Better flow at Unilever
Tetra Pak and ABB work together to reduce wastage and improve traceability

Unilever in Helsingborg produces margarine, soft cheese and cream, amongst other things dairy products. Margarine production is a complicated process with an oil and a water phase. In this process, vegetable oils are mixed with water, salts and citric acids. A control system is necessary for keeping track of the process.

"The system is connected to Unilever's SAP business system where all product recipes are stored," says Jonas Westergren from Unilever. "We program the recipe depending on the type of margarine we will be producing and everything is then handled automatically."

Three companies were represented around the table – Unilever, Tetra Pak and ABB.

"Unilever stands for knowledge of the product, Tetra Pak knows the processes and we from ABB provides specialist knowledge for control and monitoring," says Magnus Högstedt, responsible for the food and beverage branch at ABB. "All three of us have been collaborating for many years."

Relacing old spare parts got expensive
Three years ago, the old control system was approaching the end of its life cycle.

"It's worked fine, year in and year out, even if it's now beginning to show its age," says Jonas Ekenberg, who is a technical operator at Unilever and has worked with the system for many years. "But spare parts were getting expensive and difficult to find. The keyboards alone cost SEK 30,000 to replace, and we found the last one in Brazil. The system wasn't just worn out but it was also small, which entailed few opportunities for changes and expansion."

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"Increased flexibility, easier to handle maintenance, modern IT environment and more exact reporting of consumption."
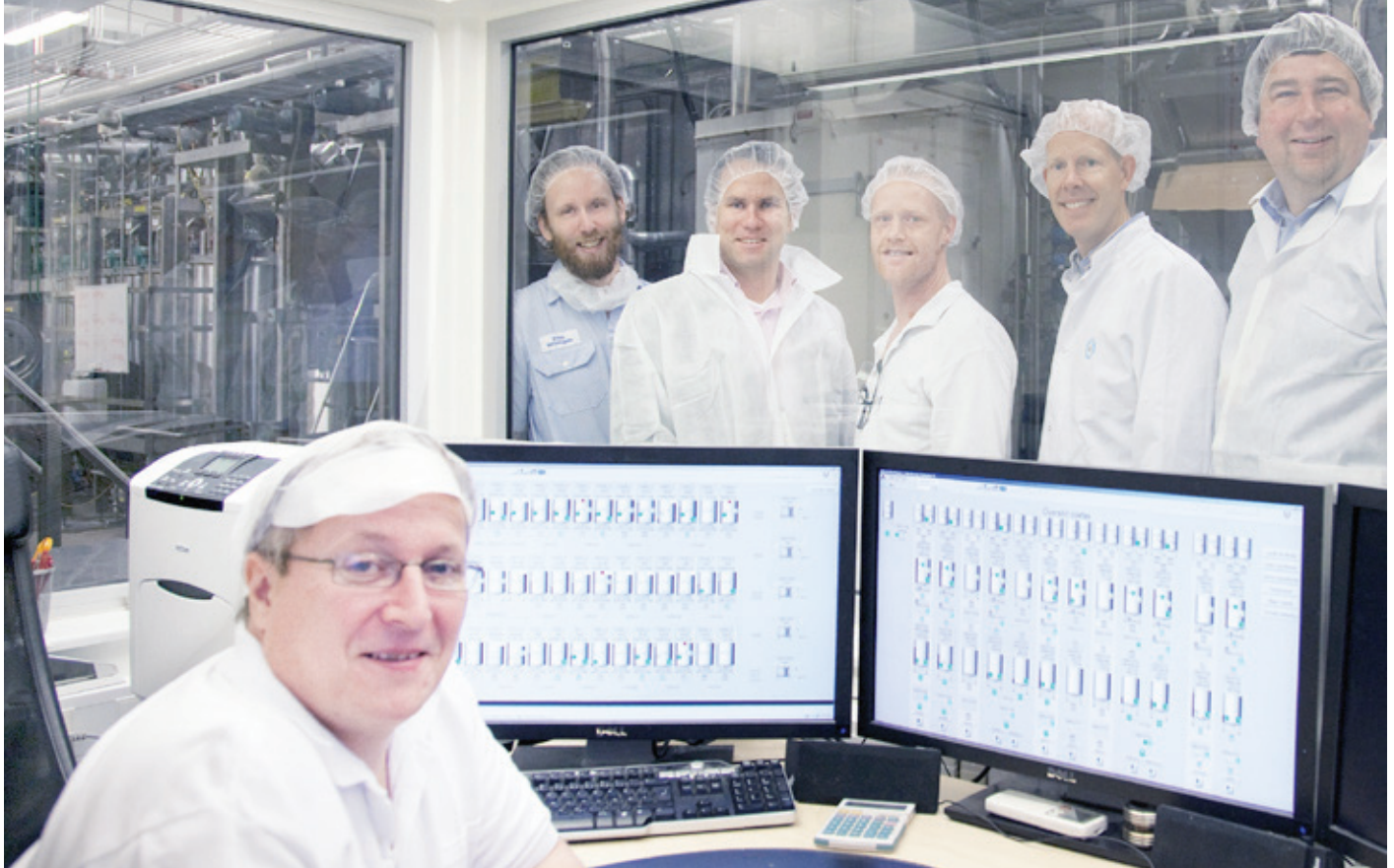
Jonas Ekenberg can keep an eye on all aspects of the process from the control panel. In the background, from left to right: Jonas Westergren (Unilever), Magnus Ramstedt (Tetra Pak), Jonas Engdahl (Unilever), Ulf Kjellberg (Tetra Pak) and Magnus Högstedt (ABB).

