



7 benefits of one single data platform for the food industry

Digital control tower guarantees more efficiency and innovation

The food industry is all about customised production, consistent quality and timely delivery. On the job, it occasionally turns out there is insufficient grip on processes. As a result, food often ends up in the waste container, batches are rejected and we're constantly behind the curve. Instead of discovering errors retrospectively, businesses want to act promptly. Errors will then be prevented or rectified, rather than showing up unexpectedly in the monthly report. By integrating all data sources into one single platform, food companies are able to forecast better, produce more efficiently and deliver more accurately.

The work pace of the food processing industry is in top gear. Products need to be delivered within a few hours and the quality should always be of the highest possible level, otherwise the retailer will shove you off and turn to a competitor. On the one hand, you want to maintain a high safety stock in order to never sell 'no', while at the same time having to meet all kinds of legal obligations, such as shelf life. It is therefore important for companies to assess supply and demand well and get to grips with the full production chain to comply with all the stringent market requirements. The challenge, however, is in the fact that most food companies are lacking this grip.

Food companies wish to be more agile...

While visiting companies, it turned out that many of them often don't have their data management in order yet. They sometimes need days to gather all relevant information from different systems and documents to compile a management report. Since there is an excessive amount of stock - in order to avoid selling 'no' - companies sometimes waste 40 percent of a procurement quantity, which equals waste of food. Forecasting is generally based on a gut

feeling and experience, which causes substitutes to have a hard time estimating how much purchasing is required. Phones are constantly ringing to sell a batch at the last minute.

...but are ruled by day-to-day affairs

Companies wish to be more agile, but are often far from it. This is because they often still work with non-integrated systems and document everything on paper. Hence, they would like to have a control tower that keeps an overview of the entire chain and can provide real-time clarity on what needs to be adjusted at that moment. This should be the ERP system, but after mergers and acquisitions, the company often consists of multiple systems. For this reason, there is not one single control tower, but several towers that have only mapped out their own subprocess and are unable to communicate with one another. The result? Organisations are governed by day-to-day affairs and managers make decisions based on their gut feeling, experience and old data. The numbers by which you decide are thus not up to date while, in the meantime, only small fires are constantly put out.



By integrating all data flows in an intelligent way, you are able to create a control tower. Below you can read more about the 7 most important benefits for food companies.

01. Better forecasting and stock management based on data

Gaining insight retrospectively does not go fast enough for companies in the food industry, especially for Fresh Produce companies. It's all about knowing today what you can sell tomorrow. Of course, it would be better in that case to know what you could sell in the next few months. Take mangoes for example, which have been travelling for weeks from South America before they arrive at retailers. In an ideal world, you would want to know how much fruit you can sell in six months based on weather data, harvest plans, seasonal trends, consumer preferences and all other kinds of data. By knowing this, you can purchase and produce more accurately, waste less and sell 'no' less often.

Take LaBan Foods, which has been able to make forecasts up to four weeks in the future by analysing the weather. This can be applied to the entire product range and includes advice on production. It improves planning which ensures the herb butter producer does not have to produce loads at the very last minute, only because there is a lack of stock. The main gain is that this improves the company's own stock management, and, in addition, the company now advises the retailer how much they should buy.

Food companies do not only want to forecast more accurately and further ahead, but at the same time respond more quickly within the confines of the company. Right now, numerous companies are still lagging behind. They often see if everything went well in the KPIs at the end of the day, week or month. Or they receive feedback from the retailer that the products were nonetheless of unsatisfactory quality. Naturally, you would rather take action the moment something goes wrong or even before that. This can be done by, amongst others, analysing product processes, transactions, ERP, WMS, CRM or IoT data, as well as by analysing in realtime.

02. Continuously improving performance using data

Many retailers demand that food has a shelf life of at least two weeks or 100 hours for instance. By pairing product information with the logistical information, you work with a minimum amount of stock and will no longer disappoint your buyers. Unfortunately, this still happens regularly, for example

because a batch that is too old is sent. Supermarkets return those batches resolutely or refuse to pay the invoice, which results in high costs. There is almost always a human error at the root of this, because a wrong batch has been picked from the warehouse. These errors can be excluded through RF scanning. This does not only provide efficiency advantages, but also makes it easier to comply with the legal requirements of tracking & tracing. Companies can however take a technological step that takes them

03. Close the chain with scanning..

Many retailers demand that food has a shelf life of at least two weeks or 100 hours for instance. By pairing product information with the logistical information, you work with a minimum amount of stock and will no longer disappoint your buyers. Unfortunately, this still happens regularly, for example because a batch that is too old is sent. Supermarkets return those batches resolutely or refuse to pay the invoice, which results in high costs. There is almost always a human error at the root of this, because a wrong batch has been picked from the warehouse. These errors can be excluded through RF scanning. This does not only provide efficiency advantages, but also makes it easier to comply with the legal requirements of tracking & tracing. Companies can however take a technological step that takes them even further.

