

# Intelligent integration.

For greater efficiency and productivity throughout all processes.

FLEXIBILITY

VISIBILITY

DECISION

VALUE

ANALYSIS

TIME TO MARKET

PERFORMANCE

# simatic IT

MES EXTENDED MANUFACTURING



**SIEMENS**

# Why you should rely on a Manufacturing Execution System

The more intense the competition, shorter the product life cycles and stricter the legal requirements, the more important it is to have consistent, end-to-end solutions for integrating processes and information across all levels of your company. That means end-to-end both horizontally – from raw materials to the finished products – and vertically, from the process level to the corporate management level.

And that's exactly where Manufacturing Execution Systems (MES) come in: As tailored IT solutions, they close the fundamental information gaps between corporate management and production processes. They optimize all interactions between ERP (Enterprise Resource Planning), sales, CRM (Customer Relationship Management), PLM (Product Lifecycle Management), SCM (Supply Chain Management), SCADA, financing, maintenance and repair, logistics, QA (Quality Assurance) and all other areas involved in business processes.

Whether within a plant or as part of globally networked facilities, MES solutions guarantee transparent information, ensured product quality as well as efficient production and logistics processes. They provide an ideal basis for seamless tracking and tracing, for fulfilling FDA and EU requirements, and for giving your company a competitive edge in your industry.



## Why you should rely on SIMATIC IT

SIMATIC IT, the modular MES solution from Siemens, offers a wide range of components for optimal planning, execution and documentation of production and development processes, and for boosting plant efficiency.

But SIMATIC IT is much more: As part of the world of Totally Integrated Automation, it's based on 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 purchasing to production to sales, and from the lab to the energy and heat supply to building security. It's comprehensive integration as only Siemens can offer.

With SIMATIC IT, you're relying on the experience of the market leader in automation technology, and on the innovative strength of one of the world's leading technology companies. What does that mean for you? It means Siemens is investing in the future of MES and in the security of your investment. With intelligent concepts for implementing Service-Oriented Architectures (SOA) on the MES and process levels to reduce interface losses and ensure seamless integration. Or with solutions for company-wide implementation of collaborative manufacturing solutions to boost Overall Equipment Effectiveness (OEE).



# Cross-Industry Libraries

## Structured experience for your productivity

SIMATIC IT's modular, ISA-95-based architecture enables the multiple usage of programmings, user interfaces or reporting functions during one or more projects and across industries. And that's exactly where SIMATIC IT Cross-Industry Libraries (CILs) are highly effective. They consist of proven, easy-to-configure templates for different implementations, including unit objects, workflows for best-practice business processes and layouts for complete projects. Examples of SIMATIC IT implementations include:

- HACCP (Hazardous Analysis and Critical Control Point)
- Weighing & Dispensing
- Packaging
- Genealogy
- Intermediate tests
- SPC (Statistical Process Control)

### **CIL ERP**

Facilitates the connection of SIMATIC IT to any B2MML compliant ERP system. This CIL speeds up synchronization of basic functions as well as of modules for resource management, scheduling and documentation. The service-oriented architecture (SOA) of SIMATIC IT enables efficient implementation via plug-and-play using existing middleware, with no need for additional interfaces.

### **CIL E2S**

Allows maximum interoperability between SIMATIC IT and SAP solutions such as IDoc, RFC or BAPI, even without dedicated middleware (such as SAP NetWeaver). CIL-E2S is compatible with legacy SAP installations, and does not require the expensive upgrade for NetWeaver that is usually needed.



# SIMATIC IT

## An overview of the system

Because of widely varying requirements in the process and manufacturing industries, we designed SIMATIC IT as a modular building block system. The basic core is the SIMATIC IT Production Suite and a broad spectrum of optional components for expanding performance.

All SIMATIC IT solutions are rigorously based on the ISA-95 international industry standard, offer graphic user and programming interfaces, and can be modified in size and scope at any time to meet growing needs. Moreover, SIMATIC IT operates homogeneously with all commonly used ERP systems – for a rapid return on investment and a high degree of investment security and flexibility.

We know that despite extensive standardization, every MES solution must still be individually configured, implemented and maintained. That's why we work with certified partners for service and sales around the world. For you, that means the best possible consulting and service, on site, around the clock, and if needed throughout the entire life cycle of your solution.

### Siemens Solution Partner

Our partners are certified system integrators and system houses with comprehensive knowledge of technology and process engineering. Based on our globally successful product spectrum, they develop tailored automation and power supply solutions that will remain viable into the future. Close cooperation with Siemens, qualification on a regular basis as well as an intense exchange of knowledge and experience ensure the quality of the services you receive – and thus the security of your investments.

### Siemens Service & Maintenance

As a partner to the process and discrete industries, we orient our spectrum of services to your specific needs. Depending on your requirements, our scope of services can include planning and implementation services for all stages in your plant's life cycle, our proven 24/7 Technical Support Services (TSS), or proactive services that prevent product and system failures through real-time monitoring and remote maintenance – all with the goal of maximizing availability. It's easy to see: No matter what your needs our scalable services are always the right choice for you.

