

Maico: Complete logistics solution and process control over several warehouse areas

WAMAS® logistics software simultaneously manages four different warehouse types.

Maico GmbH is the Italian subsidiary of the Europe-wide Maco Group and responsible for the Italian, Spanish, Portuguese and Greek markets. The array of products comprises 9,000 items, ranging from window and door fittings to window and door shutters. In order to transact about 30,000 orders with a stock availability of 97%, the business keeps investing in state-of-the-art technologies for its key processes. MAICO was established in 1981 and employs more than 170 people. SSI Schaefer as general contractor realises the logistics system.

The existing manual warehouse in St. Leonhard was re-designed and transformed into an automated high bay warehouse. In that way the warehouse capacity could be increased from 27 to 65 %.

Maico's new distribution centre in St. Leonhard, in Trentino Alto Adige is characterised by a transparent process management spread over several warehouse zones, a fully automated storage as well as a movement controlled and optimised transports of goods. What is more, it features the most diverse range of products and product sizes plus various delivery cycles as well as a new picking technology.

The warehouse complex includes one high bay warehouse for Euro pallets, one for cantilever pallets as well as an automated small-parts warehouse. Where once upon a time, goods were conveyed by means of fork lifts, today automated stacker cranes assume the storage of goods. Due to the dynamic supply of goods at the picking locations and the voice-picking technology, a significant increase of the picking performance could be generated.



Figure 1: Pallet high bay warehouse

WAMAS logistics systems by SSI Schaefer manage, control and optimise all processes within the warehouse:

- The warehouse management system WAMAS administrates the goods-in area and forklift transports as well as the different warehouse zones. Despite the fully automated warehouse zones, the system also assumes the co-management of the manual warehouse and the cantilever warehouse. Serving as the basis for three picking methods (RF, list and pick by voice), WAMAS communicates with the host system, supports and guides the packaging to the shipment zone and offers an interface for the haulier software.
- The material flow system WAMAS optimises and controls the various processes and flows of goods in the automated warehouse zones. At the same time, the system governs the stacker cranes and pallet conveying systems. Also, it generates a complete image of material flows and offers a fully graphical system visualisation.
- WAMAS PLC and basic automation include the electrotechnical planning, controlling and control software as well as the installation.
- The WAMAS picking systems (by list, by radio, by voice) in simultaneous modes guarantee the highest picking performance and flexibility. The cross docking of goods accentuate the high performance of the various logistics processes within the company Maico.

The stacker cranes allow an automated replenishment of goods. The goods, which are ready to be picked, are being supplied statically (upturning items) and dynamically (slowly turning items) for the pallets, long pallets and containers for small parts. The picked orders are then being packaged, transferred onto pallets and prepared for shipment. Once the various orders are transported to the shipment area on the ground floor, the pallets are subdivided and transported along several tours, after which they are loaded onto the HGV by the haulier.



Figure 2: Pick by Voice

Facts & Figures

Operation start-up:	2006
Warehouse type:	automatic high bay warehouse
Warehouse dimensions:	length 130 m, width 23.5 m, height 11 m
Storage:	Euro pallets, cantilever pallets and containers
Warehouse capacity:	7,000 and 4,000 pallet storage locations, 9,000 containers
Stored items:	Window and door fittings, in total 9,000 items
Mechanical equipment:	1 stacker crane with shuttle for cantilever pallets 1 stacker crane with shuttle for Euro pallets 1 container stacker crane pallet conveying system for the transport of Euro and Maico cantilever pallets container conveying system for the transport of containers 600 x 400 mm

