Entersoft WMS 5.9.0.0

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New features and extensions

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Brief description of version contents

See below for a summary of the main version extensions. The full new features & improvements catalog is broken down per category, along with user instructions & examples.

Entersoft WMS Back Office

- Receipt activation package optimization
- Additional information in shipment routing
- Stock movement at a location with only one pallet as location profile
- Order of handling XDOCK requests from receipt
- Collective picking & replenishment
- Putaway algorithm optimization
- Replenishment algorithm optimization

Entersoft WMS Mobile

- Extension of the reserved stock movement
- Stock movement (upon request) of reserved stock
- Stock movement from container to container with printing
- New shipment sorting functionality
- Optimum picking quantity algorithm at lot and container level
- Putaway in container
- Cross docking from production

Entersoft WMS Touch

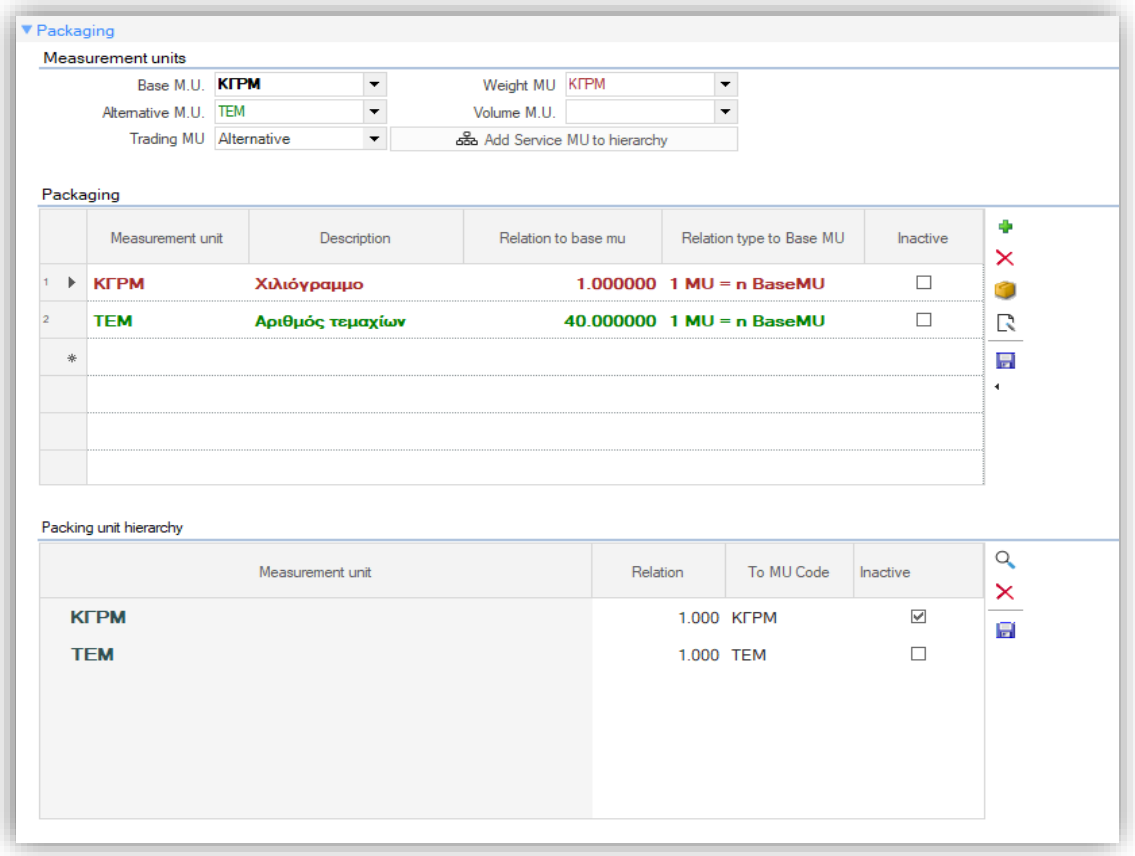
- Receipt station: Receipt with composite barcode
- Receipt station: Ad hoc receipt on a multi-company basis
- Consumption Station: Consumptions in production orders

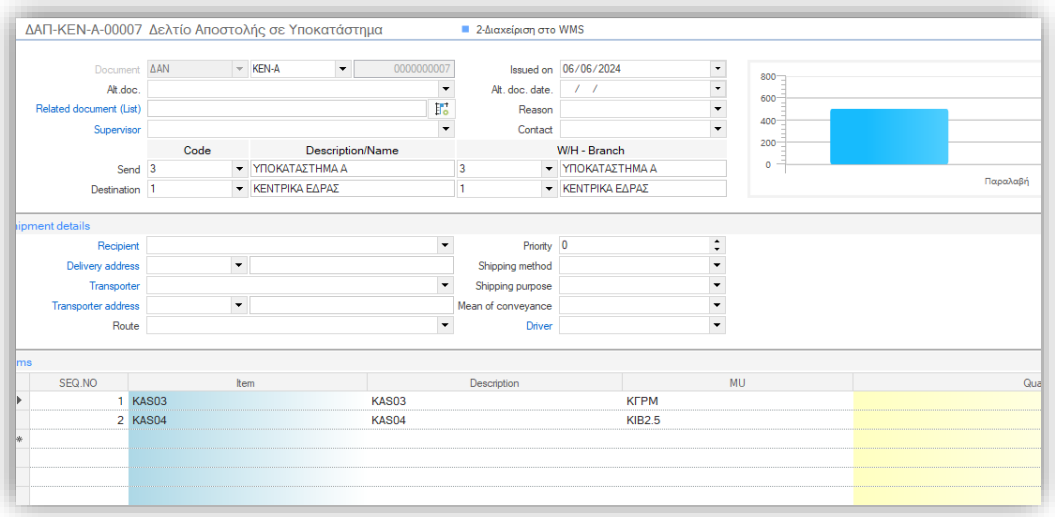
1. WMS Back Office extensions

1.1 Receipt activation package optimization

This version supports the package optimization scenario at receipt activation, in order to enable item receipt, for items whose BMU does not belong in the hierarchy. This extension was implemented for customers that carry out simultaneous receipts (pallet + SSCC pack), by scanning only the pallet SSCC.

