

SAP Manufacturing



SAP® MANUFACTURING

THE BEST-RUN BUSINESSES RUN SAP



A PARTNER YOU CAN CHOOSE WITH CONFIDENCE

SAP is the world's leading provider of business software solutions, with more than 30 years of experience, 21,600 customers, 69,700 installations, and 12 million users in 120 countries.

By choosing SAP, you are assured of solutions that are:

- **Designed for your industry:** SAP offers a full range of software that support the most important business processes within more than 25 industries – including yours. And our global organization includes hundreds of professionals who work exclusively with your industry.
- **Scaled to your business:** Although SAP is known for serving the world's largest corporations – including 80 of the FORTUNE 100 – nearly two-thirds of our customers have annual revenues of \$500 million or less. Our solutions fit your size and budget today – while offering unlimited scalability for tomorrow.
- **Ready for your future:** Because SAP® solutions are built on the SAP NetWeaver™ platform, the open integration and application platform from SAP, they integrate with virtually all SAP and non-SAP applications – leveraging your investments past, present, and future.

SAP offers best-in-class solutions for virtually every aspect of your business, including finance, supply chain management, customer relationship management, supplier relationship management, product life-cycle management, and more. And each one is backed by the global expertise of the SAP Customer Services Network (SAP CSN).

Read on for more details on how the SAP Manufacturing solution can help you join the best-run businesses that run SAP.

MANUFACTURING AT THE SPEED OF BUSINESS



Today, manufacturers live with a fundamental fact of life: customers have more power than ever – and they have constantly shifting needs and rising expectations in terms of innovative products and shorter lead times.

To thrive, manufacturers need to work with increasing speed and responsiveness. To meet customer needs and increase profits, they must reduce their time to market and time to volume. And to keep up with unforeseen shifts in demand and supply, they must be able to quickly adapt manufacturing processes to respond to changing situations.

At the same time, manufacturers must cope with increasing complexity. To serve all types of customers, they need to simultaneously manage a mix of production strategies, such as make to stock, make to order, assemble to order, and configure to order. They must coordinate far-flung production resources, including their own offshore facilities and those of outsourcing partners. They must be able to track, document, and audit production and product information in detail to comply with stricter legal and regulatory requirements. And in a business climate marked by intense competitive pressure and the rapid commoditization of products, they must do it all while reducing or holding the line on their costs.

Managing complexity while working to enhance agility and reduce costs is a real challenge. The key is to integrate manufacturing more closely with the business; that is, to link manufacturing with other business systems and processes, and with supply chain partners, so that manufacturing can stay in sync with supply and demand. But too often, manufacturing systems and processes are fragmented and disconnected from customers and suppliers – leaving production facilities scrambling to keep up with changing requirements. Costs go up, responsiveness goes down, and manufacturers find it difficult to drive higher speed and efficiency.

SAP can help companies meet that broad range of challenges. The SAP® Manufacturing solution offers comprehensive, integrated capabilities that increase your visibility into manufacturing operations, improve responsiveness to customer demands, and ensure that manufacturing can run at the speed of your business in a constantly changing world.

KEY CAPABILITIES

Manufacturing operations

- Planning
- Execution
- Quality management
- Maintenance
- Environmental, health, and safety

Manufacturing integration with SAP NetWeaver™

Manufacturing intelligence with dashboards

Manufacturing approaches

- Make to stock
- Make to order
- Assemble to order
- Configure to order
- Lean manufacturing
- Project manufacturing
- Repetitive manufacturing
- Continuous manufacturing
- Manufacturing with final assembly
- Manufacturing without final assembly

INTEGRATED, COMPREHENSIVE, AND DELIVERED TO THE SHOP FLOOR

SAP Manufacturing enables companies to establish truly adaptive manufacturing operations. It gives your managers and shop-floor production personnel real-time visibility into information about production, supply, demand, and manufacturing processes. And they now have the tools they need to take quick, appropriate action to solve problems and adapt to changes.

SAP Manufacturing enables and supports activities in three key areas:

- **Manufacturing operations.** Gives you the full range of tools and capabilities you need to plan, schedule, sequence, execute, and monitor production, quality, and maintenance – and comply with increasingly complex health and safety standards on the factory floor. Used by a variety of companies in both the discrete and process manufacturing industries, it supports the entire spectrum of today’s complex manufacturing techniques.
- **Manufacturing integration.** Fully integrates manufacturing with the rest of the enterprise – and with external supply chain partners – by drawing on the technology in the SAP NetWeaver™ platform, which has become a de facto standard in the industry. The solution provides an open-standard, industrial-strength, flexible, and scalable platform that integrates enterprise resource planning (ERP) systems with manufacturing execution systems and

automation systems on the shop floor. It supports connectivity within plants, among plants, and with suppliers, and enables collaboration and business process management among trading partners.

- **Manufacturing intelligence.** Provides targeted content, exception alerting, and performance-management capabilities to shop-floor employees through role-based, configurable dashboards. It gives production personnel integrated planning and execution decision support, and enables them to detect exceptions (material, capacity, order, machine, and labor) when they happen and resolve them before they become customer issues. And it enables employees to monitor and control key performance indicators and drive improvements in performance.

Because it provides comprehensive capabilities on the open SAP NetWeaver platform, SAP Manufacturing works smoothly with the full range of enterprise systems. It delivers the flexibility and scalability needed to meet evolving business requirements. And that minimizes the need for up-front customization, simplifies ongoing maintenance and integration, and keeps the overall total cost of ownership low.

