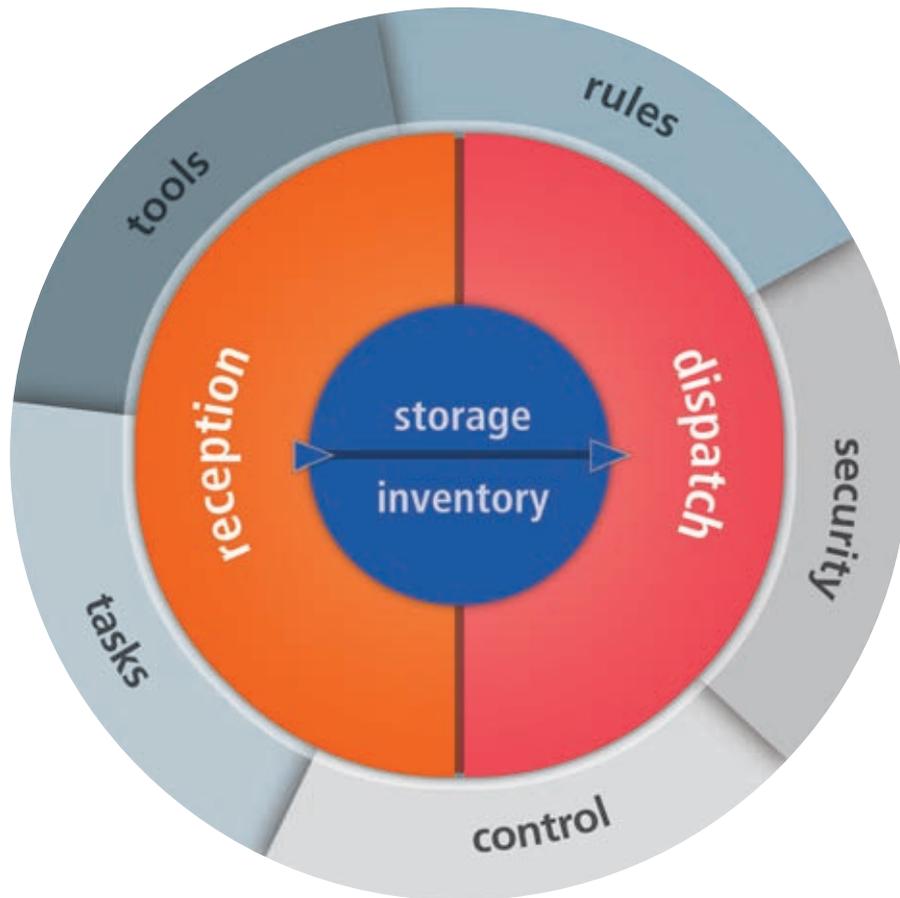




Warehouse Management System Software



How to manage a warehouse
by gaining efficiency



How to manage a warehouse with

easy  **wms**

easy  **wms (A)**

Reception

Processes designed to enter goods and products in the warehouse.

Storage

Operations based around putting the material inside the warehouse.

Inventory

Permanent control over the situation of the warehouse.

Dispatch

Tasks centred on the preparation of orders and exit of goods.

Tools

Application of rules, control, tasks and security

(A) Autorun

Basic package which can be installed by the client on its own accord without the need for technical assistance.

> Reception

EasyWMS® speeds up the reception of goods from the notification of the reception order on the part of the company management system (ERP) to its subsequent physical entry in the warehouse.

Planning of unloading

- (A) - Planning of unloading capacity for reception by time band.
- Reports with graphs showing the degree of compliance with the delivery by the carrier or provider.

Reception

- (A) - Possibility to receive goods without a prior entry order, i.e., manual registration of reception.
- Possibility to create any number of reception jobs associated with an entry order. In this way, the same reception order can be received in multiple deliveries.
- Sending the forecast reception orders from the client's planning system (ERP) in function of the purchase orders made.
- Possibility to rectify forecast quantities due to an excess or shortage of goods (shipment errors).
- Possibility to carry out operational reception through radiofrequency terminal.

Capture of logistics data

- (A) - Confirming the information on the reception order to prevent reception errors.
- Confirming the information on the delivery note to prevent reception errors.
- Manual creation of new articles from the WMS itself, if they do not exist in the system.
- Possibility of creating new forms of article presentations (packs, pallets, etc.) related to each product.
- Control of batch, series number, expiry date... during the reception for articles with the required logistics attributes.
- Temperature and weight control, during the reception for articles with the required logistics attributes.
- Checking the owner of the goods.

Reception documents

- (A) - Printout of standard reception reports.
- Printout of customised reception reports.
- Printout of differences to compare the goods received with those expected (delivery errors report).

