INITSYS
TELEMETRY & TELEMATICS

CASE STUDY

SYSTEM INTEGRATION ENHANCES SECURITY SERVICES AT UNIVERSITY OF PORTSMOUTH

The University of Portsmouth was recently rated as the UK's 6th best modern University where more than 19,000 students undertake more than 500 different degree courses every year. The University is also one of the city's largest employers with over 3000 permanent and temporary staff.

The Challenge

The University wanted to improve the effectiveness of the existing security system which comprises over 350 CCTV cameras and DVR's installed across both campuses in addition to a wide range of different intruder and fire alarms of varying ages. It was already in the process of migrating these away from standard copper cabling to IP using the existing IT network in order to achieve a higher level of functionality and reduce ongoing maintenance costs.

The University also wanted to achieve true integration with the CCTV network to ensure that the correct camera was enabled in the event of an activation. This would enable a faster and more effective response to be delivered by the central control room where over ten screens were deployed, each showing the status of a different system or CCTV images from around the campus.

Despite having all the different alarm systems installed in a central control room, the University felt this approach did not allow them to make best use of the technology particularly as each system required its own dedicated screen for monitoring. Integrating all existing security systems would improve the management of the whole system and enhance the level of protection provided to students around the clock.

The Solution

To start, the University consulted its existing security system provider, Network Security and Fire, for advice on how these objectives could be best achieved and to design a cost effective solution that would meet the constraints of existing budgets. The company was also tasked with recommending system suppliers that would have the required level of expertise and a track record of successful deployments. After carrying out a detailed study of all available options, Network Security and Fire identified Initsys, one of Europe's leading suppliers of verified alarm technology for control rooms, as having the most appropriate 'best fit' solution.

After lengthy discussions regarding the project, Initsys was invited by Network Security and Fire and the University of Portsmouth to review the existing security set up and make recommendations as to what needed to be done to meet the stated objectives. A detailed analysis of the existing security systems was carried out across both campuses and Initsys recommended the installation of Merlin, a new generation of Alarm Receiving Centre software. This powerful software-based solution would merge the functionality of existing intruder alarm and CCTV surveillance systems to provide an enhanced verification capability. Importantly, Merlin would be fully compatible with the university's existing analogue and digital CCTV cameras including the latest IP cameras enabling the operational capability of existing security networks to be enhanced without having to upgrade the whole system.

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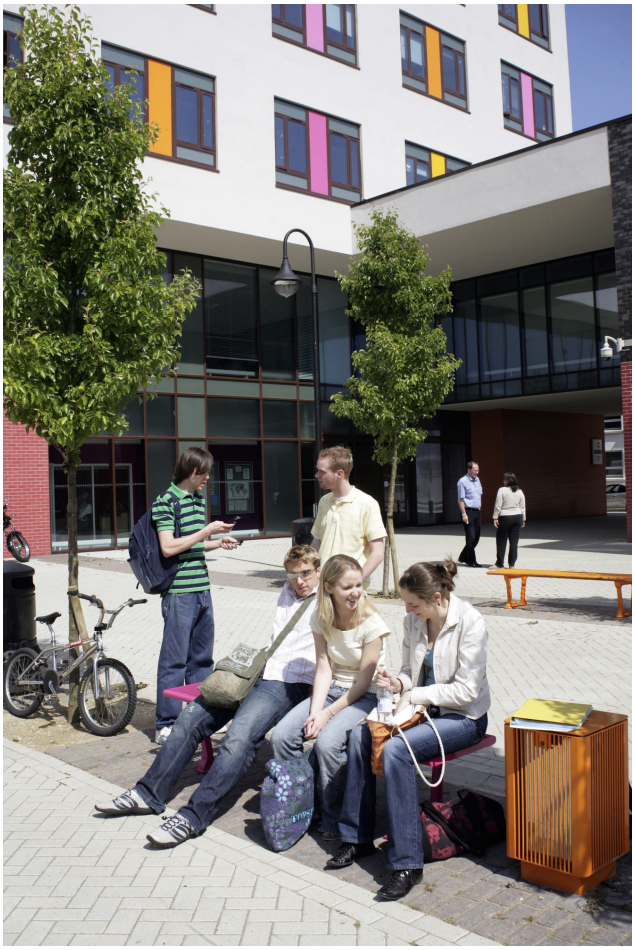

After reviewing the proposal, Network Security and Fire asked Initsys to install a pilot to prove the concept. This involved installing the Merlin system in the central control room and taking direct feeds from the CCTV cameras to provide real-time images from two separate buildings. During the pilot, the decision was made that the Initsys solution would deliver the desired results and, after further discussions with both Network Security and Fire and Initsys, a contract was awarded by the University to carry out the integration of all disparate systems.

The first phase of the installation saw the latest version of the Initsys Merlin ARC software installed in the control room on a dedicated server and integrated with all the existing CCTV, intruder and fire alarm systems. The integration process was successfully achieved despite much of the equipment in use across the University being quite old. Initsys also integrated the Merlin system with a new digital radio system that had just been installed.

