





SIMULTRA PROJECT

2017-1-IT01-KA202-006140



WAREHOUSE MANAGEMENT SYSTEM



INTELLECTUAL OUTPUT A.5.7

Didactic Warehouse Management System Manual [9-7-2019]

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1. Introduction

This manual is a basic introduction to the autonomous management of the software by the student for the professional profile of warehouse manager. Likewise, it serves so that the instructor of the training program can prepare his own theoretical and practical sessions adapting the software to his educational or business environment. In addition, it is adapted for the realization of trainings of the teachers that will use the software as a practical tool.

The software in its free play mode can be used in real training and business environments by using logistics terminals, barcode readers, barcode printers, etc., or simulated from computers Personal.

It will begin with a small introduction to the concept of WMS Warehouse Management Software from a didactic point of view. (Point 2).

The next item sets out the competencies that can be acquired with the use of the tool. (Point 3).

Point 4 briefly explains the installation of the software on the reporting equipment.

Point 5 explains in detail the different game modes offered by the software and the teaching possibilities of each of them.

Guided mode is the way to start as it offers a series of simple practices consisting of developing the main tasks and competencies of the warehouse manager. This mode gives the user an overview of the possibilities of the WMS and a basic knowledge of the professional profile.

Each of the practices is divided into a series of basic qualifying tasks that completed in its entirety allow you to understand the main tasks of the warehouse manager profile.

The 7 practices are:

1.- Creation of new products.

Real educational environment



Simulated environment

2.- Product entry already created previously (in this case it is a pallet with normal packages that will have to be placed on a conventional shelf), reading the code with reader or manual, search for correct location, machine selection, introduction of the move to the right location.

- 3.- Creation of a new warehouse.
- 4.- Internal movement of 3 pallets stored with perishable products in 3 different locations of conventional shelf with different expirys. You have to store them on gravity shelf in order of expiration, the first to enter is the first to leave, then you have to make 5 movements.
- 5.- Stock of a product under out of stock.
- 6.- Shipping of a product.
- 7.- Warehouse inventory.

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2. WMS didactic software

Unfortunately for learning the required competencies of the warehouse manager profile have not been developed to date complete and effective teaching tools having to the instructor use real WMS software in their versions Educational.

Learning these skills ineffective yet very difficult as these are very complex and closed systems designed for complex industrial environments. As a result, it is not possible to develop real case studies, and very basic small practices must be carried out in already created and closed environments.

The didactic WMS software developed by CIFPA allows the learning of such competencies in an intuitive and open way.

As discussed above and will be developed at the following points, the educational software has two game modes, the first of them guided and the second free.

The first would correspond to an initial learning of the basic competencies and tasks developed by the warehouse manager. A series of practices will be carried out each of them by basic areas that once completed will give a basic knowledge of the software and the potential that will allow free mode.

The second, free mode, would correspond to an advanced learning of the competencies of the professional profile of warehouse manager since it allows the initial configuration of any type of warehouse, from a basic one to a complex warehouse system interconnected with other departments such as manufacturing, quality, shipments or purchases.

This free mode allows, once the warehouse, shelves, products, maintenance and lifting machines, customers, suppliers, barcode readers and internal departments are set up, throwing different well-to-be practices if you have that real or simulated warehouse that will allow the effective development of the professional competencies of the warehouse manager profile.

The didactic software will have different levels of user: **administrator** with editing privileges of the software, **teacher** with the possibility of creating new practices and **student** without editing privileges.

3. Basic theory about warehouse management

3.1. The activities in the warehouse

Storage is one of the main activities of the logistics function of a company. This storage is necessary to cover the demand from the moment an order arrives from our supplier, until we receive the next one.

The activities carried out in a warehouse are many and varied, and will depend largely on the type of company we are talking about. However, there are a number of manipulations common to the vast majority of stores. These activities are:

1. Unloading: Unloading of the merchandise from the means of transport used. This merchandise is usually packed on a wooden floor called pallet (also pallet or pallet).

