

Software integration in the beverage industry

Exemplary go-live under seasonal high pressure

As one of the first beverage producers, the mineral source Förstina implemented a warehouse management system that covers all processes in the warehouse: starting with the goods receipt from the production across the picking and the replenishment to the loading on the trucks. Through the use of the system and the according integration of the Pick-by-Voice technology for picking, Förstina accomplishes a higher increase of efficiency.

"At the moment, there are lots of warehouse projects being realised in the beverage industry, but in the end there are only few projects that work stably and satisfying and cover all projects of the warehouse", Marco Ehrhardt, associate of the warehouse specialist E+P, comments the situation in the beverage industry. Förstina is one of the first enterprises that dispose of a stable system. The software system implemented at Förstina has a very high degree of coverage of the

requested functions by supporting every single step of the process." For the Förstina sources situated near the river Rhön, the industry's usually unsatisfying warehouse situation was the main reason for taking in consideration the offered systems and suppliers in the choice of the warehouse management system. "Our primary purpose with the implementation of the system was at first the realisation of the EU regulation 178/2002 to 100 %", explains Winfried Röhring, IT manager and project responsible at Förstina. "We were looking for a system to fulfil this task and cover all warehouse processes. After intensive research we therefore charged E+P with the order." Andreas Richardt, commercial CEO of Förstina, adds: "We focussed on gaining an experienced warehouse partner that has already realized many projects in the beverage industry and also realize our project unerringly with us."

Order to a general contractor

In summer 2004, Förstina decided in favour of E+P as the general contractor of the warehouse project. In autumn, the



Boppard warehouse experts were charged with the delivery and integration of the warehouse management system LFS 400, the acquisition and installation of radio frequency and Pick-by-Voice appli-



ances as well as the label printer for the picking. After the prompt software integration, Förstina and E+P successfully finished the project early in 2005. "With Förstina, the requests of the implementation were already high due to the implementation during the running three-shift business. Neither a stop of production nor a stop of dispatch was possible for Förstina", Marco Ehrhardt describes the situation. "Already days before the implementation, the warehouse was constantly being filled with goods due to the starting seasonal business. Neither the telephone sales nor the production could consider the implementation; the Förstina customers had to be delivered immediately with goods." Already on the second day after the implementation, 100 trucks left the Förstina warehouse equipped with the LFS 400. Here, it is to say that the warehouse only provides of 5 loading bays and in average four fork lifters - two double and two triple lifters - that are used in this area. One week after the implementation, Förstina could work independently and manage the 24,500 pallet-bin warehouse.

Initial situation

Departing from the warehouse located in Eichenzell-Lütter, Förstina supplies about 800 customers with more than 70 items in a radius of 250 kilometers. The product



Mineral source Förstina delivers about 800 customers from their warehouse located in Eichenzell-Lütter. The range of products of this beverage producer contains not only mineral and curative water but also mixed drinks and refreshing lemonade.

range stretches from mineral and curative water to tangy sparkling drinks and refreshing lemonade. The entire warehouse consists of three halls with a surface of 18,000 square meters for filled bottles and exterior warehouses that are mainly used for stocking empties. During the warm season, these vacant spaces are also used for the stocking of quickly delivered goods. Besides beverages - that are filled in glass or PET bottles in the nearby production and later on put away in the block storage - Förstina also stores promotional items or glasses. In the past, every day about 75 warehouse employees managed the dispatch of the about 1,5 million bottles with the aid of document-orientated picking and mainly without the support of a system. The new warehouse management system not only guarantees the highest flexibility possible, but also the existing interfaces with the ERP system Dogas of the provider Copa. In earlier times, the packing list, created in this ERP system, was used for picking.

Complete tracing of batches from production

"From production, the goods are announced to the warehouse management system by the production printer. Therefore, the according data is transferred via a standard interface between the printer and the LFS 400", explains Marco

Ehrhardt. "The requests to the processes and the attached systems demand that the data is provided within two seconds, this requested a high performance of the warehouse managements system." This data includes item numbers, batches, BBD, item description and quantity per SKU. After labelling the pallets in the production area, they are ready for putaway. The fork lift driver therefore scans the SSCC of the EAN-128-code in the pallet label and looks for the most adequate position for the first pallet in one of the more than 150 block storage bins. First priority is to put away all the items of one batch in the same bin location. With the first storage process, the employee scans the barcode according to the bin location and puts the pallets there. With the next storage process of the same item, the LFS 400 automatically leads the employee to the earlier chosen bin location.

Route- and packing optimised picking

The picking is realised completely route- and packing optimised. In this process, the LFS 400 guides the employees on the shortest route to the bin locations and to the items to pick. The resulting picking sequence considers the ideal release of pallets: at first, the big boxes with mineral



water in PET-bottles are picked; later on, the smaller boxes of other beverages are picked. The replenishment is realised from the block storage with the triple fork lifts to the flow rack of the picking zone. Here, several picking bins can be replenished by one triple fork lift.

Pick-by-Voice

Like the other beverage customers of E+P, Förstina also counts on the voice picking technology Pick-by-Voice. The advantages convince: the pickers have both hands free and can use them simultaneously to the voice-lead data entry. Especially with heavy items like beverage boxes, this is a clear advantage. The employees carry usual Voice-appliances on their belts and can communicate with the warehouse management system via headset. LFS 400 leads the employee to the picking bins and instructs him which quantity to pick. Through the integration of this technology, Förstina firstly profits from the increased productivity and secondly from a clearly improved picking quality: thanks to different steps of control in the Voice-dialogue, the picking errors today are reduced to the absolute minimum. "In the past, one employee picked in average 250 boxes per hour, after the Pick-by-Voice integration, the average picking rate of a picker is 390 to 420 boxes per hour," Winfried Röhring describes the realised performance elevation. Besides that, today no checker - i.e. goods controller - is necessary.

Combination of orders and dispatch

After picking, the pallets of one order are left in the consolidation area and marked with an individual dispatch-label. Afterwards, all the orders of one tour are made ready for dispatch in the loading area. Full pallets are only released from



Directly after production, the pallets are labelled automatically with a SSCC and are available for putaway. The production printer transfers the corresponding data for putaway to the warehouse management system LFS 400 via standard interface.



In average, four fork lifters - two double and two triple lifters - are in use for putaway, retrieval and replenishment.

the block storages during the loading process. LFS 400 therefore leads the fork lift drivers to the according storage bins. After the release of the full pallets, the drivers transport them to the waiting truck.

Results

Förstina accomplishes amongst others the following results through the use of the LFS 400 and the Pick-by-Voice:

- The implementation of the Förstina warehouse was realised by the responsible general contractor during the running production in the three-shift business without interruption.

- The beverage producer today meets the legal requests of a complete tracing of products and batches.

- Thanks to the real-time booking, the mineral source realises the highest trans-

parency, an efficient control of availability and a better planning of production.

- The picking performance was in average elevated from 250 to 390 or even 420 picked boxes per hour and employee. This increase of efficiency and the clearly improved picking quality are the results of the Pick-by-Voice integration.



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