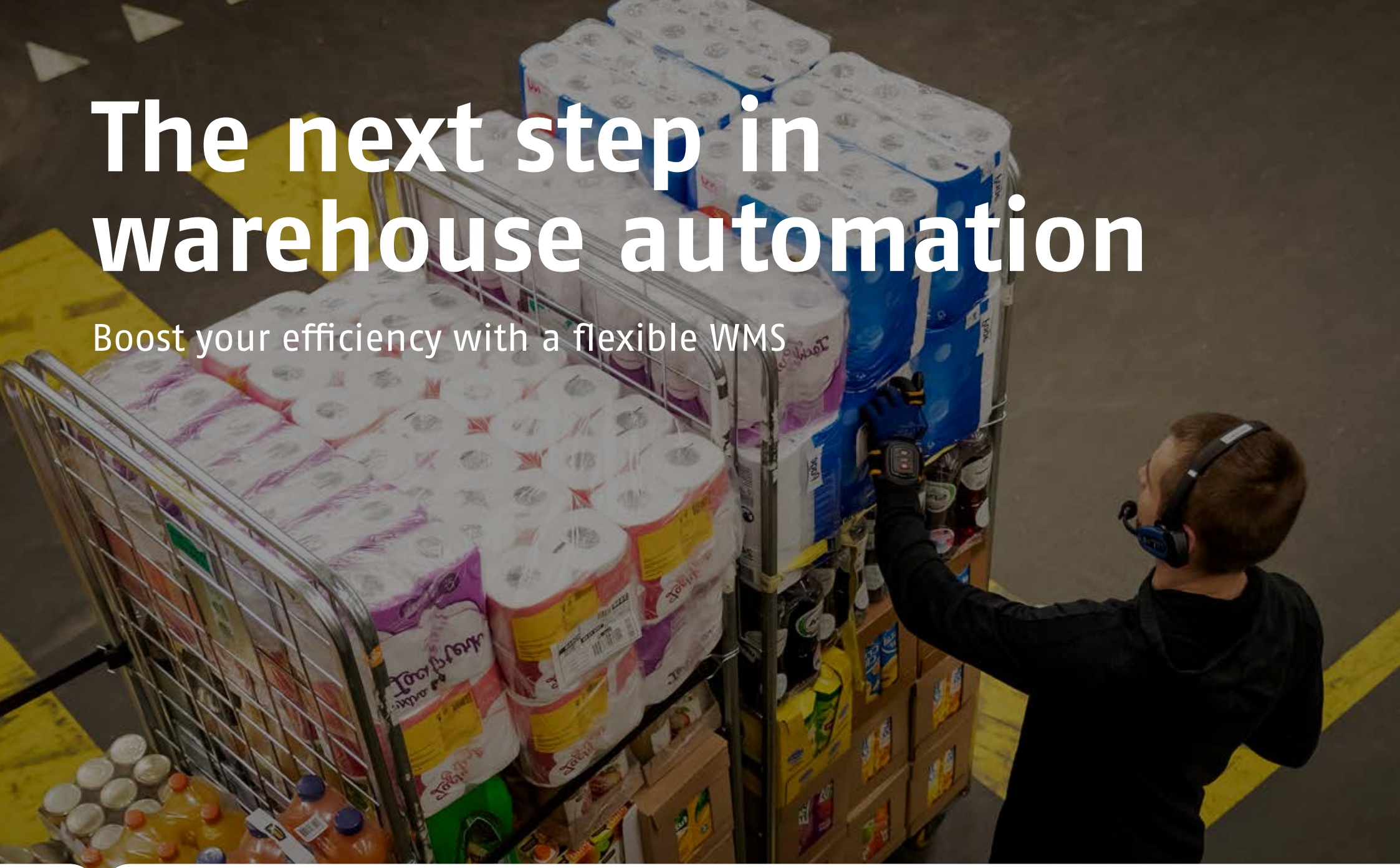

The next step in warehouse automation

Boost your efficiency with a flexible WMS

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Centric Supply Chain Solutions

Introduction

Digitalisation is rapidly changing logistics. As a warehouse, your lead times are getting shorter, while volumes and complexity keep growing. Fortunately, there are technical solutions available that can help you overcome these challenges.

