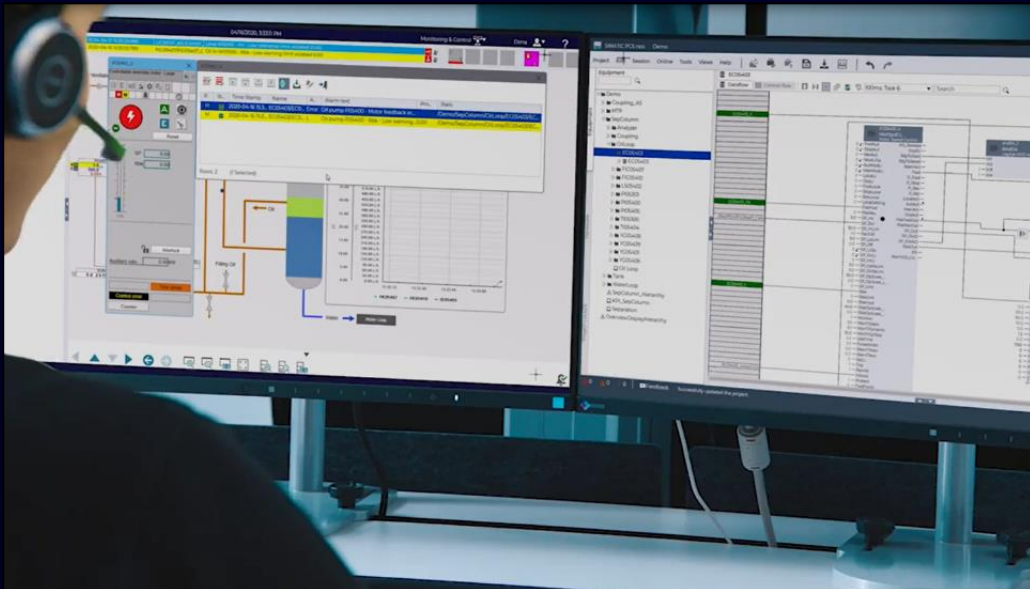
## Intelligent Session Management

- Operation → Change Request
- Create Engineering Session (can be shared with multiple users)
- Make changes in Engineering
- Pre-testing
- Publishing, go-live versioning system generates new version
- Switch back to previous version if necessary

# But time are limited

Information and basic introduction to PCS neo could be found here:

- [www.siemens.dk/di-webinarer](http://www.siemens.dk/di-webinarer)
- [www.siemens.com/simatic-pcs-neo](http://www.siemens.com/simatic-pcs-neo)



# Kontakt



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WEBINARER MED INSPIRATION, VIDEN OG VÆRDI

## Industry Information Live

Tilmeld dig, se og gense på  
[www.siemens.dk/di-webinarer](http://www.siemens.dk/di-webinarer)



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Du finder også vores nyheder på  
[www.siemens.dk/di-nyheder](http://www.siemens.dk/di-nyheder)

NYHEDSBREVE TIL INDUSTRIEN  
UDKOMMER 8-10 GANGE OM ÅRET

## Industry Information News

TIPS OG TRICKS PÅ YOUTUBE

## Industry Information Demo

Find hurtigt playlisten og abonner via  
[www.siemens.dk/di-demo](http://www.siemens.dk/di-demo)