Let's take the following as an example:





	Open	WP Code	Resource code	Request status	Code	Request description	Request registration date	Quantity	MU	Open quantity (Service MU)	Lot barcode	WH	Storage location	Package SSCC	Pallet SSCC
KAS03 (KAS03)															
1	☑	WR-00149		Σε εξέλιξη	pRCPT-00184	Αίτημα παραλαβής	11/06/2024	12.000	TEM	12	505050	To: 1		In: 011122330000001088	In: 211122330000001068
KAS04 (KAS04)															
2	☑	WR-00149		Σε εξέλιξη	pRCPT-00185	Αίτημα παραλαβής	11/06/2024	5.000	KIB5	25	60660	To: 1		In: 011122330000001095	In: 211122330000001075

User defined fields

Items and quantities

Request package | Request containers

	SE Q. N...	Item	Measurement unit	Quantity	Color	Size	Lot	Serial number	Item dimension 1	Item dimension 2	To Weight	From st...	From WH
1	1	KAS03	TEM	12.00			0000000381				£480.00		

1.2 Additional information in shipment routing

In the Shipment Routing scroller, four new columns were added, just like in the Shipment Monitoring scroller. Two of the columns concern the sum of the volume and weight of the total order lines, for each SRC to be routed. Additionally, two more columns were added, displaying the Number of Items and the Number of Lines.

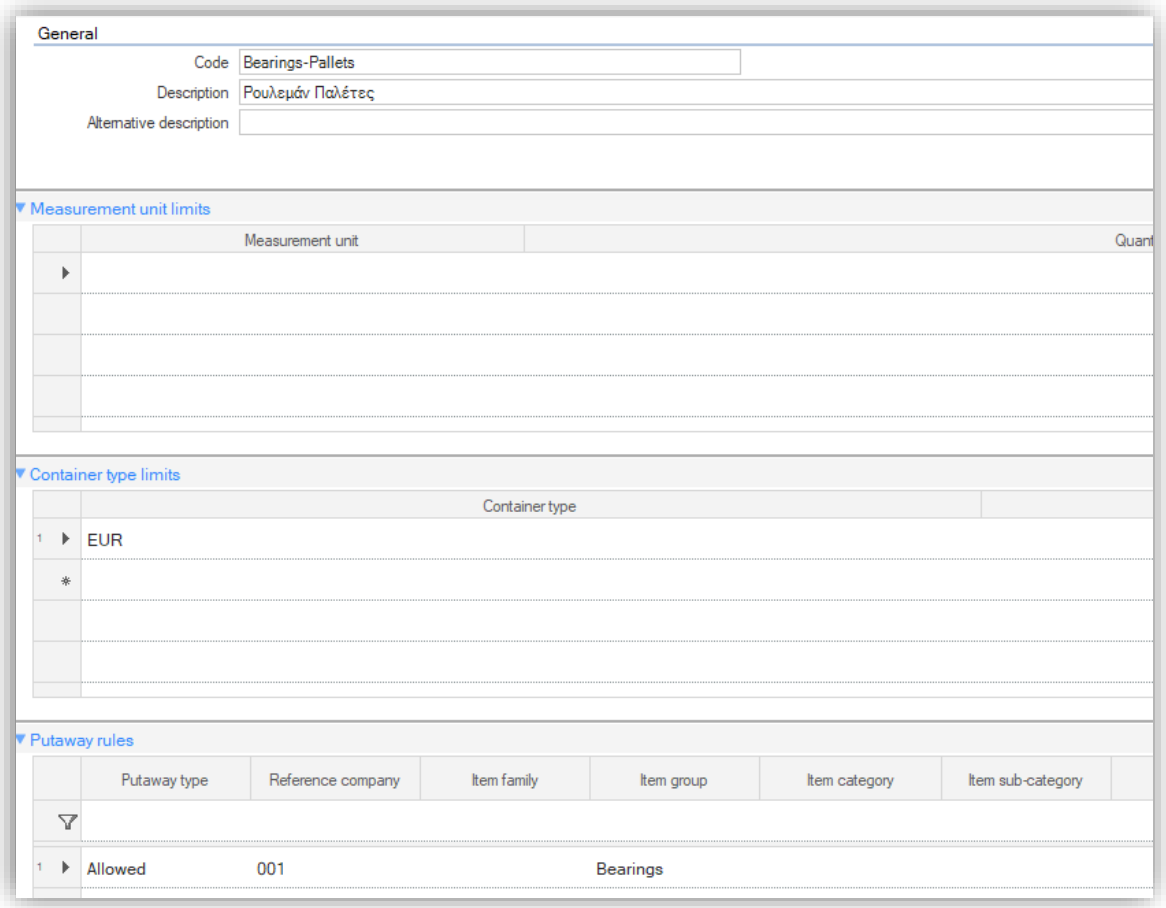
This optimizes user work, by offering access to more direct information on demand, without having to first route the order.

	Order Code	Delicery Date	Send To (Code)	Send To (Name)	Has been routed	Delivery Address	Route	Mean of conveyance	Driver	Pre-routing	Shipment code	Shipment - means of c...	Shipment route	Shipment driver	Total weight	Total volume	Number of items	Number of lines
Shipping type: Sale																		
Geographical zone: ΑΤΤΙΚΗ																		
1	ΠΔΣ-Α-00226	10/05/2024 11:...	CS000006	ΠΕΛΑΤΗΣ 000006	☑	Λ. Ποσειδώ...	ΑΤΤΙΚΗ			☐					0.000000	0.386000	3	3
Geographical zone: ΚΕΝΤΡΙΚΗ ΜΑΚΕΔΟΝΙΑ																		
2	ΠΑΡ-1-00006	3/04/2024 09:5...	CS000008	ΠΕΛΑΤΗΣ 000008	☐	Νίκης 11 &...	ΕΠΑΡΧΙΑ			☐					0.000000	0.000000	1	1
Geographical zone: ΠΕΛΟΠΟΝΝΗΣΟΣ																		
3	ΠΔΣ-Α-00221	11/04/2024 11:...	CS000009	ΠΕΛΑΤΗΣ 000009	☑	Πανεπιστη...	ΠΡΑΚΤΟΡΕ...			☐					0.000000	0.000000	6	6
4	ΠΔΣ-Α-00222	11/04/2024 11:...	CS000009	ΠΕΛΑΤΗΣ 000009	☑	Πανεπιστη...	ΠΡΑΚΤΟΡΕ...			☐					0.000000	0.000000	6	6

1.3 Stock movement at a location with only one pallet as location profile

In this version, improvements were made to support stock movement of pallets both with a nested container and without, in a location where the location profile only allows for one pallet.