..and the use of sensors

Thanks to the use of all sorts of sensors, you are able to safeguard the quality even better and more direct and you can deliver exactly what has been agreed to. By measuring the temperature, air pressure, light intensity and waste in processes and combining these with data from the ERP system, a whole new world of improvement opens up for you. It suddenly becomes clear that one team produces much more cutting loss than the other. Or that a machine produces a product that causes more loss of time for employees, only because a certain raw material from a different

supplier was used. By using sensors, Azure Stream Analytics, Azure Sphere and Azure IoT Hub, you can easily set up an IoT chain with which you can safely analyse realtime data and, if necessary, take action. You can, for example, take pictures of your end product, which you then analyse in the cloud. If the product diverges in terms of shape, volume, weight or a different parameter, you know which batch does not suffice and you can take action right away. Obviously, this is all much more efficient than hearing from your buyer that the batch was not delivered in accordance with the agreement.



04. IoT guarantees freshness at the time of delivery

Preferably, you continuously wish to monitor your entire supply chain. That way, you are able to forecast better, produce more efficiently and ensure better customised delivery. This prevents, for instance, that a batch of bananas turns brown during transport before it reaches the buyer. A good example is the way Walmart monitors its bananas during



transport. A central system continuously tracks the temperature of the truck. If this value surpasses a critical limit (for too long), the system sends the truck to the nearest branch. This prevents rejected batches, waste and a relationship distortion with the buyer.

05. AI takes repetitive works off your hands

We often see complaints from buyers because food does not live up to the dimensions, is damaged, too ripe or has traces of insects. Buyers then send an email with a photo as supporting evidence. This results in a considerably range of actions: Manual assessment of the photo, the return procedure and the credit note. Thanks to a combination of the AI solution Microsoft Cognitive Services, the ERP system and Office 365 Services, this process can also take place fully automated. The system in this case learned from photos what good and bad avocados are. Based on one single email with a photo of the relevant product, the system assesses whether the avocado is good or bad. Ultimately, the responsible buyer has the option to manually create a return order and a credit note in the complaint overview screen of the ERP. This last step has been kept manually on purpose, since this involves a financial transaction.

06. Central management of certificates via smart contracting

Quality and quality perception are the greatest asset in the food industry. To ensure this, all sorts of certificates have been constituted to proof that a product complies with certain requirements: from taste and shape to shelf life and origin. In large organisations, the management of certificates is often not organised optimally. The documents are often prints, PDFs, scans or photos that are spread across all chain partners and obscure parties. Ideally, you want to have one central source so that a check to the origin of a product also delivers what the certificate promises.

Blockchain ensures disclosure and transparency from creation to consumption for the consumer. Since there is one central place where the certificates are stored, there is only one truth. Besides this, closed contracts are irrevocable, which guarantees the authenticity of the certificate. This enlarges the transparency of the product and increases the value of the certificate and of course the product itself at the same time.

07. Automate lucratively and fast with PowerApps

There is a considerable shift happening in IT. Thanks to low-code and no-code, programming is becoming easier. Anyone who can work with Excel or PowerPoint to some extent can easily create task-driven apps for all kinds of devices with the use of PowerApps. This makes experimenting with automation easier and cheaper, which significantly reduces the risks. You could, for instance, record the input and output of the shop floor production and keep track of production times more easily using tablets and smartphones. This data must be sent to the ERP, but these interfaces are often more cluttered and

confusing. With PowerApps, you can build an accessible interface by which the administration becomes simpler and transferable.

Companies need one single truth to which they can respond directly. This can be done by using one standard platform that takes over the control tower functionality. Whether you're a small or a large company, with Microsoft Azure services, you can connect, amongst others, all ERP, WMS, MES, TMS, CMS, warehouse, forecasting, PAC, PIM and PLM systems with one another. This creates a platform in which all data is gathered, to which you can respond directly. Connecting systems now really is a plug-and-play and setting it up is just a matter of days.

It allows a complete grip on the entire chain and at the same time gives you the freedom to easily add new applications. Think for example of AI, blockchain and BI solutions, but also solutions for finance, production, logistics, the production floor or the quality system. This allows you to respond more quickly, experiment with new solutions and gain more grip on your processes, which results in more efficient production and higher margins.

Would you also like to directly respond to processes within your chain and thus produce more efficiently worldwide? Do you want to be ready for the future with a robust and flexible data platform to which you can easily connect applications? Visit the Foodware 365 website, call us on +31 76 504 25 20 or send an email to info@foodware365.com