Case Study

Client

A National Natural/Organic Food Distributor

Objective

- Increase pick rate and accuracy for split pick area
- Incorporate advanced dynamic slotting algorithms to minimize labor and maximize order response
- Capture order selection statistics for DC associates to drive incentive systems
- Enhance truck loading and customer invoicing processes
- Reduce training requirements and increase employee satisfaction
- Increase Inventory Visibility and Control

Solution

Automated Carousel and Conveyor System Development

BoxWorks developed a greenfield concept for an automated carousel and conveyor system tailored for the split pick process. The conveyor system connects forward pick slots in 3 pick modules providing carton flow, bin shelf and carousel selection locations. The BoxTracker WCS provides for advanced inventory, selection and shipping functions through directed actions at receipt, putaway, picking and shipping. Order and batch picking methodologies are intermingled to optimize workflow. Realtime control of carousel, conveyor, light-directed picking and RF devices coordinates the activities of all pick areas.

Conveyor equipment and control system upgrades including automatic bar code scanning, automatic pick zone diverting, pack area workload balancing, and shipping sortation

System Integration and Control

BoxWorks' BoxTracker Warehouse Control System provided interface to an ERP system developed inhouse. BoxTracker integrates all equipment and operator activities through PLC, Bar Code Scanner, RF Terminal and Pick-to-Light sub-systems. BoxTracker provides advanced WMS functions including:

- RF Directed Put-Away
- RF Directed Replenishment by Priority/Opportunity
- Best-Fit Batch & Order Pick Allocation
- Dynamic Slotting
- Lot Control/Expiration Control
- Dynamic Load Balancing
- Automated Workflow Routing
- Automatic Carousel Control
- Productivity Reporting by Operator/Area
- Cycle Counting by Product/Area
- Real-Time reporting

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Results

BoxWorks' turnkey solution went from the drawing board to implementation in 7 months. The system incorporates 12 automated carousels, over 4,000 feet of carton conveyor connecting 14 separate pick areas and 23,000 pick slots, trash conveyor servicing two-level pick modules, 7 shipping lanes and 45 bays of reserve racking.

This new approach to split case picking replaces paper picking and inventory management functions with light- and RF-directed instructions. Putaway and selection errors are reduced by utilizing real-time bar code verification of actions. Dynamic slotting and slot assignment updates dramatically reduces the level of management and non-value added labor required to maintain optimal product slot assignment.

Operator training is simplified and peak productivity achieved in less time using RF and light-directed work instructions. Average lines per associate gains of up to 50% are achieved in comparison with previous technologies.

Minimal capital outlay required to achieve major operational benefits and work flow visibility through the employment of new and used equipment, BoxWorks' standard software and equipment controls, custom batch picking and putaway processes and sophisticated inventory and order management.

BoxTracker WCS interface to client's custom WMS provides real-time order selection and operator labor transactions to facilitate DC visibility and labor management.

BoxWorks developed custom microprocessor-based interfaces for carousel and light-tree controls to eliminate local carousel controllers. Better inventory control and real-time order allocation are the result.

BoxWorks ensures system health and productivity with ongoing software and operational support services.

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