SIEMENS

SPS IPC Drives 2017, Hall 11

TIA Portal V15 engineering framework: Focus on applications, digitalization and efficiency

- **New version of the TIA Portal V15 engineering framework with emphasis on applications, digitalization portfolio and engineering efficiency**
- **Applications enhanced with high-level language programming, integration of additional drive systems and handling functions**
- **Widening of the digitalization portfolio to include OPC UA functionalities and virtual commissioning**
- **Standardization and higher engineering efficiency with teamwork, as well as expanded diagnostics of machines and systems**

With the new version of the TIA Portal V15 (Totally Integrated Automation Portal), Siemens is extending its engineering framework to include a range of new practical digitalization functions to shorten engineering times. The main features of the innovations are extension of the application possibilities, expansion of the digitalization portfolio, standardization and higher engineering efficiency.

Highlights of the expanded application possibilities in the TIA Portal V15 are the multifunctional platform for integrating high-level language applications and additional drive systems, including a safety acceptance test, the integration of handling functions and 2D to 4D kinematics into Simatic S7-1500 controllers, and the connection and programming of robots. The inclusion of the new multifunctional platform in the portfolio of Simatic S7-1500 Advanced Controllers now enables high-level language applications to be easily created and reused with C/C++ and commercial programming tools, such as Eclipse. The integration of the Sinamics S120 and other drive families now enables the complete Siemens drive technology to be configured, commissioned and diagnosed in the TIA Portal. Another new feature is a Wizard-guided safety acceptance test for the Sinamics G drive family. In

conjunction with new technology CPUs for the Simatic S7-1500 Advanced Controller, handling functions with 2D to 4D kinematics can now be easily and efficiently programmed, simulated and commissioned in the TIA Portal – for example Cartesian gantries, roll pickers, Scara robots and Delta pickers. Robot functions are also available in the TIA Portal V15. Robot manufacturers, such as Kuka and Yaskawa, have already made block libraries available for programming robots in the TIA Portal. Other manufacturers, such as Denso and Stäubli, are also planning to release block libraries in the near future. In this way, control and robot technologies are growing more closely together, and the TIA Portal offers a uniform solution ranging from engineering through to the operation of robots.

The expansion of the digitalization portfolio for the TIA Portal V15 concentrates on OPC UA functionalities and virtual commissioning. The OPC UA functionalities have been widened for the Simatic S7-1500 Advanced Controller. This improves and simplifies the standardized vertical and horizontal communication between machines and devices in the plant and the MES/Scada/IT level (Manufacturing Execution System/Supervisory Control and Data Acquisition). This now also enables automation solutions to be implemented in accordance with industry-specific standards, such as OMAC PackML (Organization for Machine Automation and Control) or Weihenstephan. Virtual commissioning allows virtual validation of the automation solution, that is to say the interaction between control components and the mechatronic system of a machine or system. The heart of the Siemens solution is the S7-PLCSIM Advanced Virtual Controller for Simatic S7-1500. This enables many controller functionalities to be simulated and virtual system models to be controlled. As a result, automation and mechanical engineering are synchronized at a very early stage in the product life cycle, and development times up to the real commissioning are shortened.

In respect of standardization and higher engineering efficiency, the new TIA Portal version concentrates on teamwork and enhanced diagnostics of machines and systems. The automatic marking of changed objects and the offline mode were added in teamwork with TIA Portal Multiuser Engineering. Together with the enhanced change management in the multiuser server, such as for change history and user comments, this improves the system-supported synchronization of changes in the team. For the diagnostics of machines and systems, the Simatic ProDiag

diagnostics package has been extended to include the monitoring of fail-safe modules and the criteria analysis for ProDiag alarms. In combination with the S7-Graph Control display in the Simatic HMI (Human Machine Interface) – which has also been expanded – this has improved the diagnostics and visualization of machine sequences and application errors directly on the operator device in the system. For example, for the first time the user is able to look back to the real cause of the failure in the graphic code display of the operator device.

Background information:

The Siemens TIA Portal (Totally Integrated Automation Portal), introduced 2010, enables users to perform automation and drive tasks quickly and intuitively through efficient configuration. The software architecture is designed for high efficiency and ease of use, and is suitable for both new and experienced users. It offers a standardized operating concept for controllers, human machine interfaces (HMI) and drives, as well as for shared data storage and consistency, for example during configuration, communication and diagnostics, as well as offering powerful libraries for all automation objects. The simple engineering in the TIA Portal facilitates full access to the entire spectrum of digitized automation, including digital planning, integrated engineering and transparent operation. Alongside PLM (Product Lifecycle Management) and MES (Manufacturing Execution Systems) within the Digital Enterprise Software Suite, the TIA Portal complements the holistic range of software available from Siemens for companies on the path toward Industry 4.0.

With the new version of the TIA Portal V15 (Totally Integrated Automation Portal), Siemens is extending its engineering framework to include a range of new practical digitalization functions to shorten engineering times. The main features of the innovations are extension of the application possibilities, expansion of the digitalization portfolio, standardization and higher engineering efficiency.

You will find this press release and a press photo at
www.siemens.com/press/PR2017110054DFEN

For further information, refer to www.siemens.com//tia-portal
Further information about Siemens at the SPS IPC Drives 2017 at
www.siemens.com/sps-ipc-drives and www.siemens.com/press/sps2017

Contact for journalists
Gerhard Stauss
Phone: +49 911 895-7945; E-mail: gerhard.stauss@siemens.com

Follow us on **social media**
Twitter: www.twitter.com/MediaServiceInd and www.twitter.com/siemens_press
Blog: https://blogs.siemens.com/mediaservice-industries-en

Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for 170 years. The company is active around the globe, 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 2017, which ended on September 30, 2017, Siemens generated revenue of €83.0 billion and net income of €6.2 billion. At the end of September 2017, the company had around 372,000 employees worldwide. Further information is available on the Internet at www.siemens.com.