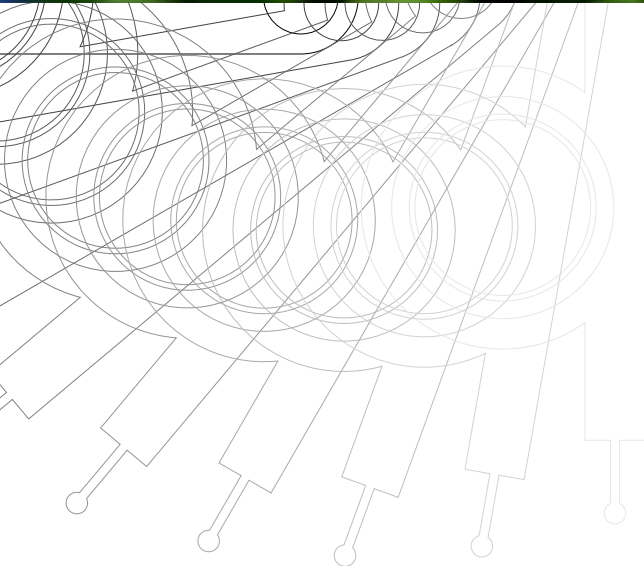


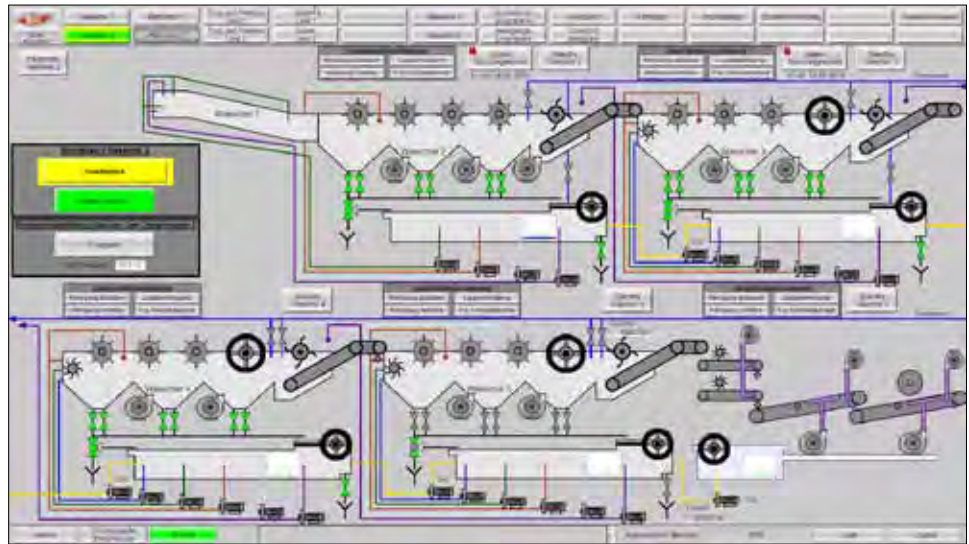
iglo relies systematically on COPA-DATA's HMI/SCADA solution

zenon – smart solution, consistent production

For decades iglo has been the epitome of high quality frozen food. Consistent production is essential to ensure food quality. The Münsterland (Germany) food manufacturer processes spinach and other vegetables from the raw goods phase through to the packaged product within three hours, ensuring consistent high quality and limited vitamin loss. A stable basis for production processes is established by the HMI/SCADA solution zenon from COPA-DATA.



The iglo plant in Münsterland manufactures spinach, mixed vegetables, herbs and frozen convenience foods, with an output of around 97,000 tons a year. The food manufacturer obtains vegetables from over 100 local growers, on many thousand hectares of land, who cultivate spinach, herbs, leeks and different cabbage varieties. The operation consists of around 500 employees over 14 production lines, which are in operation 5 days a week – rising to 7 days a week in the peak season, in three shift modes. Furthermore, Europe's largest frozen storage area, with 57,000 pallet spaces, can be found there.



The vegetables are washed in several steps. Pump status and valve positioning are important parameters here.

