



# ARLA FOODS VIMMERBY

Arla Foods Vimmerby wanted to upgrade the existing control system with new PLC CPUs for the wet part of the process, new system for visualisation, new control software as well as to upgrade to the latest Arla Foods standard for MES functionality, including the upgrading of the integration of Arla's business system (SAP).

“ *HOW WELL THE PROJECT WAS EXECUTED  
I COULD ONLY HAVE HOPED FOR.* ”

Quote by Tom Andersen, dairy manager at Vimmerby

## THE DAIRY

The Vimmerby powder plant from 2004 is one of Arla's most modern and the largest of its kind in Sweden. The plant is unique with a very limited carbon footprint and is environmentally certified in accordance with EN16001. The plant has its own energy centre which produces steam and hot water from wood chips from forests in the area.

The production is milk powder and skimmed milk powder in various qualities. The process is fully automated and computerised. The majority of the production - approximately 98% - is exported, mainly to the Middle East, Asia and Africa. For each kilo of milk powder is used 8-10 kilos of milk and approx. 500 million kilos of milk is received per year. In total about 90 people are working at the dairy.

The process at Arla Foods Vimmerby is divided into 2 areas: The wet process and the dry process. The wet process includes milk weighing-in, milk and cream processing and milk storage. The dry process includes evaporation, spray drying, powder storage, powder handling and packaging.

## BACKGROUND

The upgrade was driven partly by the desire for a more flexible solution that could support Arla's need for expansion and optimisation of the production plant.

The following key points were identified in connection with upgrade project:

- A solution that can ensure a flexible and stable production
- A scalable and flexible solution that can be easily modified and extended
- Based on the Arla Foods standard for MES
- Reporting with traceability and SAP integration
- OEE figures (Overall Equipment Effectiveness) for selected equipment
- A solution with high uptime and that can be maintained locally
- A cost effective solution estimated from lifecycle of the whole system

## TECHNICAL SOLUTION

The new control system was based on Rockwell Automation CLX (ControlLogix) PLCs and InTouch/IAS system from Wonderware for visualisation and data processing.

MES functionality was based on Arla Foods standard systems containing:

- Line Management System for handling production orders from the business system
- Recipe Management System for handling materials and recipes
- Production Event Modules for data collection and traceability
- Effectiveness Management System for collection and display of OEE data

Furthermore, the solution should include upgrading of the existing integration with Arla's business system (SAP).



PROCESS AUTOMATION PARTNER



ARLA FOODS VIMMERBY TODAY HAS A NEW, FLEXIBLE AND OPTIMISED CONTROL SYSTEM THAT IS SCALABLE AND READY TO SUPPORT THE FUTURE DEVELOPMENT OF THE DAIRY.

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## SCOPE OF DELIVERY

The scope of delivery by Au2mate in connection with the upgrade project included among others:

- Elaboration of new complete functional descriptions for the wet process
- Development of software for new Rockwell Automation CLX PLCs
- Development of software for new Wonderware InTouch/IAS application (Visualisation)
- Design, development and configuration of a new MES solution based on Arla Foods standard for the wet as well as the dry process, including integration with SAP
- Training of Arla Foods Vimmerby personnel
- Participation in I/O test and commissioning of the new control system

## PROJECT PROGRESS

The contract was signed in December and the project was launched immediately after. Software FAT (Factory Acceptance Test) was held 9 months after and the I/O test was initiated the following month. The

I/O testing and commissioning was completed after 11 months and final project acquisition took place according to plan in December the year after project start.

Arla Foods Vimmerby today has a new, flexible and optimised control system that is scalable and ready to support the future development of the dairy.

## STATEMENT FROM THE DAIRY MANAGER

*"The reason for choosing Au2mate was mainly because of their dairy process knowledge. We knew it would be very tough implementing this project with a tight time schedule and small windows of which there was access to the system.*

*Technical we have got the solution we wanted, which was also expected, but how well the project was executed I could only have hoped for. A great part of the success is Au2mate's high process knowledge, but also their social competences were a big part of the success.*

*In the project group there was always a good cooperation and atmosphere, always with the goal in mind, getting the best possible system.*

*I am also proud to say that our own team performed great, and the project manager did a fine job keeping it all on track.*

*It was a team effort, that insured, that a highly complicated project was very successfully implemented and delivered on time."*

Quote by Tom Andersen, dairy manager at Vimmerby

## PROJECT FACTS

- Delivery on time, at agreed price and functionality
- Tightly integrated cooperation between customer and supplier
- Upgrade incorporating dairy process knowledge
- Step-by-step commissioning in agreed maintenance windows
- MES and SAP integration
- Rockwell PLC & Wonderware System Platform



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