

Leading the way

The University of Leeds has spent over £700,000 upgrading its CCTV system because it believes that cameras play a crucial role in the security of its campus, students and staff. CCTV editor, Tom Reeve, meets the team that has made it all possible

CCTV CAMERAS ON the campus of the University of Leeds are monitored from the newly-refurbished control room by a permanent rota of two staff and a supervisor. It is a system that would be the envy of many small to medium-sized cities.

The staff provide constant surveillance as well as manning the security department's customer service desk and coordinating manned security patrols around the campus.

There was no doubt expressed by the head of security, Steven Exley, the Chief Constable of West Yorkshire or the vice chancellor of the University of the value of having 120 cameras dotted around the campus. Even before the new system was officially opened by the chief constable, it had helped solve several crimes.

The new facility was officially opened by Sir Norman Bettison, the chief constable of West Yorkshire Police, a sign perhaps of the importance that the police place on CCTV as well as their links to the University of Leeds.

He told me that the police value their partnership with the University and that the 35,000 people who work, study or simply walk through the campus everyday would be reassured by the presence of the cameras.

Away from home

With regard to campus security, he said it was important to protect students, many of whom were away from home for the first time. "The big issue for us is that students tend to have very tradable commodities such as phones, iPods and so on," he said. "They're generally not from Leeds and their behaviour can be naïve."

The real value of CCTV, he said, was in post-incident analysis. "There is hardly a major investigation that doesn't count on CCTV to some degree or another," he said. In the case of the murder of PC Sharon Beshinevsky and attempted murder of PC Teresa Millburn in November 2005, CCTV provided a virtual audit trail of evidence from Leeds, down the motorway to London. "I've been in the police for 37 years now and I can't imagine going back to the days of not having CCTV," he said.

He added: "The presence of CCTV is what is reassuring for the public but post incident is the most valuable aspect of it for us. It is not generally an active aid to doing our work."

Meanwhile, Professor Michael Arthur, the vice chancellor of the University, said the investment in cameras and the control room would improve security for students and staff.



Dream team: Carl Chippendale, Steven Exley and Simon Whitehouse

His office consulted widely with students through the student union and campus surveys and found that security was one of their key concerns. "CCTV is part of our response to their concerns," he said. "Campus security uses CCTV very sensitively to monitor high-risk areas, and we have had no negative feedback from students because we have taken great care to liaise with the student leadership at all times so they understand what it is being used for."

In terms of the investment in cameras, he said the business case for overhauling the system had been well made by the head of security. "It's too early to say if the business case is panning out – we've only just opened the new system – but it has already contributed to the arrest of someone on suspicion of theft."

Simon Whitehouse and Carl Chippendale from SGW Security Consulting filled me in on some of the technical details of the system.

Operational

A key point for them was keeping the University's CCTV system operational throughout the building phase. During the refurbishment a temporary control room was set up in a Portakabin in the car park. This meant campus security was able to continue functioning uninterrupted while the CCTV control room was given a complete refit.

In terms of IT support for the IP-based CCTV solution, Simon and Carl had nothing but praise for the University's Information Systems Services (ISS) without whom the transmission part of the project could easily have cost two to three times as much.

“At an early stage, Carl engaged with ISS who have got a massive amount of fibre which they offered us access to,” Simon Whitehouse explains. “ISS have a number of server rooms around the campus which we were able to use as hubs. All camera locations are cabled back to one of these hubs via UTP transmission or via existing privately-owned multi-mode fibre.”

The hubs are connected by a one-gigabit VLAN ring to one of the University’s data centres which house nine Synectics primary storage nodes providing over 40 terabytes of storage in a time-lapse later configuration.

This is then linked to the security office where it is controlled by the Synectics Synergy CRMS. This makes a change from the previous configuration in which all data was routed directly back to the security office, making the system more vulnerable to single point disasters.

SGW oversaw the installation of 40 new cameras and the upgrading of 45 more, with the installation itself being done by TIS (Mansfield) Ltd.



Beautiful architecture: The University of Leeds

The head of security is Steven Exley, a former member of the Royal Military Police and veteran of contract and in-house manned security services. He completed a MSc at the University of Leicester under Prof. Martin Gill and did some work with risk management software for a number of years.

Steven, who is also a member of the Association of University Chief Security Officers (AUCSO), manages 56 staff ranging from security guards and dog handlers to crime prevention advisors and car park staff.

