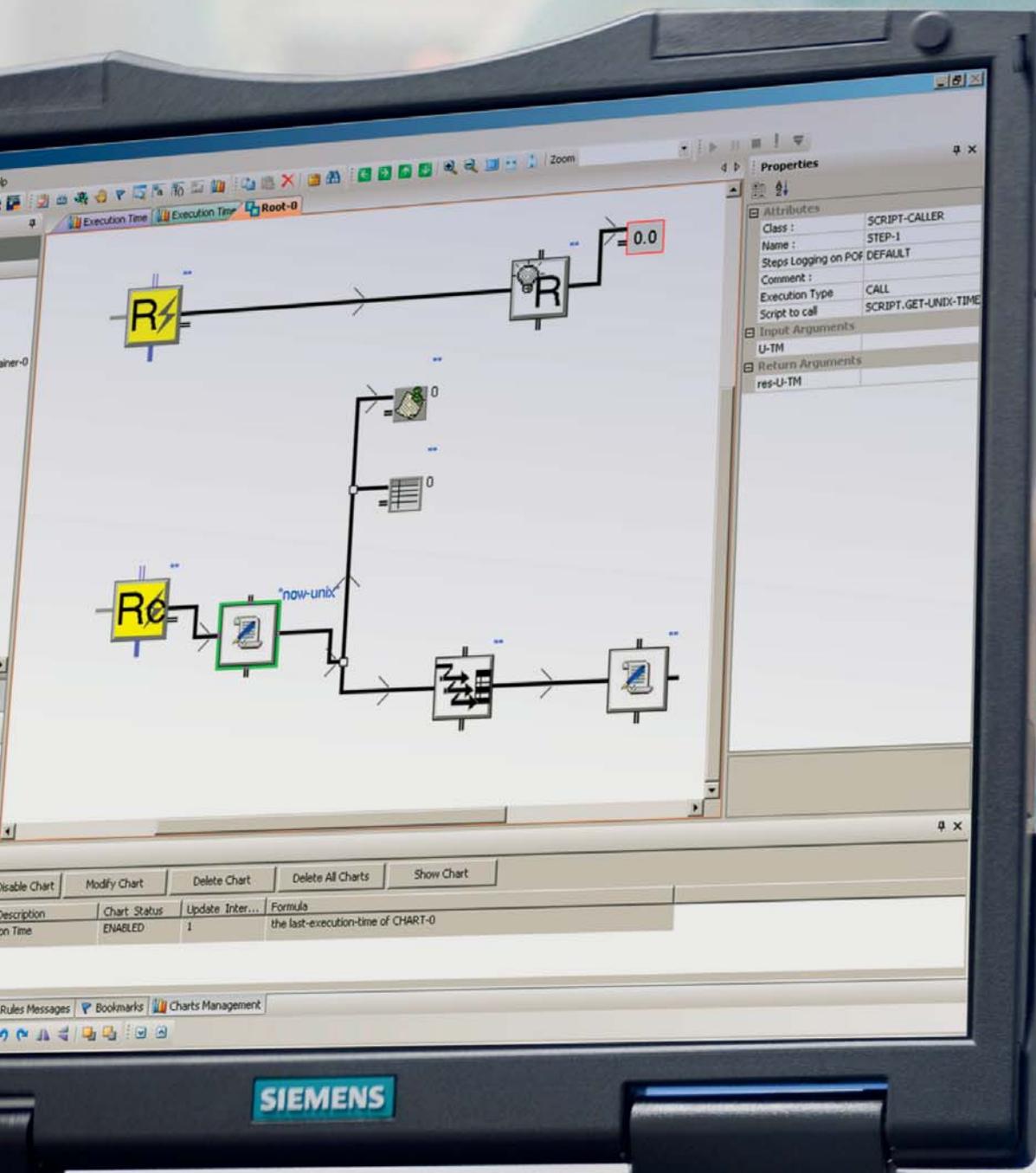


Driving Manufacturing Performance



SIMATIC IT Production Suite

Answers for industry.

