

Delivering Value with Oracle E- Business Suite Manufacturing Release 12.1

*An Oracle White Paper
July 2009*

Delivering Value in Uncertain Times with Oracle E-Business Suite Manufacturing Release 12.1

EXECUTIVE OVERVIEW

Manufacturing firms of all sizes, locations, and industries face unprecedented challenges in today's global economy. As new markets and sources of supply surface, firms need to make tough decisions on sourcing, labor, supply, costs and transportation to meet volatile market conditions. In addition, manufacturing today is much more complex than ever before, requiring ample amounts of innovation and sophistication from firms desirous of succeeding.

The pace of business is accelerating with customers and partners expecting both immediate responses and customized products. Globalization creates relentless pressure to drive additional operational efficiencies, and to do more with less. Superior quality and on-time delivery are necessary to provide a competitive market advantage.

But long before these recessionary and uncertain times, manufacturing organizations have been on a path to transform themselves into more lean operations. To combat the affects of globalization, organizations have been driving lean towards centralization and standardization. Globalization is a behemoth force — be it pursuing new sources, markets and customers or responding to a new set of global competitors or standards. However, the sheer market opportunity is offset by the multitude of supply chain challenges that come along.

The severity of the recent global recession creates extraordinary uncertainty among manufacturing executives. As they look for ways to cut costs, supply chains, production budgets and product margins remain under close scrutiny. No better time exists than during a recession to challenge mindsets about better managing operations, outsourcing, distant supply lines and make / buy practices. Establishing the strategic agenda to better drive the supply chain through recessionary times should be a priority and coming out of the recession stronger is a worthy goal for every company. To succeed, organizations need to create a strategic supply chain agenda that will result in driving operations efficiency and productivity while reducing complexity without hindering future growth and market opportunities. This strategic agenda should seek the best available IT platform to gain margin improvement and make selected automation investment that inherently supports these enterprise objectives.

“Oracle customers have increasingly expressed the importance of achieving rapid return on their IT investment, in addition to the need to standardize and simplify processes globally throughout the enterprise. With Oracle E-Business Suite Release 12.1, we wanted to provide options for all organizations to choose the focus that made the most sense for them strategically. We have addressed this with the approach of standalone solutions and, new features within the global enterprise platform.”

**Cliff Godwin
SVP, Oracle Applications
Development**

Oracle's latest release, Oracle E-Business Suite Manufacturing Release 12.1, supports these supply chain objectives by offering a global solution for effective operations, production and logistics management. Delivering a global business platform that drives standardization and simplification throughout the entire enterprise for long-term benefits, Oracle E-Business Suite Manufacturing Release 12.1 automates business processes, reduces operational costs and increases efficiency, continually defining and leveraging industry best practices.

ORACLE E-BUSINESS SUITE MANUFACTURING: DELIVERING VALUE IN UNCERTAIN TIMES

In Release 12.1, Oracle Manufacturing applications offer new features and products designed to give manufacturers the ability to leverage Oracle applications directly on the shopfloor, providing that extra visibility to drive quality and compliance, while eliminating the complexity of integrating some or all of their third-party systems. But additionally, for those particularly in complex or highly automated production environments, Oracle provides a next-generation Manufacturing Operations Center (MOC) that integrates to the existing legacy or MES plant systems to provide global manufacturing visibility while enabling the plants to still retain local operational autonomy.

Oracle E-Business Suite Manufacturing Release 12.1 (inclusive of Release 12) is focused on the following key areas:

- Achieving Operational Excellence
- Enforcing Quality and Compliance Standards to Reduce Risk
- Streamlining Global Manufacturing Capabilities

This paper presents a summary of the new capabilities within Release 12.1 that manufacturers can adopt quickly to gain better time-to-value from their current Oracle ERP implementation.

Achieving Operational Excellence

Industry leaders are leveraging in-plant information systems to guide operators through their tasks, capturing and enforcing critical manufacturing specifications for consistent value-add processes. Simultaneously they are integrating business applications directly to shop floor equipment and leveraging the latest data capture techniques (e.g.: barcodes, RFID) to capture shop floor data. This information can be used in continuous improvement, Six Sigma and Lean initiatives. One can read directly from devices, test equipment or manufacturing output and status parameters real-time from the shop floor to pro-actively correct manufacturing processes.