In an interview in his office next door to the control room, he told me about the need to upgrade the old CCTV system. “I was led to believe things were in better condition than they actually were on my appointment seven years ago,” he says. “It has been a slow process of discovering that the systems didn’t do what people expected them to do.”

Problems with the old system included a touch screen that regularly “fell on its backside” and failure to define the purpose of

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INSIDE JOB

Intech wins bid to refurbish control room

IN 1999, THE original CCTV control centre was installed by Intech Furniture based on CRT technology. While wearing well, the room was 10 years old and the technology was aging. Furthermore the Head of Security for the University, Steven Exley, wanted to upgrade the systems and use TFT screens as part of the design.

A new security and CCTV system was developed by SGW Security Consulting. Intech Furniture tendered for the control centre refurbishment part of the project via a number of the system integrators and were eventually successful in being awarded the contract by TIS (Mansfield) Ltd.

Intech were appointed to not only design and manufacture the control centre furniture but to also design and provide a complete centre refurbishment to include lighting, ceilings, air conditioning, flooring, carpets, electrical works, full decoration and decorative additions.

In order for the project to run smoothly a plan was devised to temporarily relocate the control room to allow the existing facility to be stripped out and rebuilt.

The project consisted of two reception areas, one each for the security and parking enforcement departments both of which included a DDA facility. Within the security control area itself there is now a monitor wall to house 47-inch LCD monitors in two rows of four, a two-operator main control console, a rear supervisor console and a security administration area all of which are compliant to ISO 11064 (ergonomic design of control centres). The total value of the project including the other refurbishment elements came to in excess of £150,000.

Simon Whitehouse Managing Director for SGW Security Consulting, who managed the project from design to delivery, commented: “We are extremely pleased to have been involved in such an



Control room: Intech’s handiwork

important scheme and are proud to have seen the system completed on time and within budget”.

Steven Exley added “The scale of improvement in capacity and professional image has been well worth the unavoidable disruption that any project of this scale is bound to create. The customer impact was confirmed when the Vice Chancellor, Professor Michael Arthur marked his first view of the new Control Room with the word ‘Wow’. The facility needs to work as well as impress and so far it is exceeding our best hopes.”



Out with the old: the dismantling of the old control room

specific cameras before deciding where to place them. “The whole logic of the system wasn’t joined up like it could have been, and that is often the case with systems that evolve over time – but it had got to the point where it was well short of what the University deserved and needed.”

The new control room – apart from being nicer to work in thanks to a refit by Intech Furniture – will make it easier to be proactive in the management of staff, Steven says. “When linked with other technology, it allows us to very quickly verify an alarm so when

you have people en route to deal with a situation, it allows you to brief them as they approach, target them more specifically and improve their safety by not allowing them to go into certain situations.”

As an investigative tool, it has proved invaluable as well. “In this last month alone, we have apprehended eight individuals who would have got away if we hadn’t been able to back track and identify individuals from images captured and stored on the system.”

Influences

The revamped CCTV system will enable the University to make better use of its security staff but there are no plans to reduce the number of staff, Steven says.

The University of Leeds is a member of the Russell Group, a collaboration of 20 of the top universities in the UK. Using figures from the Russell Group and AUCSO, Steven can readily compare the performance of his security department against similar institutions.

“We are, compared to other comparable institutions, lean in the numbers we have, so it is not the aim to use this to replace anyone,” he says.

Being positioned in the heart of Leeds, the University suffers many of the same crime problems as the city. Fortunately street robbery is not as bad as other parts of the country but burglary of dwellings, due to the high residential density around the campus and the presence of a transient student population, is a problem.

On campus accommodation also suffers from similar problems, and as a consequence Steven doesn’t draw firm boundaries between

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ACCESS TECHNOLOGY

The University of Leeds chooses Simons-Voss

THE UNIVERSITY OF Leeds has recently upgraded its security control room with the latest technology in CCTV and access control.

For the access control system, the University chose Simons-Voss Technologies Wireless and Keyless solution.

Simons-Voss is a European market leader in the rapidly-growing technology of battery powered, wireless electronic locking systems.

The University began installing the Simons-Voss 3060 Wireless Locking Systems in 2006 to resolve problems with traditional mechanical master key systems and failing card systems.

Problems with unreturned keys, copied keys and lost keys on such a large site was a major issue and the options to replace these with a traditional electronic system solution was impractical due to the massive cost and disruption.

