“Digital Enterprise” paves the way to Industrie 4.0 for companies of all sizes

- Advance and expansion of the “Digital Enterprise” for Industrie 4.0
- Solutions for companies of all sizes in every industry
- Convergence of the virtual and real worlds to create a highly flexible, highly available and networked “eco system”

Siemens is paving the way towards industrial digitalization. “To support our customers on their way to attaining Industrie 4.0, no matter what size their company and no matter in which industry, we have undertaken further development of our Digital Enterprise portfolio. We are now in a position to offer them even more and even better solutions to address their needs”, explained Member of the Managing Board of Siemens AG Klaus Helmrich, speaking at the Hannover Messe press conference on April 25. Siemens continues to expand its offering with new tools, solutions and products within four core elements: Industrial software and automation portfolio, industrial communication, security and services.

Exhibiting at Hanover’s biggest single booth, Siemens will be demonstrating how it combines the virtual and real worlds to create a highly flexible, highly available and networked “eco system”: Process and discrete industries benefit from the integration of data from development, production and suppliers. This permits manufacturing companies to respond more selectively to individual customer wishes, to react more quickly to market requirements and also to more easily develop whole new business models. “No matter whether we are looking at large-scale corporations or innovative medium-sized businesses: Siemens provides optimum support for customers as they move towards Industrie 4.0”, said Helmrich. Using a range of concrete examples, Siemens will be demonstrating ways in which companies can benefit from the merger of the real and virtual worlds. The central exhibits at this year’s
booth will be a series of “Highlight Cubes” on the topics of Energy for Industry, Additive Manufacturing, Automotive and Fiber Industry, which will provide visitors with a graphic illustration of selected topics for a direct hands-on experience.

Under the banner “Ingenuity for life – Driving the Digital Enterprise”, Siemens will be offering an overview of the company’s extensive portfolio over an area of 3,500 square meters in Hall 9 – including an array of innovations in the fields of power distribution, automation and drive technology as well as industrial software. Exhibits will include the new performance features of the Totally Integrated Automation (TIA) Portal V14 and new versions of the engineering software Comos, process control system Simatic PCS 7 or the simulation software Simit. In the field of energy management, Siemens will be presenting two new series of its molded case circuit breaker 3VA from the Sentron portfolio in compliance with American standards with UL approval, and the modular multi-channel current measuring system type 7KT PAC1200.

The company took another decisive step towards expanding its offering with its recently announced plan to acquire the US company CD-adapco. CD-adapco is a global supplier of simulation software with solutions covering a wide range of engineering disciplines including Fluid Dynamics (CFD), Solid Mechanics (CSM), heat transfer, particle dynamics, reactant flow, electrochemistry, acoustics and rheology. Over the past 15 years, Siemens has continuously expanded its portfolio of software tools making up the “Digital Enterprise Software Suite”. In common with industrial communication networks, holistic security solutions and the rapid, smart evaluation of large volumes of data based on MindSphere – Siemens Cloud for Industry, Siemens is helping its customers realize the transformation towards the Digital Enterprise. The platform MindSphere, which uses SAP HANA Cloud Platform technology, offers industrial enterprises an open infrastructure and enables innovative digital services.

**Total integration between the virtual and real manufacturing world**

With “Closed Loop Manufacturing”, Siemens is additionally offering its customers a consistent data model which links the individual work steps of the technological value chain and allows a bi-directional data flow between development and engineering. In other words, data from production and servicing flows into the design
of new products and the engineering of production processes. In this way, the data contributes towards the achievement of higher quality, more efficient products and processes. “It is precisely in this data consistency that we envisage the opportunity to realize the demands of Industrie 4.0”, said Helmrich.

Using “Integrated Mechatronics Engineering for Automation” will also enable components to be used as complete units when developing a machine or plant: for instance, motors, drives, valves or entire modules containing detailed information about all the involved engineering disciplines. As the automation system is also integrated into the TIA Portal, PLC programs can be generated and used directly for plant simulation, and therefore also for virtual commissioning. This degree of integration saves the laborious repeat entry of data and does away with the need for interfaces and for their upkeep. This approach paves the way for automation of the engineering process.

**Sector-specific solutions in the process industry**

Every solution has to be precisely tailored to the varying needs of the different sectors of industry. In the process industry in particular, precisely tailored solutions are vital. “Successful digitalization of industry hinges on a precise understanding and knowledge of the requirements of different sectors of industry and users”, said Helmrich. “The fund of solution expertise held by Siemens results from a combination of our in-depth industry and process expertise and our sound knowledge of the field of automation and drive technology, alongside industrial software and data analytics”. All sectors of the process industry are facing a common challenge: the end-to-end integration of every phase of a plant’s lifecycle with the aid of digitalization and comprehensive networking. In this process, integrated engineering tools, simulation of the automation solution and a shared data model are decisive to the optimization of engineering and lifecycle management. The key to improved productivity and greater flexibility in plant operation: Cloud capable services and analytics, the next generation of industrial controls, digitalization of the field level and reliable connectivity.

“For companies in the process industry, there are different ways in which the digital transformation can be implemented”, Klaus Helmrich said further. “They can draw existing facilities into the digital world one step at a time, enter into integrated operation or also carry out the transformation of documentation into digital data”.

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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 No. 1 in offshore wind turbine construction, a leading supplier of gas and steam turbines for power generation, a major provider of 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 2015, which ended on September 30, 2015, Siemens generated revenue of €75.6 billion and net income of €7.4 billion. At the end of September 2015, the company had around 348,000 employees worldwide. Further information is available on the Internet at www.siemens.com.