



DATASCOPE
WMS FOR SYSPRO



Warehouse Management System
Version 4.1

INTRODUCING DATASCOPE CONSULTING

DATASCOPE Consulting is a progressive and growing company focused on the development and implementation of world class supply chain optimisation solutions for SYSPRO ERP – DATASCOPE Warehouse Management Systems [WMS].

With representation across South Africa and a head office and software development center in Port Elizabeth, DATASCOPE is well suited to delivering best of breed WMS solutions to existing SYSPRO clients.

The company has been in operation for thirteen years. Over time our focus has become supply chain related systems and thus our market now consists of clients from almost all distribution and manufacturing industries.

DATASCOPE prides itself on professional business consulting, project management and software development methodologies. Being a SYSPRO ERP accredited Value Added Reseller with our solid project reference history, ideally positions the company to deliver cutting edge, high quality warehouse solutions.

DATASCOPE's Business Model focuses on building long term partnerships with our clients to optimise supply chain efficiencies within their businesses.

DATASCOPE BRAND MANIFESTO

DATASCOPE is a down-to-earth and confident company with specialist warehouse optimisation skills. Our standard plug and play WMS solution is the world-leading warehouse management system for SYSPRO. We deliver tailored solutions using meticulous implementation planning and methodology. DATASCOPE is no mere supplier but an integral partner to our clients, guiding and advising on the best solutions. DATASCOPE's dedicated and skilled team will deliver solutions to our clients with excellence. We are Architects of Optimisation.

BUILDING YOUR SUCCESS – THE WAY IT SHOULD BE...

OUR VISION is to be the premier partner of IT supply chain solutions within the manufacturing, warehousing & distribution [FMCG] industries, generating superior value for our customers.

OUR MISSION is to capture the SYSPRO ERP manufacturing, warehousing & distribution [FMCG] industries and take them to the next level through:

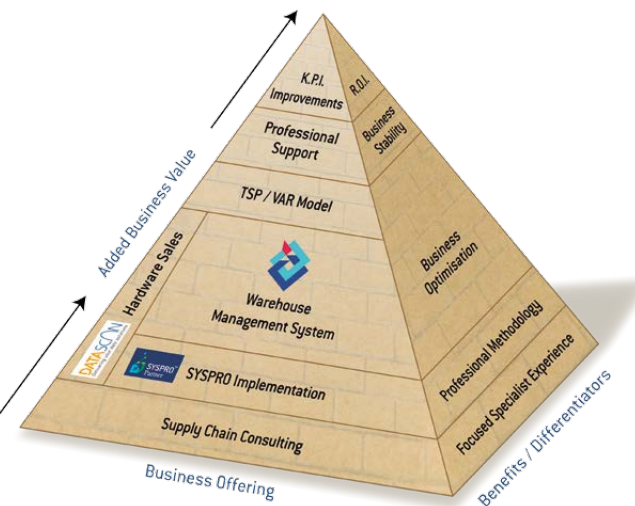
- > Optimisation of inventory supply chain management

through the implementation of premium Warehouse Management Systems;

- > DataScan being the leading 2/3 day delivery turnaround Intermec Hardware Partner / Supplier in Southern Africa; and
- > The professional implementation and support of SYSPRO ERP.

WE WILL ACCOMPLISH THIS BY PROVIDING THE MOST COMPREHENSIVE WMS SOLUTION FOR SYSPRO CLIENTS.

DATASCOPE'S BUSINESS MODEL



DATASCOPE WMS (WAREHOUSE MANAGEMENT SYSTEM)

The DATASCOPE warehousing solution (WMS) has been built specifically for operation with SYSPRO ERP and therefore is highly integrated into SYSPRO via the standard SYSPRO E.NET object layer. Although the WMS has its own MS SQL database, it holds the bulk of its data in the standard SYSPRO tables. The software therefore acts as an intelligent layer between the warehouse factory floor operations (mobile devices) and core SYSPRO.

Over the past seven years DATASCOPE has invested heavily into this software suite thus building a plug and play solution for almost all SYSPRO distribution and manufacturing companies. The software is completely settings driven and can therefore easily be configured to operate in many environments.

HIGH LEVEL BENEFITS OF IMPLEMENTING THE WMS ARE:

- > Picking efficiency improvements
- > Picker heads reduction / reallocation
- > Raw material FIFO controls and COA linkage
- > End to end functionality includes raw materials, WIP, finished goods and dispatch
- > WIP tracking visibility
- > WIP labour postings
- > Online notification system
- > Various check out audits
- > Shipment POD's
- > 2D barcode scanning
- > Optimisation of random bin locations
- > Lot traceability improvements
- > Improved stock accuracy and visibility
- > Reduced stock take time
- > Management efficiency reports
- > Reduced inventory levels
- > Enforced WIP process controls
- > Load Planning
- > Order packing lists and box identification
- > Cycle counting
- > Voice-directed picking

All transactions within the WMS are posted live into SYSPRO and are security controlled based on named users. Each transaction requires an operator login which authenticates all standard SYSPRO securities and logs the user name against every transaction posted to SYSPRO. Further, the system maintains a detailed operator log file of key security overrides.

