CASE STUDY

Axis' network cameras help safeguard motorists traveling through the Tyne Tunnel.

New tunnels monitored by IP-based surveillance help improve notorious traffic blind spot.

Organization:
TT2

Location:
United Kingdom

Industry segment:
Transportation

Application:
Tunnel/toll booth surveillance

Axis partner:
2020 Vision Technology

Mission

The New Tyne Crossing has been constructed under the River Tyne in the North East to serve all traffic traveling south and north-bound. The tunnel's operators, TT2, see surveillance as an integral part of its safety and security strategy and required an innovative system that could act as its 'eyes' to monitor the safe transport of commuters through the tunnels' approach roads and toll plazas.

Solution

Systems integrator 2020 Vision Technology was tasked with providing an innovative approach to surveillance that could provide real-time visual intelligence and post-incident analysis. 2020 Vision recommended an IP-based surveillance system be deployed consisting of 102 fixed AXIS P1343 Network Cameras for the tunnels with additional cameras to monitor the approach roads and toll booths.

Result

AXIS P1343 Network Camera is a fixed day and night camera and delivers excellent image quality and H.264 performance. It also has a progressive scan sensor which allows for sharp images of moving vehicles in challenging light conditions to be captured. The footage is displayed onto a video wall and individual operator work stations. It is seamlessly integrated at data level to 'talk' to the video automated incident detection system linked to the SCADA systems. Now, if there is a crash, breakdown or fire, the system immediately alerts the tunnel staff who can then initiate the appropriate course of action.

AXIS
COMMUNICATIONS

48175/EN/R1/1206

Axis' network cameras help safeguard motorists traveling through Tyne Tunnel

The New Tyne Crossing has been constructed under the River Tyne in the North East which features two tunnels to serve south and north-bound traffic. Both tunnels form a major commuter route between North and South Tyneside and are used by approximately 45,000 motorists on a daily basis. Previously considered one of the UK's worst traffic black spots, the safety of those using the tunnels is still of prime importance so it was essential the new tunnel feature surveillance as an integral part of its safety and security strategy.

The surveillance system needed to be able to act as 'eyes' to see through the tunnels and monitor the approach roads and toll booths. Following an evaluation of a variety of systems, local systems integrator 2020 Vision Technology was asked to design and install a new surveillance system.

A challenging environment

The New Tyne Crossing presented an interesting challenge to 2020 Vision as the tunnels are confined spaces with restricted light conditions. In order to provide TT2 with the ability to 'see everywhere,' 2020 Vision needed to come up with an innovative approach so that it could provide real-time visual intelligence and post-incident analysis. Peter Houlis, managing director, 2020 Vision Technology said: "The safety of anyone passing through the tunnels is imperative. When specifying cameras, the ability to share and access video images is essential in those situations where immediate and urgent action is required."

2020 Vision Technology recommended an IP-based surveillance system be deployed and demonstrated how the progressive scan sensor on an Axis network camera can produce clear, sharp images of moving vehicles.

The 'eyes' of the tunnel

2020 Vision Technology deployed the new system which consists of 102 fixed AXIS P1343 Network Cameras in the tunnel and additional cameras monitoring the approach roads and toll booths.

AXIS P1343 Network Camera is a fixed day and night camera and delivers excellent image quality and H.264 performance. It also has a progressive scan sensor which allows for sharp images of moving vehicles in challenging light conditions to be captured. The cameras sit on the tunnel's common network infrastructure using Power over Ethernet (PoE) and 2020 Vision hosts the digital recording system which feeds images taken from the Axis cameras to the tunnel's traffic incident system.

Digital footage is recorded around-the-clock on to a network video recorder (NVR) and is then displayed onto a video wall and individual operator work stations. This footage is then seamlessly integrated at data level to 'talk' to the fire safety systems, video analytic traffic management supervisory control and data acquisition (SCADA) systems. The system then alerts the tunnel's staff when an incident such as a crash or breakdown occurs so that the appropriate course of action can be taken.

Ron Henderson, operations manager of TT2 Ltd said: "The IP-based surveillance solution provided by 2020 Vision Technology plays a key role in the safe operation of our site, the remote operations of our toll plazas and to enhance the security of our precincts and out stations. The Axis cameras provide total coverage of the tunnels and surrounding areas and without this comprehensive footage, we would need many more staff to function safely and collect tolls."

The tunnel's operators now have 'eyes' everywhere and have access to real-time visual intelligence and post-incident analysis from which informed decisions can be made. The system helps the tunnel's operators with safe and efficient traffic management and protects against fraud at the toll booths. The new surveillance system has also meant that there are just three interactive operator workstations in the tunnel's control room and has enabled fewer operators to provide a more sustainable, efficient and safer journey through this busy commuter route.

AXIS®
COMMUNICATIONS