**Labelling
with barcodes**

- (A) - Label printing of storage units (container) with a standard format.
- (A) - Label printing of product with a standard format.
- (A) - Handling of most label printers on the market.
- Label printing of storage units (container) with a customized format.
- Label printing of product with a customized format.

**Closure of
reception jobs**

- (A) - Closure of reception orders and reception jobs associated with them manually.
- Cancellation of reception jobs in order to execute partial closures of the reception order.
- Closure of reception orders and reception jobs associated with this in the management system (ERP).

**Production
entry**

- Recognition of containers sent from production lines using container labels.
- Cross-docking management: the lack of stock to serve an order will trigger a movement directly from the reception point to the dispatch hub in order to finish it without having previously located the goods.
- Dimensional control of the container (height, control of storage spaces, control of blocks) in automated warehouses.
- Management of delivery to reconditioning work stations in order to fix dimensional and quality errors in the storage units.
- Possibility of notifying the registration of goods in the corporate management system (ERP) during entry processes.

**Gauge error
control**

- In automated warehouses where gauge control is available:
- Visual representation of gauge errors in automated warehouses.
 - Possibility of solving label reading problems.
 - Printout of reports and statistics of gauge errors.

Returns

- (A) - Manual registration of returns.
- Registering returns associated with a reception order.
- Handling containers and their location according to the rules established in specific areas designed for quality control.

**Communications
with the ERP**

- Automatic notification of received goods to the corporate management system (ERP).
- Automatic notification of located goods to the corporate management system (ERP).

> Storage

EasyWMS® enables location rules to be configured from a series of selectable conditions.

Location rules manager

- (A)** Location rules, i.e., the behaviour of the location process, may consist of various strategies which may or may not be used depending on needs:
- By area and dimensional characteristics.
 - By product and/or presentation.
 - By provider.
 - By owner.
 - By product turnover.
 - By status of the goods.
 - By weight.
 - By hazardous materials.
 - By temperature.
 - By container type.
 - By product type.

Cross-docking

The lack of stock to serve an order triggers a movement directly from the reception point to the dispatch area in order to finish it without having previously located the goods.

Consolidation

This enables goods to be consolidated by storage unit or article type, and moves stock from a storage area or a storage unit to another space in order to optimise warehouse volume. The user can launch consolidation orders to compact goods according to the following criteria:

- (A)**
- Product
 - Owner
 - Batch
 - Series number
 - Expiry date
 - Warehouse areas
 - Aisle
 - Interval of coordinates

Tracking	All movements done with the stock and storage units are recorded, thus achieving total tracking of goods within the warehouse from entry to exit.
Automatic reorganisation	In automated warehouses, the system can reorganize the storage units in the aisles by scheduling the tasks by time range or during idle production times.
Stock replenishment	(A) - Manual replenishment - Automatic replenishment in picking storage units to ensure these always have stock.
Manual stock reserves	The system performs manual stock reservations using the following criteria: - Associating a particular stock with a client. This stock is only used to serve the specified client. - Associating a particular stock with an exit order. This stock is only used to serve this order.

> Inventory

EasyWMS® facilitates the management and control of the warehouse stock and its good's status changes (correct, expired, damaged...).

Management of storage spaces

- (A) - Organising the route to the storage space in order to optimize the movement to the destination.
- Possibility of the operator to manually change the storage space suggested by the system.
- Replenishment: the system generates automatic replenishment of picking areas which are configured to keep a permanent stock.

Display of the warehouse and its stock

- (A) - The system has a graphical tool which displays pictures of the racks showing the stock located in them. It allows status and locations being defined and changed, as well as making reservations and blocks of locations and containers

Dynamic turnover management

- (A) - Calculation of the turnover for each article in an interval of dates selected by the user and in function of the movements produced. Generation of a report with suggestions for changes in stock turnover.
- Generation of stock relocation tasks based on changes in product turnover and other location rules or changes in the goods status.

Counts

- (A) The user can generate and launch counts (warehouse inventory tasks) according to the following characteristics:
 - Owner of product or warehouse
 - Product
 - Storage unit
 - Batch
 - Series number
 - Aisle
 - Warehouse area
 - Warehouse coordinates interval
- The count can be generated in the following forms:
- (A) - Informed
 - Blind
 - Partially informed

Lost & found location management

The system has a virtual location to manage problematic stock. When the containers leave the system, they are sent to this location. This enables them to be manually unregistered or retrieved when desired.

> Dispatch

This process involves the exit of goods from the warehouse in function of the preparation of orders.

Extraction can be done in two ways:

Manual: the material is extracted, or picking operations are performed manually from the radiofrequency terminal, without associating the material with any dispatch order, i.e., the corporate management system (ERP) does not report the stock exit to the WMS.