SIEMENS

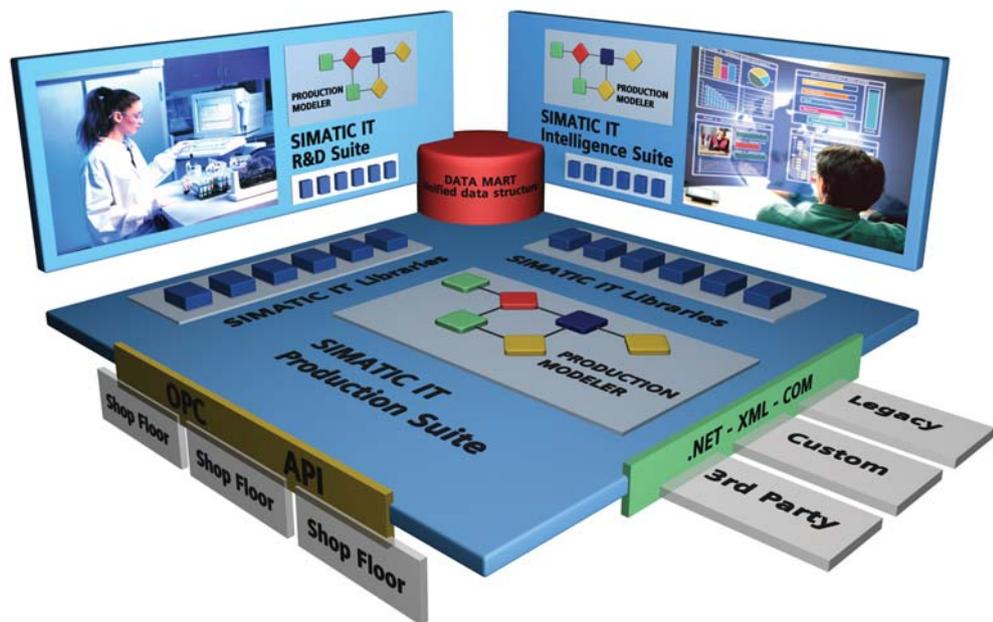
SIMATIC IT at the intersection of value creation processes

With SIMATIC IT, Siemens is broadening the scope of MES. Plant IT solutions must be based on a strong technology platform, compatible with the enterprise's IT infrastructure, flexible and scalable at the same time. But IT increasingly has to enable the integration of processes and systems over divisions and plants inside the organization, synchronizing manufacturing processes with business processes and complex supply chains. The SIMATIC IT portfolio can cover these requirements offering the infrastructure to achieve the real-time enterprise for optimum market responsiveness.

SIMATIC IT Production Suite is the plant-centric IT solution covering all manufacturing needs. It fills the gap between Business Systems (e.g. ERP) and Control Systems, creating the conditions for an efficiency increase at the plant and within supply chain operations

SIMATIC IT R&D Suite streamlines R&D and manufacturing processes, and enables seamless transition of product data and definitions through the entire manufacturing process by integrating R&D data and workflows with the manufacturing environment.

SIMATIC IT Intelligence Suite makes the real-time enterprise possible, translating critical, real-time manufacturing information into business-level performance indicators. It defines the natural evolution of SIMATIC IT in the business level.





SIMATIC IT: making the complex simple

The challenges in today's manufacturing environments are becoming more and more exacting and manufacturers need from their supplier solutions that provide tangible benefits with quantifiable and quick return on investment. To increase competitiveness, manufacturers need to simultaneously reduce time-to-market, increase process visibility and production flexibility, optimize forecasting and scheduling, and reduce scrap, stock levels and downtimes; all while ensuring optimal quality and production efficiency across all global facilities.

Meeting these goals means to build an integrated IT infrastructure that helps coordinate production on a global scale and in real time. This coordination

requires not only integration between the Business and Control levels inside companies and plants, but as well specific manufacturing execution capabilities with access and transparency of critical production data for different levels in the company and the plant.

SIMATIC IT as a Manufacturing Execution System provides exactly these capabilities. Synchronization of activities at business level, as well as integration with the business or ERP level within organizations are nowadays strongly recognized as vitally important factors for manufacturing efficiency. However, with ERP being unable to render data from the shop floor in the right granularity and in real time, at the right speed, MES is needed for a plant to become truly responsive.

In order to obtain success from a MES installation, the proposed solution must be based on a strong software technology platform, compatible with enterprise's IT infrastructure, flexible, open, scalable and fast in response at the same time.

To protect their investments and obtain a maximum return of investments, customers expect two things: products of the highest quality, with state-of-the-art functionality, and unparalleled compatibility as well as comprehensive services and support, including product consulting, documentation, training, and warranties. At the same time MES solutions need to fully match customer requirements without the risk and duration involved in a custom software project.

SIMATIC IT: A vision for MES

It is Siemens mission to keep a tight understanding of customer requirements in order to provide maximum benefits.

With SIMATIC IT Siemens is living up to these expectations, by fulfilling customer requirements on the MES level by offering a flexible architectural concept based on the latest technologies, as well as on the MES market standards.

In fact many MES solutions based on a combination of different software packages and customized software, have grown overly complex in an attempt to cover all the requirements of a vertical market.

