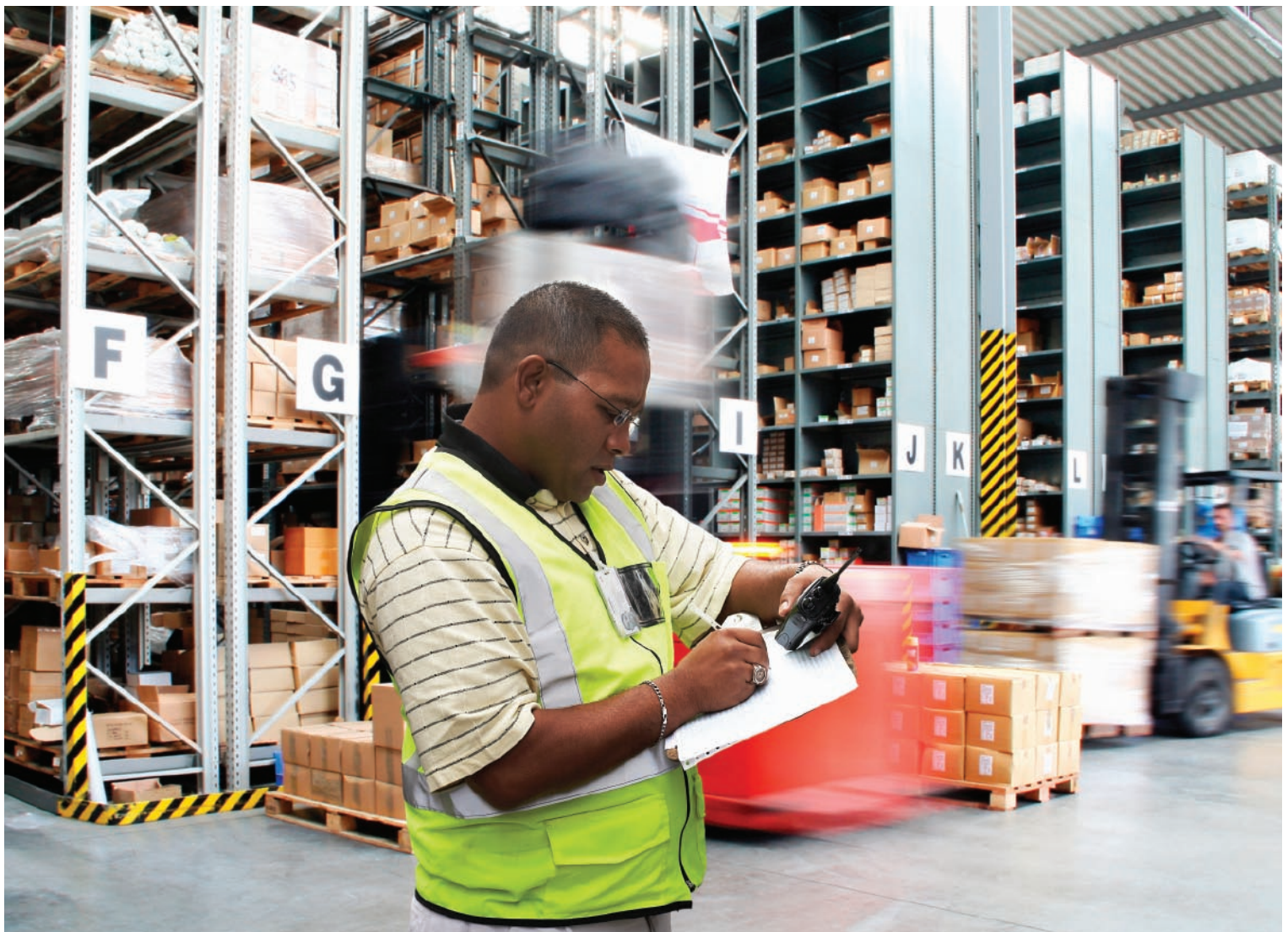




# RedPrairie for Warehouse Management

 RedPrairie®



# Optimizing Every Move

From before an inbound shipment enters your gate until after an outbound shipment leaves, RedPrairie's Warehouse Management solution optimizes every move – from raw materials to finished goods, and the material handling equipment and people who move them – enabling the most agile, efficient and lean distribution operations possible. That means lower distribution costs and improved return on your supply chain investment.

