

Axis network cameras brew up a range of business benefits at Zerodegrees.

Expanding UK restaurant and microbrewery chain Zerodegrees uses Axis cameras to protect staff, customers, and keep an eye on the builders.



Organization:
Zerodegrees

Location:
Bristol,
United Kingdom

Industry segment:
Retail

Application:
Security and remote
management of business

Axis partner:
Milestone



The birth of the Zerodegrees concept

For Nick Desai the restaurant trade was in his blood. His father Harshad Desai worked in a Joint Venture with high profile restaurant financiers Hugh Osmond and Luke Johnson to build up the PizzaExpress chain in the mid-90s. When Harshad Desai moved to California to extend the PizzaExpress brand there, Nick Desai took over the management of the London PizzaExpress restaurants while still at University.

It did not take long before Nick Desai himself was setting up his own outlets. Business partner Dipam Patel began managing two bars in 1989 in South East London and by 1997 he had also bought a nightclub in Beckenham and a restaurant in Bexleyheath. In 1998 Mr Patel and Nick Desai joined forces and began working on a new concept under the brand Zerodegrees.

The Zerodegrees concept would offer a microbrewery and restaurant under one roof. The name Zerodegrees stemmed from the location of the group's base in Blackheath to the East of Greenwich on the Meridian line at zerodegrees (00).

The idea was that fresh food would be specifically chosen to complement a full range of up to six fresh beers being brewed onsite. Fresh meat, fish and vegetables would be ordered from suppliers every day and all cooking would be done onsite. In addition, there was to be a focus on natural ingredients so the brewing process would contain no artificial chemicals or colourings. No expense was to be spared in creating slick, modern and stylish interiors to accentuate the novelty of the concept.

The growth of Zerodegrees

The Zerodegrees concept had immediate appeal. The first Zerodegrees site which was bought in August 1999, on Montpelier Vale in Blackheath was an ex-flower shop and conservatory with 6500 square feet and at completion in August 2000 offered 130 covers with space for a further 150 in the bar.

In July 2002 a second 12,500 square foot site was bought at a unused tram works close to the heart of Bristol. This site would allow space for 180 covers inside, with an outdoor terrace space for an additional 50. It opened in July 2004 and was an immediate success. Today four to five thousand litres of beer are consumed weekly on the premises. It took a year to complete the building in Bristol.

Bristol City Council asked that all existing stone materials used on the original structure be reused in the final construction and a stone wall at the back of the building be preserved fully intact except for two cuttings that allowed into the wall to create an entrance and a fire exit on the upper floor of the venue.

Today the group has six sites and employs some 240 people with 50 employed at the Bristol Zerodegrees site alone. Restaurant microbreweries in Reading and Cardiff create a total of eight outlets altogether. Mr Desai plans to extend the concept to at least ten locations by 2010.



Moving towards IP-Surveillance

Zerodegrees' co-founder Nick Desai always considered that discreet surveillance cameras would act as an important deterrent against bad behaviour and criminality in his nightclubs and bars. He wanted to cut out theft of customer belongings and loss of earnings through stealing of takings and was determined to cut out drug abuse in toilets.

Mr Desai explained: "Many nightclubs employ strong arm tactics at the door to keep undesirables out. We decided to go down the technology route to deter bad behaviour because we wanted to be welcoming to everyone."

Initially, the Zerobar and OHM bar in Bexleyheath used analogue-based CCTV cameras and Leviathan Pro 16, Rack Digital Video Recorders. Mr Desai elected not to rip out existing CCTV cameras and DVRs, but found the systems restrictive: "DVRs and analogue cameras lacked the flexibility that we wanted. Any new DVR systems that were needed as we expanded were expensive and limited the number of cameras."

Trialling Axis cameras during the building of Zerodegrees Bristol

So convinced was Mr Desai about the value of this approach that he installed an AXIS 2110 Network Camera at the main entrance to the building site very early on in the building project. He found this invaluable for dealing with progress in the building phase at Bristol where his view was needed on a specific aspect of the work before construction could continue.

He could also assess whether specific individuals who needed to be onsite were there – the foreman or the architect. It was also good to see if the full strength team of builders were arriving late or leaving early: "I didn't need to take their word for it that they were onsite and were proactively moving the project forward. I could see that they were there doing what I was paying them to do. It really helped me to keep on top of the progress of the building works."

Needless to say, the project was completed on time and on budget and surveillance certainly helped in this regard. Following the success of the trial use of AXIS 2110 Network Camera, Mr Desai decided to deploy a total of 16 Axis network cameras and four analogue cameras to cover the inside and outside of the building.

Mr Desai explains: "The trial convinced me of the value of networking surveillance cameras. It taught me that cameras could be used to provide me with visual updates on how a restaurant is doing day to day. I can check in on Friday evening to assess how busy it is and how quickly people are being served for example. I could see it as a great additional management tool as well as a security device."



