City of Manerbio: a successful example of public surveillance to protect and serve citizens

"Thanks to the Milestone platform and modern IP infrastructure implemented by Milan-based Technology Associates S.r.l., we have achieved significant night and day surveillance of numerous areas of the city. The local police under my direction and the station of the Carabinieri (Italian military police) of Manerbio now have a truly indispensable tool that is productive in its application and extremely useful for obtaining significant documentary evidence in a timely and efficient manner, including in relation to the reports that come in from our observant citizens." - Dr. Gabriele Mighela, Municipal Police Chief of the Municipality of Manerbio.

The security challenge

The municipal administration of Manerbio, Italy, is a challenge for being one of the biggest cities in the Province of Brescia. They had a surveillance system composed of six analog video cameras for monitoring a few sensitive areas. That system, however, soon proved insufficient to meet their needs since it had all the limitations of a solution based on a proprietary (one-vendor) standard and used expensive CDN data lines. The annual cost of leasing the telecommunication lines from the national carrier was excessive for the poor results.

"Besides the fixed costs that we had to cover, we did not have a technical solution suitable for the operational needs of our local police, and it was impossible to carry out realistic expansions of the system while maintaining reasonable costs," explained the Mayor, Dr. Cesare Trebeschi.

Moreover, Dr. Gabriele Mighela points out: "Each upgrade implementation ran up against obvious budget restrictions, making it impossible to get new tools for improving city surveillance."

That was the situation when the Municipal Administration decided to announce a request for proposals for the implementation of a new video surveillance system, which was agreed to pursue the objective of intensifying the surveillance of certain areas. The companies interested in presenting proposals were invited to submit a project making it feasible to completely eliminate the costs of data lines, and a system open to future innovative technology improvements.

The future-proof solution with unique integration

After a careful evaluation of the 22 project proposals submitted, the most qualified one was selected by Technology Associates, the multi-certified partner of Milestone. That project emerged victorious
thanks to the originality of its overall concept with a powerful and scalable software system for with a single wireless network. It was unique among all the proposals for providing two fully redundant and independent wireless communication centers. The products offered were truly outstanding quality, including the latest-generation Axis Dome 233 cameras, complete with the functions of automatic motion tracking, in addition to the powerful 35x zoom operating in day and night modes. Technology Associates was also original in its proposal of the integrated IP video intercom system "IPView", which allows the city authorities to open various gateways throughout the region by remote control.

"We succeeded in demonstrating that our project can meet any need of the municipality because it can be freely modeled without constraints in the quantity or type of video cameras or surveillance systems. Above all, we showed that it offered an optimal technology-to-investment ratio and helped control fixed costs, especially thanks to the well-structured wireless infrastructure," explained engineer Felix Lars Keil, Managing Partner of Technology Associates. "The municipal authorities of Manerbio, with the careful analysis of the Evaluation Committee supervised by Dr. Gabriele Mighela, understood that after bearing the initial costs of the investment, it would just be a matter of utilizing the great potential of the hardware and software environment. The project was so innovative that it convinced the Region of Lombardy to allocate very considerable funding to the Municipality of Manerbio."

**Fulfilling expectations and saving 48 thousand euro**

The project lived up to its promises, as Dr Mighela attests: "The choice of this system paid off richly from the very start. In four years the savings from no longer having to pay the subscription fees for the old lines will amount to about EUR 48,000 - and it would not have been feasible to maintain the old system with all the video cameras that we use today. In reality, the savings are decidedly greater if you think of the obligation that the authorities would have had to assume to benefit from a system composed of 34 video cameras, such as the current system. We have achieved a level of savings that, as far as I know, few municipalities have managed to achieve. Moreover, Technology Associates has proved to be a very professional and competent company, beyond the specifications provided for in the project, permitting subsequent savings through the partial reuse of the previous analog systems."

**Milestone is the core, open platform**

The core of the solution is the Milestone XProtect® Enterprise platform, which makes it possible to manage a virtually unlimited number of video cameras, to configure multiple display points, to view images and manage the system in real time or in a centralized or decentralized mode from archives of recordings (even when they are distributed on the network servers). The system is designed to integrate with additional analytics software modules, including automatic license plate recognition for planned restrictions in traffic zones and sophisticated traffic analysis functions.

All the information is managed in full compliance with the regulations governing privacy and data processing, using strict policies of access, authentication and encryption on the software, WiFi infrastructure, and individual archived files. The Milestone technology has also made it possible to
continue using the analog video cameras of the previous system in order to save the prior investment costs at the purchaser’s request.

**Wireless advantages and high reliability**
Most of the video cameras installed are linked by means of wireless bridge systems. A significant implementation of fiber optic links designed and put into practice by Technology Associates has also made it possible to set up high-speed backbones with a very high level of redundancy. This ensures the continued availability of service, even in the event of failure of individual portions of the system. This satisfies the high levels of continuity requested by the customer.

