Valio trusts pull control

Quality is the key-word in fresh goods

Jyväskylä, Finland
With a population of 84,000, Jyväskylä is one of the major inland cities of Finland. This university town is famous as the venue of the 1,000 Lakes Rally.

Warehouse management used to be done with graph paper and by counting on your fingers. Sometimes too many products were made and sometimes too few. Nowadays, the sales of fresh goods are monitored in real time. Only the amount of goods to meet the actual demand is manufactured. When milk does not age in the warehouse, it is delivered fresher to the consumer and quality improves.

Martti Tervala of Valio praises the versatility of Cimcorp's MultiPick system. The system carries out production and warehouse control in real time. It enables the manufacture of products in a more cost-efficient way.

"The most important thing is to react quickly to demand. The development of sales is monitored continuously and products are manufactured only in the quantities corresponding to demand," says Tervala.

The products are transferred from the production line to the warehouse and on to distribution by means of computer-controlled gantry robots. The entire material flow is controlled by Cimcorp's WCS (warehouse control system), which saves to memory the important time of manufacture, quantity and location of the product in the warehouse. This information can also be used to trace the product in case of error.

Pull control is an extra feature added to the WCS, which is in the implementation stage at Valio's Jyväskylä facility. The functionality of the system was proved during the trial and its adaptation to production continues to be reliable.

Pull control is the core of the system

The production quantity is based on both forecasts and actual sales. The forecast is based on sales history data from previous days corresponding to the production day.

"A forecast is made by checking the actual sales from production days corresponding to the sales day, for example the three previous Mondays. Sales history data is important and can be updated in real time.

Forecasts are updated throughout the day, as new orders come in. Finally the sales forecast turns into actual sales. As the reference base grows, the forecasts become increasingly better and more accurate.

The importance of forecasts is highlighted particularly during public holidays. The volume of production can be predicted, for instance based on how much milk was consumed the previous Christmas. Production and the warehouse can be controlled in accordance with orders."

Pull control is an important thing for the overall system. It means a real-time system,

At the Valio Jyväskylä distribution center, material flow is controlled by Cimcorp's WCS. Thanks to its additional pull control feature, the customer is able to guide production exactly according to demand.

KUVA: EERO PYKÄLÄINEN

Martti Tervala, warehouse supervisor, praises the cutting-edge technology of the MultiPick system. It enables produce to be delivered fresher to the customers.

which optimizes warehouse and production volumes by predicting demand. All the products manufactured in the Jyväskylä facility are continuously monitored by pull control.

"The successful optimization of production and warehouse means avoiding a situation where you have to sell "Sorry, we've run out" to the customer. Longer product series than ever can be manufactured, so that less time is taken for product changes too. The warehouse stays in balance and profitability improves.

Earlier, forecasts used to be made on a daily level, and later we used to look at how sales had actually gone. The warehouse informed production if products were running out and so they manufactured more. Correspondingly, extra production went on sale the next day. Now an automatic alarm system is linked to pull control. A timely sufficiency and storage balance sufficiency are determined for these products. The timely sufficiency shows how long before the product runs out according to the sales forecast. The system gives an alarm for example when there is only two hours' worth of products left in the warehouse. The storage balance sufficiency alarm will activate when the amount of stock falls below a certain limit. In that case the system advises production that more of the product should be manufactured. Upper limits are also set for the alarm, to ensure that the stocks do not become too big."

Successful pull control also reduces the need for make-up order picking.

Exceptional circumstances can also be managed

If there are not enough of the ordered products, the delivery will be incomplete. These shortages can be distributed later on in different orders using the system.

"The system enables order completion even at the stage when the main order is being loaded onto the delivery truck. If the missing goods are too late for the delivery, they are collected afterwards, when the product becomes available again.

Of course make-up order picking was done previously, but when the system knows exactly what is missing from which order and where the main order is located in the warehouse, it is simpler to add the missing goods to the order than earlier."

The system can also be adapted for quarantine management. For instance lactose-free products are not finished before they are in the warehouse. The term standard quarantine is used when product manufacture requires a time span after which it is ready to be sold. The system takes into account the quarantine period, and will not release the product from the warehouse until it is ready for sale.

If the production department suspects quality problems, a product manufactured on a certain machine at a certain time can easily be set aside for temporary quarantine.

If a defective product should get as far as the customers, the system data enables identification of the customers to whom the product was delivered. The removal of a defective batch from the market can therefore be implemented with extremely great precision.

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