

First in Glasgow is transforming travel security management with Milestone IP video surveillance.



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- Andy Buchanan, Regional I.S. Manager for First Group in Scotland

Challenges: Bus vandalism like graffiti and broken windows were costing First Glasgow over £1 million per year, and handling insurance claims for First Group in all of the UK had an annual budget of £50 million. There were also problems with employees tempted to dip into cash vaults and fuel supplies or steal from Lost Property. Their old analogue CCTV system using videotapes was time consuming and outdated.

Solution: A Gardiner Security partner installed Milestone XProtect Enterprise surveillance software to operate a mix of Axis 2120 network cameras and Panasonic PTZ analogue cameras converted to digital by Axis 2400 video servers, all running over Cisco Local Area Networks in multiple depot locations.

Advantages: IP video surveillance is more cost efficient, using the LAN networks and providing the flexibility to easily move or add more cameras anytime. Time is also saved with the archived digital images being faster to search and export as evidence for police and insurance claims.

First Group is the largest surface transportation company in the UK with a turnover of nearly £2.5 billion a year, and some 62,000 employees across the UK and North America. They have about 10,000 buses in the UK, and 17,400 in the US. Scotland has six regions under three operating companies: Glasgow, Edinburgh and Aberdeen. First Glasgow is the biggest, managing 3,000 drivers and 1040 buses, some running 24 hours a day, 7 days a week.

First priority is safety

The company vision at First is to Transform Travel – providing public transport services that are safe, reliable, high quality, and accessible. Safety is the company’s first priority - for passengers and staff. It is at the top of their agenda in everything they do, from working practices to service delivery and beyond. First considers it their duty to ensure that all their buses and trains operate to the very highest standards, including safety measures. First Glasgow is putting this into effect with a networked surveillance system that helps them manage a secure working environment.

“We’ve got a lot of people coming and going in our depots: buying tickets, collecting lost property, applying or training for jobs,” explains Alan Pert, the Security Manager at First Glasgow. “So public safety is a main focus and this includes the surveillance of the depots.”

Protection of people, property and assets

First Glasgow in 2004 implemented a new Local Area Network and took the opportunity to upgrade old analogue CCTV components to a digital surveillance system. They installed new Axis network cameras and Milestone IP video software at the three largest depots - Larkfield, Parkhead and Scotstoun. The Larkfield site covers 12 acres and the other two have five acres each.

The surveillance covers physical perimeters, entrances and exits, offices, and monitoring of these core functions:

1. fuelling stations
2. de-vaulting stations, where dedicated staff replace the cash boxes from the vaults of the buses each night for collection and counting.
3. downloading of ‘sign-on’ memory sticks from modules in the ticket machine of each bus that record the route price tables, ticket sales and passenger tallies – information that is confidential and an asset to be protected from competitors.
4. Lost Property, where all the items left on the bus (like mobile phones, wallets, shopping bags, articles of clothing, jewellery, etc.) are stored at the depots waiting for claims.

Employee accountability

As a safety feature for the bus drivers, to prevent hold-ups, they are not allowed to give change or directly handle any money as they drive on their rounds. All the fares go into a locked cash box. At the end of each day, the total fares collected are taken off the bus by a dedicated staff member and placed into a safety vault at each depot.



“One driver was keeping the vault open when bringing it in from the bus, and pocketing about 1,500 pounds a week. Others were taking 20-30 pounds a night, and they started getting greedy thinking they had a pretty good job here,” recalls Alan Pert. “Now we’ve got that covered by the surveillance, which can give the evidence to dismiss such people, and exonerate the honest employees.”

The memory sticks from the sign-on concession modules that are downloaded each night must also be protected from theft or abuse.

“Some drivers were misusing the modules by running off high-volume tickets that could be sold on the street for extra money,” explains Alan Pert. “A driver would offer to ‘help out’ a colleague by taking in his memory stick for him at the end of the day, and use it for his own ends, casting suspicion on the wrong person. The Milestone surveillance cleared up such situations.”



The Scotstoun Depot has a storage area for maintenance of the buses and the company needs to keep track of all the parts. Maintenance is carried out mostly at night. These employees use a parts carousel that is three stories high with a revolving set of shelves, holding 40 tons of parts, which must be protected as a valuable asset.

“It’s a sophisticated piece of equipment with a keyboard and we don’t want anyone abusing it. Just putting the wrong part on the wrong tray could destroy the system, so it must be carefully maintained and monitored,” says Andy Buchanan, Regional I.S. Manager for First Group in Scotland.

Fuelling stations monitored



First Glasgow earlier could see that the miles-per-gallon ratio to routes driven was not matching properly. There are five or six drivers before each bus has to get re-fuelled, so a culprit could not be identified by vehicle or route alone. Surveillance cameras have been set up at the fuelling stations so managers can monitor from their offices the live or recorded images in the Milestone software.

