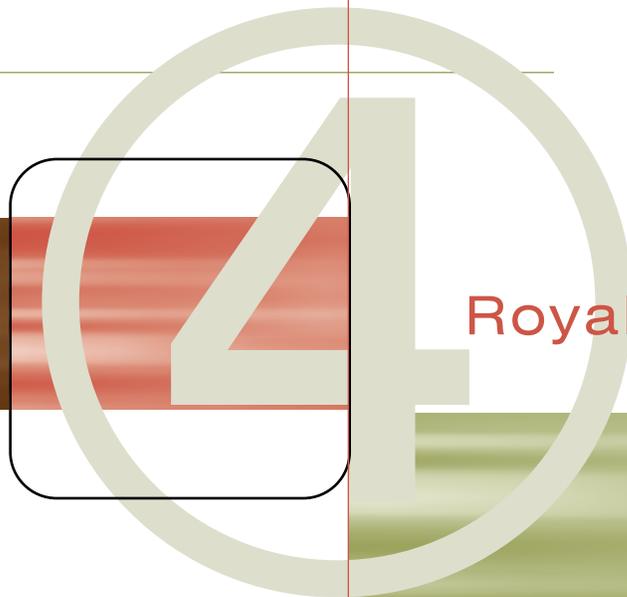




# wise

Warehouse Information System Expert



Royal 4 Systems

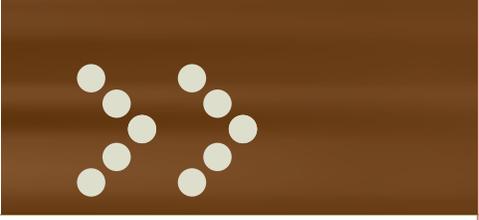




## Overview

---

WISE is a distribution center's Management Expert System, in which the user defines the location rules, package types, picking rules, shipment procedures, packaging techniques, and all other significant details regarding warehouse operations. WISE then optimizes these tasks for you based on detailed algorithmic rule engines. These extensive WISE Functions are available to improve the distribution center's operations by minimizing costs and increasing productivity.



## Royal 4 Software...

- > Utilizes the latest Databases and User Interfaces:
  - Graphical Windows' Clients
  - Web Browsers (Internet Explorer, Netscape, etc.)
  - RF Terminals
  - PDA Devices
- > Runs on all popular operating systems (Unix, NT, Windows2K, Linux, AS400, Novell).
- > Can interface with almost any other database management system (Progress, Oracle, Sybase, IBM, DB2, and any other ODBC Compliant RDBMS).
- > Supports simultaneous Multi-Language Environments (English, Spanish, Italian, Portuguese, French, German, Chinese, Japanese, and Korean, etc.)



Through years of ERP implementation experience, the Royal 4 integration specialists have learned that an effective bolt-on system's interface should be seamless, non-invasive, and execute transactions in a real-time manner. This is especially vital for warehouse management systems. A true WMS bolt-on should not only provide a snapshot of the warehouse to the ERP system, but also should give a dynamic, real-time view of all warehouse operations, activities and inventory status. Some sample WISE ERP interfaces include: MXP, Varnet, JDE, QAD, Symix, Oracle Financials, SAP, and many other of today's industry leading ERP's.

WISE can also support ERP's Kanban/Work Order functionality. When WISE is being used in conjunction with an ERP system, WISE can be directed to pull stock from bulk storage locations to replenish the production work cells. This serves as an excellent compliment to the ERP's Lean Manufacturing process.

To help ERP solutions further improve workflow, increase storage capacity, and enhance overall productivity, WISE will integrate with most of today's material handling solutions. Some of these solutions include: horizontal and vertical carousels, conveyor systems, and lift systems.



# Inbound Functionality

---

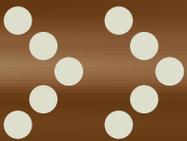
## .01 RADIO FREQUENCY

The use of Radio Frequency Scanners and Barcodes is truly the backbone of all WISE warehouse transactions. Automatic data collection, real-time transactions capture, and flexibly dynamic menus enable WISE users to utilize the WMS's intelligence at incredible speeds and accuracy. All warehouse functions are performed and updated in real-time. So the moment a task is complete, the next task in the sequence is triggered. If a rush order is sent to the warehouse floor and needs to be processed immediately, WISE can make the adjustment to the open tasks immediately by putting that order first priority over the existing open pick tasks.

