

Food Business Insights

Food Management Made Easy: Four ways to make your Food Business more successful

Agroittica: Advancing together in digitalization, quality, and traceability

Audits in the food industry: What are the gains of certification management?



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EDITORIAL



Dear Reader,

Are you concerned about how to future-proof your business? How to make faster decisions, install better processes, and improve resilience? And how to boost growth?

These different wishes and perspectives are the best entry points into digitalization. So, if you seek to keep a firm grip on your entire value chain, introducing a comprehensive ERP system with specific functionalities and best practices will be vitally important in the medium term.

Nowadays, everything revolves around data. Legal regulations and consumers demand traceability from farm to fork, a trend that poses a big challenge on many businesses. Transparency and accurate decisions are based on data and the ability to create fast evaluations. Functions like smart production planning, reporting on defined KPIs, information from finance & controlling, or inventory optimization are at the top of the list for most companies.

The supply chain often is the crux of the matter: rising costs in the supply chain and the volatile export market force businesses to respond fast, establish precise plans and forecasts, use resources efficiently, and reduce losses in their supply chains. If you want to come out a winner, you need to continually optimize your operations.

How to achieve this? In this edition of our magazine, we look at many successful examples from the industry. Read about how Bell Food Group, EDEKA Südwest Fleisch, and state-of-the-art factories from Italy, Spain, the USA and Australia have accomplished the optimization of their value chain.

Wishing you an exciting read,

Dr. Peter Schimitzek

Sarah Vanessa Kröner

Board of Directors of CSB-System SE

Cover story

Food Management Made Easy

Rising raw material prices, pressure on margins, consumer-driven marketplaces – the food industry is facing challenging times. How the ERP system can help.



Agroittica:
Advancing together in digitalization, quality, and traceability

Agroittica Lombarda, a renowned caviar producer, established a solid collaboration with ERP provider CSB-System to enhance its digitalization efforts while maintaining high quality and ensuring traceability in its processes.



Bell Food Group:
Promote value creation with the ERP

The Swiss Bell Food Group is in the middle of its digital transformation. For CIO Sven Friedli, two pillars are important: on the one hand, the technology to support the business goals; on the other hand, a reliable IT partner, like the ERP provider CSB-System, to support the successful implementation of the project.



Van Dijk:
Digital solution helps bake up a storm

Since 1931 Van Dijk Bakery, based in Zwartsluis in the Netherlands, has been creating its ranges of delicious luxury and traditionally produced muffins, cakes and biscuits..



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Food Management Made Easy

Rising raw material prices, pressure on margins, consumer-driven marketplaces – the food industry is facing challenging times. How the ERP system can help.

The food business is not easy: food manufacturers need to hold their ground in a global competition where increasingly complex supply chains go hand in hand with the growing demands of retailers on supply capability and quality. Rising material prices add to the pressure on profit margins. The businesses in this industry need to open up new sales channels while ensuring compliance with stringent legal requirements. At the same time, they need to advance the digitalization in their factories.

When you are dealing with system optimization in the meat industry, you are faced with divergent requirements and numerous starting conditions. The same applies to the maturity levels of the IT infrastructure and to the ERP system as the central nervous system. The good news is that the great variety of starting points for the digitalization of processes with ERP is matched by the value this creates for the businesses – if they set the right priorities.

The prerequisite for this is a process that addresses four goals: promoting further growth through digital technologies, enhancing competitiveness through smarter processes, mobilizing data for faster decision-making, and improving resilience and the ability to react.

1. Use digital technologies as a growth driver

The role of the consumers is increasingly relevant, as they are becoming major players who determine the new standards and rules of play in the food industry. This is a fertile ground for food processors taking advantage of the growth potential in digitalization. On the one hand, they focus on their product range which – with the support of the ERP – can be adapted to consumer trends like regionalism or organic products.

On the other hand, the coronavirus pandemic has fast-tracked the shift towards e-food by several years, making investments in online stores a priority. Direct selling is no longer only for the big players in the industry; it is also relevant for many SME. To those selling directly via their own digital channels, it offers a great opportunity for additional turnover and organic growth – beyond being listed for the shelves of food retailers.

Businesses that anticipate the customer demands early on and translate them into processes, products, and services will dominate the competition. This calls for flexible and scalable IT and production infrastructures that allow an effective integration and analysis of farm-to-fork data and enable a fast adaptation to changes in demand.

2. Improve competitiveness through smart processes

The strength of many food businesses is their product leadership. Today, however, product leadership implies more than just a product. It also means mastering the processes supporting the product. Ultimately, the acceleration of the processes aided by IT and the improved efficiency in data processing are decisive for the success.

That makes it all the more important to find productive solutions. One goal must be the communication between existing systems, equipment, and machines;

for example, the transfer of data from production systems to the ERP as input for analysis and management tools. Besides the ERP in conjunction with MES and CIM, industrial imaging plays a major role in the automation of factories. Predictive maintenance and robotics are additional ways to make processes smarter. The intelligent organization of your operations opens up new optimization opportunities for your business. This step becomes even more relevant as the industry feels the pressure from rising costs, regulations, changing consumer behavior, and fierce competition.

3. Take advantage of fast decision-making

Today's food industry is all about data. In the daily endeavor to make the best decisions, using the right metrics will be your best weapon.

The ERP is vital to speed up the decision processes. It helps to accelerate the processes and workflows while providing



quick access to information. Functions like smart production scheduling, reporting on defined KPIs, information from finance and controlling, or the optimization of inventory management are at the top of the list of most companies.

This entails a substantial reduction of manual work through automation and digitalization of production operations, leading to massive gains in the internal processes. Every digitized process supplies data from which decisions can be inferred. All of a sudden, you are able to clearly determine the contribution margins your products need to achieve, identify the suppliers with the best product quality, or uncover “blind spots” in traceability.

4. Enhance resilience and the ability to react

Efficient management processes, flexibility, and seamless supply chain processes have tremendously gained importance during the pandemic. Solutions for more resilience and planning stability have become a must.

At first glance, this might appear to be operational issues resulting from the current situation. But if you look closely, you will see the inherent strategy: the ERP must play a significant part in addressing the huge challenges of future markets. Stable and efficient processes as well as scalable and flexible IT environments are generalized competences. In addition, they are key to remaining adaptable to unexpected events and market fluctuations. Intelligent sales planning helps to establish forecasts, taking into account available storage capacities and the shelf life of products. Software-aided inventory optimization facilitates the balancing of low stocks and optimum supply capability. In short, the full digital support of the value chain from processing to distribution ensures maximum flexibility of the production chain – and improves resilience.

Strategic projects for the years to come

Digitalization is about more than just incremental improvements: it is a strategic project for food production of the future. Today, the success of many food processing companies is based on the concept of permanent IT-aided optimization. Dealing with new technologies has the potential to further enhance this tried and true strategy and to neutralize rising process costs through efficiency improvements and automation – even if the cost pressure permits only small development steps.

How do we get there? Ideally, by starting at the end of the operation's value chain instead of pushing forward with a technological mindset. Technologies are implemented where they do add value – for example, through financial gains or benefits for the customers. ●



MANAGING WITH KPI

Top 5 KPI clusters for more process reliability

Working as a food technologist for an ERP provider, you often find yourself confronted with questions regarding the optimization of production processes. These questions invariably lead to more questions about measurability; that is, about key performance indicators. This is why our coworker Stefan Prünie decided to dig a little deeper into KPIs. Without anticipating the outcome of his work, you can say that KPIs always depend on the goals you pursue.

In his master's thesis, Stefan Prünie set to work on developing a scientific system for the systemization of KPIs. After all, you need a basis for the comprehensive management of equipment availability in order to create process reliability.

Equipment

Equipment and production processes require high investments and are therefore in the focus of optimization and efficiency improvements. This creates tensions between the high utilization of equipment to keep the unit cost as low as possible, and the provision of sufficient capacities to safeguard economic flexibility and growth.

Keeping this balance calls for a high level of flexibility – a requirement that has become the major driver for Industry 4.0 where cyber-physical systems interconnect equipment with each other and with people, and provide equipment data in near real time. This newfound data quality opens up new ways for companies to respond to incidents quickly or in real time, or to anticipate incidents and to take corrective action.

There are three key performance indicators to reflect the use and the performance of your equipment:

- the availability of the equipment
- the performance of the equipment (that is, the comparison of actual output and expected output)
- the Overall Equipment Effectiveness.

Drawing conclusions from the difference between actual and expected output will reveal potential error sources and helps you to identify opportunities for optimization.

Maintenance

With their products, the equipment manufacturers make a continuous contribution to the necessary automation of the process industry. Besides the OPC UA interface, they are developing other standardized interfaces that harmonize the hitherto heterogeneous data processing. These interfaces also provide for the required transparency and facilitate the automated transfer of data. Interconnecting the equipment enables predictive maintenance based on KPIs. This type of maintenance enhances process reliability, reduces costs by reducing the downtime of the equipment, and helps to improve wear-out reserve levels.

This inevitably increases the importance of predictive maintenance as part of the maintenance strategy mix. The current strategy mix in the food industry still emphasizes reactive and preventive measures, which leads to increased machine downtime and production failure. The following KPIs help you to track and achieve the goals for reduction of unplanned repairs, shortening of repair times, and maintenance task completion.

- Degree of unplanned repair
- Mean Time To Repair (that is, the average time between reporting an incident and restoring the operational status of a machine)
- Level of maintenance work performed compared to maintenance work that is scheduled.

Procurement

Procurement aims to avoid material shortages through an optimum order process, to safeguard permanent delivery readiness, and to minimize inventories through short supplier lead times. Choosing the right suppliers and maintaining a good supplier relationship is essential to the success of efficient and synchronized production. Measurable targets like transport routes, on-time delivery, flexibility and reliability mainly depend on the suppliers. Companies can make demands on the mentioned targets and assess their suppliers based on these KPIs in order to secure the production and to guarantee availabilities. Relevant KPIs to assess the suppliers with regard to their on-time delivery performance and product quality include:

- On-time delivery
- Supplier defect rate
- Supplier availability and rate of emergency purchases – to assess the supplier lead time and the flexibility during critical standstill phases.

These factors have an impact on restoring the equipment operability and, consequently, on the equipment availability.

