ORACLE®
Warehouse Management

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The Safe Harbor

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

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Agenda

— **Business Challenges**

— Oracle's Leadership Position

— Solution Overview

— Customer Success

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Business Pressures

Just-in-Time Delivery

- How can I improve the speed of warehouse operations?

- How do I integrate operations to reduce order processing time?
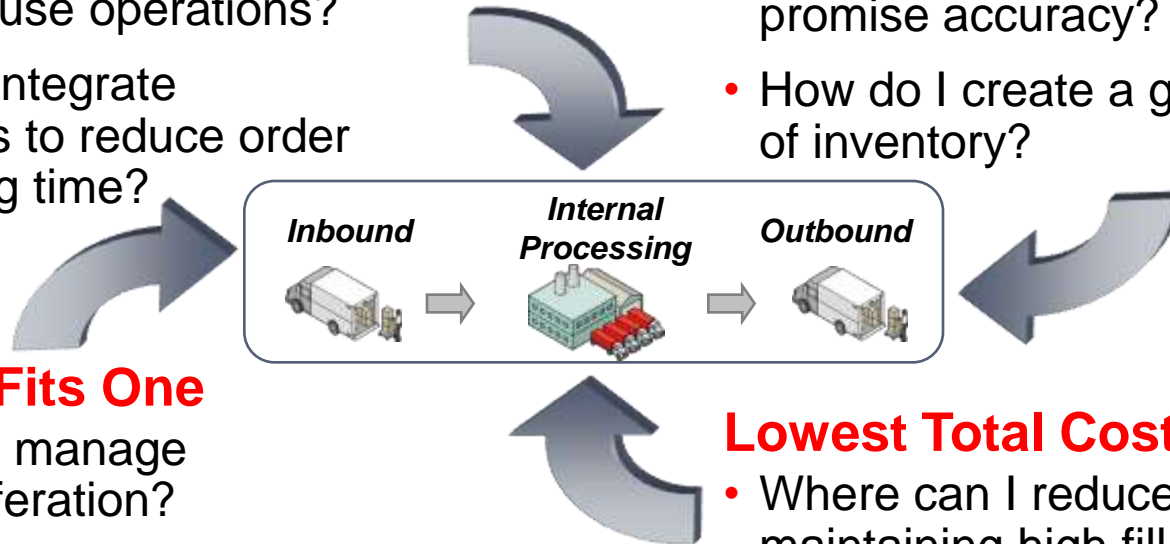
Guaranteed Availability

- How can I improve order promise accuracy?

- How do I create a global view of inventory?

Inbound **Internal Processing** **Outbound**

One Size Fits One

- How can I manage SKU proliferation?

- How do I ensure labeling compliance?

Lowest Total Cost

- Where can I reduce inventory while maintaining high fill rates?

- How do I improve labor efficiency?

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A Need for Change

Leading Business Trends

- Fulfillment Processes Integrated with Partners

- Support All Company Processes (e.g. Service, Mfg)

- Automated Material Handling for Improved Productivity

- Mobile and Automatic Data Capture (e.g. RF, RFID)

- Streamlined Material Flow (e.g. Cross-Docking)

- Aligned Logistics Processes

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Improve Warehouse Management Functions

Increase Efficiency of All Resources

Warehouse Efficiency

Worker Productivity

- Automate Warehouse Processes

- Optimize Task Assignments

- Reduce Worker Travel Time

Resource Utilization

- Optimize Total Warehouse Space

- Maximize Use of Equipment

- Optimally Locate Inventory to Reduce Travel Time

Inventory Utilization

- Reduce Inventory Carrying Costs

- Streamline

- Material Flow

- Reduce Inventory Obsolescence

- Automate Replenishment

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Value Chain Transformation

ROI

Best in Class Examples

- ✓ **30%** increase in operator productivity
- ✓ **100%** inventory accuracy
- ✓ **30%** decrease in handling cost / unit
- ✓ **95%** reduction in overtime used
- ✓ **30%** reduction in scrap
- ✓ **50%** increase in on time shipments