WISE is also one of the only Warehouse Management Systems available today that runs the same language on the databases, clients, and RF devices. To accomplish this task, WISE seamlessly runs its own programs on the RF devices via terminal emulation. This also means it can support any brand of RF devices commercially available today such as: Symbol, Intermec, Telxon, LXE, or Teklogix. Currently, WISE supports over 32 standard warehouse RF functions.

## .02 BARCODING

Standardized label formats used by trading partners contain detailed unique bar codes. These compliance labels are used as; shipping, container, pallet, carton, or piece labels. WISE can interface with various bar-code labeling software products which now have common compliance label standards set up as templates





### **.03 RFID - (UPC TO EPC)**

Radio Frequency Identification (RFID), represents the next technology for retailing and distribution. These tags convey encrypted information that uniquely identifies items at the case, pallet, or container level. Often called "Smart Tags", they are essentially chips with antennas that transmit Electronic Product Codes (EPC's) instead of the standard printed UPC codes. Potentially these tags can even be embedded into the product itself, becoming an indistinguishable part of product labeling or structure. The tag's information is transmitted automatically so there is no need to unpack or scan individual bar code labels. The result is improved inventory accuracy, reduced labor costs, and significant operational gains which all translate into increased savings and higher value.

### **.04 RECEIVING**

The WISE inbound module consists of a detailed set-up for all inventory types that could be received into a warehouse. Purchase orders, warehouse transfers, work orders, advanced shipment notices (ASN's), returned materials and unexpected receipts. Based on the type of product coming into the receiving door, WISE will direct the following steps after the point of receipt:

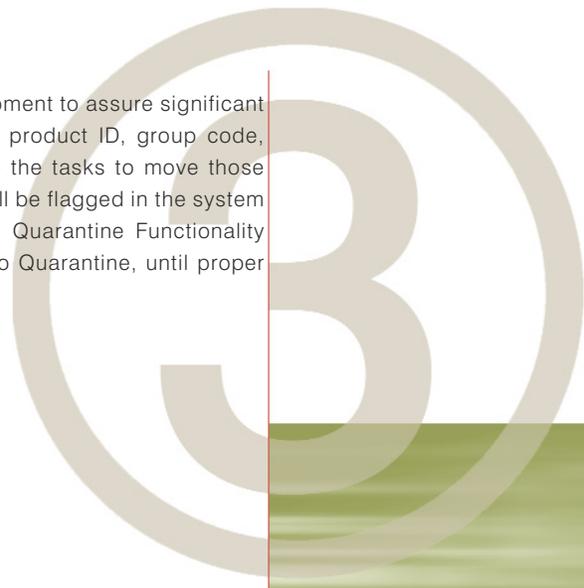
- > Total visibility of all inbound orders
- > Complete support of ASN's which can either be sent directly to WISE or via the host system.
- > Simple single scan of a bar code, pallet ID, or pallet license plate
- > Single receiver can work on multiple incoming orders simultaneously
- > Multiple receiving personnel can work on a single order
- > Personnel can receive unexpected shipments
- > WISE captures all information possible at the moment of the goods receipt including: all lot numbers, serial numbers, and all dates (create, manufacture, expiration, etc.)

### **.05 ASSEMBLY / KITTING**

The process of gathering parts and/or products to make a finished good is made up of multiple components. Through a process called backflushing, the material is issued automatically when production is posted against an operation. The backflushing program will use the quantity completed to calculate through the bill of material, quantities of the components used, and reduce on hand balances accordingly.

### **.06 QUALITY ASSURANCE**

At receipt, WISE can determine the parameters in which to sample a shipment to assure significant quality control. These parameters consist of percentages of items by product ID, group code, vendor and/or any combination thereof. The system will then generate the tasks to move those materials that require quality assurance procedures. The rejected lots will be flagged in the system to avoid carrying out putaway and allocation tasks. WISE's extensive Quarantine Functionality enables the managers to put an item, group, location or even zone into Quarantine, until proper procedures are followed.





## .07 RETURNS

When items or shipments are returned to the warehouse, WISE recognizes and captures the shipment's unique data. The RF's direct the receiver to input the items' current condition and reason it was returned, and the fault of the return. Based on the values inputted for these three variables, WISE will direct the warehouse personnel to take a specific user defined action. ie: put items back in general stock, put items in staging for future delivery, take to re-work to repair, send back to manufacturer, or simply scrap.

