THINK neo.
Welcome to the Future of Process Automation
The journey begins with SIMATIC PCS 7

SIMATIC PCS 7
State-of-the-art Process Control System, future-proof and fit for digitalization

- More than 20 years experience and understanding of customer needs
- Efficient Engineering with libraries and reuse of flexible controls
- Innovative I/O periphery and controller hardware with PROFINET communication
The journey begins with SIMATIC PCS 7

SIMATIC PCS 7 V9.0 opens up new opportunities with its new hardware platform based on PROFINET standard:

With SIMATIC PCS 7 V9 Siemens has recently introduced such an innovative hardware …

… that we can build the most innovative system software on it. The Process Control Innovation in 2019.

With PCS 7 V9.0 users are very well prepared for a Digital Future.

The Process Control Innovation that saves your Know-How and protects your invest!

Introducing a Process Control Innovation in a market struggling between innovation and continuation with 30+ years of plant lifecycle!
Riding the wave of innovation in Process Automation

Software Evolution: Application Architecture
Control Module Types, Advanced Process Library, ...

SIMATIC PCS 7 Version 8.x
System Software Innovation
2011-2016

SIMATIC PCS 7 Version 9.0
Hardware Innovations
2017

SIMATIC PCS neo
New System Software

Hardware Evolution
PROFINET for Process Industry, SIMATIC ET 200SP HA, SIMATIC CFU, ...

Saves your know-how!

Protects your HW invest!
What is “Process Control Innovation”
Simplified Schema

New System Software

Hardware SIMATIC PCS 7 V9.0

... using the same application architecture as SIMATIC PCS 7 ...
The common hardware basis for future innovation...

Customers can define the time to switch.

ONE HARDWARE PLATFORM

SIMATIC PCS neo
- SIMATIC PAA
- Engineering efficiency

SIMATIC PCS 7 V9.0

V3

V3.x

V9.x

V9.1

Controller
F-Periphery
Ex-Periphery
Compact Field Unit

... and maximum investment protection!
There are four possible situations for your Plant … in the starting phase …

**Greenfield and brownfield projects**

- **Evaluation of User Requirements**
  - Greenfield Projects with requirements covered by Process Control Innovation
  - Projects with requirements not yet covered by Process Control Innovation

**Evolution of SIMATIC PCS 7 systems**

- **Plant with SIMATIC PCS7 V9**
  - Select SIMATIC PCS 7 V9
    - Keep „Ready for future switch“ criteria –
  - Operate SIMATIC PCS 7 V9
    - You can already adapt to „Ready for future switch“ criteria.

- **Plant with SIMATIC PCS 7 older than V9**
  - Operate SIMATIC PCS 7
    - If you want to modernize now, go to SIMATIC PCS 7 V9.0
  - SIMATIC PCS 7 V9

**SIMATIC PCS neo**

You define when you switch! … with the lowest effort conversion/evolution*

* Tool based switch from PCS7 to PCS neo (the switch is an upgrade and not a migration)
reThink Process Automation

reThink System Access
Imagine your experts have immediate access to your engineering projects and operation processes from anywhere using only a secure web connection.

reThink Scalability
Whether you supply small units or managing an entire production site – imagine a system that can be seamlessly upgraded and expanded during operation.

reThink Digitalization
Envision a system that enables plant design and engineering, simulation and automation seamlessly.

reThink Usability
Interaction with the system will take place clearly and easily via a highly intuitive user interface – so you can focus on what really matters in your business.

reThink Collaboration
Think to count relying on a system that enables a secure connection of all users and external suppliers at the same time.

reThink Cyber Security
Starting to “reThink” Process Automation to accelerate the digital transformation
reThink Usability
The new Workbench Concept
reThink Usability
The new Workbench Concept
reThink Usability
One object-oriented system platform

Technological block

- Alarm Management
- Monitoring and Control
- Asset Management
- Flexible number of IOs
- Help
- Operating manual

- Faceplate
- Block icon
- Trends
- Message
- Diagnosis/Process diagnostics
- Archive
- Batch
- P&ID
- Maintenance
- Simulation
- Online Help

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Starting to “reThink” Process Automation to accelerate the digital transformation

reThink System Access
reThink Digitalization
suitable for any device from desktop to mobile