**Why does RedPrairie's Warehouse Management solution enable customers to achieve the best results? Because we have:**

**The most comprehensive task optimization technology, including the industry's only embedded 3D mapping > out-of-the-box!**

**The most mature SOA technology >** proven in hundreds of production sites for over 10 years – enabling faster, less costly implementations, greater agility to meet changing business conditions, and lower total cost of ownership.

**The most industry experience >** over 30 years helping leading manufacturers, distributors and retailers optimize their distribution networks.

**The industry's only >** comprehensive vision and technology for integrating and synchronizing operations from the retail store shelf back through extended supply networks.

RedPrairie's Warehouse Management technology and services provide a comprehensive, RFID-enabled solution for distribution and inventory management covering:

- Labor Management
- Distributed Order Management
- Inbound Operations
- Inventory Management
- Work Order Processing
- Outbound Operations
- Asset Management

## Optimizing Supply Chain ROI

By optimizing every move in the DC, operations run more smoothly, accurately and efficiently. Nothing is left to chance or the whims of individual workers. Workflow and throughput act like a well-oiled machine. This maximizes the value of the DC and produces the greatest return on your supply chain investment.



## RedPrairie Warehouse Management customers achieve ROI through:

- Fulfillment cost reductions of 10-50%
- Inventory storage and handling costs reductions of 10-35%
- Throughput increases of 10-40%
- Inventory visibility and accuracy near 100%
- Inventory reductions of 5-25%
- Credit reductions of 75-95%
- Dock to stock time reductions of 25-50%
- Receiving dwell time reductions of 25-50%

# Labor Management

Labor represents 50-75 percent of non-inventory costs in most distribution centers, so optimizing each and every task is critical to achieving agile, efficient and lean operations. This requires consistency and control over what tasks are assigned and how they are carried out.

RedPrairie is a long-time leader in labor and workforce management, transforming your workplace into a self-accountable, performance-focused culture. This transformation is accomplished through a proven, step-by-step methodology that incorporates culture-altering change management and strategic project management programs.

**The transformed business is enabled by technology for:**

**Workforce Planning & Scheduling** > To ensure just the right number of workers with the right skills are available exactly when needed to fulfill order demand.

**Schedule Optimization** > The ability to quickly assign and reassign workers to priority work areas and functions based on order flows, deadlines, skills, and cost considerations.

**Task Optimization** > Making sure all tasks are assigned and executed in the proper sequence while balancing workflows and order priorities to maximize efficiency and quality of service.

**Learning Management** > A blended learning capability with classroom and online courses ensures workers receive proper training and certifications for their jobs. Job performance can be compared to the training received to evaluate the effectiveness of training programs.

**Compliance & Measurement** > Measuring performance and ensuring compliance with regulations and work rules is central to workforce management. This includes tracking indirect time, attendance, quality, and safety, as well as calculating incentive rewards.

**Visibility & Analytics** > Real-time visibility to performance across the enterprise enables immediate reaction to events, analysis of trends, and the ability to quickly discover the root cause of problems

Only RedPrairie has this broad spectrum of workforce management capabilities and services to optimize every move within the DC and across the enterprise.



## Workforce Management

Business Transformation  
Change Management  
Enabling Technology  
Strategic Project Management

# Distributed Order Management

Once an order is received, the first decision is where to source it from based on available and expected inventory, proximity to the customer, priorities and shipping costs. RedPrairie's Distributed Order Management solution enables orders to be optimally sourced from multiple warehouse locations and supplier sites to increase supply network flexibility and efficiency.

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What sets this configurable solution apart from other sourcing applications is that it not only provides real-time visibility to current inventory across extended supply networks, it also factors in expected vendor receipts and production schedules on a date-sensitive basis to allocate future inventory based on customer ship dates. Allocation algorithms can take into account factors such as product aging and expiration dates, value added service requirements, workload balancing, dock door capacities and transportation costs. This brings a level of efficiency to distribution operations not previously possible.



