Rome Metro S.p.A.
Rome, Italy

Met.Ro.
Metropolitana di Roma s.p.a.

A Stop Along the
Met.Ro. Rail Line

Rome Metro Line Overview

> *"The ICONICS system has substantially reduced the length of time of subsystems failures because of the efficient data visualization capabilities and early notifications."*
>
> **Rome Metro S.p.A.**

About Rome Metro S.p.A.

The Rome (Met.Ro.) local government organization runs the Metropolitan Rome rail and surface bus lines within the city of Rome, Italy. They also operate some regional bus lines as well. There are two main metro rail lines with a total of 53 stations that are served. A third line with 34 additional stations is being built currently. Each line is approximately 22 km in length.

ICONICS Software Deployed

Met.Ro. – Metro Rome selected ICONICS GENESIS32™ (GraphWorX™32, TrendWorX™32, AlarmWorX™32 and ScriptWorX™32) to implement on their first of three rail lines. They are using GENESIS32™ to monitor and control the metro line from a centralized location. The software system also provides alarm notification for the

coordination of emergency actions. The software was designed and installed by Automation Services S.r.L., a systems integrator, and was implemented over a two-year period.

Key Features

The ICONICS GENESIS32™ software suite incorporates smart symbols that were used by Metro Rome to automatically create large portions of their graphic screens. The import / export tools in the software suite allowed Metro Rome to create configuration databases using Microsoft Excel™ and other text processors. Also provided were global (multiple-file) search/replace features that enabled Metro Rome to update hundreds of graphic files automatically. The Metro Rome control system is based upon 70 ABB PLCs in a distributed architecture with interlocking logic executed upon alarm notification. Locally, the subsystems are connected via Modbus RTU. The system has 8 GENESIS32 nodes, 7 alarm servers and 6 browser nodes. Over 7,000 digital and 500 analog tags are incorporated. The GENESIS32 system monitors 3,000 alarms that are both centralized and distributed across the station network for operator intervention.

Project Summary

ICONICS GENESIS32 software system was installed at Metro Rome to centralize security monitoring and provide the status of auxiliary equipment at each of the remote stations on the rail line. The types of auxiliary equipment being monitored include ventilation systems, fire systems, moving stairs, elevators, normal and emergency lighting systems, uninterrupted power supplies, inverters etc. The software system also provided the ability to coordinate emergency actions in case of fire in the stations to enable the necessary operational strategies of ventilation systems that had to be coordinated with the moving stairs and elevators at such affected stations on the rail line.

Plans for future expansion of the installed software system include the ability to perform diagnostic functions by operators of the subsystems at the individual stations upon alarm notification prior to elevating the emergency further, providing public information to their customers and connecting ticket counters and emergency phones. Overall, Metro Rome has increased the rail system efficiency and operational uptime performance with the use of the ICONICS GENESIS32 software system with early notification of subsystem failures, which afforded timely resolution of any problems reported.

Ventilation Monitoring and Control for Rome Metro S.p.A.

Station Overview Screen

After the installation and extensive system testing, modifications to their complex logic of system interconnects for emergency notifications identified the most common alarms and their causes, enabling Metro Rome to better organize their responses.

Benefits of the System

The ICONICS GENESIS32 software system connects with a Metro Rome mainframe computer via a WAN which communicates data using OPC at 2 Mb/sec. Operational data is collected from the software system for evaluation, trending and analysis for the modification of the Metro Rome implementation of alarm notifications.

Conclusion

ICONICS has worked closely with Metro Rome to make this transportation management project successful. Metro Rome participates in the ICONICS SupportWorX maintenance program to keep its software updated and for access to technical support personnel as needed.

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