

CASE STUDY

ARLA FOODS, SWEDEN



Supplying an automated system to increase efficiency & volume

«The Swisslog solution fits in with the Arla containers and the existing production structure. The container system was developed to achieve the automation, which now has been performed.»

Göran Henriksson, Logistics Manager

The customer and his requirements

Arla Foods, formed in 2000 through the merger of the Danish company MD Foods and the Swedish firm Arla, is an international group producing milk-based products and with a turnover over EUR 5.1 billion. A cooperative owned by some 10 600 milk producers it has its main markets in Denmark and Sweden. Arla decided to centralize distribution in Sweden to just two DCs. After a thorough study, tests and simulations they decided to automate and mechanize the handling processes at these distribution centres. Their main target was to improve

cold handling for fresh dairy products to ensure future proofing. After a consultancy phase Swisslog received a realization order for a semi-automated regional DC for dairy products and fruit juices at Jönköping in December 2002. Arla planned to introduce the automation in two phases. The second order followed in 2006. The Jönköping facility will serve as a test bed for further automation within the Arla supply chain in Sweden.

swisslog



The solution

The distribution center (DC) delivers dairy products directly to customers and to ports. The products are delivered in cardboard cases and plastic crates, roll-in containers or customer-specific roll containers. The Jönköping DC handles products manufactured on site, goods from other Arla facilities as well as products of other manufacturers. Apart from some fastmovers which are delivered to Gothenburg dairy for distribution, all of these goods need to be picked according to customer orders and delivered to retailers as quickly as possible. Roll-in containers and crates are conveyed from on-site production to the cold store on a monorail conveyor. Goods arriving from outside facilities are registered on Swisslog WarehouseManager (WMS) and are then transferred by fork-lift to either the MultiPick area or to the buffer storage. The buffer storage and order-picking of products delivered in plastic crates is operated by MultiPick robots. The monorail system transfers the products in plastic crates from production to the MultiPick infeed positions. MultiPick stacks the crates until needed. When a

customer order arrives, the MultiPick picks product crate by crate according to the order. It then transfers full stacks to a conveyor from which they are picked up by a forklift truck and taken to the dispatch area. The buffer storage and order-picking of the goods delivered in cardboard cases is operated from the automated store. Seven automatic stacker cranes operate to a height of 7m, serving 1 759 pallet positions along aisles 45m long.

The racking is arranged double-deep and each crane features a satellite car to shuttle goods between itself and the pick faces, which are located in aisles between the racking modules. Here, goods are picked manually by operators working from low level order picking trucks, each of which features a Radio Frequency (RF) terminal equipped with on-board display and carries four roll containers for customer orders to be picked into. Swisslog's WarehouseManager and AutomationManager control the material flow and combine products coming from different picking areas to the shipping squares in the dispatch area to wait or loading into delivery vehicles.



LOGISTICS DATA

Overall facility		Semi-Automated Store		Buffer storage & robotic picking	
Customer orders	8 000 p/w	Automatic Stacker Cranes	7	Nr. of Multipickcells	3
Order lines	194 000 p/w	(double deep storage) with		Nr. of robots	6
Size	12 000 m ²	Maxipacker satellite cars		Carriers	25
Operation	24/7	No of locations	1 759	Speed	300 pallets / hour

