

Galleria Civica d'Arte Moderna e Contemporanea Torino (GAM)

Advanced automation system helps protect city's art treasures.



The exterior of the Galleria Civica d'Arte Moderna, Turin, Italy.

In 1863, the northern city of Turin (It. Torino) became the first Italian city to open a museum dedicated to contemporary art. After its initial location was destroyed in bombings during World War II, the collection was moved to a striking example of mid-century modern architecture designed by Carlo Bassi and Goffredo Boschetti and inaugurated in 1959. Beginning in the early 1980's, the building underwent a long period of considerable renovations and expansions, finally reopening to the public in 1993.

The museum's vast collection consists of more than 45,000 works, including paintings, sculpture, installations and photographs, as well as an extensive design collection and one of the most important film and artistic video archives in Europe. Today, the museum complex encompasses permanent collection galleries, temporary exhibition halls, a library, space for educational activities, a sculpture garden and more.

The Challenge

To ensure the long-term safety and protection of its works of art, visitors and employees, the GAM needed to upgrade the management of some of its critical systems, including security, fire detection, intrusion prevention, video surveillance (CCTV), emergency exits, 18 air treatment units

(HVAC), cooling towers and thermal power station, refrigerators and electrical cabinets.

The City of Turin has entrusted the management of the gallery's facilities to regional energy company Azienda Energetica Metropolitana (AEM), and tasked them with implementing improvements to the museum's security and control systems. AEM, in turn, looked to our valued integration partner, PB Automation, to help them design and implement a solution that would meet the GAM's specific requirements.

The GAM needed an extremely reliable supervision and control system that also possessed a great deal of flexibility and scalability. In addition, they looked for a system that met the following criteria:

- Graphics capabilities and the ability to import graphical maps in .dxf format
- Real-time operation
- Full redundancy integrated into the system
- Simple and intuitive user interface
- Network management potential
- Database management (ODBC etc.)
- Availability of communications drivers for the principal products on the market
- Flexibility to create drivers for proprietary products

The Challenge

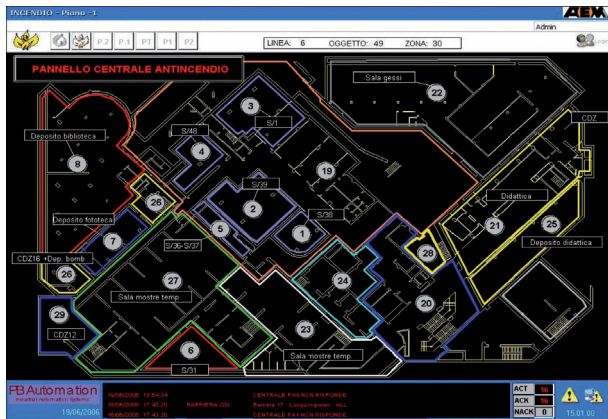
To update the system responsible for managing some of the gallery's critical systems, including security, fire detection, intrusion prevention, video surveillance (CCTV), emergency exits, HVAC and electrical cabinets. The GAM required a solution that would be extremely reliable, as well as open and flexible to accommodate future growth.

The Solution

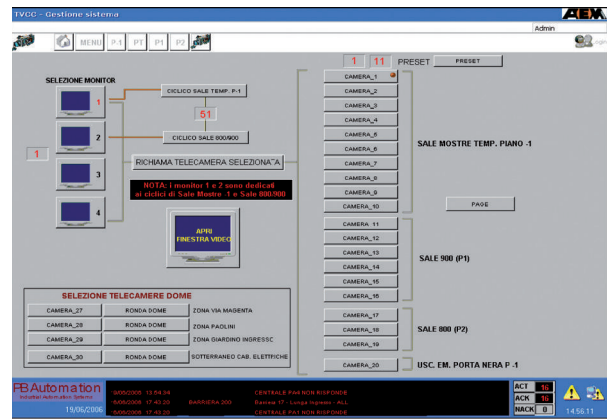
An integrated monitoring and control solution based on CitectSCADA was designed to meet the GAM's specifications. CitectSCADA's openness made it ideally suited for their comprehensive, multi-vendor solution. The final system architecture was based on two CitectSCADA I/O servers connected on a 100Mbps LAN network to the various subsystems.

