

ASKO MIDT-NORGE EFFICIENCY & REVENUE Results-Oriented Automation



INTELLIGENT AUTOMATION HELPS ASKO STAY AHEAD AS MARKET LEADER

ASKO MIDT-NORGE AS is a subsidiary company, owned by Norway's leading wholesaler, ASKO NORGE AS, who delivers groceries to grocery and convenient stores, institutional households and service trading customers throughout Norway.

As changing supply chains and general market growth brought about challenges regarding ASKO's logistics strategy, they successfully started to automate their distribution centres, to stay ahead as market leader.

Before the automation project for ASKO MIDT-NORGE was initiated, Swisslog was already the automation partner of choice for two existing ASKO distribution centres, including their central distribution centre in eastern Norway. Thus, a beneficial partnership and smooth cooperation, as well as Return on Investment, had already been proven. As the ripple effect started working, the new automated regional warehouse for ASKO MIDT-NORGE was initiated.

THE PARTNERSHIP

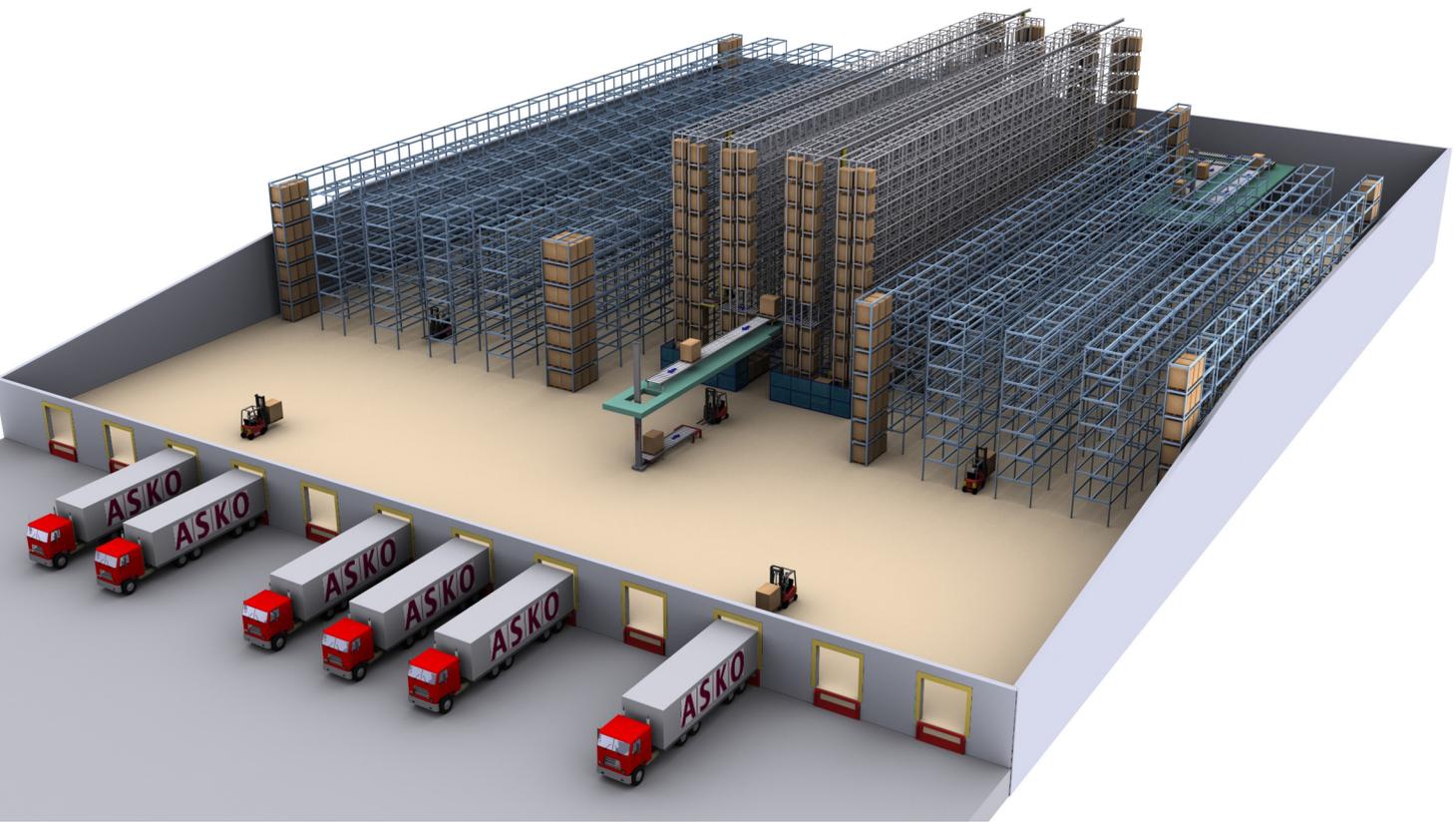
Cooperating for optimal results

One of Asko's ambitions is to be the most customer oriented and efficient logistics machine in Norway. Additionally, they aim to be 100% carbon neutral. By bringing in Swisslog's expertise within intralogistics automation, ASKO MIDT-NORGE has taken further steps towards achieving these goals.