# Inbound Operations

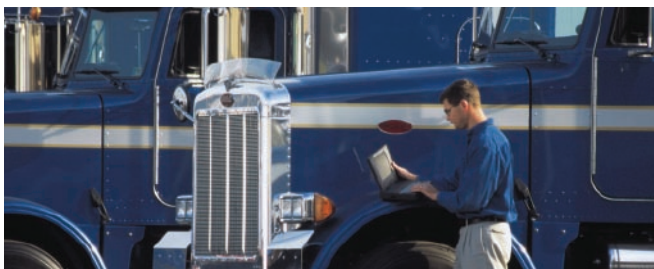
Efficient inbound operations start with knowing what is being shipped from suppliers and when it will arrive. RedPrairie offers supplier collaboration technology to provide visibility to supplier production and shipments through a web portal and EDI ASN information. Inbound shipments can also be synchronized and controlled through RedPrairie Transportation Management.

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## Inbound Transportation Management >

Real-time optimization of:

- Inbound shipment planning and scheduling
- Load consolidation and routing
- Carrier selection, tendering and management
- Round trip coordination with outbound shipments



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*"In just five months, operator productivity has grown by 25% while increased employee motivation has reduced staff turnover. In addition, new starters are trained faster and with best-practice operating methods that enable them to be productive from day one."*

Diane Smith  
Supply Chain Manager  
The Works

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# Optimized Operations

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Once you have visibility to inbound shipments, there are many tasks that should be optimized to streamline inbound operations. RedPrairie's Warehouse Management solution provides capabilities to optimize:

**Appointment Scheduling** > Integrates web-based communications with a graphical dock calendar for:

- Inbound and outbound appointment scheduling
- Standing appointment management
- Exception management
- Vendor and carrier compliance
- ASN, PO and pack list management
- Receiving documentation, including Global Trade Management

**Yard and Dock Management** > Check-in to check-out management of yard equipment, inventory movements, dock doors and personnel, including:

- Gate check-in and check-out
- Yard and dock location assignments
- Inventory and asset tracking
- System-directed movements via wireless devices

**Cross-Docking** > Hot receipt functionality to prioritize inbound inventory with outbound orders, reducing handling, storage and costs while improving service.

- Real-time demand assessment and prioritization
- Put-to-store synchronization
- Integration with dock scheduling

**Receiving and Putaway** > Optimized receipt and stowage, including:

- Receipt check-in by paper, RF or RFID
- Detailed SKU attribute capture and verification
- Cart / container optimization
- System-directed putaway based on cube, weight, dimensions, nesting & stacking, commonality, location availability, zoning and product demand
- Operator managed overrides and exceptions
- Optimized task interleaving

**Retail Store Processing** > Inbound processing for retail distribution, including:

- Store distro flow-through processing
- Put-to-store
- Merge-in-transit

**Inbound Services** > System-directed work assignments for:

- Vendor / Carrier compliance statistical sampling
- QA workflow control

**Duty Management** > A complete solution for managing bonded warehouses, including:

- Compliance with Excise and Customs legislation
- Detailed audit trails for Customs controls and audit

**Reverse Logistics / Returns Processing** > System-directed work assignments for:

- Evaluation and breakdown
- Disassembly / de-kitting
- Clean / rework / repackage
- Putaway or return to vendor
- Dispose or destroy

# Inventory Management

Effective inventory management requires visibility and control from suppliers' production all the way through to the end user. RedPrairie provides this real-time visibility and control to optimize the tracking, movement, handling, storage, and if necessary, recall of all types of raw materials, work-in-process and finished goods inventory.

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## Key functions include:

**Supplier Collaboration** > Visibility to supplier production, packaging, QA processing and shipments, with exception management.

