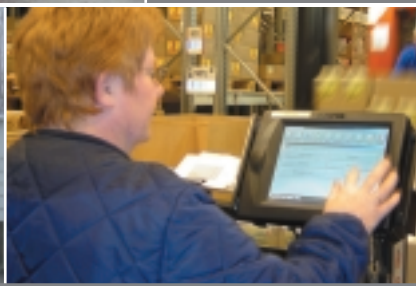


## Rynkeby Foods A/S, Denmark A Case Study



## Brand new distribution centre for Danish soft drinks company

"By utilizing one large automatic store to eliminate transport between warehouses, we found that we were able to reduce our stockholding by two days' worth of sales."

*Martin Serup Pedersen,  
Head of Logistics*

### The Customer and his Requirements

Rynkeby Foods A/S is Denmark's leading producer of fruit juices and non-carbonated soft drinks, with a turnover in excess of DKK 800 million. The company – which takes pride in using only the highest quality ingredients and no artificial flavours or preservatives – offers a wide range of products including wines, ice tea, mineral water and catering packs of jams, marmalades and pickles.

Rynkeby, which was established in 1935 and grew steadily over the years due to mergers and acquisitions, was acquired in 1998 by Arla Foods Group. Together with its sister company within Arla, JO Bolaget, Rynkeby dominates the market for fruit juice in Scandinavia. To meet high levels of demand, Rynkeby decided to build a new and larger factory with a storage and distribution facility at Ringe on the Danish island of Fyn.



**The Solution**

Rynkeby's new automated distribution centre, which went live in February 2004, serves the company's main customers, which are the supermarket chains and beverage wholesalers.

Finished goods are conveyed from the production lines to the distribution centre as whole, half and quarter Euro pallets – the quarter Euro pallets being transported four at a time on standard Euro pallets. The input conveyor feeds barcoded loads to the fully automated warehouse which features 15,252 pallet positions and is served by 7 Swisslog stacker cranes. The 18-metre high cranes can store pallets double deep on both sides of each aisle, thus maximizing the storage capacity within the warehouse cube. Order pallets retrieved from the warehouse are fed to P&D stations, from where they are collected by manually-driven lift trucks and transported either to the adjacent shipping lanes in the dispatch hall ready for vehicle loading or to a remote order picking area. Pallet collection and deposit by the lift trucks is managed by an RF system,

using hand-held guns to read the pallets' barcodes. The destination for each pallet load is then given to the truck drivers via on-board information screens.

Within the order picking area, man-up order picking trucks locate and pick at carton level from designated pallets, again controlled by truck-mounted monitors and RF barcode information. Picked order pallets of mixed goods are then transferred back to the dispatch hall and placed in the appropriate shipping lanes.

Swisslog supplied both the Warehouse Management System (WMS) and the Local Transport Control System including all RF equipment and system monitors. The WMS reports upwards to Rynkeby's in-house MOVEX control system.

Following successful completion of the construction and commissioning phases, Rynkeby also awarded Swisslog the contract to maintain the new logistics system.

**Logistics Data**



**Overall facility**

Orders picked per day	88
Average no. of order lines	3.4
Pallets dispatched per day	718

**Transport systems**

Length of pallet conveyor, m	420
No. of lift trucks	7

**High-bay warehouse**

No. of pallet cranes	7
Height of pallet store, m	18
No. of pallet locations	15,252
System input, pallets/day	500

**Order picking system**

No. of man-up order picking trucks	2
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**Hardware platforms**

Server primary memory, GB	1
Disk space, GB	2*36
Operating system	Windows 2000 Server
RF system	LXE



## Interview



Martin Serup Pedersen  
Head of Logistics

### What was your long term strategy concerning a new distribution centre for Rynkeby?

*"We needed to build a new, larger and more modern factory to produce our fruit juices due to the high demand for our products here in Scandinavia. At that time, we had three distribution warehouses – one at our old factory and two at remote sites some 30 km away. The long term strategy was to consolidate storage and distribution at the new production site in one much larger warehouse."*

