NAV Advanced Warehouse Management

IFD ENGINEERING

Microsoft Dynamics™

Advantages of the NAV Advanced WMS solution

NAV Advanced Warehouse Management is a partner solution of the iFD Engineering Joint Venture GmbH, which enriches the standard warehouse management of Microsoft Dynamics NAV with essential warehouse administration functions.

The ERP system controls all processes and there are no interfaces between the ERP and WMS system necessary, this is a huge advantage for medium-sized companies. This solution reduces software investment and support costs for a comprehensive warehouse management system.

Through the online access of the warehouse management to the order and invoice data of the ERP system, processes such as packing, important information and audit functions enhances the dispatch and return handling of goods. The inventory is managed in a single system whereby all ERP functions are informed online about the current stock. Inventory adjustments are virtually dealt with.

By integrating the WMS solution with the partner solution COMSOL Multiship, the transport management is also embedded in the ERP system.

Advanced WMS-Basic Data

The section below explains the most important master data in the field of warehouse management.
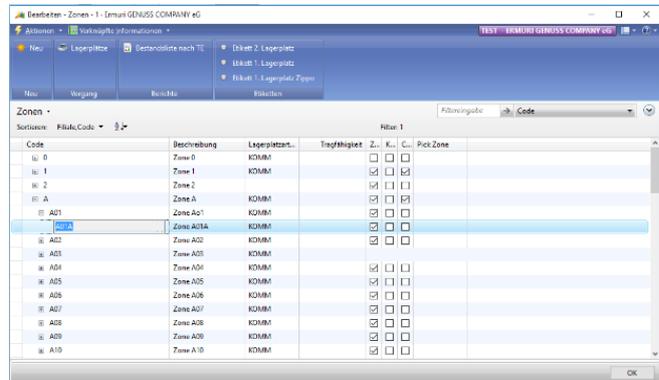
Storage Topology

The warehouse topology is controlled by the following objects:

- Storage Location
- Storage Area
- Storage Yard

Our solution can map the storage zones in an arbitrarily deep hierarchy. These locations have unique storage bin numbers and are marked with barcode labels. The allocation of transport units or loose items to storage locations is carried out by scanning their barcodes.

These objects are enriched by additional properties, which determine their compatibility with the product groups. This makes it possible to assign the appropriate storage locations to the goods to be stored.

Dangerous Goods

The goods classes are assigned to the articles, the solution can than distinct the goods and their characteristics like:

- Goods that can be stored only in certain storage areas
- Goods that require unique shipping packaging
- When transport services permitted for hazardous goods are required.

Transport Units

Transport units are various storage aids such as:

- Pallets,
- Containers,
- Mesh boxes,
- Shipping boxes,

In these, the goods are packed for storage, transport and shipment. This object does not exist in the NAV standard software so it has to be newly introduced. A transport unit can carry one or more articles with different quantities. A unique TE number in the form of a barcode label identifies it. All manipulations of the items within the transport unit are registered by scanning the TE number.

Means of transport

The means of transport are used to transport the goods within the warehouse. Normally these are transport units, but they could also be loose items. Similar to the transport units, the means of transport are also marked with unique numbers in the form of barcode labels. The assignment (loading) of transport units to means of transport takes place by scanning their barcodes.

Advanced WMS- processes

Goods Receiving

NAV Advanced WMS supports the following forms of goods receiving organization:

- Single-level goods receiving: Incoming goods and their inspection and set-up are carried out in one step
- Two-stage goods receiving:
  - In the first step, the goods are accepted and placed in the warehouse
  - In the second step, the checking of the goods is carried out with simultaneous set-up of the transport units for the storage of the collected goods

The goods receiving is carried out without documents using handheld terminals with barcode scanners. If necessary, barcode labels are printed for non-excellent items and transport units (pallets, cartons, etc.)
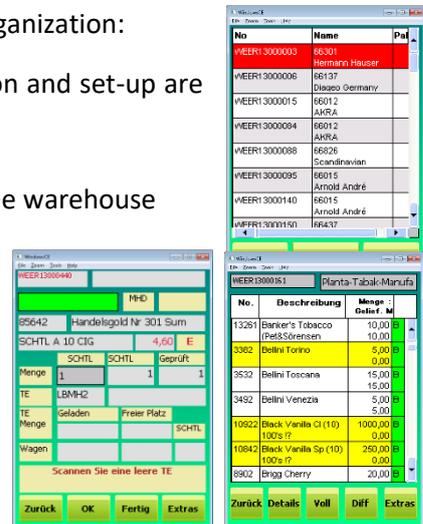
Warehousing

The Storage functionality supports the following algorithms for space allocation:

- Chaotic allocation of space while respecting compatibility between product groups and storage zones
- Allocation of master courses – this approach is mainly used for picking stations
- Manual placement - here the operator can decide for himself (also in the handheld app), where he wants to store the goods. The system only checks the compatibility

between the product group and storage zone and registers the stored goods at the appropriate location.

Depending on the stock and replenishment situation in the picking area, the stocking orders are given priority. If required (no goods in the reserve storage), the stock is sent directly to the picking area.

The warehousing is carried out without documents using handheld terminals with barcode scanners.

Replenishment and stock transfer

The solution uses an automatic replenishment function to supply the picking with goods, while constantly checking the stocks on the picking stations and the open orders and creates replenishment transfer orders. There is a distinction between the following replenishment forms:

- Demand-oriented replenishment: this runs permanently, based on current stocks and order data in the system. The range of the stock in the corresponding picking bin determines the priority of the stock transfers created by the replenishment.
- Preventive replenishment: this creates replenishment orders for the replenishment of the picking stations, which have no acute need but free space. Such orders have a low priority.

