Best practice IT for an efficient operation: processing for profit

Costly raw materials, lower margins, highly competitive markets and more regulatory requirements – the challenges facing food processors today are greater than ever.

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In this scenario, the use of best practices and cutting edge technologies becomes ever more critical to help drive improvements in terms of more transparency and improved efficiency through automation and digitisation, full traceability, greater control of complex operations and higher speeds. It is companies that embrace this approach who will generate the most opportunities and achieve the best returns.

Digitised processes to save time and costs

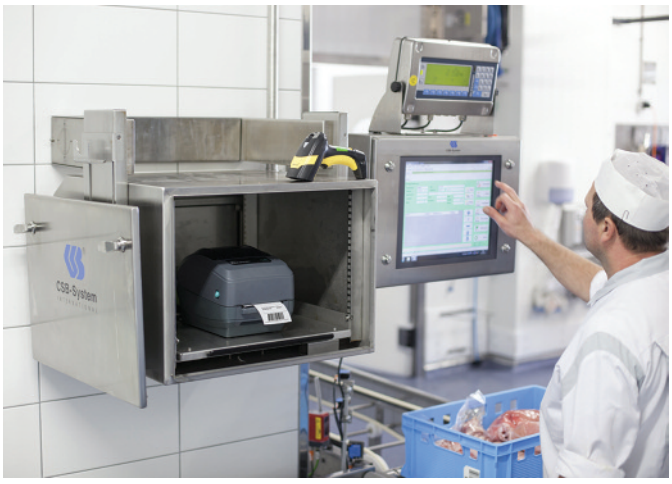
Today, the use of automation throughout manufacturing and processing is commonplace, yet at the same time, many food companies still handle a substantial part of their planning and order processes in paper format. However, it is getting increasingly difficult to withstand the growing competitive and price pressures when offers, orders, purchase orders, invoices or delivery notes are processed manually.

Without proper communication between all relevant departments, there is the possibility that certain data can be processed several times. This not only leads to an unnecessary expenditure of time but carries with it a high risk of errors occurring.

Digitisation enables companies to reduce costs and increase quality. According to a GSI survey, electronic processing of purchase orders, deliveries and invoicing can save around two thirds of the costs compared to paper-based order processing.

Further gains can be achieved in document archiving. Experts at the Gartner Group found that up to 30% of working time is spent searching for documents; an effective document management system can deliver four-fold time savings in archiving and an 18-fold saving in document research, which equates to a two thirds saving in costs compared to normal document filing.

Similarly, the use of scanners during picking reduces error rates and returns while increasing order fulfilment times. In terms of production,



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tolerance checks in batching for sausage manufacturing is one instance of how better quality and fewer rejects can be achieved.

Indeed, digitisation throughout the often complex shop-floor processes of many food businesses offers similar potential. The moment raw materials arrive all relevant data should be entered electronically, allowing these to be supplied to subsequent operations such as cutting, production, packaging and inventory, without any media disruptions. This increases information quality and transparency throughout the entire process, while at the same time reducing errors and costs substantially. It is also important to note that the introduction of IT-aided goods receiving processes, be they stationary or mobile systems, are easily managed since existing weighing technology can be integrated and other existing hardware can be used.