2. Receipt: Once the merchandise is in the warehouse, it is checked. This verification consists in verifying that the merchandise corresponds to the requested one, and the delivery note (list of items and quantities issued





by the seller and accompanying the merchandise). Sometimes it is also convenient to obtain a sample of the shipment to check the status of the merchandise.

3. Transfer to the storage area: Once it has been verified that the merchandise corresponds to the requested one, it will proceed to transfer it to the storage area. Storage is usually done in the upper recesses of the shelves.

4. Picking: Normally in a warehouse the merchandise does not go out by pallets or complete cargo units. For this reason, when a customer makes an order, it is necessary to start the picking operation, consisting of extracting from the pallets the units that the customer has demanded.

This picking can be done in several ways:

- Establishing a picking zone: In this case, an area of the warehouse is reserved where individual units of the items are placed. When these units run out, they will be replenished from the storage area.

- In the lower shelves of the shelves: It is a widely used alternative, and consists of establishing the shelves of the shelves that remain on the floor of the warehouse (level 0) as a picking area. As in the previous case, when these pallets run out, it will be enough to replace them from the top of the shelves.

- In all the shelves of the shelves: It consists of using manipulation means that elevate the operator to the place where the pallets are located.

5. Consolidation and dispatch: Once the orders have been completed, the products will be labeled (if necessary), grouped by destination, packed, and generated documentation (especially the delivery note).

6. Cargo: When the shipment is ready, it is loaded onto the means of transport.

3.2. The different areas of the warehouse

In any warehouse, at least the following areas must be perfectly defined:

Loading and unloading docks

They are those to which trucks or vehicles for transport and distribution of goods have direct access. Ideally, if sufficient space is available, place both areas in completely opposite places, to make the transit practically straight.

There are two possibilities when configuring loading and unloading areas. The first one is the one that places these integrated zones in the warehouse, so that the loading and unloading of the merchandise is carried out directly, without the need for any type of detour. This means a better speed of handling the goods and therefore they are more advisable, when sufficient space is available.

The second of the possibilities to place the loading and unloading area is to place them independently, that is, located outside the warehouse, although within their environment.





Goods receiving area

The reception area should be located as independently as possible from the rest of the warehouse in order to act not only as a receiver, but also as a sorter of the product received.

In this area the merchandise undergoes a double process: Quality control and classification of the merchandise.

Storage area

The storage area itself is one that is solely intended for this purpose. For this, it must have adequate facilities.

Order Preparation Zone

The zones of preparation of orders are not essential in any warehouse, only in those in which the merchandise of exit has a different composition (for example, when they enter complete pallets and leave pallets composed by different units). Nor will they be necessary if the picking is done in the storage area (on the shelves themselves).

Issue Zone

Are those intended for packaging, if it comes from the orders selected in the preparation areas described above, and in any case to the accumulation of the goods that have to leave the warehouse, by loading them into the delivery and / or distribution trucks.

Office area and services

They are intended to accommodate the necessary material for the administrative management of the warehouse, in addition to the auxiliary services that will be required by both the administrative staff and the operator.

Other specialized areas

Mainly return zone, cold stores, empty pallet area, etc ...

3.3. Warehouse maintenance equipment

Roller transport systems

They can be defined as pre-established roads, constituted by a series of frames built on the basis of steel profiles that support in their upper part a series of rollers that, depending on the type of loads to be supported and the work to be performed, can be of steel or plastic.

Loads can slide on these paths by gravity (placed with a certain degree of inclination) or by electric motors that drive the rollers.





Pallet trucks

Also called pallet trucks, they are a very versatile means with which you can perform a multitude of tasks, such as loading and unloading, moving to other cargo units at short distances, or helping in picking operations.

