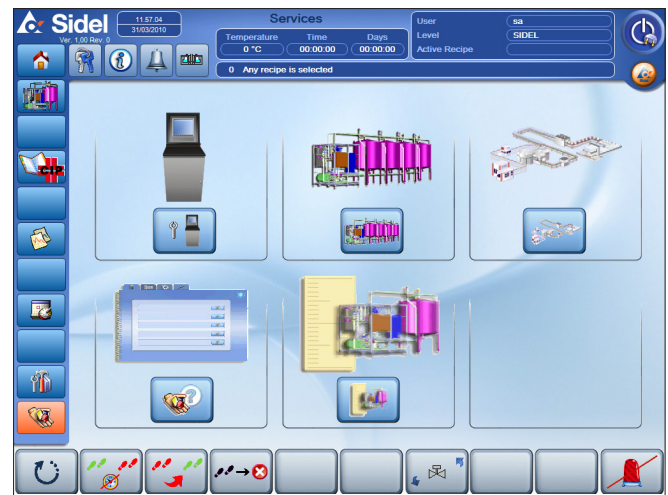




# The right interface for beer bottling

Sidel has supplied Carlsberg Italia with a complete line for the bottling and packaging of the beer produced at its Induno Olona facility. For the development of the man-machine interface on the line, the COPA-DATA zenon HMI was used; making the management of machines and formats simpler and more effective.



Sidel is one of the main global concerns for the supply of low environmental impact solutions to the beverage industry, with machines installed in 191 countries. As part of the Tetra Laval Group, Sidel has always contributed significantly to the development of the Food Industry through its innovations. Today, the company is capable of offering complete lines for the packaging of beverages in glass (either recyclable or deposit), cans and plastic (PET, PEHD, PP).

The modernisation of the Carlsberg Italia beer bottling plant at Induno Olona (VA) is one of the most interesting projects that Sidel has brought to conclusion in Italy. Historically, the site is one of the bottling facilities founded by Angelo Poretti as long ago as 1876, for the Industrie Poretti, and, at the end of the last century, it became Carlsberg Italia.

## A MULTI-PLATFORM, FLEXIBLE SOLUTION

At the Induno Olona beer bottling plant Carlsberg today produces nearly one

million five-hundred thousand hectolitres of beer under its brands Tuborg, Carlsberg, Splügen, Corona, Poretti, Castelemaine XXXX and others.

As well as its focus on the production of quality beer, a company that produces such a variety of beers has no choice but to also pay great attention to the bottling and the packaging of its products. Indeed, it is of fundamental importance that a fast, flexible and easy to use system be available for the rapid change of formats in order to best exploit the available resources. This is why Sidel, tasked with modernising this part of the bottling facilities, gave great attention to the choice of the software with which to develop the man-machine interface.

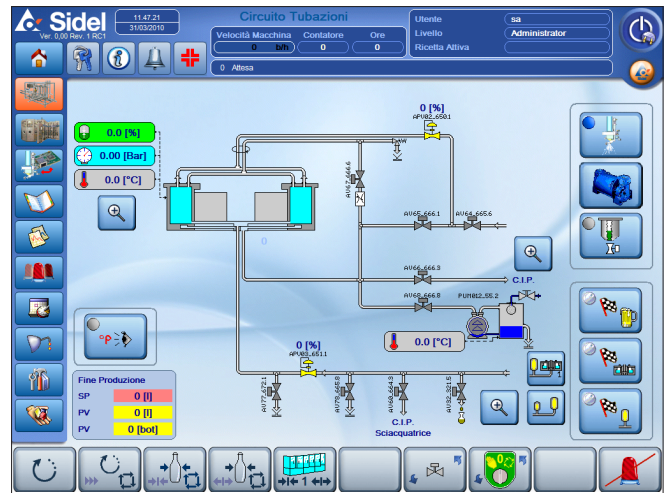
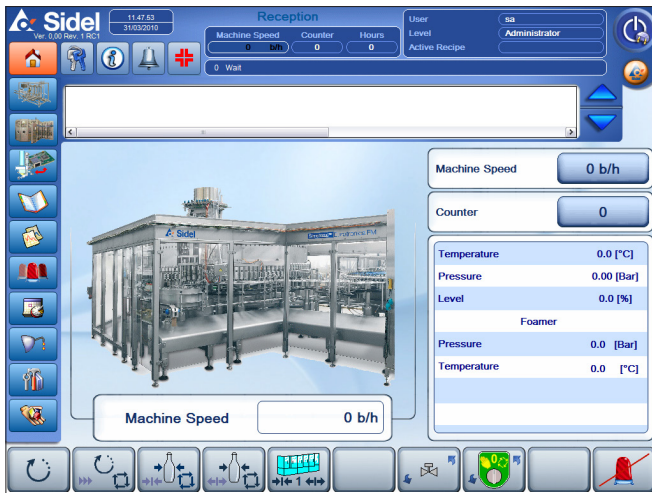
Paolo Gabelli, Automations Manager for the Sidel Technical Office (Product Care) in Parma recalls the beginning of the project: “We needed a multi-platform tool that would permit us to bring about our projects independent of the operating system installed on the supervision hardware which, according to the

