



# SmartDC – Distribution Visibility Platform

Next Generation Execution Management For Warehouses

Disruptions in the distribution supply chain directly impact enterprise performance and profitability. These glitches occur at each and every stage such as – inaccuracy in goods receipt, put-away errors, inaccurate cycle count, work-in-process inventory errors and order processing errors. These errors get further amplified as it moves through the supply chain resulting in huge financial losses and customer dissatisfaction.

One of the biggest factors leading to operational inefficiencies in an enterprise is lack of real time visibility. The limitations of existing enterprise planning systems like (ERP, WMS or others) to capture these errors automatically at the time of execution result in untimely response to fix these errors.

SmartDC is an execution platform, designed with the vision to overcome the limitations of enterprise planning systems by capturing deviances at each and every distribution process in real time and empower users for better decision making by reporting key operational metrics. SmartDC eliminates supply chain glitches by enabling cross functional collaboration between various distribution processes like receiving, put-away, cycle count, assembly & kitting and shipping.

SmartDC Distribution Visibility Platform Overview

## Out-Of-The-Box Solutions



Performance Management

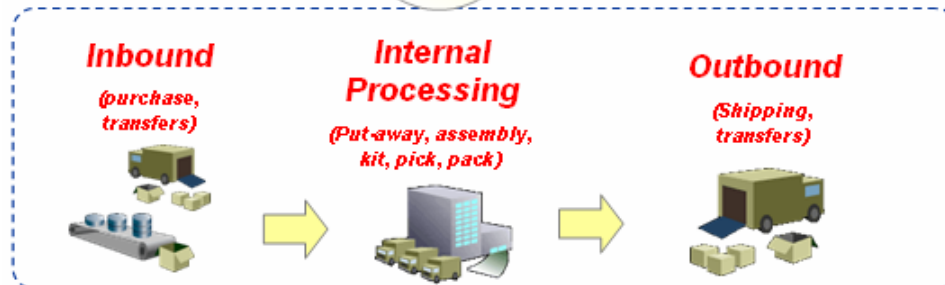


Inventory Management



Order Management

## SmartDC Distribution Visibility Platform



In a disruptive warehouse environment, as volume and production velocity increases, existing systems are unable to scale. SmartDC enables automatic goods receipt reconciliation with order information reducing labor costs and improving accuracy. It ensures that received products are put away correctly at the right location and guarantees quick and accurate cycle count inventory at all times. It enables companies to accurately control their work-in-progress inventory and production performance in real time based on demand and shipment forecast. With SmartDC, companies are able to eliminate order processing errors such as over shipment or short-shipment, shipping wrong products or shipping orders to wrong location.





# SmartDC – Distribution Visibility Platform

Next Generation Execution Management For Warehouses

SmartDC Distribution Visibility Platform Overview

KeyTone delivers out-of-the-box solution in inventory management, order management and performance management by leveraging its SmartDC platform to enable companies gain real time distribution visibility.

The SmartDC *Inventory Management Solution* captures inventory information at each and every stage of DC operations and provides granular and accurate visibility of your raw material, work-in-process and finished goods inventory and material movements. This solution helps you to monitor and respond to inventory changes in real time. SmartDC has helped customers reduce their cycle counting times from four months to two weeks.

The SmartDC *Order Management Solution* makes the entire order processing transparent. You can track the flow of goods, measure service levels and maintain a constant overview of all shipments from the time they are received till the time they are shipped. SmartDC has helped customers achieve 100% shipment accuracy

The SmartDC *Performance Management Solution* provides a powerful remedy that reduces the amount of labor and time necessary to complete a given task; eliminates the need to check, audit, or verify that the correct product and quantity is where it should be; Improves overall throughput and on-time delivery by making products available for customer orders more quickly;





# SmartDC: Receiving

## Injecting flexibility into your receiving process

In today's complex supply chain, shipments are received either manually using barcode or paper. DC managers are continuously challenged to:

- Reduce the time to reconcile goods receipts with shipment notices
- Reduce inaccurate inventory recording
- Reduce receiving times and optimize DC resources
- Reduce claims disputes

The *SmartDC Receiving* application module enables the receiving processes for finished goods and raw materials with RFID.

