



# Warehouse Management

# ASSIST4

Software, consultancy and services for global trade and supply chain management

**AEB** ■■■■

# More performance for your warehouse. And all your logistics.

Smart warehouse processes are the backbone of an optimized system of logistics. ASSIST4 Warehouse Management offers the perfect IT support for your warehouse and helps you meet your business targets, opening the door to fast lead times

and strong on-time performance. On the operational end, you benefit from robust, flexible processes. And since perfect logistics doesn't start when goods enter the warehouse or end when they leave it, ASSIST4 Warehouse Management is part of the

ASSIST4 logistics suite that includes solutions for Transport & Freight Management, Customs Management, and more. That's a winning combination that delivers added value to your entire supply chain.


**OK**

Highly optimized picking processes provide accuracy of 99+ percent

Integrating your upstream systems brings complete transparency.

Perpetual inventory processes give you a better picture of what you have and help optimize your use of available space.

**START TAKING INVENTORY**

 72.05

Monitoring features and KPI generators help you optimize warehouse control.


Choose the stock removal and reservation strategy that meets your unique needs.

Multi-client, multi-warehouse capabilities provide flexibility.

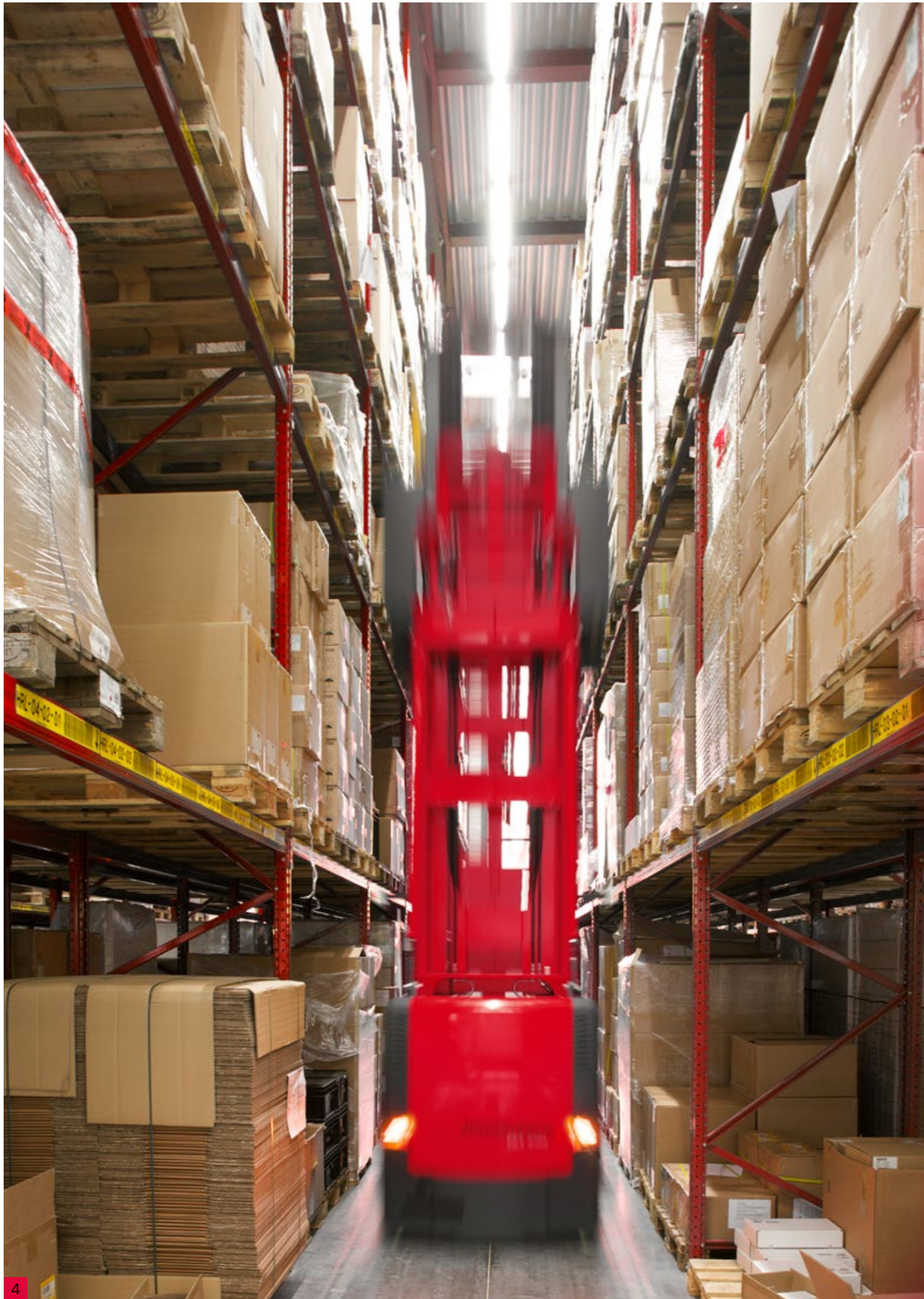


Computer-assisted replenishment control and paperless processes take the load off your employees.

Smart, flexible MFC integration drives down the deployment costs of warehouse automation.



Mobile apps take the paperwork out of your processes.



## — The best way to optimize your warehouse management system is the third way

The path toward optimized IT support through a warehouse management system (WMS) begins with a strategic question: Which type of WMS best fits my warehouse processes and also aligns with my IT strategy? There are three options.

### Option 1: WMS as a module of the ERP system

Buying a WMS as an add-on to your ERP system seems like a simple solution. But what you'll often find is that ERP providers, as generalists, have different priorities. Their focus is on broad-based applications, which almost always comes at the cost of depth of functionality. IT providers looking to cover the spectrum of business planning and administrative processes seldom develop high-level expertise in logistics.