BENEFITS

Optimize and **Streamline** fulfillment operations

Synchronize processes across functional silos

Monitor supply chain performance to **Goals**

Collaborate with trading partners for **Accurate** supply chain **Data**

Globalization & **Standardization** of processes

Drive customer **compliance**

Support expansion into new markets and higher business volumes

Greater **Agility** to respond to **Change**

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A Few More Customers…

High Technology

Consumer Goods / Distribution

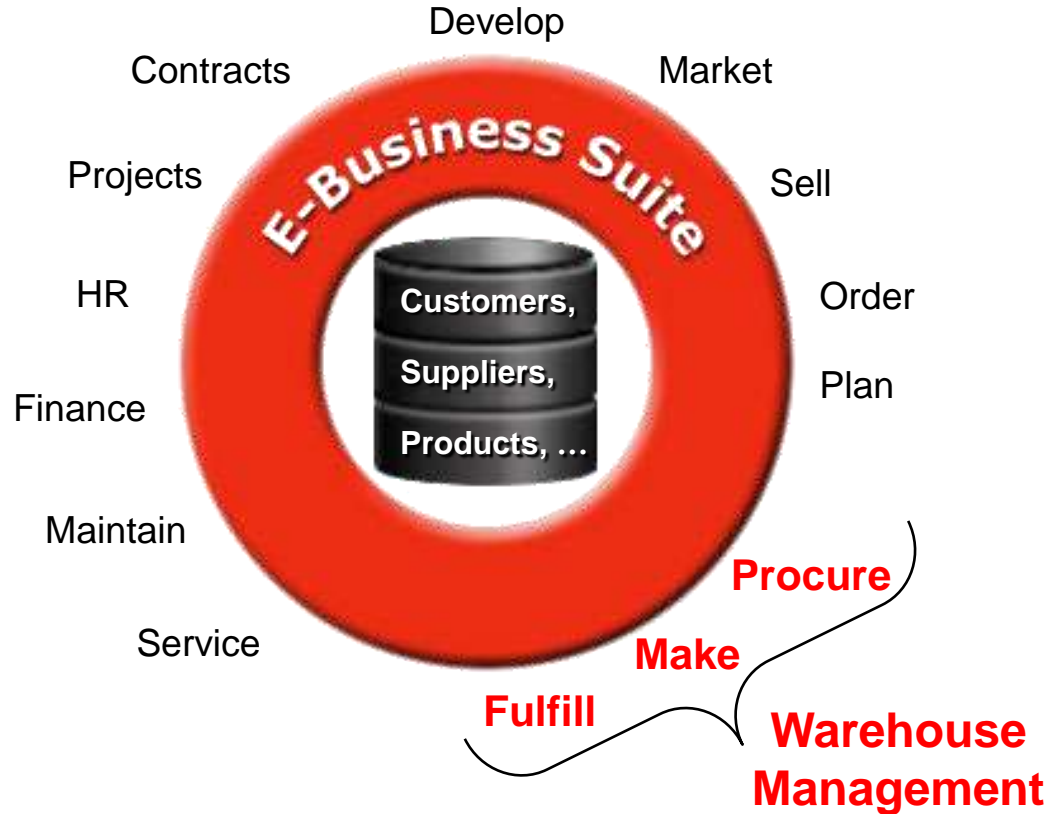**Healthcare & Life Sciences**

Industrial Mfg

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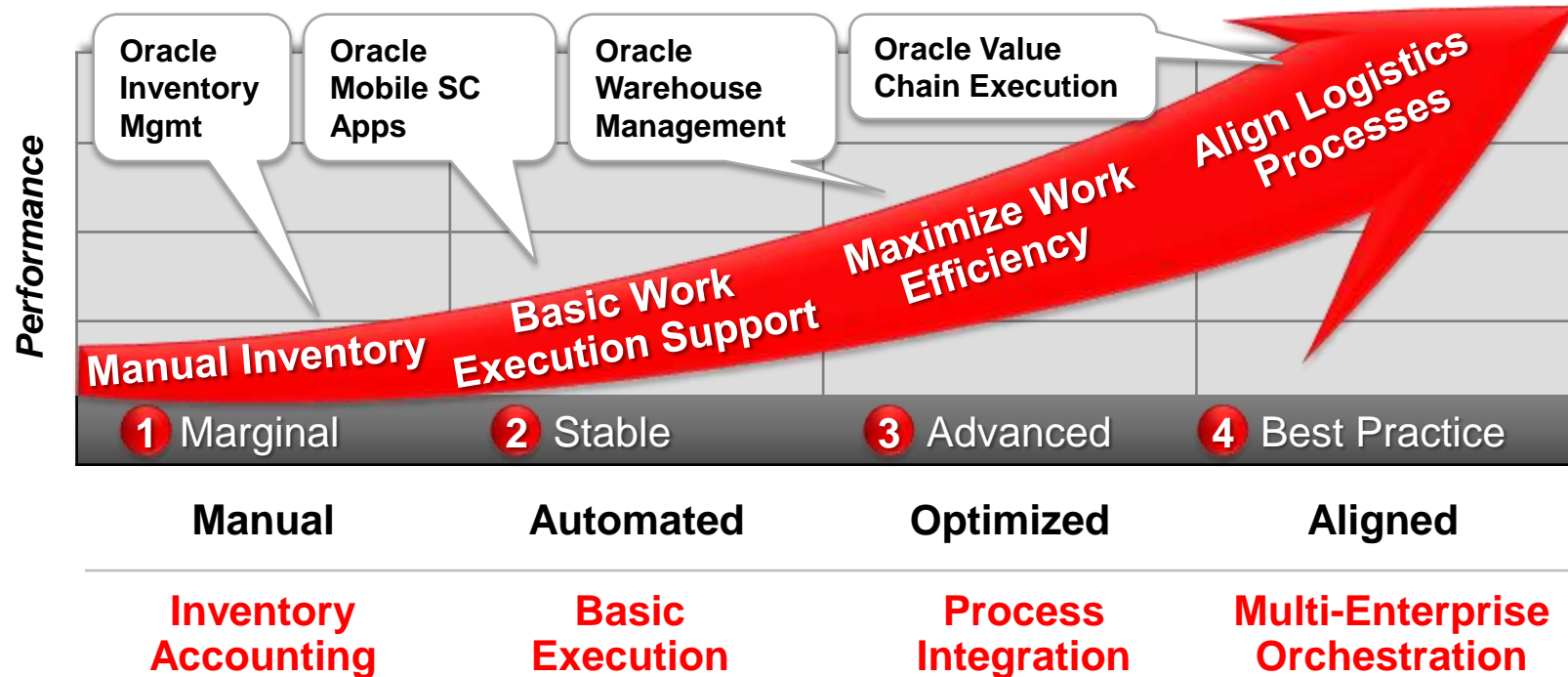
- **Solution Overview**

- Customer Success

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Foundation: Unified Information Architecture

