# Tackling school vandalism

*How Newport Schools, Wales, dramatically reduced vandalism and improved the safety of staff and pupils with the help of Axis IP-Surveillance*

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# The rising tide of school vandalism

Over the last decade, vandalism has become an increasingly common problem for schools worldwide. One can safely assume that all those concerned regard the money spent on repairing school property as a waste, and would prefer to see it being spent on educational materials such as books, computer equipment and the improvement of school facilities.

At the same time, there is a growing number of schools in which staff and pupils feel themselves to be personally at risk – where an unruly element prevents the school from functioning successfully through its disruptive, threatening or even violent behaviour.

How should local authorities respond to these kinds of problems? Can something be done? Here you can read about how one city council in the UK took the problem in hand, providing an excellent example of the way in which digital video technology can be used to tackle the problem of school vandalism.

## The Newport story

*"Network video technology can be used to tackle the problem of school vandalism"*

In the late 1990s, in the area controlled by Newport City Council* in the UK, there were a number of school security issues. Some youngsters were running amok on the flat roofs of school buildings, lighting fires and engaging in antisocial and dangerous activities. Besides the resulting insecurity experienced by staff and pupils, the council was paying out hundreds of thousands of pounds each year to fix all the damage being caused. For all these reasons, Newport City Council made their decision to try and tackle vandalism, with the help of the 'Newport CCTV in Schools Initiative'.

The goals of this initiative were to reduce vandalism and to increase the safety of staff and pupils in schools across the region. Newport aimed to achieve this with a cost effective, easy-to-use surveillance solution that could be managed centrally using the resources already in place at the council's headquarters. The project involved bringing together private sector partners to develop a solution utilizing existing analogue cameras and gaining increased benefits by adding network technology.

## Funding



The Newport project team made an initial submission for £3.2 million funding for surveillance of all 68 of Newport's state schools.

Two external factors conspired to assist Newport City Council in funding its initiative. Firstly, its application coincided with the implementation of the National Grid for Learning (NGfL) - a state initiative to provide broadband access to all schools for the purposes of furthering education through use of the Internet. In addition, the Home Office (UK Government) was at the time offering grants for security projects as part of an initiative designed to increase safety in communities across the UK.

## The pilot project

*"Positive results at the pilot project enabled Newport City Council to provide data supporting their application for funding"*

To support its application for funding, the project team developed a pilot surveillance project at one school and collected data that proved the impact of surveillance. The chosen school had not only experienced incidents of vandalism, but had also documented the cost of vandalism-linked window replacement as more than £6,000 over the previous year. This meant it would be easy to measure the effects of surveillance.

Implementation partners were selected, all initially being required to give of their time, resources and in some cases products to get the pilot site up and running within just three months.

When the pilot system was ready to run, the project team held a formal launch event, and the following day all parents, neighbours and interested parties were invited to watch a live demonstration of the pilot.

Positive results at the pilot project enabled Newport City Council to provide data supporting their application for funding. Their case was further reinforced by an incidence of arson at one of the schools earmarked for inclusion in the first phase of the 'CCTV in Schools Initiative'.


** Newport City Council in Newport, South Wales is a unitary authority formed in 1996 and granted city status in 2002. It provides all major public services via departments including Corporate Services, Environment & the Economy, Lifelong Learning & Leisure and Social Wellbeing & Housing.*

## Selection of participating schools

*"From very early on, the benefits of building a fully networked surveillance solution linked to the pre-existing 24/7 Community Alarms Control Centre were clear"*

After some consideration The Home Office granted Newport City Council enough money to provide a centrally controlled surveillance system to at least 20 of the 68 state schools in the region. Twenty schools then had to be selected.

From very early on, the benefits of building a fully networked surveillance solution linked to the pre-existing 24/7 Community Alarms Control Centre were clear. To be eligible for inclusion in the project, schools therefore had to have already subscribed to the state sponsored broadband initiative and have the fixed lines of between 128KB to 10MB fibre or copper running to them.

The other criteria for selecting schools were a recognisable problem with anti-social behaviour and a willingness to commit to a three-year service level agreement with the council. Window replacement bills were used to assess the extent of anti-social behaviour in each school as objectively as possible. Analysis of these bills showed that some schools were spending more than £12,000 per year purely on glass replacement following vandalism incidents.

It is interesting to note that a few of the schools that were initially earmarked for inclusion in the project chose not to sign up - either because they had their own networks or because they were already committed to maintenance contracts with telecoms providers and had installed their own stand-alone CCTV systems. However, all of them did eventually come on board.