The software has been developed in the latest .Net development tools. All grid screens can be dynamically filtered and exported to MS Excel, converted to PDF or printed directly. ClickOnce deployment technology is used for deployment and upgrades and all software is strictly version controlled. Updates to the software are covered in the standard annual license fee structure.



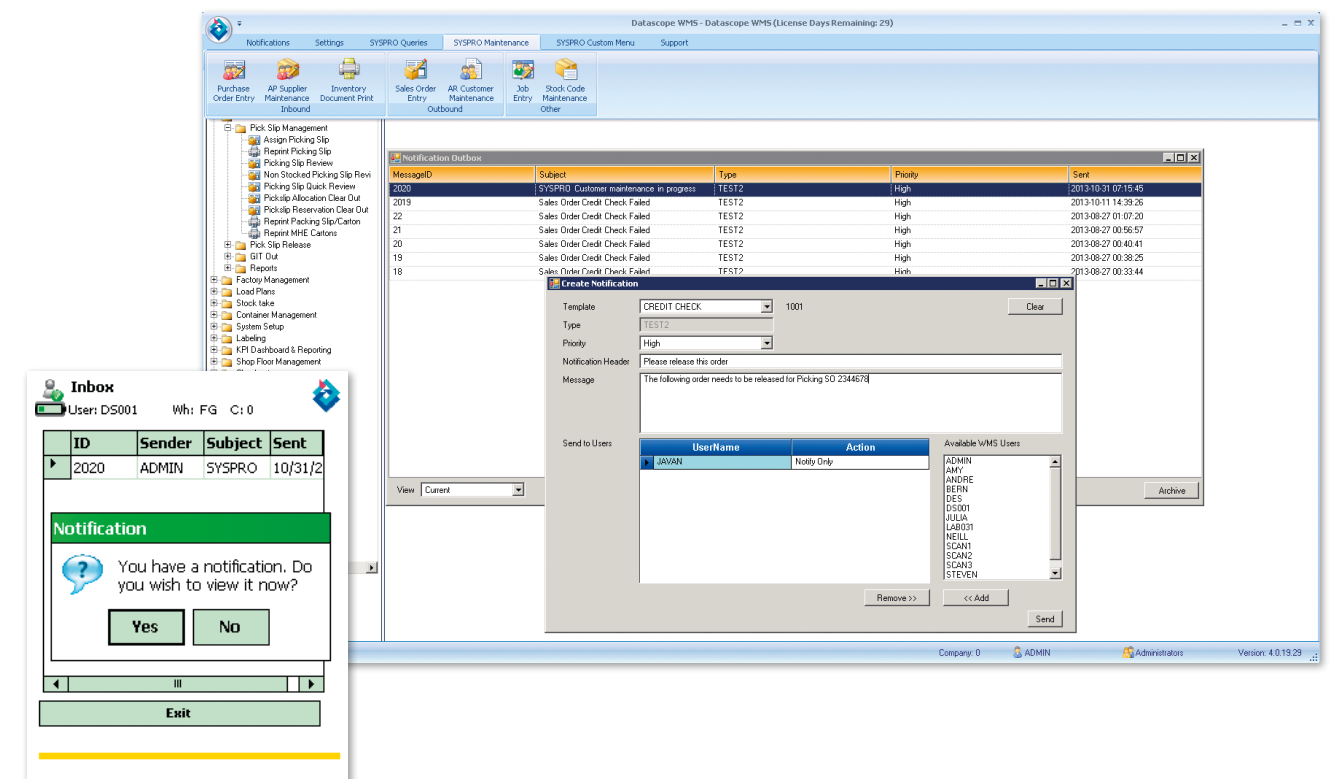
INDUSTRY STRENGTHS

The versatility and industry independence of the DATASCOPE WMS has been proved with the existing install base across many industries. Some key industry-specific success factors:

- > **FMCG (High-volume Distribution)**
Colour-coded load planning; Consolidated voice picking; Complex cycle counting functionality; EDI transmission modules; Box picking; Stock-take preparation reporting; Dispatch note functionality; SCT's, GIT's for IBT's.
- > **Food Industry**
Strict lot traceability; Management of FIFO; Expiry date control; Advanced quality module; Product segregation (eg Allergens); Job picking slip release; Complex job picking; COA integration; Voice picking.
- > **Chemical Industry**
Lot traceability; Palletization and depalletization; Alternative unit of measure control; Forcing batch control for inbound and outbound stock; Product segregation (eg Flammable); Controlled put away processes.
- > **Pharmaceutical Industry**
Lot traceability; Expiry Date control; Quality module; Management of FIFO; Product zoning; Complex job picking; COA integration.
- > **Automotive Industry**
Solid stock controls and accuracy; Lot control for safety critical items; Improved order fulfillment; RFID Kanban modules.
- > **Manufacturing Environments**
Factory planning and pick slip release; Job picking with over and under control; Job component allocation replacement; raw materials stock availability; Sub contact control; Non-stock inventory control
- > **Cosmetics Industry**
LCT receipting for high-volume receipts; Consolidated picking with over and under control; Consolidated invoicing and POD/Shipment documentation printing.
- > **Textile Industry**
Scanner-based Carton receipting; Carton labelling and picking and checkout; 2D barcode Carton cycle counting and stock taking; Material Handling Equipment (MHE) Control; integration to conveyor systems; Voice-directed picking module using Vocollect Voice hardware.