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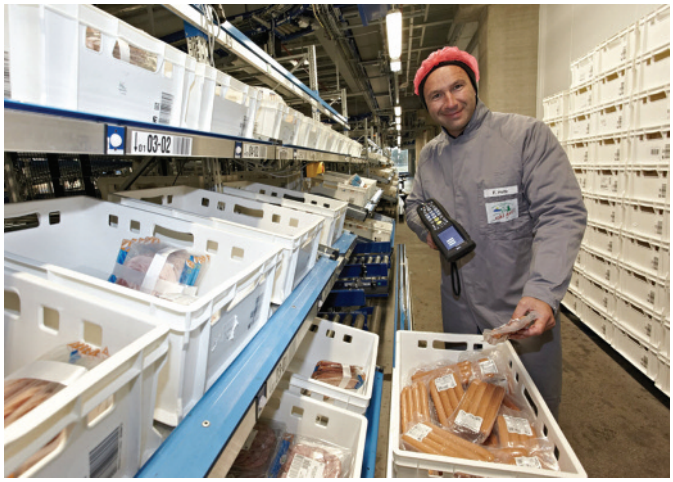
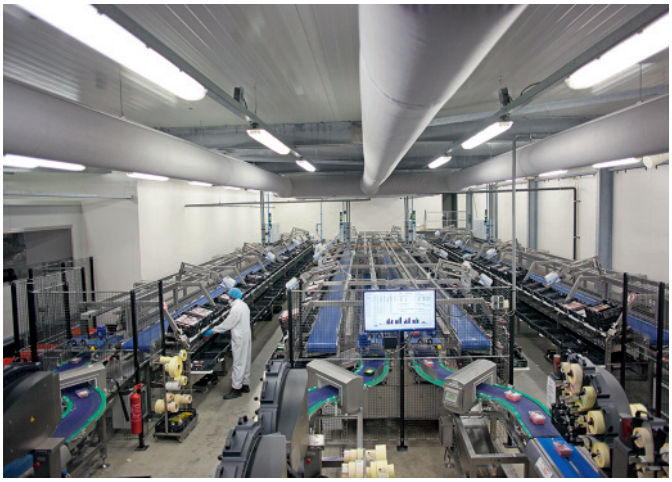


Software-controlled automation solutions reduce throughput and lead times, increasing delivery readiness and cutting costs.



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Reducing stock on hand and capital commitment

Finding the right balance of stock on hand will save a lot of money in the warehouse, too. A warehouse packed up to its limits results in high availability and good delivery readiness.

While a growing stock automatically involves an increase in warehouse management costs and the degree of capital commitment, tight stocks can lead to bottlenecks or even a standstill in production.

Conversely, at many enterprises, the warehouse is full of goods that were never sold, or which are presently out of season.

Such challenges can be overcome and optimised relatively easily. ERP systems provide field-tested functionalities for material planning and inventory management.

Not only do they use intelligent inventory monitoring, but also calculate the optimal order quantities and notify automatically as soon as the minimum stock is reached in raw materials or at the dispatch warehouses.

This delivers 100% coverage of material requirements while keeping the capital commitment as low as possible. Using such systems can reduce inventory costs by about 30%.

Such cutting-edge software solutions are also vital to meet the increasing demand for just-in-time deliveries.

Quicker, safer and more precise measuring

As well as the inefficiencies and additional costs associated with manual procedures, hygiene is another important consideration.

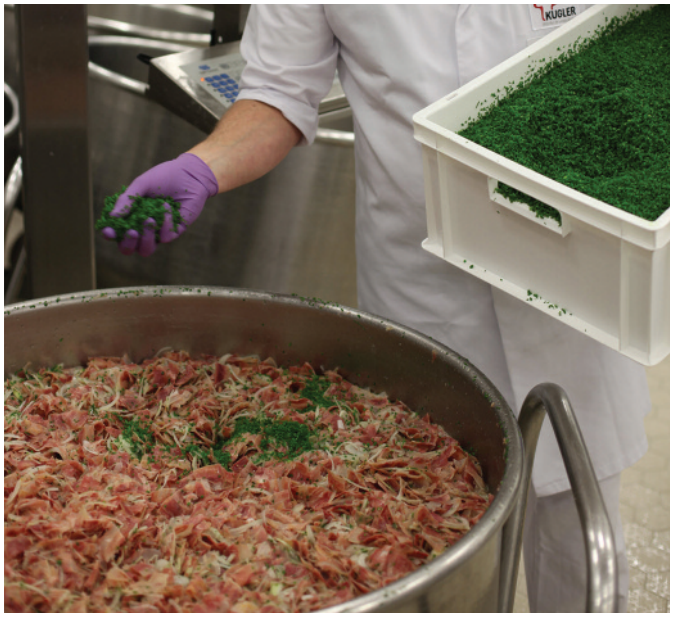
The use of industrial non-invasive image processing solutions in the meat sector is therefore a further example of where automated systems offer additional advantages.