**Slotting** > Improves productivity by synchronizing product placement to order demand. Key features include:

- Balances pick velocity with travel distances, ergonomics and equipment constraints for optimal workload efficiency and safety
- Compares the cost of re-slotting to the economic benefits achieved to compute the true ROI of the slotting plan
- Integrates with replenishment activities to dynamically re-slot, minimizing disruption and cost

**Replenishment** > Supports multiple strategies to tailor replenishment to product, location, environment and slotting needs. Replenishment can be triggered by:

- Quantity or top-off
- On-demand / emergency
- Slotting or other fulfillment plans

**Inventory Control** > Tracks inventory based on many SKU attributes, including:

- Lot number / expiration dates, with variable aging
- Catch-weights and volumes
- Nested serial numbers
- Country of origin
- Temperature controlled requirements
- Nesting and stacking limitations

**Special Handling** > Enforces rules for handling, storage and tracking of SKUs that require environmental or HAZMAT segregation, procedures and certifications.

**QA / Recall** > Provides ancestry and destination tracking by lot, SKU and item / serial number for inventory at rest or in motion across the supply network. It enables:

- Lot and item-level visibility and control across the network
- Real-time, multi-level QA holds
- Redirect shipments and ASNs
- Centralized recall

**Cycle Counting** > System-directed work provides 99+% accuracy, virtually eliminating the need for traditional cycle counting. However, multiple cycle counting procedures are supported, interleaved with daily activities.

**Enterprise Visibility** > Real-time visibility to inventory across the enterprise and extended supply networks through dashboards with detailed drill-down analysis capabilities and user-configurable reporting enables improved decision-making, reduced inventory levels and better support for demand-driven fulfillment strategies.

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*"The potential for an integrated workforce management solution that supports end-to-end task management in a single application— is a powerful proposition".*

David Ockleshaw  
CEO  
Border Foods

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# Work Order Processing

A lot more goes on in distribution centers today than simple pick, pack and ship. Through postponement strategies, customer service requirements and store-ready processing, DCs are becoming limited production centers, requiring skills, equipment, work orders and management practices not seen in traditional warehouses. Work order processing in these DCs can be more akin to manufacturing processes than traditional distribution functions.

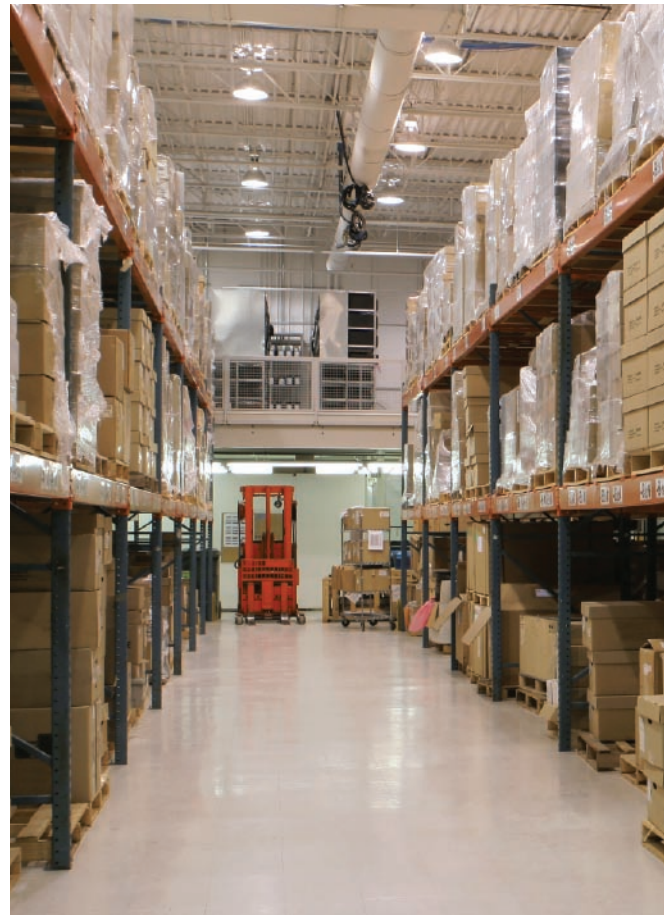
RedPrairie work order processing assigns, sequences and directs tasks to ensure timely, consistent and accurate completion of work order production. In many ways it can be thought of as a manufacturing execution system for the DC.