Develop

Contracts

Market

E-Business Suite

Projects

Sell

HR

Customers,

Suppliers,

Products, …

Order

Finance

Plan

Maintain

Service

Procure

Make

Fulfill

Warehouse Management

- Common data model enables a single source of truth

- Comprehensive suite of applications designed to work together

- Robust set of integration services based on open standards

- Modular deployment by business flow

- Single global instance implementations

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Value Chain Transformation

From Fragmented Supply Chain to Integrated Value Chain

Performance

Oracle Inventory Mgmt

Oracle Mobile SC Apps

Oracle Warehouse Management

Oracle Value Chain Execution

Manual Inventory

Basic Work Execution Support

Maximize Work Efficiency

Align Logistics Processes

1 Marginal	2 Stable	3 Advanced	4 Best Practice
Manual	**Automated**	**Optimized**	**Aligned**
Inventory Accounting	**Basic Execution**	**Process Integration**	**Multi-Enterprise Orchestration**

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Oracle Mobile Supply Chain Apps (MSCA)

Support Basic Warehousing Needs…

Built-in Mobile User Interface

Mobile Manufacturing
Moves, Issues, Returns, Scrap, Completions, …

Mobile Quality
Quality Collections, Specifications, …

Mobile Receiving
Direct, Std, Inspect, Cross-Dock, Print, …

Mobile Inventory
Misc. Transactions, Transfers, Counts, …

Mobile Shipping
Pick, Confirm, Ship, Confirm, Print, …

Built-in RF Middleware

RF Base Station

Mobile Transaction Server

LAN or WAN

Apps / Database

RF Device

Telnet Over TCP/ IP

SQL Net
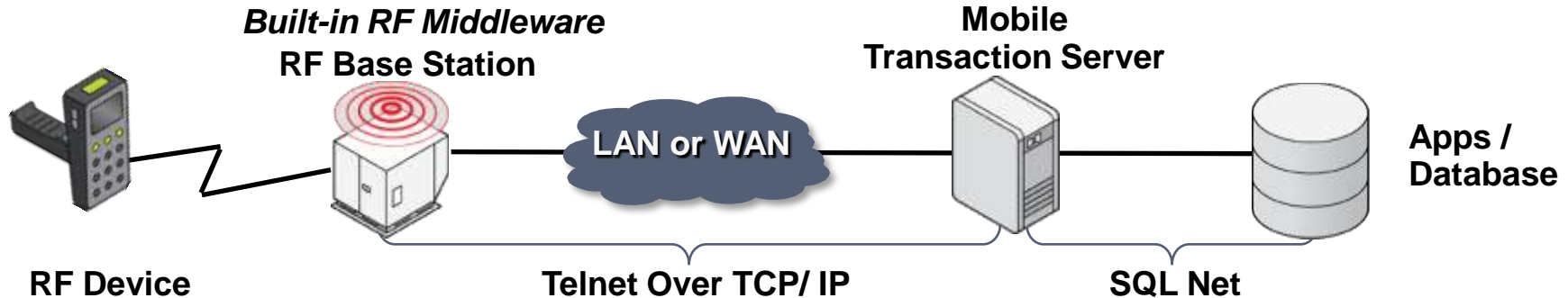
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Oracle Warehouse Management Solution

A Complete Warehouse Execution System
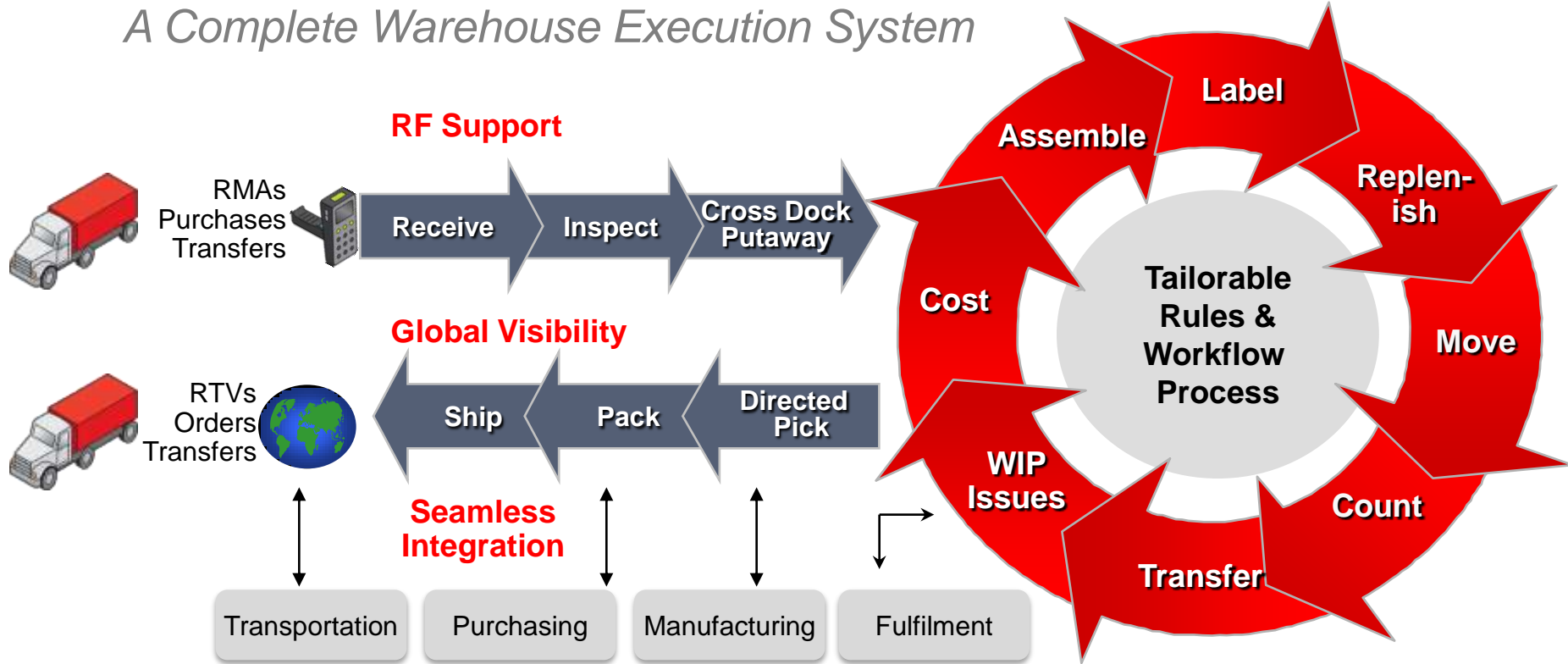
RF Support