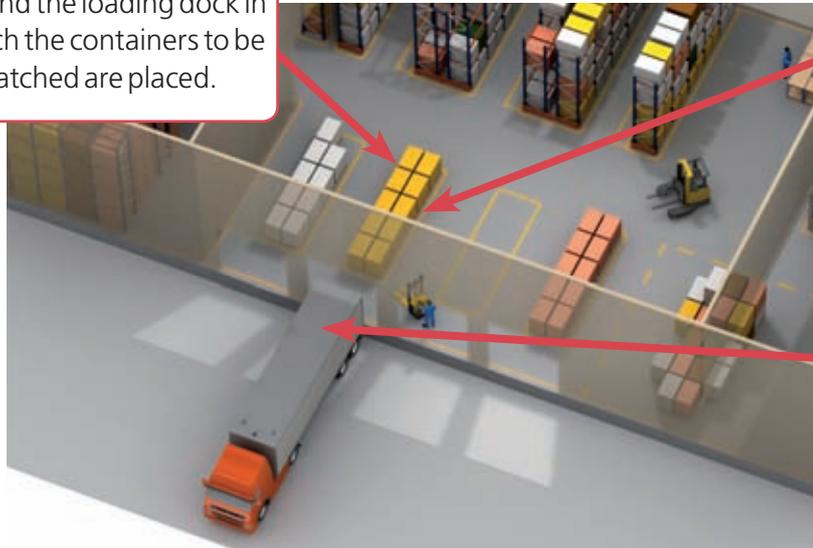
Automatic: the goods are extracted by means of a dispatch order, i.e., the ERP reports the stock exit to the WMS and, therefore, the administration of this order is prepared by the WMS.

Automatic

This working mode is used when dispatch orders are sent from the ERP to the WMS to carry out the exits (order preparation) and the subsequent dispatch of goods.

The system can handle the following concepts:

Supply hub: located behind the loading dock in which the containers to be dispatched are placed.



Dispatch orders: These are included in each order from a client (they have a single unloading point).
Stop: each unloading point made by the vehicle transporting the client's order.

Route: route followed by a carrier when leaving the warehouse and, usually, carrying more than one order.

Manual

The operator uses a list (usually printed on paper from the ERP) with the goods to be collected. The exit operations are recorded by the radiofrequency terminal (RF) and the system then discounts them from the stock.

Mecalux Easy - (Manual Dispatch)

Origin

Ref: ML 32502

Orig Loc: 00201000211

Orig Cont: 10000000000280973

Destination

Loc Dest:

Locations

Product	Desc	Qt	UOM
ML 32502	Ejectors	900	UN

Exit: Lock Error Val

Terms used

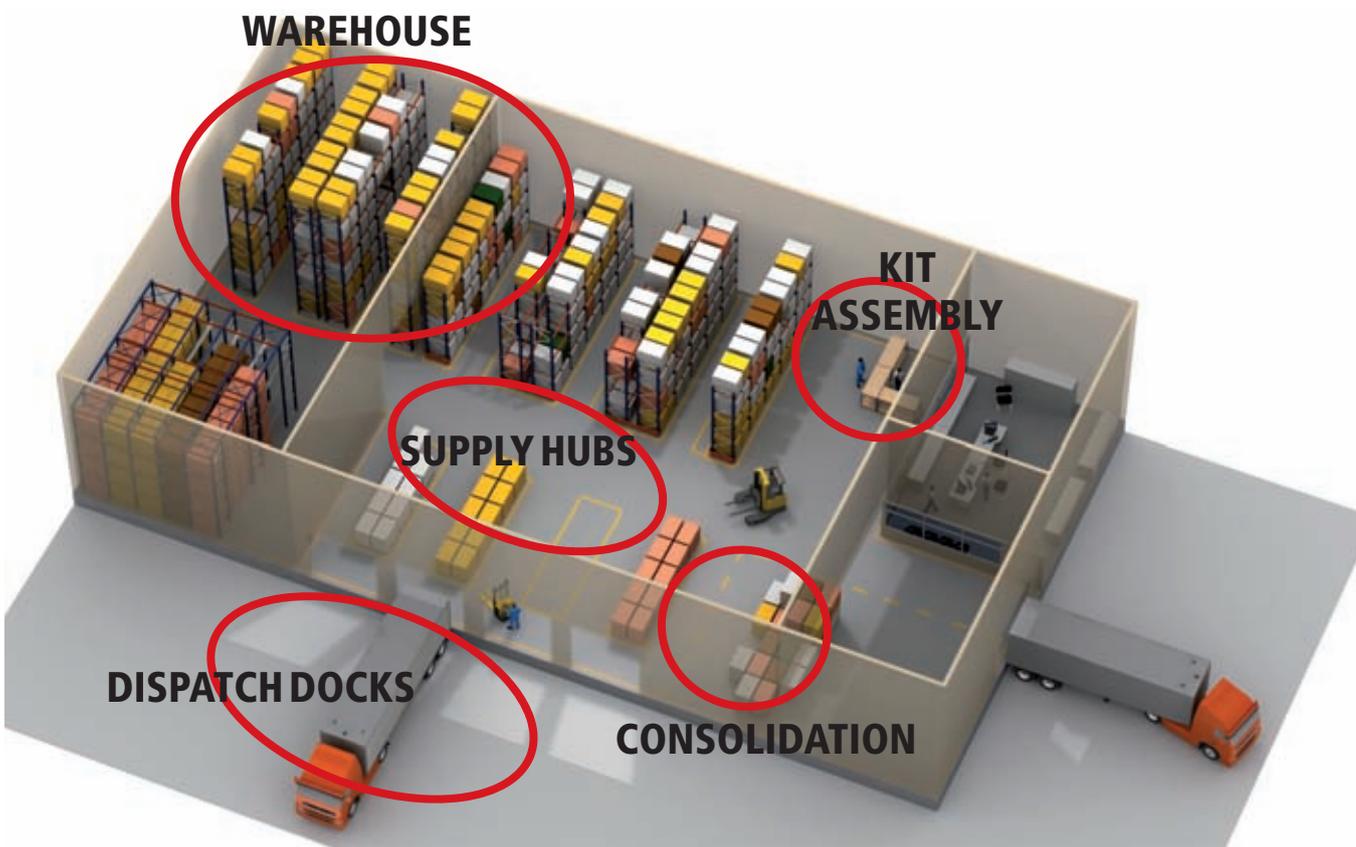
Route: the client's orders are consolidated in a single form of transport and sequenced by stops. The WMS manages the loading of the vehicle according to their stop sequence, beginning by loading the vehicle with the last order to be delivered.

Dispatch order: each of the client's orders or exits of goods for any reason – generally due to purchase, warehouse transfer or return to the provider. If it is associated with a route, it is necessary to specify the stop number (stop sequence). There may be more than one dispatch order or purchase order for each stop.

Stop: each of the unloading points for an order within a route. The system extracts the goods in reverse order from the stop so as to ensure that the first load corresponds with the last stop.

Dispatch orders grouping: the system enables the dispatch orders to be grouped in two ways:

- **Order waves:** grouping the orders so as to be able to execute all the exit orders included together in a wave. This optimises the movements of the operators when executing the order, thus achieving a higher level of productivity. The exit orders grouped in waves are handled individually, indicating to the operator the amount of product to be extracted for each order.
- **Order groups:** the sum of all exit orders so that these are executed for the total amount of goods to be prepared. That is, the operator is informed of the total product amount picked, which is the result of adding all the orders grouped together. The products then need to be ungrouped in their original orders.



Dispatch functions

Dispatch routes/orders

The system is capable of receiving the dispatch orders through a communication interface. These are the equivalent of sale orders or goods exits. They may contain data on the specific containers which are going to leave the warehouse or solely on the quantity of goods by article type, along with the required logistics data

- (A) - Executing the exit of goods manually.
- (A) - The system enables the dispatches to be planned by time bands.
- (A) - The system permits reports with graphs to be printed in order to visualize the degree of compliance.
- The system allows customised reports to be printed.

Order preparation

Exit of goods in the following ways:

- (A) - Management of full container exits.
- Management of delivery routes (transport). All the orders forming a delivery route are grouped together.
- Management of full container exits organising the order by lines.

Picking

- (A) - Performing the picking by radiofrequency terminals or in fixed stations by PC.
- Management of different modes of article presentation.
- Management of product stacking.
- Management of the container-client and its return to the warehouse.

Pick/Put to light

Management of PTL (pick and put to light) devices in order to perform picking processes.

Exit of material

- (A) - Exit of stock performed manually from the radiofrequency terminal or the fixed PC.
- Management of orders directly generated in the sales desk at the request of the client and dispatched by radiofrequency. The system decides whether to accept the product by the client. If the product is rejected, the system organises its relocation.

Manual stock reassignment

Manual reassignment of stock between orders from different clients (the orders are readjusted in the dock in order to serve a client urgently).

Loading lorries

- The system manages the loading of packages from every order in the transport vehicle assigned, thus avoiding delivery errors.
- Management of delivery routes.