Also, many of these ERP offshoots cannot be customized to your company's unique processes – or if so, then only at great expense. The strength of ERP systems – their standardization – becomes their major weakness here. ERP providers tout the end-to-end integration of their systems as the main argument in favor of their WMS solutions. But in many cases, the WMS modules were acquired, and they rely on interfaces to integrate with the ERP system.

### Option 2: Niche WMS

The second type of provider is the niche provider that specializes in WMS. Some of these providers come from the warehouse automation market and have augmented their portfolio with warehouse management software. The advantage of such providers: They are intimately familiar with warehouse environments, so they have the expertise to develop solutions that are, in principle, quite powerful. The downside: This kind of warehouse management system is a quintessential "silo" that must first be integrated with other

systems across interfaces. This may pose significant challenges when you try to map logistics processes that go beyond the walls of your warehouse. And connecting logistics service providers, customers, and suppliers is a long and arduous process. But the need for such connections is increasingly common. Flexibility and adaptability in integrating with supplier networks and supply chains is the top competitive factor for many companies.

### Option 3: WMS as part of a logistics suite

End-to-end logistics processes support the entire supply chain without any compromises in depth of functionality: This is the "third way" that AEB opted to pursue with ASSIST4 Warehouse Management. AEB is more specialized than the ERP providers but much more diversified than the niche WMS providers. AEB accompanies you along the logistics process that may begin when an order is generated in the ERP system and end with delivery to the end customer. The WMS covers the intralogistical portion of this process, working synchronously with other ASSIST4 solutions such as

Transport & Freight Management or Customs Management. This integrates processes and delivers transparency beyond the walls of your warehouse. The result is a more transparent, flexible, and ultimately competitive position – in your warehouse and across your entire logistics environment. According to a study by the renowned Aberdeen Group, most companies (68%) believe that the most cost-effective and forward-looking strategy for their warehouse is to introduce the WMS of an end-to-end, best-of-breed solution – a logistics suite like ASSIST4.