There are many types. The manual transpalet consists essentially of a fork with two parallel and horizontal arms attached to a head provided with wheels. The fork can be raised a few centimeters by manual operation, with the rudder, of a hydraulic pump, thus supporting the loading of the pallet until it loses contact with the ground, thereby allowing the goods to be moved.

When the distances to be traveled, the loads or the frequency exceed the recommended limits for the manual pallet truck, the motorized ones are used.



Manual transpalet



electric transpalet

Stackers

Machines that allow in addition to horizontal transport, its elevation, are called stackers or stackers. These stackers are mainly used to lift pallets at low height, especially in storage systems that stack loads on top of each other (block storage).



Stackers





Counterbalanced forklift

It is the most universal, although at present, the progressive specialization of the means of manipulation makes it lose ground with respect to the others. These forklifters can be driven by electric or thermal motors (gasoline, gas). In the latter case, the emission of gases makes them unusable for maneuvering in enclosed spaces.



Counterbalanced Forklift

Reach forklift

They are vehicles of whose chassis the two supporting arms are extended horizontally, at whose ends are the front wheels. Its use is limited to the interior of the warehouse.



Reach forklift

Order picker forklift

Composed of a cabin where the driver who stands on the chassis of the truck is located. In front of the cab are fixed forks that allow the driver to raise the pallet to the desired height to pick up the goods.

These forklifts are designed specifically for picking tasks when they are done at all levels of the shelves.





Transelevator

They consist essentially of a vertical beam guided by an upper and lower rail along the corridor. Throughout the length of this beam the machine is captive by moving the cabin together with the forks.

On their handling, they are usually computer guided machines. These teams usually work each in a corridor, although there are mechanisms that allow transfer of transelevators from one corridor to another. Since they are machines that can move exclusively through the storage area, they need complementary means to move the loads out of this area. Normally these means are roller paths.

3.4. Storage systems

Block storage

It consists of stacking the goods on top of each other, forming compact blocks. It is a system that is used for both pallets and unpalletized merchandise.

Conventional Fixed Shelves

It is the most universal system for palletized products or not. It is based on shelves that allow direct access to the products stored in them through different aisles, whose width will be determined by the means of handling used.



Covencional fixed shelves

Compact shelving

It is a storage system without aisles, in which the crossbars of the shelves are eliminated, being able to introduce the trucks inside them. In the absence of crossbars, the pallets rest on rails arranged along the shelves.







Compact shelving

Dynamic shelving

In this system the shelves are composed of tunnels or slightly inclined alveoli and provided with rollers, in such a way that the introduction of pallets is carried out by one of the ends of the shelves, being placed by their own weight and the help of the rollers in the line queue The extraction will be done at the other end of the shelf.



Dynamic shelving

Estanterías móviles

Es un sistema compuesto por estanterías convencionales colocadas unas junto a las otras dejando un solo pasillo para acceder a ellas. Estas estanterías están montadas sobre raíles que permiten su desplazamiento lateral de forma manual o motorizada, dejando un pasillo libre para acceder a todas ellas.

Estantería cantiléver

Diseñada para el almacenaje de mercancías largos como barras o perfiles.

Mobile shelving

It is a system composed of conventional shelves placed next to each other leaving a single corridor to access them. These shelves are mounted on rails that allow lateral displacement manually or motorized, leaving a free aisle to access all of them.





Cantilever shelf



Designed for the storage of long goods such as bars or profiles.

Cantilever Shelf

Robotic shelving

They are systems designed to maximize the capacity of the warehouse, as well as optimize its operation.

In these warehouses, movements are automated by means of stacker cranes, roller paths, etc., which operate under the orders of a computer.

3.5. Management of goods receipts

Merchandise reception

When the order has been sent by the supplier, we have unloaded it by means of a truck or transpallet, and we have it in the storage area, we must proceed to the control of said entry. This control involves the following activities:

- Verification of merchandise
- Sampling
- Reflect in writing the contents of the Inspection

Product coding

Identifying the different references with which we will work in the warehouse is vital for the management of the inputs and outputs of the goods. To do this, the easiest way is to assign codes to each of the references that make up the warehouse stock.

