When Automation goes to the museum

Management and illumination play a vital role at the "Loggetta Lombardesca", the Art Museum of Ravenna.

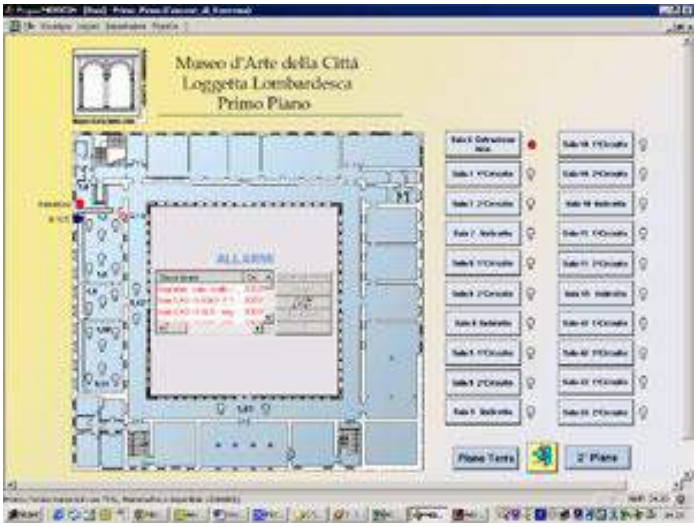
Antique structures such as palaces, churches, cathedrals, and museums are constantly under restoration to stop the immense artistic heritage handed down history from decaying with age. It is rather an emotional occasion for those involved in the work of refreshing colours of an old frescos from the 500s or redoing a wall reusing the same material left in a heap of rubble for years. Who, in this situation, couldn't help trying to recapture the original scene and atmosphere in which the craftsmen, of ancient times, worked. Restoration work in today's technological world, coincide with the need to bringing the premises up to standard and to manage it in the best possible for hosting the public in general. A solution had to be found in solving problems with the electrical system concerning the feeding of cables, light installations, fire prevention and fire alarm systems. Installing such a Hi-technological system in such an antique structure can be overwhelming but at the same time fascinating when you picture how it was originally done back then. Just imagine the never-ending task of having to go around the whole establishment lighting countless candles and torches for nighttime illumination, not to mention checking whether all the doors and windows were closed properly.

Interel GmbH from Bozen have been installing Intermod Bus Systems with hi-technological automization and security in prestigious historical edifices for over 7 years. A good example of where this system is used can be found in the elegant "Loggetta Lombardesca" building in Ravenna, which houses the city's art museum. This 14th century building has recently been renovated, and the illumination system's central management has been commissioned to the Interbus technology with the Movicon supervision software. Interbus and Movicon have been steady partners for years in high technology: the supervisor is equipped with internal SoftPLC, and easily aids bus systems with particular control requirements.
The main aim and requirement was to get all the museum's illumination system controls and alarm alerts centralized at the caretaker's front desk, by keeping the number of channels to a minimum. Furthermore, a more flexible and easily expandable system was needed in order to insert new areas and functionalities in the Museum's existing structure.
The Intermod Bus fitted perfectly well to this type of system and only needed 4 wires. The museum's structure is divided into three floors with utility rooms and locations opened to the public. Each floor has been equipped with a small control board to control each room. Each control board has been applied with step-by-step relay for controlling and commanding the light illumination system in manual mode. Intermod system Input and output modules have also been applied.
The module's outputs have parallel wiring to manual commands in step-by-step relay, while the light status and alarm board have been wired as inputs. All the modules have been wired
to each other through a 4 conductor cable and managed by the UC4 module, the brains of the system, connected to the pc with Windows98 and the Movicon Scada system.

Inside the museum, illuminated and managed by the Bus system.

The system can be managed by using the computer or from control panels, created with the system's Front modules and equipped with buttons and leds, when the computer has been turned off.
The supervision software displays a plan of the museum on the monitor, showing the exact positions of the distributed light devices. The caretaker can then display and command the status of all these devices and keep the whole lighting system under control by using the simple-to-use and intuitive graphically animated pages directly from his desk.
The system will alert personnel of any alarm occurrence on the control boards with immediate error notification, indicating the board and alarm occurrence with

instructions on how to intervene, on alarm pages. All the events are recorded in chronological order, in Historical Log archives in MsAccess format. This allows system maintenance personnel to scan the significant alarm and event interventions so an historical analysis can be carried out in order make system improvements.



Some of the Art Museum's supervisor display screens

Wireless management

Thanks to Movicon, the system has been made ready for future wireless mobile system installations based on Palmtop PCs. This solution, to be applied in the near future, is indispensable for managing the system using PDA (ie. PocketPCs), supplied to caretakers and security watchmen. This will enable them to move around the museum and display the system's current situation at any time and in any part to the museum. This solution can be used, above all, in those structures where field commands cannot be created but have devices that need control and supervision management located there all the same. For instance, tourist guides can use Palmtop PCs during their tour of the museum to activate those lights needed when entering areas of interest along the way.
This functionality is ready for use and only requires a normal LAN network to be applied to the PC, where the Movicon supervision resides, and an ordinary Access Point capable of communicating with Palmtop PCs and transmitting data to another PC, within in a 300 meter radius, over the network. The palmtop PC (windows Mobile) would then need to be installed with the Museum's supervision project along with a Movicon CE license.

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