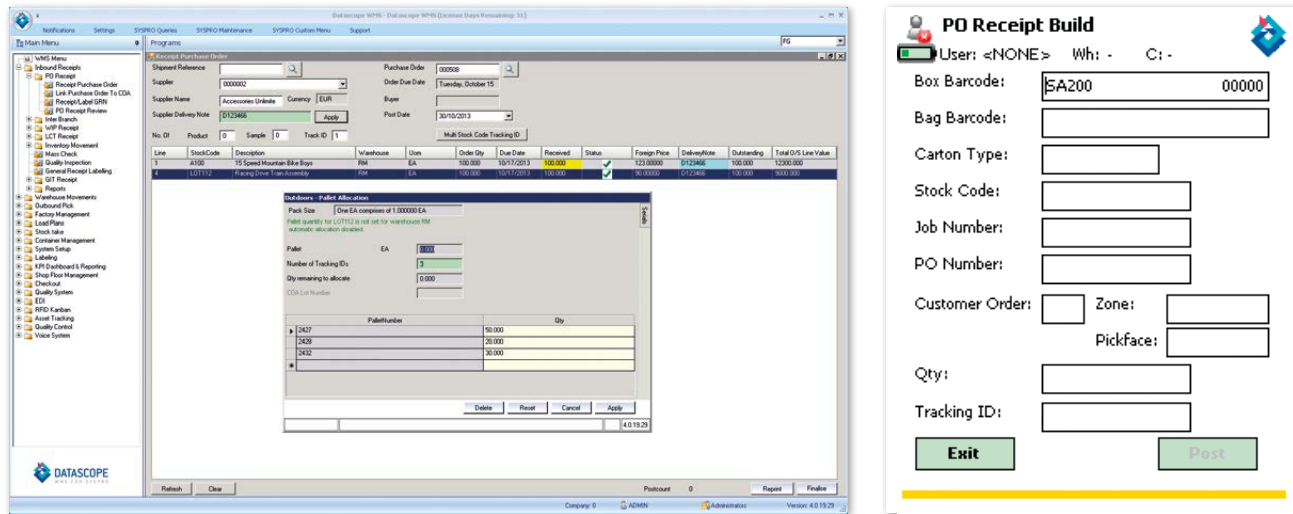
NOTIFICATION SYSTEM

A detailed Notification System is built into the WMS, which allows instant messages to be sent from PC clients to a single or multiple list of scanner users. Notifications have three areas: (1) Template management, allowing the creation and modification of generic notification templates, (2) Inbox on the PC clients and scanners, displaying all new messages and (3) Outbox, displaying all sent items. Notifications can be created as "actionable" or as information messages only. Uses of these notifications include bins to cycle count, pallets to put away or move, etc.



DATASCOPE WMS – INBOUND MODULES

DATASCOPE WMS enables businesses to process almost all possible receipting transactions via this module. From scanner based purchase receipting to LCT receipts and job receipts plus many more. Some of the many receipting options are displayed below.



Purchase receipting

A WMS module similar to the standard SYSPRO purchase receipting module allows the receiving department the ability to process all normal purchase receipts for stock items directly into the WMS system. These transactions automatically update SYSPRO, creating the GRN while automatically allocating the product with uniquely numbered bar-coded labels.

LCT receipting

The system has functionality to process LCT (Landed Cost Tracking) receipts. A variance reporting system ensures that the receipted products and the LCT shipment details match. The GRN process is automatically posted from this module and bar-coded pallet (Track ID) labels printed.

Scanner based purchase receipting

Where a level of standardization is achieved on incoming stock barcode labels, the scanner based receipting can be implemented to speed up the capture, posting and label printing. As is the case throughout the system, unique package tracking ID numbering is implemented.

Supply chain transfers

Receipting of supply chain transfers (GITs) from other branches is available. This module controls product leaving one warehouse and entering another. A GIT transfer document accompanies the goods.

Quality module

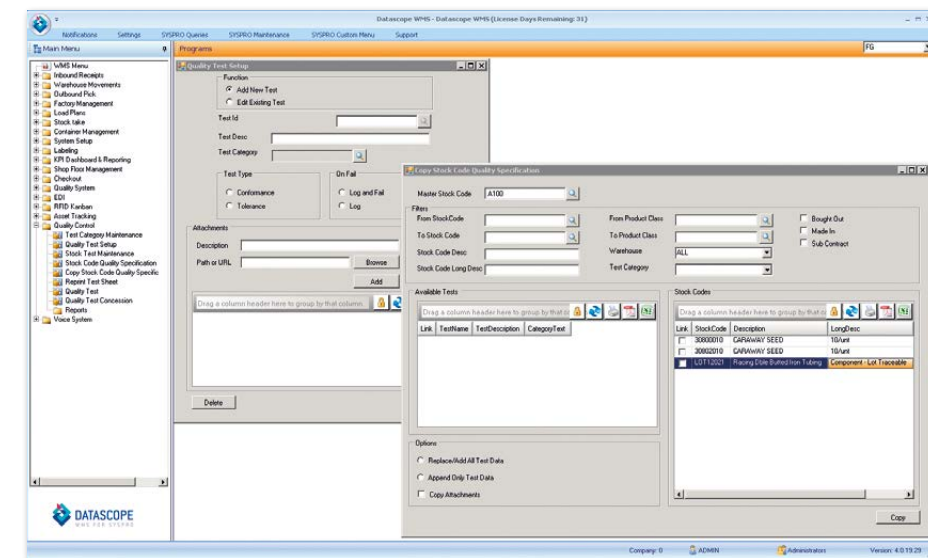
A new comprehensive quality module now forms part of the WMS software suite. The module works for purchased materials as well as made-in items. Product tests and tolerances can be set. Inspection items will require the correct inspection tests before the batch can be released. All in inspection stock is placed on hold and cannot be used in jobs or sales orders.

