



New wizardry to keep you safe

Technological advancements in security cameras have evolved significantly over the years, with the move away from CCTV systems towards network cameras.
ROXZANNE VAN EYK reports

MANY of the more sophisticated homes these days have CCTV systems installed, making this security system the best available. However, thanks to advances in technology, these systems can no longer be considered state of the art.

The latest technology on the market is an IP-based video surveillance camera system that can be integrated with certain existing systems.

It is being marketed by Axis Global Technologies, a manufacturer of network video products.

CCTV analogue cameras were first introduced in black and white during the 1950s. By the 1970s, colour cameras were introduced, followed by recordable CCTV cameras in the early 1980s. About a decade later digital CCTV cameras came about, albeit with a very basic functionality. In 1996 Axis was the first company to launch a network camera, also known as IP-based video surveillance.

A network video system allows the viewer to record and monitor images over an IP network such as the internet. Unlike analogue video systems, network video uses the network, rather than dedicated point-to-point cabling, to transport information.

There are two types of network cameras: indoor and outdoor ones. The latter are often equipped with an auto iris lens to regulate the amount of light that the image sensor is exposed to.

Homeowners with an analogue CCTV system can combine it with an Axis video encoder. It digitises analogue video signals and distributes digital images via the IP-based network, turning analogue cameras into network cameras.

Even though network cameras are clearly superior to analogue systems in terms of technology and functionality, analogue cameras are still the most widely used. Research undertaken by IMS Research last year on the world market for video surveillance equipment showed that analogue cameras make up about 80% of the world surveillance camera market. The research also showed that the market share in Africa and the Middle East for analogue cameras is nearly 83%, with network cameras coming in at about 17%.

Network camera have important advantages. These include image quality and bandwidth management. Image quality could arguably be considered the most important factor, as a poor image could result in an



intruder not being satisfactorily identified.

The processing power of the network cameras that Axis makes not only captures and presents the images, but can also digitally manage and compress the video images for sending over the network.

The better image quality obtainable from the Axis camera system is due to three factors: advanced signal processing, image enhancement algorithms and video compression technologies; custom-designed image processing and video networking chips; and careful selection and matching of the latest image sensors and lenses.

Improved image capture is possible as progressive scan instead of interlaced scan is used. The whole image is captured at one time, providing crystal-clear images even with a high degree of motion going on.

Ideal for homeowners is the video management software. This is in fact a vital component as it allows for remote viewing, recording and event management. The camera station allows users to record continuously, on schedule, on alarm and/or on motion detection.

Remote viewing and playback are also possible. Other enhancements—ideal for outdoor cameras—are improved image quality in fog, smoke and rain, and extended visibility. The advanced features are able to utilise biometrics and facial recognition.

Axis claims that its system can prevent a situation before it happens. With motion software and a microphone in the camera, a distant motion or sound can be picked up and this will automatically redirect the camera to where the disturbance was noticed.

So for example, if someone comes within five meters of a property's perimeter wall, the homeowner or security monitoring company will be notified.

But what if the camera is tampered with or vandalised? Should this occur, the network cameras are programmed to notify the relevant person or security company instantly. Although CCTV systems allow certain areas of the home to be monitored, what happens if the person in charge falls asleep, fails to notice something untoward, or leaves his post for a short while?

All these aspects have been thought of. Homeowners can request how they would specifically like to be notified, be it by SMS, telephone, an alarm linked to the security company or by a flashing red screen, when something out of the ordinary happens.

