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DEXION
D.C)
Crane 7
Crane
Connecting your warehouse.
DEXION®
RDS
Real-time Distribution System


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Today's Dexion manages every aspect of warehouse operations. We call it RDS.

Dexion RDS (Real-time Distribution System) is a fully fledged WMS and WCS control platform. It manages the physical and logical aspects of the distribution centre under a single umbrella.

RDS bridges the gap between your current systems' capability and how you envisage your distribution centre's operating potential.

It manages warehouse and distribution centre operations from the receipt of goods, through processing, storage, order fulfilment and despatch in real-time.

RDS operates on a single platform and provides a single interface to the current ERP or WMS. This alleviates the need for multiple platforms to cater for the varying functions within the warehouse.

It is designed to complement existing capabilities, thereby protecting your existing capital investments rather than trying to compete against or replace them.

RDS is modular in design, so it provides maximum flexibility when building a solution. Dexion is able to shape RDS to fit the task, to be as large or small, simple or complex as the application requires.

Dexion RDS fills any gap in your warehouse capability, be it big or small, to deliver optimum operational connectivity.

It's another example of what to expect from Today's Dexion.


From receipt to despatch,
RDS controls your operations.

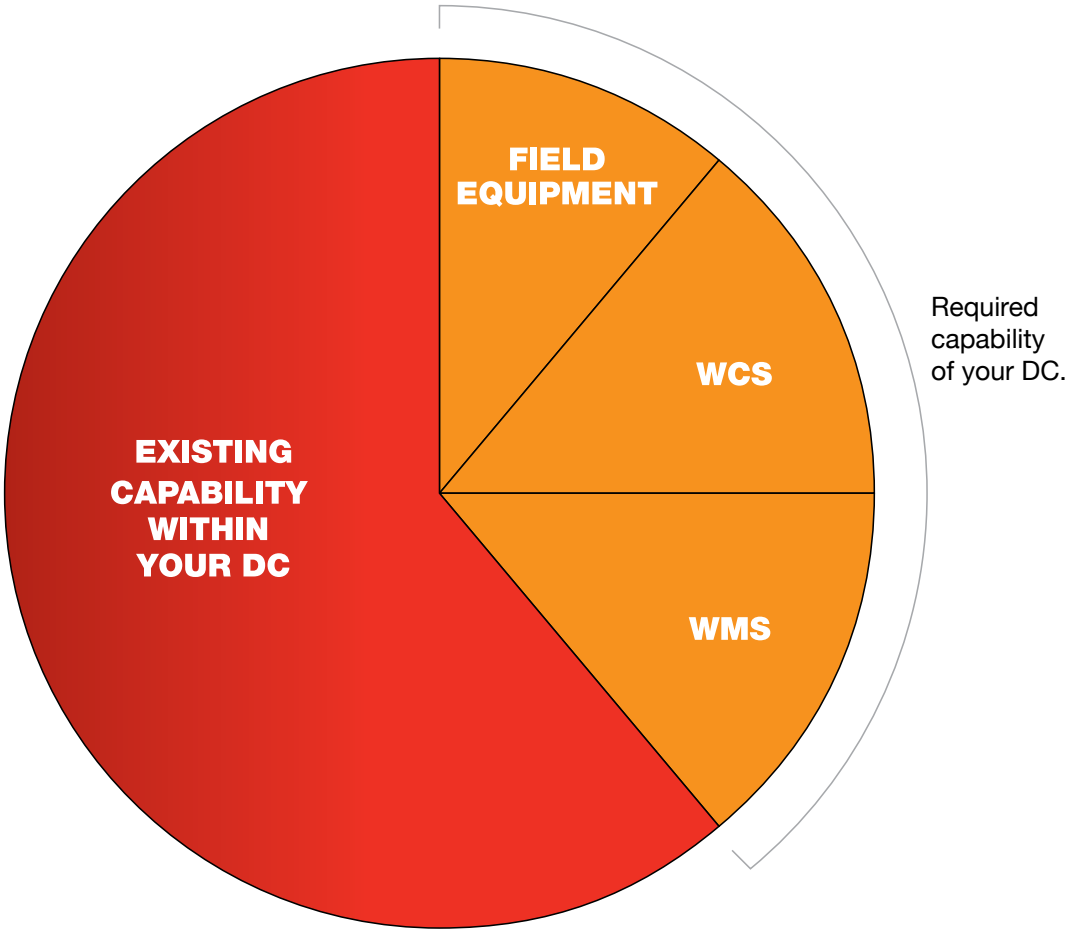
Delivering tangible benefits to your business.

