# The revolutionary technology of Movicon in cement manufacturing plants

Elettrondata automates enormous cement storage and sales outlet facilities in Poland using Progea's Movicon 11 supervision software.

Elettrondata has been design engineering and developing technology to optimize and automate plants that produce building materials since 1973. Elettrondata started its activity as manufacturers of electromechanical control panels, electrical installations and purpose-built electronic boards. They anticipated trends by developing software applications for machine and plant automation with insight on how they could gain from the opportunities made available by the emerging digital technologies based on microprocessors. Later on in the eighties, with the arrival of personal computers and

PLCs, they were able to anticipate the epic change in the world concerning the way automation and control systems were being conceived. Today Elettrondata boasts thousands of successful installations for important world leading companies, both in Italy and abroad, that has earnt them a consensus and trust from their customers. The market in which Elettrondata operates generally consists of mechanic manufacturers who use their product as a guarantee of technology and know-how. Elettrondata provide technical support to clients using
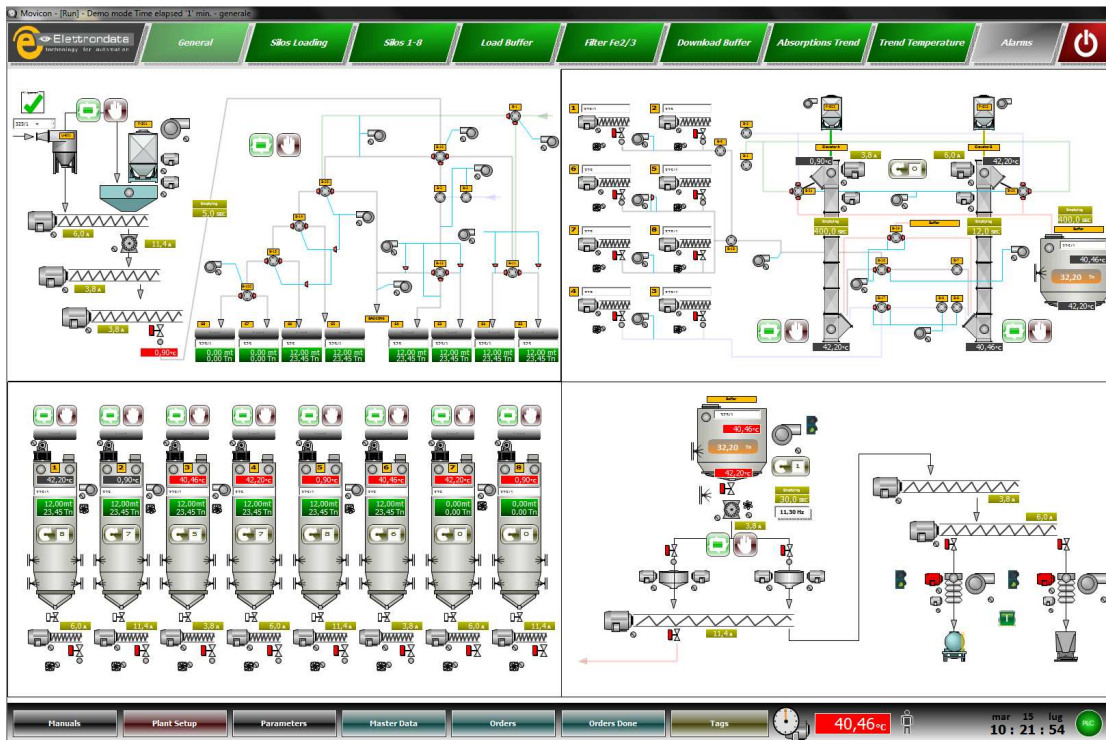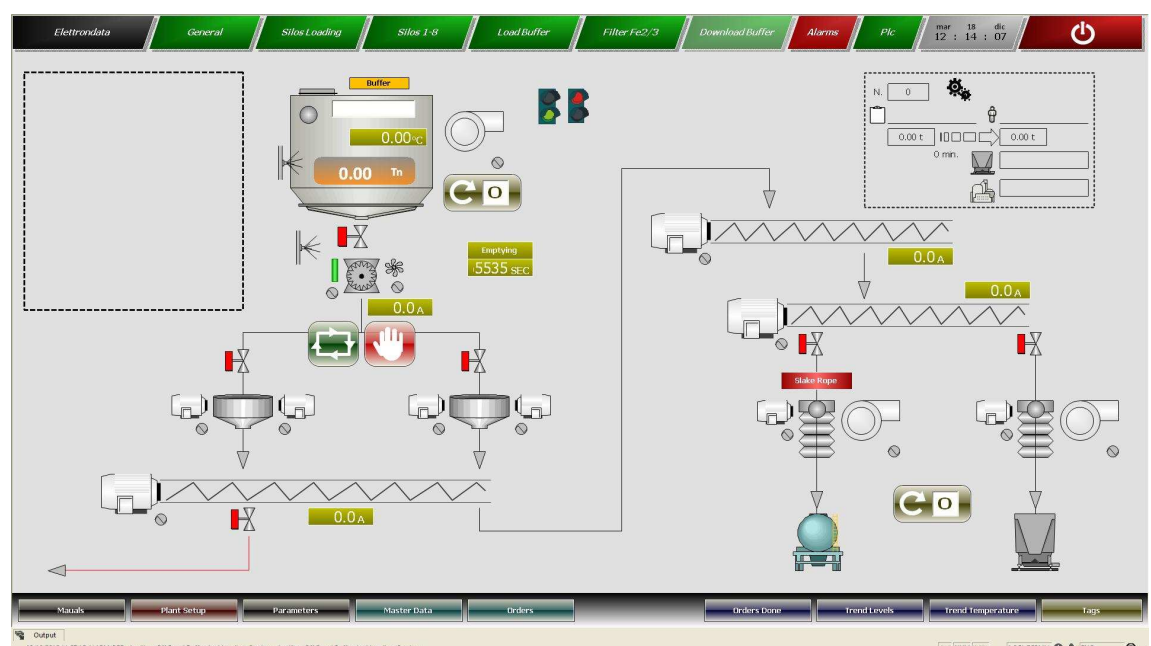
1. A Movicon 11 home screen page

