

SIEMENS



Efficient automation starts with efficient engineering

Totally Integrated Automation: Efficiency driving productivity.

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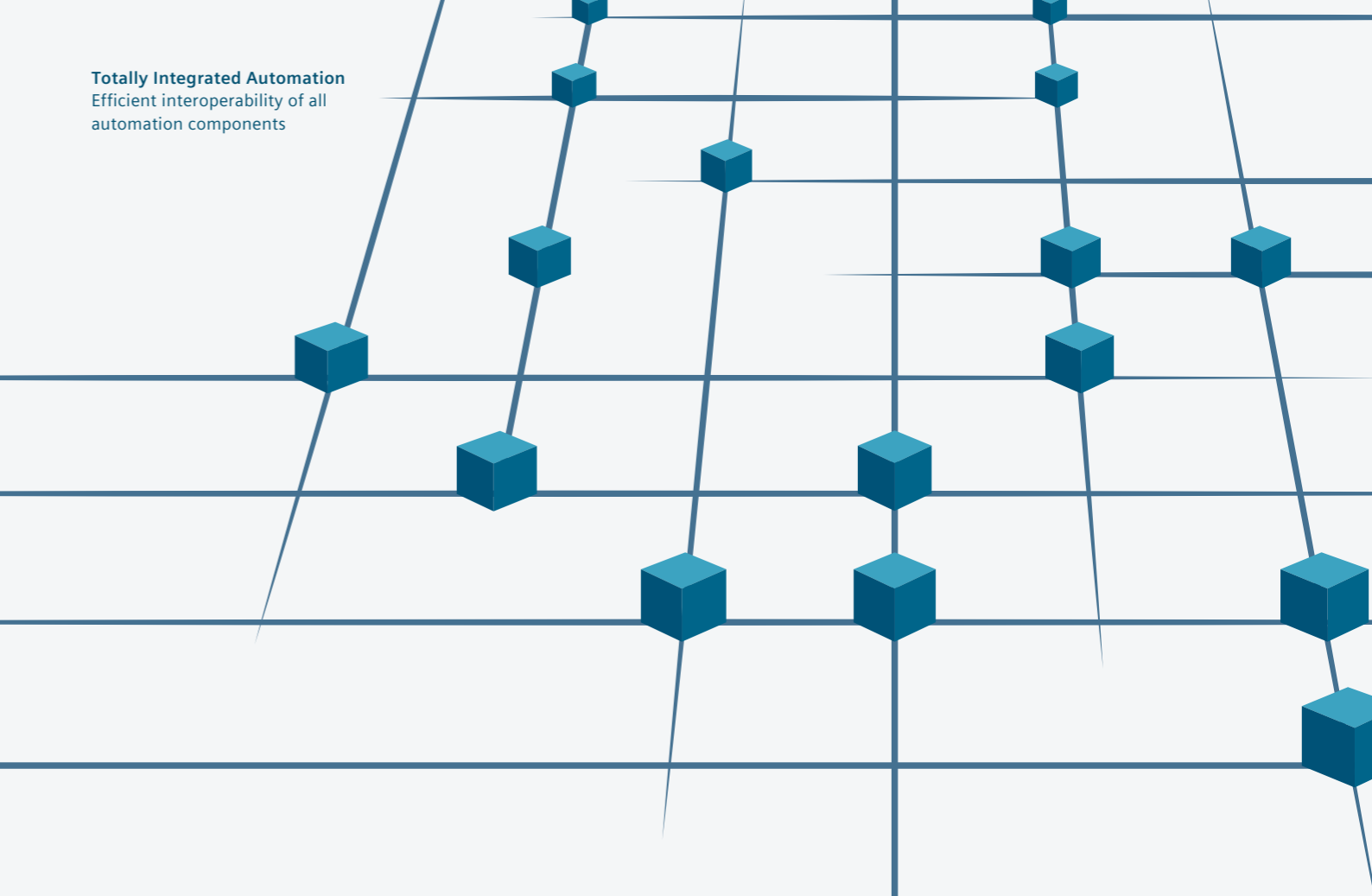


Totally Integrated Automation:
Efficient interoperability of all
automation components

Answers for industry.



Totally Integrated Automation
Efficient interoperability of all automation components



Totally Integrated Automation: the big picture!

Efficiency and productivity are decisive success factors for manufacturing industries. Engineering plays a central role in this especially as it relates to ever more complex machinery and plants. For that reason, a high level of efficiency is already demanded at the engineering stage, as the first step toward better production: faster, more flexible, and more intelligent. Siemens has an intelligent answer to this: Totally Integrated Automation.

Making things right with Totally Integrated Automation

Totally Integrated Automation, industrial automation from Siemens, is the name given to efficient interoperability of all automation components. The open system architecture covers the entire production process and is based on the consistent presence of shared characteristics: consistent data management, global standards, and uniform hardware and software interfaces.

