

Hannover Messe 2017, Hall 9, Booth D35

Siemens extends Digital Enterprise for greater efficiency and flexibility in industry

- **Booth slogan “Discover the value of the Digital Enterprise”**
- **Digitalization enhances flexibility, speed, efficiency and quality**
- **Innovations in power distribution, automation and drive technology as well as industrial software**
- **MindSphere extended to include partnerships, apps and interfaces**

At the Hannover Messe 2017, Siemens will be demonstrating how industrial companies of all sizes can benefit from the digital transformation. The central focus of the 3,500-square meter booth in Hall 9 will be on the company’s further extended portfolio for the achievement of end-to-end digitalization, known as the “Digital Enterprise”. An array of examples from practice will allow visitors to experience applications and innovations demonstrating the competitive benefits to be gained by merging the real and the virtual worlds. These include greater flexibility, efficiency and quality as well as a reduced time-to-market. The examples on show range from smart energy management systems through customized food and pharmaceutical production to industrial-scale additive manufacturing based on innovative automation and drive technology. Siemens is also driving forward the expansion of its cloud-based, open IoT operating system MindSphere with the addition of new partnerships, interfaces and apps.

The rapidly changing requirements of consumers are placing manufacturers under increasing pressure to produce customized products at short notice while assuring a consistently optimized standard of quality. The key to addressing all these demands is digitalization, which allows producers to simulate, test and optimize products, production processes and plants within a completely virtual environment on the basis of a “digital twin”. In this way, not only can the manufacturing and process

industries significantly enhance their innovation speed and productivity, but they can also define their own new business models. Machine and plant builders can also reap the benefits of this development and pass them on their own customers. At the Hannover Messe, Siemens will be using the example of milk production to demonstrate ways in which producers in the food and beverage industry can use digitalization solutions all along the line, ranging from milk processing to filling, packaging and labeling, enabling a flexible response to changing market requirements such as the growing diversity of flavors.

To support companies undergoing the digital transformation, Siemens is extending its portfolio for the Digital Enterprise across the four cornerstones of industrial software and automation, industrial communication, industrial security and industrial services.

Integrated portfolio for the Digital Enterprise

“Only companies who digitalize their processes comprehensively will remain competitive”, explains Jan Mrosik, CEO of the Digital Factory Division. Integration of Product Lifecycle Management (PLM), Manufacturing Operations Management (MOM) and Totally Integrated Automation (TIA) into the shared collaboration platform Teamcenter enables the seamless flow of data between every step of the value chain: from product design through production planning, engineering and production to servicing – and back. “We provide support for our customers from the manufacturing industry in the form of the Digital Enterprise Suite, our unique integrated portfolio comprising software-based systems and automation components. We coordinate entry into the world of digitalization closely in line with the requirements of each individual company, and together we develop a solution that precisely meets those requirements.”

Manufacturers can substantially enhance the performance and availability of their plants still further with a minimum of effort: By connecting to MindSphere, huge quantities of data can be quickly and efficiently evaluated and weak spots identified. Through new interfaces, apps and partnerships with companies such as BluVision as well as the usage of the cloud infrastructure and services from Amazon Web Services, Siemens is driving forward the expansion of the ecosystem surrounding MindSphere. Visitors to the Siemens booth will have the chance to experience this in a unique atmosphere as they enter the “MindSphere Lounge”. The newly

disclosed northbound API allows more rapid integration of Siemens MindApps as well as partner apps. There will be an impressive array of new apps on show at the Siemens booth, alongside innovative new features for the existing apps Fleet Manager and Visual Analyzer. To simplify the connection of third-party assets to MindCloud, a southbound API enabling additional protocols is currently in the preparation stage.

The many innovations on show for the discrete manufacturing industry include an extended version of the engineering framework TIA Portal V14, distinguished from other systems by its unique openness, and new basic industrial PCs in box and panel format which offer standard machine builders, distributors and system integrators the chance to implement automation applications at affordable cost. These are particularly suited for HMI (Human Machine Interface) applications, assembly workstations, storage and logistics, data collation as well as production networking and simple image processing.

Siemens will also be showcasing a new drive system comprising Sinamics S210 and Simotics S-1FK2 motors to simplify engineering for machine builders. Another focal theme of this year's trade fair is Additive Manufacturing. The "Additive Manufacturing" showcase at the Siemens booth will be demonstrating how a complete range of software and automation solutions can enable the application of additive manufacturing on an industrial scale.

Sector-specific solutions for the process industries

For companies from the process industries aiming to embrace digitalization, the existence of brownfield plants as well as diverse systems and components plays a key role. "To utilize the opportunities offered by digitalization for legacy systems, open standards, efficient communication networks and integrated automation and drive technologies are hugely important," explains Jürgen Brandes, CEO of the Process Industries and Drives Division. "Also vital is the ability to efficiently create and maintain the digital twin of a plant or its sub-systems. We rely here on partnerships such as our cooperation with Bentley Systems, which enables our customers to integrate realistic 3D models into our engineering system Comos – even for existing plants. This allows operators to significantly improve the productivity, efficiency and reliability of their plants through simulation and virtual commissioning."

One of the most significant innovations on show at the Hannover Messe is Version 9 of the Simatic PCS 7 process control system, which works with the engineering tool Comos on the basis of a shared data platform. This version supports the Industrial Ethernet standard Profinet with two new I/O lines for end-to-end digitalization down to the field level. These benefits are supported by Siemens expertise in industrial communication networks for the Digital Enterprise. These are conceptualized, planned and implemented on an industry-specific and application-specific basis through the end-to-end horizontal and vertical exchange of information – from the field level through the automation and control level to MindSphere or the corporate IT system.

