

Axis network cameras keep an eye on retail growth. Hughes and Hughes gains control of security monitoring and achieves remote visibility of in-store activity.



Organization:
Hughes & Hughes

Location:
Ireland & the UK

Industry segment:
Retail

Application:
Security and remote
monitoring of in-store
activity

Axis partner:
OmniSys



Hughes & Hughes: the story

Hughes and Hughes is Ireland's fastest-growing book store chain with 18 book stores across Ireland and one store in the UK. The business was founded by Derek Hughes in 1984 and originally started life as a book wholesaler, following in the same line of business as his father. Recognising the potential in book retailing, he opened the 'Bookcellar' bookstore in a basement on O'Connell Street in Dublin in 1985. The Hughes and Hughes name was introduced with the opening of a store at Dublin's Stephens Green shopping centre in 1995. The business is renowned for innovation in book retailing concepts and grew rapidly, establishing stores across a mix of high street, shopping centre and airport locations. The firm has been a driving force in airport book retailing. Hughes and Hughes now has six book stores at Dublin airport, two at the new terminal building at Cork airport and one at both Shannon airport and London's City airport.

Ambitious growth plans

Hughes and Hughes currently employ 220 staff. It reported sales turnover of €28 million and profits of over €1 million for the year ending February 2005, with a 15% share of the Irish book market. The business is refurbishing its outlets. All Dublin airport stores are being refitted and store sizes are increasing with a flagship store recently being opened at Dun Laoghaire – rivalling new entrants such as US-based giant Borders. Derek Hughes has announced a five-year expansion plan aiming at 50 stores and €100 million annual revenue. It has recently struck a blow to established UK booksellers by landing a €70 million contract to operate as the exclusive bookseller for Terminal 5 at London's Heathrow airport, which will handle 30 million passengers a year. Fitting out the stores begins next spring with the terminal opening in 2008. The contract should generate €14 million of sales for Hughes and Hughes per year.

Managing a fast-moving business

Competition in the Irish book market is growing from all sides, from incumbents such as Eason and Son, and UK chains such as Waterstones and Borders. The trend is

towards 'lifestyle' bookstores with bright, clear displays offering a large selection. Browsing customers need to be welcomed in modern bookstores but the key is to convert customer visits into sales. This requires customers to be able to find what they are looking for and be enticed by offers, staff recommendations and point of sale displays to actually buy more books. Dwell time, the amount of time a customer is in a store is important, and stores are designed around the average time a customer has available. In an airport this is unpredictable, ranging from a minute or two for those rushing to catch a flight, to half an hour or more for those subject to delays.

Security is a key concern as for any business. Shrinkage, the loss of stock primarily through theft, is an area that any retailer needs to keep tight control of. Retail stores are obviously open to the public so there is a need to protect staff from potential abuse or violence. Cash handling needs to be closely monitored. Till transactions need to be monitored to spot potential fraud from employees and customers. Cash storage areas also need to be monitored.



Security surveillance

As the business expanded from the mid-1990s, due to high capital costs of installing CCTV systems, Hughes and Hughes invested in analogue CCTV only at its six stores at Dublin airport.

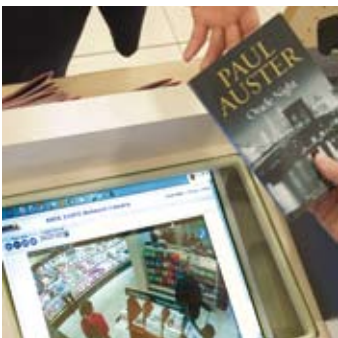
The original system cost €35,000 to purchase and install and consisted of two black and white CCTV cameras at each of the six airport stores. It incorporated a transaction monitoring system which captured images of each customer transaction. Image quality was poor – to such an extent that images retrieved were not always usable as evidence to support security incidents within the stores. All images were recorded onto VHS tape on a seven-day rotation, which proved time-consuming and prone to error. Recorded incidents were hard to find on the tapes, and the seven-day period was typically too short. Incidents were often erased before irregularities were reported or acted on. Such was the frustration that Hughes and Hughes decided to hire a surveillance monitoring company to take charge of the process and maintain the system at a cost of €3,000 per month.