Consistent use of shared characteristics

Totally Integrated Automation allows for the holistic optimization of the production process:

- **Time and cost savings**
due to efficient engineering
- **Minimized downtime**
due to integrated diagnostic functions
- **Higher flexibility in production**
due to integrated communication
- **Plant and network security**
due to integrated security functions
- **Protection of personnel, machinery, and the environment**
with seamlessly integrated safety technology
- **Improved quality**
due to data consistency
- **Simplified implementation of automation solutions**
due to global standards
- **Better performance**
due to interoperability of system-tested components

Efficiency driving productivity.

Value added for manufacturing industries

Totally Integrated Automation provides enormous time savings already at the engineering phase. The result: lower costs, faster time-to-market, and greater flexibility – optimum preconditions for continuously boosting productivity and efficiency over the long term. And ultimately improving overall competitiveness.

A unique complete approach for all industries

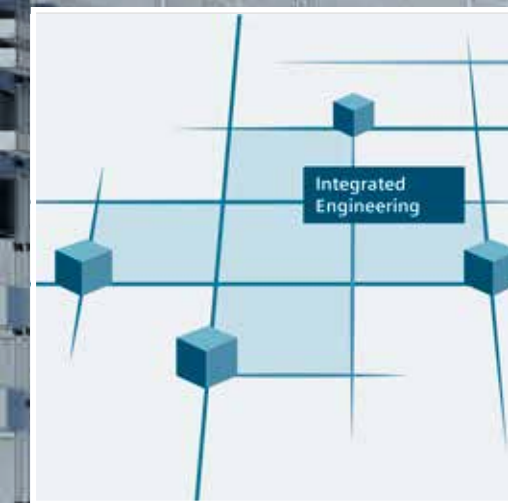
As one of the world's leading automation suppliers, Siemens provides an integrated and comprehensive portfolio for all requirements in process and manufacturing industries. All components are mutually compatible and system-tested. This ensures that they reliably perform their tasks in industrial use and interact efficiently, and that each automation solution can be implemented with little effort based on standard products. For example, integration of many separate individual engineering tasks into one engineering environment provides enormous time and cost savings.

With its comprehensive technology and industry-specific know-how, Siemens is continuously driving progress in manufacturing industries. Totally Integrated Automation plays a key role in this. Totally Integrated Automation creates real value added in all automation tasks, in particular:

- **Integrated Engineering**
- **Industrial Data Management**
- **Industrial Communication**
- **Industrial Security**
- **Safety Integrated**



TIA Portal: With the Integrated Engineering Framework for all automation tasks, engineering time can be reduced by up to 30%.

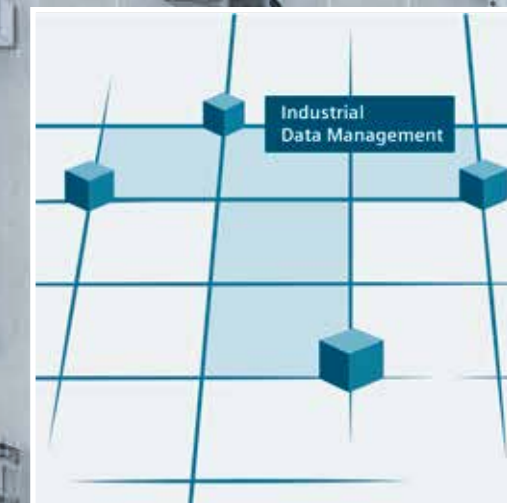


Integrated Engineering

Consistent, holistic engineering over the entire product development and production process.

A uniform engineering database and an open system architecture permit access to up-to-date data and information any time from anywhere in the world. In this way, work processes can be performed in parallel that would otherwise have to be handled sequentially.

- **Less time, lower costs, and less work** for the engineering
- **Quality assurance** of engineering projects
- **Higher profitability** of engineering projects

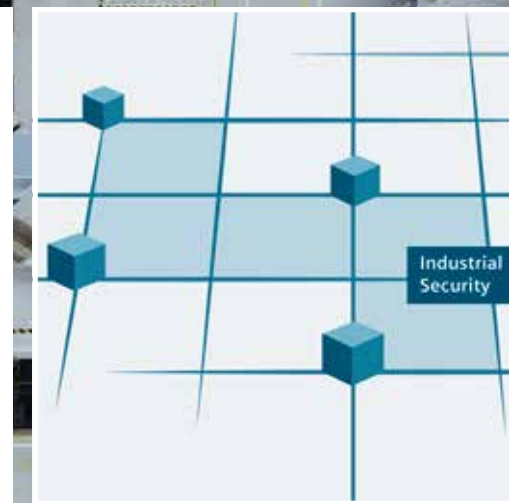


Industrial Data Management

Access to all the important data occurring in productive operation – along the entire value chain and across all levels.