opened a plant for storing and selling cement in Poland. Elettrondata, a system integrator company from Modena, has developed a supervision system using the Movicon 11 software created by Progea. The system is composed of a server installed with the Movicon 11 supervision, a

systems that need to be adjusted, modified or revamped by maintaining a close relationship with them and their design engineering and development department. Elettrondata mainly automates plants that use production systems to manufacture concrete, premixing of raw materials, batch dosing and continuous blending systems, animal feed, cement, foam, Biomass and Biogas.

Client PC, two touch screen workstations and a tablet that communicates with Wifi and is used in the plant as a maintenance unit and to operate manual controls. All the collected process data is recorded and stored on Ms Sql server database to be used for subsequent analysis. Due to the huge size of the plant, the maintenance workers can

The project-based automation solution

The company for which the application was developed is part of a big Italian premix production group that has

2. Movicon download buffer screen
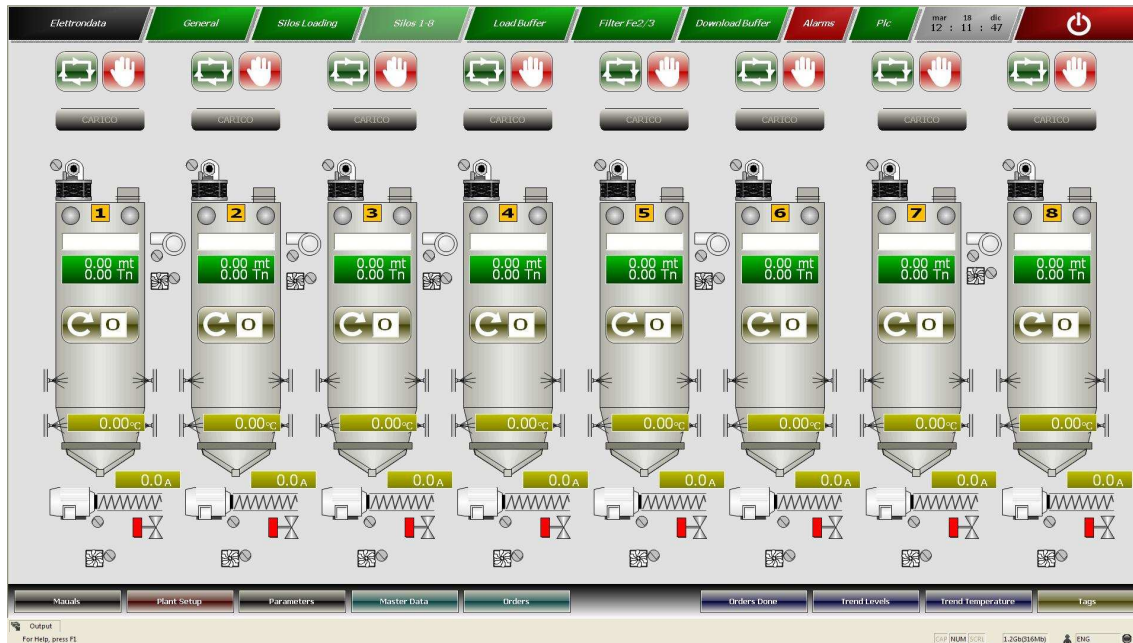
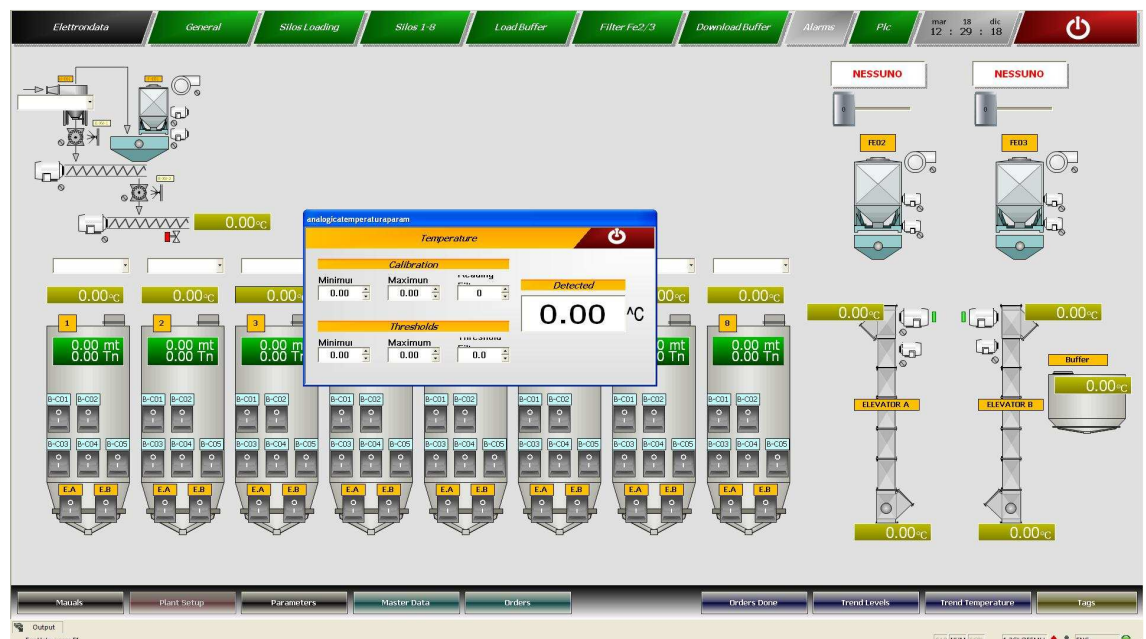*3. Snapshot of a screen displaying the plant's 8 silos*

exchanging data with the managerial system. The plant works 24 hours a day nonstop and can produce up to 700 tons of material a day. Production management can consult the various types of reports on production quality, historical data, process cycles and machine use in order to optimize production performances. Movicon 11 also enables simultaneous issuing of waybill documentation the moment material is unloaded for shipment. In addition to being identical for all clients the operator interface also provides a selection of five different languages. Any one of these languages can be changed and activated immediately in

operate the machine to function in automatic and perform maintenance work directly from the tablet.