That way, the customer can carry out a stock movement on the same profile, either a pallet with a nested container or a simple one.



1.4 Order of handling XDOCK requests from receipt

This concerns the extension of a functionality where the order of handling XDOCK (cross docking) requests was substantially reconfigured in case of a receipt deficit.

More specifically, the order of handling has been improved to serve the orders that came in first (date + time). Then, the 1st XDOCK step commences, along with the grouping by route.

1.5 Collective picking & replenishment

It is now possible to create replenishment requests, upon routing implementation by grouping and reserved request.

See below for a typical example:

The below stock is available and the following SRCs are routed with the default parameters illustrated in figure 3.

Site: (1) ΚΕΝΤΡΙΚΑ ΕΔΡΑΣ (Count: 4)

1	tsf1_pick	(1) ΚΕΝΤΡΙΚΑ ΕΔ...	tsf1	tsf1	5	KIB (50.00 TEM)	✔	
2	tsf1_replsh	(1) ΚΕΝΤΡΙΚΑ ΕΔ...	tsf1	tsf1	20	KIB (200.00 TEM)	✔	238012340000001679
3	tsf2_pick	(1) ΚΕΝΤΡΙΚΑ ΕΔ...	tsf2	tsf2	10	KIB (100.00 TEM)	✔	
4	tsf2_replsh	(1) ΚΕΝΤΡΙΚΑ ΕΔ...	tsf2	tsf2	20	KIB (200.00 TEM)	✔	238012340000001686

Order Code | Delicery Date | Send To (Code) | Send To (Name) | Has been routed | Delivery Address | Route | Mean of conveyance | Driver | Pre-routing | Shipment code | Shipment - means of c... | Shipment route | Shipment driver | Total weight | Total volume | Number of items | Number of lines

Shipping type: Sale

Geographical zone: (none)

1	ΠΔΣ-ΚΕΝ-Α-00...	22/10/2024 12:...	CL01	ΑΝΤΩΝΙΟΥ ΓΕΩΡΓΙ...																							0.0000	0.0000	2					
Item code	item des...	serial nu...	lot code	Color Co...	Color D...	Size Code	Size De...	Item dim...	Item dim...	HasAna...	SELEC...	Service ...	Trading ...	Base M...	Alternati...	Item mo...	fBusine...	fActivity...	fDimens...	fDimens...	Routing...	Line nu...	Open q...	Open q...	BomEx...										
1 tsf1	tsf1									0	0	20.0000	TEM	TEM		1					dummy	1	20.0000	0.0000	0									
2 tsf2	tsf2									0	0	50.0000	TEM	TEM		1					dummy	2	50.0000	0.0000	0									
2	ΠΔΣ-ΚΕΝ-Α-00...	22/10/2024 12:...	CL01	ΑΝΤΩΝΙΟΥ ΓΕΩΡΓΙ...																							0.0000	0.0000	1					
Item code	item des...	serial nu...	lot code	Color Co...	Color D...	Size Code	Size De...	Item dim...	Item dim...	HasAna...	SELEC...	Service ...	Trading ...	Base M...	Alternati...	Item mo...	fBusine...	fActivity...	fDimens...	fDimens...	Routing...	Line nu...	Open q...	Open q...	BomEx...										
1 tsf1	tsf1									0	0	130.00...	TEM	TEM		1					dummy	1	130.00...	0.0000	0									

Parameters

Basic | All

Execution Date	23/10/2024	Cancellation reason - stock shortage	
shipped on		Document SSCC as reservation criterion	☐
Series	KEN-A	Container quantity management	☑
Assign in		Reserve whole container quantity for 2nd step replenishment	☑
Transporter		Bypass Storage location Distribution	☑
Route		Log	☐
Mean of conveyance		Activate pre-packing	☐
Driver		Only full containers	☐
Invoicing stage definition		Pre-packing zone	
Activate management in WMS	With picking grouping	Upper demanded volume limit	
Picking type		Auto-confirm picking	☐
Use the order serial code	☐	Process failed	☐
Type	Picking	Create xdock requests	☐
Lots end date	Anything	Reservation rule	
Cancel open quantity	☑	Reservation	Based on item
Cancel order	☐	Container per SO	☐
Only packages collection	☐	Exception of reservation field	
Package picking zones		Lot Strict FIFO	☐
Package Optimization	No		
Default optimization	☑		
Single lot use	☐		
Lots of the same due date	☐		
Full packages, only	☐		
Run OnTime Replenishments	By item		
Picking - target storage location			
Flagged lots are excluded			
Target Container Type			
Add to existing Work Package	☐		
no SO grouping	☑		
Reservation reason			

The result is that replenishment requests (figure 4) are created.

tsf1 (tsf1)

1	☑	WPSHIP-00157	Σε εξέλιξη	pPICK-00121	Αίτημα συλλογής με δέσμευση	23/10/2024	100.000	TEM	100	From: 1	From: 041921
2	☑		Σε εξέλιξη	pREPL-00003	Αίτημα ανατροφοδοσίας	23/10/2024	10.000	KIB	100	1	From: tsf1_replsh | To: BUF...
3	☑	WPSHIP-00157	Σε εξέλιξη	pPICK-00120	Αίτημα συλλογής με δέσμευση	23/10/2024	50.000	TEM	50	From: 1	From: tsf1_pick
4	☑	WPSHIP-00157	Σε εξέλιξη	pSORT-00028	Αίτημα διαλογής	23/10/2024	130.000	TEM	130	From: 1	
5	☑		Σε εξέλιξη	pREPL-00004	Αίτημα ανατροφοδοσίας	23/10/2024	100.000	TEM	100	1	From: BUFFER | To: 041921
6	☑	WPSHIP-00157	Σε εξέλιξη	pSORT-00027	Αίτημα διαλογής	23/10/2024	20.000	TEM	20	From: 1	

tsf2 (tsf2)

7	☑	WPSHIP-00157	Σε εξέλιξη	pPICK-00120	Αίτημα συλλογής με δέσμευση	23/10/2024	50.000	TEM	50	From: 1	From: tsf2_pick
8	☑	WPSHIP-00157	Σε εξέλιξη	pSORT-00027	Αίτημα διαλογής	23/10/2024	50.000	TEM	50	From: 1	

1.6 Putaway algorithm optimization

This optimization of the putaway algorithm concerns the item storage locations.