SCALABLE SOLUTIONS FROM PANEL RIGHT UP TO SCADA LEVEL

Before iglo decided on zenon from COPA-DATA, the food production company was using various tools from different manufacturers. A discontinued software and a manufacturer's restrictive product and license politics gave iglo the opportunity to introduce a new standard HMI/SCADA solution. It was the company's goal to have a single solution which could be used consistently – from the field level right up to the control room, in order to focus the expertise within the company on one solution, to minimize effort and to keep the management of the solution as simple as possible. The new solution should be able to provide platform-independent operation, scalability and high performance, as well as offer optimum cost efficiency. „This marked the birth of zenon in our company,“ explains Robert Mecking, Director of Electrical Workshop/Technology Center at iglo GmbH. „zenon is not only strong in performance but also scalable from panel right up to SCADA system. At the same time, COPA-DATA stands for clear and consistent licensing.“ All of our zenon-based applications are used by Robert Mecking and his team in their own offices – without additional external support. This makes it simple for production experts to connect new machines with existing equipment and enhance and adapt application to accommodate the new requirements: „Furthermore, we particularly value the reusability and consistency that zenon offers. This guarantees quick and efficient

engineering, and easy handling,“ explains Nico Nordendorf, Control Programmer in the Technology Center at iglo GmbH, „This is especially important as our equipment is continuously being enhanced and changed. Thanks to zenon, this is where we can save time and money.“

ZENON AT IGLO – WELL THOUGHT-OUT, FLEXIBLE AND FULLY INTEGRATED

Today, the zenon-based application in the control room uses 35 different production programs for central monitoring and control, as well as 65 cleaning programs. The application is built upon an integration project with four sub-projects and 243 screens. The alarm administration processes 4,280 different alarms. Today, a total of 45 trend evaluations are also provided. Included in the trend evaluations, is not only typical production information such as tank levels or pressure, but also the evaluation of energy use, such as water consumption. For those running the production, the equipment supervision and the management, all trend analyses are also available via the zenon Web Client. „Another plus point of zenon's is that the software can be vertically integrated into our IT environment. We can thereby guarantee information exchange with superordinate systems such as MES or ERP,“ Nico Nordendorf from iglo adds. For example, production employees thereby receive manufacturing recipes from the SAP system and the specification system SIMATIC IT Interspec.



Amongst other things, details are provided on which exact components the recipe is made up of and how much time is planned for each individual process step, such as the stir or mix process. zenon then uses this data and recipe information in production and, in turn, provides other systems with the data gathered from the production for further processing.

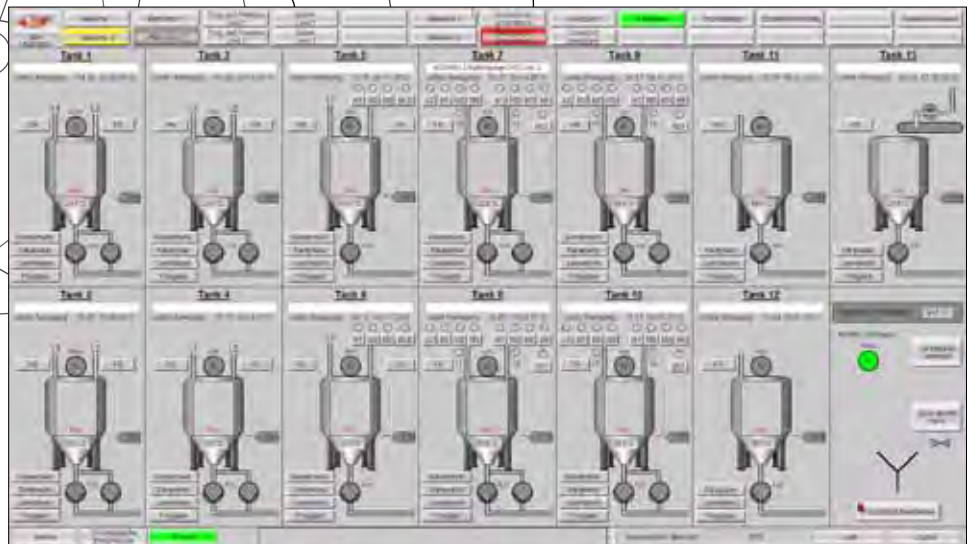
ZENON: FROM THE RAW GOODS TO THE PACKAGING