Dispatch documents

- (A) - Unclassified delivery notes by order or order group.
- (A) - Report on differences between ordered and served goods.
- (A) - Report on goods by container (packing list).
- Report on the composition of a consolidated dispatch in order to divide it manually into orders.
- List of containers, article types and orders loaded in a truck.
- Creation of customized reports.

Labelling goods

- (A) - Labelling containers with standard format.
- (A) - Labelling products with standard format.
- Labelling containers with customised format.
- Labelling products with customised format.

Communications with the ERP

- Automatic notification of the goods dispatched to the company management system (ERP).
- Automatic notification of the goods loaded in the transport vehicle to the ERP.

> Tools

Tools make it possible to adapt and customise the application according to the client's own criteria, as well as to apply the required security rules.

Workstation management

Ability to manage basic operational changes and blocks on the system's workstations (PC, radiofrequency terminals, etc.).

Report designer

The system is equipped with a report designer within the application itself. This allows the client's IT staff to adapt the existing reports to their needs or to create new reports. Within the same installation, standard and customised can be generated.

Label designer

The system has a label designer. This enables the client's IT staff to adapt the label format to their own requirements.

Security

The system enables the management of users and user groups by managing the access security of the application, the use and visualization of its different options and restrictions on the operations placed on each user. The management of user permissions, in the case of multi-warehouse structures, can be independently configured for each warehouse.

Generic queries

The system has a large collection of generic queries and reports which can be adapted by the clients according to their information requirements.

Browsing

Ability to access the different information levels from the same screen, facilitating improved ergonomics of the application.

Ease of use

The system can be used from the radiofrequency terminal, a fixed PC station or with the assistance of paper support.

Reports and statistics

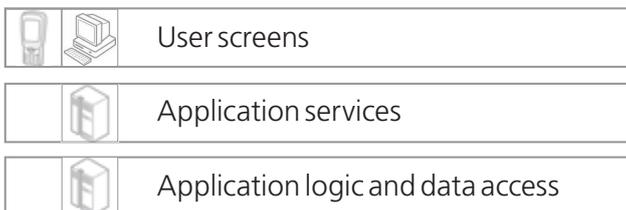
Report graphic designer: the system comes with a report graphic designer which allows clients to create their own reports from scratch or build on existing ones in order to obtain the information required at any time.

Hardware requirements

EasyWMS® requires the following hardware devices in order to function:

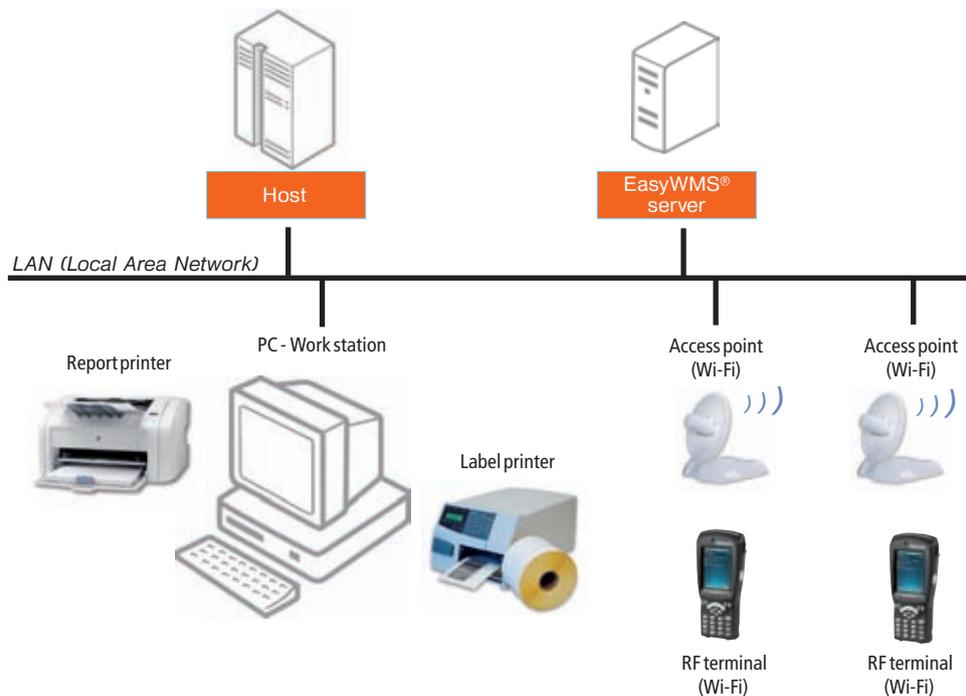
- **PC, work station:** used normally as a tool for the processes of reception, dispatch and queries. Windows XP SP 2 or Windows Vista must be installed.
- **Radio terminals:** used to perform all the operations involving reception, storage, order preparation, dispatch and counts. Windows CE 5.0 or higher must be installed.
- **Server:** the EasyWMS® database is installed here. It registers, processes and stores all the transactions which take place in the warehouse. Windows 2003 R2 Server must be installed.

