

Reducing forecourt theft.

Axis IP-surveillance equipment cuts 'drive offs' and thefts at Hindmarch and Co garage by more than £15,000 per year.



Organization:
Hindmarch and Co

Location:
Stamford, Lincolnshire,
United Kingdom

Industry segment:
Retail

Application:
Video surveillance
and theft prevention

Axis partners:
Control Z and
Milestone



The Hindmarch and Co story

Hindmarch & Co is a family-run business, owned and run by the managing director of the firm Mike Hindmarch and his three sons, in Stamford, Lincolnshire, UK. The business is spread over five acres including a forecourt, shop, workshop, express fitting and a large sales yard at the rear of the garage. It employs a total of 45 full-time staff. A large body shop run by Mike's son Andrew, operates from a separate location one mile away. The garage itself sells more than 1,000 new and used Peugeot cars and maintains more than twice that number. It stocks at least 150 cars on-site at any one time and operates a Total Fuel outlet selling more than 80,000 litres of fuel per week.

CCTV system fails to deliver results for Hindmarch

Hindmarch & Co had invested in a traditional analogue-based CCTV system in 1994 but found the images it recorded were not of sufficient quality to make number plate and facial recognition possible. Although crimes were recorded in progress, the garage was never able to help the police secure convictions using these images. As such they were a poor deterrent for the determined criminal.

The number of crimes affecting the businesses was rising and losses sustained from these crimes were mounting year-on-year. By 2000 the business was experiencing increased incidents of 'drive offs' by 'runners'

who fill up their vehicles and leave without paying, costing the business more than £10,000 that year alone.

Mike Hindmarch, owner and general manager of Hindmarch & Co, explained: "By 2002 we were up to two or three drive-offs per week. Loss of stock from these incidents, as well as frequent small-scale shoplifting activities and some break-ins was costing us more than £15,000 per year. And it was not just the runners we had to worry about. We had wheels, airbags and other expensive parts removed from cars which were parked up ready for sale or refitting. Enough was enough – we had to do something to reduce these losses."



Existing network and computer infrastructure

Mike Hindmarch had already used local networking specialist Control Z to set up a computer network of more than 20 PCs for administrative staff in July 2001, at the main garage site.

After the dealer management system, called KBA, was installed on a server in the body shop in April 2003, Control Z installed a secure Virtual Private Network (VPN) link between the two sites for high speed transfer (via a BT Broadband link) of key vehicle data back to this main dealer management system from the administration area on the main site.

IP-Surveillance provides higher quality images and accurate recording

Hindmarch & Co called in Control Z Computers to look at providing a higher quality, network-based surveillance system in May 2003. Control Z Computers gained approval on a proposal to install a total of eight Axis network cameras within the main site. Plans were drawn up for a further five cameras in the body shop across two key sites, using the VPN link to pass video images back to the PC, set up in a locked security office in the administration office, in the garage. Control Z Computers installed the Milestone XProtect® system on this PC for viewing, storage, retrieval, recording and automated disposal of video data. Milestone XProtect® is one of the most comprehensive IP-surveillance software solutions on the market today.

Mr Ben Howe, Control Z's managing director, provided the reasoning for this selection: "At the time I selected the XProtect® system because of its ease of use and automatic archiving facility for incidents captured out of office hours."

One further PC was set up behind the counter in the shop. This PC is used by the till attendant to view up to four cameras at the same time, covering live motion views of each of the four fuel pump islands. An emergency button under the counter can be used by the same attendant to cut off specific pumps if an employee fears that a drive off may be about to happen.

At night the infrared AXIS 2420-IR camera has proved particularly useful in identifying criminals as Mr Howe at Control Z explains: "If you put up large floodlights triggered by motion then intruders will just wear masks or hoods which prevent identification. But infrared provides high quality black and white images without alerting felons to the existence of surveillance onsite. Because they think there is no surveillance they tend to leave their masks off. We have caught more criminals as a result of this."



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Most other Axis network cameras deployed in this installation operate in extreme low light conditions down as low as one lux which is the equivalent of candlelight or cloudy moonlight. These have produced high quality pictures during overnight break-ins of the shop for example. In one example in the middle of the night, the camera provided clear pictures of a hooded man trying to rip a burglar alarm off the wall outside the shop.

Mr Howe described the scene: "Unfortunately he didn't appear to notice the camera operating a mere three feet from where he was hard at work with a crow bar."

Control Z Computers deployed the Milestone's XProtect® system for viewing, recording and management of video data coming from the eight cameras. It set up the system to record on motion detection at 10 frames per second (fps). This rate was found to be adequate for effective viewing of security incidents. It did not make sense to record continuously because at this site there is very little movement over night and much of the data saved would have been wasted.

This data is saved to two Western Digital Firewire 7200 high speed hard drives offering 250GB storage each, enabling the garage to store five days of security incidents very comfortably. Once incidents have occurred, authorised staff can review and save copies of the incident on the PC's hard drive and on a DVD Recordable disc (DVD-R) for sending down to the local police.