The system creates replenishment orders according to FIFO or FEFO rules. It carries out the replenishment transfer without documents using handheld terminals with barcode scanners. Regardless of the automatically created replenishment orders, stock transfers can be created manually.
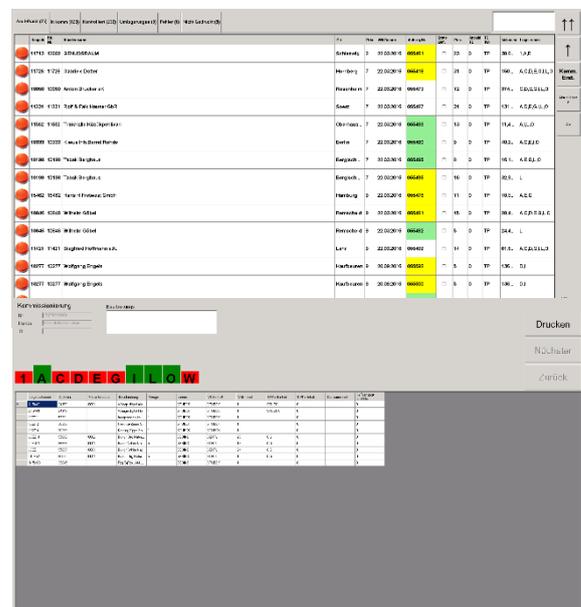
Picking

The picking can be carried out with picking documents or without paperwork. The following organizational forms of picking are supported:

- Single Order Picking
- Multi Order Picking
- Picking by storage zone with subsequent consolidation

Goods can be picked up either in transport containers / picking carts, or directly in dispatch boxes (pick to pack). In the second embodiment, a package calculation is performed before picking.

The following technical solutions exist for paperless picking:

- Picking with handheld terminals with barcode scanner
- Voice-assisted picking (Pick by Voice)
- Optional Pick by Light

In the case of paperless picking, an exact assignment of the picked items to the packs is carried out.

The following process-oriented workstations are integrated in the picking process:

- I-point: here the picking orders are drawn up, the type and number of packages is calculated and the picking is started. The system supports several I-points for splitting the sales orders according to storage zones and packaging types (for example, full cartons can be picked in a separate zone).
- Delivery quantity control: depending on the form of the picking (document-oriented or batch-free), the control of the picked quantities can be carried out manually with a check or weight control..

Packing

This process workstation is used for the ready-to-ship packaging of the commissioned orders. Multiple orders can be grouped together, or orders can be split to several dispatch boxes / pallets.

The shipping documents such as the packing slip, delivery notes and invoices are also printed at the packing station and enclosed with the goods.
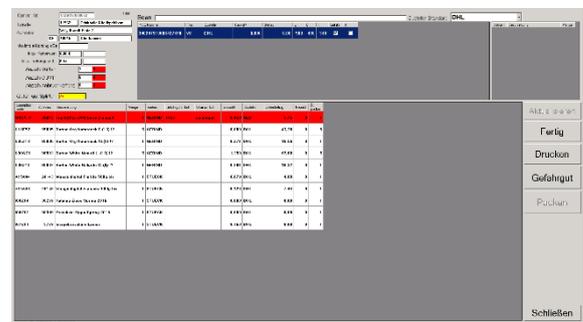
Shipping

The shipping station is used to weigh the shipping cartons and to print corresponding shipping labels. This station also provides the interface to the transport management system (in this case the partner solution COMSOL Multiship), which controls the dispatch orders and advises the transport company.
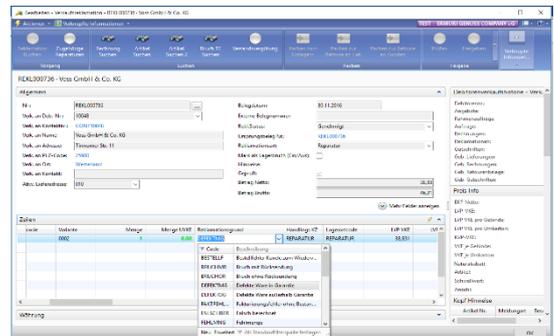
Return handling

The return processing in NAV Advanced WMS has the following features:

- Flexible settable complaints
- Flexibly adjustable handling tags

The handling indicator controls the course of further processing of the returned goods, such as:

- Storage for resale
- Return to suppliers
- Repair
- Scrapping

In each of the handling tags, the warehouse in which the goods are to be stored and various options such as credit notes, returns to suppliers, repair orders and much more can be set. These control the automatic creation of corresponding documents from the returns.

The barcode scanners helps with the registration of returns. There is also access to the delivery notes and invoices of the corresponding customer, in order to check the plausibility of the returns and to determine correct prices and conditions (these are taken from the invoice) for the credit memo. Multiple complaints on the basis of the same invoice are prevented by the fact that the already claimed quantities are "removed" from the sold quantity.

The set-up process for storing or returning goods is carried out using handheld terminals.

Depending on the handling indicator, the following documents are created automatically:
- Credits to customers
- Supplier complaints
- Repair orders
- Storage contracts
- Scrapping

Stocktaking

The solution supports the following forms of inventory

- Continuous zero crossing in picking
  This form of inventory is integrated into the picking applications.
- Deadline inventory according to storage locations or individual storage zones
  This form of inventory is carried out without documents using handheld devices with barcode scanners. NAV Advanced WMS has extensive features for analyzing the counts and detecting and correcting outliers before being registered in Microsoft Dynamics NAV.