Mass Check

In the case where a company receives raw materials in a mass based unit of measure, there is often a need to weigh off received pallets to ensure that the physical mass corresponds with the delivery note. This software module forces selected products through a mass check before final acceptance into stock.

2D Barcode Receipting

Where stock entering the receipting area is consistently labelled with predefined 2D barcode labels (e.g. from the client's own manufacturing facility), two types of 2D scanner-based receipting processes can be used to either warehouse transfer or purchase order receipt the stock into WMS. The 2D barcode design is set up in WMS and can be printed directly from the WMS software.



DATASCOPE WMS – WIP (WORK IN PROGRESS)

Factory floor labour posting

The factory floor module has been developed to capture labour postings into SYSPRO directly from the factory floor. This module is deployed to touch screen PC's at key capture points on the factory floor. Typical installation areas are at constraint machines, at the start and finish of each BOM operation, at existing weigh-off points and at logical stocking areas.

The module is particularly effective at enforcing WIP tracking data accuracy and process control. Companies looking to implement advanced planning systems which use real time job operation data will benefit from this module.

Job Labelling

Bar-code labelling of job cards, pallets on the factory floor, general product and box labelling have all been catered for.

Job release

In many high-volume manufacturing environments the planning department releases jobs to the floor for picking when in fact some components are not available. This causes untold "wheel spin" in the warehouse. The DATASCOPE WMS job releasing module ensures that every job is reviewed and allocated correctly before the picking slip can be released. This review screen also allows planners to see on hold stock in receiving or inspection. A "component replace" function allows the planner to substitute components with recognized alternatives when stock is not available.

Job picking

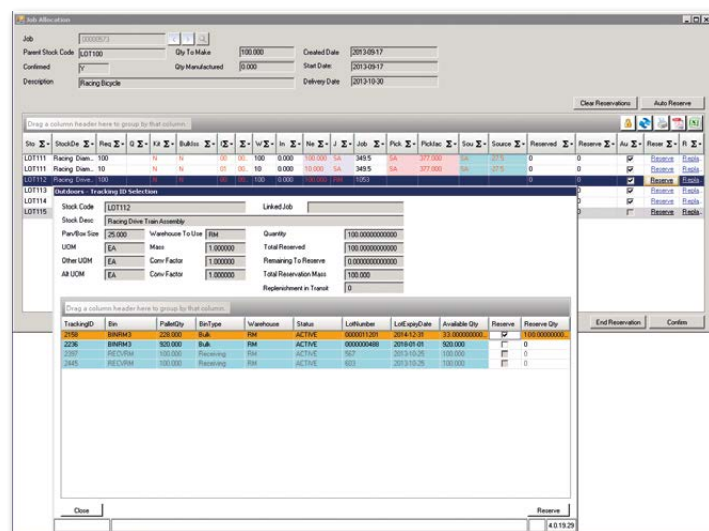
The standard WMS system's picking functionality includes the management of job picking with a number of picking strategies. Options allow for effective control of the picking process to ensure a pre-set level of accuracy. A number of levels of tolerance management is available from 'issue anything you want' to a 100% accurate pick. Split warehouse picking is also available in the job picking module - allowing you to pick two warehouses simultaneously and marry the picked products in the marshaling area (e.g. bulk bags from one warehouse and part bags from a pickface warehouse).

Massed-based picking

The massed-based picking module can be used in conjunction with integrated scales to accurately pick small quantities of stock. Tolerances can be set up and the associated reports are available for this module.

Job receipting

PC-based and scanner-based job receipting applications allow for efficient product receipting at any level of the bill of material. Kit issue, bulk stock and floor stock items are managed throughout. Kit issuing at the time of receipt is a setting option and can be activated at any time. Some advances cost comparison and cost override options are available.



WIP LABOUR POSTINGS
WIP TRACKING VISABILITY



DATASCOPE WMS – PICKFACE MANAGEMENT

Pickface Setup

Pickface locations can be set up and maintained in WMS with minimum, maximum and re-order levels per stockcode per pickface location. A separate service running continually monitors the stock levels and automatically generates a replenishment list which is actioned from a scanner.

Pickface Replenishment

Replenishment requirements that have been generated are actioned from a scanner. A PC-based review report is available to monitor progress of all outstanding replenishments. One-stage and two-stage replenishment is available on the scanners, depending on the physical distance being covered by the replenishers and the need for tracking stock in transit. Because replenishment is a vital role in the warehouse, statistic reports are also available for the measurement of the efficiency of this transaction.