## — Goods receipt: starting off on the right foot

**ASSIST4 Warehouse Management supports the goods receipt process: from the receipt of goods and warehouse utilities to material and quantity checks to storage bin placement.**

### A system for checking in goods

A mobile goods receipt system supports the process of counting and monitoring incoming goods. The data that is collected flows into the ASSIST4 Warehouse Management system, where it is available for the other processes. Where order data or dispatch advices are available, the actual quantities can be automatically checked against the expected quantities. This lets you ensure the integrity of your data from the very start of the process. You can also add ASSIST4 Time Slot Management to optimize the capacities of your goods receipt and maximize transparency.

### Where it all comes together

Handling units (load carriers or packages along with the goods on or in them) are first defined, added, and labeled at a special ASSIST4 workstation. The software then determines the destination storage location of each handling unit – based on the stock putaway strategies you define. Such strategies might include chaotic storage, storage in distinct areas defined by load carrier, or fixed location storage. Within the parameters of the strategy you select, ASSIST4 Warehouse Management chooses the best storage location for each handling unit and optimizes the route that the goods take to that location. The storage locations identified in this manner are either transmitted to the forklift terminal or handheld device of the employee responsible for stock putaway – or passed to the material flow computer.

Naturally, ASSIST4 also accommodates processes in which goods are received but not put into storage – such as cross-docking or returns handling.

### Getting the most out of putting it away

Last but not least: The interplay with other ASSIST4 solutions such as Time Slot Management, Import, or Transport & Freight Management allows you to get much more out of your processes for receiving inbound transports than you could from a traditional WMS. You always see which shipments are on their way to your goods receipt.



### How you benefit:

- Save time thanks to route-optimized stock putaway
- Customize your stock putaway strategy
- Map cross-docking and returns processes in your system

## — Warehouse management: getting a grip on inventory and storage locations

**ASSIST4 optimizes storage location management for all types of warehouses. The software can be scaled up to manage multiple stock locations simultaneously under multiple clients.**

### Reflecting your warehouse

Reliable, error-free warehousing requires perfect storage location management. ASSIST4 Warehouse Management supports a broad spectrum of warehouse types, including raw materials storage, distribution centers, production warehouses, and transfer storage areas. This diversity also extends to warehouse topologies (block storage, high-rack storage, silos, external storage, etc.) and the various types of shelf systems. All these warehouse features can be mapped 1:1 in the system – for a clear, transparent view. The system captures each individual storage location, including a description of its attributes and restrictions. Besides the precise address and dimensions, the system also knows the weight and volume restrictions. The system automatically checks against any such restrictions to prevent anything from being stored incorrectly. The software is equally useful for both manual and automated warehouses, of course.

### Many sites, one solution

For every storage location, you can define sub-storage locations – down to the level of a single tray or even part of a tray.

The sky's the limit for ASSIST4: The AEB solution lets you manage multiple stock locations, each with its own warehouses – a natural fit for complex, flexible storage networks. The multi-client capability of ASSIST4 Warehouse Management opens up interesting opportunities for managing distinct warehouses and processes – for subsidiaries or third-party customers, for example. Or you can manage the stock of consignment storage sites owned by suppliers.

### From batch number to expiration date

Speaking of inventory: Accuracy is ensured here as well. ASSIST4 naturally manages article numbers, batch numbers, serial numbers, expiration dates, blocks, reservations, and much more.



### How you benefit:

- Manage multiple clients (for third-party logistics providers)
- Manage multiple stock locations with a single system
- Manage inventory accurately so that you don't run out of stock and necessitate additional handling

## — Inventory made easy

Everyone needs to take physical inventory, but it doesn't have to be a headache. ASSIST4 Warehouse Management supports all common forms of inventory: periodic inventory, perpetual inventory, and cycle counting.

### Periodic inventory: counting the smart way

Periodic inventory remains the most common method of taking inventory. Warehouse operations are typically suspended while periodic inventory is taken, but ASSIST4 lets you shorten the interruption. The warehouse can be divided into freely defined zones, so you can take inventory in one zone while operations continue in the other zones. As with the stock putaway and removal processes, mobile terminals can be used to collect the inventory data. This leads to fewer errors than when inventory is counted manually on lists that must then be input into the system. The AEB system also offers the option to record the inventory on paper, of course, and provides advanced counting lists for this purpose.

