



**SIEMENS**

# Maximize productivity – with Totally Integrated Automation

Integrated automation solutions for the  
entire value-added chain

[siemens.com/tia](https://www.siemens.com/tia)

Answers for industry.

# Totally Integrated Automation – systematic added value

As a response to the rising pressure of competition, it is today more important than ever to exploit all possible potential for optimization on a consistent basis – over the entire life cycle of a machine or plant, starting with the planning and engineering, continuing through operation and maintenance up to expansion and modernization.

Efficient configuration, fast integration and commissioning, highest flexibility in production, maximum availability, minimum energy costs: the demands of industry are complex. And they continue to rise.

Totally Integrated Automation allows these requirements to be met intelligently – even if international markets have to be served and global service concepts are expected.

Totally Integrated Automation offers a wealth of advantages over the entire production life cycle. First-class, innovative automation products from an integrated and coordinated range form the basis, along with clearly-defined system properties that ensure optimum interaction of the products.



# Efficient configuration

The Totally Integrated Automation Portal (TIA Portal) supports you efficiently in all configuration tasks and facilitates a significant reduction in engineering time, costs and effort – from the development phase, through installation and commissioning, to the maintenance and expansion of automation systems.

- Intuitive user interface and navigation
- Object-oriented, centralized data storage
- Proven technology, due to consistent development



# Simple integration of machines and plants



With Totally Integrated Automation it is easy to integrate machines and plant components into your existing system, independent of the vendor.

- Consistent use of open, international communication standards
- Open software system interfaces
- One bus system for all communication tasks
- Simple programming of new automation components
- Integrated data transfer throughout the entire production process



# Maximum flexibility in production

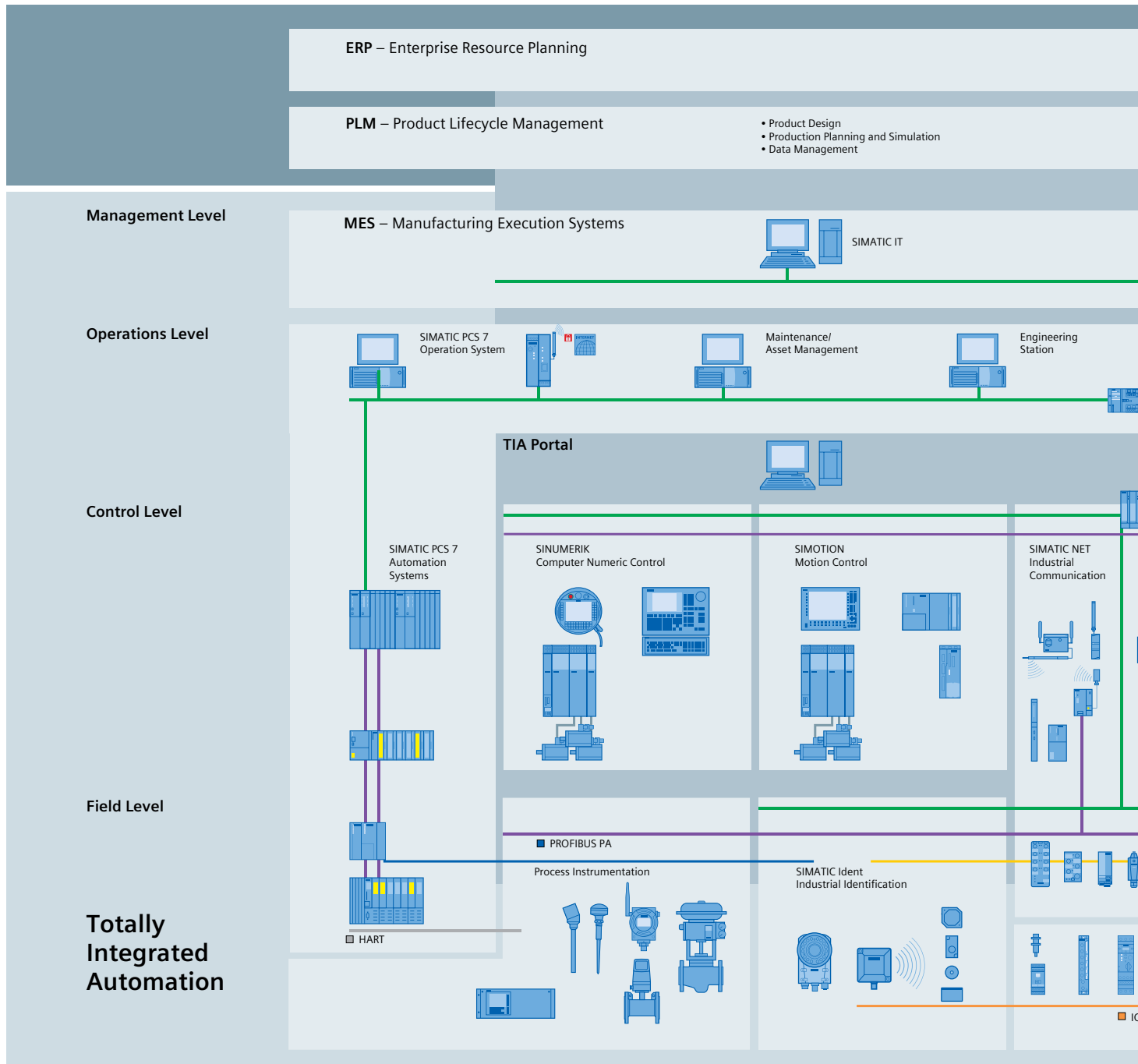
Totally Integrated Automation enables you to react in real time to changing market requirements and adapt your production accordingly – without any great effort or expense. Thanks to this flexibility, you profit from shorter innovation cycles.

