



SCADA Movicon helps to relax

Movicon has been chosen for the control of one of the main plant of a bathroom sanitary ceramic company in Turkey.

Omni Process Automation with its powerful team with 20 years of business experience in automation and industrial automation offers turnkey projects including mechanical systems. Solutions where the company is active generally include:

- Industry 4.0, Data Collection and Reporting (MES),
- Robotic Applications,
- Mechanical and Automation Industrial System Revisions,
- Mechanical installations included Automation Systems installations

One important bathroom ceramic company referred to Omni Process Automation for the implementation of the production plant.

Production Description

The plant is dedicated to the production of frits. Frits are produced from various combinations of raw materials that are fused into a vitreous or semi-vitreous substance.

The process consists of melting mixes of raw materials in special kilns, then pouring the mix into water and finally grinding it into a fine powder.

Although the fritting process is expensive there are many advantages to using frits in glazes, ceramics, etc. Some raw materials, such as Barium oxide, Strontium oxide, Lithium oxide, Zinc oxide, Sodium oxide, Calcium oxide and Magnesium oxide, are commonly used for special purpose production.

Production Plant Overview

The plant is made up of 21 silos and each of them has valves, motors and sensors. In addition there are installed three load cells in order to monitor the consumption of raw materials.

The silos can be grouped according to what they contain:

- 9 silos for the first load cell to store the raw material
- 6 silos for the second load cell to store the raw material
- 6 silos for Frit packing
- 4 silos for the mixture of the raw materials for the kilns

Plant can be roughly separated into two sections.

First one is dedicated to the production of Frit. In this section there is the silos installation, the batching proper to the recipes, the mixture of the raw materials and the transfer to the kiln silos.

The second section is dedicated to package of the frit. The frit loading and packing system is automatic and done according to 1000 kg bags or 50 kg bags.

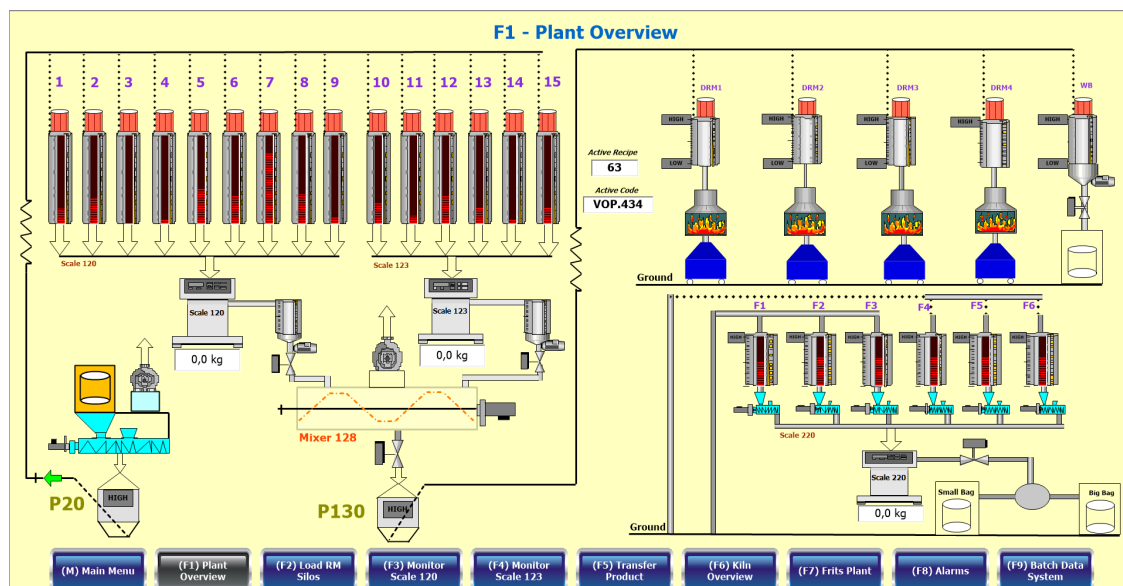
Movicon SCADA System

Thanks to FINS Ethernet protocol, Movicon communicates with the PLC, monitoring in

real-time the powders quantities that later are mixed together to get the correct compound according to the of produced product. In addition, each of the 21 silos, containing the raw materials, are equipped with motorized valves and three load cells. Those latter send the weight values to Movicon SCADA which compares them with the previously memorized recipes and checks that the parameters are respected, guaranteeing in this way a perfect final mixture.

