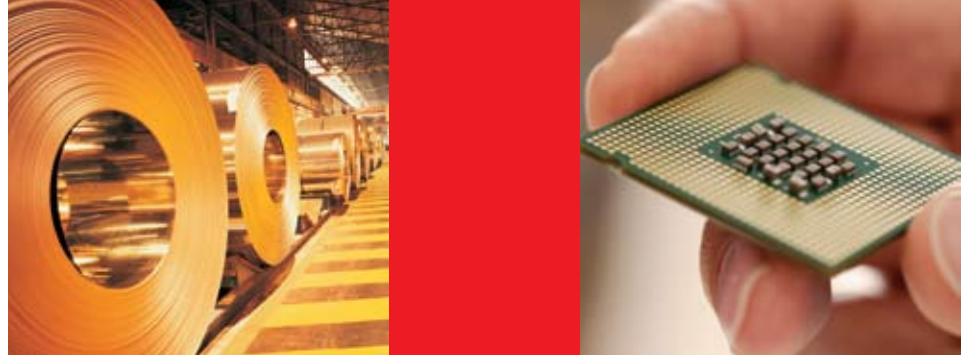# INFORMATION-DRIVEN

Performance-Driven Manufacturing:
The Pathway to Operational Excellence

Oracle Manufacturing

ORACLE®

ORACLE IS THE INFORMATION COMPANY

Performance-Driven Manufacturing

The efficiency to fulfill the intended purpose. A focus on success. Making goods for a global economy. That's performance-driven manufacturing. And it's the type of solution that manufacturers around the world expect from Oracle.

In a global economy that is unprecedented in its connectedness, so much depends on how your business adapts. Getting more from your operations—and spending less—can make the difference between profit or loss. Everything matters.

Around the globe, manufacturers are searching for new, creative ways to address the growing demands of global manufacturing. They want the latest tools and technologies to boost performance from their operations, suppliers, partners, distributors, and extended ecosystem, and they need global views for better visibility—both internally and across the extended supply chain. In addition, operations must move information more effectively to gain real-time insight into manufacturing shop floor status.

Whether it's inside the plant or outside the traditional factory walls, manufacturers are searching for solutions to help them produce more for less, lower their total cost of ownership (TCO), and improve their return on investment (ROI). With the latest release of Oracle E-Business Suite, Oracle delivers preintegrated manufacturing applications that provide solutions for today and anticipate the needs of tomorrow.

Goods manufactured efficiently and engineered to succeed in a global economy—that's performance-driven manufacturing from Oracle.

Streamline Global Capabilities

Integrate and Automate Key Manufacturing Processes

Oracle Manufacturing applications include the following components:

- Oracle Production Scheduling
- Oracle Discrete Manufacturing
- Oracle Process Manufacturing
- Oracle Manufacturing execution systems
- Oracle Flow Manufacturing
- Oracle Manufacturing Operations Center
- Oracle Shop Floor Management
- Oracle Asset Lifecycle Management
- Oracle Enterprise Asset Management

Things change—that's a given—but successful companies know how to assess the risks, options, and alternatives, and then take advantage of the latest tools and technologies to run their plants more efficiently and respond quickly to change.

Set Higher Standards for Collaboration and Information Exchange

With supply lines extending globally and plants repositioning to new markets, manufacturers need better ways to capture and manage critical supply information at the point of origin. From inventory replacement to point-of-sale (POS), and from planning and manufacturing operations to information transfer and collaboration in near real time, critical connection points tie everything together in a demand–pull process that ripples across the enterprise.

Companies that know how to collaborate with their customers and suppliers in this environment have an edge in the race to market, and with the Oracle E-Business Suite family of manufacturing applications, businesses can have the competitive advantage they seek. With Oracle Manufacturing

- Line supervisors and managers have visibility into the same big picture. Real-time access to a single, comprehensive set of data provides insight into global production operations across an extended, multienterprise supply chain.

