

SIEMENS**Press****Industry**

Industry Automation

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Siemens launches SIMATIC S7-1500 controller family along with updated version of its Totally Integrated Automation Portal (TIA Portal)

With the launch of SIMATIC S7-1500, Siemens Industry Sector's Industry Automation division today announced the introduction of a whole new family of next generation controllers for medium to high-end machine and plant automation. The new generation of controllers is characterized by high performance and efficiency and offers numerous benefits such as integrated motion control, plant security, and safety applications that are easy to implement. Greater efficiency is represented in particular by the innovative design that enables simple commissioning & safe operation, by the configurable diagnostic functions that provide the plant status and by the integration into the TIA Portal for simple engineering and low project costs.

With regard to overall performance, the technology, security, safety and system performance have been considerably improved. In order to increase efficiency, further developments have been made specifically in the areas of design and handling, system diagnosis and engineering with the TIA Portal.

Siemens Ltd.

Dr. Armin Bruck
Managing Director
130, Pandurang Budhkar Marg,
Worli, Mumbai - 400 018.
Tel. : (022) 3967 7000
Fax : (022) 3967 7500

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Corporate Communication – Press Office
Mr. Viswakumar Menon
130, Pandurang Budhkar Marg,
Worli, Mumbai - 400 018.
Tel. : (022) 3967 7537 / 3967 7026
Fax : (022) 3967 7174

Commenting on the new product S7-1500, **Mr. Bhaskar Mandal, Executive Vice-President, Industry Sector, South Asia, Siemens Ltd**, said “Being in the Indian market for decades, Siemens has a thorough understanding of the industry needs and has continuously designed products and solutions that help our clients maximize productivity and increase efficiency. The new SIMATIC S7-1500 controller sets new standards for maximized productivity. This benefits small-series machines as well as complex installations that place high demands on speed and deterministic communication. The SIMATIC S7-1500 is seamlessly integrated in the Totally Integrated Automation Portal (TIA Portal) for maximum engineering efficiency.”

Engineering framework for automation and drive technology extended

The Siemens Industry Sector’s Industry Automation division also announced the enhancement of its "Totally Integrated Automation Portal" (TIA Portal) engineering framework with numerous new functions. Version 12 enables all Siemens drives of the Sinamics G converter series to be parameterized via the TIA Portal, and additional diagnostic functions have also been integrated. Among other things, the safety functionalities have been extended for SIMATIC S7-1500 and the Profinet communication performance has been expanded. The programming languages have been trimmed for even greater efficiency and new security functions provide improved protection of know-how, and better security against copying and access. Within the framework of the new version of the TIA Portal there are also updates for engineering tools for the configuration, programming, commissioning and servicing of the Siemens automation devices and drive systems. These include, for example, the following engineering systems: SIMATIC Step 7 V12 for SIMATIC controllers, SIMATIC WinCC V12 for HMI systems (SIMATIC HMI) and Sinamics Startdrive V12 for the Sinamics G converter family.

Mr. Mandal adds, “Integration of automation platforms in a manufacturing environment is vital to avoid automation islands. While our current version of Totally Integrated Automation portal performs automation and drive tasks quickly and intuitively, the new version provides seamless

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drive integration, integrated system diagnostics and safety functionality along with a powerful Profinet communication.”

The Siemens TIA Portal is designed for high efficiency and user-friendliness, and it is suitable for both first-time users and experienced users. It offers a standardized operating concept for controllers, human machine interface (HMI) and drives, for shared data storage and automatic data consistency, for example during configuration, communication and diagnosis. It also offers powerful libraries covering all automation objects.

In its latest Version 12, Siemens has extended the TIA Portal to include numerous functions for drive integration, system diagnosis, safety, Profinet communication, security and programming language.

Contact for journalists:

Siemens Ltd, Corporate Communication

Ms. Ashwathi G. Athilat

Phone: (022) 33 26 5249

E-mail: ashwathi.athilat@siemens.com

About Siemens Ltd.

Siemens Ltd., in which Siemens AG holds 75% of the capital, is the flagship listed company of Siemens AG in India. Siemens in India including Siemens Ltd. comprises 12 legal entities, is a leading powerhouse in electronics and electrical engineering with a business volume aggregating about Rs. 12,000 crore. It operates in the core business areas of Industry, Infrastructure & Cities, Energy and Healthcare. It has nation-wide sales and service network, 23 manufacturing plants and employs about 19,000 people.

Further information is available on the Internet at: <http://www.siemens.co.in>.