### Why did you decide that this new warehouse should be fully automatic?

*"We produce and then store our fruit juices in bulk volumes. This stock needs to be instantly available to meet incoming daily orders. By utilizing one large automatic store to eliminate transport between warehouses, we found that we were able to reduce our stockholding by two days' worth of sales."*

### What made you choose Swisslog for this project?

*"Firstly, their price was good – in line with others in the market. This allowed us to short-list Swisslog. Once discussions began, it became obvious that they had some very good ideas and had wide experience in our industry. We visited several other beverage sites here in Denmark where Swisslog had completed automated storage systems and we were impressed with what we saw. Secondly, we found that the same team leaders from Swisslog who would advise us on how to build the new warehouse would control the installation and commissioning – and also the ongoing operation of the system under a maintenance contract. This was an aspect of the Swisslog offer that we really valued."*

### Can you give an example of the ideas that Swisslog was able to incorporate into the system?

*"We expected that we would have to shrink-wrap pallets of product as they left production in case any cartons fell off the pallets during the conveyor transport or stacker crane storage. Swisslog designed a system in which pallet transport speed is high but acceleration and deceleration rates are programmed to be low, thus keeping the loads stable. By avoiding the shrink-wrapping of pallets at that stage, we have saved money and also simplified our break-bulk process when we order pick from the pallets as they leave the automatic store."*

### What have been the main benefits of the new automatic system?

*"We have some 9 million litres of fruit juice in the store. It is all instantly available and it is all automatically rotated on the first-in, first-out principle. Our full stock rotation takes between 4 and 5 weeks. We supply our customers on Euro pallets, half Euro pallets and quarter Euro pallets. This is because the supermarket chains take our products on pallets and often place them straight on the retail shop floor; the pallet size is dependent on the shop size and the product type. We can mix products on each layer of the pallet according to criteria specified by the customer. This costs us more at the point of production but then we don't have to order pick and our customer uses a small footprint to stock our lines in the retail area. The fact that whole, half and quarter Euro pallets are all stored in the one warehouse gives us a very flexible system. Another key benefit has been that, within months of becoming operational, we were on track for the planned financial payback of the investment."*



Beverage



## Customer Data



Rynkeby Foods A/S, Denmark  
www.rynkeby.dk

### Location

Rynkeby is part of ARLA Foods Group. Headquartered in Ringe, Denmark, Rynkeby has consolidated its production and distribution operations into just one site at Ringe on the Danish island of Fyn.

### Brands

Rynkeby markets a wide range of juices including the leading brands Morgenjuice, 16 and Grontsags. Soft drink brands include Blandetsaft C, Rinkes and Ice Tea and wines include the labels Pinard, Julius Gløgg and Dansk Julegløgg. Rynkeby also produces a series of catering pack products – including jams, marmalades and pickles. Much of the company's food and drink range is also supplied to the major retail

chains in an own-label format. The result is a product range comprising some 300 lines.

### People

Rynkeby Foods A/S employs some 275 people at Ringe. Distribution is achieved using about 50% own transport, with the remainder shipped on sub-contracted transport.

### Sales

In 2002 Rynkeby Foods grossed almost DKK 825 million in sales. Some 90% of the company's output is sold in Denmark. The main export markets for Rynkeby are Norway, Sweden, Finland and Germany. The majority of orders are shipped within 24 hours.

## The Benefits

- High product availability
- Full, half or quarter Euro pallet handling for ultimate flexibility
- Accurate, paperless order picking for whole or mixed pallets
- Barcode-enabled, accurate inventory control
- Lower stock levels through consolidation at one site
- Modern hardware and software platforms
- Minimum system downtime
- Quality control

## Swisslog's Scope of Supply

- Design and implementation of a new distribution facility
- Software system configuration and specification
- Software and hardware installation, testing and training
- RF equipment and on-board monitors