### Perpetual inventory: business as usual

Perpetual inventory, which spreads the tasks of taking inventory throughout the fiscal year, is the method of choice for those who wish to avoid any disruption of warehouse activities. ASSIST4 ensures that all storage locations relevant for inventory purposes are counted at least once each year. This makes it possible to integrate the job of taking inventory into day-to-day operations or schedule it for times when inventory levels are low or the workload is light.

ASSIST4 Warehouse Management supports smart counting processes such as zero-crossing physical inventory, where workers confirm that a particular storage location is actually empty when they remove the last article from it. The

result is perfect integration of perpetual inventory into day-to-day operations. Another benefit: Perpetual inventory can be restricted to certain areas or material groups within a warehouse.

### Cycle counting

ASSIST4 also supports the cycle counting method of inventory, in which materials are inventoried at regular intervals during a fiscal year. Here you also have the option to define the inventory by a specific material, storage area, or value range.

### Keeping an eye on progress

It is important for the warehouse manager to know how far along the inventory process is, especially with perpetual inventory. The Status Monitor integrates this process, giving managers the ability to track progress in a graph or table format. The Status Monitor also lets you see at a glance how accurate the inventory process is.



### How you benefit:

- Minimize downtime
- Save time and money through smart counting processes with perpetual inventory
- See the progress of your inventory at any time
- Plan your personnel needs better

## — Material flow: maximizing efficiency in warehouse transport

Whether you're putting stock away, moving it around, or taking it out again: The transport routes you choose within the warehouse are some of the principal cost drivers. ASSIST4 helps your optimization efforts with smart material flow management – even in manually operated or partially automated warehouses.

### Transport transparency

ASSIST4 Warehouse Management supports complex warehouse processes using smart warehouse transport management. The system lets you map your warehouse movements down to the desired level of detail, providing great visibility and end-to-end

monitoring of the warehouse processes. ASSIST4 determines the best route within the warehouse for any specific stock putaway or removal task. For this it relies on warehouse routes defined in the master data and smart algorithms. It also takes into account priorities, warehouse processes, and order types when determining the best route.

### Multi-order picking keeps a lid on costs

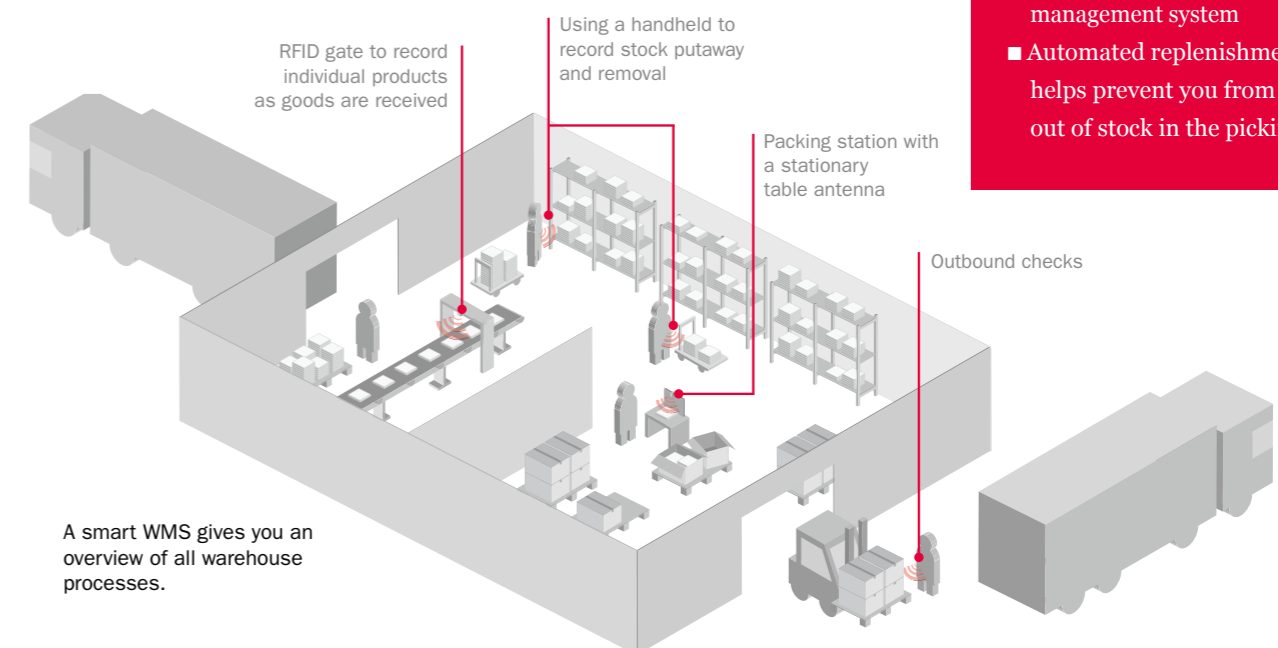
Shorter transport routes in the warehouse save time and money. That's why ASSIST4 naturally offers the option to combine individual transport orders into consolidated transports. This consolidation can be manual, with step-by-step confirmations, or automatically run at a specific time.