The result of the partnership is a space efficient High Bay Warehouse with energy efficient stacker cranes that automatically replenishes the pallet locations in the picking aisles. There is also an automated conveyor system, that has decreased ASKO's previous extended use of trucks.

"The cooperation with Swisslog is excellent! They are perceived as serious, punctual and skilled. Their service technicians are extremely capable, and we always get fast responses and support."

Jørn Endresen
Logistics Director at ASKO MIDT-NORGE



AUTOMATED HIGH BAY WAREHOUSE WITH INTELLIGENT PICKING SYSTEM

ASKO wanted an automated solution for their high frequency goods, which are approximately 270 SKUs. After a thorough concept study, a decision was made to invest in a 19 meter tall High Bay Warehouse (HBW) with two automatic double deep Vectura stacker cranes that automatically store and retrieve Euro pallets.

The design is based on one of Swisslog's standard solutions named PickRunner, which allows for integrated picking aisles along the foot of the racking. The two cranes automatically replenish three picking aisles, where operators with forklift trucks are guided by a multi-lingual Pick-by-Voice system, that tells them what to pick and from which location. This system has proven to be an accurate and efficient way to pick directly from pallets, and it easily integrates with Swisslog's own software. Two of the pallet locations in the picking aisles are dedicated to goods for the manual racks that are located in the same picking zone.

ERGONOMICS & SPACE EFFICIENCY IN SYNERGY

By lowering the cranes 75 centimeters below floor level, the height of the

"EFFICIENCY AND WORKING CONDITIONS HAVE IMPROVED CONSIDERABLY WITH THE NEW SOLUTION FROM SWISSLOG."

Jørn Endresen, Logistics Director, ASKO MIDT-NORGE

pallets is ergonomically adapted so that the operator does not have to stretch above shoulder level to reach the top of a pallet. The pallets are placed short side leading, allowing for approximately 45% more pallet locations in the warehouse than with traditional long side leading placement. In consideration of the depth of the pallets, the height of the actual picking location is made spacious enough for the operator to step onto the pallet to reach the innermost items. Additionally, the racking is double deep, so that a steady stream of buffer pallets is constantly available, as the system continuously replenishes empty pallets and buffer pallets.

CONVEYORS & CONTROL

In the receiving area, operators with forklift trucks load the pallets onto Swisslog's ProMove conveyors. Pallets are transported through a format control

and ID checkpoint for either approval or rejection, and the pallets that are rejected are manually corrected by an operator. Further, a vertical conveyor lifts all approved pallets up to the mezzanine, where the conveyors transport them to the HBW. Here, the two Vectura cranes, equipped with double deep fork units automatically store and retrieve the pallets.

The HBW has a capacity of 3 744 pallet locations in height and 416 pallet locations at pick level, which makes a total of 4 160 pallet locations. After the fully picked pallets are prepared, they are transported by a truckdriver to the dispatch area.

Some of the outbound goods are prepared pallets received from external suppliers. These pallets are also stored in the HBW, but when these are ordered, the conveyor system brings the pallet directly down to the dispatch area.

DELIVERING CONFIDENCE WITH SCALABLE SYSTEMS THAT MEET YOUR CURRENT AND FUTURE NEEDS
 Our customers have guaranteed peace of mind, and our systems can grow with their future needs.



FACTS & FIGURES

AUTOMATED STORAGE

| | |
|------------------------------|-------|
| High Bay Warehouses | 1 |
| Automatic Stacker Cranes | 2 |
| Pallet Locations in height | 3 744 |
| Pallet Locations, pick level | 416 |
| Order Lines per day | 2 000 |

CONTROLS

| |
|----------------------------|
| BoxControl |
| - Automation Control (ACS) |



HIGHLIGHTS

- > Increased handling capacity
- > Increased efficiency and profitability
- > Improved ergonomics
- > Increased picking accuracy
- > Reduced dependency on manual labour
- > Optimal space utilization through high storage density
- > Reduced stock damage
- > Reduced lead time
- > Pallet load sequencing to optimise outbound transport routes



SCOPE OF SUPPLY:

- > System design and development
- > Planning and implementation
- > Project management
- > Engineering
- > Health and safety
- > Supply of material handling equipment
- > Swisslog's AutomationManager™