DATASCOPE WMS – OUTBOUND MODULES

DATASCOPE WMS enables businesses to process almost all possible outbound transactions via this module. From job and sales order picking to supply chain transfers and simple warehouse movements. Core to this set of modules is the functionality to pick product for sales orders and jobs using many different picking strategies.

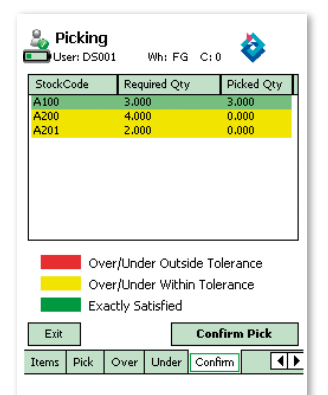
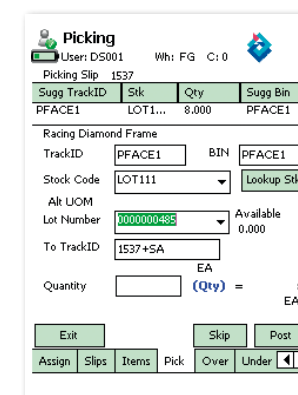
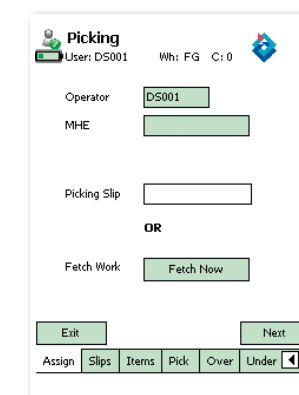
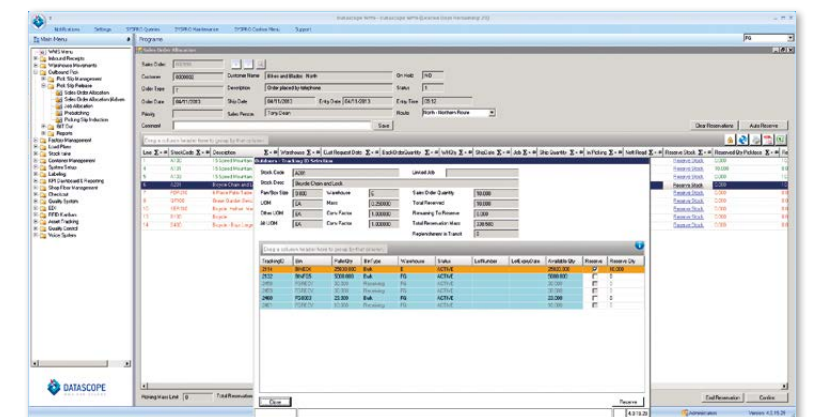
Stock reservation management

The WMS has been designed to manage all stock allocation (reservation) control. This allows the system to prioritise the selection of stock on a FIFO basis while allowing the user to optimise the picking movements through the warehouse. Three main types of pick slip release and stock reservation are offered: 1) A monitor which automatically releases the picks for sales orders and jobs and reserves stock based on system settings; 2) Various user sales order and job review and release functions where the user can select optimal package sizes from optimal locations in the warehouse and 3) Printing of pick slips according to loads and routes via the Load Planning module.

Picking rules

Numerous picking strategies can be selected. Some of the options are as follows:

- > Pick from pickface
- > Pick from bulk then pick face (or vice versa)
- > Pick from reach truck, bulk and pickface and consolidate
- > Pick from bulk, but if less than a setting percentage of available stock, pick from pickface
- > Picking into boxes with box control
- > Replenish pickface
- > Pick from FIFO (first in first out)
- > Pick from default bin
- > Pick from optimal location
- > Pick from user selections
- > Automated carton cubing algorithms
- > Pick according to lot expiry date
- > Pick according to routes per customer
- > Special packing rules
- > Picking per route



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DATASCOPE WMS – GENERAL WAREHOUSING

DATASCOPE WMS includes detailed functionality to process all typical warehouse transactions such as bin transfers, stock adjustments, cycle counts and general stock takes.

General scanner movements

The scanner application holds functionality to process all of the following stock transactions:

- > Bin to bin transfers
- > Warehouse transfers
- > Product pack away transactions
- > Backflushing for jobs
- > Inventory adjustments
- > Alternate stock replacements
- > General stock queries by bin, pallet or stock code
- > GIT (Goods In Transit)
- > Palletization and depalletization transactions
- > Ad hoc expense Issues to specific GL accounts

Stock take & cycle count module

The stock take module is comprehensive and improves accuracy and speed. Typical stock take time reductions from manual counts are between 75% and 85%. Companies traditionally taking entire weekends to count their warehouse now stock take in a single afternoon.

Various settings to count open and closed pallets and product in remote “off-line” warehouses are available.

A comprehensive cycle counting module can be used to complete regular cycle counts at bin level. An approval process is in place to control the acceptance of variances and all count details, accepted and reject, are held in a history table.

The cycle counting and stock counting modules both support 2D barcode scanning.