## **SIMATIC IT Production Suite** The heart of SIMATIC IT

The SIMATIC IT Production Suite consists of predefined and easily configurable modules, bundled in our SIMATIC IT Framework and SIMATIC IT Components offerings, for seamlessly bridging the boundaries between ERP and process automations systems. With this modular approach, SIMATIC IT Production Suite allows maximum flexibility and efficiency when customizing and adapting your solution, during the operating phase, and until your next expansion:

**SIMATIC IT Framework** – provides the framework for implementation of SIMATIC IT based on your plant model. Processes can be easily and transparently mapped thanks to predefined IT environments and intuitive graphic engineering capability. And third-party components as well as existing applications are easy to integrate in SIMATIC IT.

**SIMATIC IT Components** – covers all basic tasks in manufacturing and business processes with a broad range of basic components.

## **SIMATIC IT Intelligence Suite** The key to higher plant efficiency

Are you seeking greater transparency, performance, and productivity throughout your plant or networked facilities? The SIMATIC IT Intelligence Suite will store all your relevant production and business data.

What's more, thanks to the special architecture of SIMATIC IT, our SIMATIC IT Intelligence Suite can also evaluate these data in real time and compare them with values from the entire manufacturing cycle.

In this way, the SIMATIC IT Intelligence Suite delivers valuable decision-making support in real time and maximizes the transparency of the entire production process.

If necessary, the collected information can also be made available in the form of consistent, user-specific, non-redundant key performance indicators (KPIs) – for maximum information quality and process efficiency.

# Bringing excellence into your manufacturing enterprise

## **SIMATIC IT R&D Suite**

The solution for optimally integrating your laboratory

Are you seeking ways to optimize your research and development processes and effectively reduce time-to-market of new products? With our new SIMATIC IT R&D Suite, you can already profitably apply SIMATIC IT functionalities in laboratory scale.

From basic research to product development and specification to upscaling, all processes take place on the same platform – and follow the same rules as your plant and your production processes.

The result? Less interface losses between development and production, reliable documentation, and faster approval of new products.

## **SIMATIC IT Options**

Special components for special requirements

Thanks to its modular design and scalability, the size and performance of SIMATIC IT can be easily adjusted to the current requirements of your plant at any time. The following special modules are currently available:

- **SIMATIC IT Historian** – the management system for process and production data (PIMS)
- **SIMATIC IT Unilab** – our integrated laboratory information management system (LIMS)
- **SIMATIC IT Interspec** – the comprehensive control system for product specifications
- **SIMATIC IT XHQ** – our intelligent operation intelligence management system
- **SIMATIC IT Scheduler** – our planning system for an optimal supply chain



## **SIMATIC IT for the process industry**

Safe, compliant, and flexible – from design to delivery

As it faces constantly changing market requirements and rising cost pressure, the process industry must continually optimize its operating and production processes. In addition, the industry must sustainably maximize availability and efficiency in all plants, and systematically reduce time to market for their products.

SIMATIC IT delivers the best possible basis for achieving these goals with a wide spectrum of standardized, modular components for fast implementation of industry-specific or individualized solutions. SIMATIC IT not only optimizes both production and business processes, but makes your entire enterprise more flexible.

### **The challenges**

- Ensuring food safety and plant security
- Optimization of quality management
- Product flexibility
- Reduction of production costs
- Faster product introduction

### **The benefits of SIMATIC IT**

- Ensured compliance with manufacturing requirements
- Higher productivity and flexibility over the entire life cycle
- Shorter time to market
- Integration of quality assurance and R&D
- Higher plant availability
- Integrated asset management of multi-site plants



## **SIMATIC IT for discrete industries**

### Higher cost efficiency and performance for your production

You know the growing challenges that discrete industries face: New markets, new materials and new technologies demand sustained increases in plant efficiency and productivity as well as greater flexibility throughout all production processes.

SIMATIC IT offers customized components for the specific tasks of discrete industries – with a clear focus on job control, tracking and tracing, quality management, plant floor process control as well as traditional solutions for manual monitoring and control of production processes.

#### **The challenges**

- Continual innovation and differentiation of products
- Increasing pressure on profit margins
- Ever-shorter product life cycles
- Legal requirements regarding warranties, liability and regulatory tracking
- Growing need for solutions for greater production efficiency, visibility and transparency

#### **The benefits of SIMATIC IT**

- Greater flexibility and efficiency thanks to open standards
- 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

# 8 good reasons for SIMATIC IT

- **Fast, secure, and flexible engineering** – thanks to Cross-Industry Libraries
- **Secured quality and regulatory compliance** – with integrated quality management
- **Higher process efficiency and flexibility** – based on Totally Integrated Automation
- **Increased plant productivity** – thanks to real-time data for fast decision making
- **Shorter time to market** – due to the integration of development and production processes
- **Reduced production costs** – by implementing systematic supply chain management
- **Higher business performance** – with optimized interfaces to ERP systems
- **Lower total cost of ownership** – due to standardization and service-oriented system architecture

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