Then they discovered Simons-Voss. Suited to both large commercial and institutional buildings as well as residential build-



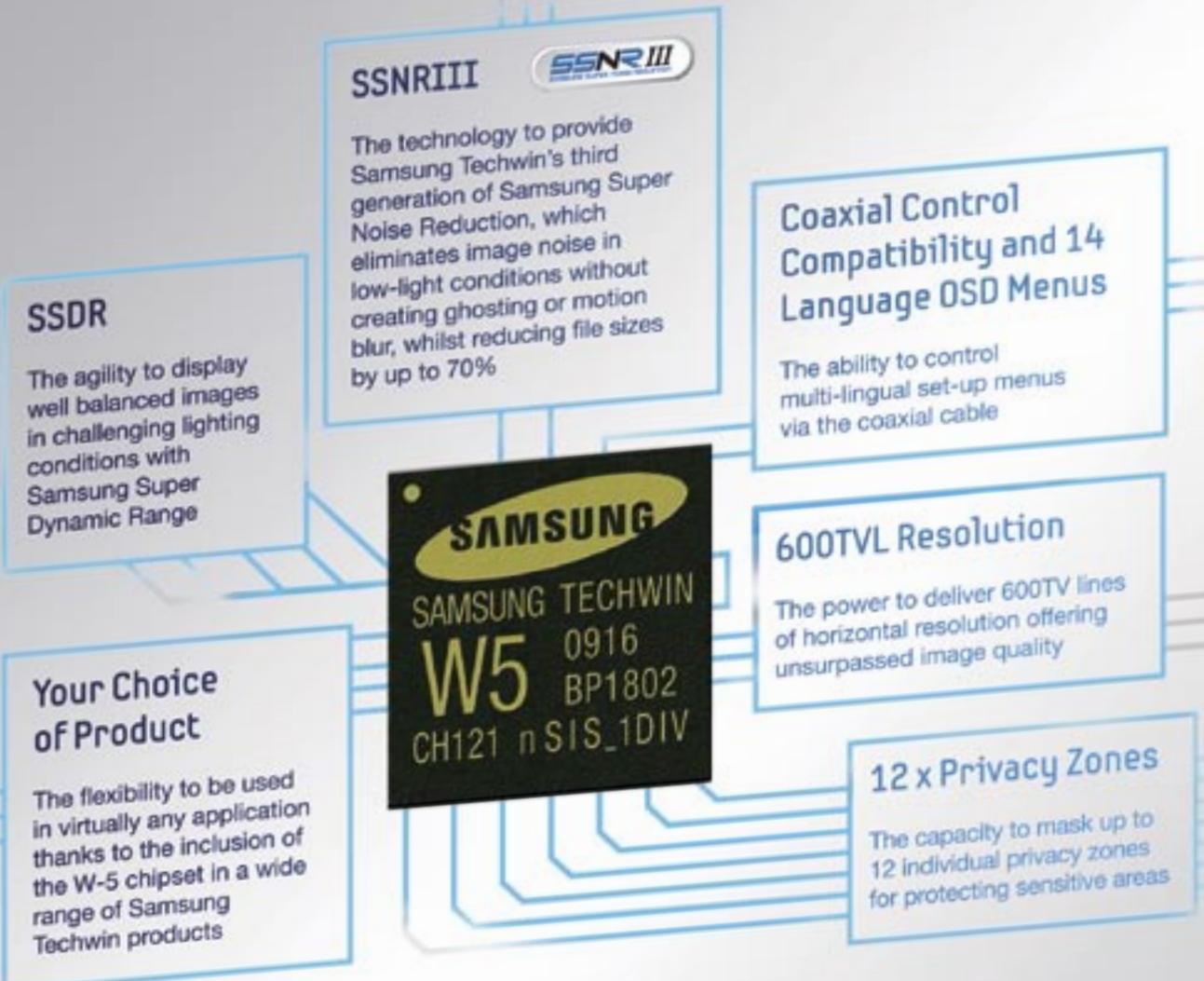
ings, Simons-Voss converges conventional mechanical locking systems and traditional electronic access control systems into one application.

The Simons Voss 3060 Locking and Access Control system replaces traditional mechanical cylinders with intelligent digital locking cylinders capable of being networked wirelessly and controlled over an existing IP network, or via hand held devices.

The system also incorporates digital readers known as Smart Relays to control electronically operated doors and barriers.

Today, the University of Leeds has over 1200 doors using Simons-Voss access control with individual administrators controlling access to complete faculties and buildings.