With Oracle Manufacturing R12.1 Applications firms are able to:

- Increase productivity and improve data accuracy

"In today's economy, customers may not be inclined to implement large-scale upgrades of their core operational systems. The ability to recognize rapid value in the near term without requiring an upgrade could be viewed as an effective way to build a strategic IT roadmap and lay the ground work for long-term success."

Bruce Richardson
AMR Research Chief Research Officer

- Deliver real-time shop floor visibility with integrated Manufacturing Execution Systems (MES)
- Contextualize raw data into useful business information

Enforcing Quality and Compliance Standards to Reduce Risk

The strategic direction of the company is independent of the manufacturing method employed. Once the manufacturing methodology is established, the quality validators follow similar flows. Rather than waiting to test in-quality, best-in-class firms are taking a pro-active and analytical approach, automatically placing items on-hold if out-of-specification. Lean initiatives require process analysis to eliminate waste thus making source data collection imperative. Lean also recommends consistent standard processes, which are easily achievable with today's IT systems.

Release 12.1 of Oracle Manufacturing applications enables:

- Improved documentation of process deviations
- Enforcing best practices and improved process repeatability
- Assuring customer quality specifications at target cost

“Of all the tier-one solutions providers, we believe Oracle has the best manufacturing solution for us. Our manufacturing process is already lean and cutting-edge, so we were looking for software that would support our existing lean processes and help us gain needed visibility across our entire enterprise.”

**Brian Waldrop
EVP & CFO, Viking Range**

Streamlining Global Manufacturing Capabilities

Operating in the new global economy requires manufacturing in one country to have a different set of rules when moving globally. For example: Differences in Bill of Materials (BOM) due to regional material availability or sourcing requirements and local accounting regulations impact the reporting of manufacturing costs.

New tools within Oracle R12.1 enable firms to view information across the organization's structure for:

- Visibility to global inventory balances, maintaining local item attributes
- Competitiveness by adhering to local requirements
- Creation of flexible accounting entries without customization

WHAT'S NEW IN ORACLE E-BUSINESS SUITE MANUFACTURING R12.1?

Oracle E-Business Suite Manufacturing 12.1 provides manufacturing organizations of all sizes, across all industries and regions with a global business foundation that reduces costs and increases productivity through a portfolio of rapid value solutions, integrated business processes and industry-focused solutions.

With the latest release of Oracle E-Business Suite, customers can:

- Achieve rapid value today with standalone solutions that are complementary to an existing 11*i* or Release 12 environment

- Invest in ways to standardize and simplify integrated manufacturing and supply chain processes that reduce cost and minimize complexity
- Strengthen competitive product positioning with purpose-built industry solutions that drive greater value across the enterprise

Work in Process (WIP), Configure-to-Order (CTO), Shop Floor Management (OSFM)

Discrete manufacturers are faced with the challenges of globalization, increased competition, increase in product variations, and shortened product lifecycles. To derive economies-of-scale and be profitable, manufacturers need to better control costs at various levels. This requires business applications that provide the required information to drive better business decisions.

Oracle Discrete Manufacturing R12.1 delivers benefits to:

- Reduce manufacturing risk with improved material controls for WIP and OSFM
- Reduced errors, and increased efficiency and productivity

“The big benefit of Oracle is to be able to see everything going on at the same time. Everybody’s making decisions from the same data. The visibility allows us to optimize the entire business.”

**Stephen Printz
VP Supply Chain & CIO
Pella Windows & Door**

Manufacturing Execution Systems for Process Industries

Process manufacturers need to respond with agility to meet the challenges of fluctuating demands and ever changing and strict regulatory requirements. Coupled with these is the constant pressure of controlling costs and exploring outsourcing.

Historically, each plant would run autonomously and would have independent production applications to meet the plant-specific needs. However, with the proliferation of standard IT technology into operations and the increased importance and focus on manufacturing, matters are changing.

Companies are taking a more holistic approach. They are looking at all business and regulatory requirements to develop a more comprehensive, cross-departmental, and enterprise-wide approach to building a common automation infrastructure, common business processes, and a company culture that will be robust, cost-effective, and sustainable enough to meet the growing demands of a global manufacturing and regulatory environment.