To take advantage of these technical solutions, it is key that you flexibly automate your warehouse. Only through automation will you be able to offer higher service levels, improve your employees' performance and increase throughput at your warehouse.

In this white paper, we will explain how to flexibly optimise your warehouse automation processes in a world full of unexpected events in combination with a best-of-breed warehouse management system. We will go into the reasons for and benefits of the next step in warehouse automation in great depth. Aside from that, the white paper includes a number of handy tips and tricks for you to bear in mind when automating your warehouse.

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Contents

Why choose advanced warehouse automation?

The need to take the next step in warehouse automation is often evidenced by certain bottlenecks in the logistics process, such as repeated failure to comply with delivery times, lack of space, changing assortment and staff shortages. In this section, we will take a deep dive into these pain points.

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Failure to comply with delivery times

When you promise customers next-day delivery, they expect to receive their order the day after they placed it. Sounds logical, but are you always able to deliver on that promise? Are all orders ready for transport the moment the lorries arrive at the loading docks?

Warehouses have been using semi-real-time systems for years, but these systems are now increasingly coming up against the limits of their capacity. A few unusual orders, an urgent delivery to squeeze in, a pallet returned, or a busy day and the logistics operation goes haywire. The reason that happens is that warehouses today serve multiple sales channels with different ordering patterns and extreme peaks in demand. And urgency is often the norm nowadays. This makes it much harder to deal with irregularities. The current COVID-19 crisis is making this all the more clear, as increasing demand has brought chaos to warehouses. Meanwhile, reliability continues to be one of the most important things that customers demand from their suppliers. When you deliver later than promised, you are deemed to have failed – especially in e-commerce.

Lack of space in the warehouse

When sales rise or the assortment grows, stock grows as well. And having a large stock can lead to problems. A warehouse with a 92% occupancy rate, for example, will no longer be able to operate efficiently. Forklift drivers spend too much time looking for empty rack space and chances are that the area for incoming goods quickly fills up because goods cannot be accommodated in the warehouse. This prompts many companies to rent additional warehouse space elsewhere. However, this is far from ideal, because it means additional costs and additional handling. Just think of all the lorries that have to go back and forth between the two warehouses.

Changing assortment

Assortment changes are a trend that has been going on for several years now. Especially when organisations expand, they tend to add to their assortment. The warehouse will then often suddenly have to process other kinds of products than it usually processes, such as food items at an office supplies company. This creates entirely different logistics streams in one and the same warehouse, increasing complexity and workload in keeping it all under control. Data needs to be processed smoothly, because a hitch will impact on the entire supply chain.

Staff shortages

Finding suitable staff is a challenge for many companies, especially in areas that are home to multiple logistics hubs. Wholesale and retail in particular are grappling with staff shortages, as reported by Statistics Netherlands, the Dutch Chamber of Commerce, the Economic Institute for the Construction Industry, SME Netherlands, and the Confederation of Netherlands Industry and Employers VNO-NCW based on the *Conjunctuurenquête Nederland* (survey of companies in the Netherlands). These staff shortages are particularly pressing for employers who run their own distribution channels, who are facing a shortage of drivers and other workers.

Benefits of next-level automation with a controlling WMS

The benefits of automation extend beyond further streamlining day-to-day operations in the warehouse. Automation can also help a company enhance its competitive position, as it will bring down costs, reduce errors and shorten the lead time

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Cost reduction

Automating operations using a controlling WMS will help you permanently reduce your costs, delivering considerable savings on labour costs. This is because automation reduces the number of tasks or even altogether eliminates tasks that represent little to no value, such as walking or driving in the warehouse. Distances covered are reduced as the WMS factors in products' locations when putting together order picking tasks.