- Operational planners can determine best-cost and best-delivery options based on current supply and production status. Quick detection and collaborative resolution of potential problems happen at all locations and all tiers of the supply chain.

Gain Visibility and Improve Responsiveness

Historically, companies have implemented a number of plant-specific manufacturing execution systems (MES) and processes to manage the shop floor. Unfortunately, these systems often result in stacked silos of information, providing little understanding of an organization's overall performance.

The success of Lean strategies in manufacturing organizations has resulted in a shift in focus that makes manufacturing processes more flexible, responsive, and competitive. With this improved responsiveness, Lean organizations can quickly adapt to the increasingly complex demands of global manufacturing—demands that require more connectivity and more-effective communication among suppliers, shop floor systems, and back-office enterprise resource planning (ERP). By linking to a Lean, demand-driven supply chain, companies can deliver quality, flexibility, and efficiency.

For example, Oracle Manufacturing Operations Center gathers raw data from shop floor equipment and—using information from ERP and other MES applications—combines this data with reports and prebuilt plant performance dashboards to give plant managers access to useful, real-time, shop floor information.

Capitalize on New Opportunities

With the expansion of global markets, performance-driven manufacturers must be able to respond to shifting regional markets by offering new, localized products with customized features, preferences, and user-selected options. In addition, with rising logistical costs, it is often more cost-effective to construct and assemble large products locally. The Oracle E-Business Suite family of manufacturing applications helps businesses of all sizes take advantage of global opportunities and make better-informed decisions about the best use of critical resources.

For example, Oracle Strategic Network Optimization helps planners make decisions about sourcing materials across the supply chain and using valuable resources most effectively. Given the different profit margins for various products and the constraints (such as customer contracts) for specific products, planners can calculate the best combination of products and then identify where adjustments need to be made to balance long-term demand with supply. An aluminum producer, for example, might use Oracle Strategic Network Optimization to determine the most profitable mix of products to produce on a shared resource, such as a rolling mill.

Drive Operational Excellence

In today's manufacturing climate, customers are demanding products tailored to their unique specifications. This larger role of customers in product decisions means that manufacturers need advanced tools to improve their product-line planning. They must be able to balance resources and features, and then make any adjustments for customized or complex orders. Oracle offers a complete stack of manufacturing applications, fully integrated with Oracle industry solutions and based on an open architecture, that lets you use them with products already deployed.

Introduce Innovation into Operations

To drive down product costs, deliver at specified levels of quality, meet schedule commitments, and be competitive, manufacturing operations must effectively manage and communicate product information to suppliers in the global supply chain. In addition, capital equipment manufacturers must provide superior customer service throughout the product lifecycle, and process manufacturers need computer-aided formulation and recipe capabilities to keep products within specific tolerances during production.

Products Designed for the Specific Needs of Your Business

No matter which manufacturing method you deploy, Oracle has products designed to meet your industry's specific requirements. Oracle's preintegrated manufacturing applications maximize operating efficiency and flexibility by supporting a variety of methods—including engineer-to-order, configure-to-order, and make-to-stock—along with Oracle's discrete, process, flow, mixed-mode, and lot-based solutions. Manufacturers can also track a variety of business processes in different plants or locations without needing additional solutions.

Solutions for the Life of Your Products

With a primary focus on time-to-value, Oracle's Agile product lifecycle management applications help accelerate revenue, reduce costs, improve quality, and ensure compliance, to drive innovation throughout the product lifecycle. This broad suite of best-practice product lifecycle management solutions provides secure, timely, and accurate visibility and control of critical product record information. They help you track and manage all information required by the enterprise—and its extended design, supply, and value chain—to conceptualize, design, source, build, sell, service, and properly dispose of products.

Improve Plant Flexibility and Responsiveness

The larger role of customers in configured product decisions requires companies to improve their product-line planning so they can balance resources and features and then make adjustments based on incoming orders. Successful companies can provide customized versions of products—at any volume—and ship them to, or from, anywhere in the world.