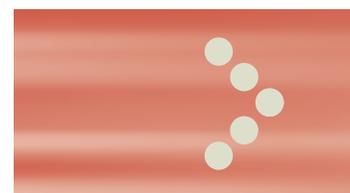
## .08 PUTAWAY

Extensive putaway functionality enables the warehouse to utilize many different styles and methods of putaway techniques. Using the RF's as the backbone of the putaway tasks, WISE directs the users to the proper location and correct equipment with the most efficient route and manner. All RF putaway transactions are confirmed with a location bar-code scan to ensure real-time inventory accuracy. Based on a user defined configuration, WISE will generate the putaway tasks to most efficiently direct warehouse personnel to put items away based on either the item itself, the product group, the locations, and/or any combination of the three.

WISE also incorporates consolidation rules, and the product and location's dimensions (also referred to as cubing). The cubing functionality utilizes the product dimensions, weight and cube information to accurately ensure each location's viability for putaway. This will also prevent product damage by specifying item-specific, or location-specific maximum load stacking parameters.

## .09 CROSSDOCKING

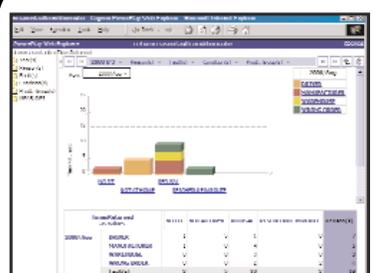
The ability to crossdock is a valuable tool to increase warehouse efficiencies and speed order processing. When an item is received into available inventory and the same item is required for an outbound order waiting processing, WISE triggers the immediate tasks necessary to take the goods from the receiving dock to the packing station or shipping door to complete the shipment. This eliminates all putaway and picking tasks that would be necessary to store the item and then pull again.





| Method ID | Description           | Loc Select |
|-----------|-----------------------|------------|
| def       | Default Method        | A,B,D      |
| meth1     | Least Distance        | C,B,A      |
| meth2     | Consolidate           | B,D,A,F    |
| meth3     | Empty Spaces          | D,F,A,E    |
| meth4     | Best Fit              | C,A,D,E    |
| meth5     | Item - Location Match | C          |
| meth6     | By Vendor             | G          |

04. RECEIPTS



07. RETURNS

| Method ID | Description           | Loc Select |
|-----------|-----------------------|------------|
| def       | Default Method        | A,B,D      |
| meth1     | Least Distance        | C,B,A      |
| meth2     | Consolidate           | B,D,A,F    |
| meth3     | Empty Spaces          | D,F,A,E    |
| meth4     | Best Fit              | C,A,D,E    |
| meth5     | Item - Location Match | C          |
| meth6     | By Vendor             | G          |

08. PUTAWAY

# Internal Functionality

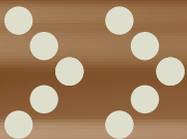
---

## .01 INVENTORY CONTROL

Inventory is tracked from the moment it is received at the dock door including every step of the warehousing process until it is directed out the shipping door. Inventory is controlled at the item level by SKU number, quantity, and location. All tasks are system generated dynamically directing warehouse personnel via the radio frequency backbone. This enables warehouse management to run the distribution center using real-time inventory status and quantities.

## .02 REPLENISHMENT / FORWARD PICK

WISE supports pick and pack operations that require replenishment activities. It maintains inventory levels in forward pick locations and controls the movement of items from reserve or bulk storage locations to the higher volume forward pick locations. Warehouse employees are directed to complete replenishments based on location or item minimums and maximums. Also, the warehouse manager can perform a "mock" allocation of the day's orders to verify available stock in the forward pick locations. If there is not enough inventory available to fulfill the day's orders, WISE will automatically generate the pick tasks from the bulk locations to adequately supply the forward pick locations.





### .03 MULTIPLE UNITS OF MEASURE

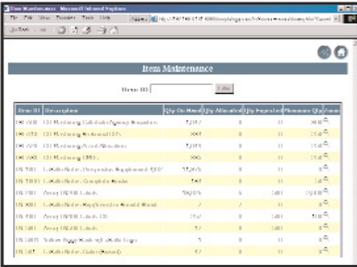
The unit of measure describes how the quantity of an item is tracked in the inventory system. The most common unit of measure is "eaches", which simply means that each individual item is considered one unit. An item that uses "cases" as the unit of measure would be tracked by the number of cases rather than by the actual piece quantity. Other examples of units of measure would include pallets, pounds, ounces, linear feet, square feet, cubic feet, gallons, thousands, hundreds, pairs, and dozens. WISE gives the user the ability to view all inventory instances in their multiple units of measure simultaneously.