"We were running three heavy processes at one plant with just eight megabytes of RAM," says Jonas Engdahl from Unilever.

A smooth partnership
The company began looking around in the market and requested tenders from several companies.

"In this project, Tetra Pak has functioned as the contact with the customer and we from ABB have served as the subcontractor," says Magnus Högstedt.

"Besides our close collaboration with Unilever for many years, thanks to our partner agreement, we and ABB have continuous communication about which systems are on the market," says Magnus Ramstedt, responsible for automation sales at Tetra North Europe. "It was therefore natural that the initial contact was made between Unilever and us. Tetra Pak ultimately received the order and then collaborated with ABB in the delivery."

"It can be easier to stay with the same product family, and by doing so, we could retain a portion of the old system," says Jonas Ekenberg.

From this point, things moved rather quickly. Two operators from Unilever were sent to Tetra Pak for training in the 800xA system. They in turn, trained the other seven operators.

"We're responsible for process-related control and system software," says Magus Högstedt. "Tetra Pak has handled project management and planning, design of operator interfaces, batch control and traceability via their automation concept Tetra PlantMaster, which was specifically configured for liquid foodstuffs production."

Better control
Last autumn, the new system was ready to be put in service – five control systems and seven servers in the Windows environment. The new system was tested during four weekends with the old system in standby mode, just in case something should happen.

Example of products that come from Unilever's production in Helsingborg.

Unilever Sweden

Unilever Sweden is divided into three subsidiaries: GB Glace, Lever Fabergé and Unilever Bestfoods, which is located in Helsingborg. About 150 people work at the plant in Helsingborg. Margarine, such as Milda and Flora, is produced there, as well as cream for cooking and dessert cheeses.

Tetra Pak

Tetra Pak develops and markets systems for processing, packaging and distribution of liquid foodstuffs. Tetra Pak is represented in a total of 119 countries and has approximately 22,900 employees worldwide. The delivery included project management, programming in 800xA, batch control software Tetra PlantMaster Production Execution, traceability and reporting via Tetra PlantMaster, Production Integrator, as well as connection to Unilever's business system SAP.

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ABB delivered the System 800xA automation platform, programming in 800xA, four operator stations and five ABB AC800M controllers.

"After that, we went live with the new system, maintaining production monitoring around the clock for two weeks to assure production and to help the operators in the transition from the old system to the new," says Ulf Kjellberg from Tetra Pak. "The switch entails a number of changes and improvements."

"I'm very happy with the new recipe manager," says Jonas Engdahl. "Now we can put together our own recipes, which we couldn't with the old system. Sometimes, we used to have to call in a programmer."

Everyone gathered around the table to list what has become better: Increased flexibility, easier to handle maintenance, modern IT environment and more exact reporting of consumption. The latter is important because it saves money. Discards have also been reduced.

"Even here, quite a bit of money is involved because it's a matter of incorrect mixtures," says Jonas Westergren. "In the old system, a valve could be left open and an incorrect mixture of two tons could run straight through. Now a safety system is activated if this should occur. Traceability has also become better.

"If anything goes wrong and a customer notices something odd with a delivery of margarine, we can go back in time, from the pallet where the batch was placed to which batch it came from, and investigate what has happened."

A benefit of the new system is improved working environment, for those who worked in the so-called "hot room". In conjunction with the project, the room was rebuilt and the temperature could be reduced from 60 degrees to 40. Overall, the upgrade of the systems cost SEK 10 million.

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