Oracle MES for Process Manufacturing Release 12.1 focuses to address these critical issues for process manufacturers and helps in:

- Reducing compliance risk
- Achieving best practices
- Increasing efficiency
- Improving productivity

Introducing Oracle Manufacturing Operations Center (MOC)

A new product available within Release 12.1, MOC helps manufacturing plants leverage data from disparate manufacturing sources to make more informed decisions. This application is specifically designed to leverage existing shop floor system investments, consolidate and synchronize information.

Reduce Cost of Ownership

The need for accurate and timely information about product and process quality, manufacturing operations, and status and performance of manufacturing assets are very well understood and realized by most industries. From an ROI perspective, manufacturing is becoming the most critical area and “low-hanging fruit” for Business Intelligence. The continuous improvement (CI) programs such as Lean and Six-Sigma have long proven to deliver effective ROI and manufacturing intelligence is enabling these programs to deliver results at a much faster pace.

Reduce Integration Cost by Pre-Built Integration with Other Systems

Most manufacturing plants run multiple IT systems and usually there is no single “source-of-truth”. Information may be stored in transactional ERP systems, third-party specific MES systems, laboratory systems and even in plain Excel spreadsheets. It is very important therefore, to connect these multiple systems and construct a single information repository for the single “source-of-truth”.

“Oracle E-Business Suite Release 12 has significantly enhanced our financial and inventory processes, reduced errors, and improved productivity.”

**John Livingston
Vice President of Operations Cortina
Systems**

Increase Efficiency

Shop floor information is often fragmented, available in raw form from multiple sources. It is very important that shop personnel have access to contextualized data in a timely manner so that they can take necessary corrective action. Any IT applications solution addressing this must facilitate the visibility of real-time manufacturing data to users throughout the enterprise and include tools for enhanced decision-support and role-based display of performance against operating metrics. Events and alarms should notify all who should be informed when important or unforeseen events occur.

Drive Better Decisions

The demand for information on the status of manufacturing and, more specifically, on the status of products from manufacturing does not stop at the shipping dock. Stakeholders as customer service agents, sales people, supply chain managers, warranty managers, traders, production partners — and customers — expect to have access to real-time manufacturing information at their fingertips.

By providing role-based dashboards, MOC provides performance metrics and trends specific to the role of the user enabling the right level of decision being taken at the right time. This reduces costs and error arising due to delay in information and decision-making; as well as ensures security of the right level of information being available for the right role and at the right time. With such

highly synthesized and contextualized information, plant personnel are able to take appropriate decisions and improve customer-service levels.

Process Execution

The key challenge for process industries is to manage variability. Variability could exist in multiple areas including material, process and people. Oracle Process Manufacturing Process Execution ensures manufacturing consistency throughout the production cycle by providing tight control of ingredients and processes, balanced with the flexibility to respond to changing conditions.

Oracle Process Manufacturing Process Execution helps organizations to:

- Increase shop floor efficiency
- Improve productivity
- Improve customer satisfaction

Cost Management

Oracle Cost Management is a comprehensive cost accounting solution that helps control costs in both distribution and manufacturing organizations. Firms can use Standard Costing or Average Costing for management accounting and also use Periodic Costing for fiscal reporting or to set standards or update their periodic average costs. Cost Management supports multiple cost elements, costed transactions, comprehensive valuation and variance reporting, thorough integration with Oracle Financials.

In Release 12.1, Oracle Discrete Cost Management delivers benefits for:

- Improved compliance and accounting best practices
- Greater flexibility and increased efficiency
- Improved quality and accuracy

Process Cost Management

Process Manufacturing (OPM) Costing combines detailed cost-tracking features with flexible analytical tools to help process manufacturers determine their true product costs. Using Oracle Sub Ledger application, necessary accounting entries are created for all the transactions. This makes for greater flexibility in account mapping and provides deeper drill-down with improved accuracy of costs for transfers between organizations.

In Release 12.1, Oracle Process Cost Management delivers benefits in these focused areas.

- Greater flexibility in account mapping
- Improved efficiency in Process Cost Management

“It would have taken more than 6 months of application customization and easily cost a couple of million dollars to create the 200 controls we implemented in only 8 weeks.”