### .04 PRODUCT LOCATION

Dynamic space management is another key feature of WISE. Once the layout of the distribution center has been set up and the attributes of products and locations are defined, the system will manage the space according to the availability, volume, weight, and attributes required for the product. The system can report the location or locations of a particular product as well as its current status whether on-hand, allocated, available, or potential. WISE utilizes the item's and location's "cubes" which is a term used to calculate volume and denote the capacity of an item or location.

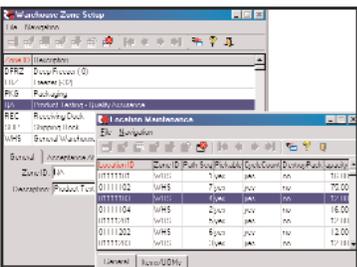
### .05 PHYSICAL / CYCLE COUNT

Upon implementation and before commissioning of the system, a warehouse-wide physical inventory is taken to enter every item of the system per its precise location. A scan of the location, followed by scans of the items ensure the item-location match. After implementation, WISE's Dynamic Intelligent Cycle Counting Functionality will handle all future counts. The WISE cycle counts do not require an inventory freeze. The counts are automatically triggered in the background per user-defined requirements. Cycle counts can be conducted per location, zone, product group, or item ID. A discrepancy cycle count is triggered whenever there is a putaway or pick task completed and there is a difference in the actual quantities and the expected quantities. That location is then put on a temporary hold and a count is triggered.



| Item ID | Description                           | Qty  | Unit | Weight | Volume |
|---------|---------------------------------------|------|------|--------|--------|
| 000001  | 001 Moving 1/2 inch 1/2 inch 1/2 inch | 1000 | EA   | 10     | 1000   |
| 000002  | 001 Moving 1/2 inch 1/2 inch 1/2 inch | 1000 | EA   | 10     | 1000   |
| 000003  | 001 Moving 1/2 inch 1/2 inch 1/2 inch | 1000 | EA   | 10     | 1000   |
| 000004  | 001 Moving 1/2 inch 1/2 inch 1/2 inch | 1000 | EA   | 10     | 1000   |
| 000005  | 001 Moving 1/2 inch 1/2 inch 1/2 inch | 1000 | EA   | 10     | 1000   |
| 000006  | 001 Moving 1/2 inch 1/2 inch 1/2 inch | 1000 | EA   | 10     | 1000   |
| 000007  | 001 Moving 1/2 inch 1/2 inch 1/2 inch | 1000 | EA   | 10     | 1000   |
| 000008  | 001 Moving 1/2 inch 1/2 inch 1/2 inch | 1000 | EA   | 10     | 1000   |
| 000009  | 001 Moving 1/2 inch 1/2 inch 1/2 inch | 1000 | EA   | 10     | 1000   |
| 000010  | 001 Moving 1/2 inch 1/2 inch 1/2 inch | 1000 | EA   | 10     | 1000   |

**01. WEB ITEM MAINTENANCE**



| Zone ID  | Zone Name | Path | Box | Sub | Count | Zone | Push | Locality |
|----------|-----------|------|-----|-----|-------|------|------|----------|
| 01111001 | WARE      | 7000 | 000 | 000 | 000   | 000  | 000  | 000      |
| 01111002 | WARE      | 7000 | 000 | 000 | 000   | 000  | 000  | 000      |
| 01111003 | WARE      | 7000 | 000 | 000 | 000   | 000  | 000  | 000      |
| 01111004 | WARE      | 7000 | 000 | 000 | 000   | 000  | 000  | 000      |
| 01111005 | WARE      | 7000 | 000 | 000 | 000   | 000  | 000  | 000      |
| 01111006 | WARE      | 7000 | 000 | 000 | 000   | 000  | 000  | 000      |
| 01111007 | WARE      | 7000 | 000 | 000 | 000   | 000  | 000  | 000      |
| 01111008 | WARE      | 7000 | 000 | 000 | 000   | 000  | 000  | 000      |
| 01111009 | WARE      | 7000 | 000 | 000 | 000   | 000  | 000  | 000      |
| 01111010 | WARE      | 7000 | 000 | 000 | 000   | 000  | 000  | 000      |

**02. ZONE LOCATION SETUP**



# Outbound Functionality

---

## .01 ORDER PROCESSING

WISE's Order Management functionality is a flexible tool used to group and release orders for shipment. This easy-to-use functionality gives the manager the capabilities of releasing single orders or groups of orders based on order number, customer ID, destination, dates, FIFO/LIFO carriers, priorities, and any combination thereof. At any point in the warehouse order process an order can be immediately cancelled and WISE will generate all the necessary tasks to re-stock the items already in the picking or shipping process. Specific Order Prioritization pushes orders that require special handling or expediting to automatically be assigned in the system to receive priority within the task pool.

