Gamba Automazioni's SUPER-FLASH challenge

from Scada to the centralized biomethane control system

SUPER-FLASH software development at the highest level. **Gamba Automazioni**'s decision to adapt it to different production needs by relying on Automa's Italian reliability. The Piedmont-based company's insight to take Super-Flash beyond the HMI (human-machine interface) and SCADA (Supervisory Control and Data Acquisition), harnessing its full potential in the CENTRALIZED SUPERVISOR, capable of offering an even higher level of data control, particularly in biomethane plants.

Gamba Automazioni's decades-long experience in industrial automation has been anchored since the mid-1990s by the use of Automa's SUPER-FLASH software in increasingly advanced applications, adapted in ever-changing ways, right up to Industry 5.0 production processes.

GAMBA AUTOMAZIONI FOR INDUSTRY

Since 1976, **Gamba Automazioni** has been helping companies easily manage even the most complex production processes, offering comprehensive development of the entire production cycle and creating solutions for every type of manufacturing operation.
Based in Riva near Chieri (Turin), the company provides 360° automation services, designing and manufacturing electrical panels, and developing PLC software as well as HMI and SCADA interfaces. It creates applications for processing data related to the production process, ranging from traceability and warehouse management to the generation of data for Industry 5.0. The company also provides programming and applications in the field of robotics.

Gamba Automazioni provides services to the food, chemical, and feed industries, as well as the biogas and biomethane sectors, in the fields of packaging, industrial machinery, and logistics. The company offers customized solutions and ongoing support to each client.