### Receipt Reconciliation

Record accurate inventory by verifying quantity and SKU received against EDI ASN or a supplier's receiving PO

### RFID Labeling

By print and applying RFID labels to all non-RFID enabled pallets and cases, operators will now be able to reduce product aging and shrinkage by having real time visibility of each and every container.

### Cross Docking

Reduce handling by prioritizing inbound inventory receipt with outbound orders. Improve accuracy by alerting operators with cross dock orders

### Dock Management

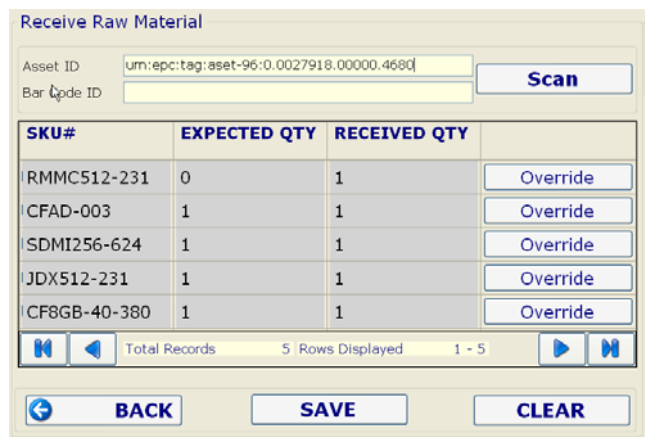
Monitor dock usage. Know which orders are current processed by dock door and know what percentage of the orders has been unloaded and verified.

### Receiving Dashboard

Receiving dashboard is a very powerful visibility tool that allows authorized users to monitor all orders as they are unloaded and received from any dock door. It provides a complete picture of all the orders in progress and allow supervisors to optimize DC operations



Easy to use touch screen interface for operators to receive raw materials or finished products



Verification interface for operators to automate goods receipts and verify with receiving document



# SmartDC: Put Away

## Synchronize real-time product movement

Operators are frequently moving raw material and finished goods between shelves, cages and designated storage areas. While today's supply chain management systems manage pick prioritization, shelf allocation, including first in/first out (FIFO), first expired/first out (FEFO), or last in/last out (LIFO), it falls short of accurately maintaining inventory and location records in real time. This results in:

- Inaccurate stock and location information in WMS
- Error prone and time consuming cycle count
- Shrinkage due to manual miscalculations
- Operator errors during Put-away and material movement

These problems are further amplified when errors in Put-away ripple through other processes of the supply chain.

The *SmartDC Put-away Application* Module provides near real time visibility of inventory levels and location by tracking tagged items, cases and pallets. Companies can achieve accurate cycle counts, automate pick-pack-ship operations, reduce shrinkage, and ensure more accurate order fulfillment.

### Location Verification

Eliminate material movement errors and make material retrieval process easy by automatically verifying the physical location of the container the location information in the system. Software supports any put-away process by operating on a forklift mobile computer, handheld or on a desktop station

### RFID Label Printing

Migrate your existing shelf numbering scheme seamlessly by applying RFID shelf tags and eliminate errors by associating RFID enabled pallets and cases with right storage location

### Special Handling

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

User interface for creating Asset ID and tracking non-RFID enabled pallets

Use interface to track raw material and/or finished goods in put-away and replenishment



## SmartDC: Inventory

### Conduct Accurate Cycle Counts Faster

Physical cycle counts is a necessity not only to meet regulatory compliance but also to ensure that out-of-stock or excess inventory situations do not arise which impact company's bottom-line. Companies perform cycle count periodically either through a manual paper based process or through the use of the barcode. Both the approaches has its limitations resulting in error prone and time consuming cycle counting process. Companies that carry multiple SKUs in large quantity face a huge challenge, because the inventory report becomes obsolete by the time the cycle count is completed leading inventory discrepancies.

SmartDC *Inventory Application* accelerates the cycle counting process and improves accuracy by verifying the quantity in hand, its location and reconciling them with the system of records in real time.

#### Concurrent Cycle Counting

Companies can now perform cycle count more often at one or more locations simultaneously. Users can either choose to perform rack confirmation which ensures that the products in a given shelf matches with the system of records or perform cycle count to verify the actual quantity by SKU with the system's information.

#### Process Flexibility & Portability

SmartDC Inventory application is flexible and adapts to any cycle counting process. It can be operated on a RFID handheld device or a mobile PC mounted on the forklift. It cuts down the cycle count time by 90% and provides 99+% accuracy, virtually eliminating the need for traditional cycle counting.