- Rapid reaction to market changes
- Maximum flexibility for product adaptation
- Modularization of machines and plant sections
- Faster product changes from a central location





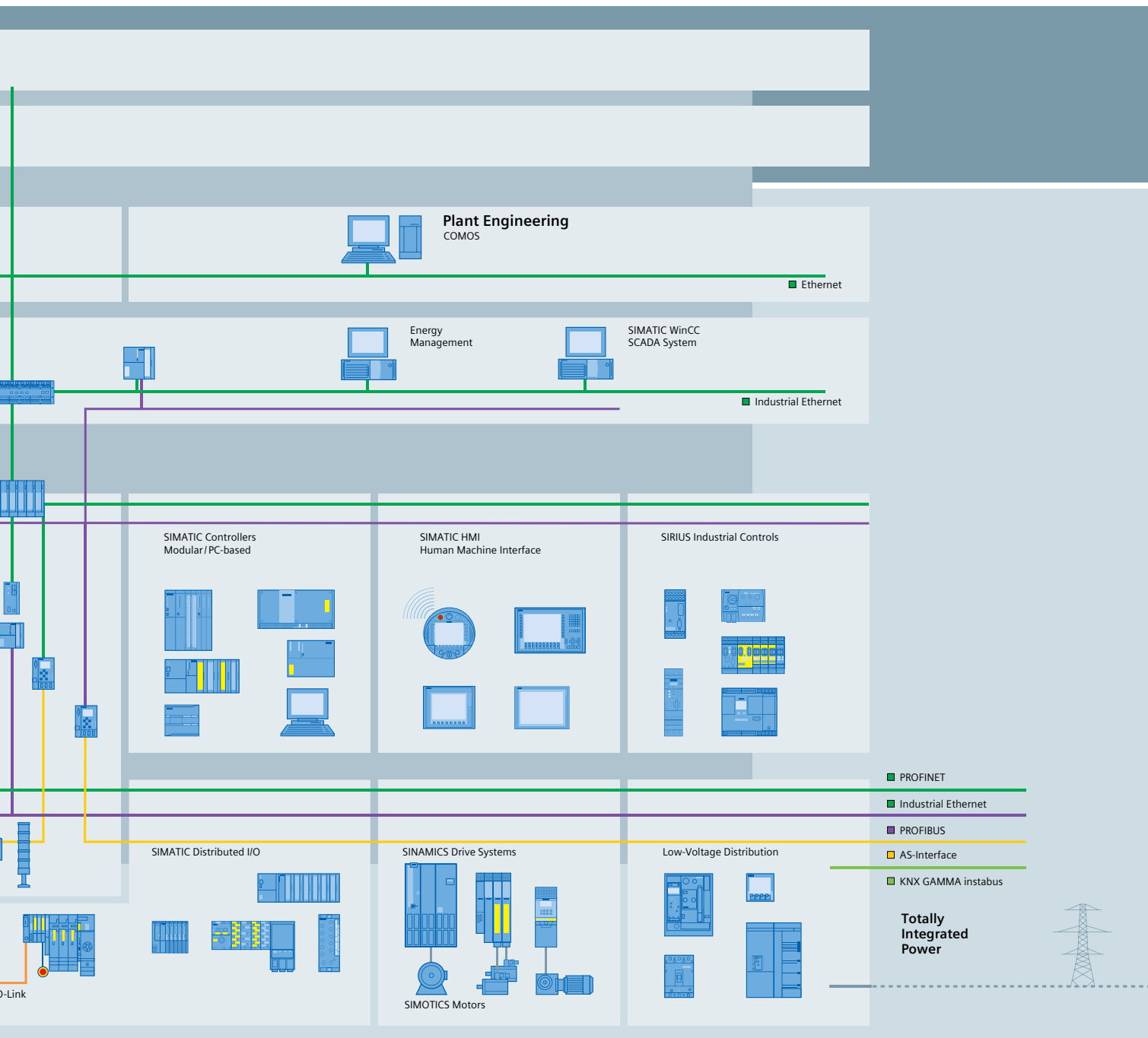
# TIA product portfolio



SIMATIC PCS 7 – maximum efficiency in planning and engineering with optimally coordinated toolsets