Customers

Despite being at the end of the value chain, the customers' requirements are still the starting point of any consideration. The following key performance indicators are essential for measuring on-time delivery and product quality:

- Customer complaint ratio
- Return rate
- On-time delivery

The resulting customer satisfaction is an indicator for your own product quality, where the need for replacement products also affects the production and equipment planning.

Quality

Quality has a major impact on the productivity of a company. The quality requirements of a product are defined in the safety regulations and in the customer requirements. Quality issues can

arise throughout the entire production process and so this is one of the wastes in the production process. Looking at the quality is imperative in order to identify availability deviations caused by deficient product quality and necessary rework. By determining quality deviations, you can increase the process reliability. These goals can be measured by

- the quality level
- the reject level
- the rework level

These KPIs provide an overview of the quality of the goods produced so you could intervene early on whenever it is necessary. They are also indicators for necessary maintenance work, and they are used to calculate the equipment effectiveness.

The big picture – at a glance

Experience has shown that, subject to coherent capturing of KPIs for monitoring, a KPI system contributes to increasing process reliability and optimizing equipment availability. Technically, the requirements for process optimization through near real-time data collection and data processing have been fulfilled.

In practice, however, the combination of data into KPIs and their consolidation in KPI systems has not been put to its full use. This has also become evident in the qualitative and quantitative research performed by Stefan Prünie. One of the reasons for this is that often it is simply not clear which data should be combined into which KPIs, and what their benefits are. From its vision and strategy, every company should individually infer the relevant goals, KPIs, and strategic actions for each of the above-mentioned perspectives and present them in clear-cut dashboards. The presented results reflect the current situation and show opportunities for optimization – an opportunity you should not miss! ●

Integration of ERP and BI: Full transparency at the meat processing plant

Staying abreast of what is going on is essential to being able to respond quickly – even more so when you supply fresh top-quality products to your customers. Aiming to keep track of the value chain in real time, EDEKA Südwest Fleisch has interlinked its ERP system with a BI solution. The integrated data is available much faster now. Plus, the system visualizes the data in user-specific, customizable views. This has been achieved by directly integrating the ERP from CSB-System into the analytics software of Qlik Sense.

EDEKA Südwest Fleisch GmbH was established in 1970 as a one-hundred percent subsidiary of EDEKA Südwest Handelsgesellschaft mbH.

Since 2011, the meat processing plant in Rheinstetten has been in operation, supplying over 1,100 EDEKA stores from Lake Constance to Saarland with beef and pork as well as fish, cheese, and convenience products. This operation is considered as one of the most advanced and efficient meat factories in Germany where 15,000 pigs and 1,200 cattle are cut and approx. 550 tons of sausages are produced every week – on an area of 52,700 square meters. The daily incoming 220,000 order lines are handled by 1,400 employees and shipped to the customers via a sophisticated logistics system.

Controlling such a state-of-the art operation would be virtually impossible without cutting-edge information technology. For quite some time now, EDEKA Südwest Fleisch has opted for automation and digital processes. “Given the high degree of digitalization and our integrative equipment, we have already achieved a great deal – and we collect a huge amount of data. With our latest project, we aimed to access this data so we could evaluate and analyze it in accordance with our

requirements,” describes CEO Edwin Mantel the task of the project team. “This is precisely what we achieved through a collaboration between EDEKA Südwestfleisch, our ERP provider CSB-System, and the Qlik partner Informatec,” adds Martin Skazel, chief administrative officer.

Visualize data from the ERP and beyond

The core of the value chain is the ERP system from CSB. Since the facility’s start-up in 2011, the ERP has controlled receiving, cutting, production planning and management, packaging and weigh price labeling, inventory entry and removal processes, order picking, loading of roller containers, and shipping. Comprehensive information on the current situation, the performance and the technical state come together at the technical and logistics control stations that monitor and control around 800 single processes.

Though the process is running smoothly, EDEKA still wished to take it to the next level by enhancing the transparency. While not every user needs a maximum degree of detail, it is important that the staff and the managers of EDEKA Südwest Fleisch be supplied with the data on the spot and in the right form.

Dynamic analyses of the business data from the CSB-System and from the Data Warehouse should improve the transparency of all processes. Through a direct integration of the ERP from CSB-System and the business intelligence solution from Qlik, this is precisely what has been achieved: EDEKA Südwest Fleisch now has a dynamic, high-performance evaluation tool for production, supply chain management, and billing. An important factor for the success of this project was the experience brought in by Informatec, as this company already supported numerous ERP-BI integration projects in the food industry.

Integration as the key to efficiency

Transparency begins with data. The Data Warehouse was continuously expanded with more data that should be made available and – in particular – analyzable in real time. At defined times, the information from the productive system is moved to a specific data warehouse; for instance, sales and procurement data, machine data as well as production data.

In the course of the project, the teams have learned to double-check the origin of the data and to define the concrete views in close coordination with the dashboard users. Especially for the



The live data from the CSB-System can be quickly evaluated and visualized.

business management data, the calculations need to be discussed in detail with Controlling. The lessons learned will be incorporated into best-practice solutions. CSB and its partner Informatec have therefore decided to supply their customers with out-of-the-box data models and reports – called iVIEW templates in Qlik jargon – to kick-start the projects and generally reduce the implementation times.

The data is still prepared and processed in CSB’s ERP – data that is also used to verify the Qlik Sense reports. CSB LineControl acts as a collector and interface for the connection of machines from various manufacturers, and will in future be used to review and analyze the live data in real time. In the Qlik Sense cloud

analytics software, the data from the different sources is updated and visualized in line with the requirements. For example, users in sales and marketing could display analyses of billing and sales data on their dashboards. The executive managers can see a combination of all relevant data with the option to drill down. Purchasing and material requirements planning are supplied with evaluations on coverage and goods receiving postings. The technical and production departments monitor the machine data with regard to availability, performance, and maintenance.

Capture machine data

The integration of the machines was an intense project phase. Via OPC UA interfaces, the machines are connected to

CSB, and the data is collected with CSB LineControl – a complex exercise as the OPC UA interfaces of the manufacturers and the structure of the data transmitted are quite different.

All data of the productive systems are transferred to the Data Warehouse in accordance with a fixed schedule and updated in the Qlik Sense visualizations. As a result, the technician dashboard shows the availability of the entire line as well as the state of single equipment components (for example, production, ready, or error).

Mission accomplished

EDEKA Südwest Fleisch has now gained transparency of its business management data. “We can evaluate the live data from the CSB-System and other details fast and flexibly. This not only allows us to respond immediately, but also gives us some real eye-openers,” concludes Martin Skazel, CAO.

A sophisticated role policy facilitates the selective display of data in accordance with the authorizations of the users. In this way, the streams and evaluations are reduced, which ultimately saves memory capacities.

What’s next? Needless to say that the company will not stop here. In the second phase of the project, the logistics and empties management as well as the expansion of the procurement data will be implemented. Procurement data for cutting and production entries are further options.

The configuration of the new slicer line permits a fast integration and evaluation of the data.

Once this is accomplished, it certainly won’t be long before new plans are under way. ●

What are the gains of certification management?

Our health and the environment have become inseparable. Today, we see health as a whole that is linked with environmental factors. A healthy diet plays a critical and growing role. This brings challenges for the food industry as it turns the spotlight on certification, the management of which can be laborious and expensive.

What are the potential gains of digitalization in certification management? Working as a sales consultant for an ERP vendor in the food sector, more and more people are asking me this question, which I aimed to answer in my bachelor thesis. Based on the example of IFS, I have examined the feasibility of audit digitalization in the German food industry. For this, I interviewed two experts from one of the leading meat processing companies in Germany. Their personal reports in the field of certification and the issues in the certification process they described have become an integral part of the requirements for a digital tool to steer through the audit maze – a tool that is easily transposable to the international market.

Growing number of audits in the food sector

When food businesses design their processes, they need to consider requirements of various certification systems. Certification is essential for these businesses to gain a foothold in retail. On the other hand, it reliably documents the manufacturing and refinement processes for the consumers. There is a great variety of audits you need to consider. Certificates like IFS Food are primarily designated for quality assurance and food

safety. Procedures like HACCP identify potential hazards and critical control points in process management. The growing number of audits and certification systems is a challenge for the organization of small and regional food business in Germany, involving great effort in terms of costs, documentation, and staffing. The variation and variety of new requirements adds to the complexity in the integration of improvements in existing processes. Moreover, the requirements are changed on a regular basis, and the information acquired across systems needs to be bundled in order to fulfill the benchmarks.

To meet these requirements, businesses are increasingly supported by information management systems that simplify recurring activities in preparation for the audit and enable a structured representation of relevant information. Software providers are also putting more and more certification management systems on the market.

The basics of an audit

Data volume and data quality are decisive if you want to benefit from a certification management tool. For the certifications, you need information on the following areas:

- processes (e.g., documentation of information flows, workflows, etc.)
- measures (e.g., key performance indicators from an ERP system or other measures)
- documents (e.g., files and multimedia content)
- responsibilities (e.g., organization chart)
- continual improvement processes (e.g., projects and activities)

Audits in the food industry are becoming increasingly challenging. IT-supported certification management helps.

Searching and preparing relevant information for audits is time-consuming and cost-intensive, as not only many experts I spoke to confirmed, but as I also experienced myself. Data input is usually decentralized, taking place in many different analog and digital systems. On top of that, we see a trend in the run-up to the audit: data and audit preparation is no longer a temporary task but has become a continual activity. This is due to ever shorter intervals between audits whereas

the number of unannounced audits is steadily increasing. An exacting task! On the plus side, you can uncover a lot of cost reduction potential through the centralized retrieval of data, which is only possible with the integration, connection, or extension of digital data capture. An ERP system provides support in the certification process. Yet, the maintenance of the system can only be handled by the people behind the system. This investment pays off as simplifying the

documentation in the daily operational routines leads to efficiency gains.

Tomorrow's certification management

How can we digitalize certification management, beyond centralizing information?