A widely used coding system for having a universal character, is the so-called EAN-13, which is usually translated into a barcode that can be read by a scanner, greatly facilitating the identification of merchandise.





Location systems

When an order arrives at the warehouse, we proceed to verify that everything is correct, to subsequently decide where it will be stored. This place will depend on the location management system that the company has chosen to order its warehouse, mainly three can be used:

- Ordered storage: that type of storage that grants a single place for each product.
- Chaotic storage: It consists of placing the goods in the places or gaps that remain free, as they arrive, without there being any predefined place for each merchandise.
- Bulk storage: This is the storage of loose products, that is, those that are not structured in the form of cargo units, in addition to other products such as liquids, bulk, etc.

3.6. Management of goods issues

Goods issue criteria

A stock of several units or pallets of the same reference is maintained in a warehouse. For this reason, when it is necessary to replace the picking area, or when deciding in the picking area itself what unit we should serve, it is necessary to determine a priority criterion at the exits. These criteria are three:

- FIFO Criteria (First-In, First-Out): The first units to enter will be the first to exit.

- FEFO Criteria (First-Expired, First-Out): In this case, the merchandise that is closest to expire will be the first one that will come out.

- LIFO Criteria (Last-In, First-Out): In this case, the last units that entered are the first ones that leave.

Picking

The preparation of orders (picking) is the most expensive activity carried out in the warehouse (around 65% of the cost of the operations of a warehouse). Under this expression a set of tasks are included to extract and condition exactly those quantities of products that meet the needs of the customers of the warehouse, manifested through their orders.

When the load units leave the same as they enter, it is not necessary to perform the picking operation. Only when this load unit has to be broken is this operation to be carried out

3.7. Inventory management

The stock of a company can be defined as the set of materials and articles that the company stores pending its use or subsequent sale. Almost all companies have to maintain an inventory or stock of different types of goods.





Stock management is the part of the logistics function that manages the company's stock. The fundamental objectives that are pursued so that the management of stocks is as efficient as possible are two:

1. Store as few items as possible. In the previous topic we saw how the storage of products is a high cost for companies. Therefore, to reduce these costs, we will try not to store more products than necessary.

2. Avoid stock breaks. Satisfying customer orders is vital in a competitive world like today.

Both objectives are contradictory. If we store insufficient quantities of items we will be giving a low level of service, although the cost of storage is kept at minimum levels. If on the contrary, we store more than we should be giving a good level of service, but the cost of storage will skyrocket. Therefore, stock management has the difficult mission of finding a balance between these two objectives. To do this you will have to determine variables such as:

- 1. The stock level of each item: Units to be stored for each item.
- 2. Time to issue orders: This is what is called the order point or stock level from which we will issue a new order.
- 3. Quantity to order in each order or order lot.

Stock classes

- Normal stock: It is the stock needed to meet the normal demand of the company from the moment we receive an order until we receive the next one (replenishment time).
- Security stock: It is the volume of stocks that we have stored above the necessary (cycle stock) to meet the usual demand of customers. The purpose of this stock is to avoid stock ruptures if they occur:
- Advance stock: It would also be the case of the stock that is constituted to meet the demand for seasonal sales products.

Stock movements

The stock of companies increases or decreases over time as goods receipts and outflows occur.

The stock presents a movement in the form of saw teeth. When an order arrives at the warehouse, the stock level of the item reaches its maximum level. This maximum will be equal to the security stock plus the order lot. From there, the stock will decrease as customers place orders and serve them. This decrease has been represented as if it were something continuous, but in reality it would be an irregular descent and in the form of steps, because customers do not always ask for the same quantities and on the same frequency.

When the stock reaches the order point we would make a new order to the supplier.





Stock management models

1. Continuous review system: It consists of updating the registered stock immediately, after each transaction. For this, a WMS warehouse management system is usually used in which goods receipts and goods are recorded.