Network development

Hughes and Hughes uses OmniSys, an IT consultancy firm based at Santry, close to Dublin Airport, to support and develop its IT infrastructure. OmniSys was started in 2001 by Colin Whelan and Colm O'Regan to take advantage of the growing requirement for network support services in Ireland especially amongst

small and medium sized businesses. In its first year of business, Colin was building his customer base and called Mark Gould, the Managing Director of Hughes and Hughes to see if they were satisfied with their current IT support provider. A server had stopped working at the Hughes and Hughes store in London City airport and its incumbent IT support provider would only give advice over the telephone. They were clearly unwilling to go to the store itself. Colin jumped on a plane from Dublin to London City airport and fixed the server the next day.

OmniSys has worked with Hughes and Hughes ever since, developing their IT infrastructure as the business grew. OmniSys has installed broadband connections in all of Hughes and Hughes' Irish outlets, saving on slow and expensive dial-up connections. OmniSys supported the retailer by installing a virtual private network (VPN) to help integrate existing stand-alone electronic point of sale (EPOS) systems from each of the outlets. The network allows the company to communicate and exchange transaction data securely with all stores through to Hughes and Hughes' headquarters based at Swords, County Dublin.



Utilising the network

OmniSys recognised the huge opportunities that the growth in IT networks could bring. In 2002, the company purchased an AXIS 2100 Network Camera to investigate how the device worked. OmniSys did not have any experience in security or IP-Surveillance but they wanted to exploit their knowledge of networks. The company soon joined the Axis Partner Programme and benefited from receiving initial training on network camera and video server configuration.

Colin Whelan introduced the subject of network cameras to Hughes and Hughes in 2003. Hughes and Hughes were opening a new store at Shannon airport and Mark Gould was willing to use the store as a trial site for installing network cameras. Mark was reluctant to install an analogue CCTV system at the store due to the need to install dedicated coaxial cable and the cost of purchasing, maintaining and monitoring a system similar to those they had deployed at their Dublin airport stores previously.

Shannon network camera trial

The Shannon airport store already had network cabling throughout which linked into the company VPN. Colin Whelan teamed up with a local electrician at Shannon airport to install power outlets to accommodate four AXIS 205 Network Cameras. With some additional network cabling the cameras were installed and operational in just one day. OmniSys specified AXIS Camera Station software to record output from the four cameras. The software runs on a personal computer using Microsoft Windows XP Pro, featuring a 2.8GHz Intel Pentium 4 processor, a gigabyte of RAM with a 1000 gigabyte external hard disk drive. AXIS Camera Station allows users to view and record images from up to 25 network cameras, showing 16 live views simultaneously. It can also be programmed to record specific events such as moving objects within a defined area of the store. In addition, it allows images from the store to be viewed by authorised personnel over the internet using a standard web browser. OmniSys trained the branch managers to use the system and within one morning the staff could use the system with confidence. The entire pilot system cost under €5,000 to purchase and install.

Early benefits

Image quality improved dramatically - images of individuals involved in store incidents were now of consistently high quality and could be relied upon to be used as evidence working with the Garda (the Irish police). Archived JPEG images, now stored for thirty days, were easily retrieved using AXIS Camera Station. As the images were available through the network and on the Internet via a password-protected browser, Mark Gould could view the images of the Shannon airport store at his office and Colin Whelan could access the same via his personal digital assistant device (PDA).



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Incorporating network cameras in every store

Hughes and Hughes recognised the potential of network cameras after this successful trial at Shannon airport. The business also now understood that it could afford to install an effective IP-Surveillance system at all of its stores without the excessive capital and on-going costs of maintaining a traditional CCTV system. It was therefore decided to incorporate IP-Surveillance into every new and refurbished store.

In 2004, OmniSys installed a six Axis network camera system in a new 3,200 square foot store in Dundalk, some 100 kilometres north of Dublin, stocking 20,000 titles and incorporating a coffee shop. OmniSys experimented with a wireless solution as the store had a wireless network, deploying an AXIS 211 Network

Camera, two AXIS 206M Network Cameras and three AXIS 206W Wireless Network Cameras, all recorded through AXIS Camera Station. The system quickly paid dividends as an intruder attempted to break in to the store's back room cash office. The intruder walked out of the store empty-handed, but the event was captured by the system and seen by the store management. Through using the recorded footage, the Garda identified the intruder as a known felon and arrested him within two hours. The individual has now been successfully prosecuted. August 2005 saw the opening of a new store in Wexford in south-east Ireland, with OmniSys installing six AXIS 206 Network Cameras and also AXIS Camera Station there, as well.