This is my approach: At the basis, you will find a cross-certificate descriptive catalog of requirements with an index referencing the different certificates. Vertically, the quantitative and qualitative test criteria are interconnected with the related single requirements. This is achieved with a quantitative cross-certificate metrics system with associated single variables. You then verify if the value-creation and support processes of all existing software systems and equipment have been considered in an information management system, adding a reference to the original data source. For example, you could use a blockchain as the certificate platform for the central storage of all data. From here, the data could be made available not only for internal access, but also for external users – selectively, and in line with the needs (for example, for end consumers). This creates the transparency for end consumers demanded by the market.

Will this approach, with all the opportunities and risks it entails, be worth the effort? Every business will have to decide this for themselves. In any case, it will be worth considering the collection and preparation of necessary data. ●



Turning traceability to marketing advantage

Traceability improves product quality and safety but it also adds cost to food processing. However, with the right systems in place to manage traceability, you can reduce the catastrophic risk of a recall – and also improve your OEE by reducing quality-driven losses and rework. Furthermore, traceability can also be used to support a powerful marketing mechanic: provenance.

Traceability is mandated in law and many food industry standards such as Codex Alimentarius and the BRC Global Standard for Food Safety. This requirement has improved food safety, product quality, consumer confidence and market transparency. But it also imposes costs on manufacturers. And it’s difficult to achieve because recipe processing is complex.

There is a direct administrative cost to recording and managing all of that information. Processors with paper-based systems have to employ more people to copy down batch numbers, collate records, file them securely – and retrieve them in the event of an audit or genuine recall situation. Where one ingredient, such as sugar, goes into many different recipes it becomes difficult to balance the delivered batch of sugar to all of the smaller quantities which were weighed out for individual recipes. When a common pre-mix is further processed into many different end products over the course of several days it gets really complicated.

Rigid requirements

Rigid product specifications also tend to reduce flexibility. In the past, a shortage of cane sugar could be easily remedied by using beet sugar instead. Chemically the same product. But if you specified cane sugar, you must use it or get written consent from your customer for a substitution. Most manufacturers pre-empt

this issue by writing alternatives into the specification. This solves one problem, but it makes another: MRP planning becomes more difficult because you need to know which substitutes are permitted in which recipes. A lot of information to keep in mind!

Yet the costs and systems required to ensure product traceability not only reduce the risk of recall, but they can also help to improve efficiency and profitability by reducing quality-based rejects and rework. And, there is a further bonus: traceability supports provenance claims – which gives products a premium.

Where have you come from?

Viewed in another way, “traceability” is just a more technical word for provenance – or knowing where it came from. As consumers have become increasingly sophisticated, knowing the origins of the products they are buying has taken on greater significance. For many products, this is now an integral part of brand image and positioning – Welsh Lamb, Scottish Raspberries or Devon Cream, for example.

Some products have even gained legal protection for their exclusivity. Protected geographical indication (PGI) and protected designation of origin (PDO) are official EU legal terms which enshrine provenance in law for products as diverse as Champagne and potatoes (Jersey Royal).

Image enhancing

The provenance of a brand projects prestige and, for consumers, delivers the reassurance of product quality. Knowing where a product came from gives them more confidence that they are not buying bad, unsafe or poor-quality items, and that the food – and all its ingredients – are genuine.

Traceability to region has become commonplace on product labels. And if this can be extended further to the exact source, such as the farm where a joint of beef came from or the dairy that produces a particular cheese, brand owners can create an image of exclusivity for a product that sets it apart from its rivals.

Improved systems

An effective Enterprise Resource Planning (ERP) system will not only ensure that products can be traced back to their origins or forward to their destination but also deliver a virtuous system of qual-

ity assurance, product consistency and increased efficiency. During the production process, for example, where the ERP is integrated into the weighing scales and scanners, the instructing, doing and recording steps can be combined into a single ergonomic routine which assures traceability within the process. The system instructs the operator by displaying the plan or the recipe along with work instructions. By scanning the item, the operator directly records the batch being used. In the act of weighing, the operator follows the instructions and records the weight taken. In following these steps, the operator did nothing more physically than they did in a system without traceability except scanning a barcode. Yet through this one additional procedure, traceability is assured. More sophisticated systems make use of RFID tags to automatically register product movements.

Enhanced knowledge – and value

Equally important, this means that the stock position for all the ingredients (and their approved substitutes) will be known in real-time. Therefore, integrated planning functionality can calculate the exact requirements for each ingredient and flag up a shortfall – and an approved substitute – in advance. Planning, stock monitoring and reordering all become much easier, and production can run more smoothly and efficiently with no unexpected and unwanted surprises. Digitalized traceability systems can turn costly legal requirements into easy routines which give both food processors and their customers peace of mind. They will ensure all statutory requirements are met while at the same time providing end-consumers with product provenance and enhanced quality assurance that offer a potential marketing benefit – and, as any marketer will tell you, two for the price of one is a very strong value proposition! ●





AGROITTICA

Advancing together in digitalization, quality, and traceability

Agroittica Lombarda, a renowned caviar producer, established a solid collaboration with ERP provider CSB-System to enhance its digitalization efforts while maintaining high quality and ensuring traceability in its processes. Agroittica Lombarda’s commitment to sustainability and continuous improvement has driven its success in the global caviar market. This case study explores how the implementation of CSB-System’s ERP solution enabled Agroittica Lombarda to streamline its specialized production and business processes, and to improve transparency, quality control, and traceability.

Agroittica Lombarda, founded in the 1970s, started out with utilizing thermal energy from other production processes for aquaculture, in line with the principles of circular economy. While initially centered on eel production and experimenting with various fish species, the company gained global recognition as a sustainable caviar producer when it began breeding sturgeon. The commitment to innovation and integrating various stages of the fish supply chain into its

production process has been a driving force for its continuous business development.

The collaboration between Agroittica and CSB-System

In 2002, Agroittica Lombarda embraced the ERP solution offered by CSB-System, becoming one of the first fishing industry companies in Italy to do so. The implementation process took just over two months, aiming to rationalize and bring

transparency to the highly specialized production and business processes. Over the years, the Lombardian company and the software company have made significant progress together.

Key aspects of the ERP implementation

CSB’s ERP system manages several key processes for Agroittica Lombarda, including purchasing with order entry and quantity and quality control, inventory

”

CSB was born inside food companies and therefore, a whole series of modules and knowledge about the issues are already inherent in the program and that is for us a very big advantage.”

Carla Sora,
General Manager, Agroittica Lombarda SpA



management with real-time stock control, sales from order entry to invoicing, and production with slaughter, processing, smoking, and packaging. The system also integrates with price labeling lines, providing the necessary information for multilingual labeling compliant with national and international standards. Through EDI (Electronic Data Interchange), the CSB-System ensures distribution control without data redundancy. The software also supports configurable statistics, generating customized reports for management on a daily and weekly basis. The sales statistics derived from the ERP system play a vital role in production planning and processing reorder suggestions by comparing information with historical data and customer actions during the period.

Guaranteed traceability and quality control

Agroittica Lombarda pioneered the implementation of rigorous health control technologies such as cleanrooms and laminar flow hoods in caviar production. They also experimented with new techniques for objective caviar evaluation. All traceability data is captured and managed within the CSB-System, ensuring that each production batch is identifiable and traceable throughout the supply chain. From raw materials to finished products, including packaging, batch assignment is maintained. The CSB-System also

facilitates quality control throughout the entire production cycle, both for incoming goods and the product flow within the facility.

Production Management with M-ERP

Despite the integration of new technological solutions, Agroittica Lombarda maintains a strong connection to tradition and craftsmanship. The company continues to manually shell, wash, and package sturgeon eggs. Mario Pazzaglia, the company’s scientific consultant, emphasizes their commitment to understanding and improving every detail while constantly seeking useful information for new insights. To ensure the reliability and usability of data, Agroittica Lombarda relies on the CSB-System for managing the digital aspects of caviar production. Each production step is analyzed and quantified, with every batch evaluated and classified multiple times until it is sold. The M-ERP functionality provided by CSB-System enables online quality control, minimizing the possibility of human errors and ensuring traceability. The CSB-System also supports customized logistics processes through intuitive user interfaces for warehouse operations, order picking, inventory management, and palletization. This approach guarantees traceability, user-friendliness, time savings, mobility, and control throughout the logistics operations.

Timely cost control

By integrating the CSB-System with time tracking software, Agroittica Lombarda incorporates production time into cost calculations. Effective procurement management and production cost accounting enable reliable cost control for management. Evaluation indices enable the company to assess the success of the production process and make informed decisions.

Global leader through continuous improvement

The collaboration between Agroittica Lombarda and CSB-System has been instrumental in advancing digitalization, ensuring quality, and enhancing traceability in caviar production. By implementing CSB-System’s ERP solution, Agroittica Lombarda streamlined its specialized processes, improved transparency, and established robust quality control measures. The comprehensive system allows for end-to-end traceability, from raw materials to the final product, and ensures effective cost control. The company’s commitment to innovation and continuous improvement, combined with CSB-System’s advanced ERP capabilities, has solidified the position as a global leader in sustainable caviar production. ●

ERP introduction with high added value

The Albanian company Fix Pro is among the country’s top 3 sausage manufacturers and growing – by 20 to 30 percent per year. To keep its local growth stable, forge ahead with new ideas for the business, and also open to markets outside Albania, Fix Pro was looking for an ERP system. The ERP should combine expertise in the meat sector with international standards and best practices

In the early 90s, the founder of Fix Pro, Nesti Tarusha, focused on the sale of international brands of spices, flavors, and additives in the entire Korce region. His experience in raw materials quickly led him to new sausage recipes, which were initially produced by Albanian sausage manufacturers. Since 2003, Fix Pro itself has been active in meat processing. Marketing a great variety of sausage products with unique seasoning and flavoring recipes, Fix Pro has soon become one of the leading businesses in the industry. Today, the family business with 180 employees generates a turnover of around 10 to 15 million euros per year. Of the annual production volume of just over 3,000 tons, 40 percent is attributed to boiled sausages and 20 percent each to fresh sausages, ham, and salami. Around 3,500 customers from retail, hotels, restaurants, catering, and smaller stores purchase more than 100 different products.

Set for growth

The great national demand is, to some extent, due to the country’s structure. Of Albania’s 2.8 million inhabitants, only a part can be supplied with meat from domestic production. Albania currently imports more than 30 percent of its demand for meat because the agricultural structures are not yet sufficiently developed, and there are some issues with the

quality assurance of domestic products. Companies like Fix Pro therefore benefit from their high-quality standards. To be able to improve this comfortable situation, Fix Pro has invested a great deal in a new production facility and an ERP system.