After the raw goods have been delivered and the first quality inspection has taken place, the spinach and other vegetables and herbs are washed in the two wet lines. Here, zenon visualizes five washers of a wet line and monitors, amongst other things, parameters for the target water temperature, the chutes of vegetables and the water consumption. Then on to the blancher and the passing machine. The vegetables are now blanched and then chopped up to the desired size. Here, the temperatures and the blancher running times are particularly important parameters for the overall monitoring. There are also further parameters that need to be observed such as water levels, velocity (of the drive system/main driver), speed, and pressure. zenon clearly visualizes steam systems, heat exchangers, intake and outlet of water, drivers, operating mechanisms, rollers and passing machines in the overview window. The shredded spinach is then forwarded through the cooler. During this time, data regarding flow rate, pressure and any downtime of the pumps is recorded. Here, apart from the flow rate, it is also of the utmost importance to measure and record process temperatures. After the cool phase the product is pumped into the raw goods tank of the tank farm, where the fill levels of the tank and temperatures are measured and recorded. With the help of the zenon-based visualization, production employees can gather an overview of the tanks with

information regarding the respective product, and the status of the last clean of every tank is also evident. iglo produces the sauces for the vegetables in parallel running processes. Here, it is particularly important to monitor the dose size, cooking times and temperatures. During sauce production drying agents, such as herbs, and liquids, such as cream, need to be weighed, and their set and actual values compared, before the components of the sauce are joined in the premix process. The raw goods are pumped from the raw goods tanks in the tank farm to the mixing plant. The mixing plant ensures that raw goods and sauces are mixed in the desired proportions. Here, production employees need to pay particular attention to the mix proportion (the amounts), the temperatures and the pressure. The product is then transported to the finished goods tanks. The finished goods are then distributed across a pipe system, over so called „cross points“ (crossing elements, connecting elements) to the individual processing lines, whereby zenon monitors the pressure as well as the downtimes of the pumps here. The product is shock frozen in the processing lines and then goes to final packaging. zenon visualizes and monitors the flow rate of the product, the temperatures, the output and the fill levels. The bundle packing machine packs the products into sales units. These units are then transported to be palletized.

GUARANTEED HYGIENE IN FOOD PRODUCTION

In order to guarantee the shelf life of the product and therefore also the health of the consumer, hygiene must be flawless in the production plants. iglo fulfills the highest quality requirements in this respect and, by means of sophisticated cleaning cycles, guarantees that all machines and equipment components involved in production processes, such as tanks and pipe lines,



The zenon-based application provides employees at the iglo plant in Reken, Germany, with an overview of the tanks and their fill levels.

remain sterile and clean. Iglo has a total of 65 cleaning programs which lie within the zenon-based application. The company maps all of the cleaning cycles in zenon and can therefore monitor and control the flow and the concentration of the cleaning agents, the temperatures, and the cleaning times.

SEAMLESS DOCUMENTATION AND MAXIMUM SECURITY

In order to clearly display vital production metrics and to archive process data, iglo makes use of the Chronological Event List in zenon. The food manufacturer also utilizes the integrated user administration found in zenon, which enables each production employee to be assigned selective access rights. Every access can therefore be logged and tracked by means of a user signature. „We record all relevant process events and user activities in our Chronological Event List. This not only offers us the security of being able to track all production processes, but also guarantees that we can fulfill legal requirements and guidelines,“ Robert Mecking from iglo comments. This covers, amongst other things, process events such as value changes, exceeded limits or even network events. For example, iglo documents the cleaning and related data, such as cleaning temperatures or the cool tempera-

tures of the goods themselves. The company can also archive this information according to different criteria, and evaluate and compare it at a later time. All data is protected from subsequent changes and is thereby tamper-proof. iglo therefore fulfills all standards for the Food & Beverage industry, such as FDA 21, CFR Part 11 or the International Food Standards (IFS) and the HACCP concept (HACCP: Hazard Analysis and Critical Control Points).