"We are in a position to diagnose wireless bridges, video cameras and network devices, including the operating parameters - all from our office in Milan," explains Felix Lars Keil. "Each system is also protected by a UPS power supply, which is in turn equipped with IP diagnostics and an automatic warning system in case of loss of current. The server, which features four terabytes of redundant disk space, is made redundant by a twin system that will serve the function of disaster recovery for the first one. In short, it is a truly modern system with a high degree of reliability."

**Flexible user access and analytics**
Five operating consoles are simultaneously connected with the local police and with local stations of the Carabinieri, who use them in their respective jurisdictions to monitor parking lots, school exits, parks, and surveillance of possible criminal activities. The rights to view the video camera displays are controlled by various access profiles in the Milestone software, based on the needs of the various users, which ensures the privacy of the citizens.

Making use of a special feature in the Milestone software, Technology Associates has also designed an innovative project for the implementation of automatic image analysis software based on the use of filter systems, and a time-scheduling system that will make it possible to evaluate specific events automatically without human intervention. The first area to be involved will be the waste management center, to prevent acts of vandalism. This solution will then be directed towards the needs of the industrial sector.

**Video-intercom for gates saves human resources**
The city’s requirement to make better use of human resources is satisfied by IPView® Networked Intercom, the IP intercom system developed entirely by Technology Associates. At present it is being used to open school gates at specific times by remote control in the hours when they are unguarded. The program calls for an extension of their use, for example, to make it possible to open the waste disposal center at special times.

When the call button is pressed in one of the facilities, the console in the surveillance center displays the special control panel with an audio and video transmission of the person requesting entry. An operator may decide whether to close the session, reply, or open the gate. The audio and video

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recordings of the operations are stored in the Milestone system to ensure maximum security.

Operating tests have already been performed for remote control of the restricted traffic areas, making use of a combination of the Milestone license plate reader module and the IPView Networked Intercom system, which will control the retractable traffic barriers. The access rights will be subject to recognition of a license plate or badge.

New safety services for citizens
The video surveillance system allows the city of Manerbio to fully implement its own security policy in the region. "This system lets us offer to the private sector and the industries of the municipality the ability to protect their own establishments by accessing the municipal infrastructure," explains Dr. Mighela. "In fact, we will make the systems of the authorities available to them with the monitoring systems of the local police stations and Carabinieri station. It will be possible to obtain certified images when a crime is committed. The advantages are obvious: the companies will only have to pay the costs of purchasing the video cameras and image transmission devices. By coming to our surveillance center, the companies themselves will receive real-time monitoring by our agents. From our point of view, the advantage will be an increase in our capacity to provide greater safety through the expansion of the areas monitored."

Extending surveillance to multiple municipalities
Manerbio is at the head of an association of municipalities that make use of the local police. The idea is to extend video surveillance to those municipalities. According to Dr. Mighela: "This confirms the good quality of the solution for much greater integration in the services shared between the cooperating municipalities, from the standpoint of public surveillance. This is extremely important these days, when we are witnessing a high degree of criminal mobility from one municipality to the next."

The next service introduced will be for police on duty to respond to alarms more effectively. For the officers on call, during the time it takes them to reach the site of the alarm, they will be able use laptops with dedicated software to access the Milestone video images so they can get all the information necessary to determine the best manner of intervention.

Municipality of Manerbio

About Technology Associates S.r.l.
Technology Associates S.r.l. was founded in 1998 with the main objective of developing specific activities in the fields of electronics and IT consulting. Starting in 2000, the demand for security began to increase. With the intention of continuing to play the role of vertical specialists, thanks to the technical expertise of the founding partners and direct collaborators, the unequivocal decision was to specialize and develop its expertise in the
sector, which was still relatively unknown, of IP video surveillance, video analysis systems, and video automation.

2008 marked the fifth anniversary of the company in partnerships with some of the leaders of the "new sectors", including the Danish company Milestone Systems (www.milestonesys.com) and Swedish corporation Axis (www.axis.com), of which TA is a partner and certified developer. With those skills, in 2006 TA released the first IP intercom phone, IPView®, complete with control functions operated entirely by means of powerful control software designed and developed within the company. The product is now integrated with the Milestone software.

Technology Associates is the specialist company of the Filippetti Group (www.filippetti.it). In that context, its organizational structure is based on five regional offices and about a hundred of its own specialized employees. Besides Milestone and Axis, the parent corporation Filippetti boasts numerous certifications, including Microsoft Gold Certified, VMWARE Enterprise Partner and Authorized Consultant, and Citrix Platinum Solution Advisor.

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