The ERP controls the production facility as well as the quality and control management systems. The integrated ERP system from the industry specialist CSB-System fulfills the industry requirements and ensures compliance with legal frameworks, European quality standards, and food controls. Plus, it closes the loop in product traceability up to the end consumers. Fix Pro has implemented international standards such as IFS that go far beyond the local standards. In doing so, the company has laid the foundation for further growth and an increase in its export shares.

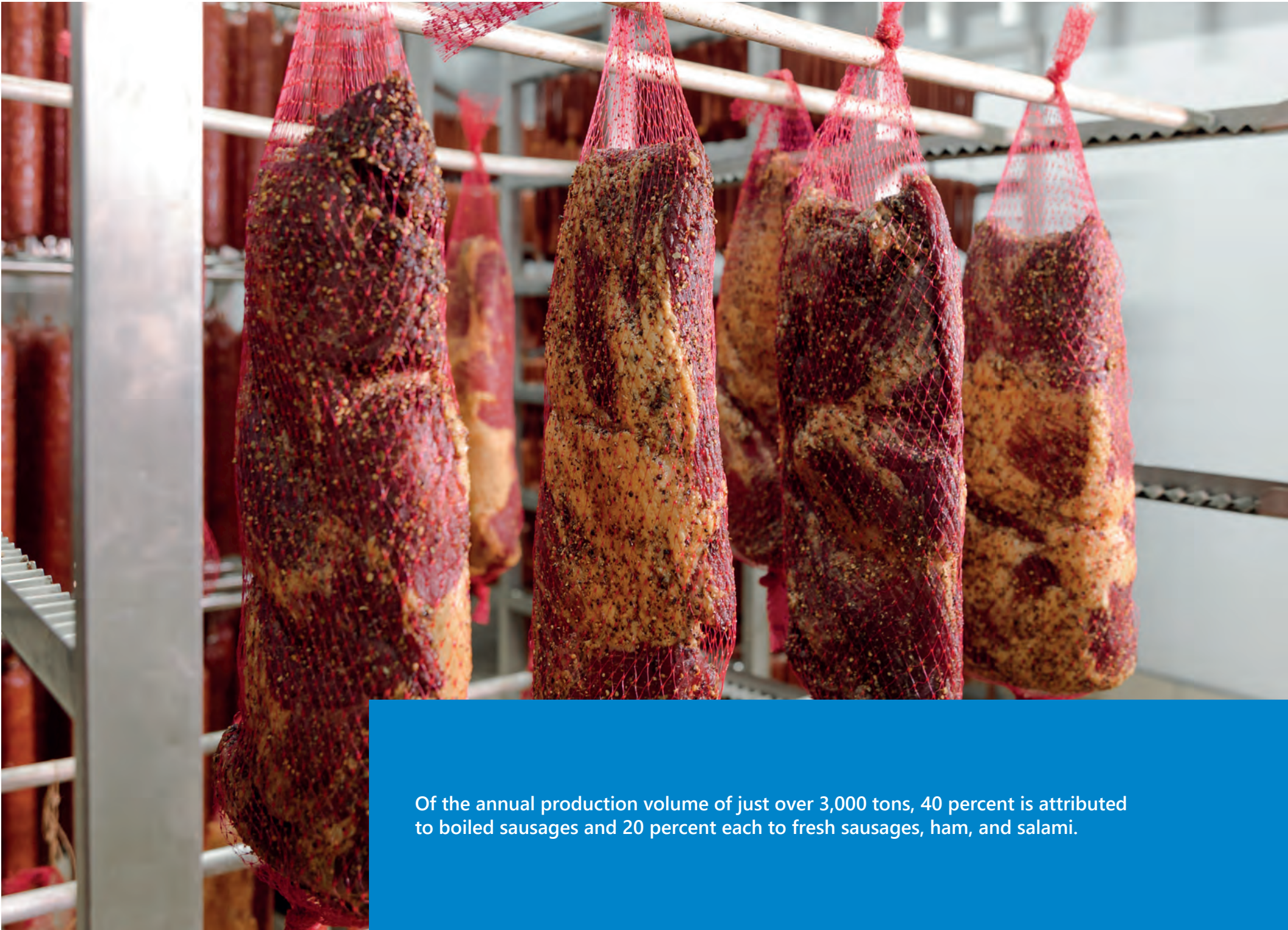
A comprehensive system for the entire operation

Fix Pro has now organized a major part of its divisions with the modules of the CSB solution. Besides production control, the company now uses the system to manage the entire procurement and inventory and to keep track of all sales and the location of the products.

Production and purchasing planning are based on recipe management, order entry, and historical sales data. In this way, a reliable calculation can be made, and the production orders can be processed according to the recipe. The procurement module has allowed Fix Pro to structure its purchasing process transparently so that the purchasing costs could be

reduced, and pricing could be centralized and optimized. Mobile data capture for in-house logistics as well as the optimized inventory management has accelerated the inventory postings through bin location management and secured stock levels.

Thanks to the integration of automated data capture and peripherals, there is no need for duplicate data entry, and all data can be accessed at the key points at the touch of a button, without any media disruptions. Using hand-helds for mobile data capture, picking has become faster as the employees no longer work with picking sheets. The representation of



Of the annual production volume of just over 3,000 tons, 40 percent is attributed to boiled sausages and 20 percent each to fresh sausages, ham, and salami.

The Albanian company Fix Pro is among the country's top 3 sausage manufacturers.



the supply chain processes guarantees seamless traceability of all product lines and batches.

Digital support for hand-over to the next generation

During the ERP introduction, CSB-System not only acted as a software supplier, but also as a partner for the future. The commitment of CSB has by far exceeded the scope of a mere ERP project. The Tarusha family has used the expertise of the industry specialist also for a safe hand-over to the next generation, further internationalization, and a growth-oriented business development. Following intense consulting, the junior director, Kosta Tarusha, has been specifically trained in the use of the meat industry solution at the CSB College. The goal has been to create a business with digital structures where the availability of knowledge and the control of all processes is independent of individuals. The outcome has been a system which offers reliable calculation and planning, process optimization, traceability, and integrated data capture, and which on top of that can be shaped by in-house resources.

Independent implementation reduces the costs

After a reference visit, a solution concept was developed on site. The training of the junior director at the CSB College has laid the foundation for a knowledge transfer within the company (train the trainer). After just six months for the conceptual design and the training, the implementation was started – and completed within less than a year.

What has been special is that the implementation was completely done remotely, via dial-in. Not a single visit on site was necessary. Tarusha and his 13 power users were able to introduce and start up the system in Albania with advice provided online and by phone alone. With this approach, not to mention the travel costs, the implementation costs could be cut by two thirds.

Overwhelming satisfaction

“In the beginning, I found it hard to believe that you could represent the years of experience of how a meat processing company works in a single system. I am very happy with the outcome: now I get the business data at the touch of a button and can use them as a basis for making decisions for our business. The decision to implement an all-round ERP system in our company has been one of the biggest challenges in my life. Yet it was worth it. Today, I feel really comfortable with the CSB-System,” says Kosta Tarusha.

This is no surprise as the results are impressive: with the standardized processes, Fix Pro has now doubled its production volumes. In addition, the management of the production space, which has been upsized from 2,700 to 5,650 square meters, is running smoothly. All company divisions are or will be controlled by the CSB solution: from quality management to the organization of the growing export shares. Overall, Fix Pro looks back on an ERP introduction with high added value.



Selling meat online – this is how it works

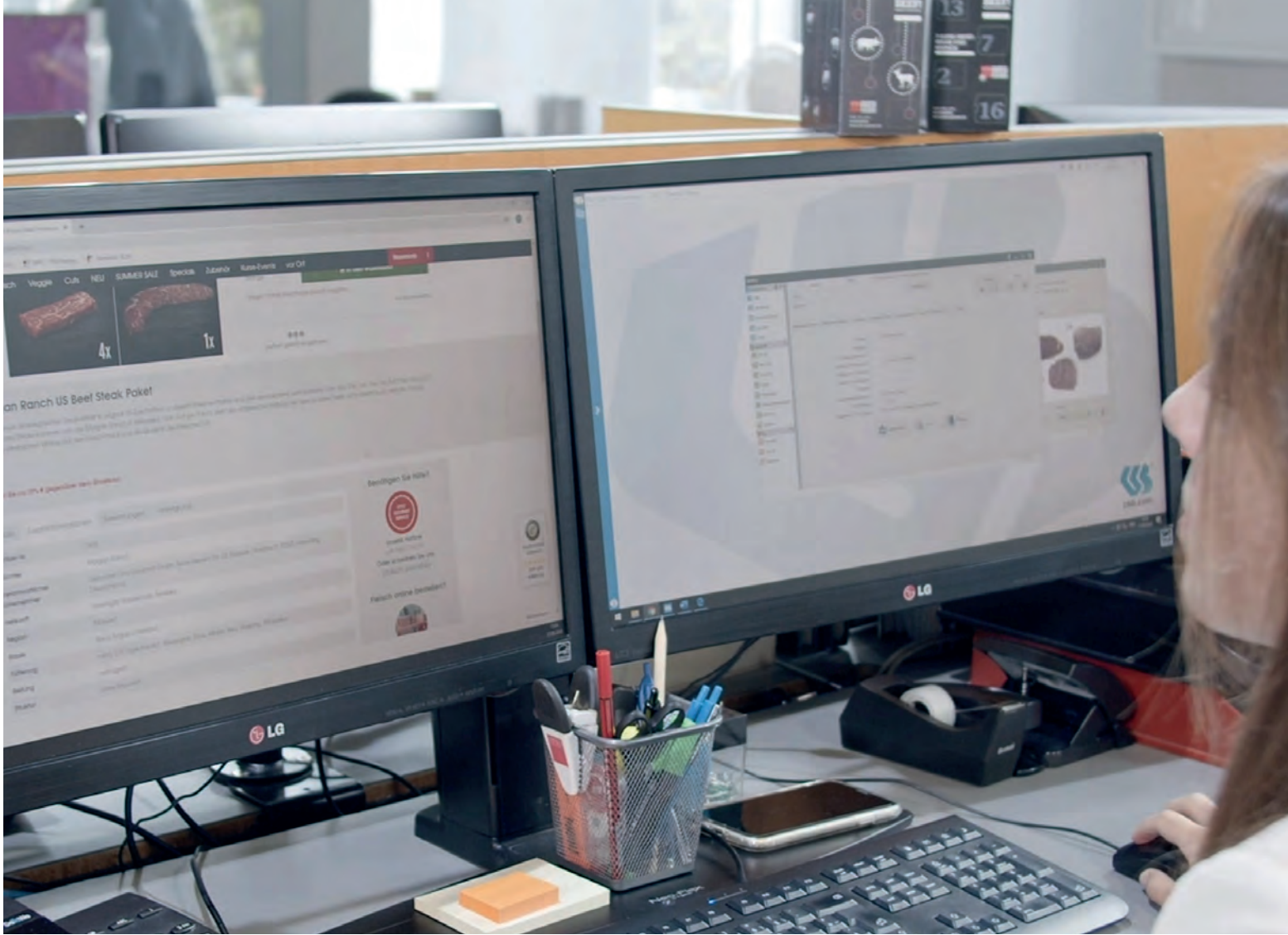
Online grocery shopping is on the rise, this is what Wolfgang, Stephan and Michael Otto have experienced too. The business was already doing well in pre-COVID times – facilitated by a revolutionary business idea, exclusive premium products, and the right technologies.