Oracle Manufacturing Execution System for Process Manufacturing and Oracle Manufacturing Execution System for Discrete Manufacturing provide "deeper" shop floor execution capabilities so that both discrete and process manufacturers can deploy Oracle Applications as the platform for their shop floor—completely removing the need for a third-party (or in-house) MES system. With Oracle's applications for MES, manufacturing firms can reduce costs and eliminate integration headaches and support issues. Shop floor operators and supervisors can effectively identify and eliminate nonvalue-added activities while efficiently managing, recording, and monitoring shop floor activities in real time.

Performance-Driven Scheduling

To compete effectively, firms must optimize their use of critical resources, calculate realistic and feasible schedules, and quickly determine the schedules that best meet corporate objectives. Oracle Production Scheduling gives manufacturers tools to create detailed, up-to-the-minute schedules that produce the right amount of product and minimize inventory, changeovers, overtime, and other undesirable costs. Oracle Production Scheduling—designed for schedulers by schedulers—provides local control of production scheduling situations so plant managers can maximize shop floor throughput while optimizing their resource investment.

Control Product Costs with Lean Operations

With today's tight margins, firms are using new Lean manufacturing techniques to reduce product cycle times, minimize inventories, simplify production, and improve product quality. Running Lean helps companies drive costs down while responding quickly to changing customer needs. Oracle Flow Manufacturing supports demand-driven flow and the latest Lean techniques by building to customer demand, line balancing, scheduling, and sequencing to improve efficiencies, and planning for and executing Kanban systems.

Support for Process Manufacturing Industries

Process manufacturers using commodities or relying on the blending of ingredients as the basis for their products must consider the variable characteristics and costs found in their raw materials to produce consistent, high-quality products.

New least-cost-formulation capabilities in the latest release of Oracle E-Business Suite optimize material use and cost, generate a formulation from a list of alternative materials (based on a true optimization of costs), and then find the best components based on the attributes of the materials and the constraints defined by the customer. Implementing least-cost formulations can save companies an annual 2 to 10 percent of the total value optimized.

Achieve Quality and Compliance

Manufacturing firms today are being driven to higher and higher standards of compliance and governance. With the evening news reporting recalls on a regular basis and contaminants periodically entering the bill of materials, regulatory compliance has become one of the most critical requirements for today's manufacturers.

As companies outsource products to offshore and onshore locations, having the ability to track raw materials, adverse compounds, ingredients, and possible toxins is essential to responsible organizations. Unfortunately, some of the manufacturing systems currently in use by the manufacturing community are unable to meet these requirements. Fortunately, Oracle's manufacturing applications can.

Tracking for Compliance

Through a series of data collection and workflow functionality, Oracle Manufacturing automates the collection of tracking for bills of material (BOM) data and then converts that data into manageable information. Regulated industries are required by law to provide key information about the genealogy of their products. In the event of a recall, information that pinpoints the source and potential scope of exposure is critical to minimize safety and financial risk. Oracle provides these crucial genealogy-analysis tools so you can rapidly respond to requests for needed information. As a result, manufacturing firms can more easily monitor compliance requirements and reduce their risk of exposure.

Ensuring Corporate and Government Mandates

Manufacturing firms need transparency, clarity in direction, and the right system to properly record costs against process. Oracle Cost Management is a comprehensive solution that helps organizations project production costs and perform cost accounting for supply chain transactions. These activities are key for complying with regulatory reporting and accounting requirements, for streamlining the use of working capital in organizations, and ultimately, for improving profitability.

Initiate Continuous Process Improvement for Compliance

Oracle Manufacturing applications help businesses comply with regulatory requirements and government and industry initiatives.