### Automated replenishment relieves you of routine tasks

Logistics centers are often divided into picking and reserve warehouses. This strategy makes sense to shorten the distances that pickers need to cover, but it means that the picking warehouse must regularly be replenished from the reserve warehouse. ASSIST4 Warehouse Management supports the replenishment control process through an auto-replenishment feature. The system automatically triggers a replenishment transport from the reserve warehouse whenever a defined minimum quantity is reached on the picking shelves.

### How you benefit:

- Achieve high visibility over your warehouse processes
- Consolidate more easily through smart integration with the transport management system
- Automated replenishment control helps prevent you from running out of stock in the picking areas





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## — Better picking with fewer mistakes

**Customers perceive the performance of a warehouse mainly in how well the picking zone functions. ASSIST4 Warehouse Management supports common strategies for preventing picking errors, working with the other ASSIST4 modules to ensure flawless distribution logistics.**

### Priority fulfillment

The software reserves the goods in the appropriate storage area and automatically calculates the routes of the picker and goods through the warehouse, taking into account the shipping date and priorities you can define. ASSIST4 also applies your choice of strategies such as FIFO (first in, first out), LIFO (last in, first out), or FEFO (first expired, first out) when reserving or removing stock. Manual reservation is also possible, of course.

### Technical support increases picking efficiency

If an automated storage area is connected, ASSIST4 generates the movement orders, and the linked material flow system steers the goods to the assigned picking stations. The picking process of manual warehouses is also technically supported to avoid mistakes in removing stock. It is possible to integrate pick-by-voice or pick-by-light systems. Graphic displays on the mobile terminals help warehouse workers visualize the location of the shelf they're looking for. A laser beam can also help optically highlight the precise position of the item to be picked on the tray where it is stored.

### Driving orders for forklifts

ASSIST4 also controls picking in a high-bay pallet warehouse. The software always calculates the best route within the warehouse based on defined transport chains and priorities. The control terminal in the forklift shows the driver the sequence of pending driving orders.

### Integration with the world of transport and your customers

When stock removal is complete, the benefits of ASSIST4 Warehouse Management in combination with other modules in the ASSIST4 suite becomes clear. For example: ASSIST4 Carrier Integration lets you transmit transport orders electronically to carriers and parcel services and print transport labels directly at the packing station according to the specifications of the transport companies. Integration with the AEB Visibility & Collaboration Platform lets you feed the transport times of each transport service provider into the prioritization of the warehouse orders – so that no customer deadline is missed. Your customers are also perfectly integrated: Creating and printing customer-specific labels and documents – with ASSIST4, it's a snap!



### How you benefit:

- Avoid errors and increase efficiency through state-of-the-art picking technologies like pick-by-voice or laser beam identification of the goods to be picked
- Choose your own stock removal strategy
- Use other ASSIST4 modules for integrated transport management

## Warehouse Cockpit: keeping a watchful eye

Logistics managers who have a handle on their warehouse processes sleep better: ASSIST4's Cockpit delivers the greatest possible visibility over warehouse inventory and performance. Bottlenecks are quickly identified, and the system provides excellent error analysis as well.