Bin labelling

Bin labelling structures can be agreed and implemented easily. Bins are categorised into the following types and are handled differently in the system depending on the settings selected:

- > Pick face
- > Bulk bin
- > Reach truck
- > Receiving marshalling bin

General labelling

Bin labeling, box labelling, job card labelling, general stock labelling etc are all available in the software. Each label format is created in Crystal Reports from a set of standard labels. Changes to these label designs are simple and can be administered by the on-site IT department.

DATASCOPE WMS – QUERIES & REPORTS

There are a growing number of standard DATASCOPE WMS reports and queries, used to identify efficiencies within the warehouse. These reports are very versatile and user-friendly, allowing users to access information, sort in various forms, and distribute the information in a number of different output types. Furthermore, a comprehensive Notification System assists with instant messaging within the warehouse.

Grid formats

All WMS queries and reports are professionally displayed in versatile grid formats with drag and drop functionality. The column headings are very customisable, can be sized and moved to suit the user and arranged to filter and pivot the information. A number of run-time parameters are available for each report to filter the required data easily. The reports are refreshable, ensuring that accurate, up-to-date information is available to the user at the click of a button. All the WMS data grids are able to be exported to MS Excel, exported and saved as a PDF document or printed directly to the user's default Windows printer.

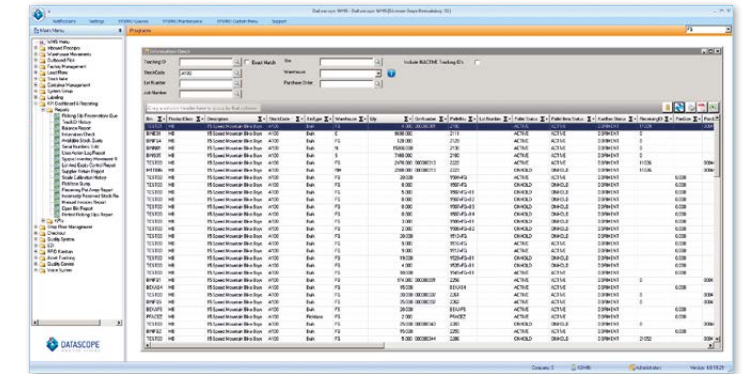
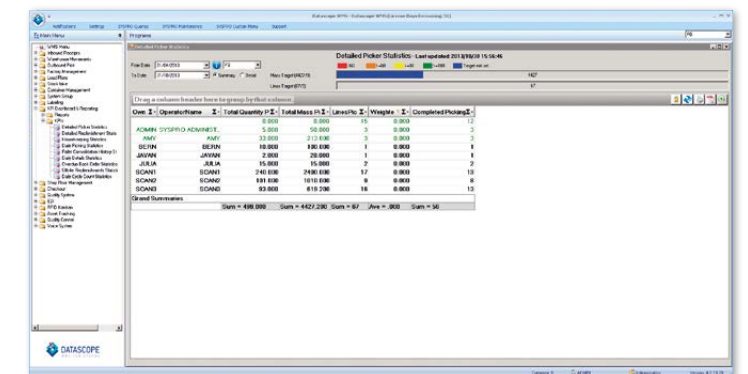
Queries & Reports

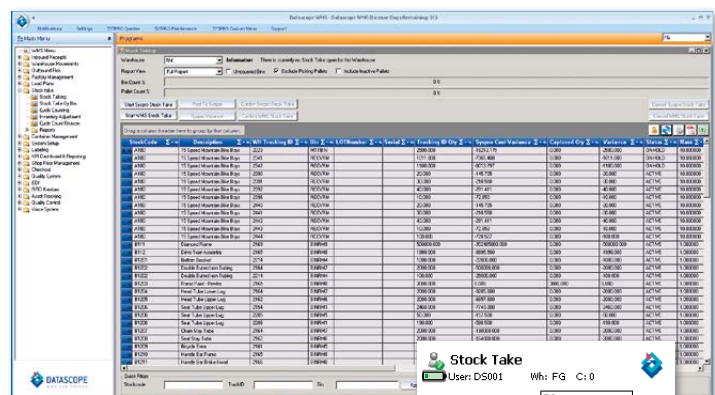
A host of varying reports exist within the core software. A few examples:

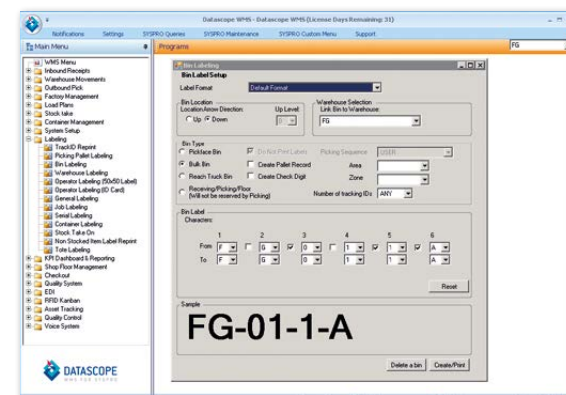
- > Track ID History - a history of all movements on a pallet
- > Balance Report - a validation between SYSPRO and WMS stock quantities
- > Pickface Replenishment Review - a list of all pickface replenishments and their status
- > Information Check - used to query pallets, bins or stockcodes
- > Cycle Count History - a history of cycle counts within a date range
- > SYSPRO Inventory Movement Report - a list of transactions processed directly through SYSPRO, bypassing WMS


