**TransitionWorks**
S O F T W A R E

# CUSTOM RFID PROCESSES

# GLOBAL CHEMICAL MANUFACTURER AND DISTRIBUTOR

When the world's largest producer of naturally derived specialty resins and pine-based chemicals built a new centralized distribution center managing all products from their U.S. manufacturing facilities along with all outbound shipments to customers, the company required total automation of inventory movements.

- Headquarters: Southeast United States
- World's largest producer of naturally derived specialty resins and pine-based chemicals for the adhesives, inks and coatings, lubricants, fuel additives, mining and oleo chemicals markets.
- Products include fatty acids, rosins and terpenes – are used to help make fragrances, personal care items, plastics, household cleaners, soaps, inks, paints, rubber products, hydraulic fluids, roofing material and much more.
- Operations world-wide
- Manufacturing facilities in United States and Europe

# BUSINESS ISSUES

**Quick Inventory/Real-Time Visibility**

Making a decision to create a centralized distribution center and receive product delivered 24x7 from their 5 manufacturing facilities led the world's largest producer of naturally derived speciality resins and pine-based chemicals to TransitionWorks Software.

The customer needed a mobile WMS solution for the centralized DC that was tied into the manufacturing facility for finished goods labeling. The customer required processes to quickly unload the trucks, putaway to designated location, and be able to immediately see the inventory and pull product for shipment.

Inventory accuracy required for 5 manufacturing facilities, 1 central distribution center

- Up to thirteen  truckload shipments to DC/day (260 pallets/day)
- Need to segregate production batches, mixed batch pallets
- Need climate-controlled storage for some items
- Need to assign specific batches and/or pallets to specific customers for quality assurance
- Need to accurately pick, stage and load the same volume of outbound customer shipments/day

**Storing the right product in the right place**

- Two warehouse areas
  - Cool storage (climate controlled)
  - Main warehouse
- Multiple warehouse storage requirements
  - Five pallet flow-through
  - Three pallet flow-through
  - Single pallet selective
  - Three rack sections – high, moderate, low turnover areas
  - Floor storage bays for stackable product, drums

# INVENTORY AND ORDER ACCURACY

- Need real-time ability to track inventory movements within the DC
- Require accurate picking, staging and loading the right product for shipments
- Lot control – must have FIFO picking/shipping
- Ability to assign specific batches and/or pallets to specific customer orders
- Track and distinguish assigned product from available product to ship
  - Combine customer orders into shipments (trailers)

- Quickly and accurately locate assigned product for staging of customer shipments
- Verify the correct product is loaded on the correct trailer for shipment

• Must interface with SAP ERP customer order data

# TRANSITIONWORKS SOLUTION

**WMS Processes**

**At the 5 manufacturing facilities**

- RFID and barcode product labeling
- Shipment/ASN creation
- BOL printing/re-printing utilizing Crystal Reports®
- Trailer departure and shipment tracking

**At the central distribution center**

• Receiving and inventory movement
- Trailer receipt and shipment tracking
- Directed put-away

• Customer Order Fulfillment
- Integration with SAP Customer

• Order Data automated near real-time
- Directed Picking and Staging

• Customer order fulfillment –
- Directed Loading

• RFID enablement & tagging – (Class 1, Gen 2 RFID tags)
- All inbound pallets
- Pallet rack locations
- Floor storage locations
- Wall locations
- Lowest tier of selective rack locations
- Staging bays
- Dock doors

**WMS Project completed in about 180 days**

- Scope, charter, establish requirements, detail design specifications

- Site survey, install wireless 802.11 infrastructure

- Determine hardware

- Deploy printers at 5 manufacturing facilities and warehouse

- Create TransitionWorks WMS processes for all inventory processes

- Label all locations in warehouse

- Supply data to SAP order processing system

- Begin labeling all single SKU pallets from 5 manufacturing facilities

- Testing of all WMS processes

- Training of all manufacturing and warehouse users of the WMS solution.

- Documentation, signoff


**The recommended solution included:**

- Custom WMS solution built with TWS-DT

- TWS-RT

- TWS High Availability

- Integration into SAP

- Motorola/Symbol MC9090 hand-held devices

- Motorola/Symbol RD5000 forklift devices

## BUSINESS BENEFITS

- Reduced labor by 27% at warehouse

- Order shipping accuracy improved to 99%

- Inventory location accuracy went from 76% to 99.7%

# NEXT STEPS... THE POWER OF RFID

*"We built and designed the new warehouse for automation.Our next step is to take the TransitionWorks WMS custom solution and create autonomous RFID processes for inventory movements from receiving to shipping," stated the Operations Director. "We are already tagging each pallet with C1G2 RFID label at the manufacturing facilities. Our Phase I goal was to decrease labor costs, while increasing inventory accuracy and product being shipped correctly to customer. We accomplished these goals within 3 months of implementation."*

**RFID Enablement**

- Vehicle mounted Motorola RD5000 Readers
- Reader mounted in back stop of fork lift
- Integrated proximity sensor to activate/deactivate reader
- Integrated fork-facing antenna for detection of pallet on forks
- External antenna to detect rack, floor, staging bay, dock door tags
- Continuous power to reader via fork lift's electrical system for uninterrupted operation for the duration of the working day

**TransitionWorks RFID functionality**

- OHIO via replacing barcode scanning with RFID tag detection
- Detection processes for pallet engagement and disengagement
- Detection processes for rack, floor, staging bay and dock door locations

# ABOUT TRANSITIONWORKS SOFTWARE

TransitionWorks Software delivers innovative solutions that allow warehouse, field service, and sales operations to capture critical information, improve visibility of assets, processes and orders, and interact with their company's ERP system in real-time wherever they are.  Using the latest smartphone, RFID, PLC, biometric, barcode and cloud technologies, TransitionWorks' platform is transforming hundreds of customer operations in over 20 countries across the globe.  By radically simplifying processes and then putting the latest information in the hands of  front-line personnel at all times, its customers make better decisions, reduce inventory levels, lower operating costs and generate higher returns.

# TRANSITIONWORKS SOFTWARE SOLUTIONS:

Inventory Visibility Express

Sales Visibility (Browser Based)

TouchERP for Sales (Mobile App)

Asset Visibility

Equipment Maintenance

Custom Process Solutions

Entrance Control

Facility Evacuation

Integration Capabilities – BPCS, SAP, Oracle, JDE, Legacy, etc.