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A more technical view

Network cameras are located in the bars on the lower level of the restaurant to ensure nothing untoward is going on. Bar areas tend to be vulnerable to pick-pocketing or bag snatching. The wash basin areas of the bar toilets are also monitored because the management wants to actively discourage drug usage.

Two contracted security guards, hired for the evenings, also patrol these areas and monitor entrances themselves to see who is coming in and going out. Mr Desai is also considering providing them with PDAs so that they can monitor activity inside the whole building while stationing themselves at the entrances.

Cameras set up outside use 'exclusion zones' to ensure that the right areas are targeted for movement. So the movement of trees outside will not trigger the system but when people start walking down the ramp into the upstairs entrance this will trigger the system to increase refresh rates on the cameras from four to 12

frames per second (fps) for better definition and guaranteed identification of individuals as they enter.

Zerodegrees uses a 2 Terabyte (TB) Dell server running Windows XP Professional software platform to store 31 days of images, normally leaving 500 Megabytes (MB) of spare capacity at the end of the month before this material is recorded over. The police now request that venues keep 31 days of recordings so that they have enough time to pursue investigations involving someone who may have attended a public bar, perhaps to meet gang members, for example, before going out to commit a crime later in the evening.

Mr Desai explained: "We have had footage requested after a lady had a hand bag stolen from the bar area here. We provided the police with the relevant images. We also used the images to alert our staff should this person come back another evening."



"I could see that each network camera had an individual network address attached to it and therefore I could literally pick on one specific camera, access it through a normal web browser via my laptop or PDA, and once through an authentication layer, I could view specific locations in specific bars and restaurants wherever I am in the world."

Two external LaCie drives are used to duplicate all recordings and make it possible to take these recordings offsite to avoid theft of evidence.

Zerodegrees has invested in eight megabits per second (Mb) broad-band access provided by British Tele-communications. Zerodegrees runs a Virtual Private Network (VPN) link via Netgear routers DG834G from all its sites to its headquarters in London so that it can view all its data networks from there.

These VPNs are increasingly being used for remote, highly secure, viewing of images from network cameras now located in Bristol and in the other future sites, whilst

guaranteeing the bandwidth required to do this. Images are also viewed on one dedicated computer in the Bristol Zerodegrees office where a split screen covering all cameras is often monitored by the general or assistant managers or security staff when onsite.

HP ProCurve 2524 24 port switches also take connectivity for a wireless network which runs within the restaurant via three Buffalo Technologies wireless points WLA-G54 providing network access to the Axis wireless network cameras. This enables effective coverage of the entire building, which is 75 metres long and contains a good number of brick walls and steel structures.

A total of six AXIS 2110 Network Cameras are deployed on this site, with five being located inside the building - two in the bar, one covering the downstairs restaurant, two for the upstairs restaurant and one being located in an Axis housing facing the downstairs entrance.

Two AXIS 211 Network Cameras with Power over Ethernet are located on the inside of the building looking towards each of the two entrances. An additional AXIS 211 is set above the waitress station also covering the spirits and champagne cupboard behind. The fourth AXIS 211 is located in the office to cover all computer equipment.

Power over Ethernet reduces cabling costs and unsightly wiring

Zerodegrees was keen to use Axis network cameras with Power over Ethernet not only because of the quality of the cameras but also because it cut down on the amount of additional cabling required. Reduction of wiring was valuable not only because it can cost up to £100 per metre to lay cables but also because the steel and exposed roof void design of the building in some areas meant that cabling would look unsightly.

Mr Desai deployed an AXIS 12-port Power over Ethernet Midspan and managed to configure the system so that power could be delivered via the Local Area Network to all but the analogue and the AXIS 205 and 207W Network Cameras.

Mr Desai explained the value of Power over Ethernet: "This is a major benefit if cameras are put in after the main fitting out work is completed and cabling run. Because we had CAT5 cabling placed all over the building and even ran back up cabling alongside the pipes underground, it made sense to put this cabling infrastructure to work to deliver power to some network cameras now that the technology is available."

Another interesting piece of functionality was the two-way audio now offered by the AXIS 211A. It was a benefit which caught Mr Desai's eye as he thinks there may be a potential to run morning briefings with management teams through this system.

One AXIS 207W Network Camera covers the main till downstairs and an AXIS 205 is located in the office. Another two AXIS 205 cameras cover the downstairs wine and stock room and the safe.

Mr Desai plans to place two more AXIS 207W Network Cameras over the top of the fermenting tanks which have glass tops so that browsers will be able to literally see the beer being made. With these a total of 16 Axis network cameras will have been installed.