RMAs
Purchases
Transfers

Receive → Inspect → Cross Dock Putaway

Global Visibility

RTVs
Orders
Transfers

Ship ← Pack ← Directed Pick

Seamless Integration

Transportation | Purchasing | Manufacturing | Fulfilment

Assemble • Label • Replen-ish • Move • Count • Transfer • WIP Issues • Cost

Tailorable Rules & Workflow Process

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Oracle Warehouse Management Solution

Delivers…

❶ Responsive Fulfillment

❷ Optimized Decisions

❸ Aligned Processes

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Rule-Driven Processes

Flexibility Meet Needs without Customization

Transaction
(e.g. Pick)

User Defined
Strategies & Rules
(e.g. > 30 Days Shelf Life)

Suggestions
(e.g. LPNs
or Locators)

Support for: Directed Picking, Directed Put-away, Tasks Assignment, Costing, Labeling

- Eliminates customizations
- Supports common tool with Eg.
- Easily changed and evolved

- Improves ROI and ongoing support
- Accelerates implementation
- Increases long-term flexibility

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Barcode and License Plate # Support

Perform Complex Inventory Transactions

Multiple Packages and Products

Barcode Support

- Automatically Track All Related Product Information
- Capture All Information with a Single Scan

Worker Productivity

Single Unique Number for All Information

Container and LPN* Support

- Supports Infinite Nesting Levels
- Perform Complex Moves via a Single Scan
- Fully Integrated with ASNs

Improves Efficiency, Accuracy, and Tracking

*License Plate Number

Automated Compliance Labeling

Meet Customer Specific Requirements

- **Support Numerous Types and Variations of Labels**
  - LPN, LPN content, LPN summary, material, serial, location, shipping, shipping contents, WIP contents
  - Print & Scan industry standard product barcodes: UCC-128, EAN-8, EAN-13, UPC, EAN/UCC-14

- **Flexible to Meet Your Business Needs**
  - Design and rendering choices
  - Highly flexible configuration
  - Adapts to changing requirements

- **Data Transmitted via XML Directly to Printer or via Middleware of Choice**
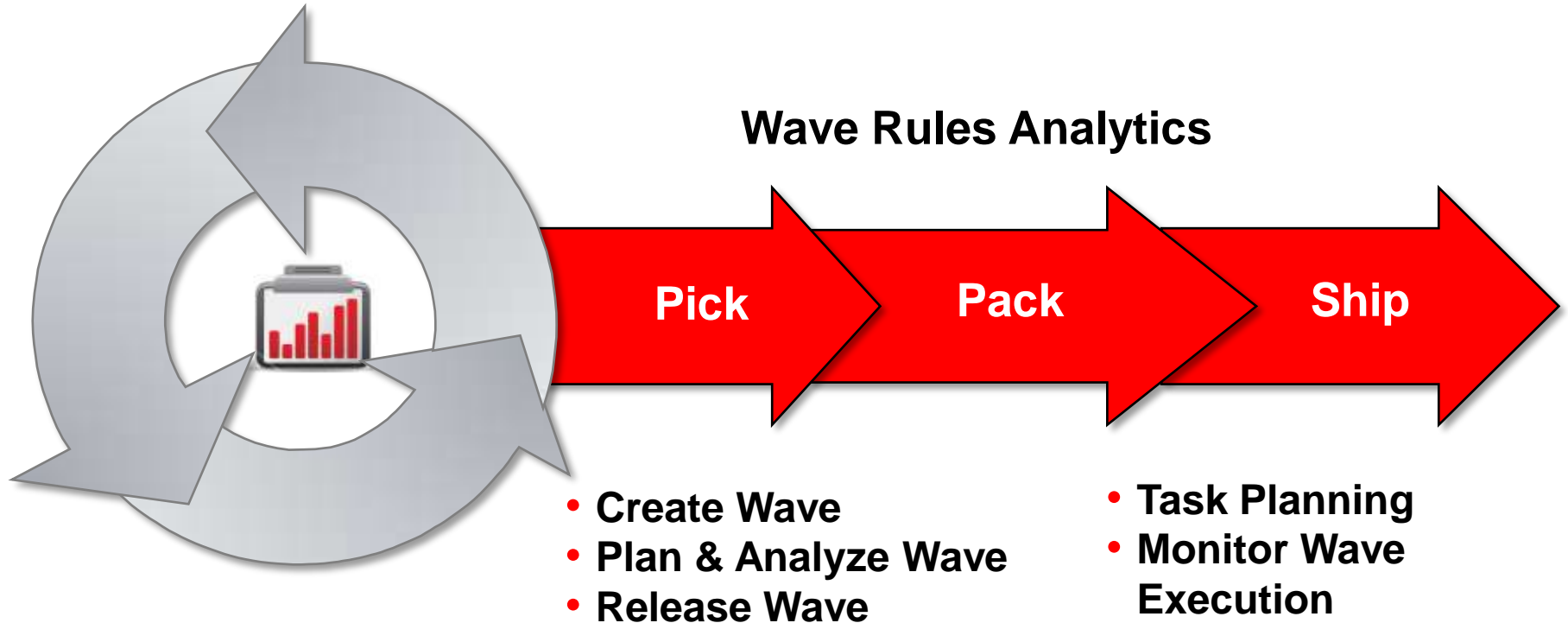- **Out of the Box Support for Epcglobal Compliance Mandates Including SGTIN-64 / SGTIN-96**