- Oracle Process Manufacturing simplifies compliance with FDA 21 CFR Part 11 by leveraging Oracle's integrated technology platform of database, application server, and application systems components, through the support of electronic record electronic sign (ERES) events

- Oracle Inventory precisely tracks variability with a quality-based view of raw materials and products, and then incorporates customer-specific attributes, grades, and shelf life into the definition of an item lot

- Oracle Daily Business Intelligence for manufacturing provides manager-enhanced visibility into operations, maximizing manufacturing performance and providing tools to identify potential issues before they have a chance to escalate

Closed-Loop Quality Management Throughout the Supply Chain

Performance-driven manufacturing means that firms have adopted evolving workflow processes and application tools to standardize and drive down variability, while still allowing processes to evolve with quality practices. Successful firms are looking for efficient ways to control manufacturing and supply chain operations by regulating work packages to meet market demands more effectively.

Excess materials, overbuilds, and shrinkage can all be regulated with the adoption of Oracle Manufacturing applications that better match build quantities with forecasted volumes. For example, Oracle Quality is a flexible quality-management system that performs quality data collection at different points across the enterprise and throughout the supply chain. Oracle Quality works as a closed-loop process that ensures compliance, enables proactive quality management, and provides continuous improvement programs. It also offers automatic event triggers, follow-up workflows for rapid problem escalation and resolution, and tight integration with other Oracle Applications, including Oracle Manufacturing, Oracle Purchasing, Oracle iSupplier Portal, and Oracle Service.

"With our Oracle implementation, we have cut our production lead time in half, achieved near-perfect inventory accuracy, and improved our ability to provide sales follow-up on product samples and customer projects—vital components of our customer service process."

Perry Cozzone, IT Director, Colorcon, Inc.

Performance-Driven Solutions

Manufacturing Solutions from Oracle

The Oracle E-Business Suite family of manufacturing applications offers industry-specific solutions to help streamline your organization's global capabilities.

- Oracle Manufacturing optimizes production capacity from raw materials to final product
- Oracle Strategic Network Optimization enables accurate decision-making about how to balance supplies across the enterprise
- Oracle Production Scheduling gives manufacturers the tools to create detailed, up-to-the minute schedules
- Oracle Manufacturing Operations Center collects data from shop floor equipment and analyzes it for real-time business insight
- Oracle supply chain management applications help customers build and operate world-class value chains for profitable growth

Oracle provides the only complete solution for performance-driven manufacturing. With the Oracle E-Business Suite family of manufacturing applications, firms can build and operate world-class organizations for profitable growth. Oracle's integrated solutions align manufacturing and supply operations across global networks, contextualize and centralize plant data, and provide better quality control and a better response to exceptions. In addition, these applications offer a unique ability to view shop floor status and to help manufacturing firms innovate flows and quickly adapt business processes in response to changing market conditions.

Seamless Integration for Complete Flexibility

Oracle E-Business Suite is a set of preintegrated applications engineered to deliver on the performance-driven journey. With these applications, firms can implement quickly and receive immediate value by leveraging best-in-class capabilities that span product development, demand management, sales and operations planning, manufacturing, transportation, and supply management. Only Oracle offers an industry-leading business platform—based on an open, complete, and standards-based architecture—that enables process orchestration, allows for pervasive intelligence, and provides actionable information for the twenty-first century enterprise.

Complete, Comprehensive Solutions from a Single Vendor

Bring performance-driven manufacturing into your organization and experience the benefits of working with a single vendor, including

- One contact number for support

- Consolidated information technology (IT) across the enterprise

- One modernized data center that keeps things simple by enhancing your existing data center applications with cost-saving products and features from Oracle

CONTACT US

To learn more about Oracle Manufacturing solutions, visit **oracle.com/applications/ manufacturing/intro.html** or call **+1.800.ORACLE1** to speak to an Oracle representative.

Outside North America, visit **oracle.com/corporate/contact** to find the phone number for your local Oracle office.

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Oracl is com itted to develo ing prac ices and products that help protect the environment