Movicon.NExT for clay mining

Matica S.r.l. from Sassari revamps clay extraction plant in Sardegna

Matica S.r.l. is a company that has been operating in the world of system integration and application development for over fifteen years. Their vast know-how in applications, which range from machinery, such as stackers, reclaimers, unloaders and cable reelers to process plant production lines with or without the anthropomorphic robots, has permitted them to design engineer and develop unique solutions.

Matica has always been synonymous with production plant applied 'technology'. Their immense expertise in the industrial sector combined with their Know How guarantee their ability to offer applications with the best solutions in plant engineering. The project was developed in accordance with predefined phases. The first phase covered the preliminary and feasibility analysis. This was then followed by evaluating costs and advantages offered by the candidate solutions. Once these had been assessed the project could then be processed. Matica operates in several divisions:

- The engineering division to create automation systems and plants in the world of industrial processes, operating machines, raw material transformation processes, production lines with robots, palletizing line with robots and bottling process lines.
- The process instrumentation division to offer verification and calibration services in the field and at their premises.
- The Systems division to design engineer and develop electro-instrumental and mechanical systems. Offers support to commissioning and instrumental verification in electrical systems, fiber optic data networks and copper data networks.
- The Management division to manage process systems, air-conditioning, thermal and

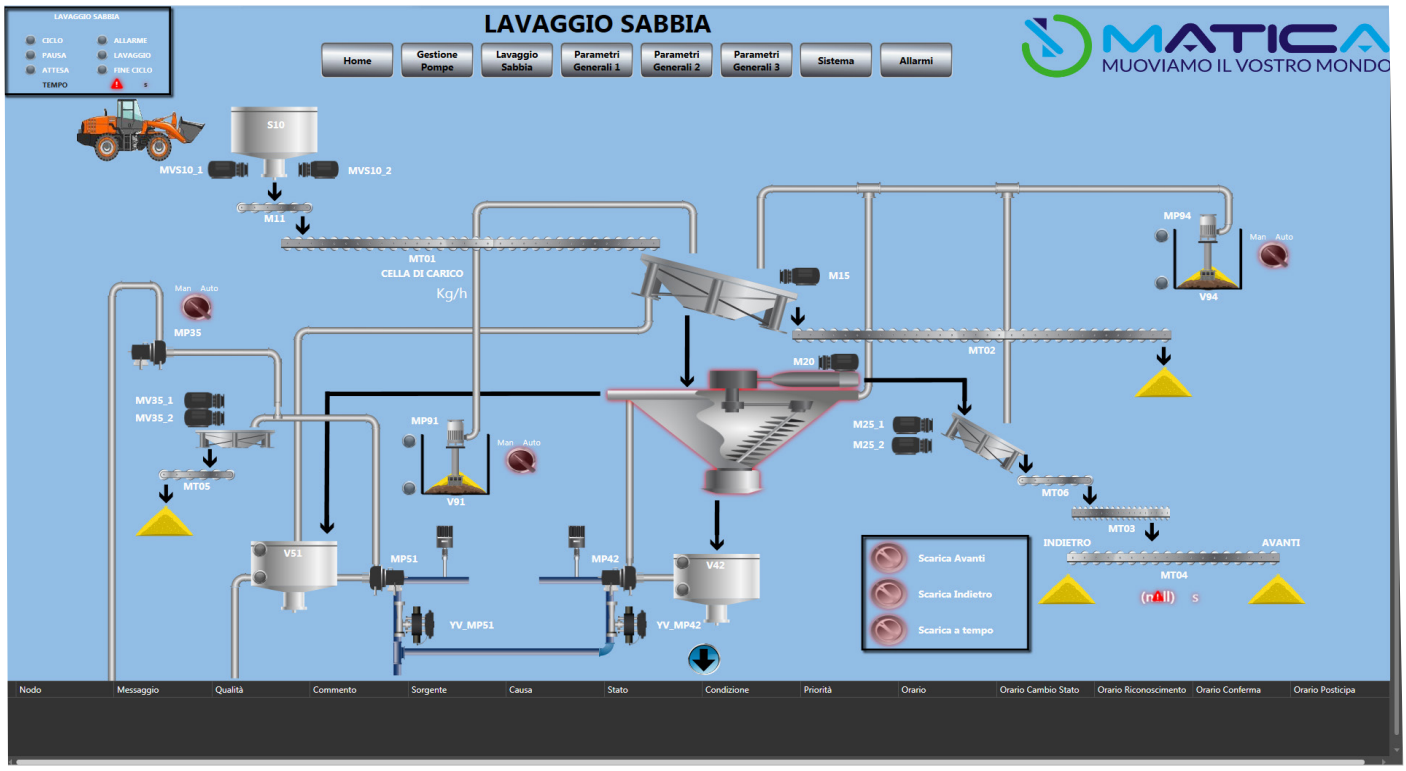
refrigeration systems (third party)
Svimisa S.p.A. is a mining company that has been operating in Sardinia since 1958 to extract, produce and sell raw materials to the ceramics and refractory industries. Its mining activities are currently focused on two sites, the Funtan Piroi Mine in Escalaplano (CA) and the Molin Falzu Mine in Ardara (SS). In these two important Mining Concessions authorized with cultivation until 2028, SVIMISA extracts and sells Clay, Feldspathic Sands and Bentonite for ceramic mixtures of single-fired and monoporous technical and Glazed Porcelain stoneware and for other multiple needs of the ceramic and refactory industry. SVIMISA extracts and moves the raw material using cutting-edge machinery. It also provides regular training for its personnel to keep them updated with technical working methods and trends and invests in the modernization and efficient running of its quarries and in the operational infrastructure of its mining sites. The excavated raw material products are transported to various destinations.