Statistical Reporting

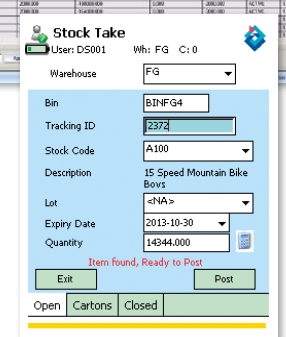
A key benefit of implementing DATASCOPE WMS is the immediate access to accurate on-the-floor information. The statistical reports within WMS provide valuable insight to the activity on the floor. Two key reports exist: [1] Picking Statistics Report, giving picker efficiencies, fill rate, lines picked for date ranges and [2] Replenishment Statistics Report, giving replenishment efficiencies. The data from these reports can be graphically represented for display in the warehouse.

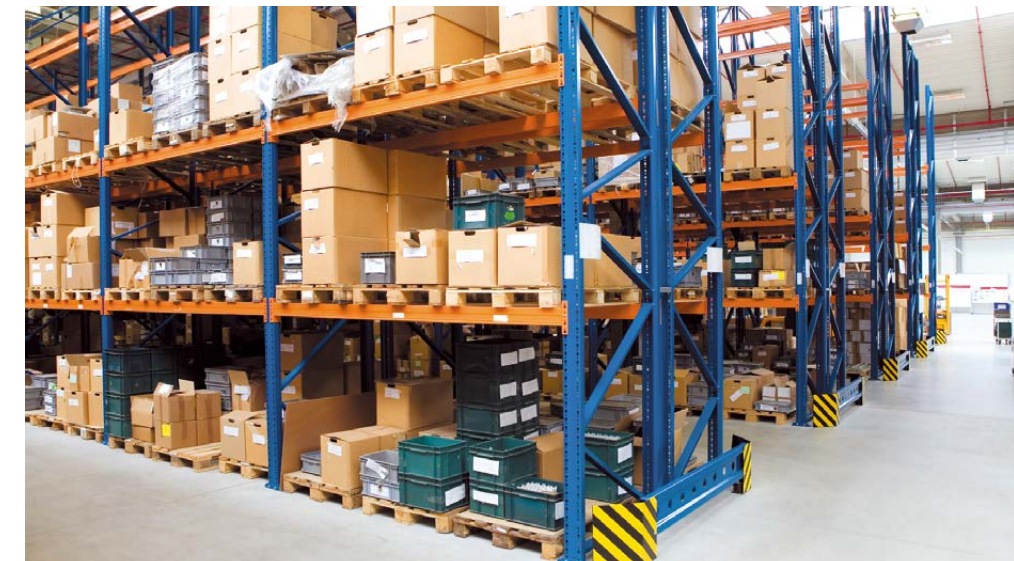






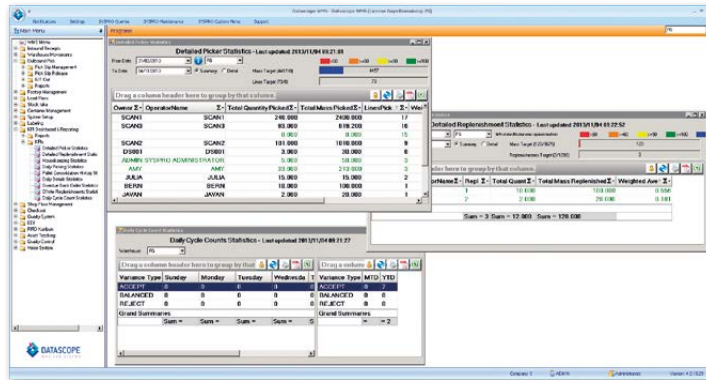


OPTIMISATION OF
RANDOM BIN LOCATIONS



DATASCOPE WMS – ADMINISTRATION

The DATASCOPE WMS is highly parameter driven to allow for successful operation in many different environments. These environments may be different companies or industries or may be different warehouses on a single site.



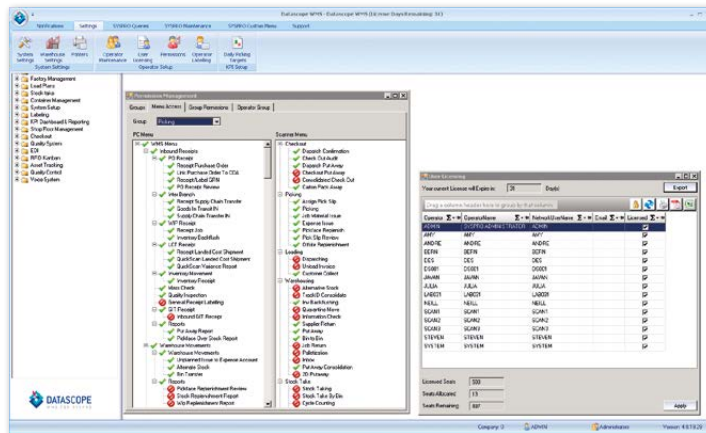
System settings

All key settings are parameter driven on two levels namely: system wide and at warehouse level. Printer setup and configuration is administered centrally.