### Operations continue

ASSIST4 Warehouse Management's Cockpit provides a real-time overview of warehouse activities. Graphs give you a quick overview of the number of open transport orders and of open and closed warehouse order items, for example. Color codes alert you when an order becomes critical, allowing the warehouse manager to respond immediately by reassigning personnel. The Cockpit also lets you monitor the best-before dates of stock, which is very helpful for perishable goods.

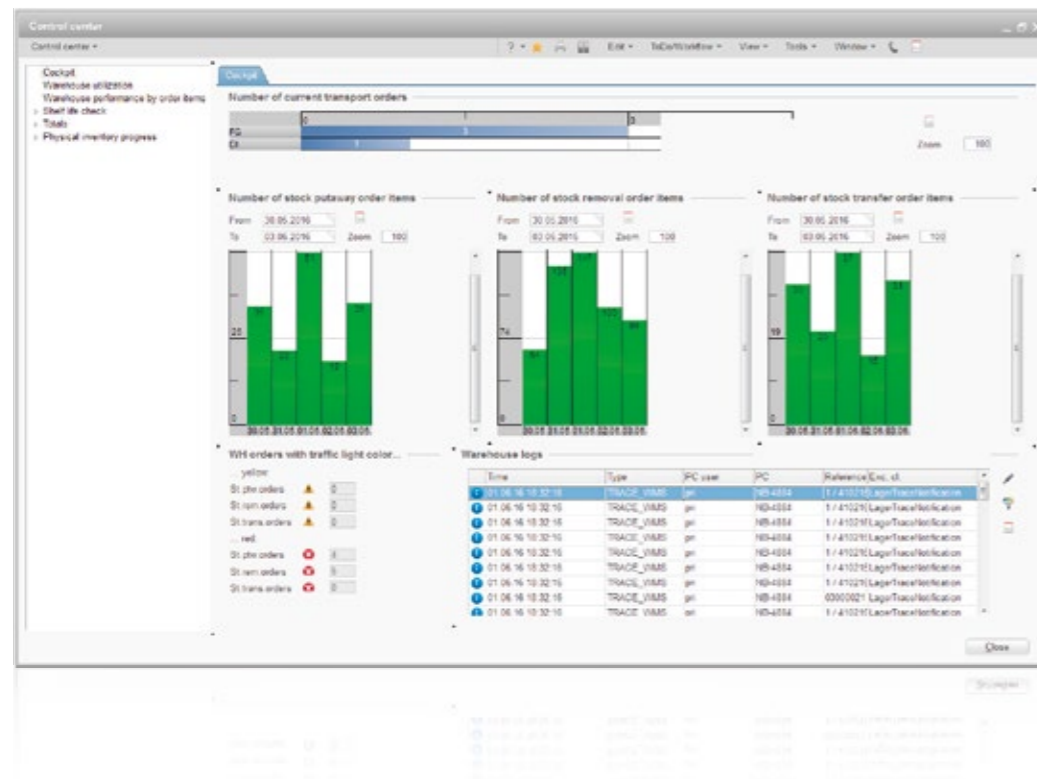
### Error analysis made easy

Every warehouse movement is logged, so you can quickly locate and address the source of any errors. Logs also

provide a reliable set of data for long-term error analysis – or to develop an optimization strategy.

### KPIs at a glance

The data from inventory bookings can be used to generate a data pool for statistical analyses. This data pool can be used to generate inventory indicators by material, stock location, or customer for various intervals. Key performance indicators (KPIs) such as average inventory levels, average consumption, frequency of turnover, and average storage duration can be called up at the click of a mouse and displayed on a dashboard.



Know exactly what's going on in your warehouse: The Cockpit makes it possible.