Replacing the old SCADA

The Svimisa clay pit and production plant was controlled by a proprietary SCADA developed in Visual C that had become obsolete and too difficult to modify. For this reason and to prevent

"The planning and replacement of old machinery with modern machinery based on a different concept, meant that we also had to realign the automation system. This was when we realized how inadequate the system we were using was. It took us ages to implement even the smallest of modifications. In order to make full use of the advantages offered by modern automation systems and above all their flexibility, we chose to migrate to the Movicon.NExT platform".

Fabio Fraternale
Technical Director of Matica S.r.l.



any undesirable situations from happening, they decided to revamp their system by using a commercialized SCADA. Their choice fell on Progea's Movicon.NExT. The application with its user license was installed on a virtue machine so that the old SCADA could migrate without causing any delays or downtimes in production. This decision turned out to be a winner and permitted Svimisa S.p.A. to continue production while the Matica technicians proceeded with installing and test running the application's functions.

Thanks to the flexibility of the graphical interface, it was easy to replicate the functions associated to the right and left mouse keys. In this way, the operators did not have to change the way in which they were used to working.

System architecture

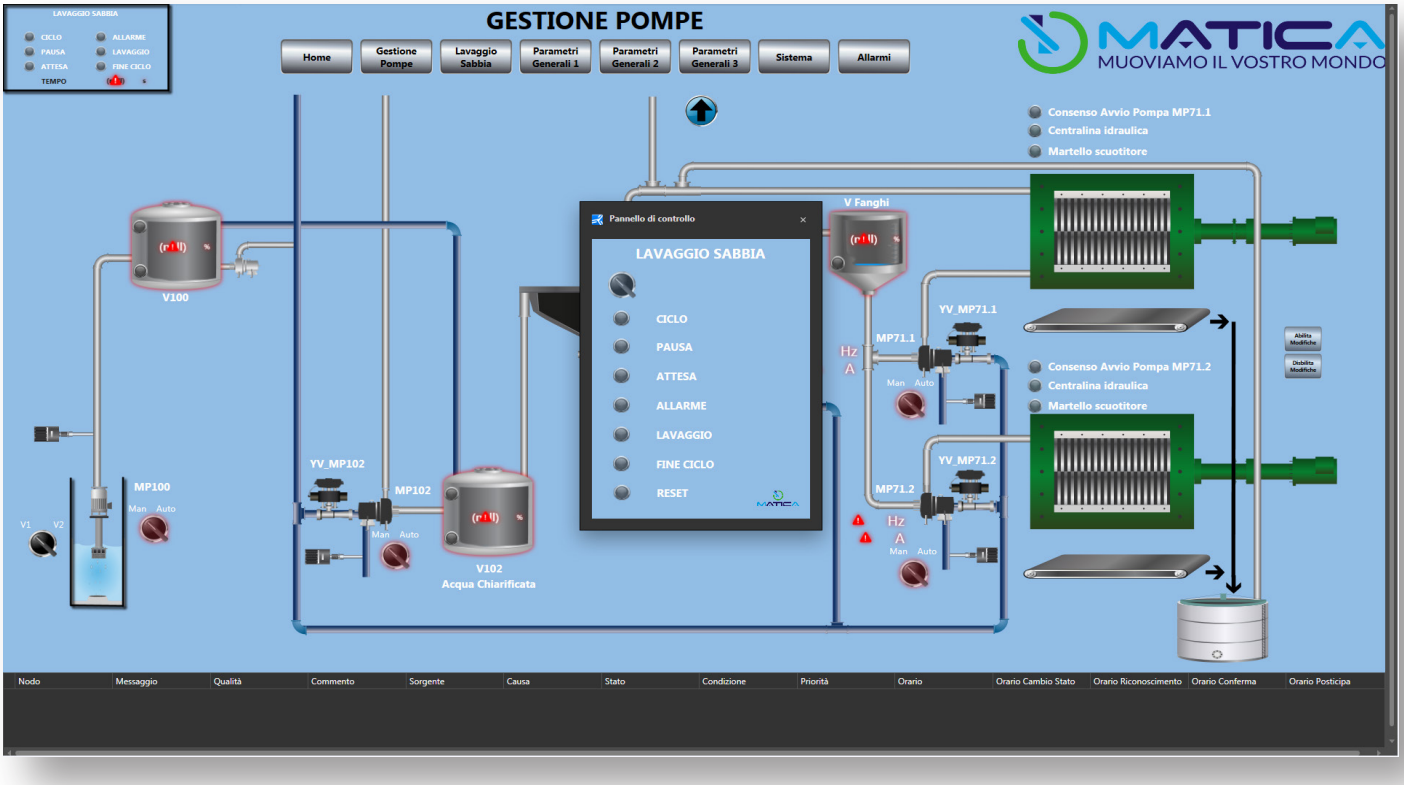
The process plant system is divided into different sections for each process. Firstly, it prepares water taken from different sources, according to demand and cost, and then passes it through a clarifier during the extracted slurry presser process. Afterwards, it is used in the screening and transformation process, which involves screens and other dedicated machinery, to transform the aggregates extracted from the quarry into the end product.