Batching algorithms calculate the most efficient order picking tasks based on these distances. When it comes to forklift truck movements, the next task is assigned while taking into account the forklift's starting position and the priority of the task, always weighing the efficiency of all tasks against the priority of each individual task. Implementing a goods-to-person system means that workers can even stay exactly where they are.

Automation also brings more efficient use of space. An automated storage and order picking system occupies fewer cubic metres of floor space than a manual warehouse with pallet racks or shelf systems. More compact storage ensures more efficient use of the space available in the warehouse. Besides, you will not need wide aisles anymore to give workers and their equipment sufficient space to manoeuvre and pass each other.

Error reduction

The control of the automated storage and order picking system sees to it that all order pickers have the right stock to pick at the right time. With a mechanised system, the order picker is presented with a tray containing the same items, meaning that he/she can never pick the wrong item. And with smart devices, such as digital screens or displays, you can even show the picker quantities and images of items. As a result, picking errors are all but a thing of the past, meaning fewer incorrect deliveries (the wrong item or wrong quantity) and increased customer satisfaction.

Smart controls for existing procedures

The WMS application distinguishes various order profiles in the sales orders, so that it can control multiple logistics streams. Sales orders with just one single order line for one single item, which are also referred to as single piece picking orders, can then be handled differently in the logistics process to orders with multiple lines and pieces.

Singe piece picking orders can, after order picking, immediately be packed individually. The WMS settles an order with each item scan, generating the right labels and generating tickets for the transport company. Orders containing multiple lines need to be sorted before packing, if possible, depending on how the processes are organised.

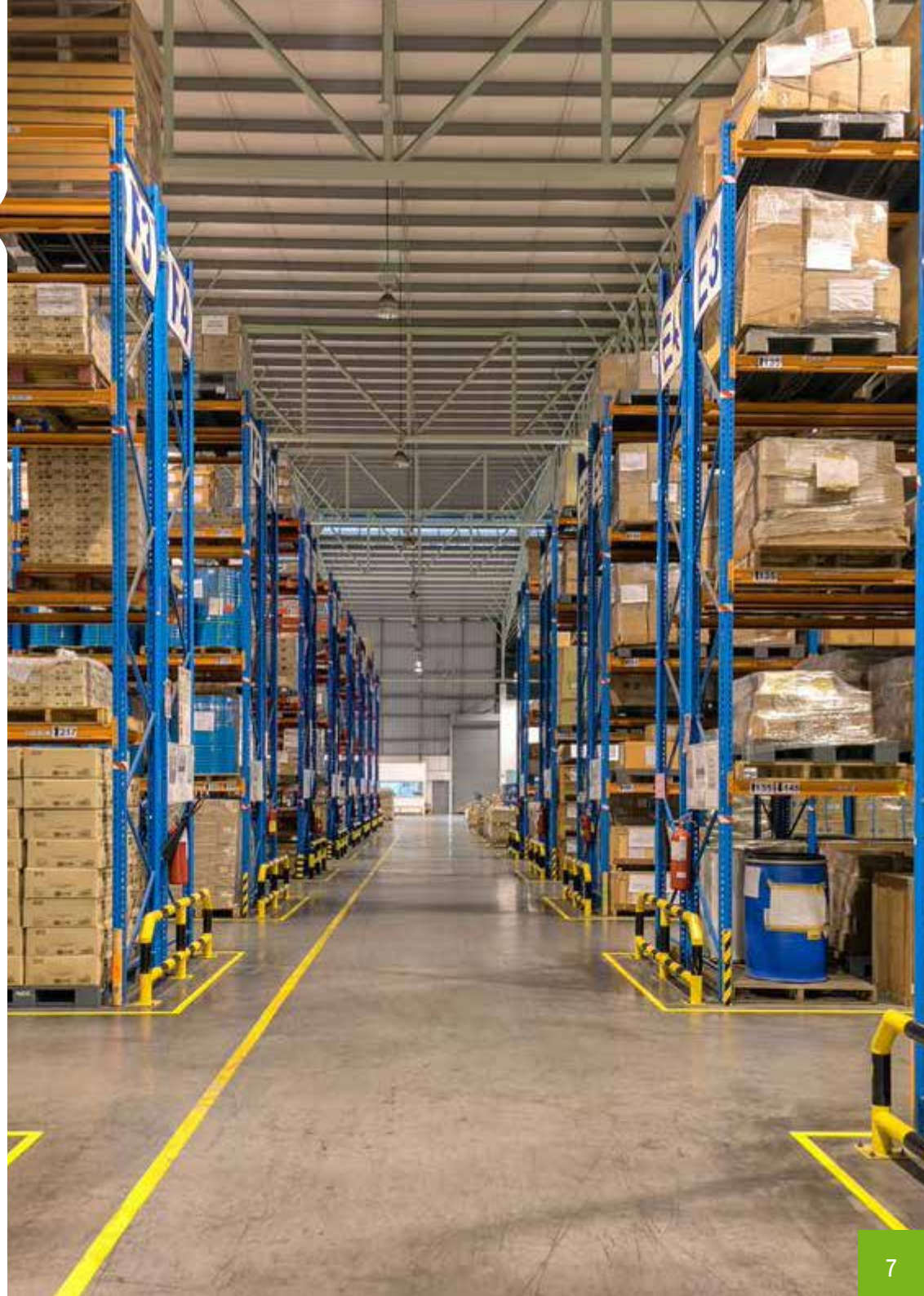
In e-commerce, the chaotic storage principle is used to make the most of the available space in a pick location. This means that you need to be sure that the right product is picked when picking orders in such an area. You can make sure of that by scanning a bar code or RFID.