Oracle Warehouse Management Solution

Delivers…

❶ **Responsive Fulfillment**

❷ **Optimized Decisions**

❸ **Aligned Processes**

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Comprehensive Wave Planning

Advanced Tools to Manage Work on the Floor

Wave Rules Analytics

Pick → Pack → Ship

- **Create Wave**
- **Plan & Analyze Wave**
- **Release Wave**

- **Task Planning**
- **Monitor Wave Execution**

Automated Task Management

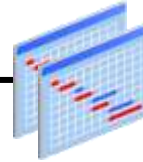*Create, Organize, Dispatch Tasks to Optimal Resource*
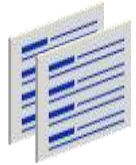
Pick Wave → Create & Allocate Task → Split Merge Sort → **Task Queue**

- Dispatch Tasks To RF Devices
- Support Multiple Picking Methodologies
- Match Skills and Equipment to Tasks
- Perform Task Sequencing and Interleaving

- Create Paperless, Streamlined Processes
- Align Pick Plan with Business Mix
- Reduce Safety Issues and Training Costs
- Significantly Reduce Travel Time

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Performance Management Tools

Proactively Manage Warehouse Performance

- View Current Status, Perform Transactions and Calculate Availability Via Materials Workbench

- Monitor & Refine Facility Activity Via Control Board

- Provide Real-Time Status with Active Alerts and Notification Messaging

- Handle Last Minute Changes with Workflow Exceptions

- Keep Key Personnel Informed with Multiple Reporting Options

Labor Management and Reporting

Optimize the Utilization of Limited Resources

Task Performance Reporting

- View Historical Task Completion Times
- Capture Task Time Trends
- Track Allocation of Employee Work Time

Labor Productivity Management

- Define Standard Resource Information
- Summarize Resource Requirements and Outstanding Work
- Evaluate Productivity of an Individual or the Entire Warehouse

ORACLE Labor Management System
W1 - Kansas City Distribution

SUMMARY | ANALYSIS | WORKBENCH

Labor Management Summary
* Indicates required field
Time = Seconds

Outstanding Resource Requirements & Availability

Resource Requirement

Variable Time

Activity △	Available Resource	Available Time	Time Required	Time Overload Factor (%)	Additional Time Required
Inbound	5	122400	208254	70.14	85854
Outbound	8	195840	47505	-75.74	-148335

Variable Resources

Activity △	Available Time	Available Resource	Resource Required	Resource Overload Factor(%)	Additional Resources Required
Inbound	122400	5			51
Outbound	195840	8			06

Warehouse Productivity Summary

Warehouse Productivity – March, 2006

User	Overall Rating	Total Score	Travel Rating	Travel Score	Transaction Rating	Transaction Score	Work Unit Rating	Work Unit Score	Idle Rating	Idle Score
W1 - Kansas City Distribution	Excellent	8340	Excellent	4790	Excellent	3550	Excellent	8340		

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Cross-Dock and Direct Ship

Selectively Accelerate Warehouse Material Flow

Peg demand to inbound receipts based on flexible optimization criteria

Cross-Dock

Receive → Inspect → Deliver → Put-Away → Inventory → Pick Release → Pick → Drop → Ship
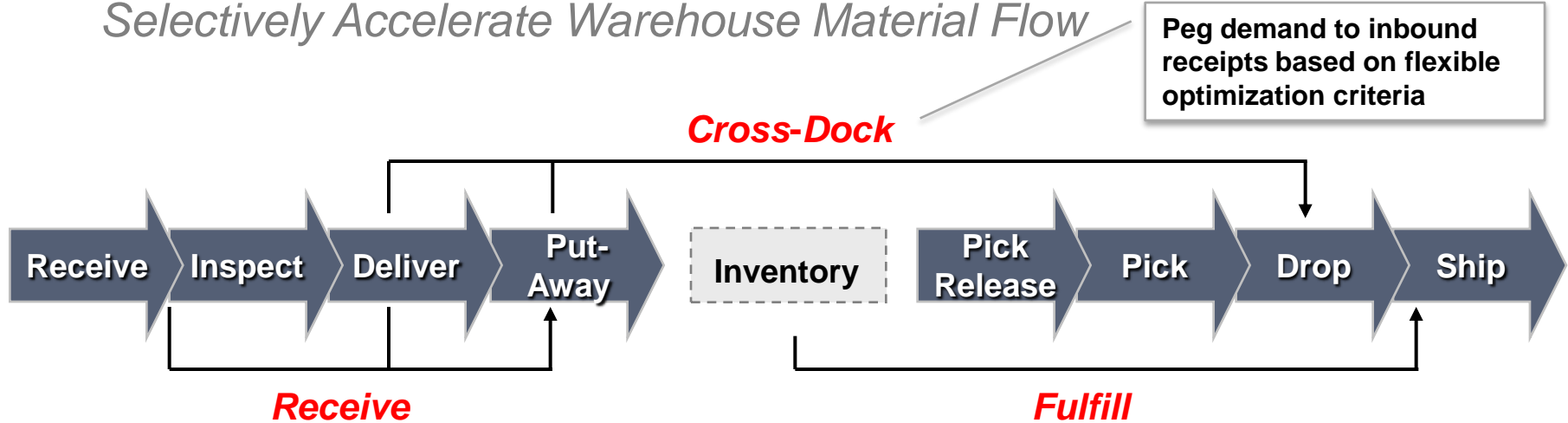
Receive