Mr Howe explains how XProtect® works: "Once the video file is opened up it is possible to move to the key images within the sequence by simply using the mouse to toggle up and down, much like a Word user would scroll up and down a page. I have set the system to record at high resolution so quality of image is already very high. It also enables users to zoom in to capture key details such as number plates and a driver's face when drive-offs have been noticed. We then normally create AVI files of the key evidence, exporting them onto DVD before alerting the police and sending the evidence down to them."

Milestone XProtect® also offers the ability to increase frame rate once motion has been detected. It is not uncommon for systems to be set up to run at around five frames per second to restrict use of storage space when there is no activity to record, but to increase to 25 frames per second once motion has been detected.

Hindmarch chose to retain a constant frame rate of 10 fps because of the regularity of motion in and out of the garage between the hours of business which are 7am and 8pm and the desire to restrict hard disk drive usage. All Axis cameras also offer a pre-event cache memory which means that the vital moments prior to a security incident are captured as well as the incident itself which is recorded once motion has been detected. This pre-event information often provides the police with vital clues as to the identity of the individuals involved.



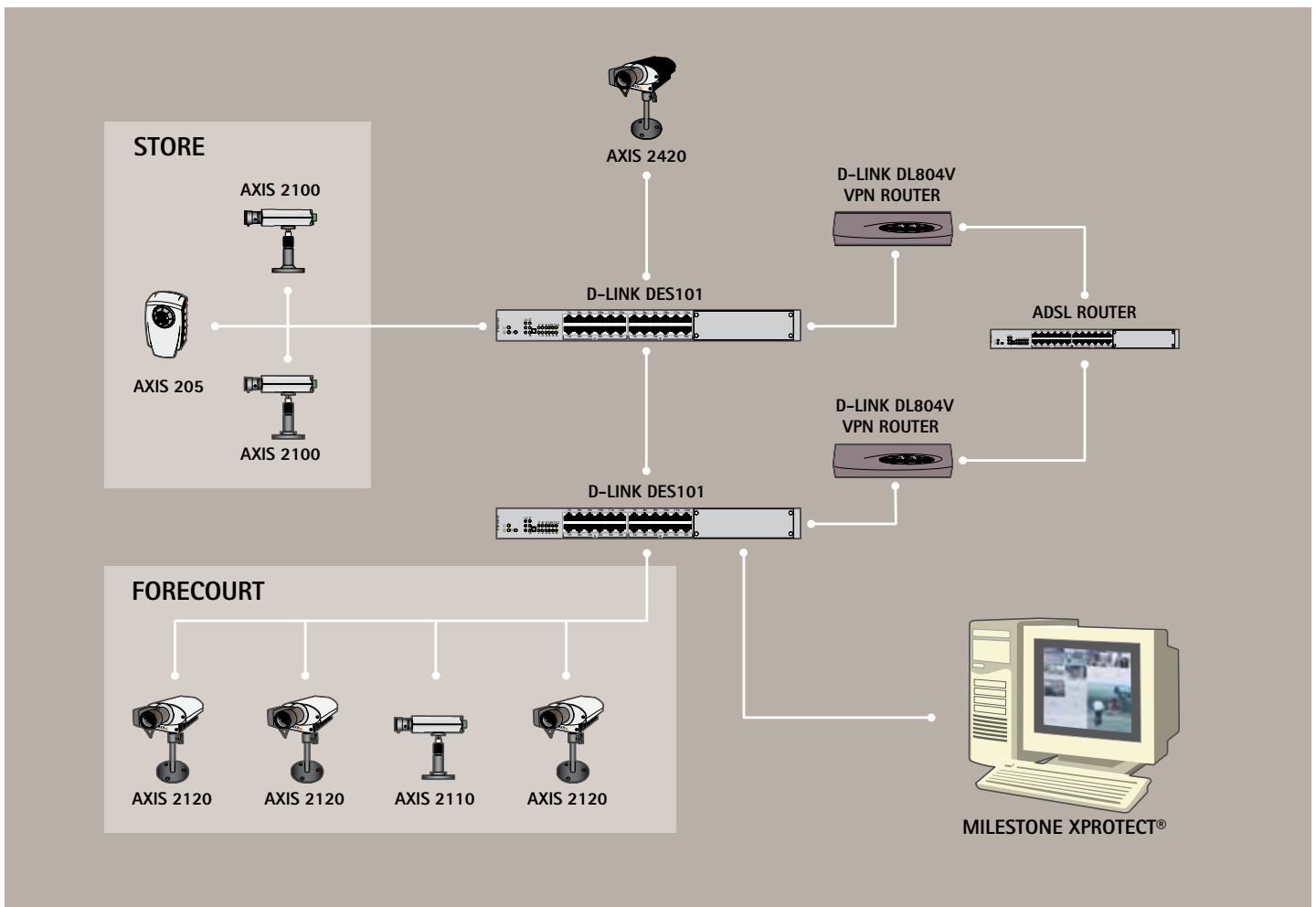
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Technology in-depth

The whole system for this business was purchased and integrated by Control Z for under £10,000 and return on this investment was achieved in just eight months. The system includes a total of eight Axis network cameras installed at the main site including:

- > One AXIS 205 located in the shop trained on the door;
- > Two AXIS 2100 of which one is trained on the confectionary shelves and the other on the main counter;
- > A 14-foot reinforced steel mast at one end of the forecourt holds four further cameras including an AXIS 2110 which provides the overall view of the forecourt;
- > Two AXIS 2120 which focus on two different fuel islands;
- > One further AXIS 2120 is attached to the wall of the shop to cover the third fuel island;
- > An AXIS 2420-IR camera is located to the rear of the site to cover the car lot;
- > An Axis IR Illuminator provides additional covert lighting to around 150 cars in this area.