Upstream in the plant a mill continuously supplies cement to the storage silos. These silos are so big that it takes more than a month to fill one of them. The SCADA system has a series of controls that are used to configure the all or parts of the plant as required by the client's needs. The stored cement is unloaded using a buffer and sold according to orders received from customers using two touch screen control workstations. The supervision system also manages billing and business administration data by interfacing and

4. Temperatures of each silos

runtime and in development mode rendering the Movicon project completely international. In addition, the interface comes with the screen zooming and panning features that can be used both on touch-screens and PCs. The Pan function permits operators to move and drag the area within the maximized screen. The Movicon Networking feature can be shared between parent projects installed on the Server and child projects residing on Clients. The parent project consents field resource and product data sharing. The child projects are configured according to the job they are needed for: production, sales and maintenance.

The client's multiple and varied demands included:

- Interchangeability of the storage silos
- Recycling of dust collected in the filters and placed in the storage silos
- Exchange of elevators and material passageways
- Managerial system interface to collect client data profiles and other data regarding costs
- Ricipient and transport method data that can be modified from any supervisor screen page
- Option to change quantities to be unloaded while running an unload process cycle
- Option to stop different areas of the plant to carry out maintenance
- Energy consumption Reports
- Overall equipment effectiveness reports to detect inefficiencies and improve production efficiency with three language options: Italian, English and Polish

The clients also asked this project to be developed with Progea's Movicon 11 for its flexibility and openness to future integration. In addition Movicon's userfriendly graphics help different shift operators to use the system the in best way possible.

As confirmed by Bandoli Mauro: "Progea's Movicon adapts perfectly to our needs both in terms of development flexibility and system stability. Furthermore, it can be integrated with other systems such as those used for exchanging data for managerial purposes."

Brandoli Mauro

Elettrondata Srl