Ente Autonomo Volturno

Naples, Italy

Ente Autonomo Volturno Control Room

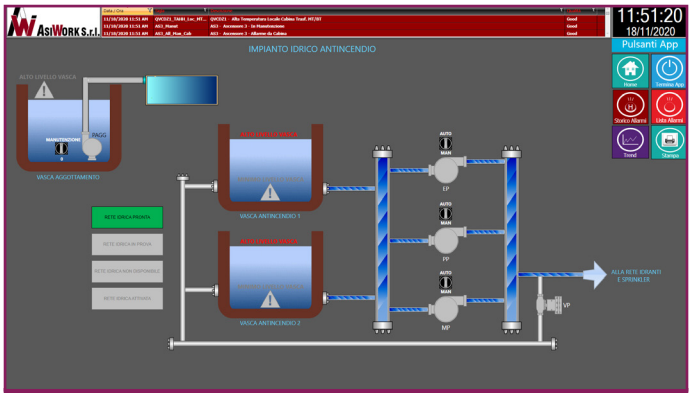
About Ente Autonomo Volturno

The Ente Autonomo Volturno (EAV) or the Volturnean Autonomous Agency was founded in 1899 as a hydroelectric power company. In 2001, EAV became a regional holding company for public transport companies. Ten years later, the regional government of Campania decided to merge the railway companies SFSM, SEPSA, and MetroCampania NordEst with the holding company to form the new transport company EAV. The merger was completed in 2012. Today, EAV is fully owned by the Italian Campania region and manages the ex-Circumvesuviana narrow-gauge network, the standard-gauge ex-SEPSA, and the ex-Alifana/ MetroCampania NordEst lines. Additionally, the EAV took over other transport companies in the Naples area to operate the suburban railways, the Arcobaleno metro line, several bus lines, and a funicular (cable railroad).

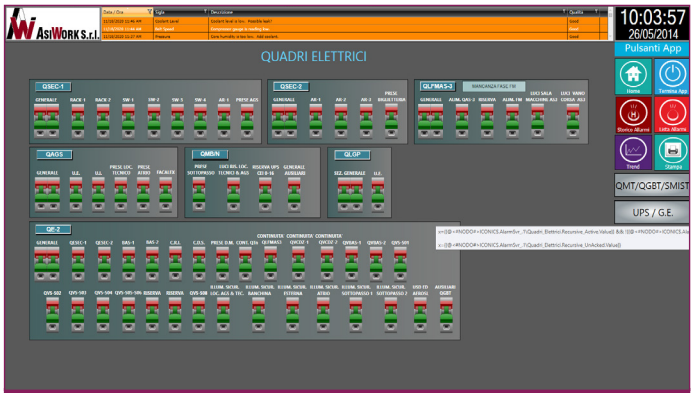
Project Summary

EAV wanted to integrate all subsystems in the stations like the fire alarm system, closed circuit TV diagnostic, security access diagnostic, escalators, elevators, electrical cabinets, etc., into one SCADA system. Therefore, the EAV needed an automation system and the accompanying software that could keep track of all the data and that could provide superior visualization capabilities to help its personnel manage and control all operations.

The agency chose system integrator and design consultant AsiWork S.r.l. to be responsible for the design and specification of the automation system along with the installation, configuration, commissioning, and service of this system. Located in Rome, Italy, AsiWork develops efficient and functional operational systems and is comprised of experienced experts in many industrial fields and in infrastructure areas



Water System Overview



Switchboard Control Panel

including railway stations, subways, tunnels, and buildings. As for the automation software system, AsiWork chose ICONICS because they have been working with the company since 1987, so they know and trust the company and its software.

The project with EAV has been continually evolving since 2012. AsiWork provided a SCADA system related to several railway stations of the Naples "Circumflegrea" line. The project includes planned upgrades, implementations, and additions to other stations incorporating the "Circumflegrea and Cumana" lines of the city. To date, AsiWork has designed, built, and installed the SCADA systems for the Pianura, La Trencia, Traiano, Soccavo, and Montesanto stations. The project involved the engineering of the entire SCADA system, configuration of PLCs, construction of automation and control panels, configuration of supervision systems with the creation of video pages, and alarms and trends for local and remote operational management.

The project began with ICONICS GENESIS32™, interfacing with the ABB PLCs and the various station systems such as fire control panels, access control, CCTV, gates, ticketing, escalators, and elevators, etc. with the various OPC protocols made available by the ICONICS products and with the serial Modbus, Modbus TCP, and web services. In 2015, AsiWork proposed an ICONICS software upgrade to EAV which included upgrading from GENESIS32 to GENESIS64 supervisory control, with the replacement of the PC hardware and CPUs related to ABB PLCs.

Using the tools made available by ICONICS for the upgrade, the transition to GENESIS64 took place easily and successfully, without any difficulty. Currently, there are five railway stations built with architectures with a local server or with client–server architectures, depending on the size of the station. Moreover, for the centralized supervision of the railway stations, a GENESIS64 development station was created and installed on a virtual server with the addition of subsequent WebHMI licenses to the EAV control center located in Piazza Garibaldi. The total hardware and software data points monitored by the GENESIS64 system each day is approximately 4000 tags.

Elevator System Overview

ICONICS Products Deployed

- GENESIS32
- GENESIS64
- OPC Modbus Ethernet ICONICS

Realized Real-Time Benefits

The Ente Autonomo Volturno realized real-time benefits. They are now able to remotely monitor and control all the stations resulting in increased safety and operational efficiency of rail stations. Moreover, thanks to WebHMI, maintenance managers can view alarms and anomalies for any given station from their office computers, allowing them to alert the most suitable emergency personnel to the type of alarm or anomaly for a much more efficient use of resources. Lastly, the exclusive use of ICONICS GENESIS64 has allowed AsiWork to optimize the deployment times.

Conclusion

Future Ente Autonomo Volturno projects include the implementation of other SCADA systems for railway stations of the Cuman and Circumflegrea lines. For 2022, they plan to build and install a SCADA system for the Monte Sant'Angelo station (adding approximately 2000 more data points) and subsequently the Baia station on the Cumana railway line. Currently AsiWork is actively participating in the engineering and system architecture of other railway and metro stations in Naples, to be realized in the coming years.

> "ICONICS GENESIS64 is a great software for fast and reliable integration."
>
> **Marco Cipriani,**
> Project & Engineering Manager