Many more projects are in hand which will adopt the single platform solution including a new sports and swimming pool complex due to open in 2010 and a new Faculty of Law building.



Imagine

uncompromising performance

Introducing the W-5 DSP chipset from Samsung Techwin

The new W-5 DSP chipset from Samsung Techwin provides powerful new technology that sits at the very heart of a new breed of next generation cameras and domes, offering performance and functionality which has to be seen to be believed.

Powerful image processing delivers 600TV lines horizontal resolution in colour, whilst functions such as third generation Samsung Super Noise Reduction (SSNR III), Samsung Super Dynamic Range (SSDR), multi-lingual on-screen display menus with coaxial control compatibility and 12 privacy zones are built-in as standard to deliver never before achieved image quality, ease of use and flexibility.

WV



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on-campus and off-campus security. “We police our campus but we also respond and do what we can for students in the community, so our partnerships extend into private residential areas,” he says.

Relationships between the police and campus security are very close, with the University hosting an office for a campus liaison officer and actively participating in the Divisional Community Safety Partnerships and the Acquisitive Burglary Group within the two police divisions that the University straddles.

“Our involvement as the largest organisation attracting people to Leeds is significant in both of these,” says Steven. “Last week I was involved in a meeting with residents concerned about anti-social behaviour, and as a result the University has deployed patrols in a street and we have lobbied the council regarding street lighting... We do try to have an impact and if that means liaising with the private sector, then that is what we will do.”



All seeing: Steven Exley oversees the new control room

Full support

So the upgrade of the CCTV system is part and parcel of the University’s contribution to managing crime and disorder on campus and in the surrounding parts of Leeds.

As the chief constable said, CCTV plays a vital role in modern policing. “We are regularly asked if we have footage, not just specific to incidents on campus but also of people going through the campus,”

Steven says. “We have always given full support to the police when they have asked for tapes in the past and now with the digital system, we can present it much more quickly along with the data to support the footage.”

If there is one thing he is afraid of it’s overwhelming security staff with too many cameras. There may be a temptation to install more cameras or monitor cameras for other departments – the IT division has 176 of them – but Steven wants to ensure he has sufficient resources to respond to an incident on camera if required.

More than anything, he doesn’t want his staff to lose their enthusiasm for CCTV. “It is a real feeling of joy for the officers to have that quality of equipment now,” says Steven. “It is a major step forward for campus security.”

SYSTEM PROFILE

University of Leeds

After 10 years of temporary accommodation, the University of Leeds’ control room has had a facelift and has upgraded all its equipment in every way. Here, we take a look at what goes to make up the new high-tech systems

<ul style="list-style-type: none"> • When did the system go live? November 6, 2009 (practical completion) 	<ul style="list-style-type: none"> • Detachable media CD/DVD - part of Synectics Review Client
<ul style="list-style-type: none"> • Cameras New camera locations: 40 Cameras upgraded: 45 Existing cameras not upgraded (but included in system design): 35 Other cameras: Link provided to ISS department’s IP CCTV system potentially adding 176 cameras 	<ul style="list-style-type: none"> • Control system Synectics Synergy CRMS • Monitors 8 x 47-inch Sony FWD-S47H1 LCD monitors controlled via 4 x Synectics Display wall controllers displaying all images at 25fps in a quad format for each monitor
<ul style="list-style-type: none"> • Control rooms 1 	<ul style="list-style-type: none"> • Furniture Intech Furniture
<ul style="list-style-type: none"> • Recording system Synectics Digital Recording system providing 31 days storage. 9 x Primary Storage Nodes located centrally in a University data centre. Storage capacity: 40 terabytes in Time Lapse Later mode, giving 14 days at 25fps followed by 17 days at 4fps. All images recorded at D1 and at 2Mb data rate 	<ul style="list-style-type: none"> • Management software Synectics Synergy • Re-deployable cameras • Radio/other comms kit
<ul style="list-style-type: none"> • Transmission system HYBRID Transmission – dedicated 1 gigabit VLAN provided by ISS department. Cameras linked to remote hubs via UTP or privately-owned multi-mode fibre 	<ul style="list-style-type: none"> • System installer TIS (Mansfield) Ltd • System maintainer TIS (Mansfield) Ltd • Consultant SGW Security Consulting • Number of staff Two operators plus one supervisor on duty at all times • Other equipment Installation of new Simons-Voss access control system within new control room