

"We have reduced our warehouse costs by 22%, which has made us more competitive. In addition, picking efficiency in the warehouse has increased by 40.6% over the last three years. This means that we can execute several orders with the same capacity."

CEO, Marianne Sørensen



Av Form



av form has a sharp focus on optimizing logistics, which is why the company started a collaboration with Logimatic back in 2010. The collaboration means that traditional paper solutions have been replaced by the scalable warehouse management system LOGIA, all warehouse employees are online via iPads, and the inventory layout is optimized. av form is experiencing great growth and chose in 2016 to move to a larger warehouse, to invest in eight storage machines, and to upgrade its warehouse management system.

The warehouse and logistics situation

av form is one of Scandinavia's leading suppliers of creative resources for education and creative expression in schools, institutions, and kindergartens. A large proportion of orders are received via its web shop, email, and telephone. The market is highly competitive and characterized by price pressure from public customers.

In 2010, av form decided to optimize its warehouse and business processes, in recognition of the fact that an increasing number of orders and a rapidly increasing range of products in a short time frame were going to prove to be a logistics problem.

The situation in the workshop was such that

everything from beads and drawing pencils to hula hoops and carnival drums were handled by 12 permanent warehouse employees, supplemented in the high season by up to 20 temporary workers. They picked based on traditional printed pick slips.

The company conducted an analysis to shed light on the challenges. It clearly indicated that av form had a low use rate of its warehouse premises, because it was laid out inappropriately. This resulted in inefficient working procedures, causing employees to spend too much time picking and packing orders.

The solution includes:

- » **Optimized warehouse layout**
- » **Managing and optimizing processes and picking at the manual warehouse**
- » **Management of 8 automated vertical storage lifts**
- » **Digitization of all paperwork**
- » **All warehouse employees are online via iPads**

The analysis kick-started a major warehouse turnaround consisting of a new warehouse layout, the optimization of processes and flows, new technologies, etc. It was all about exploiting the warehouse's structure and resources in the best possible way.

In 2016, av form moved into a new headquarters with a larger warehouse, where they chose to automate some of its parts.

The solution

After careful consideration of automation, voice management technology, and warehouse management systems, av form chose to partner with Logimatic to implement a scalable warehouse management system that would improve efficiency and reduce costs in its manual warehouse.

Today, paper pick lists have been replaced by the LOGIA WMS, and all warehouse employees are equipped with iPads, on which information about warehouse data, processes, and stock is presented simply and clearly.

Optimized warehouse layout

The warehouse consists of a manual warehouse with pallet racks and an area with shelf racks for packages.

All items have fixed picking places, and the location of the goods is primarily determined by the characteristics of the item in relation to the packing process and secondary items' ABC categorizations.

The warehouse has a dynamic picking area that is used for goods that, during certain times of the year, are sold in large quantities. The dynamic picking space can accommodate large quantities of current goods, so they do not have to be replenished several times each day. Warehouse workers are guided to the dynamic picking places on their picking routes.

The automated warehouse area consists of eight vertical storage lifts. The location of the lifts is included the warehouse layout, to ensure a good flow.

Order machine prioritizes and assigns orders

The automatic order machine is based on a queue of orders, classified according to their shipping times. The machines compile picking rounds as batches

with up to six orders at a time. Orders are not activated if there is insufficient stock in a picking area. When an employee is ready for a new round of picking, the next picking round is assigned from the queue. Picking routes follow the optimal package sequence and ensure that goods are picked in an order that is aligned with how they will be packed in the shipping packaging.

Picking directly into shipping packaging

With the right master data, LOGIA can calculate volume and specify the most suitable shipping packaging for each individual order. The volume calculator suggests the smallest box with volume greater than the calculation.



When a round of picking starts, the employee receives information about the sizes of packaging to take on the picking cart and the specified position of the boxes on the cart. Labels for each order are printed automatically and then attached to the packages. As the goods are picked, they are placed directly into the shipping packaging, which is on the picking cart.

Throughout the picking round, the employee is guided to the right picking locations, and the iPad displays the number of items to be picked and which shipping packaging the items need to be placed in. This is efficient and lowers the error rate to a minimum. Orders that contain picks from multiple ware-

house areas are consolidated before being delivered to distribution.

When the picking round is finished, the employee transfers the picking boxes to the shipping area on a conveyor belt. The packaging operator scans to notify the completion of the packaging, the delivery note is printed, and the cargo is directed via the interface to the Consignor. The shipping label is printed, and the order is ready for pick-up and delivery.



"It is incredibly easy to train new employees in LOGIA. It takes about three hours, then they are ready"

Kim B. Hansen, warehouse manager

iPads as terminal equipment

In terms of investment, iPads are far cheaper than traditional warehouse terminals, and the stock at av form is suited to the slightly more fragile media platforms. Employees are guided through all working processes and report back to the WMS, which is integrated with the company's ERP system.

This provides an overview of the warehouse, but other departments in the company, such as sales and purchasing, can keep abreast of the current status and take into account the status of orders, stock, product placement, staffing, and so on.

Employees are the most important resource

av form takes care of the well-being of its employees, which is why it is important that they experience the changes as obvious improvements. Relatively quickly, the staff adopted a positive attitude toward the technology and began to provide new inputs to improve processes.

"We believe that the implementation of the new technologies may eventually be the decisive factor for the company's competitiveness and survival. However, it should be stressed that our most important resource in the company is still our skilled employees. Without them, we are nothing"

CEO, Marianne Sørensen

Vertical storage lifts provide more space

The height of the warehouse made it possible to deploy vertical storage lifts that take advantage of vertical space, rather than floor space. This makes it possible to store far larger quantities of goods and access them more efficiently.



The automated warehouse, like the manual warehouse, is controlled by the LOGIA WMS system. The WMS system is integrated with the company's ERP system, so that data is exchanged between the systems. LOGIA binds the entire logistics process

together, improves efficiency, minimizes errors, and reduces costs.

The ability to bind the entire warehouse together and control the manual and automatic storage via the same WMS was one of the reasons why av form chose the solution from Logimatic back in 2010.

Results

The warehouse and workflows have been optimized using the new technologies, and this has both increased picking efficiency by 40.6% and reduced storage costs by 22%. This means that av form can execute multiple orders with the same capacity, and that the company has become more competitive.



"It's obviously a big investment, but we can't afford not to. Our market is characterized by fierce competition, and we are forced to keep our costs down in order to be competitive. LOGIA has significantly improved the processes and we see a great value in the WMS system"

Lene Baadsgaard, Project Manager for Business Development and Supply Chain