



A Yokogawa Commitment to Industry

vigilance[™]

SUCCESS STORY

Control and regulation of a production plant Vetreria Etrusca

Location: Savona (surroundings of Genoa), Italy

Order Date: May 2001

Completion: November 2001

Industry: Glass



The Plant

Vetreria Etrusca, a well established company based in the Savona area (surroundings of Genoa), manufactures bottles of many sizes and shapes, from wine bottles and pots to "artistic" bottles.

Yokogawa Italia has supplied a CENTUM CS 1000 Distributed Control System (DCS), with the aim of improving productivity, reducing and making the production cycle more flexible and automatically.

CENTUM CS 1000 manages and controls each production phase, starting with control of the components mixture through the glass drop outlet; the system acquires and manages approximately 1000 analog and digital channels. Among them, machine status and scale weighing for the components mixture.

Installation

Yokogawa Italia delivered the DCS to Vetreria Etrusca in October 2001, replacing the old control hardware, cabling, etc. Activities started in November 2001.

Yokogawa's aim was to supply a distributed control system for the complete automation and control of a turnkey plant. The creation of the control algorithms for the mixing process was executed on the plant by Yokogawa personnel, in full agreement with the customer. The training sessions allowed the DCS users to reach full autonomy, in all phases of control, programming and re-programming of the system.

Plant Control

Through the accurate, continuous, and reliable control of production and of all related phases, the DCS (through control stations) allowed an improvement also of the quality. Glass coloring is executed by mixing the components and, since the control system is in place, speed has improved as well as precision and plant flexibility. This has brought economical benefits to the management.

"Thanks to the use of CENTUM CS 1000, I know exactly how much is produced and consumed." states Mr. Degli Esposti, Plant Manager of Vetreria Etrusca.

Before the DCS installation, any possible errors in weighting could influence quality variations in the glass being produced. Now, in real time and with constant precision, the product quality is stable.

Real time control on all plant parameters maintains a steady glass production speed. Accuracy and processing computation speed of Yokogawa DCS allows to limit any possible temperature variations in the plant furnace within a few degrees Celsius, which has brought a reduction of energy consumption and the optimization of furnace running.

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The control on components mixing is performed by the DCS, starting with direct measuring in the storage bins. It is therefore possible to know real time situation and to plan consumption. Consequently, it is possible to foresee, with a high degree of precision, the time for the procurement of raw materials, with doubtless improvements in the budget management and expenses allocation, thus reducing costs significantly.

Safety

The system's redundancy guarantees the safety of the production system: in case of any breakdown in the plant, CENTUM CS 1000 puts the furnace in a 'protected' condition by default, while waiting for human intervention. Any damage to the furnace is therefore avoided and solved.

System: CENTUM CS 1000
Total I/O: 600
System Configuration: 3 HIS, 3 PFCD