These structured data are available in real time for higher-level order and production control systems, allowing greater decision-making confidence, and maximizing plant operation.

- **Higher availability** due to efficient diagnostics and predictive maintenance
- **Savings of energy costs** – due to efficient operational energy management
- **Continuous optimization of production** – due to company-wide access to current and historical plant data in real time

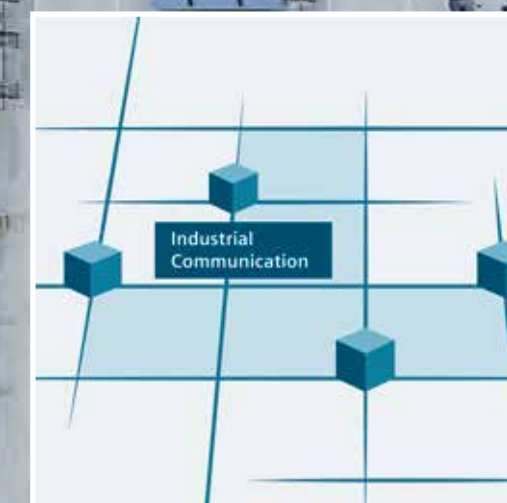


Industrial Security

Systematic minimization of the danger of an internal or external attack on plants and networks.

Based on the globally proven defense-in-depth strategy, intrusion by an attacker is made more difficult by a series of obstacles and plant accessibility is protected.

- **Plant security** – due to the physical protection of the plant by setting up customer-specific security management
- **Network security** – due to segmentation of the network and use of firewalls and VPN tunnels: protection from unauthorized access and protected communication
- **System integrity** – due to integrated security functions that protect against unauthorized access and manipulation

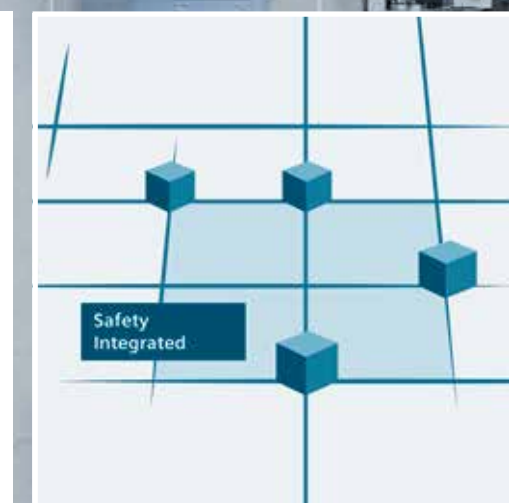


Industrial Communication

Integrated communication based on international, cross-vendor standards that can be flexibly combined.

This unrestricted integration creates the preconditions for efficient interoperability of all components and for greatest transparency across all levels: relevant information is available anywhere in the plant at any time.

- **More efficient commissioning and more flexible production** – due to the option of intervening in the process everywhere if necessary
- **Diagnostics and maintenance** – also wireless or via the Internet due to consistent use of international standards
- **Simplified expansion and modernization** – due to great openness and flexibility



Safety Integrated

Reliable protection of personnel, machinery, and environment due to seamless integration of safety technologies into the standard automation.

The comprehensive safety portfolio meets all the requirements for functional safety of machines and plants, and permits more simple, faster, and more economical implementation of safe and productive machines.

- **Improved engineering efficiency** – due to integration of safety technology into the standard automation and the Engineering Framework TIA Portal
- **Maximum process safety** – due to comprehensive offer of safe, fault-tolerant applications complying with the latest guidelines
- **Simple implementation of safe communication** – due to use of proven standard buses for transmission of safety-related data

Find out more:
siemens.com/tia

Discover how Totally Integrated Automation improves your competitiveness

- › how the efficient interoperability of all components creates real added value
- › how to achieve enormous time savings already at the engineering phase
- › how to make your production better: faster, smarter and more flexible

**Totally
Integrated
Automation –
take a look!**



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Siemens provides automation and drive products with industrial security functions that support the secure operation of plants or machines. They are an important component in a holistic industrial security concept. With this in mind, our products undergo continuous development. We therefore recommend that you keep yourself informed with respect to our product updates and that you use only the latest versions.

Please find further information on this subject at:
<http://support.automation.siemens.com>.

You may also register for a product-specific newsletter at this address. To ensure the secure operation of a plant or machine it is also necessary to take suitable preventive action (e.g. cell protection concept) and to integrate the automation and drive components into a state-of-the-art holistic industrial security concept for the entire plant or machine. Any third-party products that may be in use must also be taken into account.

Please find further information at:
<http://www.siemens.com/industrialsecurity>

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