different workstations, might be Windows CE or Windows XP, XP embedded, Vista or Server 2008”. In addition, Sidel wanted to obtain real software independence in terms of the different PLC systems that are found in the machines, whether they be Siemens, Rockwell, B&R or Elau.

The answer to these requirements came from zenon, the supervision and control software from COPA-DATA. “zenon is a truly multi-platform instrument, which has evolved over time and which enables ever more to be done with fewer resources”, adds Gabelli. “Furthermore, we have now got to know COPA-DATA’s impeccable technical support team, who have always supplied answers quickly and have won our trust over time”.

zenon has been used for both the central operator interface, which manages the entire system of conveyor belts, and for the local filler interfaces. “zenon has enabled us to implement all of the automatic functions that were of interest to this project. The system is easy to use





and intuitive – we were able to put the application together very quickly,” concludes Gabelli.

## SYSTEMATIC AND INTUITIVE VISUALIZATIONS

The approach adopted in the Carlsberg facility is fairly complex: in the final bottling phase, a double line is occupied, which is made up of two complete series of all of the machines (depalletizer, filler, labeler, etc.) until it reaches a single final packaging station.

Considering the complexity of this double line and the many possible machine combinations, it would be unthinkable to adopt the classical set up that puts a list of all of the possible permutations in front of the operator. “We decided to develop a simplified operator interface that would require the user to choose the machines and the formats to be applied using a graphical tool. It is the software that then selects the work flow that is transferred to the PLC” relates Dante Reverberi, Operator Interface Development Manager for the machines.

The HMI developed using zenon provides a visualization of the layout of the line and the status of all of its principal components; offering a topographic type visualization of the plant. By selecting the desired area on the graphical display, it is possible to control the status of the emergency buttons, the motors and the sensors with every level of detail needed.

“By selecting the outline of a machine, for example, it is possible to control the status of the signals exchanged between

that machine and the conveyor control panel. Or it is possible to select a motor in order to change its main operational parameters; the format, the formula and the logic conditions that determine speed, start up time and stop time can all be altered in this way,” explains Reverberi.

In addition, the Profibus network, to which all of the motors have been connected, is available to the HMI for control, facilitating complete diagnoses of the network.

Not least is the alarm management system. Reverberi continues: “The notification system is composed of alarms which generate a full safety stop of the machines, and simple events that only require the transmission of an advisory message to the operator. Furthermore, these alarms and events can be grouped and associated to the system component that is being controlled - be it motors, network or conveyor control panel”. This enables the operator to know immediately which zone the alarm is coming and what kind of alarm has been set off.”

Even the local interface of the two ‘twin’ fillers has been created using zenon to enable the local management of all of the operative functions of the machines. The most interesting thing, nevertheless, is that the supervision station for the fillers, thanks to zenon, is also capable of acting as a client for the central HMI. “In this way, the operator has the big advantage of being able to work, from a single central station, both locally on the filler and on the rest of the plant by exploiting the system client-server architecture,” observes Danilo Montini, HMI Product Care Manager for Sidel Parma.