The story of Otto Gourmet began on the meadows of Nebraska; to be more specific, with the Wagyu cattle of farmer Dan Morgan. During his time as a business consultant in the USA, the eldest of the three brothers, Stephan, tried a piece of the marbled beef and was amazed. “He called me immediately and said, ‘let’s import Wagyu into Europe,’” says Wolfgang Otto. A short time later, the meat has been on the menu of nearly every top chef in Germany, with Otto Gourmet supplying the restaurants directly.

The aspiring company founders quickly found out that selling grocery online is a complex matter, from both operational and legal aspects. “We have to guarantee an unbroken cold chain when the ordered products arrive at the customer. Apart from this, we must comply with all HACCP requirements. This is a big challenge, and IT plays a vitally important role.”

“
I use the CSB-System every day to retrieve the data that I need for sales or coverage planning. And, of course, as an analysis tool.”

Wolfgang Otto,
Managing Director of OTTO GOURMET



At Otto Gourmet, the ERP system and the Webshop are perfectly adapted to each other.

Early on, finding the right ERP system therefore was one of the most important decisions the young company had to make. “We have chosen the CSB-System because my brother, Michael, got to know it at another company and knew it had the right functions for us.”



Starting out with invoices and delivery notes, they soon added labeling with integrated scale connections, followed by rolling stocktaking. Today, the ERP system manages the entire goods and information flow – from quality tests in receiving to cutting of premium meat parts, batch-based inventory management, EDI for supplying food retailers, and to shipping. Another focus topic has been traceability. Where does the meat come from? Which stations did it pass? Seamlessly representing these data flows is also a task of the ERP system. Wolfgang Otto: “Traceability is essential in the meat commerce. I definitely need to know where the meat comes from, in case we have a product recall – which, fortunately, has never happened.”

ERP and Webshop – united in the Data Warehouse

The team behind Otto Gourmet do not see themselves as sales-people. They want to advise and inform. With great enthusiasm, the company’s 120 employees support around 1,000 chefs from top restaurants and in excess of 65,000 private customers. “Our

sales in the food serving industry have declined due to the coronavirus. On the other hand, we now have even more retail orders coming in through our online store,” Wolfgang Otto explains.

While consumers are usually rather price-sensitive for their normal grocery purchases, they are ready to go to great expense for particular products when online shopping at Otto: the price for one kilo of steaks can easily add up to 60 euros. “You surely owe your customers an explanation why this is so. You have to provide a great deal of information about origin, age, date of slaughter. In our web shop, we have to tell the full story.”

More and more consumers appreciate this and indulge in buying their viands online for home delivery. If you order online on Tuesday, you will receive the products on Thursday. This can only work well if the Magenta online store and the ERP system interact efficiently: two different software worlds, united via interfaces.

Such integration is crucial for the success of the digital business model, as it encompasses price maintenance as well as all food-relevant aspects like weights, sell-by dates, and lot sizes. Through the direct communication between the ERP modules and the web shop, availability of the products is ensured automatically upon placing an order in the online store, taking into account the delivery times. Picking and shipping can be initiated as soon as the order comes in. “In this way, we guarantee extremely fast response times and, ultimately, a high level of customer satisfaction,” says Wolfgang Otto.

There is certainly potential for improving. “There is always friction when you work with two systems. Classic interface management with an add-on data warehouse – we have our specialists who deal with that every day. But we want to improve ourselves. This is why we will soon do the order entries in the ERP system instead of the online store. Then we no longer need to deal with the issue of data transfer.”

Key data immediately available

The right strategy, a fundamentally new marketing approach, leading-edge technology: this combination has ensured the success of Otto Gourmet. Since the beginning, the entrepreneurs have found a great way to share their tasks: Michael is in charge of the technical systems, Stephan is the strategist, and Wolfgang is the marketer. And they can no longer imagine their daily routines without ERP, reports Wolfgang Otto. “I’m responsible for purchasing, so I work with the system every day. For example, pulling data that I need for sales or coverage planning. The system provides me with all the details that I need, so I can also use it as an analysis tool. I’m more than happy.“ ●

Promote value creation with the ERP

The Swiss Bell Food Group is in the middle of its digital transformation. For CIO Sven Friedli, two pillars are important: on the one hand, the technology to support the business goals; on the other hand, a reliable IT partner, like the ERP provider CSB-System, to support the successful implementation of the project.

“Our Spanish ham factories are a good example for the benefits of digital solutions. With a turnover of 15 million kilograms per year, you always need up-to-date inventory information, optimum production, transparent warehouse management, and secure traceability. For this, digital technologies are imperative.”

This is what it sounds like when Sven Friedli describes the advantages of a digitalized value chain. Since October 2020, Friedli has been Chief Information Officer (CIO) of Bell Food Group based in Switzerland. He graduated in

information management and business administration, so he sees the IT decisions in the day-to-day business from a broad entrepreneurial perspective. Digitalization measures should always solve a specific problem in the company, and they should have a positive effect on the quality of data, the costs, or the sales. “With digitalization, we aim to enhance the fulfillment of our business requirements and to work profitably in the entire group,” says Friedli.

Looking at the technologies behind this strategy, you will recognize most of the components: ERP, MES, supply chain solutions, data terminals in the internal goods flow and robotics ensure the envisaged integration of business and IT. Software modules like production planning or cutting planning are used to improve the transparency and to achieve efficiency gains at the different locations.

Founded by Samuel Bell in Switzerland in 1869, the former small-scale meat processing company evolved into an international player with activities in 15 European countries, from Spain to Romania. “Our product lines include meat and poultry products as well as charcuterie and seafood. We are also active in the convenience sector, so we produce everything from salads and sandwiches to ready-to-eat pasta dishes, soups, and more,” reports Friedli. “We employ around 12,000 people at our 63 facilities, and we have a huge network of suppliers and sales partners in the food industry as well as in the IT sector who help us to meet the demands of our customers.”

IT partner as an important pillar in the digital transformation
One aspect that is often underrated in the digital transformation is the significance of a functioning partnership between the user and the ERP provider. There are many examples showing that good tools are just one important pillar for the success of transformation processes. Another, at least equally important, pillar are the people. The Bell Food Group successfully cooperates with the ERP industry specialist CSB-System. “From among our

digitalization projects, especially the ERP projects at our Spanish facilities have excelled with a high implementation quality. Simply because the collaboration between all parties involved ran like clockwork, everyone spoke the same language, and they all worked towards common goals. This is everything but self-evident.”

Decision-makers in the food industry only know too well from their own experience what Friedli is talking about: value-adding processes and complex IT and OT structures that have grown over years cannot be transformed at the press of a button. Implementing a software system for HR or accounting is one thing. But digitalizing factory processes and optimizing the shop-floor management is something entirely different. These undertakings are change management rather than mere technology projects. Besides a suitable Factory ERP as the central nervous system, the consultants play a crucial role, as they know the software and the business requirements. For this, you need a deeply rooted understanding of the needs and challenges of the food industry. Genuine cooperation between the ERP provider and your own staff, in local conditions, are essential to design optimal processes.

Friedli therefore expects the IT consultants from their IT vendors to be at home in two worlds: in IT, and in food processing. “We are all in the same boat. It is therefore important to have a common understanding of the processes in food production. A mere IT specialist without extensive industry expertise could do little to help move us forward. Peter Ettrich, head of the DevOps Center, speaks highly of CSB and the entire CSB project team. They have brought the digitalization at the ham factories to a new level.”

Spanish ham factories reach new efficiency levels
In fact, the ham production facilities in the Spanish ham regions Extremadura and Castile-La Mancha have been brought to an entirely new efficiency level over the past few months. Until recently, redundant work steps and incomplete

A look into Bell’s cutting-edge ham production lines. The warehouse in Fuensalida holds up to one million hams for drying and aging.



On top of everything: the ERP has taken the Spanish plant to a new efficiency level.

information were substantial cost drivers. One of the most important requirements of the Bell Food Group was the change from a paper-based to a digital information flow, for example in the processing of recipes, purchase orders, and traceability.

On an area of 65,000 square meters, with 120 full-time employees, and a production capacity of 5,000 tons of raw ham (including the popular “Jamon Ibérico”), the factory of Bell Spain located south-west of Madrid is one of the most important production facilities for the company’s raw ham sales in Europe.

“It is a delicious and expensive product that is produced on a large scale,” Friedli says. “We are talking about up to one million hams that are hanging in our warehouses in Fuensalida for drying and aging.” Here, different breeds of pigs are processed in different types of ham, with different curing and aging times, depending on the quality and the designated certification. The implementation of thousand-year-old traditional methods on a large scale and in an industrial environment can be rather challenging.