The architecture of EasyWMS® is developed in three layers:



Hardware architecture

EasyWMS® has been developed following the latest hardware and software standards. It is built with a modern client-server architecture, in which the server contains the data and rules of the business, while the client's PC solely includes graphical functionalities to improve the response speed.





offers you

FLEXIBILITY

to manage even
the most complex
of warehouses

EasyWMS® is a warehouse management software which has been developed wholly by Mecalux. It is a multi-sector WMS aimed at companies of any size which wish to improve the management of their warehouses in an optimal, efficient and integrated fashion.

EasyWMS® is a flexible and modular tool which is used to optimise management processes in automated or conventional warehouses easily and efficiently. Among the advantages it offers, the system reduces working times and errors.

The different levels of functionality of EasyWMS® enable it to be installed in warehouses of very diverse characteristics. Here below are several practical cases which show how it can be applied in different types of warehouse.

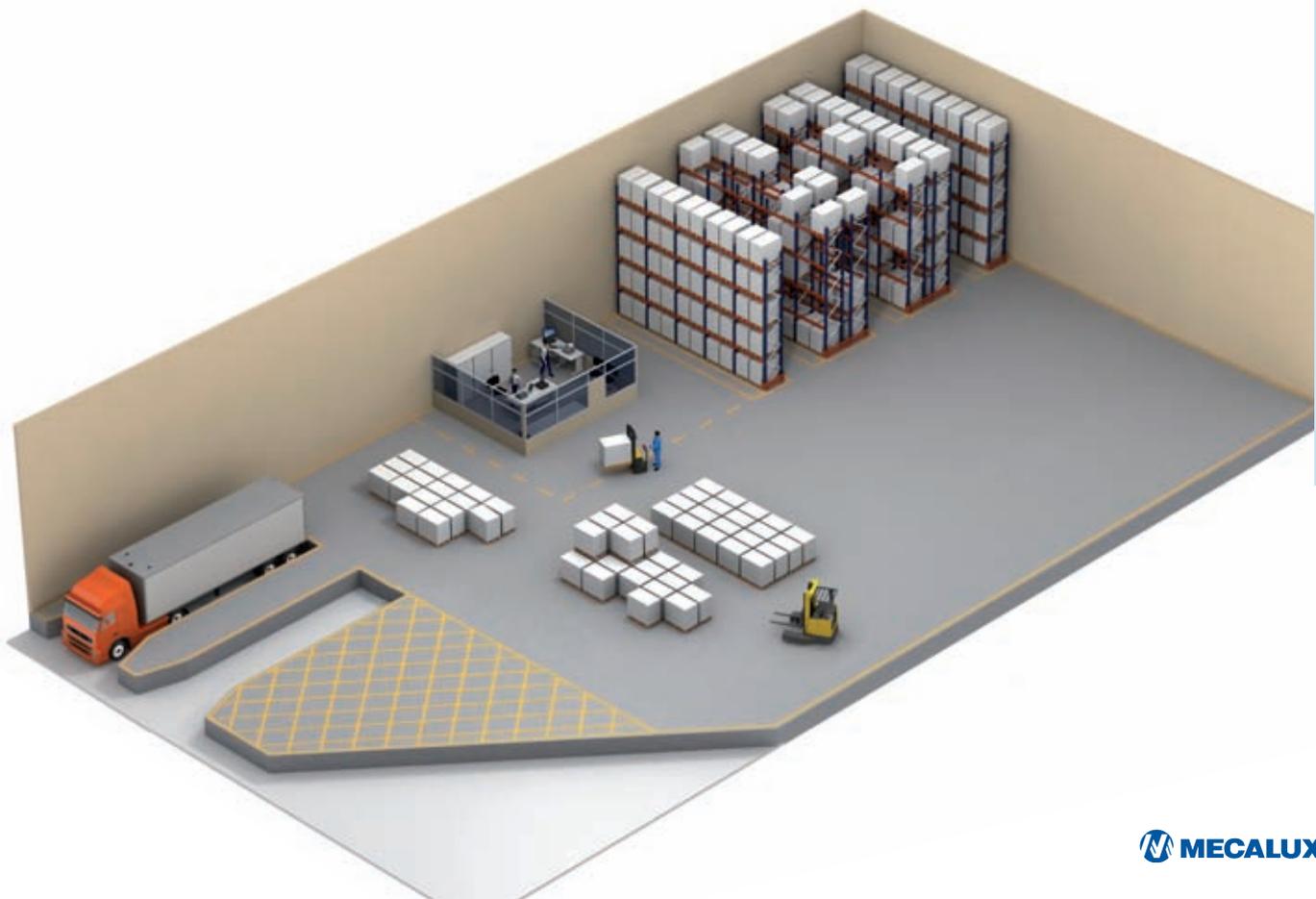
> Practical case 1

Conventional warehouse

Description: a medium-sized conventional warehouse with loading and unloading bay. Order preparation is done with complete pallets and loose boxes by picking.