Handling video evidence

The security office holds a 40GB hard drive personal computer (PC); Two DES101 D-Link 10/100Base-T Fast Ethernet switches; Two Western Digital Firewire 7200 high speed hard drives offering 250GB storage; a D-link ADSL modem for linking to the BT Broadband connection via the Internet Service Provider Pipex; as well as two DL804V VPN routers. The security office also has a patch panel for linking of all necessary CAT-5 cabling between devices.

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The PC in the security office has a 40GB hard drive, with 1 GB of Random Access Memory (RAM). It holds the Milestone XProtect® software and also has a DVD-Rewriter. A DVD-Rewriter was important because a CD-R can only carry up 640MB per disk and sometimes long sequences of video can exceed this.

The hard disk drive also holds a folder of video sequences of past security events which have been picked up over the previous month, including one where a young man filled up his car and was about to drive off when he was spotted by a member of staff who attempted to stop the car but was instead knocked out of the way by the car as it drove off at high speed. Another captures a hooded man attempting to crow-bar a burglar alarm off an outside wall in full view of one of the Axis cameras. These video sequences were also sent to the police and could lead to prosecution in the future.

Spotting new crime trends

Mr Howe gave a very recent example of where good surveillance has paid off for Hindmarch & Co: "Just in the last month we have noticed a new trend in which people fill up their cars but then come into the shop just to pay for sweets. Last week we had one that paid for the sweets by credit card but failed to mention he had also picked up £45 of fuel. We not only had his vehicle registration but also gathered pictures of him picking up the sweets, and captured the exact moment when his card was swiped. Armed with all this information, it didn't take long for the police to track this guy down."

Incidents like this, which could lead to prosecution, are then saved as AVI files onto DVD-Rs and sent to the local police. For drive-offs, garage staff sometimes simply read number plates off the recordings to the police down the telephone. The police locally then act to go to the house of the registered owner of the offender's vehicle if they are based in the locality.

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Crime detection rates have risen sharply

Mike Hindmarch estimates that of the latest crop of incidents more than half have already been resolved by local police following positive identification using the new IP-Surveillance system. Local trouble-makers are apprehended much more quickly than they used to be. Criminals that are passing through still take a little more time to find. Thefts and drive-offs have also fallen significantly since the new system was put in.

The system has been so successful that five more cameras are expected to be put in at the body shop within the next few months.

Mike Hindmarch summarises: "Given the amount of losses that we were sustaining before this system went in, the system installed at this site has paid for itself in less than a year... a significant achievement given the nationwide backdrop of rising crime figures."

Return on investment in just eight months and staff morale soars

Hindmarch's management has been very pleased with the results achieved since the new IP-based surveillance system has been installed. It paid for itself in monetary terms within just eight months of going live. It has also provided other soft benefits including higher morale amongst staff as the number of crime incidents fell away. The success of this project could very easily be translated into any other retail outlets where expensive stock is stored and sold on site.

Retailers around the world are choosing Axis

The challenges faced by Hindmarch & Co are experienced by many other retailers around the world. Whether you are running a petrol station, retail shop, restaurant or multi-site distribution network, Axis has experience of working with your type of business and can put this knowledge to work to give help you upgrade your CCTV system to IP-Surveillance or successfully deploy a new IP-based surveillance system.

Multiple benefits

Axis IP-Surveillance solutions can be customised to cut shrinkage, improve staff security, provide feedback to suppliers and enhance customer service. It's possible to integrate IP-Surveillance systems with customer counting systems for queue management, and alarm systems to reduce shop-lifting. Network cameras can also be linked to cash tills so that images of the crucial seconds that tills are opened can be captured and analysed to help cut theft and spot counting errors. All this means that IP-Surveillance has a great deal to offer every retailer from the corner shop owner to the multinational chain store.

Please visit www.axis.com/retail for the latest on Axis retail solutions and product offering. For the latest news in retail surveillance, visit www.retail-surveillance.com

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About Axis Communications

Axis is an IT company offering network video solutions for professional installations. The company is the global market leader in network video, driving the ongoing shift from analog to digital video surveillance. Axis products and solutions focus on security surveillance and remote monitoring, and are based on innovative, open technology platforms.

Axis is a Swedish-based company, operating worldwide with offices in more than 20 countries and cooperating with partners in more than 70 countries. Founded in 1984, Axis is listed on the OMX Nordic Exchange under the ticker AXIS. For more information about Axis, please visit our website at www.axis.com