The Benefits

The integrated automation solution met all of the GAM's needs. It can now manage all its various systems from a single control room in order to maximise the efficiency and effectiveness of its safety measures in the protection of visitors, staff and works of art. It is also helping to improve the GAM's energy efficiency by monitoring their energy usage in the cooling towers and thermal power station.



Overview of the fire detection system.



CCTV screen grab.

The Solution

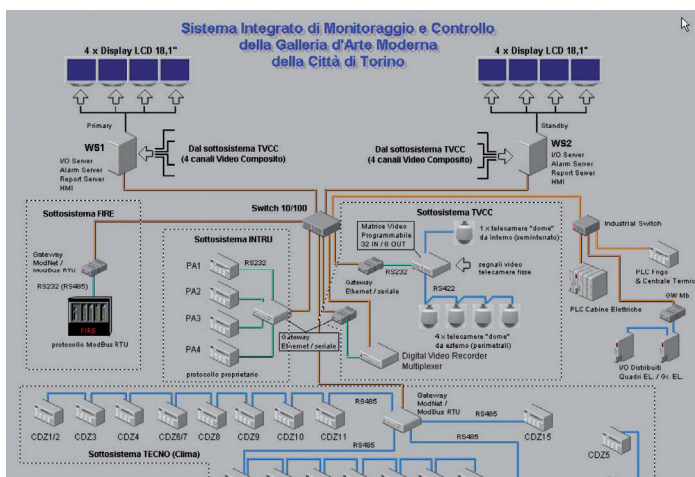
In order to meet the GAM's multiple requirements, PB Automation designed an integrated monitoring and control solution based on CitectSCADA, one of the industry's most reliable and scalable process automation software. CitectSCADA's openness made it ideally suited for their comprehensive, multi-vendor solution. The final system architecture was based on two CitectSCADA I/O servers connected on a 100Mbps LAN network to the various subsystems (fire detection, intrusion prevention, emergency exit management, CCTV and video recording, management of cooling towers and thermal power station etc).

CitectSCADA's advanced graphics capabilities meant a simple and intuitive user interface to enhance the efficiency and productivity of system operators. Highly simplified navigation between pages allows operators to respond to alarms with only a few clicks, saving valuable time in protection of life and property. And, because the various subsystems, including CCTV, are integrated seamlessly into one monitoring and control system (CitectSCADA), real-time video can be viewed on the dedicated monitors in the event of an alarm, giving operators "eyes on the ground" from their control room.

The Benefits

With the implementation of CitectSCADA as part of their overall integrated automation solution, the GAM succeeded in achieving its goals. It can now manage all its various systems from a single control room – and get a clear overview from just a single screen – in order to maximise the efficiency and effectiveness of its safety measures in the protection of visitors, staff and works or art. An intuitive and consistent interface, with clear and easy-to-use graphical displays in a familiar Windows environment, means shorter learning curves for operators and increased productivity for the GAM. The solution is also helping them to improve their energy efficiency by consolidating their multiple systems, including automated climate and lighting controls, and enabling them to monitor their energy usage in the cooling towers and thermal power station.

"We are extremely satisfied with the implemented solution, in particular with the flexibility and openness of CitectSCADA, as it guarantees our investment will last over time and satisfy any future requirements the GAM may have," concludes Alberto Draperi of AEM.



An overview of the GAM's monitoring and control system.

Statistics at a Glance

Real-time SCADA variables:	21,000
Advanced Alarms:	48,000
Historical Trends:	200
SCADA I/O Servers:	2
SCADA Trend Servers:	2
SCADA Alarm/Report Servers:	2
I/O Devices:	21
Average response time as measured at SCADA:	< 2s
Observed time to call up a graphic page (with all display data):	< 1s
Observed time to call up a historical trend page (with all display data):	< 2s
PLCs (SAIA Burgess):	20
CCTV system (Ultrak):	1
Number of video pages:	130
Fire prevention station (Notifier):	1
Intrusion prevention stations (Paradox):	5
CPU utilisation:	< 20%

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