“We looked at the vehicles themselves first, to investigate if engine faults were causing the problem, but we had to conclude that fuel had been taken out of the buses,” says Colin McBride, CCTV Supervisor at First Glasgow. “Watching on the PC monitor using the surveillance system allows virtual supervision when behaviour is unaffected by a manager’s direct presence, so you can see what’s really happening.”

Surveillance works as a preventive

“The more the dishonest employees get away with bad behaviour, the more of a temptation it is to the honest ones to give it a try,” explains Andy Buchanan. “It’s important that they see no one is getting away with anything.”

The company’s own inventory of mobile phones had previously experienced internal pilferage, as had the Lost Property storage area. Such assets are now protected and the surveillance can provide evidence for the police or insurance claims.

“When the drivers discover mobile phones left on the buses, they usually are able to call the owner by dialling the ‘home’ number on the phone. We put the phone in our Lost Property cupboard until it is picked up, and during that time it is the responsibility of First Glasgow,” explains Alan Pert.

The network solution setup

Andy Buchanan tells the history: “When Alan Pert came on the job as Security Manager in 2002, he looked at the CCTV systems that were black and white videotape systems, which were a lot harder to review and find incidences. The industry was just starting to change from analogue to digital. The Gardiner Security partner was upgrading our LAN and putting in new computers at the Larkfield Depot; they recommended Milestone to us. Gardiner’s Integrated Systems division has helped us with specifications and technical support on our expansions since then.”



First Glasgow started with a 9-camera license for Milestone XProtect Business in the Larkfield Depot only, then upgraded to the top-of-the-line product, XProtect Enterprise, in the summer of 2004. They purchased the Milestone software with a PMA, or Product Maintenance Agreement, that gives them free upgrades to new versions of the solution.

“We were very pleased with it, so when we had the new depot at Scotstoun built, we insisted that they put in the Milestone system there with the Axis cameras,” states Buchanan. “The local depot manager uses it, and we can also view the images remotely from Larkfield using the software’s built-in web interface.”

Efficient, flexible and scalable

“We get a good overview of all the company locations and activities that need to be monitored,” confirms Alan Pert. “The alarm lists on events that have occurred is really good: there’s no point in saving images if nothing’s happened. There’s a lot more activity in the depots in the evenings, night-time and mornings: during the day the buses are all out on their routes in the city.”

He is referring to the fact that the Milestone software only records images from cameras when motion is detected or based on chosen times scheduled by the administrator of the system. This saves disk space on the PC server and allows greater archiving capacity. First Glasgow reports that the software makes it easy to search on events.

"The network surveillance takes the human element of error out of the process. With the old system, people would forget to change the tapes, and we'd end up with no reporting capability on incidences," recalls Alan Pert.

"The networked solution means that the images are a lot more accessible: anyone who has a PC can access the surveillance if Colin gives him a password," adds Buchanan. "Any depot manager can see what's going on – not just for security, but also how busy it is in the offices, the workshop or outside, monitoring productivity and traffic."



Now the company has put the same type of system in at the Parkhead Depot, and more locations are planned for future implementations. Edinburgh has also expressed interest in this approach. Part of the surveillance project includes updating all of the depots to Cisco LANs.

"We are better off standardizing within the company between regions using the same technology, software, etc." concludes Andy Buchanan. "The real advantage of this system is that it's scalable. You can put in one PC server and a few cameras then just add new ones quickly and easily. It's flexible, too: you can change cameras or move them to new locations."

About the company

First Group are the largest bus operator in the UK running more than 1 in 5 of all local bus services and carrying 2.8 million passengers daily. Passenger operations also include the intercity rail services First Great Western, TransPennine Express and Hull Trains, the London commuter First Great Western Link, the regional First North Western, and the ScotRail franchise. Freight services are managed through GB Railfreight. First also operates the Croydon Tramlink network carrying around 20 million passengers a year on behalf of Transport for London.

In North America the Group has three operating divisions: yellow school buses (First Student), transit contracting and management services (First Transit), and vehicle maintenance and ancillary services (First Services). Headquartered in Cincinnati, these businesses operate across the US and Canada. The fleet of 17,400 yellow school buses carry over 1 million students daily.

Buses and trains are among the safest means of transport, statistically shown to be much safer than travelling by any other form of surface transport. The more people to be encouraged to travel by bus and train, the safer public transport can be for everyone. It can help to reduce traffic congestion, road accidents and air pollution.

About Gardiner Security

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Gardiner offers a complete one-stop shop backed by expert but totally independent advice, while long term partnerships with key suppliers ensure that installers are assured of the most advanced and suitable products on the market. Leading developments such as the formation of an Integrated Systems Division show that Gardiner Security is committed to providing total security solutions to the UK and internationally.

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