Dublin Airport

Dublin airport is located six miles north of Dublin and handled 18.4 million passengers in 2005, with 185,000 aircraft movements from 88 airlines flying to 170 destinations. Opened in 1940, it offers three runways and is owned by Dublin Airport Authority plc, a state-owned airport Management Company which also currently operates Cork and Shannon airports. The authority employs 2,800 employees.

With the growth of the Irish economy since the late 1990s, there has been strong growth in air passenger numbers coming in and out of Ireland.

Dublin airport is going through significant re-development – notably a 14,000 square metre extension to the original terminal costing €120 million. Called the 'Pier D' building, it will provide 14 new boarding gates and create capacity for an additional

10 million passengers per year. In addition, a second terminal will be built, starting in April 2007. This is a €395 million project to build a 75,000 square metre building capable of handling a further 15 million passengers per year to bring the airport's total capacity to 35 million passengers per year. Terminal Two is due for completion in autumn 2009.

Hughes and Hughes at Dublin Airport

There are currently six Hughes and Hughes stores at Dublin airport: two located before security check-in, one on each of the public arrivals and departure floors. Three stores are located after security, one on both Pier A and Pier B, a temporary shop on Pier D and a larger store on The Street, the central shopping area beyond security clearance. The temporary store is set to close in early 2007 when the building of the Pier D extension commences.

Store sizes are smaller than an average shopping centre or high street location. By 2008 Hughes and Hughes will have seven stores across the airport and is keen to get additional stores into Terminal Two.

During 2006-2007 all of the stores are being refitted, three refurbished stores now have network cameras installed – at the Pier A and The Street stores and also at the temporary store on Pier D. The remaining stores

will have network cameras installed once they have been refitted.

The Street

The largest of the three stores currently with network cameras is at The Street. This store is a 3,500 square foot outlet which is the product of two smaller stores being merged. The store sells books and includes a children's/young adult section. It also sells newspapers, magazines, sweets and drinks. OmniSys fitted a total of nine AXIS 216FD Fixed Dome Network Cameras installed in the ceiling across the store. A CAT 5 network socket was installed next to each of the

camera locations; power supplies were not required as the AXIS 216FD uses Power over Ethernet (PoE) which supplies power to the cameras over the network. The network connections terminate at a NetGear ProSafe 48-port 10/100 SmartSwitch with 24 available PoE ports. This switch is located in a secured communications room which is managed by the Dublin Airport Authority close to the Hughes and Hughes store. The room is only accessible by authorised airport personnel.

Till operators can select and view live images from the cameras at monitors facing up through glass panels set into the cash desk – staff simply look down to view, making it easier for till operators to keep an eye on the whole store in an unobtrusive manner. When only a few members of staff are working at the store during quieter periods, cameras can be selected to only show the 'blind spot' areas out of view from the till operators at the cash desk.

Pier A Store

The Hughes and Hughes store at Pier A is smaller than the store at The Street, selling a mix of newspapers, magazines and books, with cash tills on the right side of the store. OmniSys specified six network cameras, all AXIS 216FD Fixed Dome Network Cameras, with four along the width of the store's displays and two behind the cash tills. Similar to the store on The Street, AXIS 216FD uses Power over Ethernet (PoE); CAT 5 network

sockets were located next to the camera locations, eliminating the need for separate power supplies. The network connections again terminated into a NetGear switch located in a nearby Dublin Airport Authority secure communications room.

Hughes and Hughes also operates a bonded warehouse, located a mile away from the airport, which acts as its central delivery and

storage point for its airport stores. OmniSys installed a secure wireless virtual private network (VPN) and an AXIS 207W Wireless Network Camera to provide images for security purposes and also to see if critical stock has arrived or been despatched. An AXIS 210 Network Camera protects a cash handling office with an AXIS 211 Network Camera located at the administration office.