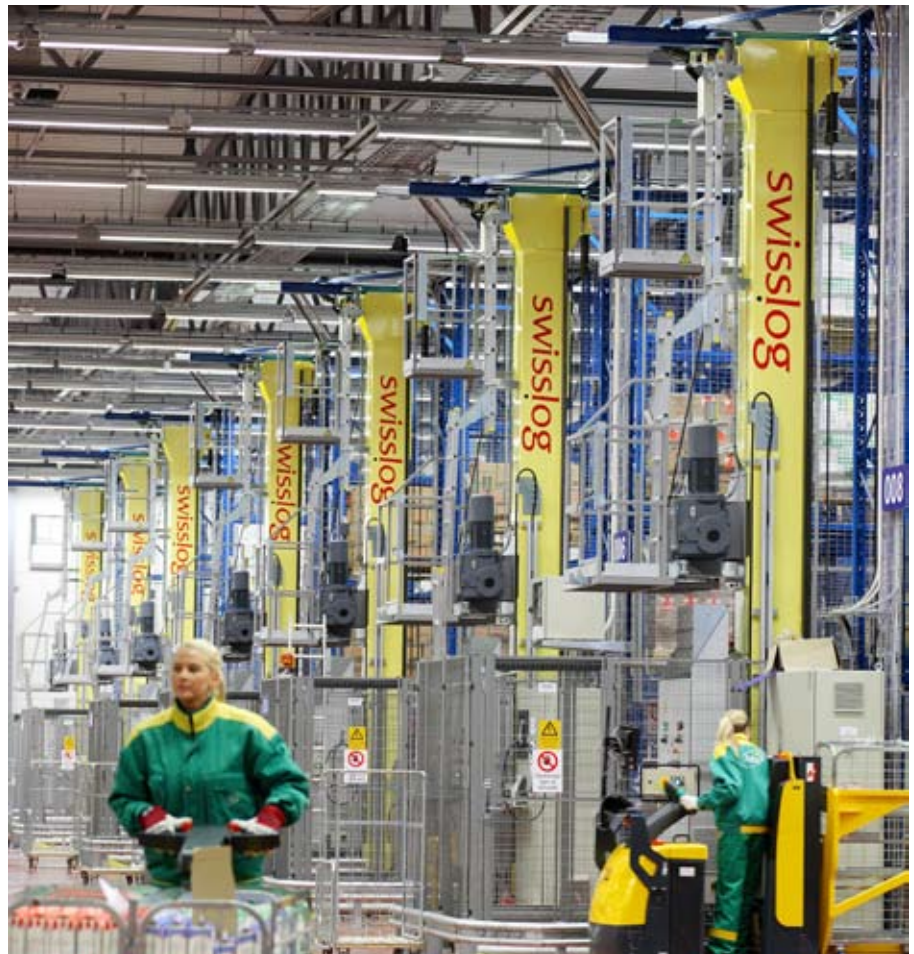


The benefits

- > Increased picking efficiency
- > Centralized order picking –economies of scale
- > Improved ergonomics
- > Automated crate picking in chilled environment
- > Automated empty pallet handling
- > Reduced overall transport - environmental gains
- > Consolidated truck loads

Swisslog's scope of supply

- > Concept Study
- > 7 Stacker Cranes (S8) double deep with satellite car (Maxipacker)
- > Pallet racking
- > 3 MultiPickcells with 6 robots
- > Swisslog WarehouseManager
- > RF Picking & receiving
- > Swisslog AutomationManager
- > PLC control system
- > Overall project management
- > Engineering and system planning
- > Customer support



CUSTOMER DATA

Company / Location

The Arla Food Group's headquarters are in Viby, Denmark. Arla is Europe's second largest Dairy Company. In Sweden Arla has centralized distribution to two DCs, one in Stockholm and one in Jönköping.

Operations

Arla operates in its main markets Denmark and Sweden, but also in the UK. Besides these

countries, Arla has other production facilities abroad, operates subsidiaries in another 19 key markets and exports to more than 100 countries worldwide.

Products

Arla not only distributes milk, cream, cheese, butter, fruit juice, yoghurt, milk powder and other milk-based ingredients, but it also carries many household names, such as as Lurpak, Rosenborg, Anchor, Cravendale and Buko.



ARLA FOODS

www.arlafoods.com

INTERVIEW WITH GÖRAN HENRIKSSON, LOGISTICS MANAGER

What were the main targets for Arla, when deciding to concentrate the distribution to two main DCs?

"Cost efficiency, delivery precision, work environment and less storage positions."

Did Arla have problems within these areas or was the project a preparation for future challenges and investments?

"More as a result of a changed market situation and to become more competitive. Arla had a lot of old equipment which needed to be replaced. Also the number of articles in the assortment rises all the time and the smaller warehouses couldn't handle these numbers. And with regard to the work environment, as MultiPick handles the heavy loads, the working conditions have become more ergonomic."

Which products are picked automatically and which manually?

"All products in crates are picked automatically via MultiPick and all others are picked manually."

What is the delivery accuracy?

"The goal is 99% for order lines and consumer packages. Right now we are between 97 - 98%."

How have you managed the transition to the automated system?

"Pretty good, but we have underestimated the need for education both for the warehouse and the maintenance staff."

What kind of training has your staff had? Did Swisslog organize the training?

"Swisslog training was included in the purchase, but it didn't cover all our requirements. Further training is ongoing."

Why did Arla choose Swisslog as total integrator of the distribution centre?

"The solutions presented by Swisslog were in line with the desires of Arla."

Why did Arla choose this specific solution?

"The solution matched the load carriers of Arla and the existing production structure. The load carrier system was developed to enable the automation, which has now been achieved."

How has Swisslog handled the projects?

"Big projects with new technical solutions are always difficult. It is also hard to value an effort when you cannot compare it with anything you've done before."