When packing, only those products that in terms of packaging formats can actually be processed at a certain packing table will be sent there. After checking that the online order is correct and complete, the label and any return documents are generated.

Return rates in e-commerce range from a few percent at specialist stores (such as a store that sells musical instruments) to over 50 percent in fashion retail. It is well known that there are different ways to reduce the return rate in the world of online retail by using reviews, honest descriptions, and genuine photos. If an item is returned nonetheless, it is important that the product be turned around for a second opportunity with the least possible effort.

Checking returned items is a key step, which involves logistic processing such as returning a faulty product to the supplier, sending a damaged item to a second-hand dealer, and adding an item that is in good condition to the stock again for sale. The latter group of items can be subdivided even further. Fast-moving items are placed in a separate area near the returns department to save the costs involved in returning them to their place in the warehouse.

A cross-dock is commonly used in all industries. It has become a catch-all to which every industry has given its own twist. In the food industry, a cross-dock is used in combination with a pick-to-zero situation. In wholesale, super slow movers go into the long-tail stream and are combined with items stocked by the wholesaler. But there is also the cross-dock stream of freshly baked croissants from a local bakery that are added to a shipment at the last minute, while the goods were already ready for shipping.



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Shorter lead time

In a manual order picking process, it can take a while for an order to be ready, especially when the order contains multiple order lines and picking requires going to multiple pick locations spread out over the warehouse. In an automated storage and order picking system, the lead time is shorter, even with a large number of order lines per order. The system makes sure that the trays containing the stock to be picked are supplied in the right order, so that an order can be ready within the time span stated by the WMS. But, like with the traditional part of the warehouse, the WMS continuously weighs speed (for urgent orders, for example) against efficiency, so as to strike a balance between the automated storage and order picking system and the collaboration with the WMS. Having a WMS as a 'captain on the ship' does exactly that, while also ensuring that the automated and the traditional part of the warehouse run in sync.

At e-commerce warehouses, getting all the orders picked and packed on time often involves a lot of stress. Next-day and same-day delivery are very normal these days. By choosing different walking routes after the cut-off moment, orders can be picked quicker and be ready for transport sooner. Customer orders will then have to be picked on the day they come in. Working based on waves is far too static for next-day and same-day deliveries. With continuous waving, orders are instantly available to order pickers. An urgent order will then not have to wait for the next wave to be picked. This empowers warehouses to deliver faster and more efficiently.

