

Adding value through high levels of automation and efficiency

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An industry-specific software solution from CSB-System International is helping to deliver high levels of automation and efficiency to ensure optimal process flow at the meat processing factory of Edeka Südwest Fleisch GmbH in Rheinstetten, Germany, enabling production volumes of up to 650 tons of high quality meat and sausages per day to be achieved for 1250 Edeka stores.

The integrated turnkey solution from CSB controls the entire value-added chain in the factory. Goods receiving, cutting, production planning and control, packaging and labelling of meat and sausages for self-service, stock placement and removal, picking, loading of trolleys and dispatch, are all controlled by software.

Two control stations permanently monitor about 800 individual processes online, allowing fast corrective action when required.

At the installed 'I points', the filled crates are weighed automatically, and item, weight, and crate number are 'merged' in the IT system.



The IT system controls all stock entry, removal, and transfer processes of the high bay shelf storage with its 3,500 pallets.

Receiving pork and beef

Edeka Südwest Fleisch's automated processes commence from initial receipt of its pork halves and beef quarters. Following in-process control and entry in the CSB-System, the beef quarters are forwarded to track storage. The pork halves are graded using a CSB-Image-Meater, a special hardware and software solution that enables fully automatic, no-contact and totally hygienic assessment.

Receiving retail goods

Purchased trading goods are received in a dedicated area that is also controlled by the CSB software.

Incoming raw materials, auxiliary supplies and operating materials are weighed, submitted to quality checks, and posted directly to the ERP system using MDC (mobile data capture) devices. With pallet labels attached, the goods are then transported either to the high bay storage, or individual crates are entered at four CSB-Rack dedicated workstations and forwarded to a crates storage.

Cutting

Six pork cutting lines and two beef cutting lines are used to produce the meat cuts.

The demand for pork halves and beef quarters is determined in a fully integrated, comprehensive software planning process, which takes into account the complete production process and thus provides optimal planning results. Based on identified sales data, the CSB-System calculates the expected sales of items for the respective day.

Manual work in cutting is mainly limited to the actual carving. All other processes are automated.

This way, the CSB-System ensures that for each cutting order, the track stores automatically provide exactly the required quantities of pork halves and beef quarters with the requested quality.

Once the primals have been cut according to the preceding calculation, the parts are packed into crates and labelled by the system with all traceability data. This information will be retained throughout all further process stages until the meat reaches the consumer.

Continued on page 23

Continued from page 21

Software is able to identify exactly which goods are in which crate, and this ensures optimised information and material flows for efficient value-added processes throughout the entire inventory management.

The crates are scanned with MDC devices. The system uses this information to generate pallet labels indicating all relevant information for the respective pallet and its contents.

Meat for self-service

The production of meat for self-service receives various items directly from cutting or interim storage.

On a total of 14 packaging lines, software controls the fully automatic weighing, packaging and labelling of the finished self-service meat products. When planning the meat-processing factory, focus was placed on easy handling and simple operation for employees.

Sausage products

CSB Recipe Optimisation is used to create recipes for high quality sausage products. It ensures efficient material usage together with optimal quality and costs to deliver reliable gross margins. As part of the batch



Picking is paperless and designed for a throughput of approximately 130,000 order line items with 100,000 crates and boxes per day.

processing, the software stipulates the exact recipe for every product and includes technical instructions for the machines to be used as well.

For the finished meat emulsion, the system generates a label with all batch information required for further processing and consistent traceability of the sausage products. This data is then included in the

packaging with integrated price labelling by means of MDC devices that communicate directly with the software.

Storage and picking

The high bay storage facility installed at the meat factory in Rheinstetten provides space for 3,500 pallets and is automatically managed via inventory management. The software controls all processes for stock entry and removal, the shelf loading devices and the conveyors.

Based on customer orders, the system passes the items on to dynamic and static picking, which has been designed for a throughput of approximately 130,000 order line items with a total of 100,000 crates and boxes per day.

Loading and dispatch

The picked goods are forwarded via conveyor to nine trolley loading stations and then to dispatch. The CSB-System provides all the data required to correctly load the trolleys. When loading is completed and the trolleys are ready for dispatch, way bills including all order data are attached.

Next, the trolleys are assigned to the respective delivery routes and loaded onto the trucks. Using GPS, these trucks are then sent off on the optimal routes towards the Edeka stores.

At two CSB control stations, all strings of this highly automated meat factory are joined: one master control station ensures optimal processing in the logistics system; another one monitors and controls production and picking.

As a result, the system provides up-to-date information about the overall situation, the performance, and the technical status of the production and logistics areas. ■