



## NetVu Connected CCTV Technology offers innovative answer to Millennium Point's Surveillance needs.

- Vertical Market: Multi - Site
- Country: UK
- Vertical Market: Millennium Point
- Consultant: Cogent

NetVu Connected CCTV technology from Dedicated Micros – part of AD Group – is playing a key role at the £114 million Millennium Point, situated in Birmingham in the West Midlands, an impressive flagship development and the largest Millennium Project outside of London. Created specifically to encourage science, technology and education in the region, it is now home to the innovative Thinktank - Birmingham's award-winning Science Museum – which features a state-of-the-art Planetarium. Millennium Point also has the region's IMAX cinema and a number of educational establishments catering to thousands of students which have a strong focus on technology and the performing arts

### Time for Change

Unfortunately, the existing tape-based, analogue surveillance solution for Millennium Point was simply not providing the performance required for such a large scale and varied site. As a result the decision was taken by Millennium Point to dramatically enhance its CCTV capabilities, with the outcome leading to a hybrid solution more in keeping with the innovative nature of other aspects of its operations. Following advice from consultants Cogent (fm) Solutions a comprehensive range of Dedicated Micros NetVu Connected CCTV solutions were installed by DM Fusion member Custom Technology Solutions. These included the Pick-a-Point Digital Matrix - in conjunction with integrator BBV - which is ideally suited to large or multiple sites, seamlessly bringing together CCTV system components into the control room environment; 8 Digital Video Recorders (DS2s) and the very latest NetVu Console - a powerful remote viewing station.

### Seeing the Bigger Picture

Mike Tolley from security consultants Cogent, was brought into the project at an early stage, and ultimately was tasked with specifying the solution and its constituent elements.

Commented Mike: "Our involvement in the project came initially through a recommendation from the contract security company at Millennium Point, Corps Security. As the site is a charitable trust it was stressed that the upgrade needed to be able to demonstrate value for money and they wanted guidance in terms of how this could be achieved."

According to Mike Tolley in addition to having a favourable ROI (Return on Investment) the solution adopted was going to have to accommodate a number of specific end user requirements.

Said Mike: "Corps Security stressed that they wanted a user friendly system that could deliver high quality digital recording for every channel of video from the existing analogue DM uniplexers, VCRs and analogue matrix, with a retention period of 31 days, and very a high record rate for their spot monitors.

"There was also a need for a new touch screen mapping capability to replace the existing Petards solution and to integrate seamlessly with all cameras on site. This should allow complete control of the total system including full functionality over the variety of domes and PTZs, and retain full access to dome menus."

Other factors identified in Cogent's initial discussions with Corps Security included: the ability to support remote monitoring at a nominated control centre of external PTZ cameras, with associated external alarms and audio, ensuring telemetry control over the legacy PTZ cameras. Additionally, there was a need to provide a remote security control location to view and operate a designated number of cameras, without allowing full control of the overall system.

Added Mike: "We also focused on the emergency evacuation plans and Corps Security being able to retain access to the CCTV system away from the site's control room. The ability to have NetVu Observer viewing software from Dedicated Micros co-located at Corps Security's regional Birmingham office would facilitate this so that a local site officer, with knowledge of Millennium Point, could be re-deployed to the branch office and take full control of live, recorded images and telemetry of every camera on site."

In terms of the final solution, Mike Tolley believes that the infrastructure devised by Cogent meets these stringent requirements: "Focusing on the successful partnership between Dedicated Micros and BBV - the leading provider of touch screen mapping and digital matrix systems - brought together all of the elements we needed to deliver an overall system solution. The NetVu Connected technology from Dedicated Micros also unlocked key deliverables such as remote transmission of alarms to a central station, remote access and control over the system from a satellite office and the facility for the local West Midlands Police to utilise the NetVu Observer software."

Once the technical specification was written by Cogent it was issued, for competitive tender, through Millennium Point's finance department to a list of local Dedicated Micros Fusion-approved installers. This ensured the involvement of companies from the area - for enhanced client support - and those with in-depth specialist knowledge of the specified solutions. Sealed bids were received by the client and these were opened and signed by another independent person to completely comply with the client's financial auditing procedures. Cogent then evaluated the returned bids and submitted a full report to the client to enable Millennium Point to make an informed decision and appoint the successful contractor, Custom Technology Solutions.

### Overcoming the Installation Challenges

According to Brett Evans from Custom Technology Solutions - the security installer for the project and a member of the DM Fusion programme - a number of major challenges had to be overcome during the implementation stage of the surveillance upgrade.

Said Brett: "One of the key considerations was the fact that Millennium Point - and Thinktank – is an extremely popular location hosting thousands of visitors every day. Consequently the swap over to a new, enhanced, surveillance solution was going to be a delicate process.

Case Study

For example, it was imperative that we were able to ensure that any downtime of the CCTV system was kept to an absolute minimum. Crucially, during installation there was never a time when the whole system was taken off-line so the Corps Security always had something in place to assist them in managing the site."

Moving from an old analogue matrix, with multiplexers and VCRs for over 100 cameras with three different monitoring and control locations, necessitated careful planning by the Custom Technology Solution's team, overseen by consultant Mike Tolley who was tasked with managing the project on behalf of Millennium Point.