Parameter AlwaysProposeItemStorageLocation was added to WMS.xml. By enabling it, the item location is always suggested upon putaway.

This makes it possible, in items with a linked location, for the algorithm to select this location even if there is no stock or previous movements, i.e. it's a new item.

In the particular case of customers who have several new items and no stock, it will be possible to suggest the locations specified for the item.

1.7 Replenishment algorithm optimization

Parameter AlwaysProposeItemStorageLocation for location proposal, which was added to WMS.xml, now also works for replenishment (apart from putaway).

In other words, the replenishment functionality was also extended in order to always suggest a specific location, if it's been declared in the item.

2. WMS Mobile Extensions

2.1 Improvements in reserved stock movements

2.1.1 Extension of the reserved stock movement

Another new parameter was added to this version,

STOCK_TRANSFER_ALLOW_TRANSFER_RESERVED_STOCK

in RF, with default value True. If disabled, reserved stock movements are not allowed.

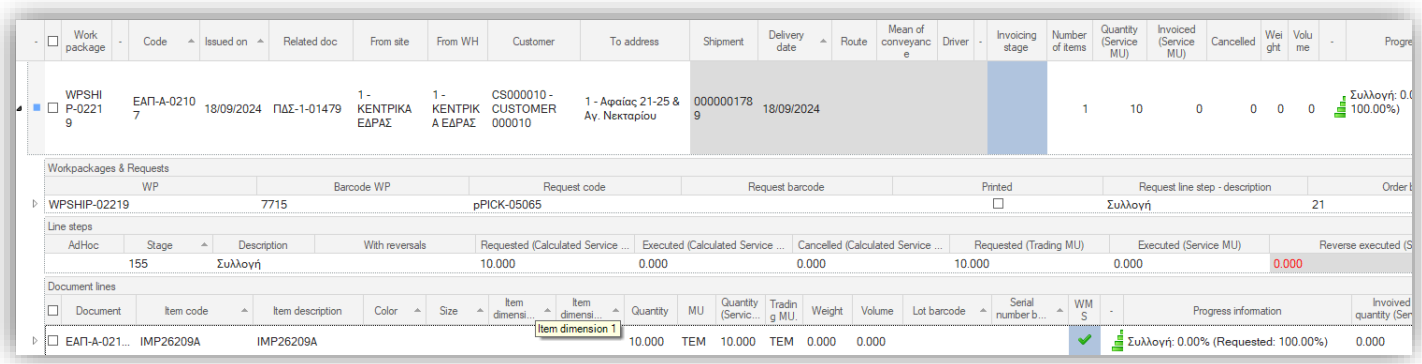
This was deemed crucial for customers that do not desire reserved stock movement. From now on, they will be able to either activate or deactivate the reserved stock movements using this parameter.

2.1.2 Stock movement (upon request) of reserved stock

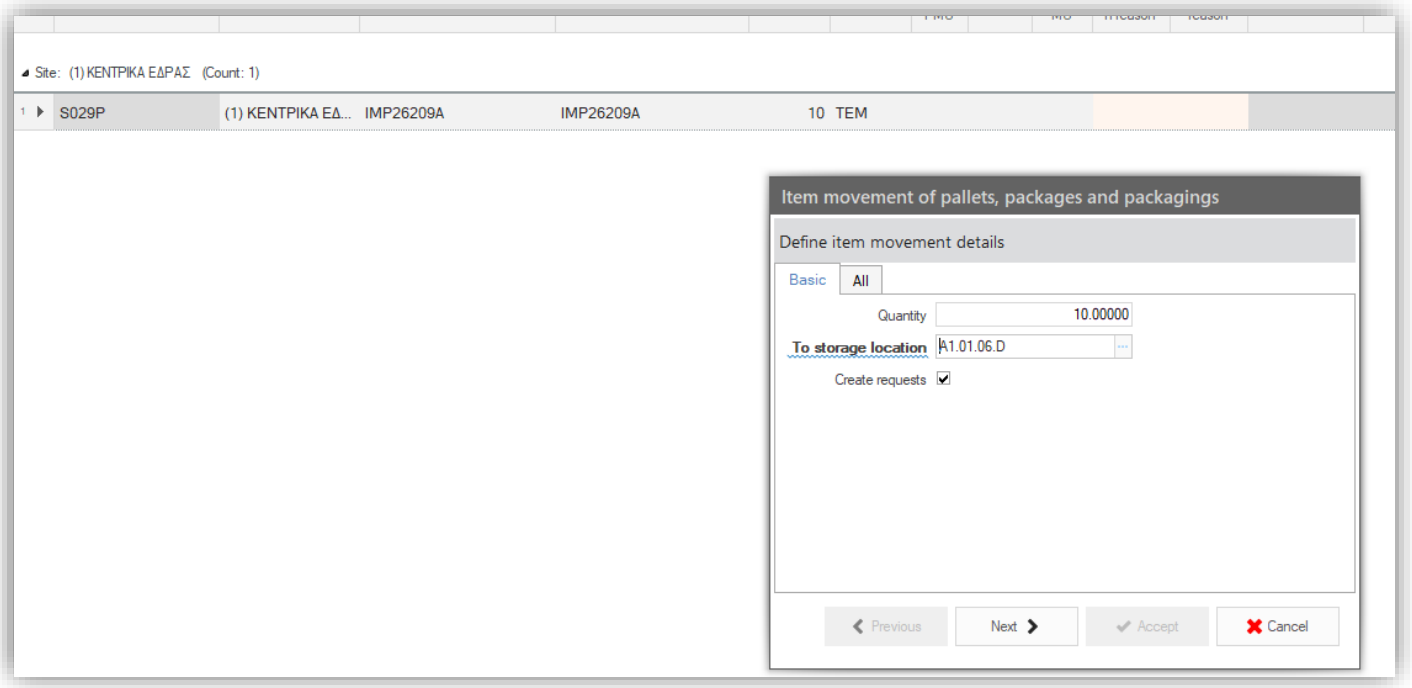
In this version, it is now possible to move (upon request) reserved stock. The user will be guided through the request.