Other innovations to be unveiled at the Siemens booth include the Sitrans FS230, the next generation of clamp-on ultrasound flow measurement technology, as well as the new Sitop PSU8600 power supply system and Sitop UPS1600 uninterruptible power supply, which now support the OPC UA open communication standard. With its Smart Motors Concept, Siemens will also be presenting a new generation of drive technologies with communication capability. Information such as temperature or vibration data captured by integrated sensors can be quickly and simply read out and analyzed in cloud environments such as MindSphere, allowing users to increase both efficiency and plant availability and also to optimize maintenance and servicing activities. Simotics HV C is a new series of compact high-voltage motors featuring an innovative cooling system to improve both power density and reliability. Also featured at the show will be the new generation of the Sinamics Perfect Harmony GH180, which has been made 20 percent narrower than comparable converters due to a new PCB cell design.

The individual and industry-specific requirements of customers always form the starting point for any further development of the portfolio. One example of this is the trade fair showcase for the pharmaceutical industry, which illustrates how manufacturers working in this sector can sustainably optimize their production process and gain greater flexibility – right down to batch size one – while simultaneously ensuring compliance with complex quality and safety regulations.

Integrated solutions for digital power distribution

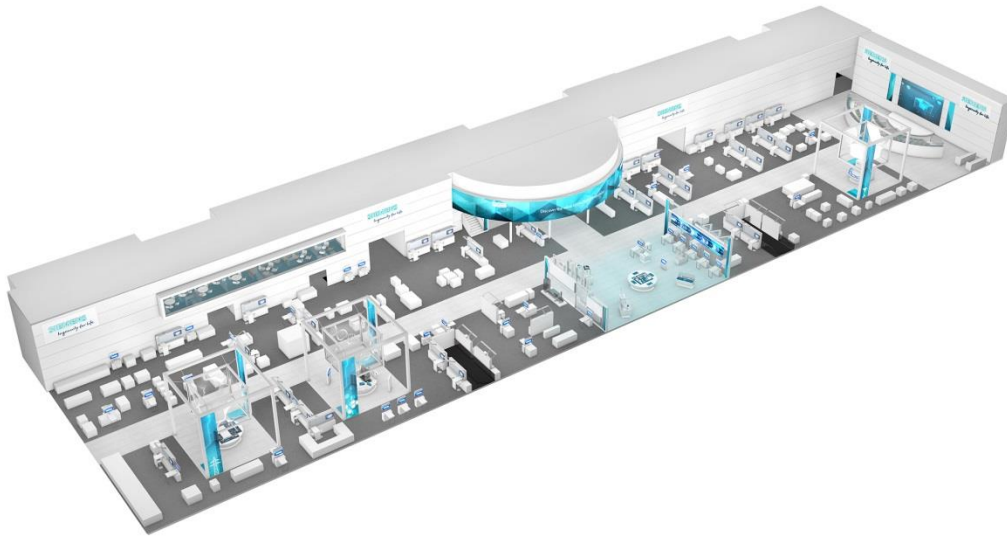
Energy systems are changing the world over, and with them the demands made on electrical power distribution in industrial plants. Influencing factors here are changed load requirements, a growing number of electrical loads and the increasing

networking and automation of industry, buildings and infrastructure. Added to these are more stringent standards and increased requirements imposed on corporate energy management. As a result, the planning and operation of electrical power distribution are becoming ever more complex, and the technical requirements imposed on the underlying systems and products are growing – particularly in terms of their flexibility and their communication and integration capability. For industrial enterprises, security of supply and the availability of economical components are decisive factors.

With its Totally Integrated Power portfolio, Siemens will be showcasing the integration of electrical power distribution systems and devices into automated production environments, impacting on every phase of the value adding process: Automated engineering, failsafe power supply, integration into holistic energy efficiency concepts and industrial automation, and linking to cloud platforms. “Our integrated solutions for digital power distribution mean that our customers can concentrate fully on their core business,” says Beatrix Natter, CEO of the Transformers Business Unit of Siemens Energy Management. “We enable our customers to develop their own energy management system and so benefit from the possibilities offered by the energy market.”

Siemens will be illustrating these benefits at the show on the basis of a concrete application: Using a production machine, it will demonstrate the electrical engineering project of a control cabinet on the basis of a “digital twin” fitted with components fully integrated in the TIA Portal for automated production control, as well as the capture of energy and plant data and its connection to MindSphere. Also showcased at the Siemens booth in Hanover as another example of digital power distribution will be the Sivacon S8 low-voltage switchgear. Using software, communication-enabled switchgear and motor controls can be operated and monitored, and their data made available for higher-level automation and energy management systems or for cloud-based analytical systems.

In addition to its main booth in Hall 9, Siemens will also be presenting its portfolio in the field of PLM software in close cooperation with its partners in Hall 6. Hall 24 will feature an exhibition of real customer applications from wide-ranging sectors of industry involving gears and couplings from the Flender product family. Also on show will be the latest development from Flender’s torsionally rigid all-steel lamella coupling series: the new N-ARPEX coupling with improved performance data.



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This press release and a press picture are available at

www.siemens.com/press/PR2017030199COEN

For further information on Siemens at the Hannover Messe 2017, please see

www.siemens.com/press/hm17 and www.siemens.com/hannovermesse

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