Fulfill

- Configurable Flows
- Robust Consolidation Methods
- Planned & Opportunistic Cross-Docking
- Rules Based Supply – Demand Matching

- Adjust To Storage Policy Changes
- Accelerate Receiving & Fulfillment Processes
- Reduce Handling And Inventory
- Increase Operator Efficiency

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Directed Picking and Put Away

Automatically Suggest Optimal Locators

```
Receipt  →
                    [Business Logic]  →   Locator
Pick     →                               Locator
                                         Locator
```

- Slot Dynamically Based on Velocity, Size, Etc.

- Control Hazardous Materials / Co-mingling

- Handle Task Exceptions with Reason Codes

- Optimize the Use of Storage Locations with Dynamic Slotting

- Minimize Inventory Fragmentation

- Reduce Chance of Obsolescence

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Advanced Inventory Capabilities

Provide Single Source of Truth for All Inventory

- **Maintain Accurate, Real-Time Information**
  - Physical inventory measurement
  - Holding and other associated costs
  - Cycle counting

- **Manage Inventory Levels**
  - Automated replenishment
  - Kanban management
  - Transfers between facilities

- **Support Advanced Tracking Capabilities**
  - Material status control
  - Inventory ownership tracking
  - Advanced lot and serial control

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Oracle Warehouse Management Solution