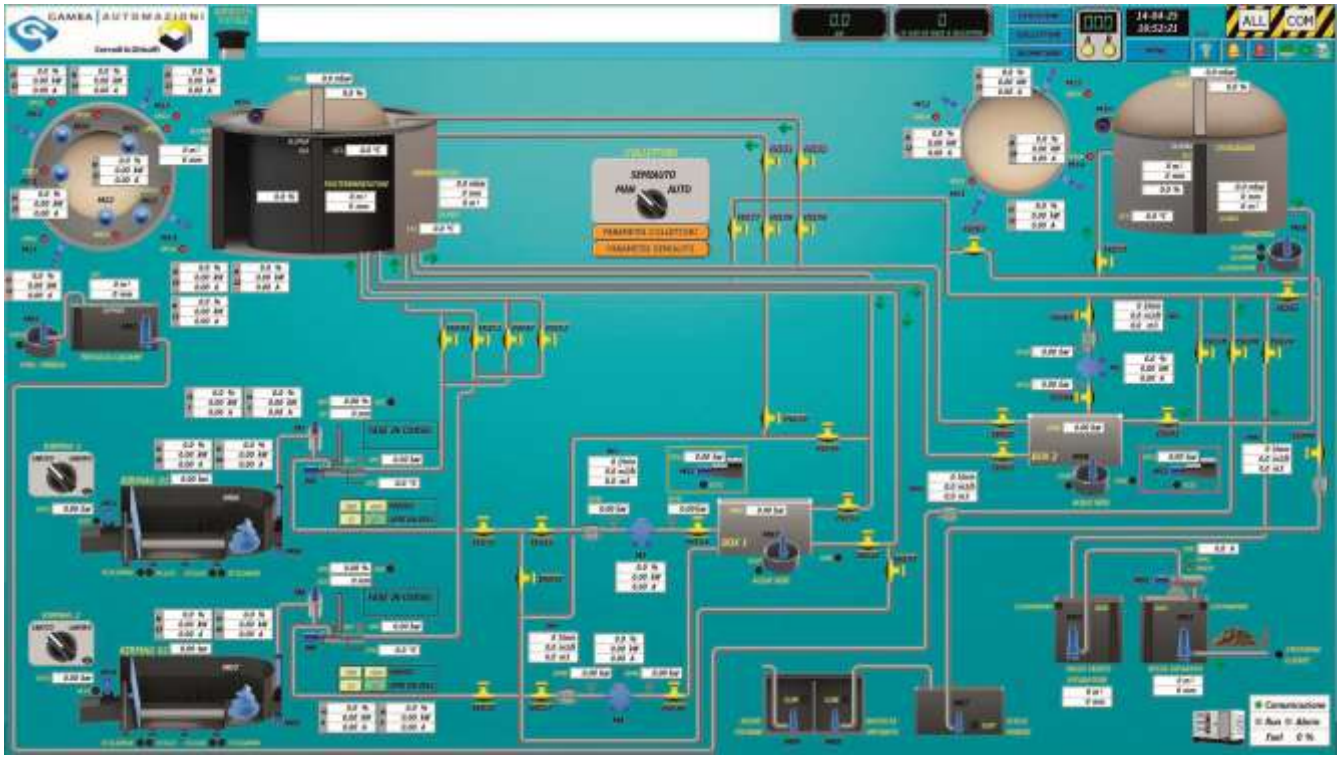
THE CHOICE OF SUPER-FLASH

Gamba Automazioni's commitment to Super-Flash runs deep. It was 1997 when a young Andrea Dioguardi joined the company, fresh out of high school and enrolled in the Department of Electrical Engineering at the Polytechnic University of Turin. « *Marco Ronco sat me down at a desk and handed me a box of SUPER-FLASH disks: I had to study it and figure out how to use it," recalls Dioguardi, who is now one of the owners of Gamba Automazioni alongside Marco Ronco, Walter Vergnano, and Riccardo Dioguardi. "SUPER-FLASH has evolved over the years, thanks to Automa's expertise, and has allowed us to use it in all production processes, from food and feed to packaging. It's a comprehensive software solution capable of keeping pace with increasingly advanced systems.* ».

SUPER-FLASH FOR BIOMETHANE

Gamba has chosen to use SUPER-FLASH, with specific development tailored to biomethane plants. This evolution was achieved **by working side by side with Corradi & Ghisolfi, a Lombardy-based company and Italian leader in the design and construction of biogas plants** (48 of which were built in collaboration with Gamba Automazioni) and biomethane plants (12 of which were built in collaboration with Gamba Automazioni).

Over the years, **Gamba Automazioni has developed in-house libraries and modules integrated into its SCADA software**, maximizing the use of SUPER-FLASH and achieving an unparalleled level of performance. This strength has further solidified the **partnership with Corradi & Ghisolfi**, with whom the company from Riva is currently planning around thirty biomethane plants, some new and others converted from biogas



THE CENTRALIZED SUPERVISOR

Gamba Automazioni's experience with SUPER-FLASH has enabled the company not only to provide an optimal SCADA solution for plant control, but much more. In a biomethane plant, in addition to managing digesters, tanks, and mixers for livestock waste such as slurry, manure, and olive pomace, the SUPER-FLASH-based applications also offer a **CENTRALIZED SUPERVISOR** that goes beyond SCADA—a "**conductor**" capable of collecting and monitoring all data from the partners involved in the plant

This is an indispensable tool for the company to monitor electricity cogeneration for self-consumption, upgrading (i.e., gas purification), the gas compression booster, quality control, and gas measurements in the Remi cabin, which precedes injection into the Snam network.

The **CENTRALIZED SUPERVISOR** developed by Gamba Automazioni allows the company to monitor the entire production process—not just the biological one—**to obtain the most comprehensive overview (MES) without needing to purchase additional applications from software vendors, thereby providing all the necessary data to the ERP**.

A PARTNER FOR SUSTAINABILITY

This makes it possible to export all process data in real time—data that is critical to monitor, especially in a biomethane plant. One of its key features is **sustainability, as it must ensure an 80% reduction in CO2 emissions that the raw materials used would otherwise have released into the atmosphere**.

For biomethane plants, therefore, it is not enough to simply report the final treatment result; periodic checks must be conducted, and real-time sustainability data must also be generated. The **CENTRALIZED SUPERVISOR is the solution** capable of ensuring constant and comprehensive monitoring. To this end, Gamba Automazioni provides each customer with a visual interface for HMI and SCADA control of the plant, analysis of all energy parameters, and dynamic data export in the formats most suitable for the customer.

THE PLANT'S DAY-TO-DAY LIFE

The **CENTRALIZED SUPERVISOR** provides **a comprehensive overview of the entire life cycle of the biomethane plant**, which spans approximately 15 years. For each operating day, the quantity and quality of the incoming feedstock are recorded, as well as the amount of digestate, which is converted into natural fertilizer in solid or liquid form. Complete data is also provided on electricity and heat production and consumption, the quality of the gas produced, and the metering of quantities fed into the grid.