“In the past, the facility did not really have an exact, comprehensive overview of the production process,” explains Friedli. “For stocktaking, for example, it took

weeks to count all hams. Now, we have introduced an integrated supply chain solution that tracks the entire process, from the purchasing of the pigs up to the sale of the ham. All information and data is available in a single system across the entire process so that stocktaking is accomplished with a mouse-click – just like checking the revenues.”

“The quick availability of information in the ERP enables us to act much quicker,” explains Peter Ettrich. He is responsible for the CSB applications at 19 Bell factories all over Europe, and he was the overall project manager for the project in Spain. Also in labeling, the company saw rapid progress thanks to the reduction of



”

The CSB project team has actually brought the digitalization to a new level at our ham factories.”

Sven Friedli,
CIO of Bell Food Group



Despite enhanced digitalization and automation, manual work and gentle processes remain important.

errors. The installation of a ham grading system has advanced the integration of software and hardware.

In addition to that, the ERP has optimized the value creation in order picking. While pickers in the food sector often spend more time on running, searching, and printing than on the actual picking process, the Bell Food Group again counts on digital information instead of paper forms. The use of hand-held devices not only accelerates the processes, but also reduces the errors and, consequently, necessary rework.

The project has been a huge success and has helped Bell Spain to overcome problems in the production processes by means of technology – an achievement that was only possible, as Friedli emphasizes, because the IT team and the consultants at Bell Spain devoted a lot of time to understand which problems the company was facing, and how these issues could be solved by means of technology. “We have intensively investigated the steps in production, the type of reports required by the company, and the best ways for generating useful data from the various steps of the production cycle.”

Jointly implement realistic use cases

Digitalization is nothing new for the Bell Food Group and has been in progress at many of the companies in the group for twenty years and more. Office work processes, batch processing, picking, inventory management and machines have been at least partly digitized. In Oensingen, Switzerland, a high-bay storage facility controlled by RFID was put into operation in 2005, which was really pioneering state of the art in the meat industry back then.

Now, the goal is to link the single digital islands in an integrated network. In particular, the acquisitions of the last few years have to be incorporated in the information technology to obtain global data in order to get the big picture. Austrian poultry specialist Hubers has become part of the corporate structure just like Eisberg AG in Switzerland and Süd-deutsche Truthahn AG from Germany. Bringing new facilities on board always entails the question how to accommodate their IT: how can the integration succeed despite heterogeneous maturity levels of the different sites?

There is still a great deal to be done. “We are aiming for operational excellence,” says Friedli referring to the upcoming projects they want to kick off together

with the CSB team at various locations in Europe. One example for the next level of productivity is the Manufacturing Execution System for cutting at a facility in Switzerland – also coming from CSB.

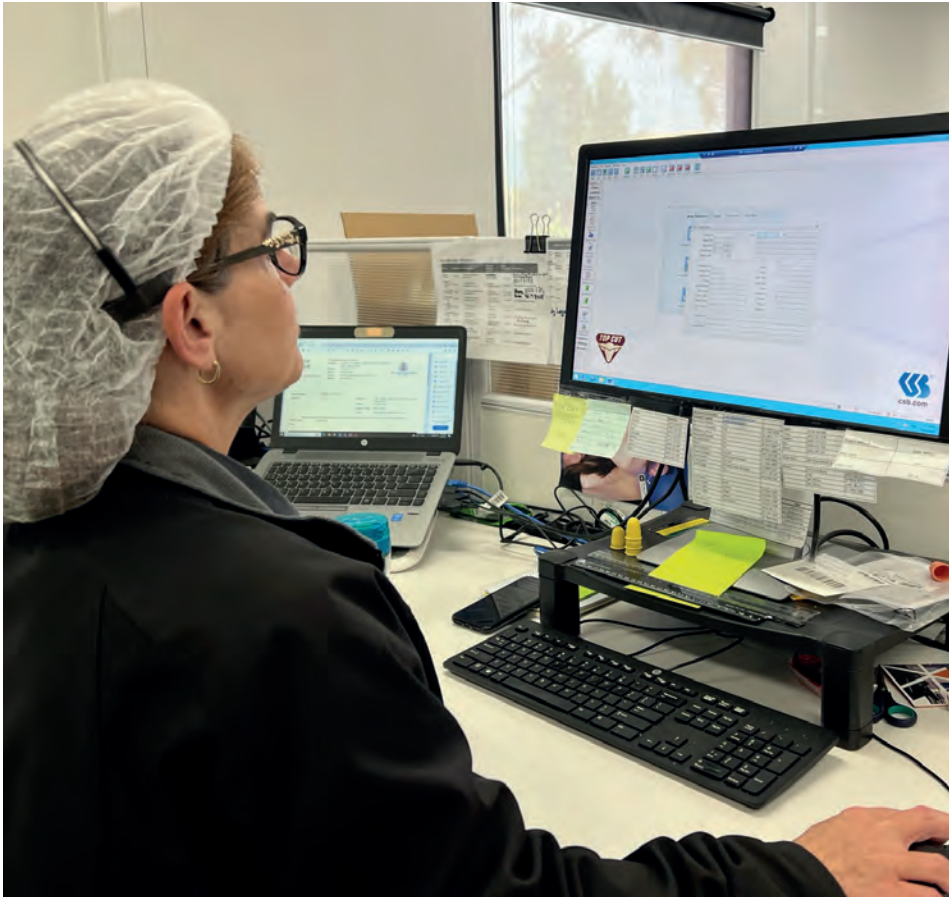
The group’s goal is to further enhance data-driven decision making in order to ensure its success. The direct costing and marginal costing system currently in its pilot phase is intended to bridge the gap between shop floor and top floor.

Ultimately, this is about continuous improvement of processes and initiating new digitalization activities with the ERP. The goal is a digital end-to-end chain from forecasting to scheduling and shipment, incorporating quality assurance as well as cutting, packing, and logistics. Leaving the urge for optimization aside, Peter Ettrich and Sven Friedli fully agree that “it is important to know the needs of the business units and to consistently pursue them taking an iterative approach. You only achieve the right goals if the digitalization presents a clear benefit for your business!” ●

Saving time and money with one centralized solution

Top Cut Foods is Australia’s leading producer and distributor of quality meat cuts and cooked meat products. They decided to move from three legacy ERP systems to a single solution that integrated all operations and reduced the time required for maintenance and support.

Top Cut Foods is Australia’s only specialist butcher, with a long-standing network of selected farmers and meat processors, and a range of well-known premium brands of beef, veal, lamb, and pork. Established in 1981, Top Cut Foods prides itself on the consistent quality of its products and the excellence of its customer service. The company owns and operates facilities in Melbourne, Sydney, Newcastle, Gold Coast, Adelaide, and Perth, with sales offices in Japan and Korea.



Challenge

Top Cut Foods had been using three ERP legacy systems from different vendors to cover all aspects of its operations. That solution, however, was no longer sustainable.

Having three ERPs effectively tripled the time needed for maintenance and support. Also, lack of integration created data silos that prevented Top Cut Foods from improving efficiency. Even more

importantly: the technology was falling behind and no longer cutting-edge. The systems were too generic and were not considered best-practice for a smart meat plant.

A thorough vendor selection process

Top Cut Foods decided it was time to have just one ERP system to manage its operations, so they turned to the international market of vendors to find a solution built from the ground up for the meat sector.

Their immediate goal was to utilize fewer IT resources for maintenance and support. There were, however, other strategic long-term objectives, such as:

- Optimizing operations
- Increasing the level of automation
- Making processes more transparent
- Reducing costs

In particular, Top Cut Foods was looking for an ERP solution with strong Business Intelligence capabilities that could integrate the systems used on the manufacturing floor with the Finance department.

CSB took part in the selection process, which lasted almost a year and included

Everything in view: At Top Cut Foods, all data is transparent, from ordering to production to logistics.



Mobile data capture devices makes processes faster and data available everywhere.

presentations, demos, references from customers, and on-site visits. After narrowing down the list of best options to three vendors, Top Cut Foods finally settled on CSB’s ERP system.

CSB’s solution

CSB’s ERP was first deployed at the Melbourne site during a period of 3-4 months. When the pilot was complete, four more sites – Perth, Adelaide, Sydney, and Newcastle – were rolled out in quick succession. The set-up time for each of them was one weekend. Altogether, the five sites provide access to 82 users.

The modular structure of CSB’s ERP allowed Top Cut Foods to build a system that fit their needs. The adopted solution integrated all operations, from receipt of supplies to sales, including Finance and Accounting. Some of the deployed modules were:

- Electronic Data Interchange (EDI) integration for exchanging information with trading partners
- Serial Shipping Container Code (SSCC) Management for the rapid tracking of shipped items
- Procurement management

- Inventory management
- Cost calculation
- Yield management

Cutting-edge technology equals cost savings

The higher level of integration provided by CSB’s system allowed Top Cut Foods to improve processes and achieve its long-term operational goals.

At the same time, having a single platform provided a Single Source of Truth (SSOT), eliminating duplicate representations of data. Users can now have access to the same information stored in one location.

The resources needed for maintenance and support have drastically decreased. There are less than five IT people for five sites, working with the local CSB support team.

“We tried to keep customizations to a minimum, which is obviously great,” says Top Cut Foods CFO Charles Geraghty. “The benefit of having a stable system has helped us reduce onsite IT resources for maintenance and support almost to zero. The fact that CSB has the resources to provide local support in Australia made all the difference. Without that, it would have been problematic to deploy and run the system efficiently.”

Thanks to all these improvements, Top Cut Foods was able to lower its operational costs: “When a system works and embraces new and best-practice technology, it will always save people’s time and business money. If you don’t stay abreast of best practice, you will fall behind and become increasingly uncompetitive,” says Geraghty.

In the near future, Top Cut Foods is planning to roll out CSB’s ERP to the other two sites in the state of Queensland, and to add a BI Tool to the suite of modules. ●

Maximum digitalization in 3 phases

Building a new abattoir marked the beginning of a comprehensive modernization project for the production facilities of Spanish meat processor Incarlopsa, umbrella brand for several famous Spanish labels. In 2017, the company launched the automation and digitalization of the abattoir, where up to 70,000 pigs are processed every week.

