More digitalization down to the field level with Profinet and Simatic PCS 7

- Simatic PCS 7 process control system Version 9.0
- Hardware innovations for distributed I/O concepts
- Comprehensive support for Profinet open Industrial Ethernet standard
- Wide-ranging compatibility generates added value
- New software functionality

With Version 9 of its Simatic PCS 7 process control system, Siemens is opening up scope for new perspectives to plant operators in the process industries and creating an additional building block en route for the Digital Enterprise. Version 9 of the Simatic PCS 7 process control system supports the world leading Industrial Ethernet standard Profinet with two new distributed I/O lines for greater digitalization right down to the field level, as well as extensive new software functionality. Plant operators also benefit from greater flexibility, convenience, future-proofing and wide-ranging compatibility with legacy installations.

The demands made on the flexibility, scalability, availability and security of plants operating in the processing industries are growing all the time. With plants expected to achieve a service life of up to 30 years, future proofing and investment protection aspects are of vital importance. Also playing a central role as a linking element is automation. Profinet, the world’s leading Ethernet standard, is designed to allow adaptation to future requirements occurring in the process industries. It offers efficient communication in real time, open standards for the development of standardized automation networks, security-oriented communication as well as flexible, easily scalable network structures. Successful digitalization relies heavily on dependable communication right down to the field level. The new I/O system Simatic ET 200SP HA allows the properties of Profinet...
to be used to optimum effect in achieving this goal. Specifically aimed at the process industries, the new I/O line is designed for high availability and can be used directly in the field up to Ex zone 2. Its protective coating and an extended operating temperature range of -40 to +70°C allow the I/O system to be used in many cases without the need for additional air conditioning.

Despite its compact, highly space-saving design – the width of the new module has been reduced by just under half – it allows the operation of up to 16 channels. The number of modules per head assembly or per station has been increased from 12 to 56, corresponding to just under 900 I/O signals instead of the previous 96 (when using 8-channel modules). Another benefit is its consistently modular and flexible structure, which allows modules to be conveniently hot swapped in running operational mode in what is called a “change run”. The Simatic ET 200SP HA stations can be simply and rapidly extended in line with changing requirements, as the permanent wiring and use of uniform terminal blocks enable control cabinets with a standardized structure. The result: Lower costs for planning, assembly and installation.

The Simatic Compact Field Unit (CFU) opens up new scope for the integration of field devices. The field distributor connected over Profinet is able to overcome the restrictions of conventional I/O concepts, providing consistent decentralization coupled with flexible structures. The Simatic CFU combines the simple handling offered by familiar 4-20mA technology with the benefits of field bus technology, making for a demonstrably simpler distributed I/O structure. Marshaling cabinets and multi-core master cables could soon be relegated to the history books, as distributed deployment of the Simatic CFU allows considerable savings to be made in terms of cables and terminal points. This in turn means a significant cut in the work involved in planning and documentation.

If a new field device has to be connected, for instance, the Simatic CFU automatically initializes the connected device and integrates it quickly and simply into the process control system. While this type of process currently takes around 30 minutes, in future it will be possible to complete it in less than 60 seconds. The same scenario can apply to a classical fault occurring within a system, for instance where a defective field device would disrupt production. The use of Plug&Produce results in simple, efficient, reliable and trouble-free device integration. Field devices can be easily and safely exchanged even by personnel
with no specialized training. The Simatic CFU is ideally tailored to the requirements of the process industries, and is an impressive example of digitalization in the field. Alongside the 8 PROFIBUS PA terminals, there are an additional 8 discrete I/O channels available, each of which can be freely configured by the software as DI (Digital Inputs) or DO (Digital Outputs). The solid housing provides reliable protection from the effects of weather and any unplanned external influences.

Version 9.0 of the Simatic PCS 7 also comes with extensive software innovations offering greater productivity and flexibility for plant operators and maintenance personnel. These include even more efficient commissioning and management of field devices with the aid of mobile technology using the Simatic PDM (Process Device Manager). This universal tool for the engineering, parameterization, commissioning, diagnosis and maintenance of smart field devices and field components provides extensive support for Profinet.

The Simatic Batch software now comes with new functions offering even greater flexibility for the engineering of batch processes. Improvements also include more extensive support for web clients, which can now also be used for Simatic Batch.

To simplify the administration and management of installed hardware and software components, the Simatic Management Console has been additionally upgraded in Version 9.0.
With Version 9 of its Simatic PCS 7 process control system, Siemens is opening up scope for new perspectives to plant operators in the process industries. This represents another important step forward by Siemens towards digitalization. Version 9 of the process control system Simatic PCS 7 supports the world leading Industrial Ethernet standard Profinet with two new distributed I/O lines for greater digitalization down to the field level and a range of software innovations.

This press release and a press picture are available at [www.siemens.com/press/PR2017030218PDEN](http://www.siemens.com/press/PR2017030218PDEN)

For further information on Simatic PCS 7 V9.0, please see [www.siemens.com/pcs7](http://www.siemens.com/pcs7)

For further information on Siemens at the Hannover Messe 2017, please see [www.siemens.com/press/hm17](http://www.siemens.com/press/hm17) and [www.siemens.com/hannovermesse](http://www.siemens.com/hannovermesse)

**Contact for journalists**

Evelyne Kadel
Phone: +49 211 6916-1003; e-mail: evelyne.kadel@siemens.com
Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for more than 165 years. The company is active in more than 200 countries, focusing on the areas of electrification, automation and digitalization. One of the world’s largest producers of energy-efficient, resource-saving technologies, Siemens is a leading supplier of efficient power generation and power transmission solutions and a pioneer in infrastructure solutions as well as automation, drive and software solutions for industry. The company is also a leading provider of medical imaging equipment – such as computed tomography and magnetic resonance imaging systems – and a leader in laboratory diagnostics as well as clinical IT. In fiscal 2016, which ended on September 30, 2016, Siemens generated revenue of €79.6 billion and net income of €5.6 billion. At the end of September 2016, the company had around 351,000 employees worldwide. Further information is available on the Internet at www.siemens.com.