#### RFID Label Printing

SmartDC Inventory supports existing barcode label formats and allows users to print RFID labels for containers, individual products, shelves and racks.





# SmartDC: Assembly/Kitting

## Real time Work In Process Tracking

Many products are manufactured by going through a series of sub-assemblies as they pass from one station to the other until it comes together as a finished product. Work-In-Process (WIP) is the hardest type of inventory for many companies to control. Limitations with barcode, existing systems and processes lead to:

- High WIP inventory buffers between operations
- Poor visibility into quality and yield
- Poor responsiveness to changes in production schedule
- Mismatch between demand and manufacturing

The *SmartDC Assembly/Kitting* enables enterprises to use RFID for tracking Work-In-Process inventory during manufacturing, kitting or assembly processes. It provides complete visibility within the supply chain to ensure continuous assembly line production.

### Manufacturing PO Processing

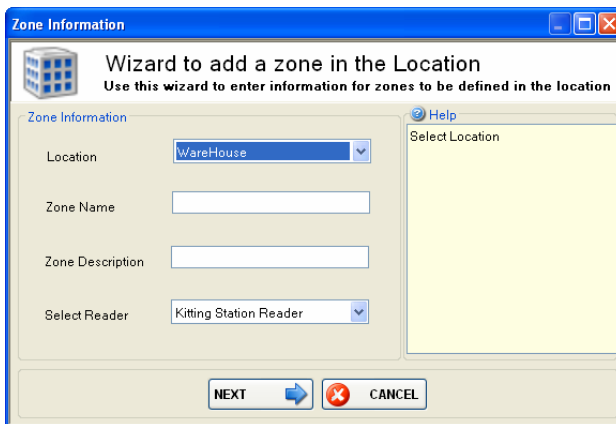
This module enables you to track the progress of finished products by each open PO. It provides you with up to date information of the no. of quantity assembled or kitted by SKU, by shift and the remaining quantity to complete an order.

### Bill-Of-Material Tracking

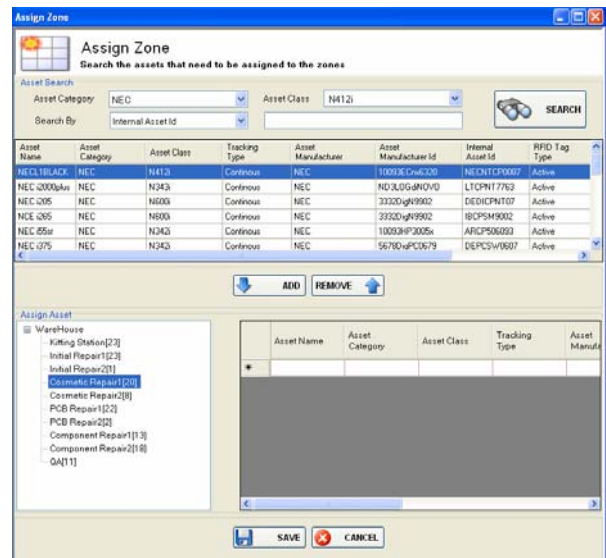
SmartDC Assembly/Kitting ensures the accuracy of raw material SKU and quantity with BOM for finished products. Operators can reduce production errors by catching BOM errors prior to starting assembly/kitting.

### Assembly/Kitting Dashboard

SmartDC assembly/kitting dashboard is a powerful visibility tool that enables you to consolidate information based on PO, shift, volume and velocity of production. It also provides extensive drill-down capabilities to help managers identify the source of problems and quickly act to resolve them.



Create and enable assembly stations with RFID readers



Create a lot and assign W.I.P inventory to an assembly route



# SmartDC: Shipping

Improve customer satisfaction and on-time delivery

SmartDC – Shipping Application

The recent focus of large retailers like Wal-Mart, Target, BestBuy and the Department of Defense on mandating RFID for all shipments – and its adoption by the supplier community – reflects a growing consensus that adopting RFID has a proven ROI for both suppliers and retailers. DC managers acknowledge that throughout the supply chain, order fulfillment and dock management offer many opportunities to improve the product and information flow. Due to the limitations of barcode and today's supply chain systems, visibility of DC resources, orders and products are limited. This results in:

- Lower accuracy – imperfect orders lead to increased claims and returns
- Reduced throughput – frequent audits and shipment verification locks DC resources and space
- High labor costs – shipment verification prior to shipping is manual and time consuming
- Delayed proof of delivery – requires accurate data collection of shipment for each order

The *SmartDC Shipping* gives you the ability to make the entire shipping process transparent. You can track the flow of goods by order, measure the service levels and maintain a constant overview of shipments until they are loaded into the truck.