According to Chris Beaman, Control Room Manager at the University of Portsmouth: "We were impressed by the forward thinking and positive approach that was taken by Initsys throughout these early phases of the project. This gave us high levels of confidence that we could achieve the integration required to deliver a higher level of response to every incident."

All alarm systems data then had to be transferred to the Merlin system, a process that took just one day and was followed by a one-week period when both systems were run in parallel to ensure that everything was working as it should. This was completed without incident and the University of Portsmouth was able to switch off the old system. Initsys also provided key control room staff with full training to enable them to carry out the integration of further parts of the security network.

Network Security and Fire also installed new DVR recorders in two buildings to test the ability of the system to supply a full set of images, including before, during and after and activation, to the control room operator's screen. This test was successfully completed and all existing Dedicated Micros equipment was migrated across to the new system and assigned to the building profiles.

"The Initsys Merlin system connects to the camera nearest to the location where an intruder alarm activation has taken place," continued Chris Beaman. "It automatically operates the pan, tilt and zoom functions enabling events to be quickly reviewed and recorded. The system is playing a major role in helping us to ensure that the campus provides a safe and secure learning environment for every student and staff member."

In addition to selecting the camera closest to where an activation has taken place, the Merlin system automatically shows views of the nearest fire exits, doors and windows. The system delivers live streaming of images from these locations as well as images from the scene immediately before and after activations have occurred. These images can also be used by emergency services to tailor their response according to the specific circumstances of the incident as well as enabling the precise cause and effect of every incident to be accurately logged and analysed.

The Merlin system delivered immediate improvements to the monitoring of the security network. It provides control room operators with more resilient and reliable monitoring than could be achieved with the web browser-based approach previously relied on and consigns to the past the frozen screens that had often blighted the system.

Initsys has also provided the University of Portsmouth with DeafAlert, a unique solution that enables visually or hearing impaired students to interact with the central security control room. The system automatically links to mobile phones carried by such students and sends them audible and visual alerts. This can include instructions on what to do and where to go. Students can reply to these messages to confirm they are safe or whether they need priority assistance. The University of Portsmouth expects this to play a major part in its Fire Evacuation Strategy for disabled students or staff. In the event of an incident, these users will be directed to the nearest refuge and inform the control room so that a team with an evacuation chair can be deployed to assist.

The Merlin system can also send control messages to compact IP-addressable units that can be carried around by students and plugged into the university's IT network wherever they are located. These units can be used to control other special disabled alerting devices including vibrating pads that enable alerts even when asleep in bed. DeafAlert is currently being trialled and is expected to be rolled out to around fifty students during the first half of 2010.

The same technology is being deployed for WASP, an innovative solution developed by SOS Response in partnership with the University and Hampshire Constabulary that is being used to reduce the incidence of bicycle theft from campuses across the city. The control room is alerted by Alarm should bicycles belonging to students or staff be moved and CCTV cameras automatically activate in the surrounding areas for visual identification.

The Merlin system has also enabled the University of Portsmouth to enhance the effectiveness of the security guards that patrol both campuses. Alarm text, when an alarm has been activated, can now be transmitted directly to the mobile radios carried by guard patrols accompanied by additional messages giving more specific details of incidents that require rapid verification. The guards can receive additional information in real-time as incidents develop to ensure they can provide the most appropriate response.

"The Initsys system enables us to provide the operator all necessary information on a single screen making it easy to efficiently monitor and manage incidents," continued Chris Beaman. "It is enabling us to react faster and ensure that security guards have real-time information on which to act as well as leaving the operator more time to call the appropriate emergency services."

Covert WiFi boxes have also been installed throughout the campus to allow covert cameras to be rapidly deployed when there are recurring instances of vandalism, anti-social behaviour, etc. The Merlin system complies with all privacy guidelines and regulations by ensuring that images captured by these cameras are only available for viewing when activations occur as well as being securely recorded in the control room.

Being compatible with both analogue and digital equipment, the Merlin system has enabled the University of Portsmouth to make significant savings by eliminating the need to immediately replace existing installed equipment. It has also reduced the amount of equipment installed in the control room which is leading to lower running costs. Further major cost savings in terms of phone line rentals will also be realised once all systems have fully migrated to IP. What is more, the enhanced security levels that can be achieved are expected to result in reduced insurance premiums.

Commenting on the support provided by Initsys, Chris Beaman added that: "We have been more than happy with the response and support provided by Initsys throughout the project. Whether answering minor enquiries or being asked at short notice for the impossible, they have either rapidly resolved the issue or pointed us in the right direction for an answer. The 24/7 helpdesk support provided by a dedicated technical specialist has also been unfailingly efficient, even supplying advice at 03:00 in the morning on one particular occasion and nothing seems to be too much trouble."

The final phase of the project will be the installation of a new video wall. This will enable all building and facilities management systems to integrate with the security network providing the control room operator with access to building schematics and campus maps to enhance the management of incidents.

"Merlin is at the core of our strategic emergency plans enabling all systems to be monitored and controlled from anywhere on the University's network in the event of the control room being out of action. It is certainly helping to make the university an even safer place to be, at a fraction of the cost of deploying a completely new system," concluded Chris Beaman.

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