By handing you full control over every order at every point in your distribution process, Dexion RDS creates clear and tangible benefits for your business:

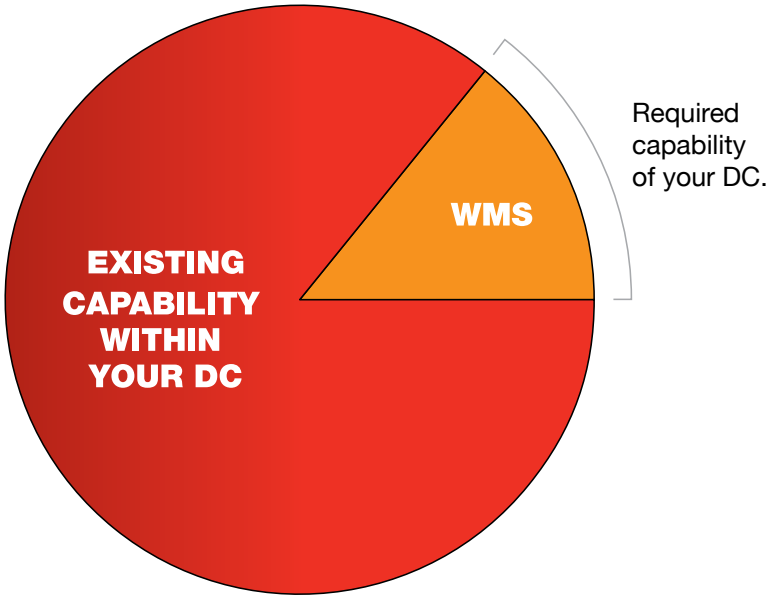
- **Better and more timely allocation of resources means productivity will improve.**
- **Better and more efficient use of your capital investments.**
- **Smarter picking controls deliver improved order accuracy.**
- **Real-time tracking and inventory reporting.**
- **Enables physical equipment automation.**
- **Allows people and equipment performance monitoring.**
- **Lower operating costs.**

From high level to low level automation, RDS can provide the functionality you require.

SCENARIO 1.
High level of automation required for a complex facility.



SCENARIO 2.
Low level of automation required for a less complex facility.



RDS Component.

RDS complements your existing capabilities.

Dexion RDS is designed to complement and not compete with your existing capabilities thereby ensuring the previous investment your business has made in capital is optimised and not wasted.

Dexion RDS has complete WMS and WCS features and functionality. This means you can select which features and functionality you require depending on the capital you already have. For instance, your business may already have a capable WMS, in which case Dexion RDS can be integrated to provide WCS capability.

Alternatively, you may only have an ERP and need full WMS and WCS capabilities, in which case, Dexion RDS can very simply integrate seamlessly with the ERP.

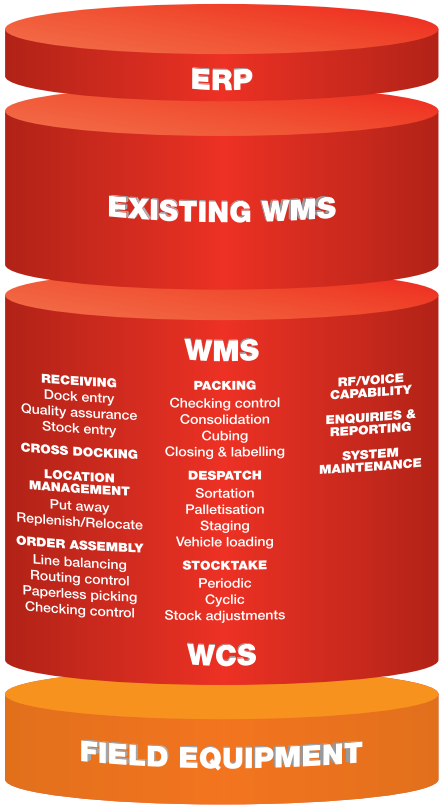
What exists, is a starting point for RDS to build upon.

Fill the capability gaps within your distribution centre with RDS to achieve your vision.

Your distribution centre vision.