### How you benefit:

- Identify potential bottlenecks before they occur
- Calculate KPIs
- Achieve a high degree of transparency throughout the warehouse

## Automation: an extra boost for your warehouse

**ASSIST4 Warehouse Management really shines in automated and semi-automated warehouses – by integrating the material flow computer and providing flexible support for a wide variety of solutions and scenarios.**

### Integration with the MFC

More and more businesses are seizing the benefits of full or partial automation in their warehouses. Every automation solution is unique, tailored to the needs of a particular warehouse operator. To maximize performance, you need warehouse management software that fits your own material flow perfectly. Something like ASSIST4 Warehouse Management.

A material flow computer (MFC) essentially controls the material flow technology in the automated warehouses or warehouse areas such as the automatic small-parts storage, automatic high-rack storage for pallets, or conveyor lines.

The MFC coordinates the orders to be processed, manages bottlenecks, and defines the sequence in which orders are handled. Success here depends on perfect interaction between the MFC and WMS. The ASSIST4 Warehouse Management framework ensures this success. The WMS recognizes which transport orders require communication with the MFC, then initiates and manages the entire communication.

At AEB, we've seen all types of WMS projects, so we know that when it comes to integrating the MFC and WMS, the flexibility and adaptability of the software are what counts. ASSIST4 Warehouse Management corresponds with the various automation solutions – high-rack storage, shuttle systems, automatic small parts storage, etc. And thanks to the other modules in the ASSIST4 Logistics Suite, this interaction succeeds beyond the walls of your warehouse along your entire supply chain.



### How you benefit:

- Integrate automated areas of your warehouse into your WMS to achieve a uniform WMS solution for all warehouse types
- Achieve high-performance, cost-efficient warehouse processes by using automation where it pays off
- Enjoy flexible interaction of various automation solutions







## — Optimal support for your supply chain

**ASSIST4 Warehouse Management handles the execution and invoicing of value-added logistics services, shipping, customs management, outbound checks, and more – interacting with the other modules in the AEB logistics suite to deliver efficient, end-to-end processes that transcend the warehouse to reach your customers.**



### **From VAS, shipping, and goods issue ...**

Value-added services (VAS) are part of day-to-day business in many warehouses. ASSIST4 efficiently supports many VAS such as labeling. And when it comes to invoicing these services, ASSIST4 Billing is the perfect tool. ASSIST4 also links your warehouse and shipping processes and provides effective support in consignment consolidation, packing station tasks, and outbound checks. ASSIST4 provides a link to many transport service providers, generates the necessary labels and loading lists, and handles all electronic communication. And if you need a better way to manage your inbound

transports, ASSIST4 Time Slot Management is the tool you've been looking for. ASSIST4 identifies all the forms, business papers, and EDI messages relevant to each transaction. A VDA consignment in automotive logistics can't leave the warehouse until the necessary messages and labels have been created, for example. The result is more reliable, automated, and standardized processes along with better quality and fewer delays. And this quality will not go unnoticed by your customers, who receive services tailored to their unique logistical requirements.

### **... to customs clearance and compliance management ...**

ASSIST4 also helps you



optimize your global trade processes. Embed exports, NCTS, and Intrastat into the logistical process, for example – seamless, standardized, automatic. AEB software even helps classify your goods, accelerating your global flow of goods. You can save customs duties and gain a competitive edge by eliminating export errors. ASSIST4 also ensures that you comply with all export restrictions and anti-terror regulations and have all the export authorizations you need. Here, ASSIST4 ensures fast, reliable, streamlined processes through automated processes and an up-to-the-date data service for German, European, and US export control regulations.



### **... to complete supply chain control**

The warehouse is just a single link in the increasingly global value chains. To help you achieve optimal control throughout your supply chain, ASSIST4 offers the Visibility & Collaboration platform, a central control panel where all the relevant information from all participants in the supply chain comes together. Standard adapters and methods let you quickly, easily, and affordably integrate suppliers and carriers into your processes, systems, and information flows. This consolidated information can be used in various scenarios. Your customers can check the status of their own orders, for example. Transport service providers can book or check on pickup and drop-off time slots or access their freight documents on their own.

ASSIST4 harnesses all this information to give you a clear, real-time view of all your inventory, goods movements, and the status chains of your process steps. Above all, it enables the sea change from reactive troubleshooting to proactive event management.