Two analogue cameras are located in the basin areas of the bar toilets and a further two analogue-based cameras are sited outside the building creating a total of four analogue cameras. These cameras feed into two AXIS 241Q Video Servers so that images from them can be viewed over the network and also managed by the Milestone XProtect Professional Version 4 system.

The total cost of the 16 Axis network cameras, four analogue-based cameras, 20 cameras in total, combined with the Milestone XProtect® Professional system, before cabling, was around £6,000.

Mr Desai also highlighted the ease of use of the cameras which enabled him to configure the system himself: "I am used to setting up my own computer systems and data networks. With these networking skills I found that camera configuration was a piece of cake."

"Axis interfaces for getting their devices up and running could not be more straightforward. I can generate an IP address through the AXIS Camera Management tool in minutes - it's incredibly intuitive."



Managing cameras access securely regardless of location

The Milestone XProtect® system also provides time and date stamping on all images which acts to prove that the images have not been tampered with. This enables them to be fully admissible in a court of law if crimes are caught on camera. Bristol Police highly commended Zerodegrees for its security systems when they reviewed them following the single incident of theft so far reported at the restaurant since it opened.

The Milestone XProtect® system also has a built-in web server with secure HTTP login so anyone with proper authorisation can access the database of recorded images and live recordings from all cameras.

It is also possible to assign static IP addresses for each camera so that they can be easily located and viewed via any web browser by entering that IP address and typing in its associated user name and password. Zerodegrees also configured its NetGear routers to assign a port number to each camera to allow images to pass through the corporate firewall without being blocked or held up by other data travelling out of the organisation.

Health and Safety compliance

Ensuring Health and Safety legislation compliance is an additional benefit of the surveillance system for Zerodegrees. The brewery demands very specific hygiene standards and only authorised staff are allowed into the restricted area where the controls and fermenting tanks are located: "Cameras could help us check that procedures are being observed and also ensure no staff are risking their health while going about their normal day's work. If there is an accident whilst staff are working here it would be valuable for us to have the incident caught on camera should there be any case health and safety case to answer," Mr Desai reinforced.

"The information I get from these cameras enables me to take the temperature of the company. The best way to iron out an issue is to see it with your own eyes, take stock and then act to ensure profitability and staff morale are not adversely affected."

Theft at Bristol provides return on investment

After the Bristol Zerodegrees opened it was impacted by a major incident of theft in 2004 when a member of staff stole from the takings of a busy Friday night's trading. A large sum of money was stolen but luckily the evidence of this was caught on two Axis network cameras located in the restaurant and in the bar.

Mr Desai explained: "When confronted she blamed a manager but it was clear from the surveillance pictures that it was her. She was subsequently successfully prosecuted and ordered to pay back the full amount or face a jail sentence".

Mr Desai summarised: "This incident alone effectively proved the value of the system in terms of return on investment. And we have had other incidents including the accidental breaking of a reinforced plate glass and Zerodegrees-branded door which we caught on camera; as a result this insurance claim proved much faster."





Future integration options

Mr Desai is considering integrating the cash tills with the camera system using Milestone Transact and plans to trial this combined system in the new restaurant in Reading. Also under consideration is the use of a high-end PTZ camera which could be open to web browsers wanting to view a venue prior to making a large booking for a birthday party, for example.

Zerodegrees' senior management is also reviewing possible integration of the network cameras with the company's time and attendance system. This system works through the issue of an identification card to each member of staff which is swiped through a reader when they begin and end work. The time lapse between starting and stopping their shifts is used to calculate payroll.

With a significant amount of staff turnover it is possible that unauthorised workers could go undetected in the restaurant simply by stealing an employee's swipe card. This potentially dangerous security loophole also means that a bogus worker, if undetected, would trigger a wage payment for the real card holder, regardless of whether he or she is actually working that day. A network camera can be integrated with the card reader to ensure that images of each employee are captured and recorded as they swipe their card through the reader. These video files could then be easily checked.

Axis cameras provide valuable 'eyes and ears' for management

For Mr Desai, an IP-Surveillance system is already proving much more than a surveillance system for security usage. It enables him to keep in touch with his growing chain of high value restaurants and help manage them remotely whilst he is on the move. He summarises: "I don't want to spend my life sitting in the car traveling between sites. I want to be able to check-up on the progress of restaurants, whether these are building sites or buzzing club venues on a Friday night. The information I get from these cameras enables me to take the temperature of the company. The best way to iron out an issue is to see it with your own eyes, take stock and then act to ensure profitability and staff morale are not adversely affected".

Continued Mr Desai, "I have used the Bristol Zerodegrees as a test bed for network video usage. Whatever we have done and learnt here will be applied in Reading and Cardiff and new sites as we establish them. And yes, we will replace the ageing analogue-based systems in our original clubs and bars in London over time as well."



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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