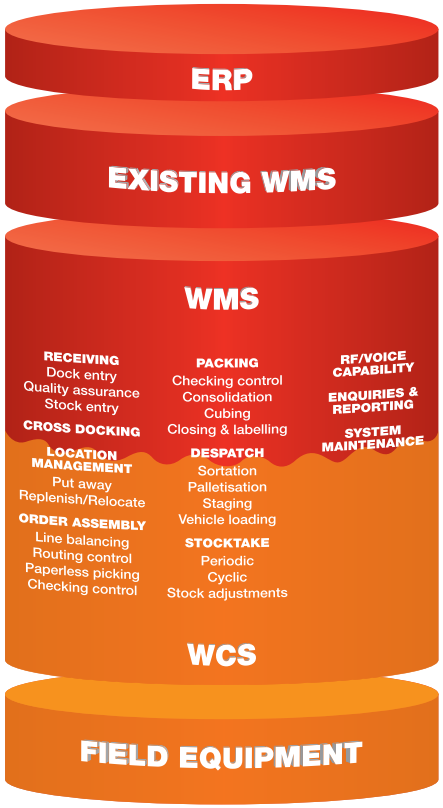
SCENARIO 1.

You may only need a component of RDS to help your field equipment become more integrated.



SCENARIO 2.

RDS can be some or all of your WCS and WMS functionality depending on your requirements. It's your choice.



SCENARIO 3.

RDS can provide your entire WCS and WMS functionality if you choose.

RDS Component.

Modular design gives the ultimate flexibility.

Dexion RDS is modular in design to provide maximum flexibility when building a solution. This provides a range of benefits to your system:

- **Near-endless combination of RDS modules enable a solution to be built from a generic offering.**
- **The modularity concept flows to every level, so solution design revolves around material handling requirements.**
- **Because of this modularity, you only buy the modules required for your solution. No unnecessary (and costly) excess capacity.**
- **Modularity allows entry-level solutions that can subsequently grow with your business as, and when, required.**

Information in real-time.

See what you need to see, when you need to see it.

RDS Visual intuitively arranges real-time information, with a friendly point-and-click interface, to reflect the key tasks operating within your distribution centre.

Under ‘Receiving’, you can monitor inbound shipments, co-ordinate them for processing and put away, which helps you to set priorities and allocate resources.

Under ‘Picking’, you can keep a close eye on your entire work pool, ensuring the most efficient picking patterns and resource allotment to meet despatch windows.

While under ‘Despatch’, you have complete control over the way product is sorted to each lane.

In short, RDS Visual gives you the at-a-glance overview to manage and co-ordinate every physical task in your distribution centre.

You’ll soon see the benefits of RDS Visual at work.


Mobile management.
DEXION
Integrated Command Centre
D.C)
Crane 7
ONLINE

Accessible from anywhere, at any time.

Dexion RDS is web-based, so it's accessible wherever you have an internet connection. For example, it can be called up wirelessly on a computer from the DC floor or from the golf course.

The interface is friendly and graphic with the familiar simplicity of point-and-click control.

Integrated Command & Control (ICC) lets the operator monitor the system's current state and performance while having the mobility to move throughout the distribution centre.

Real-time accessibility puts your people in the right position to use this real-time information.

Technical specifications.

HARDWARE

- RDS runs on an Intel based server, usually IBM x-series
  - Rack mounted server
  - RAID controller card
  - 2 x HDD's (RAID 1)
  - 1 x backup device
  - 1 x intelligent UPS
- Optional cold standby backup server
- Optional warm standby backup server

HOST CONNECTIVITY

- Proven performance, robustness, reliability, and data integrity through the use of IEEE standards:
  - Physical connectivity is achieved using standard ethernet LAN network
  - Bi-directional transfer of information using standard TCP/IP communications protocol
  - NFS (Network File System) capable
  - Compatible with IBM Websphere MQ (MQ Series).
  - Standard host connectivity via XML (Extensible Markup Language)
- Additional access to data for reporting available via ODBC (Open Data Base Connect)
- Host application examples
  - SAP R/3
  - Oracle
  - Dynamics AX
  - Manhattan Associates
  - IBS
  - EXE Exceed
  - Pulse Logistics Systems
  - Microlistics ISIS GII
  - Prometheus Pronto
  - CA-Warehouse Boss
  - Swisslog WMS
  - SSA BPCS
  - Retail 1
  - CHESS
  - Optum
  - MOVE
  - Marc Global Systems
  - Logistics Pro
  - Vista
  - Customer Proprietary Systems

OPERATING ENVIRONMENT

Operating system

- The RDS has been developed to run under the Unix (Linux) operating system

Database management system

- The system uses a Relational Database Management System. This is a robust, SQL compliant, RDBMS used for business and technical applications. It ensures that the data stored within the system can be readily accessed and manipulated for reporting purposes.
- A key aspect of the RDS is that a common database is used by the WMS and WCS components. This means that supervisors can rely on the system to provide an accurate picture of the status of all activities within the distribution centre at any time. It also means that data isn't duplicated throughout sub-systems.

