BACK SHOP HALLE/GERMANY

LTW
INTRALOGISTICS

26 INTERFACES

ONE CONTACT PARTNER

THE CUSTOMER

Founded in Hamburg in 1998 as a subsidiary company of Harry-Brot, BACK SHOP is able to rely on the nationwide supply of goods of the second largest German manufacturer of baked products – and on more than 325 years of established tradition: Harry-Brot is in its tenth generation of private family ownership.

BACK SHOP supplies wholesale and retail of food-related products as well as bakeries with frozen bakery goods. 75 % of the diverse product range comes from Harry-Brot and is topped off with specialities from further manufacturers. Beside the reliable product quality the modern distributor sees its high degree of product availability as a key factor for success.

Pre-baked, deep frozen, baked as required: BACK SHOP bread rolls right from the oven

THE CHALLENGE

In order to export bread all the way to China and America convincing quality is required – and perfect deep-freeze logistics. In terms of future growth, manual handling as carried out at BACK SHOP from the beginning has reached its limit in 2009.

Also in the core market Germany and Eastern Europe requirements for customized order picking are rising – with increasingly smaller order quantity, shorter delivery times, precise batch traceability. The high transport volume in relation to the value of goods makes logistical mistakes to a relevant cost factor.

The strategists at BACK SHOP analyze every single action focusing on customer value and run through various scenarios – as well as the sequel to cooperation with an external service provider.

In the end the decision is made that the core competence of BACK SHOP should be promoted single-handedly: The step from a manual to a fully automated material flow is to be made by building a tailor-made logistics center.

At the beginning of 2010 a suitable location for this project is found in Queis near Halle (Saale).

THE CONTRACT AWARD STRATEGY

The internal project team strengthens itself with additional know-how from Harry-Brot and commissions the logistics planner Luy & Partner from Wiesbaden with the task of planning a concept for building, site and software. In February 2011 Kai Gebel as designated Head of Stocks/Logistics of the new central warehouse joins the team and brings the development of tenderable implementation alternatives to a close.

In one point there is a general consensus right from the beginning: For the implementation of this complex project only a general contractor comes into consideration. “If one takes the responsibility for everything, less goes wrong”, Kai Gebel summarizes. “Our goal was functioning systems with harmonized interfaces.”

Kai Gebel, Head of Stocks/Logistics, takes stock of the politics of selecting the general contractor: “We would do exactly the same again.”

Upon the advice of Hans-Jürgen Luy one general contractor turned into two: In order not to overstretch the competences of the providers, building and intralogistics are tendered separately. In fact in two stages: High-bay warehouse and electric monorail system in the spring of 2011, automated small parts storage, conveyor system and software shortly before start of work for the high-bay warehouse in the fall.

In both negotiations LTW is able to prevail. “The offer was extremely transparent and precise”, Kai Gebel explains. “LTW understood how BACK SHOP thinks. Our requirements were echoed in detail.”

THE IMPLEMENTATION

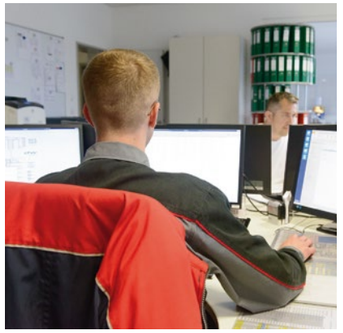
Already for the base plate the interface between building and technology proved to be complex – LTW is responsible for the ground frost-protection system. Part of the scope of supply of the general contractor for intralogistics are furthermore the two rack systems and the roof and wall paneling of the high-bay warehouse with silo structure. Every week the project partners regularly fine-tune details on site and display the required flexibility as the rough winter leads to constructional delays.

Integration of an electric monorail system (EMS) by the LTW team. The main advantage of the EMS lies in the scalability – in case of a prospective expansion, vehicles can easily be added, during reduced system operation disengaged, for repair purposes separately moved into the climatized maintenance area.

Shortly after the roofing ceremony in May 2012 LTW brings the 35 meter high stacker cranes from their own manufacturing facility into the high-bay warehouse.

The mechanical components of the conveyor system are bought in addition from reliable partners. The LTW team programs the control system and after the assembly consolidates all parts of the installation via the warehouse management system to a homogeneous material flow.

Also after the gradual start-up around the turn of the year 2012/13 LTW is challenged as a general contractor – after all, a system availability of 99 % is guaranteed. With accordant dedication initial challenges concerning the automated small parts storage are also able to be solved convincingly.



Warehouse control, warehouse management, enterprise resource planning: the three levels of the almost paperless BACK SHOP workflow.

THE OUTCOME

“Today we have a very, very low complaint quota and thus fewer logistics costs. The satisfaction of our customers has developed really well”, Kai Gebel sums up in July 2014 after one and a half years of operation. “The Easter and Whitsun holidays now lie behind us – we have confidently passed the endurance test for the supply of deep-frozen rolls.”

The automated small parts warehouse and the conveyor connection to the order picking area are designed for a plurality of different container sizes and qualities.

PROJECT OUTLINE

YEAR OF CONSTRUCTION 2012

HIGH-BAY WAREHOUSE

- Galvanized steel rack with silo structure
- L x W x H: 76 x 25 x 35 m
- 3 rack aisles
- Triple-deep crosswise storage
- Approx. 8,900 pallet spaces
- Payload: max. 1,000 kg
- Temperature: – 27 °C

AUTOMATED SMALL PARTS STORAGE

- L x W x H: 29 x 15 x 12 m
- 3 rack aisles
- Double-/triple-deep storage
- Max. 13,608 container spaces
- Payload: max. 45 kg
- Temperature: – 22 °C

STACKER CRANES

- 3 aisle-bound stacker cranes
- Driving speed: 220 m/min
- Driving acceleration: 0.5 m/s^2
- Lifting speed: 80 m/min
- Lifting acceleration: 0.6 m/s^2
- Load handling device: Telescopic fork triple-deep

STACKER CRANES

- 3 aisle-bound stacker cranes
- Driving speed: 336 m/min
- Driving acceleration: 2.9 m/s^2
- Lifting speed: 108 m/min
- Lifting acceleration: 2.7 m/s^2
- Load handling device: Telescopic arm multi-deep

PALLET CONVEYOR SYSTEM

on the ground floor with

- Storage and retrieval stations
- Electric monorail system
- Pallet wrapper
- Continuous conveyor system

CONTAINER CONVEYOR SYSTEM

across several levels with

- Storage and retrieval stations
- Vertical lift
- Depalletizing area
- Order picking areas
- Continuous conveyor system

SOFTWARE

Warehouse management system (WMS) consisting of warehouse control and warehouse management including visualization and interface to the superior ERP system

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