The Movicon.NExT SCADA communicates, through the Ethernet network, with an Omron CPU equipped with an input and output card. Furthermore, another two remote nodes are located at a distance from the CPU and each other and are interconnected on a Profibus network.

The Movicon.NExT architecture is particularly appreciated for its performance and ability to combine reliability with a low usage of machine resources. This is what made it possible to install it on the virtue machine that was using the same host machine where the SCADA was being replaced. It was also able to run smoothly during client connection sessions as well.

Progea's support service is impeccable and assisted our developers throughout each setup stage.
This is a great advantage for those developing applications like these. To have someone who is ready to listen and help clients with their every need is just as important as the product itself.

Why use Movicon.NexT?

There various preset and accomplished targets were:



The homepage has been designed to limit the changing of the pages needed for the normal use of production processes, safeguarding the method of interaction now consolidated between the operator and the interface. The shortcuts associated to the mouse keys were kept the same as before.

Movicon.NExT

The flexible and modular solution for every type of application.

- To obtain a SCADA that was easy to configure and dynamic enough to align the system with the times.
- To avoid production downtimes while migrating to the new system with the possibility to return to the original system if need be.
- To setup remote workstations with the possibility to extend in number as needed.
- To have an easily expandable platform (the license was upgraded in October)
- To have direct contact with the platform builders whenever needed.

The project went into action in April 2018 and terminated in October 2018.

Fabio Fraternale
Matica S.r.l. Technical Director