



THE COMPANY

Born in 1970 as a small family-owned supermarket, Tosano Group is today one of the best rooted and expanding businesses in the North Eastern area of Italy, across the cities of Verona, Vicenza, Mantua, Brescia, Venice, Padua and Ferrara.

With its directly managed hypermarkets, it is one of the leading companies in the food sector. It offers consumers over 30,000 food SKUs with a vast choice of "big brands" and an ever increasing space dedicated to small and medium-sized Italian food producers.

ISSUES AND TARGETS

The strong growth of the group in terms of number of SKUs and storage volumes required to change the warehouse logistics into an automated process, from ordering to cataloguing, up to storage.

System Logistics responded to this requirement proposing an automated warehouse within the distribution centre in Cerea (Verona), equipped with automatic picking for pallet preparation and fully integrated with the IT logistics systems, thus allowing constant monitoring of warehouse flows.

The system is used to supply the Tosano supermarkets and hypermarkets, providing increased efficiency in terms of distribution logistics, with a major impact on cost optimisation and enhanced flexibility.

LÖSUNGEN UND RESULTATE

The automated warehouse designed by System Logistics for Tosano Group is located within the existing distribution centre and is dedicated to the handling of "General Groceries". It has been built in two distinct phases.

The first one (PHASE 1) involved building a pallet storage warehouse equipped with 10 double depth stacker cranes and a fully automated picking system referred to as MOPS1.

The stacker cranes built within the distribution centre are 18 metre high, they store approximately 27,000 pallets and have a production capacity equal to 300 IN/180 OUT per hour.

An overhead handling system (hung monorail trolleys) with productivity equal to 525 pallets/h has been provided to connect the automated warehouse with:

- goods infeed and shipment bays
- picking system (MOPS)
- standard compartments

The fully automated picking system (MOPS1) has been designed to handle approximately 30,000 picking packages per day and mainly consists of:

- 4 depalletization stations, of which an automatic layered one and 3 high productivity manual stations.
- 10 miniloads for storing approximately 68,000 large packages (600x400 mm) and 7,000 SKUs
- a manual palletization station and 3 Dual Robot palletization stations with integrated wrapping system for pallet picking preparation

To face the increase both in flows and goods variety, the plant has been expanded with a second phase (PHASE2).

The automatic warehouse in this phase mainly consists of:

- 8 single depth stacker cranes with a total storage capacity of 11,000 pallet slots and an hourly capacity equalling 231 IN + 227 OUT
- an FRS multiple depth shipping system equipped with 4 shuttle cars and a storage capacity of 1,900 pallet slots, and a flow rate capacity equalling 120 IN + 120 OUT per hour
- An automatic picking system (MOPS2) mainly consisting of: 2 layered automated depalletization stations and 3 manual depalletization stations, 15 miniloads, 4 Dual Robot stations for automatic package palletization and a manual palletization station

HIGHLIGHTS

Special features of the solution, added value vs. competitors

- Reduction of storage space thanks to intensive storage (HBW) and automatic handling of over 18,000 SKUs in the picking process (18,000 picking manoeuvres less on the ground level)
- High hourly productivity that translates into high daily volumes and consequently into prepared and shipped volumes.
- Wide variety of packages handled: the MOPS system handles the individual packages without using trays or other supports
- The MOPS system assures strict sequences for each individual item package when preparing the order pallets (shipment units). The sequence is not only given by the possibility to stack packages, but also by the palletization rules applied by the customer (for example, pallet organised based on the shop's display, or by columns etc.)

TECHNICAL FEATURES

STAGE 1

HBWH:

27,000 pallet slots

10 double depth stacker cranes

300 in + 180 out p/h

Monorail system for 525 p/h

MOPS:

10 miniloads

1 automated depalletization station

3 high productivity manual depalletization stations

(30,000 cases/day)

3 Dual Robot stations

1 high productivity manual palletization station

STAGE 2

HBWH:

11,000+1,900 pallet slots

8 single + multiple depth stacker cranes

231 IN + 227 OUT

120 IN + 120 OUT

4 FRS shuttle cars

MOPS:

15 miniloads

4 Dual Robot stations

1 manual palletization station

2 automated depalletization stations

3 manual depalletization stations