## .02 PICKING

WISE enables the warehouse management the flexibly to release orders to the warehouse floor to be picked and processed. A paperless warehouse is the goal of any WMS, but if printed picklists are required, WISE can deliver a simple hybrid of the two. \*If a paper-based system is required, please see the WISE-Paper section of the product information brochure.

By using the RF technology, a release of an order or group of orders is called a wave. A wave can be released to be picked for an order, zone, location, or employee. WISE can pick by wave, order, priority demands, pallet, partial pallet, piece, zone, location, and by customer. The picks are assigned to individual employees based on user defined priorities, product/order attributes, security clearance, and internal warehouse path sequences. All details of the picking tasks are recorded in a detailed WISE transaction log for reporting employee, unit of measure, destination, and transaction time stamps.





### .03 PACKING

WISE supports many different packing methods. The most common is to pick from general storage, then take the goods to the predetermined packing stations where the "packer" takes over the next step of the order's process. If the user has defined that they are picking an individual order or orders, WISE can then pick from general storage locations and put the items directly into the packing container ready for shipment. This is also termed "palletization" if the packing container is a pallet and the entire pallet is used to ship. WISE's Cartonization functionality enables the warehouse manager to use the item's cube information based upon entered weight and dimensions of merchandise to be packed for put-away for best location space utilization.

### .04 SHIPPING

After the items for an order have gone through all of the user defined steps including pick, pack, and palletize, it can then be shipped. The orders can be consolidated into one shipment based on order number, container, carrier, wave, zip code, or state. WISE's detailed shipping logic allows for these variables and any combination thereof.

### .05 LOAD MANAGEMENT

The shipments' delivery order sequence can be automatically picked and staged for loading based upon delivery route. The pickers will be directed to "pick-to-nose" in order to ensure that the last delivery is loaded first.

### .06 OUTBOUND DOCUMENTATION

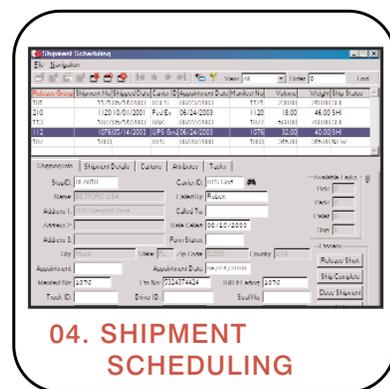
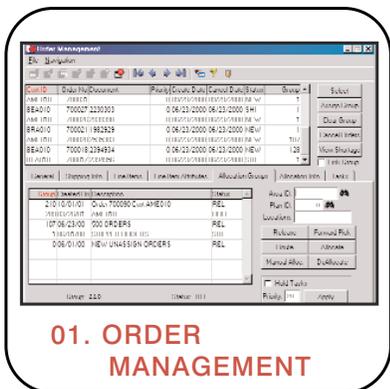
At shipping, all of the necessary outbound documentation is produced including but not limited to invoice, packing lists, shippers export doc/ AES transmission, shippers letter of instruction, NAFTA certificates, bank document, domestic bills of lading, dock receipt, hazardous goods documents, and domestic carrier labels.

### .07 SHIPMENT / FREIGHT CONSOLIDATION

Orders being processed at different times for the same destination can be consolidated at time of shipping to reduce transportation charges including UPS hundred weight, LTL carrier, or other.

### .08 PARCEL CARRIERS

WISE can be integrated directly to each of the individual shipping manifest systems of the parcel carrier companies. The shipping manifest can be automatically sent to UPS, Federal Express, or other to insure accurate billing and tracking of shipments. This tracking and freight information is then stored in WISE for reference and automatic email notifications.



# Modules

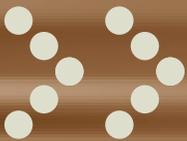
---

## .01 R4-BPM - MODULE

The R4-BPM provides OLAP (Online Analytical Processing) capabilities for performance tracking. It gives the users the ability to measure and track business performance to establish an indication of current activity, a target for success, or a goal for the future.

The R4-BPM enables users to explore large volumes of summarized data with sub-second response times in a web, windows, or excel environment. With the R4-BPM, users at any business or technical skill level can perform their own multidimensional analysis, create reports, and share them for better decision-making.