## Caretakers and wardens -the holistic approach

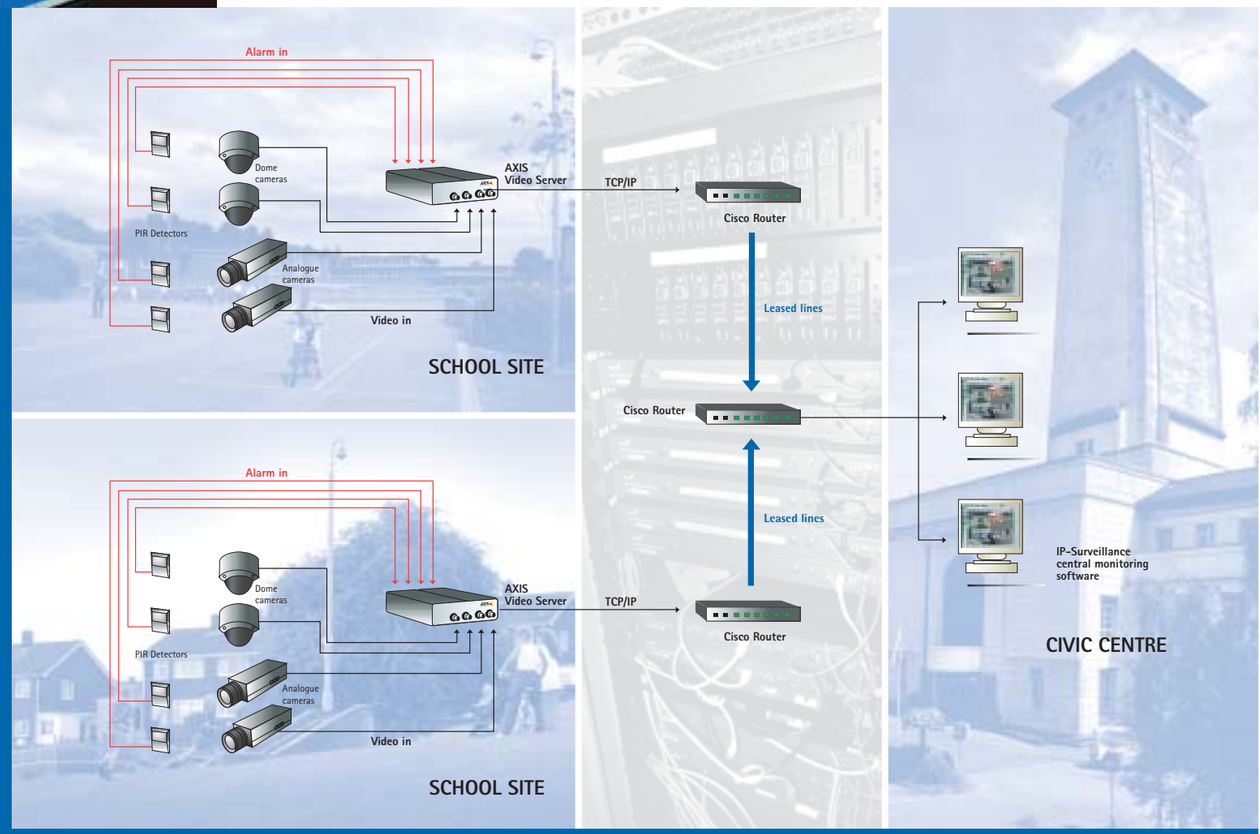
*"A key element was the involvement and education of caretakers whose local knowledge proved invaluable"*

Ensuring rapid physical response to anti-social behaviour or potentially escalating situations at the schools proved critical to the success of the scheme. A key element was the involvement and education of caretakers whose local knowledge proved invaluable. They helped for example, with the correct positioning of masts, cameras, sensors and lighting. In addition, when wardens were deployed to carry out patrols of schools, the caretakers provided them with vital information about common of the trouble spots.

# The technical solution


*"The solution they ultimately chose gave them the best of both worlds – protecting their investment whilst also giving access to the benefits of advanced network video technology"*

Since Newport City Council had already purchased some video surveillance equipment, they naturally wanted to safeguard these earlier investment instead of buying a totally new system. The solution they ultimately chose gave them the best of both worlds – protecting their investment whilst also giving access to the benefits of advanced network video technology.




### Product providers

Axis video servers are used to distribute video from existing analogue cameras onto the network. Live video footage was fed from cameras in each of the schools, via the Axis Video Servers and then transferred over the network to the central monitoring centre. Network communications to the central monitoring centre was provided via a Cisco central router running IP only software. In addition all remote sites have a dedicated Cisco router also running IP only software.

### Motion detection

Alarms are generated by the detection of movement across all schools. Once the system receives an alarm, recording begins at three to five frames per second and the resulting images are sent back to the monitoring centre. Operators using IP-Surveillance central monitoring software then take full control of the cameras monitoring and recording the footage. Authorized staff at the schools can view images securely via an Internet browser over the Wide Area Network (WAN).

### Remote monitoring

Implementation was simply a matter of connecting the existing CCTV cameras to the Axis video server, which is then plugged directly into the computer network. An IP address is then assigned, which allows staff at the Civic Centre control centre to view the video via the IP-Surveillance software as well as authorised staff at the local school via a standard web browser.

