

Crime Scene Investigation – Forensic Centre: Harperly Hall



Location:
Durham, England

Systems:
American Dynamics:
• VideoEdge

Crime Scene Investigation – Forensic Centre, Harperly Hall. The Home Office has invested substantially in the redevelopment of Harperly Hall that has been hailed as one of the most progressive in the world. The new facilities, at a cost of £15million, have been designed to teach national and international forensic science students, and features the finest new technology available.

The Project

The National Policing Improvement Agency (NPIA) required the design, supply, installation and commissioning of a new state-of-the-art CCTV system for the new home of the CSI forensic training facility. Included was the use of a full IP based CCTV security system as well as a revolutionary observation system in the practical training block.

The Solution

Our partner AJAR-tec proposed to implement an IP based CCTV system with MegaPixel cameras and a Network Video Recorder (NVR) package with integrated motion detection. The use of motion detection allows optimum use of hard disk storage and nuisance alarm minimisation (NAMs) as the system will only go into record mode when a motion detection alarm is activated. As the system is a non linear device the events immediately prior and post the alarm activation are also recorded.

The AJAR-tec proposal was based around the Award winning VideoEdge® Enterprise NVR (Network Video Recorder) next generation IP-Centric solution. VideoEdge® is a system that provides a true BEST-OF-BREED solution as it can utilise the fastest hardware components, provides the richest software features, and delivers it as an appliance based product that meets the needs of both IT and security professionals. It is the only "True Security Platform" that provides convergence for many different security products.

The heart of the system is a Dell Xeon processor server attached to 24TB of RAID 5 storage of Infortrend manufacture. The VideoEdge system is base around 2 secure networks for system resilience and security. One network for the cameras and the other for client based PC connections and Internet Browser based connections from a WAN. This architecture maximises the number of simultaneous users and camera views.

The main security system installation includes a total of 19 cameras both internally and externally. The cameras used are of megapixel technology which allows you to zoom in on any playback images to look at any incident in detail and reduced the overall quantity of cameras required reducing costs, power consumption and aesthetic impact on the environment. All internal cameras are power over ethernet (POE) enabled which reduced requirements on the mechanical and electrical (M&E) specification and costs. This feature also provides total flexibility to add or relocate cameras. The external cameras comprise a mix of fixed and Pan/Tilt/Zoom (PTZ) units. The external cameras were provided under another part of the build contract with a part of the AJAR-tec requirement necessitating the integration of these cameras into the IP system. This was achieved by use of an AXIS blade IP server which fully integrated the analogue video and control signals into the NVR system.

The second significant part of the installation, and the beating heart of the new training facilities is the PTB or Practical Training Block. Here a total of 23 areas are set up as different crime scene scenarios ranging from a complete street scene to a blood spatter analysis area. Here, AJAR-tec was required to supply nonintrusive monitoring solutions so that students conducting an investigation could be observed undisturbed. An IP-based server recording system for video (with audio capabilities should it be required later) with a simple GUI was implemented which gave them the ability to produce evidential CD's as part of the student assessment process. Again the heart of this system is the VideoEdge® NVR.

The systems also have the capability for remote diagnostic function that allows interrogation of the system without the need to attend site should this be a requirement of the NPIA in the future.

This project is an AV/IT first; a suite of systems, all IP based that takes AV truly into an IP Centric environment. AJAR-tec were challenged to prove the concept and complete a cost analysis of both analogue and digital solutions and were able to prove the costs and benefits of the true flexibility of the proposed system. It is innovative, commercial, it works and was delivered, to the delight of everyone, on time despite project challenges from delays in the building contract.

Upon finishing the installation, Tim Arnold, Lead Design Architect for the NPIA said: "We are delighted with the solutions provided, the individual systems are effective and efficient, as a whole they add unbeatable value to our overall facilities and a centre we believe is now an exemplar in its field worldwide."

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