2. Periodic review system: It is a simpler system than the previous one. In this case the goods receipts and exits are not registered. To know the level of stock of each moment and place orders, we proceed to make counts of each product from time to time.

Regardless of the stock management system used by the company, periodic stock counts should be made. These counts or inventories are made:

- At least once a year, which serves as the basis for the preparation of the Annual Accounts of the company.

- Periodic counts that are made to detect errors when a continuous review system is used.

- Recounts that serve as the basis for placing orders when a periodic review system is used.

Performing an inventory involves counting all items in a warehouse, although partial counts can also be made of a sector or section.

Just in time management systems

Traditional production management systems seek maximum utilization of their installed capacity. Therefore, inventories accumulate in order not to stop the production process. This means that the manufacturing time of the products was lengthened, while maintaining a large stock of products pending some manufacturing process.

From the seventies the traditional management model is in crisis, with the emergence of the most efficient manufacturing techniques introduced in many Japanese companies, especially in the automobile sector. These techniques manage to produce higher quality goods, at a low cost, which in a short time exports of Japanese products flood the world markets. Within this new philosophy, the Just in Time system is a leading agent.

The JIT technique aims to buy or produce the number of units needed, at the time it is needed, to meet the demand of the product.

The JIT philosophy is based on the idea that inventories exist only to prevent problems, such as supplier delays, production system shutdowns, etc. If these inventories disappear, the problems will come to light and can be solved.

Another feature of the JIT system is that it is a pull or pull system. This means that it is the customer's order that starts the product production process.





Traditional systems are based on a pull system, which means that the required production level is manufactured from demand forecasting, eliminating the stock through the sales force. This means increasing the stock of finished products waiting to find purchased.

4. Skills acquired through the use of the teaching tool

The **main tasks** that can be developed in the simulator are:

- 1. Selection of handling equipment.
- 2. Location Selection:
 - a. ABC Criterion
 - b. Criterion of volume and geometric shape
- 3. Receipt and registration of goods. (Tagging and encoding)
- 4. Storage
- 5. Movement between locations and shipment of goods.
- 6. Inventory management: set in WMS the possibility of guarantee stock, minimum and maximum. (Communication to the purchasing department of resupply requirement)
- 7. Inventory control (Inventory).
- 8. Supplier, product and customer data management
- 9. Statistics (rotation rates, coverage index, obsolescence, breakage, average stocks, other indices).

From them the user of the didactic software will develop the professional skills:

<u>General Competition</u>: Organize and control the operations and flows of goods from the warehouse, in accordance with established procedures and current regulations, and ensure the quality and optimization of the warehouse and/or chain network logistics.

<u>Competition Unit 1</u>: Organize the warehouse according to the planned criteria and activity levels.

<u>Competition Unit 2</u>: Manage and coordinate warehouse operations.

<u>Competence Unit 3</u>: Collaborate in the optimization of the logistics chain with the criteria established by the organization.





5. Software interface

In the interface, we find tab with the following functionalities:



ALL OPERATIONS AND TRANFERS

Here are the internal and external inputs, outputs and transfers with the possibility of viewing and creating them.

WH TOOL MANAGEMENT

Here are the lifting and maintenance devices to be used in the practices. In guided mode they are already created, but it is given the possibility of creating newin free mode.

The devices that can be created for a conventional warehouse are: conventionalelectric wheelback, retractable, myearly and stacker.

The necessary documentation of each machine can be added in free mode in case of failure or maintenance to be consulted.

TRACEABILITY

Screen where the movements between the warehouses are.

PRODUCTS

You can create new products or simply visualize their characteristics and where you are located, as well as set your safety stock and view it.

STORES

Here you can create new warehouses or just without a system. Initially in mode are guided created 3 warehouses: Warehouse 1, Warehouse 2 and Warehouse 3.