System deployment

The software comprises of four main components: the server core-install, various server services, the client install and the scanner install.

Version upgrades are free for all clients paying annual license fees and these are released quarterly. The upgrade process is simple, as ClickOnce technology automatically upgrades the client PC's when a new version is released onto the server. Scanners then auto-heal too.



Management dashboard

A detailed management KPI efficiency dashboard is available, graphically displaying progress on the floor.

System securities

As each user in the WMS is a named user in SYSPRO, all standard security functionality in SYSPRO immediately applies. For instance, if an operator is prevented from transacting in a certain warehouse in SYSPRO, the WMS system will not allow a transaction in this warehouse.

Every transaction posted to SYSPRO holds the correct user's name and therefore gives a detailed audit trail.

Additional to the SYSPRO security settings, many security over-ride settings are available in the WMS system.

System documentation

The WMS has a comprehensive on-line help function. All system setting options, functionality and technical specifications are detailed. Almost all frequently asked questions can be answered in the on-line help.



DATASCOPE WMS – CASE STUDIES

The DATASCOPE WMS has been implemented into a number of different industries and companies. Benefits are being experienced on a daily basis by these companies by making use of the functionality and tools within the WMS to optimise the warehouse. A few Case Studies follow to demonstrate how DATASCOPE adapts to suit each client's need to bring into relief these very real benefits.

GENERIC FMCG SOLUTION FOR LARGE FOOD DISTRIBUTOR

An importer of household grocery consumables (mustard, microwave popcorn, etc) is making good use of DATASCOPE WMS to process large volumes of LCT receipts, zoned put away into bulk and replenishment into a separate pickface warehouse within the same facility.

Pickslips are generated by reserving stock from the pickface locations only and over-reserving if required to the tune of the stock available in the bulk warehouse. This automatically triggers a replenishment which must be transacted in advance of the picking.

Good use is made of the Routes in SYSPRO and WMS pickslips are reserved and print out per route. The picking, checkout and automatic invoicing is performed and the pallets of stock are then truck loaded quickly by making efficient use of dispatch cages and lanes within each cage.

The DATASCOPE KPI module is a key driver of this type of environment because head reduction and re-allocation is a key focus in today's warehousing environment.

RFID CONTROL IN KANBAN ENVIRONMENT FOR PLASTIC INJECTION MOULDING MANUFACTURER

Manufacture of automotive components is a fast-paced process that requires a high level of accuracy, simultaneously giving the speed required for the large volumes of transactions.

The DATASCOPE WMS RFID (radio frequency identification) module was implemented to assist with this. At strategic positions in the facility, RFID readers were placed and Kanban-type production cards were used to backflush the manufactured automotive parts into SYSPRO quickly and easily.

Using Kanban stock management with WMS and RFID has greatly enhanced the facility and continues to provide valuable tools to the client to control their stock accurately and with the speed required.

HIGH-VOLUME CARTON PICKING SOLUTION FOR CARTON DISTRIBUTION CENTRE

Hundreds of cartons containing a large range of textiles being receipted from a non-WMS managed warehouse into a WMS managed warehouse is easily handled with DATASCOPE WMS. Scanners are used for stock transfers to bring the product into the WMS-managed warehouse, for pallet building, for zoned put aways and for carton picking, carton checkout and carton truck-loading.

If the requirement to track and trace cartons as opposed to pallets through the warehouse process is a reality, the DATASCOPE WMS software suite caters for this need. Add 2D barcode scanning to the process and the transactions can be performed quicker and more accurately.

The WMS KPI Reporting tools are a vital for such a company, and warehouse benchmarks and targets are easily set and monitored to ensure a continual process of improvement and optimization in the facility.

CONVEYOR AND VOICE SOLUTION FOR ADVANCED PICK AND PACK TO CUSTOMER ORDER DC

Customer orders are loaded into SYSPRO referencing a custom form field for packing instructions – in this case, a wearer's name for clothing products. DATASCOPE WMS carton cubes the orders into a carton per wearer and prints carton labels and packing slips showing the wearer details. Cartons are placed on an automated conveyor system and routed to many different picking zones. Product is picked directly to the cartons using a Vocollect voice-directed module. All cartons are automatically mass checked on the conveyor system after picking to ensure picking accuracy. Any carton failing this check is diverted into a QA area. Completed cartons are routed to one of five invoice destinations. Cartons are scanned into dispatch bins by order until the last carton enters the invoice zone and the invoice is automatically printed. Each order is then handed over to the LSP for delivery.

ADVANCED RETAIL SOLUTION

This five-storey retail park has two open stories at floor level for the warehouse and three retail floors above. Each retail floor sells a different product range such as electronic goods or furniture goods. As customers in the stores order product, the sales reps in the store offers three delivery options: 1) the product is picked in the warehouse and delivered to the customer in the store; 2) the product is picked and delivered directly to the customers home or 3) the customer gets a 2D barcode on their smartphone and drives to the ground floor warehouse where the barcode is scanned and an automated system directs the customer to the dispatch bay for collection.

Feel free to contact DATASCOPE Consulting for a demonstration of this product together with a site audit of your facility.





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