Just as important, mechanical measurement methods deliver objective classification results with minimal errors in the assessment and quality control of cuts, and the optimisation of raw materials and products, along with the automatic documentation of the assessment results.

Recipe consistency

Product quality is also about product consistency, particularly in helping to maintain consumer loyalty. With raw material prices likely to continue to rise, the optimisation of recipes can play a key role in delivering higher margins.

Today specific software programs are available to accomplish such tasks automatically, calculating the most cost-efficient composition of recipes, while ensuring that consistently high quality levels are maintained.



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Typically, the first implementation of this process can deliver a saving of over 5% in material input, with further savings then converging at around 1-4%.

Such systems can also help to deliver a fast response in the event of any component shortages through the optimal utilisation of alternatives, as well as helping to control overall inventory and eliminate potential bottlenecks.

Security in supply

Another vital part of product quality and brand image is the availability of an effective traceability system.

Although food products today are probably safer than ever before, traceability – through comprehensive documentation of processes throughout the value chain – offers an extra level to food safety and consumer protection.

In the event of any problem, the system can quickly identify affected batches and remove them from the supply chain. In this way, the logistics costs of any product recall can be reduced and the damage to brand reputation minimised. Importantly, the system can also be used to counter unjustified complaints and claims.

The fact that traceability systems can contribute towards minimising economic risks is evidenced by the fact that in many cases business insurance premiums are reduced for companies who have introduced them.

Low-cost intralogistics

Another area where automation can substantially benefit food suppliers is logistics. Software-controlled automation solutions reduce throughput and lead times, increasing delivery readiness and cutting costs.

State-of-the-art logistics components, such as high bay storage, sorters and gantry robots help businesses deal with growing product ranges and fluctuating sales.

Overall, the more individual components that are linked into a network, the more efficient and cost-effective the supply of goods to customers becomes, leading to a typical permanent delivery performance of over 99%.

Picking accuracy

The digitisation of the picking process is another potential source of time and money savings.

Paperless picking procedures minimise error rates and thus reduce the cost of complaints, re-picking, re-deliveries and cancellations, while of course eliminating the need for paper. And this alone is an impressive figure – as a rule of thumb, companies can save more than one tonne of paper for every €100 million turnover.

One of the most common picking procedures is the use of mobile data capture devices, and thanks to the introduction and universal adoption of barcodes, the investment is comparatively minimal.

Depending on the item range, order structure or locations, different picking methods such as pick by light, pick to light, pick by voice, pick by vision or sorter picking, may be suitable.

In many cases, a combination of systems may be appropriate to optimise processing of different items. For example, one CSB customer uses both 'dynamic' picking (person to goods) and 'static' picking (goods to person) with excellent efficiencies – 700 picks per hour for the former and 500 picks per hour for the latter.

Reducing customer lead times

IT-controlled transport logistics are also able to produce great savings. Software-aided planning, control and monitoring can deliver cost reductions of up to 15% in freight management. Route planning and optimisation systems help to improve scheduling, routes, capacity utilisation, load weights and volumes as well as vehicle and staff assignments.

With transport costs one of the largest cost factors in logistics, the potential for savings is immense as well as the ability to optimise resource capacities.

Advantages of outsourcing

While all these advantages can be delivered as part of an in-house controlled system, the procurement of IT solutions from the cloud has been steadily growing in recent years, reflecting the growth in digitisation generally and current ICT trends such as Big Data.

Exchanging an in-house operation in favour of a cloud solution can be very advantageous for food processors in terms of time and costs, with personnel and material expenditures in IT departments reduced to a minimum. Technical jobs such as data backup and system maintenance are then handled by the provider. Such benefits can also be valuable to SMEs.

Greater use of IT software and automation offers many benefits to the food sector for both small and large-scale operators. An effective system provides full replication of optimised business processes, and connection of hardware such as scales, scanners and other machines to deliver integrated planning and control from top floor to shop floor. However, the most important consideration, be it a comprehensive enterprise software or a factory EPR system, is that the business software is geared to the precise needs of each operation. This is the best way to keep costs down – and profits up. ■