Delivers…

❶ **Responsive Fulfillment**

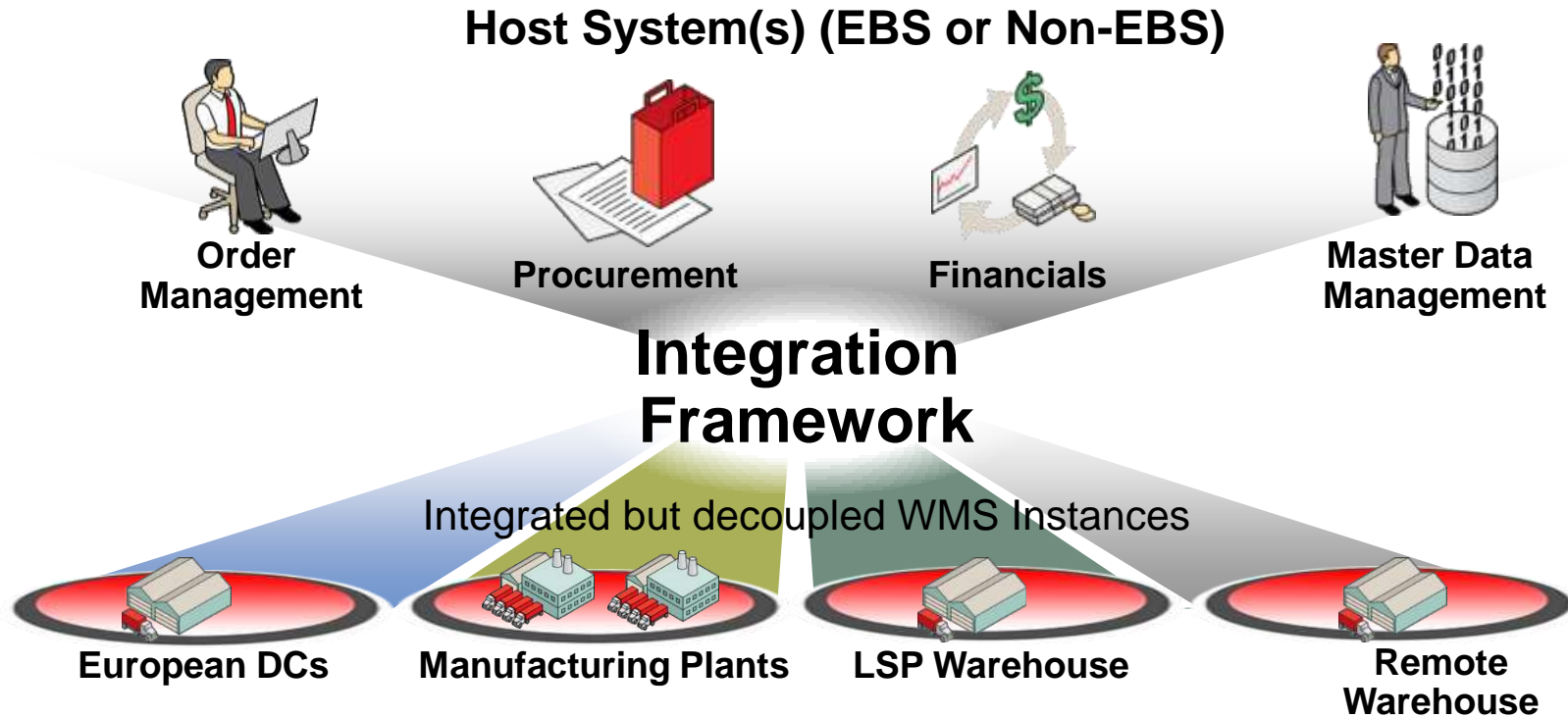❷ **Optimized Decisions**

❸ **Aligned Processes**

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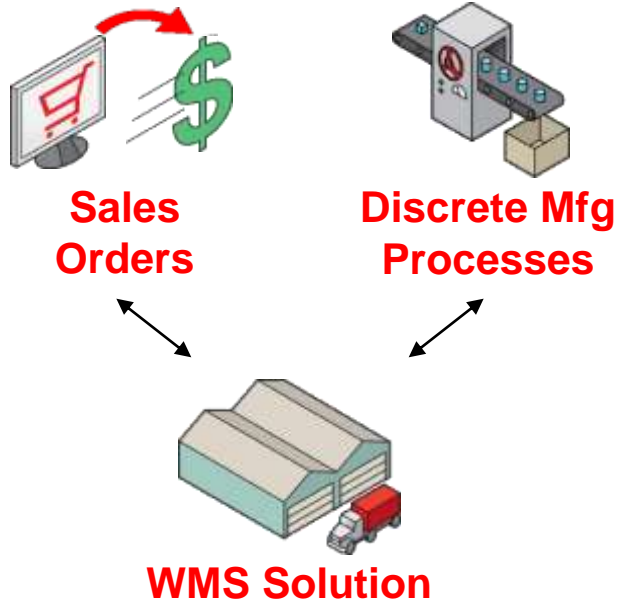# Comprehensive Logistics Solution

Integrated Logistics Adapts to Changes

Carriers / 3PLs

Global Customers

Collaboration & Event Management

Inbound Supply Source

| Plan | Rate | Book / Tender | Manage Wrhs | Pick & Label | Pack - Ship | Track | Settle |

Integrated Planning & Execution

Outbound Demand Destination

Continuous Improvement

On-Time Performance

Customer Satisfaction

Carrier Analysis

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Distributed Deployment Options

Disconnected and Integrated

Host System(s) (EBS or Non-EBS)

Order Management

Procurement

Financials

Master Data Management

Integration Framework

Integrated but decoupled WMS Instances

European DCs

Manufacturing Plants

LSP Warehouse

Remote Warehouse

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WMS and Discrete Manufacturing

Extends Beyond Sales Order Inputs

Sales Orders

Discrete Mfg Processes

WMS Solution

- **Solution Integration Enables:**
  - Task-managed component picks
  - Cross-dock to / from manufacturing
  - Directed ship from manufacturing
  - Compliance labeling
  - LPN and lot / serial creation and tracking

- **Supports Full Spectrum of Tasks:**
  - Simple kitting to full BOM / work order jobs
  - Seamless CTO flow

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WMS and Service / Spares

Integrate All Inventory Transactions

Warehouse Mgmt

Distribution Center

Regional / Field Warehouses **Field Technician Stock**
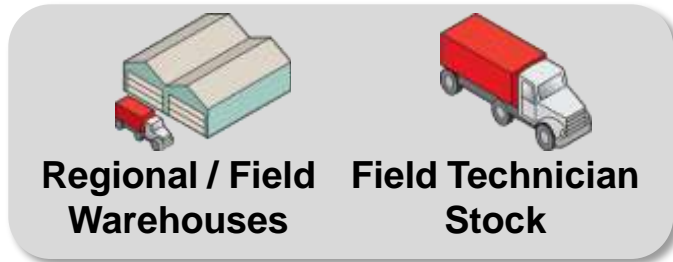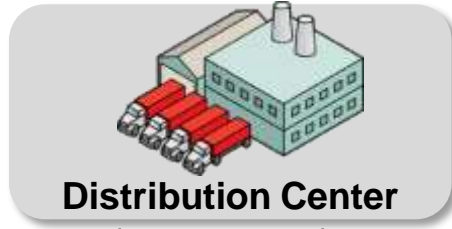
Service / Spares Mgmt

Manage High Volume DC Operations (Pick, Pack And Ship) with WMS and Leverage Internal Orders to Release Parts to the Field

- Provide a Single, Common View of All Inventory

- Integrate and Manage Internal and Field Inventory Locations

- Consolidate / Coordinate All Field Requests to Maximize DC Efficiency

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Summary

- ✓ Supports Value Chain Transformation: flexible, optimized and aligned processes for fulfillment excellence

- ✓ Global, anywhere-to-anywhere fulfillment support across lines of business, supply chain flows and regions

- ✓ Best-in-class modular solution enables incremental deployment

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- Solution Overview

- **Customer Success**

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Beckman Coulter

WHO

- Leading manufacturer of biomedical testing instrument systems, tests and supplies

CHALLENGES / OPPORTUNITIES

- Needed to reduce shipping costs and improve on time delivery
- Manage compliance in the regulated industry with hazmat and cold chain requirements
- Minimize shipment errors and waste

SOLUTIONS

- Oracle Warehouse Management
- Oracle Transportation Management

"With Oracle Transportation Management and Oracle Warehouse Management as the foundation for our distribution operations, customers should be satisfied because we deliver the right products on time and can answer their questions; our users are happy because the system has improved processes; and the company is pleased because we provide better service, better quality and are saving money. It is a huge win."
Carl Sandvik, Director, Business Process, Beckman Coulter

RESULTS

- 40% increase in lot shipment accuracy
- 25% reduction in warehouse staff required
- Increased on time shipment performance from 89% to over 99%