Monitoring and recording images

Images are sent over the network provided by Dublin Airport Authority and accessed at a workstation located in a Hughes and Hughes administration office within the airport. AXIS Camera Station software is used on a personal computer with an Intel Pentium 4 processor, 1 gigabyte of RAM running Microsoft Windows XP Professional. All 21 network cameras located around the airport can be viewed from this workstation. AXIS Camera Station is able to display up to 16 live screens simultaneously.

The images from the 21 cameras are stored on two external hard drives connected to the PC, each with 1 Gigabyte of storage capacity. Images from cash handling areas are stored at 15 frames per second, other areas at eight frames per second. All images are stored for 28 days. Live images from the stores are accessible to senior Hughes and Hughes managers over the Internet.

Security benefits

Mark Gould, managing director at Hughes and Hughes sees three main objectives of his stores' security operations – security of cash and stock, protection of staff, and prevention of fraud. Across all of the 19 Hughes and Hughes stores there is typically one security incident per week. A growing area of concern is insurance fraud, as some individuals have entered Hughes and Hughes stores and claimed to have had a 'trip and fall' accident on the premises. Graffiti and other low-level crime can also potentially put a drain on the business.

Mark Gould, managing director, Hughes and Hughes comments: "In a 12-month period we would typically expect to have two fraudulent insurance claims, where an individual will appoint a 'no-win, no-fee' lawyer to sue us for negligence due to some alleged accident on our premises which hurt their client. Having crystal-clear, easily accessible footage of any alleged incident quickly throws these claims out of court. On low level crime – we had an individual writing graffiti in a lobby area in one of our stores. It was caught on camera, our staff was alerted and we caught the culprit – with the recorded evidence ready to hand over to the police."

"We're very pleased with the system we have developed for Hughes and Hughes and especially the way it helps with the day-to-day management of their stores...As each store is refurbished we will continue to install network cameras."





IP-Surveillance – a vital management tool

To effectively manage a chain of retail stores you need to be able to access instant information on sales transactions, customer numbers, establish which promotions are working and which are not.

A key performance indicator for each Hughes and Hughes bookstore is converting book browsers into book buyers and to improve this you need to examine how customers behave whilst in store. It would be just feasible for a member of senior management to visit all 19 Hughes and Hughes stores in a month, though this would result in a great deal of time driving around Ireland. A visit from the manager from head office usually results in special preparation from the store manager – all book displays would show the correct books and be neat and tidy. Also it may not be possible to visit at the most interesting time of day, such as checking a morning or lunchtime rush, or over the weekend.

Mark Gould can look at the images from any of the installed base of network cameras using his wireless laptop or personal digital assistant (PDA) through a standard web browser, to check on any store at any time of day or night. This provides him with vital business intelligence and helps him take the pulse of the business very quickly. Mr Gould stated, "Thanks to the network cameras from Axis, I typically watch trading across our stores for about an hour or two per day. It allows me to see the business more frequently, I can see whether our promotions are displayed correctly and are attracting interest. I can get a feel for customer numbers on different days or times of day. I see our staff at work – if I check the airport shops in the morning I can see how our staff are coping with the rush of early commuters queuing for a book or a newspaper. There is no better tool for gauging our business. The information I get from what I see helps me make more informed management decisions."

The future

Network video is a small but fast growing area for OmniSys, which now sees IP-Surveillance as a natural extension to any business IT network. Many OmniSys customers are put off by traditional CCTV due to its performance and cost. But if they already have a network in place they quickly recognise the benefits it can bring in securing and monitoring their businesses. New developments from Axis, such as more network cameras with PoE capability and pan/tilt/zoom cameras with no moving parts, is making the job of installation much easier. To this end, OmniSys has recently installed 12 AXIS 212 PTZ Network Cameras in one Dublin store.

Colin Whelan, managing director, OmniSys comments, "We're very pleased with the system we have developed for Hughes and Hughes and especially the way it helps with the day-to-day management of their stores. We are now looking at integrating the network camera systems to capture each cash transaction so that the till operator, sale amount and amount tendered information is stored and this is something we want to roll out to the branches next year. As each store is refurbished we will continue to install network cameras. Hughes and Hughes' next store is in Ennis and we look forward to working with the company as it continues to expand."

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

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