"We literally changed the system over camera by camera, ensuring only one camera at any one time was ever off, and there was never a loss of recording of any camera for more than 10 seconds," said Brett Evans, "Some of the camera configuration was also carried out when the site was closed which meant work was completed when the system was not so busy."

Another element of the installation was the re-mapping of the whole CCTV system, with CAD plans, prepared by Custom Technology Solutions, provided to integrators BBV for configuration of the new mapping system as part of the Pick-a-Point Digital Matrix. Commented Brett: "With more than 100 cameras spread over 6 floors inside and outside the building, this was no simple task, but with the support of BBV who have done this many times, we were able to make it happen."

A key advantage of adopting Pick-a-Point for Millennium Point, from an installation and cost point of view, is the fact that it is able to replicate the simplicity of operation associated with a traditional analogue matrix by allowing control of multiple video servers or DVRs without the need for thousands of metres of cabling.

Other new systems, specified for the project, which greatly assisted the installation process include NetVu Console from Dedicated Micros for the Technology Innovation Centre - part of the Millennium Point site. This consists of a traditional, ruggedised, PTZ style keyboard that can be readily connected to the network and a local monitor to provide a remote viewing point on the surveillance system.

Said Brett: "NetVu Console really came into its own when one control location at the Technology Innovation Centre required access to 26 cameras out of over 100 that were spread across 8 DVRs - something which normally could only be achieved using a large scale matrix and intricate programming. By using NetVu Console a dedicated monitor and keyboard was quick and cost effective to set-up and deliver the requirement to view the 26 cameras without all the complications."

Brett Evans from Custom Technology solutions is a strong advocate of Dedicated Micros NetVu Connected CCTV solutions: "We have an in-depth knowledge of Dedicated Micros' technology and have used their products as our preferred option for more than 10 years. Although in this case we were working to the systems specified by Mike Tolley, from consultants Cogent, our knowledge of their capabilities and DM meant that we were confident that the elements would work well together to deliver the required outcome."

Brett is also positive about the benefits of being part of the DM Fusion programme: "We have an excellent relationship with Dedicated Micros; in fact the opportunity to work on the Millennium Point project came to us as a member of the programme. We have been impressed with the support we have received through DM Fusion and it was good in the case of Millennium Point to have input from DM project support staff, who actually came to site, and helped to tweak the system to enhance the already impressive performance gains."

### Management Matters

Viewing the project from an end-user perspective, Harry Rashid, the Security Manager for Millennium Point is certainly pleased with the changes in the CCTV infrastructure: "The reality was that the old system was struggling to cope. It was simply too slow and cumbersome for what was required. Investigating an incident usually meant trawling through hours of tape-based footage, a task for which time, and therefore money, had to be allocated. Alongside this, replacement analogue recorders were becoming increasingly difficult and expensive to source so, even if the performance had been there, they were clearly not going to be a long-term option."

Already Millennium Point is starting to reap the dividends, on the ground, of the new NetVu Connected solution. Said Harry: "From day one it has delivered real savings in terms of space, time, and money compared to the obsolescent and unwieldy system it replaces. The Control Room and Security Office is no longer filled with over 1200 VHS video tapes to be trawled through and there is no requirement to rewind and replace tapes as the digital recording is continuous. Our security officers have really welcomed the simplified, user-friendly, operating procedures. Alongside this, there is much greater functionality with the ability, for example, through Pick-a-Point to call-up and use a clear overview touch screen map covering all parts of the site. Consequently when an incident happens we are able to track it back within seconds of its occurrence. The Control Room staff has direct access to any material which they can also readily provide on DVD should it be needed by the police."

Looking in more detail at the capabilities unlocked by Pick-a-Point, once up and running, operators such as those at Millennium Point can simply select cameras using Pick a-Point GUI (Graphical User Interface). Multiple map screens and highly detailed map images readily allow operators to select a camera on-screen without having to know which digital video recorder the camera is linked to. Unlike many virtual matrix solutions that are dependent on a PC to record, view or playback video, Pick-a-Point Icon is a stand-alone hardware based workstation which eliminates reliability and training issues associated with PC based systems.

When it comes to Millennium Point, Pick-a-Point has also been fully integrated with the Galaxy Intruder alarms systems on the site, so that the touch screen mapping system can identify where the alarm has come from, and automatically display relevant cameras on screen after sending them to preset to view the alarmed area, significantly improving the response to multiple security systems previously not integrated.

In terms of actually dealing with incidents, Harry Rashid cites an example from late last year which demonstrates the ability of the new surveillance infrastructure at Millennium Point to take effective action: "We had a theft in our Christmas Marquee, which previously would have meant having to trawl through hours of VHS overnight footage. Instead, we searched for motion in a particular area and found the perpetrator within minutes and coordinated his arrest. Using the enhanced CCTV capability we tracked him back to his vehicle following the incident, and had the vehicle blockaded. When the culprit returned to complain about his car being impounded we alerted the West Midlands Police who attended quickly to make an arrest."

Looking ahead, Millennium Point now has a hybrid CCTV infrastructure whose digital and analogue components operate seamlessly together, is easy to control and, unlike the previous solution, can cope with the demands of an extremely popular site and is readily scalable to meet future challenges.