HTML 5 based full web-approach: System runs in Browser without software installation!
System Access: Openness
Object-oriented system platform for communication
Starting to “reThink” Process Automation
to accelerate the digital transformation
reThink Scalability – Highly flexible plant architecture – one Example of many possible
reThink Scalability –
High flexibility to scale up the plant

Optimized for **reliability**

- Multiple Single Stations
- Multiple Replicated Servers
- Single Station

Optimized for **scalability**

- Server
  - Multiple Area-related Servers
- Single Station
  - Redundant Server
reThink Scalability
Global standardization from single Process Object to Unit

Process Object and Control Module Template

Equipment Module Template

Partial automation solution based on templates
reThink Sylability: Modular Automation
A major lever to boost engineering efficiency

From modularization of a plant …

… to modular production

What is the benefit

- Better interoperability with easy and flexible integration of manufacturer independent process modules.
- Plug-and-Produce on the technological level.
- Supervisory control of large hierarchical systems, with the comfort of an integrated Process Control approach.
reThink Scalability: Modular Automation
Integration based on open standards: Module Type Packages

Module Automation Engineering
- TIA Portal
  - S7-1200
  - S7-1500
- STEP 7
  - S7-300
  - S7-400
- SIMATIC PCS 7
  - S7-410(E)

Visualization & Orchestration
- Process Control Innovation
  - 1. MTP import
  - 2. Address set up
  - 3. Download
  - 4. Operate

Module Type Package (MTP)
Starting to “reThink” Process Automation to accelerate the digital transformation

reThink Collaboration
reThink Collaboration
Flexible project engineering on one central data basis
Hardware Engineering (HW addresses)

ASo1.Module01.Channel01
ASo1.Module01.Channel02
ASo1.Module01.Channel03
...
...

Signal Editor

Technological Engineering (Signals)

Valve001.IsClosed
Valve001.IsOpen
Valve001.CmdClose
Valve001.CmdOpen
...
...

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Starting to “reThink” Process Automation to accelerate the digital transformation
SIMATIC PCS neo
neo Digitalization

Beyond existing systems and architectures

Simulation and Optimization
SIMIT

Plant Design
COMOS

DCS Software
Innovation

DCS Hardware
Innovation

Digital Twin Inside

One system based on process objects

Global collaboration

Web technology

Modular Automation

Safety & Security

Scalability

System usability

Process and Plant Design

Engineering and Commissioning

Operation

Service

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Starting to “reThink” Process Automation
to accelerate the digital transformation

reThink Cyber Security
Security as a top priority today and tomorrow

**Plant security**
- Physical access protection
- Process and guidelines

**Network security**
- Cell protection
- Firewall, VPN
- Inhouse network portfolio & know-how

**Web security**
- SSL, certificate

**System integrity**
- System hardening
- Process and guidelines

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**Security always matters**
- TÜV certification of product life cycle process based on IEC 62443-4-1
- TÜV certification based on IEC 62443-3-3
- Product development is compliant with current IACS Security Standards
- Process Control Innovation will be compliant with current IACS Security Standards
Security is a “built-in” element of PCS neo!
Optimized security in plant operation with lowest effort for our customers

- **Security by Default**
  - PCS neo will provide full Security - right from the Installation
  - Security-features can be de-selected, to adopt customer needs

- **Secure Access**
  - All functions require Authentication and Authorization (single sign-on)
  - 2-factor Authentication for critical functions

- **Central Administration**
  - Full transparency on the Security Level and Security Events
  - Ease of Administration to maintain Protection-Level over the plant lifecycle

- **Security by Design**
  - Encrypted system communication based on Certificates
  - IEC 62443-conform development process, "Secure Coding" Guidelines

- **Defense in Depth**
  - Continue PCS 7-proven „bolted-on“ Security portfolio with Firewalls and Network Components, Virus Scanners and Anomaly Detection
A comprehensive grows further …

…and the innovation will continue!

- Maintenance
- Process Historian & Reporting
- Hierarchical Systems
- Batch
- Network Design & Config.
- Digital Assistant
- Augmented Reality
- Geographical Information system
- Mobile Applications
- Cloud Application
- Augmented Reality
- Field device Mgt.
- Bulk engineering
- Integrated safety
- Versioning

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Thank you –

Welcome to the Future of Process Automation at SPS Fair 2019
OR
PCS neo event in DK
29.10 Aalborg – Utzon
30.10 Horsens - Fængslet
31.10 Roskilde – Ragnarrock
Registration: www.siemens.dk/PCSneo-event