Solution: the EasyWMS® software is installed (level 2, parameterised and configured to manage the conventional warehouse by radiofrequency. The warehouse is laid out in four types of locations: picking locations for order preparation, material stock locations for storage of goods, order consolidation locations, and the reception and dispatch area. All the movements and operations of the warehouse are done using handheld radiofrequency terminals and radiofrequency terminals fitted to fork-lift trucks.

In conventional warehouses, where operations can be covered by the functionalities marked with an **(A)** in the list, the client can install and auto-configure the EasyWMS® application thanks to the installation tool which is included as a standard with the software.



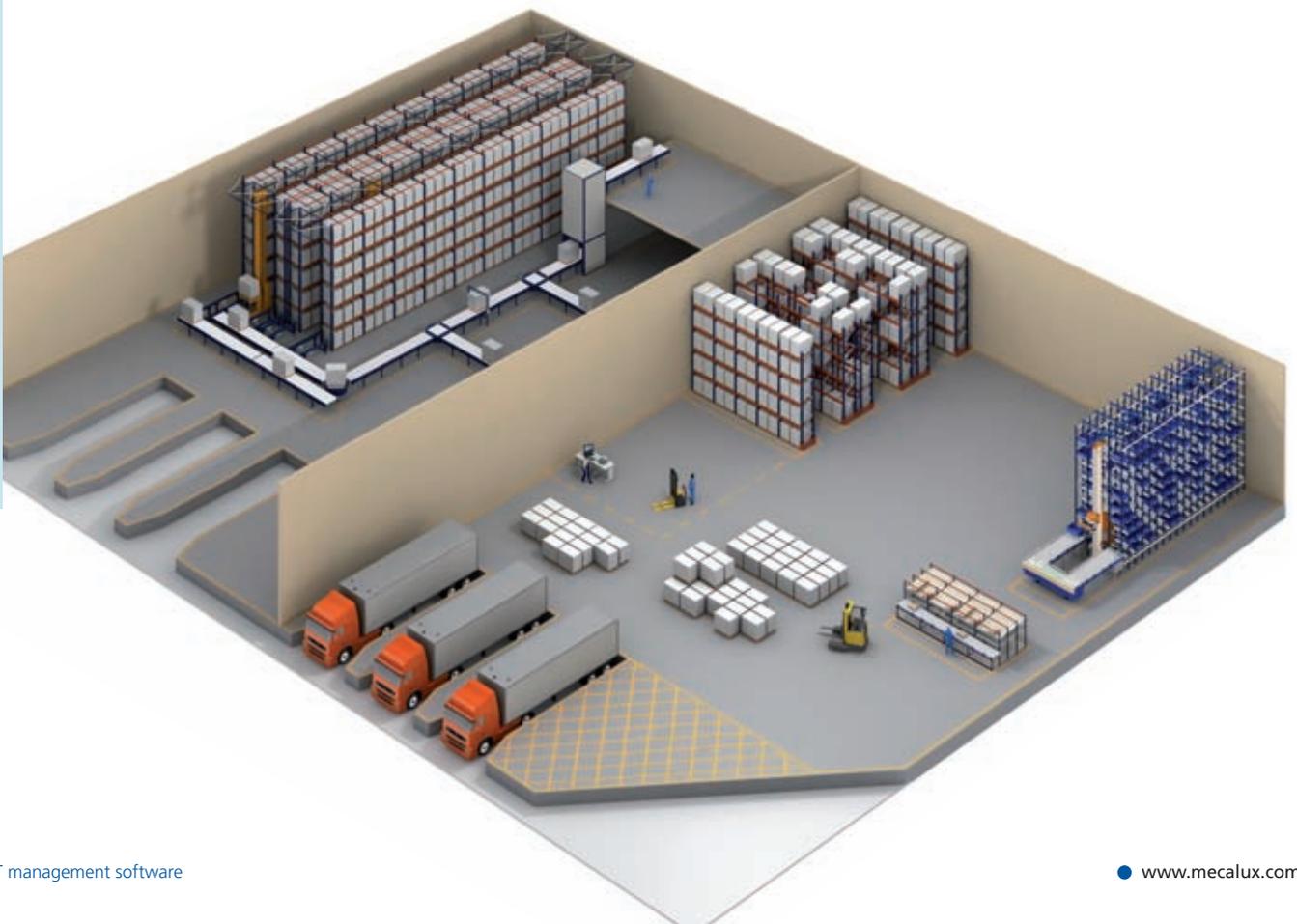
> Practical case 2

Comprehensive management with conventional and automated multi-warehouse for boxes and pallets.