For example:

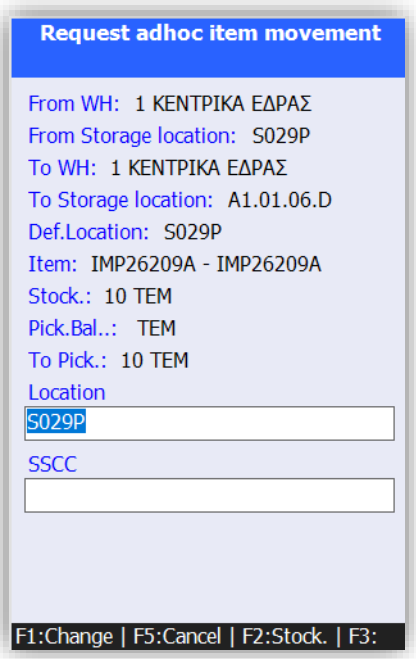
Let's say there's a shipment WP.

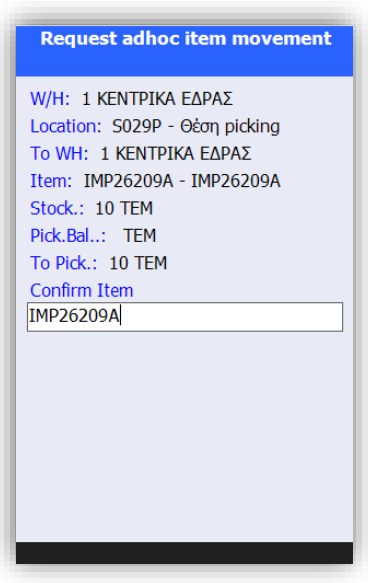


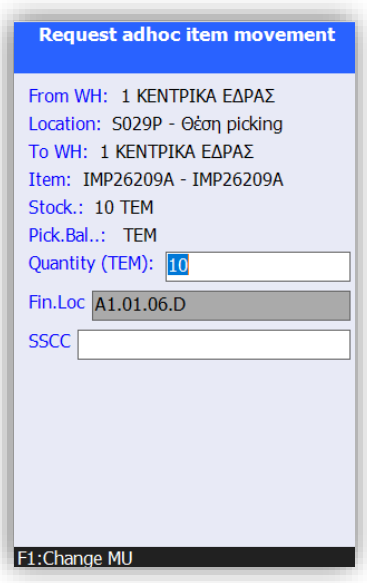
Then, a stock movement request is created for the 10 PCS, from automation "Stock movement", in the current balances scroller, as follows:



In RF: 5.STOCK MOVEMENT -> 1.WITH ORDERS







2.2 Stock movement from container to container by printing

Now available in RF menu

5. STOCK MOVEMENT -> 2. AD HOC

Printing a new or existing container upon completion of a stock movement action. The action will have the same location in “from” and “to”, but the movement will take place in a different container.

This implementation covers all combinations of container types, from pallet to another pallet, from pallet to package etc.

2.3 New shipment sorting functionality

With this functionality, the execution time of the shipment sorting process is optimized, since it is now possible for the user to scan any item code they come across.

More specifically, in customers who perform collective pickings and the sorting occurs during the 2nd step, when the sorting starts the WP is scanned and then automatically suggested in the 1st item to be sorted. However, if this item is at the bottom of the stack, the user will now be able to scan another item and then proceed with the sorting process normally.

This functionality is deemed particularly important in cases where there are too many items and as a result the execution time is greatly reduced.

Parameter SRT_ALLOW_AUTO_ITEM_SEARCH was added

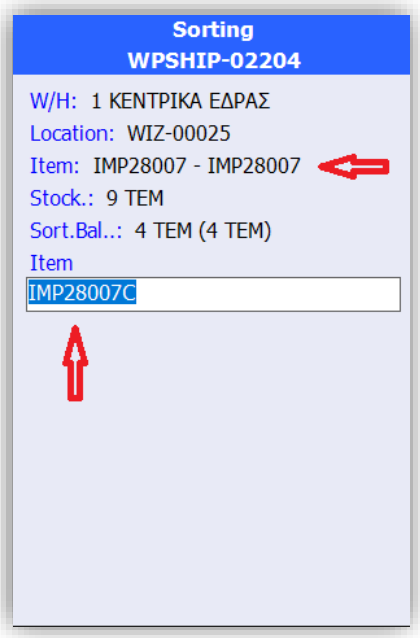
with default value False. When enabled the whole extension will be activated.

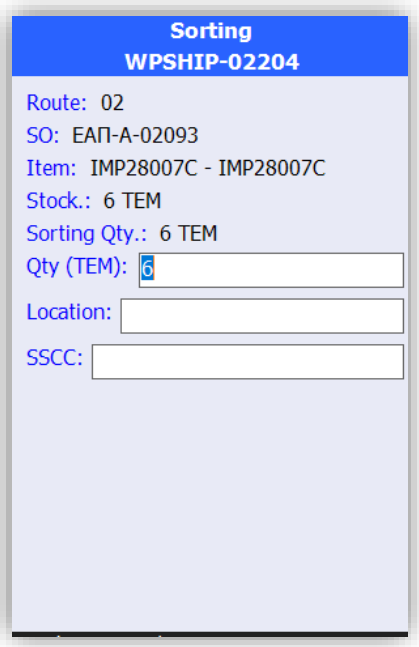
For example:

Let’s say that we have the following WP with the specific items and requests, where the picking actions have been carried out and now the sorting is left in the 2nd step.