## Order Reconciliation

SmartDC Shipping allows operators to verification their actual shipment and its contents the order information in minutes. This ensures that there are no short or over-shipments against any given order.

## RFID Label Printing

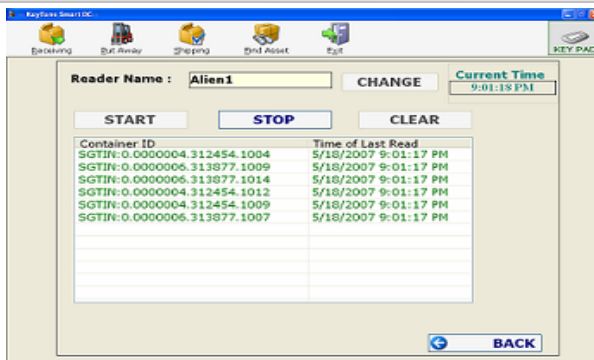
Operators can easily migrate their current label design to print case and pallet labels. It supports the encoding of all EPC numbering schemes like SSCC, GTIN, GRAI and GIAI. With SmartDC Shipping, companies can not only meet any RFID mandates but also enable granular visibility at the item level.

## Ship-Confirm

SmartDC Shipping ensures that all the shipments were verified against its order and they were loaded into the right truck. Upon fulfillment, SmartDC automatically transmits ship-confirm information to ERP or WMS to generate EDI ASN.

## Shipping Dashboard

Shipping dashboard empower organizations to manage order fulfillment in real time through a visually rich and personalized business intelligence reporting tool. It allows users to monitor any number of dock doors, orders and take action when an operator loads a wrong pallet to the wrong truck. Shipping dashboard provides users with the ability to analyze, track and drill down through a wealth of information on any order in the facility.



Automatically verify SKU, quantity of the shipment with order information



Operator interface to create RFID shipping labels, perform order verification and dock management





# Monitoring Dashboards and Reporting Portal

Gain insight, experience results

SmartDC’s role-based dashboards and reporting portal provide real-time business intelligence across all RFID enabled processes of the warehouse. The dashboard offers instant snapshots of your designated key performance indicators (KPIs), and provides real-time trends and on-demand reports that can be accessed from anywhere through a browser. With direct drill-down capability, you can move from a summary level directly to greater detail, providing real-time information to proactively manage for better results.

SmartDC reporting tool transforms operational data into actionable information and delivers over 20+ out-of-the-box reports. These reports are categorized into:

### Inventory Management

DC managers can generate different flavors of inventory reports such cycle count report, inventory status report, shrinkage report for one or more locations and drill down to granular inventory information for a given time period.

### Order Management

These reports empower DC managers to take critical business decisions to optimize order processing. They provide information on order status, order fulfillment accuracy, order receipt accuracy and ship confirm.

### Performance Management

Know the productivity and utilization of each and every DC resource on the fingertips. Performance management reports help users measure line utilization, dock door turnaround times, dock-to-stock times and production status for any given period.

Order Dashboard

**Dock Door Dashboard**

## Docks Monitoring Dashboard

Dock Door	Order Number	Carrier	Destination	Total parking time
DockDoor1	659901	UPS	CA	0:0:29
DockDoor2	659902	UPS	CA	2:15:29
DockDoor3	659903	UPS	CA	1:6:41
DockDoor4	659904	UPS	CA	3:50:29
DockDoor5	659905	UPS	CA	2:50:29
DockDoor6	659906	UPS	CA	2:45:29
DockDoor7	659907	UPS	CA	3:15:29
DockDoor8	659908	UPS	CA	4:50:29
DockDoor9	659909	UPS	CA	3:20:29
DockDoor10	6599010	UPS	CA	2:50:29

Dock monitoring dashboard displays orders that are being loaded by carriers, dock doors and exceptions