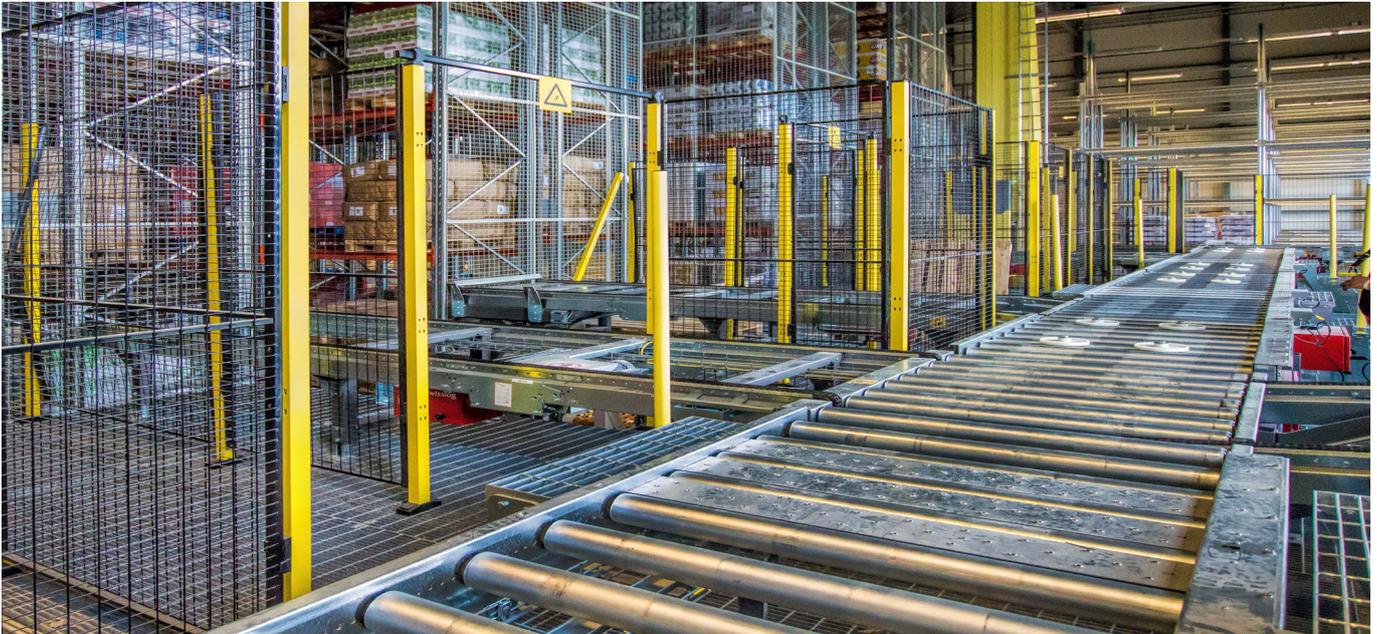


ASKO
 – vi forsyner Norge med mat

ASKO distributes groceries for convenience and grocery stores, institutional households and service trade customers.

The distribution area of ASKO MIDT-NORGE AS stretches from Trøndelag, in the middle of Norway, and north through the region of Nordland. ASKO MIDT-NORGE has a total of 170 employees and their annual turnover is 2,5 billion NOK. They are located at Tiller, near Trondheim.

Their parent company ASKO NORGE AS is Norway's leading wholesaler, with over 3000 employees and a turnover of 48,3 billion NOK in 2013.



INTERVIEW WITH JØRN ENDRESEN, CEO, ASKO MIDT-NORGE

Why did you look for a new solution?

We aim to be the best logistics machinery in Norway, thus the need for increased degree of automation was a natural development. We were looking for a solution that could increase efficiency in our warehouse and thereby facilitate increased revenue.

Why did you select the chosen solution?

We chose the solution based on our demands for physical space efficiency, picking efficiency and economical benefits. The chosen solution meets these criteria, by building in height to maximize storage volume and offering an intelligent picking solution with automatic replenishment, thus resulting in the desired improvements in capacity and throughput.

Also, Swisslog was a natural first choice because of their proven competence and involvement with other ASKO projects, such as ASKO Rogaland and ASKO Central Distribution Centre in Vestby.

What was the main objective of this distribution centre?

Our main objective was to improve the lead time and accuracy in supply of goods to the regional markets in middle and northern Norway.

"THE NEW SOLUTION ENABLES US TO HAVE THE GOODS AVAILABLE AT THE RIGHT PLACE, AT THE RIGHT TIME AND IN THE RIGHT CONDITION."

What are the advantages of your new solution?

The new solution enables us to have the goods available at the right place, at the right time and in the right condition. The solution provides a more careful treatment of products and is a more precise and efficient solution, because the goods are always available at the pick locations.

Why did you select Swisslog as your supplier?

Swisslog was chosen as the supplier because they had the best solution for our warehouse.

What was it like to work with Swisslog during the project?

Cooperation worked out very well. Swisslog was perceived as serious, enthusiastic and thorough in detail as well as in providing assistance.

How does the cooperation work with Swisslog now?

Excellent! We receive assistance and support

as and when required, whether it is software or hardware related. Their competent staff and service technicians have proven themselves to be skilled and reliable.

What do your employees think of the new solution?

Our employees are very satisfied with the new solution and think that it improves our efficiency as well as our daily working conditions.

Has the solution met your expectations?

After the implementation of Swisslog's solution, the functionality has complied with our expectations for improvement of efficiency, to reach our daily operational demands.

What level of service do you offer your customers?

We aim to offer our customers top service with a quality assurance of delivery where we are capable of meeting our customers' demands with promptness and satisfaction.

swisslog

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