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## Work order processing functionality includes:

- Work order assignment, sequencing and execution
- Raw material control, including back-flushing
- Multi-level Bills of Material
- Postponement strategies
- Value-added services
- Work cell planning and scheduling
- Light manufacturing / assembly
- Kitting / de-kitting
- Store-ready containers / pallets

Work order processing is highly configurable, providing the flexibility you need to tailor processing to your initial needs, as well as to ever-changing future requirements. System-directed work ensures efficiency and throughput even within the chaos of multiple, changing customer requirements. RedPrairie Work Order Processing puts you in control.



# Outbound Operations

From pre-pack to proof of delivery, RedPrairie optimizes every step of outbound operations to ensure accuracy, timeliness, efficiency, compliance and optimal customer service.

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**The breadth of capabilities include:**

## **Task Management and Interleaving >**

RedPrairie's unique 3-D mapping of facilities enables the most efficient task assignments for all work, with integrated, RF-directed interleaving of tasks. Tasks are assigned and interleaved based on proximity, priority and permissions to maximize efficiency and service while ensuring safety and adherence to work rules and certification requirements.

**Multiple Pick Methods >** A virtually unlimited number of pick methods can be deployed simultaneously. Methods supported out-of-the-box include multiple versions of: batch, wave, zone, and cluster picking supporting LIFO, FIFO, LEFO and FEFO inventory turn strategies.

**Packing & Shipping >** System-directed packing, cartonization, QA verification, staging, and pack & hold management enables accurate, timely, damage-free shipments.

**Parcel Manifesting >** In-line parcel labeling and manifesting capabilities for UPS, FedEx, DHL, USPS, Bax Global, Emery.

**Pallet & Load Building >** 3D graphical screens show optimized pallet build plans and trailer loading diagrams to maximize space utilization, comply with weight and balance and axle-loading regulations, and comply with customer shipment requirements.

**Shipment Documentation >** The system produces all outbound shipment labeling and documentation, including:

- Customer, retail and carrier compliant labeling
- Domestic and international parcel e-manifesting
- Bonded warehouse and international trade logistics documentation
- BOL, manifests, and HAZMAT documentation



# Outbound Operations

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**Logistics Billing** > Accurately tracks all logistics activities and calculates charges or costs, including freight tariffs, for invoicing and analysis. This is an important component of any cost-to-serve analysis.

**Appointment Scheduling & Dock Door Management** > Provides a web portal and graphical dock calendar for shippers and carriers to schedule outbound loading, balance dock workload, and match equipment and labor constraints to shipment needs.

**Transportation Management** > RedPrairie provides a sophisticated transportation planning and execution solution, with the industry's only real-time optimization engine, to reduce the cost and complexity of shipments while improving visibility and customer service. Key functions include:

- Load consolidation and tendering
- Routing and scheduling
- Carrier management
- Domestic and international parcel
- Global trade management
- Automated freight payment
- Shipper, carrier and customer portals

**Fleet Management** > For companies who manage their own or dedicated fleet assets for local or short-haul pick-ups and deliveries, RedPrairie provides complete fleet management capabilities. This constraint-based loading and scheduling module maximizes utilization, reduces drive times and fuel consumption while meeting customer service commitments.



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*“Even though we have a high degree of automation in our distribution centers, we want improved product visibility and accountability in order to stay at the forefront in our industry. The RedPrairie solution will solidify Kehe’s position in the industry as a technology and customer service leader.”*

Scott Cousins  
CIO  
Kehe Food Distributors

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# RFID / EPC Enablement

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RedPrairie offers highly modular applications to RFID-enable manufacturing, distribution and retail operations. They provide a one-stop source for meeting EPC / ISO retail compliance requirements,

but go far beyond this to leverage RFID technology throughout the supply chain – driving real value from your investments.

# Asset Management

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RedPrairie provides an automated solution for mobile asset visibility and security to improve asset utilization and capital deployment, reduce loss, and ensure regulatory compliance. The solution tracks all kinds of mobile resources, such as returnable containers, equipment, racks, parts and people. These assets can be within a facility, across a campus or around the globe.