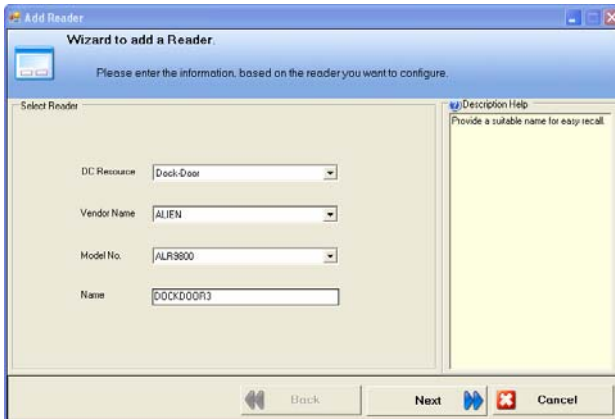
# Administration Console

## Central Configuration Interface

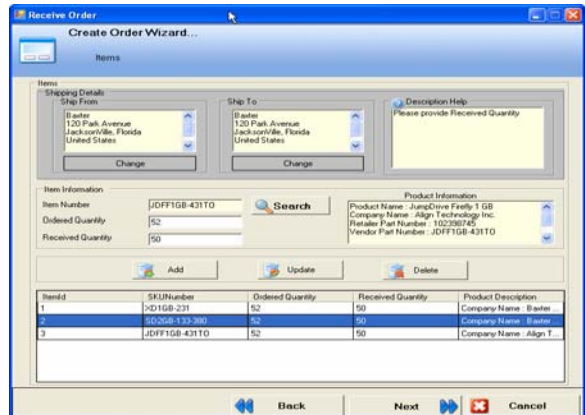
The *SmartDC Administration Console* provides a clear and intuitive graphical user interface to manage all the configuration and setup needed to enable your DC with RFID. By using the Admin Console you will be able to:

- Configure RFID enabled DC resources (forklift, shelf, doors, stretch wrap, station, conveyors and others)
- Setup one or more companies in the system
- Setup order feed from your order management system
- Setup product catalog
- Setup EDI feed and data file
- Setup Ship To, Ship From address book
- Define zones and locations
- Create/import label templates
- Create user access and user roles
- View error logs

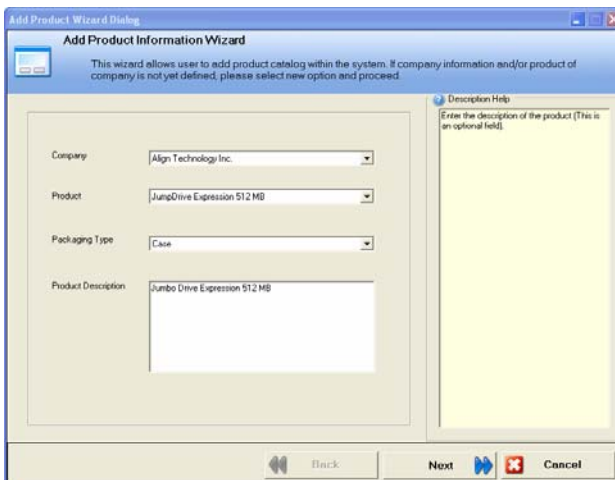
SmartDC – Administration Console



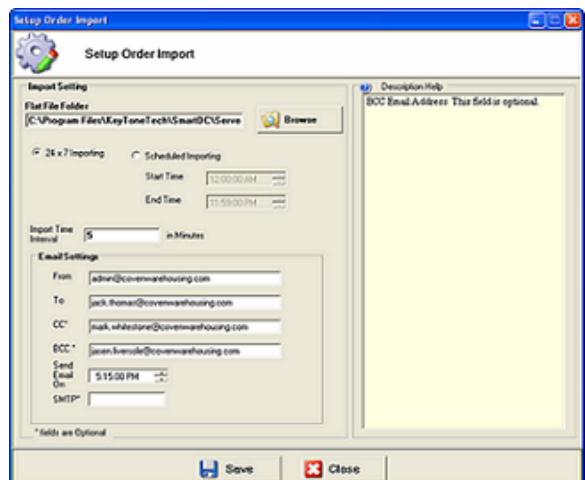
Wizard driven setup to configure DC resources



Order entry interface makes it easy to create orders



Create product catalogs or import product information from existing systems



Setup and schedule order imports from order management systems