# — Excellence in supply chain execution has a name: ASSIST4

The basis for efficient **collaboration** in the supply chain. Transparency and performance analysis. End to end.

Organization of your order processing. Overview of your **fulfillment**. Monitoring costs and workflows.

Supports all warehouse and distribution center activities and increases efficiency in your **warehouse processes**.

Streamlined processes in supply chain execution: **transport management** and **freight cost control**.

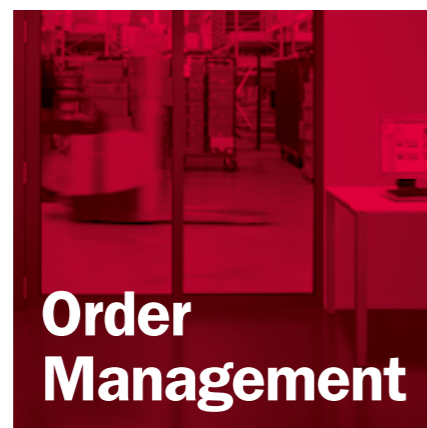
Business services for all **customs processes** in procurement and distribution. Standardized. Automated. Integrated.

Meet all **risk** and **compliance** requirements. Avoid possible violations and trade securely.



## Visibility & Collaboration Platform

- Integration platform
- Scheduling
- Monitoring
- Alerting
- Performance analysis, reporting & KPIs
- Process & stock visibility
- Time Slot Management



## Order Management

- Order entry
- Qualification
- Fulfillment planning & checking
- Fulfillment monitoring & controlling
- Assessment & billing



## Warehouse Management

- Goods-in & goods receipt
- Stock placement, stock transfers, cross-docking
- Stock overview & stock checking
- Picking & packing
- Dispatch & shipping
- Goods issue
- Mobile applications
- Cockpit



## Transport & Freight Management

- Shipment consolidation
- Transport preparation
- Transport orders
- Freight cost management
- Freight cost optimization
- Freight invoice auditing
- Tender Management
- Simulations
- Carrier Integration



## Customs Management

- Integrated global trade management
- Import
- Export
- Bonded warehouse, IPR, OPR
- EMCS, Intrastat, transit procedures
- Product classification
- Origin & preferences



## Compliance & Risk Management

- Global Trade Integration
- Restricted party screening
- Export controls
- EU & US regulations
- License management

**AEB (International) Ltd**

3 Olympus Court  
Olympus Avenue  
Tachbrook Park  
Warwick CV34 6RZ  
Phone: +44 1926 801250  
Fax: +44 1926 801251  
E-mail: [info.uk@aeb.com](mailto:info.uk@aeb.com)  
[www.aeb.com/uk](http://www.aeb.com/uk)

**AEB (Asia Pacific) Pte Ltd**

1 North Bridge Road  
#14-01, High Street Centre  
Singapore 179094  
Phone: +65 63379300  
Fax: +65 63379667  
E-mail: [info.sg@aeb.com](mailto:info.sg@aeb.com)  
[www.aeb.com/sg](http://www.aeb.com/sg)

**AEB Sweden**

Baltzargatan 21 B  
211 36 Malmö  
Phone: +46 40 85011  
E-mail: [info.se@aeb.com](mailto:info.se@aeb.com)  
[www.aeb.com/se](http://www.aeb.com/se)

**AEB Nederland**

Rivium Boulevard 301-320  
2909 LK Capelle aan den IJssel  
Phone: +31 88 3131700  
Fax: +31 88 3131799  
E-mail: [info.nl@aeb.com](mailto:info.nl@aeb.com)  
[www.aeb.com/nl](http://www.aeb.com/nl)

**AEB Germany**

**Headquarters**

Phone: +49 711 72842 300  
E-mail: [info.de@aeb.com](mailto:info.de@aeb.com)

**AEB Switzerland**

Phone: +41 43 211 1060  
E-mail: [info.ch@aeb.com](mailto:info.ch@aeb.com)

**AEB Austria**

E-mail: [info.at@aeb.com](mailto:info.at@aeb.com)