Description: after the implementation of EasyWMS® level 2, the client increased its productivity requiring greater storage capacity for the stock of its product. For this reason, he purchased a new annex warehouse to store stock and ship out complete pallets.

Solution: installation of an automated warehouse with three aisles operated by stacker cranes for Mecalux pallets. Implementation of a handling system with stacker cranes with roller and chain conveyors. Several entry and exit posts fitted with gauge controls are installed in the conveyor system in order to ensure that the pallets enter the automated warehouse correctly. The system is also equipped with an automated workstation for the preparation of orders.

The EasyWMS® (level 2 to level 5) can be adapted in order to manage conventional and automated warehouses. This level enables the client to manage all the logistics processes of its warehouse: entry and reception of goods; their location in each of the different storage areas (conventional or automated); preparation and consolidation of orders, along with their shipment by dispatch routes and the controlled loading of lorries.



> Practical case 3

Comprehensive management with large automated warehouses for boxes, pallets and complex container systems.

Description: when business has grown and the nature of the distribution of the product requires it, the automated storage area needs to be expanded. At the same time, the containers in the warehouse need to be handled as little as possible.

Solution: the number of aisles in the automated warehouse for pallets and boxes is increased to enable greater storage capacity. New, complex conveyor systems are installed, for conveying both boxes and pallets, and several floor levels are built to achieve the total automation of the transport flows in the warehouse.

Work stations for picking are added to increase the capacity for fulfilling orders, along with the work stations for the entry and exit processes for goods in order to also boost storage and extraction flows of complete containers. Reception and dispatch docks are modified in order to be able to perform automated loading and unloading of vehicles.

A new configuration and parameterisation of the EasyWMS® software (level 5) is applied, adapted to the new infrastructure of the warehouse.



Basic advantages

- **Productivity.** Reduction in the number of operations and increase in logistics productivity.
- **Total control of locations.** The management system enables the warehouse to be visualised graphically. In this way, it is possible to know in real time the warehouse's state of occupation without the need to see it physically.
- Thanks to the **control of the preparation of orders** in real time, the quality of service is improved and errors in shipments are reduced.
- **Productivity control** of the operators.
- **Control of activity and location** of resources.
- Permanent **inventory** with **real assessment**.
- **Elimination of errors** in shipments and increase in the reliability of deliveries.
- Increase in the **speed of preparation and shipment of orders**.
- Improvement in the compliance with **delivery times**.
- **Time** is reduced in a multitude of tasks in the supply chain. From carrying out inventories to scheduling the orders' preparation. From operators' idle time reduction to minimizing movements around the warehouse.
- **Resources.** Improved use of both physical and human resources.
- **Losses.** A drastic reduction in costs due to losses thanks to expiry dates, losses due to unknown causes, etc.

Adaptability

- EasyWMS® is highly **parameterizable**, and can be personalised and adapted to a multitude of needs.
- The system has a great **flexibility to allow the warehouse to grow**. It is possible to select a precise level of sophistication, with the confidence that the solution can be easily adapted to the growth in business and to new processes, products, turnover levels and technologies.

Conditions of use of the licence for EasyWMS®

EasyWMS® is a logistics software suite belonging to Mecalux, which is protected by the laws and international treaties on author's rights and intellectual copyright. EasyWMS® cedes to the final user solely a licence for the suite's use.

Each installation requires a global licence, which covers all the features and configurations for EasyWMS® to function correctly. Moreover, it is required to purchase as many user licences as there are work stations which use the software. In most cases, these are work stations equipped with servers, PCs or radiofrequency terminals.

The Licence Contract for the Use of EasyWMS® grants the final user a personal, non-transferable and non-exclusive licence to be used in the installations previously agreed between the user and Mecalux up to the maximum number of points described in the purchase-sale agreement of the EasyWMS® application.

The final user shall receive together with EasyWMS® a licence for the use of the third-party software required to operate the program optimally. These may be products of Oracle, Soti, Bartender or NetSupport. The third-party software supplied by Mecalux is subject to a licence covering restricted use and can only be employed together with EasyWMS®. The rights of property over the third-party software belong to the aforesaid third party who have licensed Mecalux for its embedded used in EasyWMS®.



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