The systematic approach to maximum management with B.Data and SIMATIC power



Energy efficiency – customized, intelligent energy  
performance

TIA Portal is the intuitive, efficient and proven engineering framework for all automation tasks.

# Energy-efficient production



Totally Integrated Automation helps you to lower your energy costs efficiently and sustainably. On the one hand, with energy-efficient products that reduce energy consumption and, on the other hand, by means of intelligent energy management for systematic improvement of energy efficiency.

- Modern motors in energy efficiency classes IE2 and IE3
- Compact soft starters with extremely low intrinsic power loss
- Frequency converters for energy savings of up to 70%
- Integrated energy management system (identification, evaluation, realization)
- Save energy during breaks in production with PROfEnergy



# Maximum availability of machines and plants

Totally Integrated Automation creates the conditions for extremely reliable machines and plants with maximum availability, and thus makes a crucial contribution to the sustainable optimization of your overall productivity.

- Fewer faults, due to reliable and rugged components
- Reduced downtimes, due to comprehensive diagnostics, status-based maintenance requests and integrated safety
- Efficient maintenance and repair with Maintenance Station



# Secure remote access for worldwide service



With Totally Integrated Automation, control and service tasks can also be performed remotely – saving time and costly on-site service call-outs.

- Efficient remote access to plants, machines and mobile applications
- Telecontrol for the monitoring and control of widely distributed process stations
- Teleservice supports error detection, diagnostics, maintenance and repair of remote plants
- Industrial Security – concepts for comprehensive plant protection



# Integrated system properties offer clear advantages

## Safety

Compared to conventional safety technology, the integrated safety solution saves both space and wiring costs. Thanks to our extensive range of products and combinable standard and safety modules, individual requirements can be met on an extremely flexible and economical basis. In addition, integration into the engineering software reduces the amount of programming required and speeds up the commissioning process.

## Engineering

With the Totally Integrated Automation Portal (TIA Portal) Siemens has redefined engineering: The new, groundbreaking Engineering Framework unites the SIMATIC® STEP 7, SIMATIC WinCC and SINAMICS StartDrive automation software in a single, intuitive development environment, so that users can benefit from a unique level of data consistency and a maximum degree of efficiency.

## Security

Totally Integrated Automation enables security to be established with relatively little administrative effort, while supporting the key security standards. Our automation software supports standardized user management (single logon) for secure authentication of the user. In addition, tools and functions are available for the documentation of every change made to the project/program.



## Diagnostics

Totally Integrated Automation comprises products and modules with integrated diagnostic functions and permits plant-wide system diagnosis for the reliable detection, automatic reporting and fast clearance of faults. In complex plants, the maintenance station delivers a standardized view of maintenance-relevant information for all components. This increases the overall equipment efficiency (OEE) and reduces costs.

## Communication

Totally Integrated Automation is based on international communication standards that are independent of individual manufacturers and can be combined on a flexible basis. This way, relevant information is available across the entire plant at all times. This simplifies commissioning, diagnostics and maintenance enormously – even wirelessly or over the internet. Additionally, the components can be accessed from anywhere in order to intervene in the process when necessary.

## Ruggedness

From the plug connector at field level to the industrial PC at the plant management level: all products and systems in Totally Integrated Automation offer maximum levels of quality and ruggedness. To meet the increased demands for robustness, we offer special device versions – e.g. splashproof with higher IP65/67 degree of protection, for extended temperature ranges (–25 to +70 °C), as well as variants resistant to shock, vibrations and electromagnetic interference.



Learn more

[www.siemens.com/tia](http://www.siemens.com/tia)



## You will learn about

- TIA success stories and applications
- The TIA product portfolio
- The advantages of TIA as 3-D animations
- TIA and the verticals

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Subject to change without prior notice 03/13  
Order No.: E20001-A220-M101-X-7600  
Dispo 06303  
21/46475 MI.GC.TA.52.3.01 WS 03131.5.  
Printed in Germany  
© Siemens AG 2013

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