The R4-BPM draws information from WISE's relational databases to model and build power cubes. Cubes are data sets that can contain tens of millions of consolidated rows of data and hundreds of thousands of categories or members. Business rules and calculations (for example, percentage growth and market share change) can be integrated while time series analysis is delivered automatically. Cubes and reports can be disseminated to web clients or to windows and excel clients all using the same application server.





## .02 TMS - MODULE

The Transportation Management System module receives the orders picked from the warehouse and can weigh, rate and process all necessary documentation as per the customers instructions or best shipping method to reduce transportation costs. The TMS then updates the WISE warehouse management system, which updates the host system live as orders are processed and shipped. The system can also send out email notifications of shipped orders to your customers. Features include:

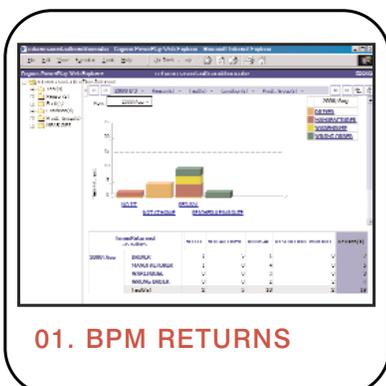
- > Outbound shipment manifesting
- > Transportation planning and pre-routing for best service selection
- > Supports UPS, RPS, USPS, Fed X, Airborne and LTLs & others
- > Carrier and customer compliant label generation including required carrier tracking numbers
- > Electronic manifesting for most carriers
- > Reports module allowing both standard and customer created reports on demand

## .03 YMS – MODULE

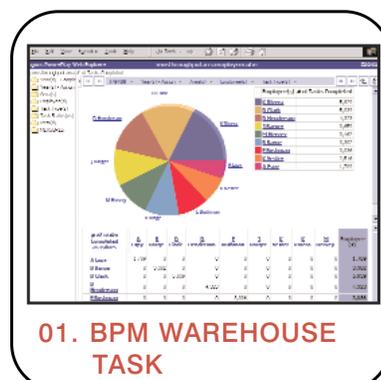
The Yard Management System module is a natural extension of the WISE warehouse management solution. Yard management is the function of managing the inventory of trailers or empty trailers parked outside the warehouse. Yard Management is generally associated with cross docking operations and may include the management of both inbound and outbound trailers.

Features include:

- > Appointment tracking
- > Trailer check-in & check-out
- > Trailer movements
- > Yard inventory report
- > Email alerts



01. BPM RETURNS



01. BPM WAREHOUSE TASK





#### **.04 WIRELESS SHIPMENT CONFIRMATION – MODULE**

WISE supplies the distribution center with expanded inventory visibility enabling management to view inventory and shipments from the DC's shipping dock to the shipment's final destination. Shipments leaving the distribution center contain a shipping manifest detailing the line items of individually packaged or palletized items. The shipping manifest will also have a barcode detailing the shipment number for easy scanning.

Upon arrival at the shipment's destination, the driver scans and/or enters the delivery site's ID to establish the current location. The driver will then scan each pallet ID/item or manifest to verify and confirm the delivery of each pallet/item within the shipment. The remote wireless unit captures the transaction data, which will include the employee, time, date, location, and all items delivered. This data is collected for delivery and input within the distribution center's WISE System. Wireless PDA devices can either utilize the Palm or Microsoft Operating Systems.

#### **.05 FEDERATED WISE – MODULE**

WISE also offers an additional module, which can easily tie together multiple distribution centers' inventory information. With Federated WISE, a multi-site corporation can have a "one-stop" place to view and drill down into every warehouse location governed by a WISE installation. This global view of information enables management to make proper informed decisions about movement of product. This feature includes:

- > Centralized Multi-Warehouse
- > Global Virtual Warehousing
- > Consolidated Inventory Views
- > Web Browser Based Views
- > Centralized Databases
- > Virtual Multi-Warehouse
- > Extensive Web Reporting
- > Automatic Emailed Reports





ENTFELDFELD  
ENTFELDFELDA

ENTFELDFELD  
ENTFELDFELDA

13

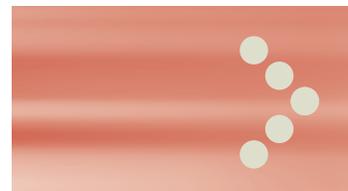


## .06 WISE – 3-PL – MODULE

WISE 3-PL, Royal 4 System's collaborative distribution and supply chain execution solution, delivers total coordination of receiving, production, quality, maintenance, warehousing, shipping and third party billing operations as they occur. WISE 3-PL supports your lean distribution initiatives by spotlighting non-value and value-add activities while standardizing your operating processes. Order demand is fulfilled directly from warehouses, distribution outlets, or production without the delays associated with batch - and frequently outdated - planning cycles. It is a comprehensive enterprise solution that promotes full collaboration between your employees, customers, suppliers and business partners.

