Case study

First Scotrail

Help Points have contributed to customer communications

Project overview

First ScotRail, Scotland's national rail service provider is the largest of the twenty-five British passengers train operating companies for route miles, second for train miles and fourth for passenger journeys, with some 2,000 suburban, interurban and rural services daily. Part of the FirstGroup, it is investing substantially in station improvements, on-train CCTV and passenger information systems, to enhance the quality of service and facilities to customers.

First ScotRail is committed to providing a safe and secure environment for customers and staff and set out at the start of the franchise to invest £5.4 million on installing safe systems.

Product and services applications

- On-line CCTV surveillance systems
- Audio "help points"
- Audio transmission system and loudspeakers
- PTZ camera with passive infra-red detectors
- TCP/IP digital video server
- 42inch LCD screens
- TFT monitors

Customer needs

First ScotRail is committed to improving customer information, particularly at times of disruption. With this in mind, they embarked on a project to improve the monitoring of activity at all of its stations and to combine that function with a two-way customer information system, designed to improve customer safety, reduce delays and provide information.

A key element of this strategy has been a rolling implementation programme of on-line CCTV surveillance systems and audio "help points", designed to reassure passengers, provide train information and deter crime and vandalism. Pictures from cameras installed at networked stations are digitally compressed and transmitted continuously to First Scot Rail's manned communication centres, whilst audio links simultaneously provide two-way voice traffic. The scheme has proved highly successful on all counts, according to CCTV Project Manager Jim Anderson, and with support of the Scottish Government and regional transport partnerships it is expected to be extended from the present 232 stations to almost 300.

Johnson Controls solution

Johnson Controls have been involved in this phased installation programme since its inception in early 1996, responsible for the initial 13 station pilot scheme, which proved the concept and was extended to 32 stations and is now at 240 stations. Johnson Controls have now installed CCTV systems at 156 stations, and are responsible for the majority of the monitoring equipment within the communication centres.

Each station has been equipped with at least one controllable PTZ (pan, tilt and zoom) camera and up to 30-plus fixed units, to enable CCTV surveillance of platform areas, footbridges and subways, access routes and car parks. Cameras are all high resolutions ½ CCD models with a sensitivity of 0.4 lux that delivers accurate colour reproduction under adequate colour conditions, for optimum detection and identification. Cameras are mounted in vandal-resistant waterproof housings and are alarmed to prevent tampering, with a PTZ unit programmed to respond on any position under threat. Station lighting is timer controlled, to switch off half-an-hour after the last train; passive infra red detectors have been wired into the circuit to activate the lights in the event of an intruder.

Johnson Controls

"The scheme has proved highly successful on all counts"

Jim Anderson, CCTV Project Manager at First ScotRail

"Help point" units are strategically positioned on each platform, providing a two-way speech link with both East and West Coast CCTV Communications Centres. These "help points" contained in a robust, stainless steel housing, offer wind and weather protection, and are fitted with buttons for assistance or information. Help points are also fitted and connected with an induction loop to provide assistance to passengers with hearing difficulties. To date Johnson Controls have installed 251 devices. When either button is pressed, a PTZ camera is pre set to focus on the passenger, enabling the operator to monitor the situation and, if necessary, warn off a potential offender by means of the audio transmission system and specially installed loudspeakers.

At each site camera images are recorded on a TCP/IP digital video server with hard disk storage up to 1200GB, the live and recorded images, alarms and audio, are transmitted via network links to the communication centres which allow operators to monitor live and recorded incidents and deal with any information queries.

Onsite information is transmitted from the remote sites to the communication centres using a minimum 256k link rising to 2MB for some locations over IP technology. This is achieved using a router at either end of the point to point connection which feeds the CCTV Systems.

At the communication centre, colour images from each site are displaying remote activity produced by TCP/IP video out codecs and are presented on a dedicated high definition monitors within a monitor wall. The operator control is facilitated by control PC's which allow interrogation and display of images from the remote digital video server and allows incidents to be viewed and stored on a centralized video server.

In the middle of the wall there are two 42inch LCD screens to allow the shift manager to monitor enlarged images from any CCTV site. The announcer uses the second screen to display P2 lists of trains to enable them to monitor train running. The plasmas will also shortly be used to display Tyrell messages which will be sent by the control customer services manager.

Storage of the images and incidents is vital to the working relationship with the British Transport Police (BTP) and through the connection of all CCTV systems via the control centre, First ScotRail can work quickly and efficiently in assisting the British Transport Police (BTP) with incident investigation and the provision of footage. The network link installed for the CCTV has also enabled us to install customer information systems at stations.

Presently, Johnson Controls have 46 remote sites controlled by the East Coast communication control centre monitoring some 938 cameras with another 95 cameras to be installed on 5 new sites. At the West communication control centre, Johnson Controls have 110 remote sites controlled by this centre, monitoring some 1,544 cameras with another 45 cameras to be installed on a new site.

To date Johnson Controls have installed 51 customer information systems and are in the process of installing a further 10 systems in the Strathclyde area. The display equipment on the platforms will typically comprise of single or double sided clock and next train indicator LED display, or double sided next train indicator LED display, plus17in and/or 20in ruggedised TFT monitors in the ticket offices and waiting areas. The display equipment in public areas is housed in suitable ruggedised enclosures. The "help points" have contributed markedly to customer communications by providing a direct speech link with First ScotRail staff, for assistance and information. The CCTV facility has minimised incidents of vandalism and graffiti, as well as acting as an effective intruder deterrent out of service hours and at unmanned stations. At the same time the CCTV facility with combined PA is an excellent deterrent for the misuse of the help point button.

Johnson Controls have worked together with First ScotRail from the inception of this project and devised appropriate solutions throughout the course of the project, to ensure that communication is fluid throughout the network and that customer and staff security is at the forefront of the day to day operation.

For further information or advice, call: **0800 804 6227**

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