

Unilever Schweiz GmbH replaces existing warehouse management system with WAMAS®

SSI Schaefer realises the implementation during running operations

Unilever is one of the world's leading providers of consumer goods for the daily needs. Every single day, people worldwide choose Unilever brands whenever they shop for groceries, body care products and detergents. The business was established in 1929 and employs about 1,250 people. Unilever Schweiz GmbH offers a wide range of quality products and brands. In July 2005, the four major international business areas - to be more precise food, home care, personal care and food solutions - have been incorporated in one business location in Thayngen, Switzerland. Recently, the warehouse has been modified and modernised by SSI Schaefer as general logistics contractor.

The retrofit project is characterised by a great deal of complexity. The project teams of Unilever as well as SSI Schaefer were faced with a number of challenges: Several warehouse areas with different characteristics, warehouse extensions based on different "control generations" and project management while the facility was in operation. 300 employees worked in two and/or three shifts in the production and supply chain department.



Figure 1: Location Thayngen, Switzerland

The circumstances

The warehouse is subdivided into several sections, all of them corresponding to a certain product range (raw ingredients, packaging and equipment, finished products). The dried products are stored in a seven-aisle high bay warehouse. Additional storage areas for chilled and frozen products are situated directly next to the production area.

The warehouse in Thayngen has been in operation since 1997 and has been expanded multiple times over the years: The stacker cranes have been equipped with various control generations, to be exact with Simatic S5 and Simatic S7. In 1997 an electrical overhead conveyor was implemented in the pre-zone. A vertical transfer lift has been managing the transport to and from the production area spread over several floors. The production area and pre-zone within the warehouse are connected by means of a transfer carriage. Both, the vertical transfer lift and the transfer carriage were manufactured in 1995. A horizontal conveyor system, produced in 1997 and controlled by a Simatic S5, is situated between the lift and the transfer carriage.

The goals and requirements of Unilever Schweiz GmbH involved the following:

- to upgrade the outdated control systems to Simatic S7, not only to ensure the availability of spare parts, operating safety and stability of the facility, but also to reduce operational costs and maximise the performance.
- to implement WAMAS warehouse management and material flow systems in order to optimise the control of the flow of goods across all sections of the warehouse, including online picking.
- to integrate the existing system components, such as the electrical overhead conveyor, vertical conveyor, etc. into the logistics system.
- to create an Interface to SAP.

The scope of delivery and services by SSI Schaefer comprised the analysis, project planning, and project management plus the detailed restructuring, system upgrades from Simatic S5 to S7, and the implementation of WAMAS warehouse management, material flow, picking, stacker guidance and control systems. Moreover, it also included the SAP integration, the commissioning of the entire system as well as training for Unilever staff.

Re-organisation while not interfering with the 16-hours-per-day production operation

A re-organisation concept including various handover procedures was defined in collaboration with the customer in order to affect the production and warehouse operation to the smallest degree possible. Despite the existing system, a test system has been implemented which allowed a comprehensive range of tests and a step-by-step modification of the stacker cranes, trolleys, conveying systems as

well as the lift upgrade to Simatic S7. These tests were either performed on non-operating weekends or on working days between 10 p.m. and 5 a.m. However, there was always the possibility to switch to the old system within a half-hour.

The next step included the implementation of WAMAS logistics systems and the SAP integration. In order to test the communication between WAMAS and SAP, a SAP test system has been installed and defined processes were simulated.

Once the function tests had been completed successfully, the item master data was transferred from the old system to WAMAS. Also, the outdated Simatic S5 control tools were removed and the system was commissioned.

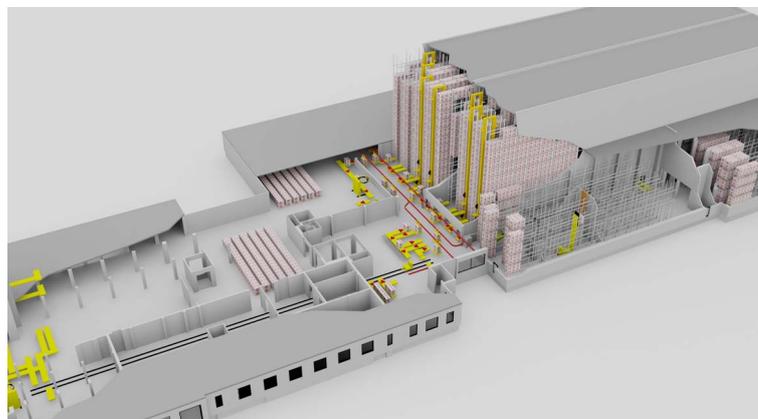


Figure 2: Facility layout

WAMAS logistics software organises flows of goods

WAMAS assumes control of all automated processes and flows of goods, from goods-in, replenishment, production to goods-out processing.

The continuous data acquisition as well as the recording of all activities allow a consistent transparency of warehouse processes without interfering with the various operational tasks of the staff.

The orders are being recorded by the SAP system, which on the other hand communicates with WAMAS. Once the goods have been registered and labelled at the goods-in area, pallets are being automatically transferred to the provided warehouse areas either via stackers or by using the overhead conveyor.

The replenishment of resources and packaging material in the production zone takes place in three shifts. The produced goods are then being stored automatically via a facilitated goods-in area.

Goods-to-man picking (KIP) is organised in two shifts. Once the desired quantity of goods has been taken, the remaining goods are automatically transported back to the high bay warehouse on the overhead conveyor.

Paperless order picking cuts down the number of errors

Due to the paperless order picking, Unilver could minimise the picking error rate by a significant amount.

The pickers using the terminals are guided through the picking process by the wireless technology. In two shifts, the goods are being stored, picked and prepared for shipment.

Facts & figures:

Warehouse types:

7 aisle high bay warehouse
 manual high bay warehouse (frozen goods/cold warehouse)
 manual shelf rack warehouse (cold warehouse)
 manual gravity storage warehouse (cold warehouse)

ZLH2 storage capacities:

4 aisles / 3 aisles
 6,900 pallet storage locations/5,600 pallet storage locations

Pallet types:

Euro pallets type 1+2,
 plastic and aluminium pallets

Picking methods:

RF, goods to man:

Picking performance:

60 order lines / hour