IMP28007 (IMP28007)								
1	☑	WPSHIP-02204	Σε εξέλιξη	pSORT-00060	Αίτημα διαλογής	27/05/2024	4.000	T
2	☐	WPSHIP-02204	Σε εξέλιξη	cPICK-00301	Αίτημα συλλογής χωρίς δέσμευση	27/05/2024	4.000	T
IMP28007B (IMP28007B)								
3	☑	WPSHIP-02204	Σε εξέλιξη	pSORT-00060	Αίτημα διαλογής	27/05/2024	3.000	T
4	☐	WPSHIP-02204	Σε εξέλιξη	cPICK-00301	Αίτημα συλλογής χωρίς δέσμευση	27/05/2024	3.000	T
IMP28007C (IMP28007C)								
5	☑	WPSHIP-02204	Σε εξέλιξη	pSORT-00060	Αίτημα διαλογής	27/05/2024	6.000	T
6	☐	WPSHIP-02204	Σε εξέλιξη	cPICK-00301	Αίτημα συλλογής χωρίς δέσμευση	27/05/2024	6.000	T
IMP28007D (IMP28007D)								
7	☑	WPSHIP-02204	Σε εξέλιξη	pSORT-00060	Αίτημα διαλογής	27/05/2024	7.000	T
8	☐	WPSHIP-02204	Σε εξέλιξη	cPICK-00301	Αίτημα συλλογής χωρίς δέσμευση	27/05/2024	7.000	T

In RF menu 3.ORDERS> 8.SORTING , the WP is selected and then:





As shown above, while the application suggests the 1st item to be sorted, the user chose another one and the process continued seamlessly, without any problem or delays.

2.4 Optimum picking quantity algorithm at lot and container level

Implemented in the shipments sub-system, in direct picking, the possibility of algorithmic proposal of optimal quantity to pick (Knapsack) at a lot and container level, while also applying picking quantity rules.

More specifically, it is possible to specify rules in the application, regarding the picking quantity, with upper and lower percentage and quantitative tolerance limits regarding the order lines. During picking, the application checks the total stock by item and lot, or items monitored by the lots, and suggests the optimal picking amount to the user, based on certain rules.

This algorithm aims to optimize the picking process by maximizing the stock sent, without requiring additional handling and thus optimize the shipment, order management and storage profit, always taking into account the limitations set.

2.5 Putaway in container

This extension concerns the process of putaway. Putaway is now possible, through the RF, not only in a location as it has been so far, but also in a container.

More specifically, customers whose stock in the locations is stored in containers are now able to putaway directly into the container found in the location, thereby minimizing the time of the putaway process.

Added a new “Target container” field.

• If the field is left blank, the flow operates as it has so far.

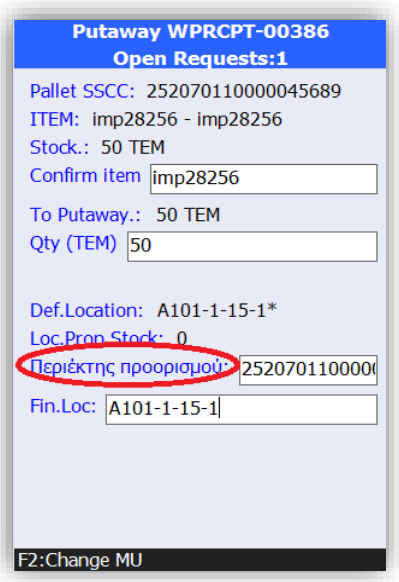
• If populated and the container has a location set, it skips the "Final Loc.” field and continues.

• If populated and the container has no location set, the "Final Loc." field must also be populated.

At least one WPRCPT, where the receipt of an item of 50 pieces in a container has been implemented. The process of putaway in container proceeds as follows:

In RF: 1.IMPORT-> 6.PUTAWAY

After following the putaway steps in order, in the last step the user will now also see the new ‘’Target container’’ field.



2.6 Cross docking from production

In this version, an optimization was implemented in the receipt from production, specifically in cross-docking from production.

Parameter RCPT_ENABLE_SINGLE_STEP_OPXDOCK was added.

By enabling it, it is now possible to execute opportunistic cross docking of receipt from production, without the need to enable the RCPT_TWO_STEP_XDOCK_ENABLED parameter. That happens because, when the second parameter is enabled no packing requests are generated after the xdock is executed, so it would not be possible to proceed with the process.

Now, after cross docking, the user will be able to proceed with the packing process.

Finally, this functionality also applies to purchases.

3. WMS Touch applications extensions

3.1 Receipt Station

3.1.1 Receipt with composite barcode

Regarding kiosk applications and specifically the Receipt Station, the extensions made mainly relate to the composite barcode scanner. More specifically, the following parameter was added:

```
<ES00KioskParam>
    <Code>SCAN_BARCODE_COLUMNS</Code>
    <Value></Value>
</ES00KioskParam>
```

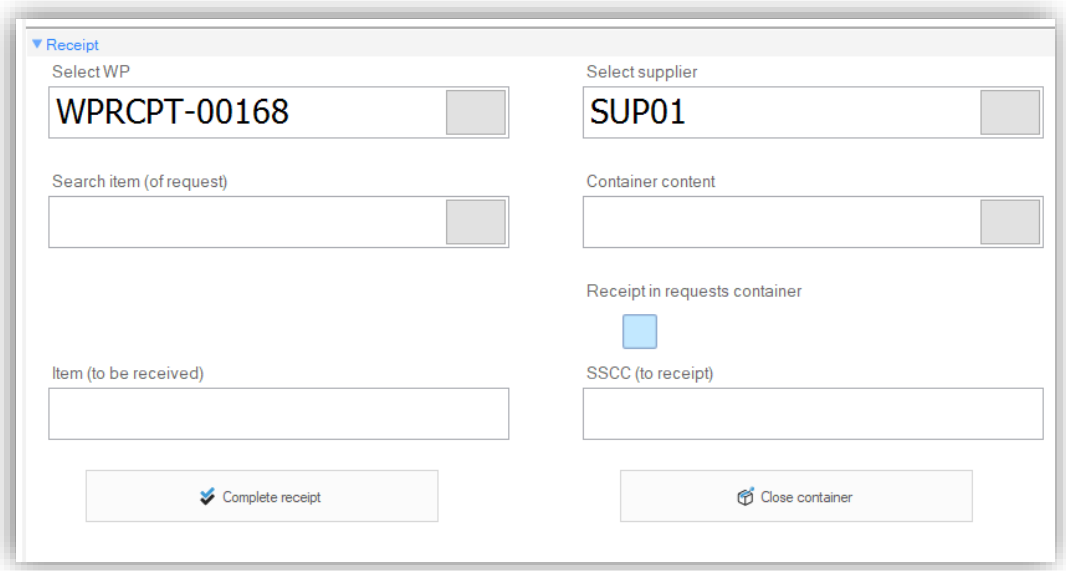
The options are LotCode, LotBarCode, Quantity, Color, Size, StockDim1, StockDim2, LotExpirationDate, LotLimitOrderDate, LotProductionDate