Practical tips & tricks for warehouse automation

Next-level automation helps eliminate pain points and/or streamline processes. But there are also the following practical things to consider before you get started with a WMS:

- Manage and control your master data
- Correct volumetrics at your disposal
- Set the frameworks in your warehouse
- Implement smart control in the warehouse

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Manage and control your master data

The most important external party that a warehouse has to deal with is often the internal department that ensures that the data is correct and complete. Master data is crucial in calculating the volume and weight of a shipment and efficient controlling of order picking. When an order picker has to get an additional container because the weight specified for heavy products is off, picking performance will be affected. Such a delay may, in turn, affect other processes, such as packing, leading to unwanted additional pressure.

In logistics, companies have been striving to make data more reliable for years. Collaboration across the supply chain has also been a key topic for several years now, but an acceptable level of collaboration has still not been achieved. Certain industries, such as food and DIY, have made great progress in this respect, while others still have a lot of catching up to do.

The WMS supports the warehouse whenever incoming goods come with incomplete data. The embedded functionality in the application lets staff check the data of incoming goods and/or add the data needed for further intralogistic processing. This way, any imperfections introduced by others are ironed out early on in the flow.

Correct volumetrics at your disposal

In order to keep transport costs down, it is key that orders be compactly packed, especially given today's great variety of order profiles.
A modern WMS will calculate the volumes per order in advance and design efficient picking rounds, which have order pickers pick full pallets or boxes. This will reduce the distances order pickers have to cover, because they will not have to cross the entire warehouse for a single order. And it shortens the lead time, as multiple order pickers can simultaneously work on the same order.

To be able to calculate the volumetrics, the WMS needs correct volume data on items. This is often a problem. Whenever warehouses implement a WMS, they almost always take stock of the dimensions and weights of their items. And all new items will then also have to be measured. There are several handy devices available on the market for that, which can automatically determine dimensions and weights.

Set the frameworks in your warehouse

When automating operations in combination with a WMS, it is important to know what the expectations for the future are, so that the application's business rules can be set up in a way that supports the required future situation. The future situation may involve issues such as walking routes, slotting, identifying new bottlenecks, other forms of cross-docking, other ways of controlling packing tables, and merging or not merging various logistics streams.

Smart control in the warehouse

Bear in mind that the whole warehouse does not have to be automated in one go. In case of a combination of different storage systems, it is perfectly possible to implement systems one by one, possibly with a year or several years between implementations. Aside from that, many of the systems available today are scalable. You can start out on a small scale and then scale up step by step, depending on your current situation and your sales growth. Such phasing will furthermore prevent long warehouse downtime, because downtime is something no company can afford.

Locus WMS by Centric

Centric is the supplier of Locus WMS, a controlling warehouse management system that creates efficiency in your warehouse by providing simplicity on the shop floor. The system offers extensive applications for all logistics processes in the warehouse.

Locus WMS is an application that controls the warehouse by assigning the right task to the right person at the right time. When an employee has completed a task and is ready for the next, Locus WMS determines the most important task for that employee at that time, taking into account the type of tasks that person is allowed to perform, which vehicle is currently in use, and where the employee is at that moment.

Tasks are allocated after weighing speed against efficiency. Given that Locus WMS calculates every time which tasks should take precedence, the worker will not notice that he or she has been assigned an urgent task. This makes it possible to create a serene work environment for all in a very busy warehouse.

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Some of our customers

Is your warehouse reaching its maximum capacity and are you searching for a solution? The savings achieved by installing a WMS compared to the initial costs (savings-to-investment ratio) are generally considerable. Moreover, a WMS helps the entire company move forward, because you can easily meet all existing and new market requirements.

You can see here a selection of our customers who are managing their logistics processes in the warehouse via Locus WMS.

Contact

If you want to find out more about Locus WMS or Centric, please call Stephan Laan on +31(0)36 549 8666 or supplychain@centric.eu for a no-obligations appointment.

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