DRIVING SOLID BUSINESS PERFORMANCE



SAP Manufacturing enables adaptive manufacturing by closing the information loop between the factory and the enterprise, and putting manufacturing processes in the larger business context. As a result, manufacturing can become a flexible, efficient buffer in the supply chain for varying demand – helping to reduce late shipments and the need for excessive safety-stock inventories in the factory.

SAP Manufacturing provides manufacturers with more extensive visibility into supply and demand. It can give you near-time information about customer orders across multiple plants, and let you see scheduled, in-transit, work-in-progress, and finished-goods inventory at manufacturing locations across the supply chain. It enables you to proactively detect machine, material, capacity, labor, and quality issues before they touch the customer.

SAP Manufacturing also enables higher levels of responsiveness. With SAP Manufacturing, you can match manufacturing priorities with changing supply and demand and overall business objectives. In addition, when problems or exceptions arise, the system can trigger responses to resolve issues quickly, with minimal intervention.

Improved visibility and responsiveness enable manufacturers to achieve a variety of solid business benefits, and improve the performance of manufacturing operations – and the enterprise as a whole. For example, SAP customers using the SAP Manufacturing solution have seen higher order fill rates, product quality, and on-time shipments; increased manufacturing volumes with significant inventory reductions; shortened lead times; and achieved greater asset utilization.

SAP Manufacturing helps manufacturers:

- **Increase revenues and profits** with improved customer satisfaction as a result of increases in on-time shipments and improved fill rates, and the ability to focus manufacturing on the most profitable opportunities
- **Reduce costs** with minimized inventory, rework, overtime, and expediting expenses due to automated alerts and exception management; lower inventory carrying costs thanks to improved visibility; and decrease labor costs by eliminating manual reentry of manufacturing data into ERP systems – which can save multiplant manufacturers millions of dollars each year
- **Reduce risk** with an improved ability to identify and resolve quality issues, track detailed product and operational information, and comply with regulatory requirements for environment, health, and safety management.

TO GET STARTED . . .

With SAP Manufacturing, you can bring increased visibility and responsiveness to your operations and integrate manufacturing with the enterprise and the supply chain. In turn, that can enable you to keep manufacturing aligned with your overall business – and adapt smoothly and efficiently to ever-changing demand and supply conditions.

For more information on how SAP Manufacturing can help your company, visit www.sap.com/manufacturing

SAP Manufacturing integrates manufacturing with the enterprise through the SAP NetWeaver platform, and provides powerful manufacturing intelligence dashboards for delivering critical information to shop-floor employees. It provides comprehensive capabilities that support the full range of key manufacturing processes.



MANUFACTURING OPERATIONS

Manufacturing Planning	<ul style="list-style-type: none">■ Match supply to demand in short-term production plans, considering available resources and material and capacity constraints■ Meet delivery commitments by basing production sequences on actual material and capacity constraints on the shop floor
Manufacturing Execution	<ul style="list-style-type: none">■ Direct, track, and manage the flow of work on the shop floor to meet planned production targets■ Direct and track the use of personnel during work shifts, based on qualifications, availability, and tasks to be performed■ Allocate equipment, machinery, and tools necessary for operations■ Track status and usage to ensure planned production targets are met■ Collect, manage, and distribute information on drawings, products, processes, work lists, and regulations for genealogy, compliance, and audits■ Gather, monitor, and track production and parametric data on processes, materials, and operations from the shop floor
Quality Management	<ul style="list-style-type: none">■ Drive product quality and ensure standards compliance with consistent, nonredundant master data■ Integrate inspection planning with applications such as purchasing and production■ Intervene immediately to solve problems by enabling statistical process control monitoring of critical product and process characteristics during manufacturing■ Easily document product quality for regulatory compliance issues■ Ensure comprehensive processing of complaints and requests within a single system■ Improve quality while lowering quality-related costs through timely detection, analysis, and resolution of quality issues
Maintenance Management	<ul style="list-style-type: none">■ Maximize capacity utilization, minimize breakdowns, and reduce maintenance costs with predictive and preventive maintenance■ Automate monitoring, notification, and resolution of maintenance problems
Environmental, Health, and Safety	<ul style="list-style-type: none">■ Manage specifications for manufactured and procured products■ Enable labeling, compliance (MSDS generation), and data exchange with workflow and a rules-based engine■ Ensure safe handling, storage, and tracking of hazardous materials■ Support compliance management and portfolio risk assessment■ Proactively address health concerns and reduce risks in manufacturing operations by tracking health information and identifying trends

MANUFACTURING INTEGRATION

Open, Standards-Based Platform	<ul style="list-style-type: none">■ Integrate enterprise applications with manufacturing execution and automation systems through the flexible, scalable SAP NetWeaver™ platform■ Support ISA S95 standard for the process industry
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MANUFACTURING INTELLIGENCE

Role-Specific, Configurable Dashboards	<ul style="list-style-type: none">■ Deliver critical, relevant information to managers and production personnel on the shop floor■ Detect exceptions for machines, labor, material, capacity, demand, and supply■ Automatically trigger workflows through SAP ERP to resolve exceptions before they become customer issues■ Deliver a library of reports and key performance indicators■ Enable users to assess performance against production plans and budgets by tracking and measuring actual production costs■ Provide drill-down and analysis capabilities to determine root causes and facilitate process improvements
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