The asset management system can use a variety of technologies for tracking, including barcodes, active and passive RFID, cell, GPS and other AIDC technologies.

## The benefits of deploying RedPrairie Asset Management include:

- Increased asset utilization
- Improved capital deployment
- Reduced asset and content loss
- Reduced asset maintenance and repair costs
- Improved regulatory compliance

RedPrairie Asset Management is the perfect solution for manufacturing, distribution and service industry companies who need to better leverage and control their physical assets throughout production and across extended supply and distribution networks.

# SOA

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Service Oriented Architecture (SOA) has become a hot topic. Many companies and vendors are planning to migrate to an SOA environment because of the flexibility this technology offers for adapting systems to business process and technology changes.

RedPrairie applauds this trend. After all, our solutions were built from the ground up using the SOA framework and have been serving customers in high performance production environments since 1996

RedPrairie's SOA-based solutions provide configurable workflow to enable customers to easily adapt processing to changing business requirements without time-consuming and costly customization. This not only simplifies and reduces the cost of implementation and maintenance, it ensures all adaptations carry forward

through system upgrades, further extending system life and improving return on investment.

The benefits of RedPrairie's SOA-based solutions, including Warehouse Management, come with the assurance of a deployment model proven in hundreds of implementations for over 10 years and a mature set of development tools. The result – high value and ease of use at low risk.

RedPrairie's SOA-based Warehouse Management solution integrates with all major distribution technologies, including paper-based, RF, Voice, Pick-to-light and RFID. It also easily interfaces to virtually all material handling equipment and material control systems.

# Integration

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At RedPrairie, we realize when we bring our solutions into your operation, we have to fit seamlessly into your business application suite – whatever it is. That means we have to be compatible with virtually any system, using any transport method in any format. We call it ANY<sup>3</sup>.

To meet this incredible challenge, we built our own supply chain focused Enterprise Application Integration (EAI) toolset. It provides the data connectivity and workflow transport between RedPrairie applications and external customer systems using the transport methods and formats customers prefer.

By building our own EAI toolset, we ensured it could meet all of the requirements of the supply chain and retail operations environment without adding the cost and complexity of third party middleware. And the toolset has advanced data flow monitoring and debugging tools that have often been used to debug external systems, such as SAP ERP systems.

RedPrairie's EAI toolset reduces the time and cost of implementation, ensures upgrade compatibility in both directions – your systems and ours, and provides the secure information and workflow you need to better run your business – the power of ANY<sup>3</sup>!

# Business Intelligence

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With the volume of critical, real-time data generated through everyday business operations across today's global supply networks, it is more important than ever to have the right tools to assimilate and convert this data into actionable information.

RedPrairie's powerful Business Intelligence tool gathers, filters, analyzes and graphically displays performance information to enable informed,

timely business decisions. It can receive and retrieve data and KPIs from RedPrairie and external systems to portray one version of the truth across the enterprise. Personalized views display real-time situational information and alerts as well as trends and variance analysis. It improves supply chain ROI by identifying the hidden inefficiencies, helping to create lean supply chains.

# RedPrairie

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RedPrairie's E<sup>2</sup>e™ retail, workforce, inventory and transportation solutions span and optimize your enterprise needs to help you compete in today's fast-paced, complex, consumer driven environment. E<sup>2</sup>e solutions drive revenue and provide "Consumer driven optimization<sup>SM</sup>" by synchronizing people and products throughout the customer buying cycle to ensure goods reach the right place at the right time.

Every day our solutions help customers optimize and ship over \$3 billion worth of merchandise. Hundreds of thousands of supply chain professionals in 40 countries and in 26 different languages use RedPrairie solutions to optimize every move in their supply chains, end-to-end, driving down costs, streamlining

operations, and improving their customer service. Give us the opportunity to show what RedPrairie can do for your supply chain.

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*"RedPrairie Warehouse Management enables us to manage the entire operation of a multi-user warehouse within a single system and meet the specific requirements of each of our 45 clients using standard functionality."*

Nick Blurton  
Director of Projects and Contract Development  
UDG

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