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Annexure I: More about the SIMATIC S7-1500 controller family

System performance: The high level of system performance with fast signal processing permits extremely short response times and a high quality of control. To this end, SIMATIC S7-1500 has a fast backplane bus with a high baud rate and efficient transmission protocol. The response time from terminal to terminal is less than 500 microseconds and the command time in the case of bit instructions, depending on the CPU, is faster than ten nanoseconds.

Technology: In the field of technology, the SIMATIC S7-1500 is also characterized by its Motion Control functions that are integrated as standard. These enable analog and Profidrive-compatible drives to be connected without additional modules, supporting speed and positioning axes, as well as encoders.

Security: The Security Integrated concept extends from block protection to communication integrity and supports users in safeguarding their applications. Integrated functions for protection of know-how, copy protection, and access protection, safeguards the application from unauthorized configuration changes.

Safety: The F-version (failsafe) function of the new controllers provides both standard and safety-related programs. A central Safety Administration Editor helps define and modify safety parameters. The controllers are certified in accordance with EN 61508 for functional safety and are suitable for use in safety-relevant applications up to SIL 3 according to IEC 62061 and PL e according to ISO 13849.

Design and handling: In the design and handling for SIMATIC S7-1500 special priority has been given to the easiest operation and maximum possible user-friendliness – with many innovations in the detail.

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System diagnostics: The integrated system diagnostics in SIMATIC S7-1500 include an extensive diagnostic functionality without any additional programming effort. The diagnosis is simply configured instead of being programmed. Furthermore, the display concept has been standardized.

Engineering with TIA portal: Like all new Siemens automation devices, the new SIMATIC S7-1500 controller is also integrated into the TIA Portal engineering framework. This offers a standardized operating concept for controller, HMI and drives, shared data storage and automatic data consistency throughout the project, as well as powerful libraries covering all automation objects.

For more details, visit: www.siemens.com/s7-1500

For pictures on S7-1500, visit: www.siemens.com/ia-picture/3300

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Annexure II- More about Totally Integrated Automation portal V12

Seamless drive integration: With the "Sinamics Startdrive V12" engineering system, integrated into the TIA Portal, the Siemens Sinamics G drives can be quickly and efficiently parameterized for the automation task and then put into service. The drives are also integrated automatically into the system diagnosis. Another new feature of TIA Portal V12 is the scalable and flexible motion functionality with the new SIMATIC S7-1500 controllers for drives connected on a centralized or distributed basis.

Integrated system diagnostics: The configuration of the diagnostics is integrated in the system for user-friendly operation and can be activated with just a single click. In the case of new hardware components, the diagnostic information is updated automatically. With an improved and standardized display concept, status or error messages are visualized in exactly the same way – not only in the TIA Portal and on the HMI devices, but also in the web server and on the display of the new SIMATIC S7-1500 controllers. The real-time trace function for the controllers and drives enables user programs and motion applications to be diagnosed with great precision and the drives to be optimized.

Integrated safety functionality: The "Step 7 Safety Advanced V12" engineering system for the TIA Portal integrates the safety engineering of the SIMATIC S7 controllers including the SIMATIC S7-1500 devices. An optimized compiler with an efficient code offers fast processing of the failsafe program. Additionally new features like autonomous prioritization and timing setting are added. Also, visual monitoring of the error cycle time is possible!

Powerful Profinet communication: Version 12 of TIA Portal now also supports Profinet functions Media Redundancy Protocol (MRP) and I-Device.

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Multi-stage security: The concept of "Security Integrated" in TIA Portal V12 in connection with the new SIMATIC S7-1500 controllers extends from block protection to communication integrity and helps users to safeguard their applications.

Optimized programming languages: SIMATIC Step 7 V12 provides the new SIMATIC S7-1500 controllers with optimized compilers for the programming languages STL (statement list), FBD (function block diagram), LAD (ladder logic) and SCL (structured control language). SCL now contains the programming with slice-access for fast access to individual parts of variables and for the export of SCL code. The "calculate box" function for complex arithmetic operations, as well as indirect addressing and implicit type conversion, is also supported for the new controllers in LAD and FBD. Further innovations are 64-bit data types (LREAL, LINT, LWORD), automatic acceptance of the current values as initial values, block expansion during operation to avoid data loss and block sizes of up to 16 MB. Integrated symbolic programming enables consistent data access, increased transparency during project creation, and minimization of errors by automatically updating the project data.

For more details, visit: www.siemens.com/tia-portal

For pictures on TIA, visit: www.siemens.com/ia-picture/3301

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