- Warehouse1: In it we find the following shelves:
 - Shelf 1 (CONV1): Conventional shelf with the following locations all in corridor 1. It consists of 4 shelves (x0 to x3) and height 4 heights (y0 to y2)
 - Shelf 2 (CONV2): Conventional shelf in corridor 2. It consists of 4 shelves (x0 to x3) and 4 heights (y0 to y2)
 - Shelf 3 (CANTIL1): Cantilever shelf for long bars located in corridor 3 with 2 heights.
- Warehouse 2: In it you will find:
 - Shelf 4 (CONV4): Conventional shelf with the following locations all in corridor 4 (corridor 4) 8 shelves (x0 to x7) and 4 heights (y0 to y3)
 - Shelf 5 (COMPACT1): Located compactly in corridor 4 with 2 shelves (x0-x1) and 2 heights (y0-y1). Note: 3 packages or packages fit on each shelf.
 - -Shelf 6 (GRAV1): Gravity shelf located in corridor 5 and 2 heights (Ineach height can fit 4 boxes)
- Warehouse 3. In it you will find:
 - Shelf 7 (CONV5): Conventional bookshelf with the following locations all in corridor 6(corridor 6) composed of 8 shelves (x0 to x7) and 4 heights (y0 to y3)
 - Shelf 8 (CONV6): Conventional bookshelf located in corridor 6 and composed of 8 shelves (x0 to x7) and 4 heights. (y0 to y3).



PLANO DE UBICACIONES DE ALMACENES

LOCATIONS

It is possible to name each shelf, set the barcode of the location and the address of the location. From this tab it is possible to include a particular stock of product.





PARTNERS

New customers, suppliers and internal departments of the company can be viewed and created: quality, production, etc....

CONFIGURATION

Setting up basic software features: language, etc...

SUPPORT DOCUMENTATION

Manual of lifting and maintenance devices, warehouse plan with the locations, list of products with all their characteristics, list of suppliers, list of customers, etc...

6. Game modes

Once the user and password have been entered a screen where we place the game mode.

Login	
E-Mail Address	
Password	
	C Remember Me
	Login Forgot Your Password?

6.1. Guided mode

This game mode for initial learning is characterized by its simplicity as many of the full mode's features disappear.

Once the guided mode has started, we have to go to the message screen where we can see in our communication email the different messages corresponding to each of the practices. In this way we can select at any time the practice to perform based on the learning of the desired task.

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Once the desired practice is selected, the user will be realby hoisting the tasks entrusted in a free way, but at the same time guided.

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Once the desired practice is complete dampened, the score obtained appears and the user must return to the messages tab to start another practice.

It is possible to repeat the practices already performed in the last score obtained.

The following describes in detail each of the 6 guided mode practices, as well as the scores that are given to each of the tasks that compose them:

<u>PRACTICE 1. Creating new products (15 points)</u> First of all a new internal message arrives, the user must open it. And he explains that you must enter in the system 3 new products with their weight, dimensions, give you a barcode, print the label and send confirmation message of realization. The score is over 15 in all cases: Sireads the message (1 point), creation of each product with all the correct fields (2 points each product - 6), print all 3 labels (3 points), send confirmation message (2 points) and realization in less than 5 minutes (3 points).





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<u>PRACTICE 2.</u> Pre-created product entry (pallet withnormal packages to be placed on a conventional shelf), reading the code with reader or manual, correct location search, machine selection, introduction of the movement in the right location (25 points).