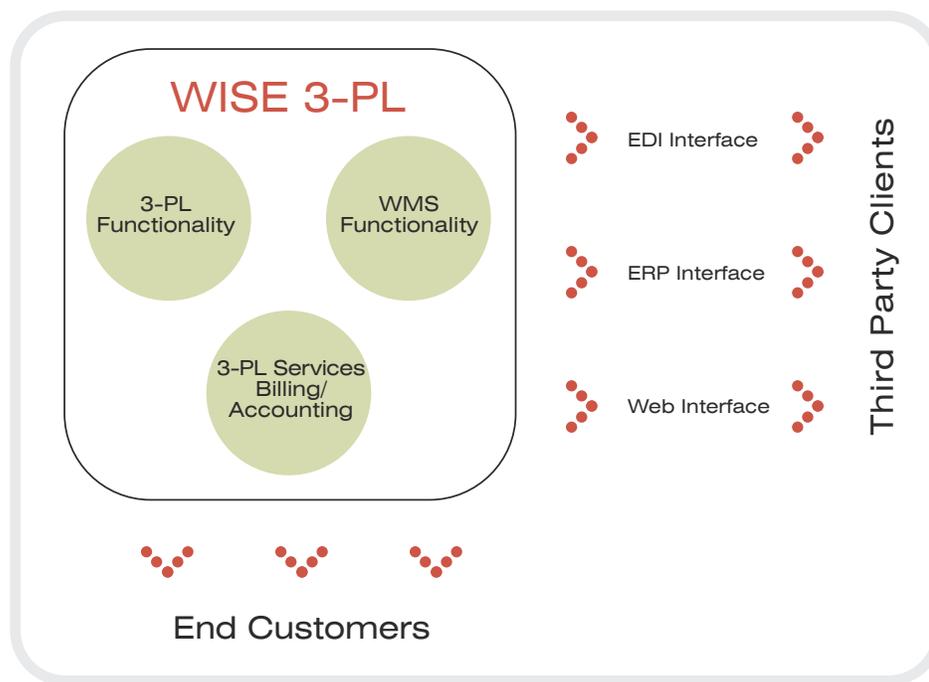
### Industry Top Features Benefits include:

- > Order consolidation and sequencing eliminate redundant setups and teardowns in a multi customer, multi-sku environment.
- > Paperless transactions eliminate paperwork costs while maximize quality.
- > Cross docking reduces inventories and eliminates redundant picking and put-away activity.
- > Accurate, up-to-date web inventory visibility maximizes order fill rates, accelerates revenues, and minimizes inventory control costs.
- > Improved customer satisfaction resulting from better responsiveness to customer needs, improved product quality, shipping accuracy and billing accuracy.
- > Proposes put away tasks according to your warehouse navigation rules for each individual customer.
- > Performs and keeps track of all value added functions and bills accordingly.



# Third Party Logistics

WISE 3-PL quickly and efficiently links all your operations promoting efficient use of capital by optimally synchronizing people, equipment and inventory for maximum utilization, productivity and output.



**06. 3-PL**

| Client | Name                        | Contact            | Telephone      | Interconnectivity | Access |
|--------|-----------------------------|--------------------|----------------|-------------------|--------|
| CAROLU | Carolina Tobacco Company    | B. Smith           | (703) 244-9113 | D1 DAILY          |        |
| DAV    | Dalhousie Trucking, Inc.    | Ken                | (781) 424-4457 | D1 DAILY          |        |
| SHAW   | Shawnee Warehouse           | Greg               | (313) 218-7923 | D1 DAILY          |        |
| STRA   | Stratford Industrial        | Joseph L. M.       | (813) 547-1525 | 10/10/04 R01111   |        |
| CDEN   | CDEN Contract               | S. J. W. P. Co. II | (800) 334-3696 | D1 DAILY          |        |
| ELK    | Elk Logistics International | Thomas W. Brown    | (714) 852-0212 | D1 DAILY          |        |
| ELK    | Elk Logistics, Inc.         | L. J. W. Co. II    | (714) 857-4127 | D1 DAILY          |        |