SIMATIC IT provides a Framework-Concept environment that enables the description of the manufacturing processes and operating procedures, by synchronizing and coordinating the functions supplied by the individual components.

These functions will properly perform the action required for managing the production, such as orders management, material management, KPI calculations and so on.

Instead of hiding application logic in a monolithic product, SIMATIC IT Production Suite explicitly represents the customer's production processes as graphical workflows.

With its "Framework & Component", leveraging object oriented programming, it enables supporting scalable and affordable solutions, with the ability to fully interoperate with the business level.

As such SIMATIC IT consists of a collection of highly-integrated components, with a broad range of functionality, capable to as well to integrate existing systems within each factory, designed to standardize production across the entire organizations and keep manufacturing processes aligned with supply chain activity.

We believe this "best-of-breed" yet integrated approach can fulfill today's demand for highly flexible, standard-based and scalable MES solutions.

SIMATIC IT as part of Siemens Totally Integrated Automation concept anticipates the integration of information thanks to the advanced integration capabilities of the plant floor infrastructure, but also through detailed interoperability functionality that completes the real-time information flow.

Siemens is the only vendor providing a unified solution that ranges from the individual machine up to the entire manufacturing site, in a unique and scalable environment.

Users can seamlessly adapt this solution to their needs, starting from the option that better fulfills individual requirements.

Furthermore, SIMATIC IT enables users to protect their investments because the solution is fully scalable and all installations can be expanded in size and functionality without disrupting any existing configuration.



To Design, manufacture and maintain a Manufacturing Execution Systems

To achieve coexistence of best-in-class functionality, integrated workflows and configurable flexibility, SIMATIC IT Production Suite is based on a Framework and Component approach:

SIMATIC IT Production Suite is composed by:

- **SIMATIC IT Framework** – is a modeling environment in which the functions, belonging to different SIMATIC IT Components, are combined graphically in order to explicitly define the execution logic using a rules approach.
- **SIMATIC IT Production Modeler** – for the configuration and coordination of cross-component activities and interactions with Design, Quality, MES, ERP, PLM and other Business Systems.
- **SIMATIC IT Components** – are engineered and fully harmonized inside the overall architecture and provide a broad scope of integrated functionality, ranging from Product Definition Management, over production order and material management, plant performance analysis and report management, scheduling, software integration services to laboratory information management and product specification management.

SIMATIC IT Libraries

In order to provide an MES offering that is flexible, adaptable and generic enough to approach virtually any industry sector, Siemens developed SIMATIC IT supporting standard functionality and a consistent terminology.

But to provide a real industry characterization Siemens implemented on top of SIMATIC IT a series of “plug-n-play” add-ons for addressing specific industry related topics.

This is the concept of SIMATIC IT Libraries that are a collection of SIMATIC IT configurations, business rules, GUI screens and reports for fulfilling specific industry related functionality.

SIMATIC IT Libraries are divided in:

- Hybrid Manufacturing Libraries
- Discrete Manufacturing Libraries
- plus a set of basic cross-industry libraries such as ERP Interoperability Library, OEE Library, SPC Library and many others.

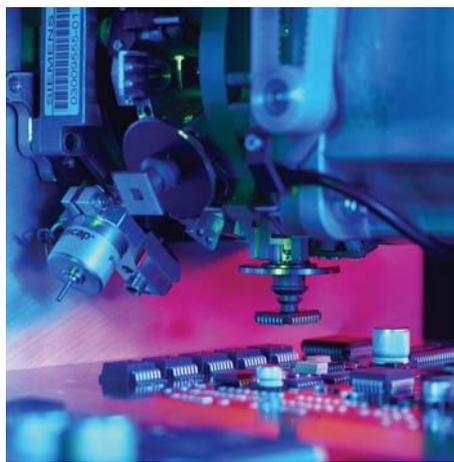
SIMATIC IT Libraries are built with the scope of increasing efficiency in developing solutions, in saving cost and in order to increase consistency in time project estimation.

SIMATIC IT Libraries are “out-of-the-box” solutions for improving profitability in delivering solutions with high ROI and low TCO.

Totally Integrated Automation (TIA)

Siemens is strongly convinced that standardization and scalability is also a key issue for the Manufacturing Execution System environment. In fact by its nature, MES must work seamlessly with any system it encounters, and standardization offers undisputable advantage. As consequence of this, SIMATIC IT offers unrivalled integration capabilities through a rigorous standardization of interfaces, clear ISA-95 compliant structuring and hierarchization in its programming, and long-term compatibility with both Siemens components as well as third-party products.