A new internal message arrives, has to open it and in it explains the practice to perform with the entry note, (1 point), barcode reading (2 points), selection of the right machine and busy machine signage (2 points), correct location selection (any conventional shelf in a freelocation) (5 points), movement record (6 points), disable busy machine signaling (2 points), confirmation message (2 points), performed in less than 10 minutes (5 points)

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PRACTICE 3. Creating a new warehouse (40 points)

Creating a new unused vault will be created later. First, you receive a message with an attached plan of a warehouse with certain shelves. The user must create the settings set on the drawing:

- Creation of the warehouse (3 points)
- Creation and coding of 3 shelves (1 cantilever and 2conventional) (3 points each 9)
- Creation of services (6 points for each shelf -18)
- Performed in less than 15 minutes (8 points)
- Confirmation message (2 points)

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<u>PRACTICE 4. Internal movement of 3 pallets stored perishable in 3 different locations of conventional with different expirations must be stored in gravity by order of expiration 1 first in order is the first to leave luego you have to make 5 moves (25 points)</u>

First comes a new internal message, the user must open it and it explains the practice to perform, (1 point), selects the correct machine and selects busy machine (2 points), select the correct location (gravity shelf) (5points), record the 3 movements (3 points for each move - 9), selection of occupiedmachine (2 points), confirmation message (2 points), performedin less than 10 minutes (4 points).





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PRACTICE 5. Stock of a product under out of stock (35 points)

A message arrives with a stock break of bars stored in cantilever (if you read it 2 points), you have to warn the supplier to send more than 2 new ones since the minimum stock is 2 (order correct 3 points), when you give it simulates that they already arrive and, you will have to label them (2 point each – 6), choose correct machine considering that the conventional electric is occupied then you will have to choose the stacker giving the busy tick (3 points), record movement by placing them in cantilever (4 points each - 12), confirmation message (2 points), perform it in less than 10 minutes (7 points).

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PRACTICE 6. Shipping a product (50 points)

A message arrives from the sales department of an order of 5 pieces already encoded and stored for shipment (reading the message 2 points), warning the supplier to send more than 4 pieces to replenish since there are currently 6 pieces in stock (correct order 8 points) creation of the output note and printing of the same (10 points), choosing the correct machine considering that the conventional electric forklift is occupied then you will have to choose the stacking machine or the manual forklift selecting machine occupied (3 points) recording the movement by placing the pieces in the shipping dock (12 points), confirmation message (5 points), realization in less than 12 minutes (10 points).

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PRÁCTICA 7. Warehouse Inventory (70 puntos)

It is time to inventory the stores. A message arrives asking the warehouse manager to make an inventory of stores 1,2 and 3 (reading the message 2 points), correct inventory of each of the stores (10 points for each correct inventory of each of the stores), creation of the listings and printing of them (11 points for each list of each of the stores), confirmation message (5 points), completion in less than 20 minutes (10 points).

MAXIMUM POSSIBLE SCORE 280 POINTS





6.2. Free mode

They are listed and explained each of the functional ones in free mode that allow the total management of any warehouse configuration, from conventional, modern LEAN stores or automated warehouses:



Conventional Warehouse



Automated Warehouse

- 1. Entry of a good that must be processed by the goods receipt department. This department will communicate it to the Technician/Employee through the transfer of the entry ticket (including the product list) through the WMS.
- 2. **Handling equipment selection:** Before moving the goods, the operator must select the appropriate handling equipment according to size, weight, location, etc.
- 3. Location selection: The choice of the location of the goods will be established according to several criteria: physical condition, durability or expiration, hazard, degree of rotation and the function they perform within the logistical flow, form, size or density.
- 4. **Receipt and registration of goods. (Tagging and Coding):** Goods from the external vendor are received by the goods receipt department. This department enters the encoding into the WMS manually or by reading the barcode.

The WMS system also supports the possibility of additional communication to the warehouse management department using a specific tool.

The technician/employee encodes the goods with their own code (only for new unregistered goods) and prints the barcodes (in the event that the third-party vendor does not have the coding of our integrated warehouse) In the case of the internal departments (manufacturing, quality, internal returns, etc.) the entry is direct without the intermediation of the goods receipt department and the codes are always encoded and printed

5. **Storage:** Once the above activities are completed and the goods are coded, they will be stored. The posting occurs by reading the location code on the shelf and assigning the code of a particular good to that location. The assignment can be done manually without reading the location.