Security

- A flexible security approach has been implemented which allows individual user profiles to be built to provide/restrict access to system functions. This minimises the potential for the integrity of the data or system to be compromised. Full audit trail facilities enable each transaction to be traced to a specific operator, device, date and time.

Reliability

- Disk mirroring (RAID Level 1) is provided as standard. This ensures that a live copy of all data is maintained on the system so that an automatic fallback can be initiated by the system in the event of a failure of a disk drive. Once again, the system administrator is advised of the failure so that a service call can be placed. In the meantime normal operations continue.
- The RDS server is equipped with an Uninterruptable Power Supply (UPS) to cater for situations where mains power fluctuations occur. The system shuts down automatically, after a few minutes, when all transactions are concluded.
- A cold standby server option is available. This provides server hardware redundancy.
- A warm standby server option is available. This provides server hardware and operational data redundancy.

Programming language

- The RDS has been developed using the C++ object oriented platform, providing unique flexibility and scope for endless growth.

Systems performance

- System availability and reliability measured according to international FEM standard.

RDS modules.

Receiving

Receiving (RF, Automated, Paper):

- Dock entry
- Stock entry
- Unit of measure conversion
- Receive against a purchase order
- ASN receiving
- Blind receipts
- Damage identification on receipt
- Quality sampling and auditing
- Receive returns with an authority
- Receive transfers without orders
- Prompt for open purchase orders upon receipt
- Option to pre-print receiving labels
- Reconcile purchase order lines warehouse receipts
- Multiple operators on a single receipt
- Capture batch number upon receipt
- RF display special instructions

Enquiries/Reports:

- Receiving exceptions
- Goods received list
- O/S/D report by purchase order by consignment

Quality control

QC status:

- License plate holds in non-QC location
- Hold and release by item
- Hold and release by lot
- Hold and release by location

Reports:

- QC Inventory visibility

Put-away – Via RF

- Select best location based upon user-defined rules
- Allow user to override
- Record overrides in exception log
- Put-away
  - To quality control
  - To random storage
  - To forward pick
  - To staging
  - Cross-dock receipt to single order
  - Cross-dock receipt to multiple orders
  - To returns
  - Storage logic association to UOM
- Ability to split a single license plate receipt between replenishment and put-away

Location management

Location mapping:

- Area and Zone definition
- Special attributes
- Configurable forward pick
- Multiple forward picks per item

Replenishment Formatting / Relocate:

- Created by min/max
- Created based upon released orders
- Created via RF request
- Pick work queues held until replenishment work done
- Ability to separate retrieval and put-away tasks

Reports:

- Full location report
- Empty location report
- Warehouse location utilisation report

Order assembly (RF, Voice, AS/RS, PTL, Paper)

Planning:

- Create waves through pre-defined criteria
- Accept pre-determined waves via download
- Automatically build waves based on rules
- Manually override priority of an order
- Ability to include orders in waves
- Ability to calculate metrics on simulated wave
- Ability to release waves by pick type
- Ability to release waves by zone
- Ability to wave by pick method

Monitor the progress of a wave:

- Workload monitoring by wave by order by item
- Calculations of remaining time by wave
- Calculations of new work vs. existing work

Stock rotation:

- FIFO
- LIFO
- FEFO
- LEFO
- Select stock by batch number

Pick option:

- Discrete order picking
- Batch picking (multiple orders per picker, separated at pick location)
- Pick and pass across zones
- Bulk picking (multiple orders per picker, separated at pack or conveyor/sort)
- Multiple pickers per order
- Equipment-based picking
- Zoned picking
- Wave picking
- Label picking
- Use combination of the above options on same order
- In location flow
- In user-defined flow

Exception handling:

- Suspend and resume order
- Short picks
- Damaged goods
- Substitution

Dispatch

- Staging
- Loading
  - Direct loading regardless of order continuity
  - Direct truck loading by order
  - Direct loading by route/stop
- Manifesting
- Sorting
- Consolidation
- Labelling

Stocktake

- Periodic
- Cyclic
- Download counts from host
- Opportunistic cycle count during picking

User interface

- Web browser based client
- Supports multiple window views
- Screen prints
- Fields displayed configurable by user
- Graphical data display
- User I.D. and password security
- Auto log off for idle users
- Audit trail maintained for all activities

General reports and enquiries

- Productivity
- Work load analysis
- General enquiries
- Stock take reports
- Location reports
- Product SKU reports
- Exception reports
- Simulation

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