The MES system memorizes the recipes in a SQL database where Movicon is collecting, storing in real-time the process data of different mixtures. These recipes contain not only single powder values but also the entry order and mixture time values. This management is extremely complex for the production and all is managed and supervised by Movicon, that once again shows to be a reliable SCADA solution.

When the mixture is ready, the production moves forward with the transportation of the mixture to the ovens. Thanks to Movicon, temperature and humidity monitoring values are historized in different data logger. The values can be exported in report that can be viewed by Production Managers to check that production process complies with the expected quality standards.



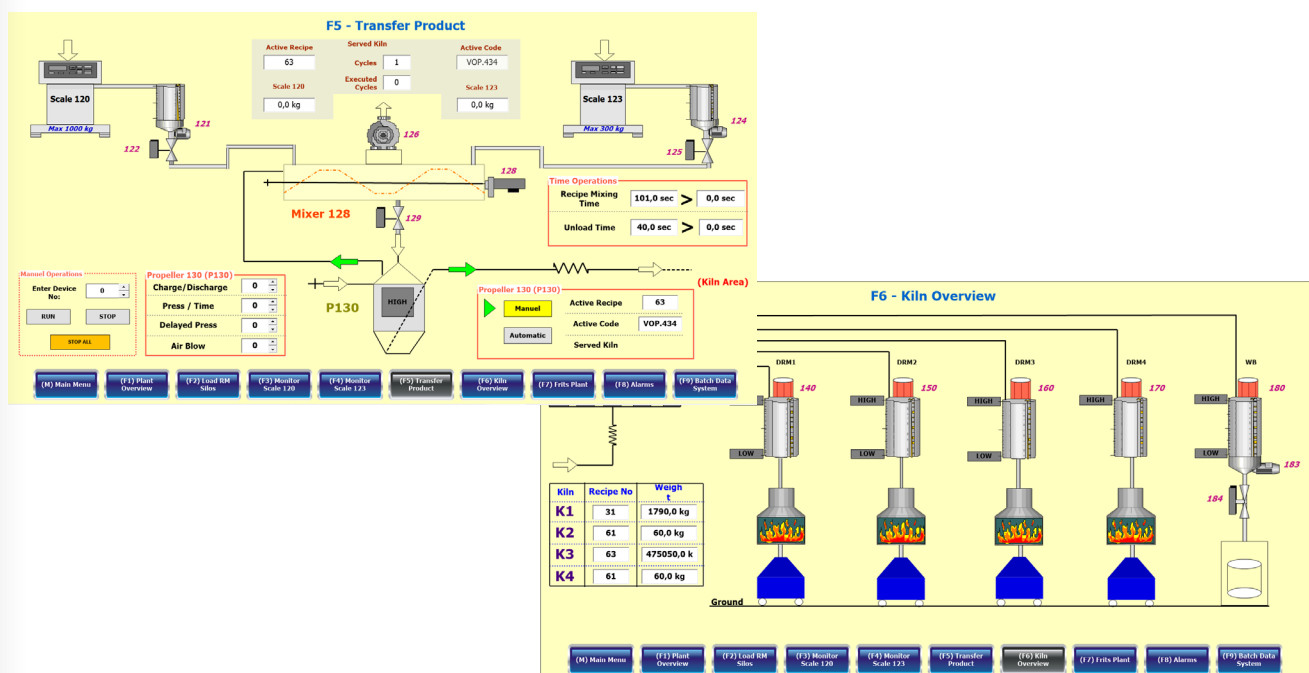
Movicon Benefits

“Several are the benefits of using Movicon” declares Okan Okumuş, Project Engineer of Omni Process Automation, “First of all, we appreciate the ease of use of Movicon SCADA system. This was a very important benefit as we noticed a relevant reduction of training time for the operators.”

Another important feature, that the end user appreciated, is the “One Click Operation” that allows the manual control and management for all the plants.

The errors and alarms readability is another element very useful for Production Manager together with the reporting system that allows to determine all input costs and production quantities.

“The main features appreciated both by Omni Process Automation and end user” continues Okan Okumuş, “is Movicon SCADA system scalability, that offers the feasibility to add new parts if needed with any change in the existing SCADA system. Moreover, the monitoring system of raw material quantities and silos levels were appreciated by the end user that can constantly check the production line, preventing downtimes.



“Movicon SCADA system constantly monitors the raw material quantities and silos levels and checks the production plant preventing downtimes.

Okan Okumuş - Project Engineer
Omni Process Automation