




 **LFS 400**

 Warehouse Management by E+P

Offergeld Logistics:

Foodstuffs and Consumer Goods Logistics

for Producers of brand name articles



EHRHARDT + PARTNER

Software Systems
for Warehouse Logistics

Logistics as a Service – the outsourcing trend

An increasing number of companies are deciding that it is better to outsource their warehouse and assign it to services, which possess both the know-how and the appropriate soft and hardware. The logistic service providers Offergeld took warehouse maintenance and pick/pack for two confectionery manufacturers over into their logistics center, built in 1994.

When searching for a warehouse management control system, the logistic service providers took up the offer from Ehrhardt + Partner.

The LFS 400 modular warehouse management system is a software system which runs on the IBM AS/400 – a widely available and highly reliable sys-



tem. The system can be linked as a server to all networks available today, as it understands nearly all protocols currently available.

IBM AS/400 – a reliable hardware platform

The LFS 400 is supported by a relational data base and controls material flow throughout the company, by means of dialogue orientated applications. The program holds all items and quantities in the company, in all stock locations including the external locations.

Furthermore, the warehouse technique and work of warehouse personnel can also be monitored. That is why at Ehrhardt + Partner we talk not of ware-

house administration, but of warehouse management control.

In July 1993, the logistic service providers Adam Offergeld GmbH & Co. KG made the decision to build a logistics center in Aldenhoven. At the time it was already known that an old customer of the company Offergeld would occupy up to two-thirds of the total capacity with its confectionery and bakery products. Construction began in November 1993. At the same time, Ehrhardt + Partner received the order to supply the necessary software. Before submitting the order, all software packages available on the market were considered.

The warehouse started operating in mid-July 1994. The preparations for the organisation of the finer details, training and installation took Ehrhardt + Partner 4 months. Installation itself had to be effected as soon as possible. Offergeld was then able, at short notice, to find a confectionery manufacturer to take up the final third of his warehouse capacity, who, however, wanted to putaway his goods earlier than one of the other customers.

The installation of the LFS 400 in logistic service provider Offergeld's new warehouse posed no problem, despite the fact that there was only one week available for installation and starting operations.

The only difficulty was in linking the electronics in the high rack fork lift to the RF-Terminal in the fork lift truck. It had not previously been possible to test this interface in practice. But, within two days this problem was solved. The coordinates of the desti-

nation bin location are now transferred by RF data to the fork lift electronics system direct, so that the fork lift can automatically go to the required destination.

When putting away pallets, bin locations are allocated chaotically, taking account of the A-B-C criteria. This ensures that the high rack fork lift is used as effectively as possible.

At peak performance times, approx. 2,500 pallets are moved per day, (corresponding to 70 to 80 SKUs) and approx. 2,500 pallets are put-away. Approximately 30,200 CCG1 pallets and 15,600 CCG2 pallets are stored in automatically controlled temperature zones covering an area of 22,500m².

The manufacturer has already marked the pallets with barcodes. Whilst the goods are taken from the manufacturer to the logistics center, the relevant



data for each pallet is transferred by remote data transmission. After a pallet is loaded into the goods receipt zone, it is scanned by the front zone fork lift truck. The pallet then has “transfer” status. The fork lift truck brings the pallet to the high rack storage, where it is taken by the high rack fork lift, scanned again and automatically set down in the rack location advised by the LFS 400. This process guarantees a faultless transfer of the goods.

Individual Adaptation due to standardized modules

The LFS 400 standardized modules cater for about 85% to 90% of the customer’s needs, - the remaining 10% to 15% are individually tailored to suit Offergeld. This customer-specific solution, which is made up of many available and tested modules, is, for many firms, the decisive factor in opting for the LFS 400 in opposition to standard solutions.

If the goods do not enter the warehouse from the confectionery manufacturer’s own production, they are placed “in quarantine.” The goods are only released by batch after putaway on the manufacturer’s express instruction, and not until they have passed through quality control. The warehouse temperature must be kept between 16° and 18°C, i.e. during storage and transfer, the air temperature around the goods must either be cooled or made warmer, depending on the outside temperature.

Inside the warehouse, Offergeld can now establish, at any time, which pallet is located where. With the LFS 400, it would also be possible to trace single cartons, but this function has not yet been requested.

„First in – First out“ guarantees product freshness.

Picking is carried out in a similar way to putaway. As highly valuable yet perishable products are involved (at full capacity, up to 14 million marks worth of goods), the FIFO process is strictly adhered to. The high rack fork lift takes the pallet and scans it, and, depending on the destination, takes it as a replenishment to the pick/pack location or disposition zone for shipping.

The new customers also had other pick/pack requirements. The percentage of full pallets as a proportion of the total delivered was 90% with the old customer, but only 20% for the new customer. The remaining goods have to be pick/packed, – not a problem for the LFS 400.

LFS grows to meet requirements



One example of the system's many advantages is that it determines identification numbers. This makes it possible to understand what a fork lift truck is capable of and how different levels of performance can arise. Another very important reason for opting for the

LFS 400 is that the number of office staff can be reduced. The orders, for example, now arrive at the logistics center at night by remote data transfer. In the morning, putaway or picking can start immediately, as the system prepares all the necessary data for the personnel.

Workshops are held to introduce the warehouse personnel to the system, i.e. previous EDP knowledge is not essential. The menu set-up makes the system more manageable. Additionally, there are user help texts and uncoded error messages for each mask.

Due to its modular structure, the LFS 400 can grow to meet the volume of warehouse capacity and the future requirements of the logistic service providers Offergeld, without having to alter current processes or data bases.

LFS 400 modules employed:

- Basic Module
- Permanent Cycle Counting by Zero Level
- Differentiated Inventory Inquiry by Batch, Putaway Date and BBD
- Handheld Terminals with Barcode Scanner for Putaway, Picking and Pick/Pack
- Quality Control
- Dynamic, Chaotic Bin Location Control
- Order Compilation
- Linking to the Customer Order System and Transfer of Orders by RF
- Management and Control of Remaining Times

LFS 400
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The companies of the E+P Group



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