### Rules regarding admissible evidence

The decision was taken to use M-JPEG compression algorithm in compliance with the Police Scientific Development Branch's (PSDB) rules on admissible evidence as detailed in its Digital Imaging Procedure document published in March 2002. The Axis Video Servers utilise the M-JPEG format for digitisation and compression of images for easy transmission over the Internet.*

** For further information, please refer to http://www.crimereduction.gov.uk/cctvminisite23.htm*

# Immediate benefits and cost savings


Now deployed across twenty-seven schools, the Newport surveillance scheme takes credit for cutting vandalism and anti-social behaviour substantially whilst also raising morale in schools and making the communities around them safer.

The pilot school was initially chosen because it had documented its annual expenditure on anti-social behaviour and had spent £6,000 in 1999-2000 on dealing with this. It also had real problems including children skateboarding off the low sloping school roof. Since the first cameras were installed in December 2000, the number of incidents fell away very rapidly. In the period from April 2001-April 2002 there was only one incidence of vandalism resulting in a window replacement and from April 2002-2003 there were no incidents at all in this category.

The twenty-seven schools already linked to the Newport Surveillance system or in the process of installing it, saved nearly £46,000 in the year to April 2003 on window replacement alone. That represents a 35.5% saving on the previous year and a reduction in the number of incidents by 29% from 725 to 516. Money spent on cleaning up of graffiti and litter collection was reduced by £75,000 according to the council's estimates.

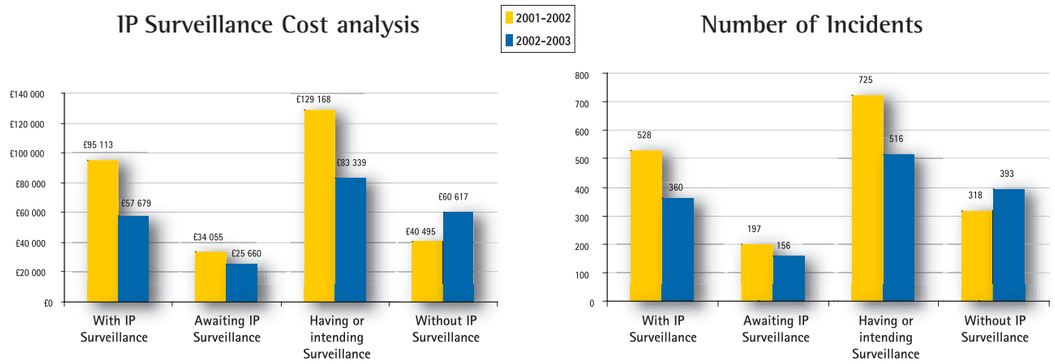
By contrast, those sites not involved in the project saw increases in window replacement bills of 50% from £40,500 to £60,600 over the same period, spending more than £20,000 on window replacement in the year to April 2003. Understandably many of these schools are now expressing an interest in joining the scheme.

The reduction in criminal damage has enabled Newport Council to renegotiate insurance rates for all schools in the borough.


*"The twenty-seven schools already linked to the Newport Surveillance system saved nearly £46,000 in the year to April 2003 on window replacement alone"*

*- Phil Cox, Principal Consultant, Newport Council*

**Savings in participating and non-participating Newport schools in the last 12 months to April 2003 compared to year before**




# Spreading the success


*"Other councils are already looking at the Newport model with a view to implementing similar schemes in their regions."*

The Newport story provides an excellent example of what can be done to fight vandalism in schools. It won 'Security Client of the Year Award' at the prestigious Security Excellence Awards in October 2002. Regionally it collected 'Best use of Technology in Government Award' from Technology Wales 2003 (TW03) and the accolade of 'The Most Innovative use of IP Technology in the UK' as nominated by key IT decision-maker publication Computer Weekly.

Not surprisingly, other schools and institutions in the area are now keen to join the scheme, including a Day Care Unit for old people and a stately home, which is a popular tourist attraction west of the city. Meanwhile, other councils across the UK are already looking at the Newport model with a view to implementing similar schemes in their regions.

## *Integration with other systems*

Newport City Council is keen to take full advantage of all the latest technology in surveillance to integrate video server technology with other systems. This could mean for example, integration with other intruder or fire alarm systems that are linked directly to the security system and allow for an immediate, integrated response.

## *Schools all around the world choose Axis*

Whilst Newport City Council has been especially progressive in its application of digital technology, it is by no means the only local authority to implement such a scheme. Axis IP-Surveillance is being used to combat vandalism and improve life quality at more than 100 schools throughout the US and all the way across Asia and Australia.

**For more information, please visit the Axis online education portal at www.axis.com/education/**

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## About Axis

Axis increases the value of network solutions. The company is an innovative market leader in network video and print servers. Axis' products and solutions are focused on applications such as security surveillance, remote monitoring and document management. The products are based on in-house developed chip technology, which is also sold to third parties.

Axis was founded in 1984 and is listed on the Stockholmsbörsen (XSSE:AXIS). Axis operates globally with offices in 14 countries and in cooperation with distributors, system integrators and OEM partners in 70 countries. Markets outside Sweden account for more than 95% of sales. Information about Axis can be found at **www.axis.com**

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