In the 40-year history of the family business of Industrias Cárnicas Loriente Piqueras (Incarlopsa), tradition has always played a major role. At the same time, the company has always been open to new trends and developments. The focus on digitalization encompasses the diversification of the operations, winning new international markets, and high commitment to employee development. Incarlopsa’s vertical business model allows an end-to-end technology-driven traceability of the entire production process while ensuring top quality, sustainability, and environmental compliance. Pursuing this strategy, the business has seen continuous growth over the last few years and doubled its sales volume. Today, Incarlopsa is one of the main suppliers and family brand for fresh and salted Iberian meat products.

Phase 1: Automation and digitalization in the abattoir

In 2017, a new abattoir was built with an overall space of 68,700 m². The slaughter volumes of 600 pigs per hour and 70,000 pigs per week could only be achieved through digitalization and automation of all processes at the lines. An essential aspect has been the integration of the data into the group’s existing ERP system. Incarlopsa has been using the CSB-System since 2016.

The amount of data created during the slaughter process is enormous. It starts with the reception of live pigs at the stalls, where a graphic overview enables maximum efficiency in the stall allocation. After unloading, the pigs are washed and the stunning process is initiated by adjusting the parameters, such as CO₂ levels and temperature. The grading data are transferred from the connected grading devices. Via the touchscreens at the

different control points, the quality data received from the veterinary office for the carcasses as well as for the red and green offal are captured.

Once the carcasses are graded, they are transported via the shock freezing tunnels to the track storage for the respective sides.

Equipment controlled by RFID technology

The data flow in the entire system is controlled via RFID tags. A unique link is established between the gambrels and the carcass numbers, allowing full control of the entire transport flow from the start of slaughter to the track storage for the respective sides. At the I-points on the cutting floor, the products in the crates are identified and linked with the RFID tag of the crates. This link is kept until the final destination is reached. RFID solutions ensure traceability and the automation of the system, and they enable cost-effective intralogistics processes; concurrently, processes such as inventory management, transport and palletizing are accelerated while complying with the European regulations concerning traceability and product labeling.



The cutting line at Incarlopsa is a high-tech center



All under one roof: the vertical business model enables end-to-end traceability while ensuring top product qualities.

Phase 2: Output control in the cutting room

The cutting room is a high-tech center for the meat industry. The integration of the cutting floor into the existing intralogistics is the second phase of the digitalization. In line with the cutting plans, the carcass sides are transported from the track storage to the cutting floor. At the first of thirteen I-points for control and identification, the sides are automatically weighed and posted in cutting. The carcass is identified by means of the RFID tag of the gambrel.

Primal cutting is performed fully automatically in the cutting room – which is much faster, more efficient and hygienic compared to previous systems. Incarlopsa was one of the first businesses worldwide to install a computer-aided cutting system. At the rib, ham, shoulder and belly lines, the respective pieces of meat are cut and put into crates equipped with RFID tags. The products are then allocated to the crate at the different I-points. This enables end-to-end control of cutting in real time. Additionally, the yields can be determined on a lot basis, while an overview shows the differences between target and actual results. The material flow system controls all transport paths to optimize the crate transport: at every switch, the corresponding movement command is given. Information on the content and position of every single crate is available in real time.

Phase 3: Management and control of automatic storage facilities

The track storage is managed by the inventory management system of the CSB-System. It combines the grading parameters with information on weight, sex, or company-specific parameters to optimize the tracks. This ensures that every carcass is put onto the right track.

Using various inventory exit and removal strategies, the CSB-System also controls the buffer and crate warehouses for bulk goods equipped with four storage and retrieval units and with a storage capacity for 4,400 crates. Incarlopsa now knows the content of each and every crate, at any time and at any location. The warehouse is no longer a “black box”.

And the digitalization continues. The next step is aimed at the shipping area with a buffer warehouse comprising 14 FIFO lines (First In, First Out). ●

Digital solution helps van Dijk bake up a storm

Since 1931 Van Dijk Bakery, based in Zwartsluis in the Netherlands, has been creating its ranges of delicious luxury and traditionally produced muffins, cakes and biscuits. A family business now in its fourth generation, Van Dijk today employs around 90 people with revenues of approximately €25 million. The company is one of the leading suppliers of a wide range of private label products to retailers both in its home market and throughout Europe

A masterpiece of creation

At Van Dijk, product development starts on a small scale with new recipes initially made by hand. Only when the company is satisfied that everything is just right, is production then rolled out on a larger scale.

But all of Van Dijk’s products have one important thing in common – each and

every one is a masterpiece. The bakers employ traditional baking methods and continue to create new taste sensations by combining the very best natural ingredients with innovative recipes.

The confectionery market remains competitive; retailers and consumers have high standards and expectations. In these circumstances, quality has to be main-

tained while production efficiencies are maximised.

The right software system can play an important role here. Initially, Van Dijk installed a system to cope with the wholesale purchase of its supplies, but it became clear that a more universal ERP system was required in order to help increase production.



Van Dijk Bakery is one of the leading suppliers of a wide range of private label products to retailers in the Netherlands and throughout Europe.

Critical to this was a solution that would enhance the entire production planning process and the company’s research into what was available on the market led it to CSB.

Another level through digitalization

The implementation of the CSB solution at its factory enabled Van Dijk to take production to a new level. In particular, CSB’s ERP system was able to meet the company’s specific requirements of ensuring that all its relevant KPIs could be gathered together in one place and easily accessed from the system on request.

In addition, the system has fully integrated all stages of the manufacturing operation – from receipt of goods, stock levels and production to forecasting and sales and onward delivery to customers. This helps to optimise the planning and forecasting processes while finance and quality systems can be carefully monitored and controlled.

“We now have a much fuller and more comprehensive picture of our operations,” explains Van Dijk’s CFO Rene van Diermen. “This high level of knowledge and information means we can react more quickly to any issues that may arise, enabling us to continually maximize production and throughput.”

Flexibility and Traceability

The hardware supplied by CSB adds a further degree of flexibility, with six industry PCs, including printers and scanners, on the shop floor supported by seven mobile scanners operated via Wi-Fi. The mobile devices in particular ensure that processes can be comprehensively monitored at all times, with for example stock levels of ingredients able to be regularly checked.

Equally important, the system provides full traceability, both for the various ingredients used in each recipe and for the finished products when in the supply chain.

“Effective traceability is a vital part of our quality control procedures, helping us both to demonstrate the provenance of our own ingredients and to ensure we can respond swiftly in the event of any problem or complaint,” says Rene van Diermen.

Industry knowledge

Another important advantage of the CSB ERP system was the sector-specific nature of the solution. As well as the software being developed for bakery applications, the strong experience of the implementation team was also a critical factor in making sure that the system was finely tuned to Van Dijk’s requirements.

“Having the right level of knowledge of our market helped to enhance the team’s understanding of our precise requirements,” confirmed Rene van Diermen.

A long-term partnership

The successful working relationship between Van Dijk and CSB stretches back 11 years. And just as Van Dijk’s delicious recipes evolve and change over time to meet changing consumer tastes and market demands, so too does the software to support production. For this reason, Van Dijk is now planning to update its software in order to ensure its efficiency levels can be maintained and further improved.

The company sees the potential for further collaboration with CSB. Currently it is looking to integrate its recipe management into the production planning process. Van Dijk is also exploring the possibility of further enhancing its own in-house knowledge of the CSB software through CSB’s range of training programs.

“Together with CSB we have been able to ensure we can maintain our high levels of quality to our customers in the long term,” concludes Rene van Diermen. “CSB provides all the necessary supply chain management tools in a single system.” ●

Van Dijk produces more than 2 million cakes, muffins and biscuits every day. Digital processes enable to continuously improve production while ensuring high product quality.

Keeping tabs on quality enables international growth

Polish turkey meat specialist INDROL Sp. z o. o. utilizes data analysis and process transparency to reconcile the requirements of efficient production and customer demands. Their solution: the ERP from CSB-System covering all operational areas. The outcome: continued growth of production and export to 23 countries while permanently assuring high quality and low operating cost.

With a strong focus on quality, an unchanging raw material basis, modern production technologies, and qualified staff, Indrol has built a solid brand in its 30-year history. At the company’s three processing facilities, more than 700 employees process 20,000 turkeys every day. All of this requires efficient management and continuing optimization of the processes. A challenging task that was accomplished with an all-inclusive ERP system. “The goal of our project was to streamline and optimize all processes with the industry software from CSB-System,” reports Paweł Waligórski, co-owner of INDROL Sp. z o.o.

The ERP system as a quality management hub
INDROL’s declared goal is to supply its customers with products of excellent quality meeting global food standards such as HACCP, QS, BRC, IFS, QAFP, HALAL, as confirmed by continually updated certificates. Clearly, quality management at INDROL is a complex process: all raw materials, production processes, and finished products are subject to continuous inspection, from rearing conditions in turkey farming to logistics and final products.

In other words, IT is imperative. The ERP module for quality management is used across departments. As quality management spans all areas of the business, the quality management system needs to be

seamlessly integrated into all other functional areas.

With this concept, quality-related information from all business divisions can be recorded, evaluated and analyzed online in a single system. All quantitative and qualitative data is captured by mobile terminals right at the source. In an analysis of the current situation, all information and control points along the process chain have been identified, in all parts of the company, from procurement and slaughter to inventory, production, and sales. The data brought together in this “network” of information and control points is a central source of information

for all key processes in the operation. It enables continuous monitoring and optimization of the processes, provides the basis for the analysis of key performance indicators, and guarantees end-to-end traceability. The system from CSB also supports the implementation of national and international standards to enable comprehensive quality management in line with DIN/EN/ISO 9000 and further certifications.

Purchasing and slaughter well in hand
The CSB-System also supports INDROL with its basic processes in the procurement and slaughter areas, including slaughter planning, diagnoses, grading, statements, and slaughter data evaluation. After receipt of the animals at the slaughterhouse, quality tests are performed. Every lot is described and assessed in detail. Dead animals are also counted and included in the overall valuation of the delivery. At the abattoir, measuring devices capture slaughter process parameters for every delivery and at specific times. This data is immediately made available in the system so that key performance indicators can be analyzed and used for the purposes of supplier assessment or inspection of the stunning and scalding parameters or the temperature of chilled carcasses.