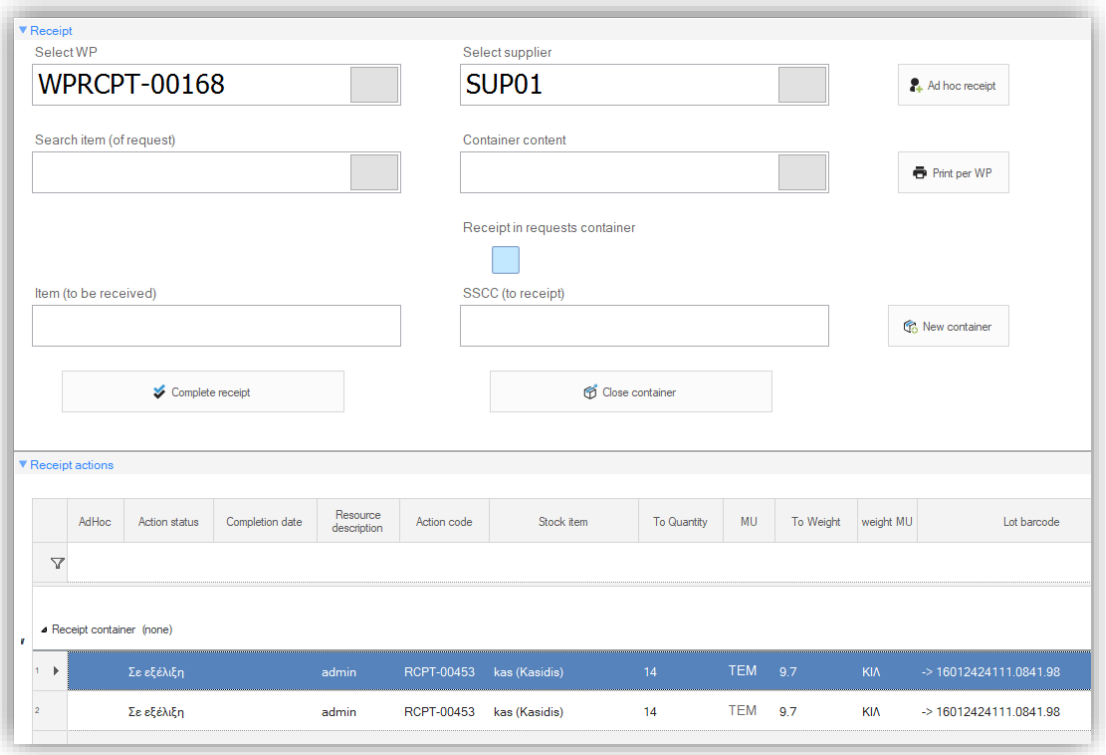
where the name is structured strictly so, regardless of the order.

With this extension, scanning a composite barcode containing all of the information (item, lot, kg, quantity) will no longer open the pop up window with the details, but instead directly store the action, so that the user doesn't need to confirm each time by accepting. This will minimize the execution time of the whole process, since even if the user is away from the screen to scan the items, they will not have to turn back to press "Accept" like they needed to so far.

Example:

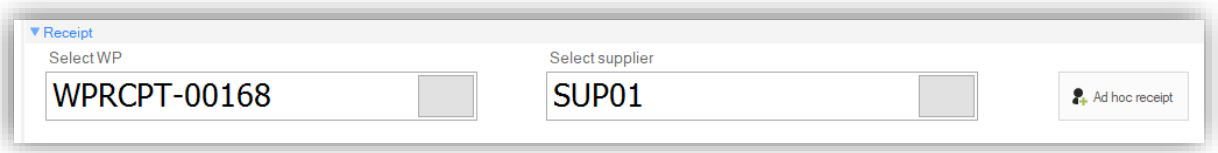
Let's assume there is the following receipt on the Receipt Station with the composite barcode, as shown in figure 2. During barcode scanning, all actions were performed without the pop up window and of course without the user having to click Accept.





3.1.2 Ad hoc receipt on a multi-company basis

The current version supports ad hoc receipt from the Receipt Station, in cases where there are more than one companies and the Supplier is present in all of them. The functionality remains the same as it has been so far, it now simply extended to include multi-company databases.



3.2 Consumption Station – Consumptions in production orders

When executing the production orders in MES, it is now possible to declare the consumptions, using a fixed work station in touch mode and with the full functionality of integration with weighing scales.

After selecting the consumption and WP production location, the user can scan an item or an SSCC in the respective fields. The application identifies the stock to be consumed and generates consumption actions against the specific order, as well as the request for the item consumption.

The GS1 barcode format is supported in scanning, and if the configuration allows, ad hoc consumption actions can be carried out also.

The consumption screen maintains the product print functionality when saving.