This not only ensures a seamless flow of information across all company levels, but enables the integration of all processes important for your business success, from the field and production level to the corporate management level. The extensive range of products on offer is continuously being developed and adapted to the requirements of different industrial sectors.





Synchronized and flexible processes

Native ERP integration

Transparency of the whole Production Process

Smooth and effective rollouts for lower TCO and higher ROI

Constant cost, quality and market pressures combined with growing regulation requirements are forcing companies to optimize their processes and to respond in a more agile, rational and targeted way through the concept of real-time enterprise.

This can be achieved by interlinking the MES with the companies' ERP layers, among other already or to-be-installed systems. The requirement is a Plant IT infrastructure that can interoperate with the Corporate IT in a seamless and effective way.

SIMATIC IT is the solution for successfully bridging these gaps. It reacts and synchronizes operations at the speed of the shop floor systems and in the meantime provides an infrastructure for managing the message and information exchange with the enterprise.

SIMATIC IT Production Suite offers a set of modules able to cover the MES core requirements in any manufacturing context.

By modeling and defining the production procedures, SIMATIC IT Production Suite effectively increases the transparency upon the whole production process. It effectively helps users to become compliant to existing regulations.

SIMATIC IT Production Suite gives manufacturers the possibility to model their own business in order to be much more customer oriented and ready to satisfy any sudden requirements arising from the market.

SIMATIC IT Production Suite has also been designed to facilitate application roll-out to several plants thus being extremely cost effective in multi site situations.



SIMATIC IT delivers the best possible basis for achieving business objectives with a wide spectrum of standardized, modular components for fast implementation of industry-specific or individualized solutions. SIMATIC IT increases flexibility and optimizes production and business processes.

SIMATIC IT for Industry

Domain expertise guarantees highest customer satisfaction

The systematic and elaborated approach to various industries allows Siemens to confirm its market leadership and expertise in Manufacturing Execution Systems, industry per industry, with a solution tailored to the specific requirements of every industry.

SIMATIC IT for Discrete Manufacturing Processes

Discrete industries are often characterized by individual or separate unit production, which is typically low in volume and very high in complexity.

New markets, new materials and new technologies demand sustained increases in plant efficiency and productivity as well as an extreme flexibility in all manufacturing process that can improve quality and time-to-market speed while cutting costs.

The key-Benefits of SIMATIC IT:

- Greater process flexibility and efficiency
- Complete integration of both regulatory and quality demands
- Synchronized production processes for optimal supply chain management
- Sustained reductions in operating costs
- Higher performance by systematically tapping hidden capacities

SIMATIC IT for Hybrid Production Processes

This environment covers various segments as Food & Beverage, Tobacco and pharmaceuticals.

Optimization of quality management processes, reduction of production costs and flexibility are some of the key topics challenges in these industries.

In addition, manufacturers need to maximize availability and efficiency in all plants, and systematically reduce time to market for their products.

The key-Benefits of SIMATIC IT:

- Regulatory compliance support
- Higher productivity and flexibility over the entire life cycle
- Shorter time to market
- Integration of quality assurance and R&D
- Higher plant availability

SIMATIC IT for Continuous Production Processes

Material quality and safety as well as plant security are key requirements in continuous industries.

Asset and performance management, emerging workflow needs and visualization requirements are placing manufacturers in continuous industries before a number of challenges, among which as well the need to extract more value from existing systems.

The key-Benefits of SIMATIC IT:

- Automated data collection
- Integrated information flows
- Total operations intelligence for increased production availability
- Optimizes asset utilization, reduces downtime
- Real-time production monitoring

SIMATIC IT Production Suite

Driving Manufacturing Performance

SIMATIC IT Production Suite is a scalable, modular and open Manufacturing Execution System with a broad range of functionality, and a component based approach enabling total integration. SIMATIC IT Production Suite is the plant-centric IT solution covering all manufacturing needs. SIMATIC IT Production Suite fills the gap between Business Systems (e.g. ERP) and Control Systems, creating the conditions for an efficiency increase at the plant and within supply chain operations.

SIMATIC IT Production Suite offers manufacturers:

- Increased performance and flexibility
- Advanced interoperability and reduced complexity
- Higher productivity and reduced time-to-market
- Improved overall visibility and transparency
- Scalability from shop floor to top floor
- Increased ROI and Reduced TCO
- Best basis for smooth rollouts
- Leverage on existing investments

Get more information

www.siemens.com/mes-simaticit
marketing.simatic-it@siemens.com

Siemens AG
Industry Sector
Industry Automation

www.siemens.com/mes-simaticit

Subject to change without prior notice
© Siemens AG 2008

The information provided in this brochure contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.