Purchasing statements are based on relevant price tables as well as on defined weight parameters (yields) and quality parameters (valuation). These parameters affect the calculation of the purchasing prices and, consequently, the payment of the suppliers. For example, the system can automatically generate additions (bonuses) or reductions of the basic price. Internal inspections and defined quality parameters provide a foundation for establishing internal supplier rankings.

The following criteria are considered: test records from poultry farms, poultry breeds, feed, animal welfare, timeliness of the deliveries, yields, delivery notes, etc.

Transparency on all production levels
The CSB-System delivers all essential information on sales, turnover, margins, and sales channels. The sales staff can access data from business areas like slaughter, cutting, production, inventory, coverage planning stocks, financial accounting, and time management. Management can effectively control the sales processes and respond quickly to the needs of the customers.

The CSB production modules portray the production processes in a transparent and easy to follow manner. All bills of materials and manufacturing procedures have been optimally adapted to the production planning and control systems as they play an important role in the decision-making process. “We are Poland’s most advanced producer of turkey meat,” emphasizes Paweł Waligórski.

Introduction was a great success
Within five months of introduction, INDROL has benefited from the CSB solution. “The CSB-System has improved the communication in our company by enabling an information flow across all departments. The system supports us with production scheduling, ensures traceability of the stock on hand, keeps the production costs in check, and it controls, analyzes, and monitors all quality control processes in real time. The overview of the entire company and the evaluation of business processes leads to better decisions at management level, which ultimately increases the competitiveness of our business,” as Paweł Waligórski, co-owner of INDROL Sp. z o.o., sums it up. ●

Process transparency and data analysis: Indrol is Poland’s most advanced producer of turkey meat.



Exceeding every customer expectation

The first page of the story of the “Zorbas Group” was written in 1975, when under adverse circumstances, Andreas Zorbas decided to start a small bakery in the backyard of his house in Athienou – a small town in the province of Larnaca with around 5000 inhabitants at that time. Forty-five years later the little bakery had grown and expanded and today is a significant business organization.

Zorbas can be proud of its dynamic and successful journey in the Cypriot and international market, while always maintaining the same principles and values of a small family business. Having today three production units, equipped with the latest of technology, as well as 69 stores all over Cyprus, the Zorbas Group has expanded overseas to the United States of America where it has opened two stores and is currently preparing to open a third one. The main activity of the Zorbas Group has to do with the “Zorbas Bakeries”, where bakery and confectionery products as well as cooked meals, salads and sandwiches are on sale – everything always being prepared

with fresh and high-quality ingredients. Plus, at every Zorbas bakery store, you will find a “Coffee Berry” coffee shop selling and serving finest coffee and other beverages.

Passion is what makes Zorbas special

Additionally, the love for international cuisine and confectionery led to the creation of the “Pralina Confectioneries” and the restaurants “Pralina Experience” in Nicosia and Limassol. The most decisive growth factor of the Zorbas Group has always been its people. “Our human resources are a determining factor when it comes to our future growth”, explains the Operations Manager of the Zorbas

Group, Panikos Siouftas. He adds: “The company has more than 2500 employees and all have been adequately trained with the main focus being put on their close cooperation.” In its effort to constantly evolve and upgrade its technology, the Zorbas Group is working hand in hand with the company CSB-System that also has 45 years of history in the market.

A software that integrates all areas

CSB-System is a point of reference for the IT of the Zorbas Group. “It was during the Anuga trade fair in Germany, where both of our companies participated, when we met the team of CSB-System for the first time”, explains Marinos Magafas,

Software Administrator of the Zorbas Group. “We were curious and wanted to find out more about the dynamics of CSB’s software and for that reason we took part in some of the company’s Food Business Days. There, we were able to listen to presentations from experts and to visit production sites of companies where the industry-specific CSB ERP was already in use”, he says while adding that they were pleasantly surprised by everything they saw so that they decided to implement the software in all company areas. The importance of the CSB Webshop This is how the software works: All stores and units of the Zorbas Group directly enter their orders in the Webshop order systems. The available stock is checked in real time.

Based on these orders and the inventory levels, the Production Planning and Scheduling program (PPS) of the CSB-System calculates the production plan. The real-time analysis of data from other divisions of the company, such as sales or warehouses, allows the CSB-System to supply raw materials “at the right time”. “This makes it possible for us to have always fresh ingredients available while at the same time reducing waste”, explains Magafas.

CSB manages quality and traceability

It is also worth mentioning that quality control and traceability in goods receiving and in production is part of the normal work routines. The managers, including those at the different production sites,

can access the latest statistics at any time, which provides flexibility and complete control of all company units.

M-ERP in logistics and production

The use of mobile devices makes the qualitative and quantitative control processes of incoming goods faster and more flexible. From the storage of incoming raw materials to their movement, from the order-based handling and picking with automatic document management to route optimization, everything is executed with flexible and intuitive M-ERP procedures. Orders are loaded onto the trucks in accordance with the scheduled routes, observing the maximum load volumes and weights. ●



Zorbas couples a passion for bread and bakery products with a strong affinity for new and digital technologies. Quality control and traceability with the help of the CSB-System is part of the work routines.

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It was during the Anuga trade fair in Germany, where both of our companies participated, when we met the team of CSB-System for the first time.”

Marinos Magafas,
Software Administrator, Zorbas Group

One ERP for all subsidiaries

‘We bring it all together’ is the slogan of the Sopraco group. In fact, the European meat company has united its manufacturing chain under one roof and joined all processes in a single system: CSB. This has improved the efficiency while ensuring structure and transparency throughout the entire business.

Veal, beef, pork, venison, and poultry for wholesalers, grocery chains, butcher shops, and food serving businesses all over Europe: this is the business of the Sopraco group. Its wide range of products comprises large cuts as well as portioned meat, fresh, frozen, refined, or cooked.

The entire process chain well in hand

From rearing and feed production to slaughter, distribution, processing and logistics – Sopraco’s process chain is a complex one. Its vertical integration was no easy task, given that the highly specialized subsidiaries focus on different areas. Bepro produces high-quality animal feed, while Vilatca is in charge of calf and cattle farming. The company’s in-house abattoir has separate lines for calves and pigs. The cutting facilities Lornoy, Norenca and Belliporc handle the cutting of calves, cattle, and pigs respectively. Norenca additionally handles the portioning of the different meats and manufactures various meat products that are refrigerated or frozen. Tejo ensures the logistics. The main benefit of this vertical integration is that Sopraco can respond quickly to market developments and consumer trends. The basis for this is an efficient IT system to control the processes.

An ERP packed with expertise

The company’s integrated approach began with business management software developed in-house. Back then, the data input, weighing, and labeling was performed manually. However, the thriving business needed more than this. The existing IT system became inefficient,

slowing down the production and creating an intricate network and a labyrinth of interfaces.

CSB’s solution put an end to this. Products are now entered and monitored in real time, facilitated by scales and special CSB racks for data capture at the production lines. The result is a comprehensive overview of all areas: rearing, abattoir, purchasing, receiving, production, quality control, inventory, order picking, and shipping.

Today, Sopraco has a standardized system that ensures best practices, fast implementation, and unified processes at all plants. Equally important is the end-to-end traceability of all transactions. Plus, the system is future-proof as it grows with the company and can easily be expanded in line with the needs of a customer or a location. “Sopraco praises CSB as its ERP system reflects the complete expertise of the meat industry,” says Mark Ameloot, Director of ICT & Technology at the Sopraco group. “The system enables us to optimize and automate our processes up to maximum capacity.”

Assistance from the experts

While the system is in use group-wide, every plant has its own physical installation. In this way, every operation can respond fast and flexibly to its specific requirements and, at the same time, maintain synergies with the rest of the group. This secures the necessary structure, transparency, and efficiency, which is the foundation for further growth of the business.

The CSB consultants assigned to the projects are considered a great asset at all sites. They know not only the bits and bytes of the software, but also the markets Sopraco is supplying. Their advice and their support is valuable in the daily operations. “One of the major gains for us is the knowledge and best practices with which the CSB consultants provide us,” acknowledges Mark Ameloot. “Many steps that had to be done manually before are now done automatically. This enables

us to quickly respond to our customers’ wishes and provide them with accurate and detailed information.”

Future-proof

The flexibility of the CSB-System also facilitated a fast implementation of the solution in the French companies Sopraco has acquired. In the near future, all plants will change to the latest version CSB 6.2 to be up to date and take advantage of all improvements.

“The implementation was the first step. Our next step is to examine our processes for further optimization potential based on the new developments and experience CSB has gained in the meat sector in several decades,” concludes Mark Ameloot. ●



CSB’s solution has put an end to the intricate network with its labyrinth of interfaces. Sopraco now has a standardized system that is packed with the expertise of the meat industry.

International FoodTec Award for AI solution

Artificial intelligence aims to improve the workflows in meat processing. The possibilities of this technology have been once more demonstrated by CSB Jamboflash – a solution that was awarded the International FoodTec Award 2021.

High cost in quality assurance, faulty processes, poor use of raw materials – there are many adverse scenarios for meat businesses. “Artificial intelligence” can counteract these effects. One example for this is CSB Jamboflash, a new system for ham grading developed by the tech company CSB-System, which has won the International FoodTec Award.



Grading and valuation of raw ham meat

The topic of AI has gained momentum at CSB. In initial projects, companies can build the relevant expertise in “artificial intelligence”. The right application is essential. Ideally, artificial intelligence should solve a specific problem, with a clear economic benefit such as an increase in sales or margins. The benefit of CSB Jamboflash is its independent grading and assessment of raw ham meat. Besides AI, the system uses cutting-edge image processing technology for this. This combination enables the system

to automatically determine the quality grade and establish the optimal further processing of the raw ham for a variety of finished products in downstream processes, for example premium ham and sausages. The execution of grading is based on the objective assessment of the destructuring degree in the raw ham. This brings huge economic benefits for the industry, as the consistent and precise measurement level reduces the error rates and the cost in quality assurance, standardizing the product quality.

“What started out as a joint project between our company and the French IFIP institute will be a great benefit to many ham processors. We are very happy that once again we are among the winners of the renowned International FoodTec Award,” says Dr. Peter Schimitzek, Chairman of the CSB Board. In 2018, CSB had won the silver award in this competition for its innovative logistics solution. ●

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