The new consumption screen is called via eskiosk.exe/receiptstation

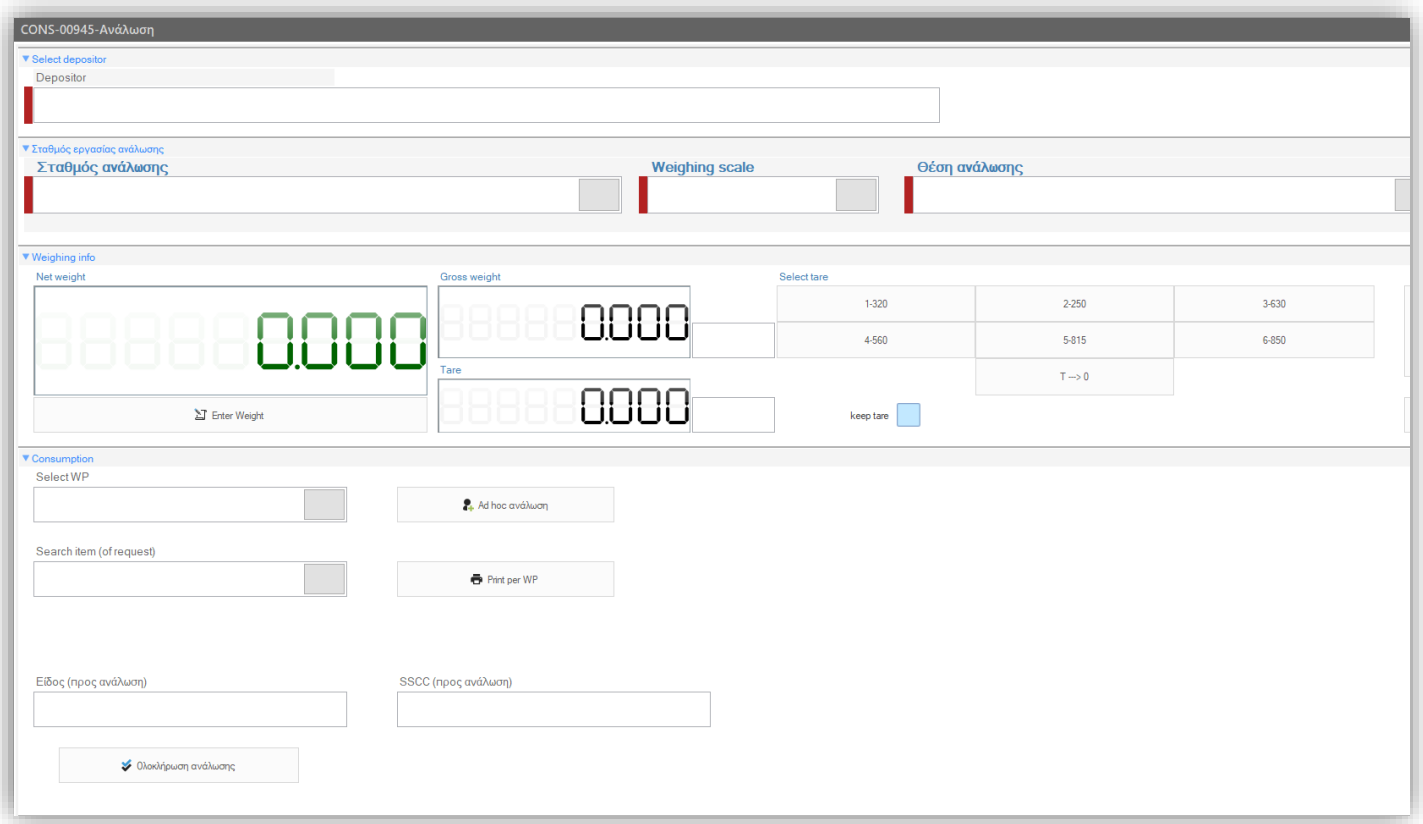
Folder ESKiosk\ReceipStation in ES00KioskDocuments.xml defines the type of ES.CONS consumption action

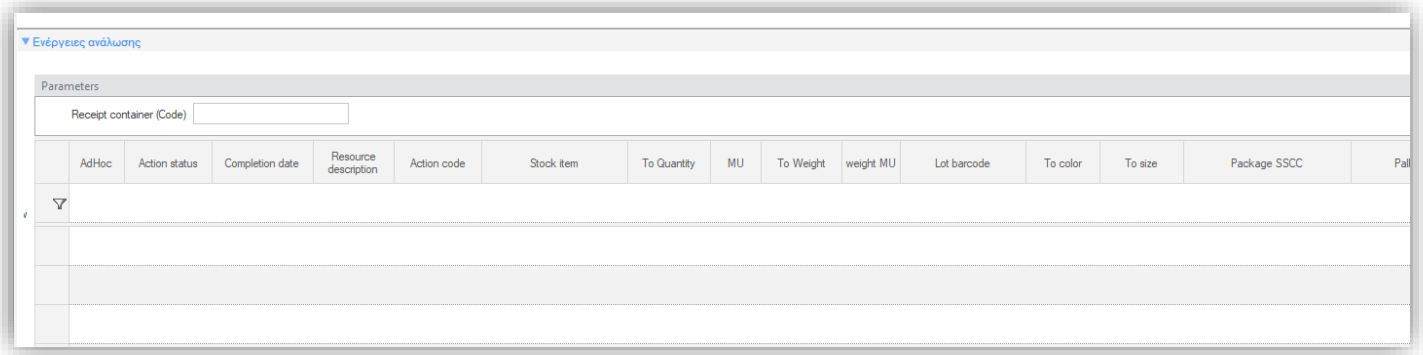
In ESKiosk\ReceipStation of ES00KioskParams.xml and parameter CONSUME_INSTEAD_OF_RECEIVE the following values are defined:

1. 0 concerns the previous receipt station functionality
2. 1 concerns the consumption functionality for items with configuration for a weighed item, i.e. a weight measurement unit as the base measurement unit, and “piece(s)” as the alternative measurement unit. “Piece(s)” has been configured in both the hierarchy and the ICP to have the weight declaration defined in the action property.
3. 2 refers to the consumption functionality for items with weight measurement unit (which is also defined in the hierarchy) as a base measurement unit.

More specifically, in ES00KioskDocuments.xml:

```
-<KioskDocumentSettings>
        <ID>3</ID>
        <FormID>ESWMTransportAction_ESWMReceiptStation_Touch_DEF</FormID>
    <FormCommand>bInvoke|ESWMTransportAction_ESWMConsumeStation_Touch_DEF|New|ES.CONS</Fo
rmComman>
        <IsTransaction>true</IsTransaction>
        <IsMenuAvailable>true</IsMenuAvailable>
        <MenuCaption>Consumption_Weighing</MenuCaption>
        <MenuOrder>1</MenuOrder>
</KioskDocumentSettings>
```


CONS-00945-Ανάλωση
Select depositor
Depositor
Σταθμός εργασίας ανάλωσης
Σταθμός ανάλωσης
Weighing scale
Θέση ανάλωσης
Weighing info
Net weight
0.000
Gross weight
0.000
Tare
0.000
Select tare
1-320
2-250
3-630
4-560
5-815
6-850
T --> 0
Enter Weight
keep tare
Consumption
Select WP
Ad hoc ανάλωση
Search item (of request)
Print per WP
Είδος (προς ανάλωση)
SSCC (προς ανάλωση)
Ολοκλήρωση ανάλωσης


Ενέργειες ανάλωσης
Parameters
Receipt container (Code)
AdHoc
Action status
Completion date
Resource description
Action code
Stock item
To Quantity
MU
To Weight
weight MU
Lot barcode
To color
To size
Package SSCC