**Ravi Mahajani
ERP Solution Expert, Agilent
Technologies**

Greater Flexibility in Account Mapping

The adoption of the Oracle subledger accounting across the E-Business suite supplants the existing Manufacturing Accounting Controller application. The subledger accounting streamlines accounting by providing detailed representations based upon transactions from various applications. Users can rapidly create pre-defined accounting policies, simultaneously create multiple financial representations using different methods and rules, meet fiscal requirements for detailed journaling, and store analytical information.

Inventory Management for Process Manufacturing

Process inventory features and functionality are now incorporated into Oracle Inventory. The use of a single inventory application provides the Oracle Process Manufacturing users seamless integration with the rest of the E-Business Suite. This feature opens up additional functionality that was previously only available to Discrete Oracle Inventory users, such as vendor-managed and consigned inventory, reservations, move-order requisitions, Kanban, min-max replenishment and robust physical inventory and cycle counting functionality.

In Release 12.1, Oracle Inventory Management delivers benefits in these focused areas.

- Reducing risks with improved lot management
- Achieving best practices using converged inventory management
- Increasing efficiency with mixed-mode manufacturing

Increased Efficiency with Mixed-Mode Manufacturing

Manufacturers need to effectively and efficiently manage warehouse operations such as knowing where to store and retrieve material. Some of the materials process customers have unique requirements with regard to temperature, humidity, date control, etc. With Oracle Manufacturing Suite, bulk materials can be issued for finishing by completely different operations and manufacturing processes than were used to produce it initially. Process and discrete manufacturers can efficiently manage, produce and consume items in a mixed-mode environment for maximum flexibility.

Electronic Records and Electronic Signatures

To ease the administrative burden of manual record keeping, the U.S. Food and Drug Administration's 21 Code of Federal Regulations (CFR) Part 11/820 defines specific events and establishes criteria for the capture of Electronic Records and Electronic Signatures (ERES) as verifiable proof that these actual measurements were taken and that specific procedures were followed.

Oracle ERES provides a complete set of tools for managing electronic records in accordance with the technical requirements in 21 CFR Part 11, including strong

security, audit trails and operational system checks built into GxP-critical business flows and electronic signatures.

Process Product Development

Process manufacturing companies face challenges in developing or improving their product formulations to meet target specifications based on known ingredient characteristics and proven production processes. They need to facilitate cross-departmental visibility and collaboration in order to accelerate recipe design and speed time-to-market. Oracle Process Manufacturing Product Development provides graphical and simulation tools for streamlining the formula, routing, and recipe development process from early experimental stages through piloting and into full production.

Building upon the strong foundation for product development features, Release 12.1 provides enhanced capabilities to implement S88-compliant recipe management and optimize formulas and batches for the least cost ingredients.

In Release 12.1, Oracle Process Product Development delivers benefits in this focus area:

- Reducing risk with consistent, approved product development processes
- Increasing revenue with product innovation

Reduce Risk with Consistent, Approved Product Development Processes

Common and structured product descriptions are key requisites to improve product design communication and sharing among all stakeholders. Formulas, routings and their components comprise recipes that can be managed at a global level, filtered down through the organization, and adjusted to meet local demands. It is also important to maintain rules-based control over formula versions to guarantee that you always use the appropriate formula and materials for a designated activity. OPM Product Development reduces the risk of introducing errors in production by enabling easy re-use and modification of proven recipes and approved one-to-one ingredient replacements.

Process Quality Management

Building quality into a company's products and processes means that quality inspection and laboratory activities must be efficient and integral to the rest of the supply chain — inventory, receiving, planning, product development, production, and shipping — without incurring additional costs or delays. Oracle Process Manufacturing Quality Management provides a proactive, workflow-enabled solution that streamlines and enforces sampling inspection to determine conformance to internal and customer specifications and ensure product consistency and regulatory compliance.

Release 12.1 provides manufacturers greater capabilities to streamline receiving inspection, track quality laboratory inventory and activities, and document process manufacturing deviations.

In Release 12.1, Oracle Process Manufacturing Quality Management delivers benefits in these focus areas.