| Contract | Start Date | Contract Type | Contract Description | Contract Status | Contract End Date |
|----------|------------|---------------|----------------------|-----------------|-------------------|
| 001      | 01/01/00   | Contract      | General Services     | Active          | 12/31/01          |
| 002      | 01/01/00   | Contract      | General Services     | Active          | 12/31/01          |
| 003      | 01/01/00   | Contract      | General Services     | Active          | 12/31/01          |
| 004      | 01/01/00   | Contract      | General Services     | Active          | 12/31/01          |
| 005      | 01/01/00   | Contract      | General Services     | Active          | 12/31/01          |
| 006      | 01/01/00   | Contract      | General Services     | Active          | 12/31/01          |
| 007      | 01/01/00   | Contract      | General Services     | Active          | 12/31/01          |
| 008      | 01/01/00   | Contract      | General Services     | Active          | 12/31/01          |
| 009      | 01/01/00   | Contract      | General Services     | Active          | 12/31/01          |
| 010      | 01/01/00   | Contract      | General Services     | Active          | 12/31/01          |



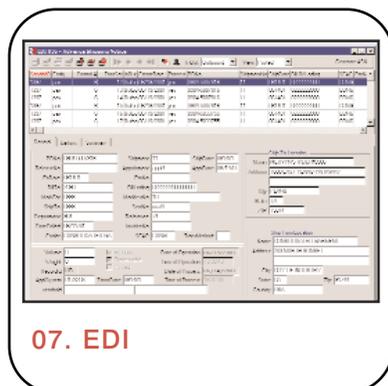
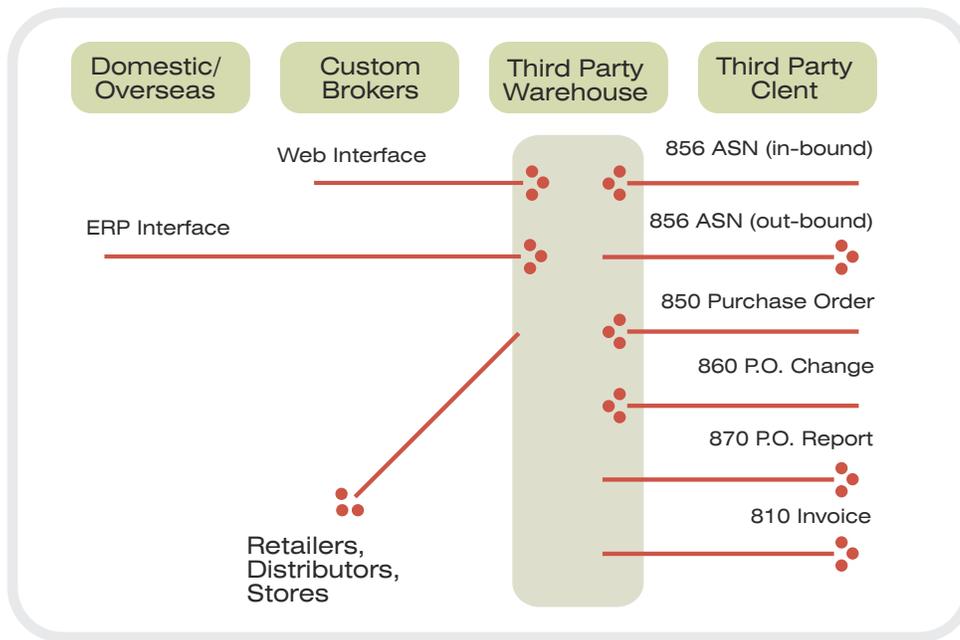


## .07 EDI MODULE

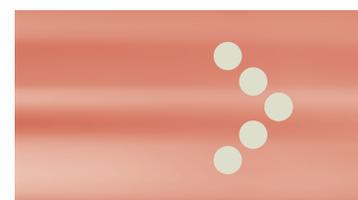
The R4-EDI module is a powerful transaction mapping and data-conditioning application that easily accommodates trading partners in a variety of industries. The R4-EDI provides a streamlined method of managing EDI communications between WISE and your trading partners.

### Features include:

- > A flexible table-driven architecture accommodates a range of trading partners and document types.
- > Rapidly create or modify maps, minimizing testing time and speeding implementation of gateways.
- > Modular architecture provides easy, Web-based access to a growing library of new trading partner maps.



07. EDI





## Royal 4 Systems

 EFFICIENCY

 PRODUCTIVITY

 CONTROL



Walz Label & Mailing Systems

624 High Point Lane

East Peoria, IL 61611-9329

USA

**309.698.1500**

T/F (877) 971-1500

Web: [www.walzeq.com](http://www.walzeq.com)

Email: [walz@walzeq.com](mailto:walz@walzeq.com)