 Oracle Confidential

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COMPANY OVERVIEW

- Regional furniture retailer operating 25+ showrooms/stores in the greater Chicago and Northern Indiana areas
- 95% of sales are shipped from DC for home delivery

CHALLENGES / OPPORTUNITIES

- Move from existing outgrown GERS platform lacking flexibility
- Handle drastic volume swings as the housing market hit a downturn

SOLUTION

- Live on EBS 12.1 including Warehouse Management; implemented by Deloitte. Not yet live on Order Mgmt.
- Motorola MC9090 and VG5090 RF units
- Zebra barcode printers

OPERATING ENVIRONMENT

- One (1) DC of 300K sq. ft. in Lombard, IL
- 80% of inbounds are overseas containers
- Outbound from DC is direct delivery to homes on 28 ft. trucks routed using UPS Roadnet
- Using WMS cross docking for bedding to good effect

RESULTS

- Overall direct labor improvement of 14%
- Eliminated six (6) shipment auditors since pick accuracy is high due to positive confirmation using RF with barcode scan
- Have also seen savings in pick and put due to reduced travel time
- Much better visibility to info including supplier ASNs allows use of crossdocking for efficient handling of bedding

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THERMOS.
Hotter, Cooler, Fresher Thinking

COMPANY OVERVIEW

- Global manufacturer of insulated food and beverage containers, soft coolers, and lunch kits
- Approximately 2,800 global employees

CHALLENGES / OPPORTUNITIES

- Increasing requirements from large retailers (e.g., RFID)
- Heavily customized applications build on aging computer platforms
- Reliance upon outside developers to write and maintain custom application interfaces

SOLUTION

- Live on EBS 11*i* On Demand
- Warehouse Management
- Order Management
- Financials

CUSTOMER PERSPECTIVE

"With more demanding on-time requirements, inventory accuracy is essential. With Oracle Warehouse Management we know exactly what product we have, and where, at any point in time and the accuracy level is so high that our auditors no longer require us to take a physical inventory."

-- Mike Yeager, Director of Logistics

RESULTS

- Increased warehouse productivity by 30%
- Achieved 222% ROI and on track to realize benefits of $6.2M
- Monthly book closing cycle improved 67%
- Higher staff productivity
- Lower inventory carrying costs
- Reduced IT management expenses

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COMPANY OVERVIEW

- $419M leader in high-performance enterprise Storage Area Network systems
- 1,020 employees across the U.S., Europe and Asia
- Manufactures and markets high-performance switching equipment and heterogeneous network mgmt software

CHALLENGES / OPPORTUNITIES

- Upgrading existing systems was cost prohibitive when compared with implementing EBS
- Complex, configured product & solutions

SOLUTION

- Live on EBS 11*i*
- Warehouse Mgmt
- Configurator
- Order Mgmt
- Purchasing
- Discrete Mfg
- Service Contracts
- TeleService
- Depot Repair
- Financials

CUSTOMER PERSPECTIVE

"McDATA's challenge of growing business operations in Europe, Asia, and the United States can only be met with a flexible open system like Oracle EBS. Buying disparate "best-of-breed" applications requires costly and time-consuming integration services."

-- Don Wenninger, CIO

RESULTS

- Replaced SAP with Oracle
- On-time shipments increased from 79% to more than 97%
- Reduced total inventory 75%
- Reduced days sales outstanding from 80 to 50
- Support complex configure-to-order fulfillment process
- Projects a five-year cumulative ROI of 352% on Oracle E-Business Suite implementation

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![Bull - Architect of an Open World]

COMPANY OVERVIEW

- European leader in mission critical digital systems
- Designs & manufacturers digital systems and super computers
- Based in France with annual revenue of 1.25 billion Euro

CHALLENGES / OPPORTUNITIES

- Complex configure to order manufacturing process with outside processing and high SKU counts
- Process synchronization across manufacturing, procurement & logistics

SOLUTION

- Replaced Baan (ERP & Manufacturing) & Geode (WMS) with Oracle EBS
- Live on EBS including Warehouse Management
- Largely self implemented (leveraged only 3 external consultants

IMPLEMENTATION

- Live in 18 months on production, procurement, order fulfillment & planning
- Leveraged global planning combining all logistics & manufacturing flows
- Real time data entry with RF handheld scanners and WiFi printers

RESULTS

- Online, error free financial reporting
- Reduced data entry errors from 5% to 0.1%
- Mobile enabled warehouse operators
- Average savings of 1-2 days in the order to purchase process

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COMPANY OVERVIEW

- A leading provider of next-generation mobile communication solutions organized into two business units:
  - Mobility (handsets, mobile voice/data)
  - Solutions (radios, infrastructure, barcoding).
- Global Fortune 500 company based in Illinois

CHALLENGES / OPPORTUNITIES

- Currently running four (4) regional ERP instances including various versions of EBS 11i and one SAP instance.
- Worldwide user base with 24x7 operation.
- Desired end state of one (1) global R12 EBS instance with regional WMS instances.

SOLUTION

- Deploy Distributed WMS (R12.1) interfaced to disparate ERP instances using Informatica
- Initial install at Schaumberg, IL warehouse (75Kft2, 70 users)
- Implementation done in-house by Motorola IT

RESULTS

- Decoupled WMS and ERP for high availability and round-the-clock operation
- Rapid implementation in five (5) months – kick-off January 2010, live June 2010
- Ability to leverage the latest WMS features without upgrading the various ERP instances
- Using WMS for both warehousing and supply of components to manufacturing

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Oracle Warehouse Management

Responsive Fulfillment

Optimized Decisions

Aligned Processes

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Hardware and Software

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Engineered to Work Together

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