- Reducing risk of non-conformance
- Increasing quality and laboratory efficiency

Oracle Quality

A quality information system must be flexible to keep up with ever-changing demands including continuously changing products and processes. Oracle Quality is a flexible enterprise-wide quality management system that lets you collect data at the source, and then distribute and analyze it across your supply chain. Oracle Quality's tight integration with Oracle Manufacturing, Oracle Purchasing, Oracle iSupplier Portal, and Oracle Service, provides a closed loop process that enables you to support continuous improvement programs and ensure compliance with specifications by tracking problems through to resolution. In Release 12.1, Oracle Quality delivers benefits in these focus areas:

- Improving compliance with quality standards
- Enhancing user experience with the quality Workbench

“Upgrading to Oracle E-Business Suite Release 12 increased our efficiency and improved our overall ability to remain competitive and pursue aggressive growth goals in the challenging technology market.”

Robin Shirley
Vice President of Finance
Apricorn

PLANNING YOUR UPGRADE

Oracle knows that continually upgrading and maintaining current enterprise application investment can be challenging and costly. In addition to hundreds of cross-industry capabilities to help you manage the complexities of global business environments, Oracle E-Business Suite Release 12.1 was also designed to make the upgrade process easier. There are a number of technology and process improvements delivered with Release 12.1 that will greatly improve the upgrade process. Whether it's the parallel infrastructure for distributing workloads during large table updates, scheduling improvements, or optimizer dynamic sampling, the Release 12.1 upgrade process is far more streamlined than prior upgrades.

Release 12.1 has undergone more upgrade and system testing than any prior E-Business Suite releases. It also requires fewer pre / post upgrade steps. Additionally, Release 12.1 provides unprecedented continuity and user choices. It uses the same business rules from your 11*i* environment to account for transactions and manage user access to operating units.

With Oracle E-Business Suite Release 12.1, *you* decide when you want to leverage new features. Upgrading to Oracle E-Business Suite Release 12.1 may be the right opportunity for your organization to evaluate consolidating ERP instances to reduce IT and compliance costs, improve supply chain information quality and facilitate faster M&A integration. By moving to standardized processes and

systems, you will be able to make the most of the many capabilities delivered in Oracle E-Business Suite Release 12.1.

CONCLUSION

Manufacturing organizations desiring to emerge stronger post-recession will create a strategic IT plan that incorporates supply chain and manufacturing solutions, which provide value to their firms today. If a large scale upgrade is not part of the current IT budget, organizations should evaluate stand-alone solutions that complement an existing 11*i* or Release 12 environment. Customers can take advantage of these rapid value solutions without having to upgrade to the latest release. On the other hand, if organizations are committed to continuing the focus of transforming their supply chain, organizations to grow margins and improve information flow, upgrading to the latest release allows them to standardize and simplify on a global business platform.

“We implemented a unified business management system based on Oracle E-Business Suite Release 12 to support our expanding domestic and international operations. The system has helped us improve financial, human resource and supply chain management.”

**Ding Tao IT Manager
Department of Science and
Information, Beijing Guohua Electric
Power Corporation**

Oracle E-Business Suite Release 12.1 was specifically designed to help manufacturers achieve rapid value today, as well as standardize and simplify their infrastructure and production processes for long-term results.

With an enhanced user experience, hundreds of new, cross-industry capabilities for improving productivity and efficiency, and Fusion Middleware for lower cost integrations, organizations can expect a lower total cost of ownership with this.

FOR MORE INFORMATION

To find out more about Oracle E-Business Suite Manufacturing Release 12.1 visit www.oracle.com/applications/e-business-suite-release-12-1.html.



Delivering Value in Uncertain Times with Oracle E-Business Suite Manufacturing Release 12.1

July 2009

Author: Stephen Slade

Contributing Authors: Karen Theel

Oracle Corporation
World Headquarters
500 Oracle Parkway
Redwood Shores, CA 94065
U.S.A.

Worldwide Inquiries:
Phone: +1.650.506.7000
Fax: +1.650.506.7200
oracle.com

Copyright © 2009, Oracle and/or its affiliates. All rights reserved.

This document is provided for information purposes only and the contents hereof are subject to change without notice.

This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.