## CCTV keeps an eye on what's happening at The King's School

The King's School in Parramatta welcomes the local community to use its fields and facilities, while CCTV deters unwelcome intruders

hen Peter Quinlan, director of Quest Security Solutions, visits a school for the first time to talk about closed circuit TV (CCTV), he often finds that the principal views installing security cameras as an admission that there's crime in the school. Concern is voiced about how the community and parents will perceive the school if it "needs CCTV".

However, once the school recognises CCTV as a preventative measure that demonstrates duty of care for staff, students and visitors, a network of visible, well-signed cameras soon become a reassuring part of school life.

Though there's no hard and fast way to put a dollar value on the cost vs. benefit of installing a CCTV system, Quinlan told *Education Today* that his company has installed CCTV systems at schools suffering from vandalism or theft that have recorded an 80–90 per cent reduction after the installation of a comprehensive solution, making the payback almost immediate.

Manpower is a costly form of crime prevention, Quinlan says. A security patrol guard will cost a minimum of \$70K each year, with only eight to 10 hours of service each day. The equivalent investment in a CCTV solution would consist of up to 30 cameras and would be

a one-off expense. CCTV is often more effective than security patrols as a single officer can only be in one place at a time.

While some standard rules may apply to camera locations such as IT labs, locker areas, quadrangles and corridors, the number of cameras installed in any one campus is ultimately determined by each school's circumstances. Quest Security has installed large 120-camera systems and others with just 10 cameras. Size of installation comes down to geographical location, the area of the grounds, the number of buildings on the campus and the number of students.

The type of technology selected determines the cost of an installation. The older technology, analogue images recorded digitally, will initially be less expensive to install but will incur costs when the technology is no longer available and needs to be upgraded to current IP technology.

IP cameras transmitting digital images are recorded digitally, increasing image quality and future proofing the CCTV installation. As an example, a 30-camera IP solution recording onto a branded professional server would cost between \$60K and \$70K. The same size solution in analogue would cost between \$40K and \$50K.

There are three main camera types, Fixed Dome, Full Bodied and PTZ (Pan Tilt and





Zoom). Each application requires a specific camera type. A dome camera would be best in an environment where light levels are controlled artificially. Full bodied cameras are required for areas where light levels vary depending on the time of day and have a more efficient light management ability. PTZ cameras are required when an operator wishes to control the images manually or have a set tour of an area.

The majority of cameras have the ability to switch between colour and monochrome, to provide better images once light levels dip below a pre selected lux level. A true day/night camera will mechanically move a filter in front of the chip to filter out colour for a crisp monochrome image. Software based day/night cameras simply remove the colour from an image leaving a grainy monochrome image.

Megapixel or high definition cameras are becoming more common as they provide sharper images and can be zoomed for finer detail. It is important to consider when selecting a HD camera that they do cost more and use larger amounts of storage and network bandwidth.

## CCTV at The King's School

The King's School in Parramatta, NSW, started to explore CCTV in 2004 and its first small four-camera system was installed the following year, after Michael Eggenhuizen, director of ICT joined the school.

The school, which sprawls over 120 hectares in North Parramatta, was established in 1831 and has a current student body of 1450 boys, including 400 boarders.

Though King's is a private school, it is very much part of the local community, with neighbours using the grounds for recreation and local state schools sharing the sports facilities.





All camera locations are identified with notices at The King's School

"There are several gates, and a great number of people coming and going during the week and at weekends," Eggenhuizen told Education *Today.* "The school wants to provide a high level of security without limiting access by people who have a legitimate reason to be in the grounds or its buildings."

The CCTV installation has 40 cameras at present, and plans to add another 10 or so this year. All cameras are IP based and are on a separate network with a huge 25-terabyte storage array. When the extra cameras are installed, several weeks of camera footage will be stored. Bosch cameras are used throughout, controlled by the Bosch Video Management System (BVMS) running on Enterprise Server software.

Eggenhuizen stresses that individual privacy is paramount, with access to recorded footage strictly limited and allowed only when the deputy headmaster deems it necessary.

In all areas where there are cameras, prominent signage is in place to warn of their presence. When a new camera is installed, staff and students are notified.

The cameras are sited mainly on the school's gates, roadsides and building exteriors. Cameras are in place inside the school's gymnasium, mainly for safety reasons and throughout the School's Centre for Learning and Leadership, where there are around 160 computers.

Catching thieves may not be the primary purpose of The King's School CCTV system, Eggenhuizen says, but it helped the police to clear up a spate of robberies two years back when, over two to three weeks, the same van was seen entering and leaving the grounds. The cameras at the gates recorded the van's number, enabling the police to raid a house in Parramatta that was "Stuffed with stolen computers and laptops."

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## **Privacy Legislation**

Privacy legislation varies from state to state, but have the same core objectives of providing security without compromising the individual's rights to privacy. In NSW the two acts are:

Workplace Surveillance ACT 2005 Defines what is a lawful installation; requirements for warning signage; cameras must look like a traditional camera and cannot be disguised; and all staff must be notified two weeks in advance of a camera being switched on.

Security Industry Act 1997 Describes requirement for security companies to hold a master license in order to trade and employ security technicians; licensing of individuals installing security devices; and the same for enterprises that offer consulting, selling and servicing services.