Verint Video Surveillance is a Mission-Critical Function for Monitoring the Tyne Tunnel.

The Customer

The Tyne Tunnels, are high-volume vehicular toll tunnels that form part of the A19 Road and are managed by the agency TT2 Limited. Tyne Tunnels are located in the United Kingdom beneath the River Tyne, between the historic towns of Wallsend, in North Tyneside, and Jarrow, in South Tyneside. Originally completed in 1967, the tunnels provide a vital connection between North and South Tyneside.

There are three different options for crossing the river through the tunnels — by foot, bicycle, or automobiles — via four separate tubes. Two vehicular two-lane tunnels, one for northbound traffic and the other for southbound traffic, are dedicated to vehicular traffic while the pedestrian and cyclist tunnels use the other two dedicated structures.

In 2011, engineers began upgrading the Tyne Tunnels and as part of the project scope set out to upgrade the associated video surveillance infrastructure. TT2 was particularly interested in enhancing its video surveillance capabilities for a greater return on investment, including the ability to obtain real-time situational awareness and an ease of scaling the system as security and operational needs evolve.

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The Challenge

Video surveillance is a mission-critical function for monitoring the tunnel. It is used primarily to manage traffic situations and serves as the eyes inside the tunnel for engineers and operators. If there is an accident, for example, TT2 may need to shut down access to users, a complicated process considering the 65,000 cars that pass through the structures each day.

"To ensure the safety of those traveling through the tunnels we have to be able see what's happening in real time at any given moment, and video surveillance is the best way for us to do that," says Hanson Pottinger, technical manager, TT2. "We'd be blind without it."

"TT2 previously leveraged a CCTV system that was essentially "cobbled together," said Rowland Bradley, software engineer, Bsquare Controls, the integrator on the project. "The existing system also didn't meet Tyne Tunnels' evolving emergency management and video monitoring requirements, that includes things like detailed image quality and robust video search functions. The organization needed to move to a platform that provides greater awareness while enabling them to strengthen capabilities over time."

The Verint team in the United Kingdom took the time to personally present its video surveillance and situational awareness solutions to the Tyne Tunnel team. During this meeting, stakeholders received an in-depth presentation of Verint's history in the security marketplace, a description of its deep solutions portfolio, examples of its proven reliability and expertise in the transportation sector.

"The Verint team's willingness to support our efforts and present directly to TT2 made the difference in who they chose as a technology partner," says Paolo Bavagnoli, software engineer, Bsquare Controls. "The personal relationship building made the customer feel like they had a trusted advisor that could support them throughout the installation and solution lifecycle, rather than only trying to sell products."

After meeting with the collaborative teams and testing different systems, TT2 selected Verint Enterprise Video Management Software to capture and record data from all security cameras throughout the tunnel's network.

"We evaluated various providers and it was refreshing to get a quick positive response from Bsquare and Verint," Pottinger comments. "Overall, the level of enthusiasm from both companies gave us significant confidence in moving in a new direction."

Customer
Tyne Tunnel

Industry
Transportation

Solutions
- Verint Enterprise Video Management Software
- Verint Encoders

Region
United Kingdom

Results
- Rapid response to emergency situations
- Enhanced situational awareness
- High-resolution video to improve investigations
- Scalable to meet evolving operational and security requirements

VERINT®

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The Solution

Today, 150 video surveillance cameras cover the Tyne Tunnels, and 90 percent of those devices are IP-based. Bsquare leveraged the tunnel's existing analog investments during the upgrade by using Verint encoders to transform the cameras to digital. Video analytics from FLIR help operators detect critical situations, such as a stalled vehicle or an auto accident that requires attention.

Verint Enterprise Video Management Software (VMS) serves as the centralized management platform for the video surveillance system. Verint Enterprise VMS streamlines video security monitoring and helps operators rapidly interpret vast volumes of video and data captured to rapidly respond to situations on a daily basis. TT2 now realizes the benefits of policy-based video distribution, networked video viewing, and real-time and forensic investigation management to help detect, act, and investigate traffic situations and security events. Automated video system health monitoring allows staff to manage the large, geographically distributed video deployment and streamlines video system uptime to help ensure video availability.

The video management system from Verint also integrates with the tunnel's SCADA system, which was a critical requirement needed to enhance awareness of the operations within the tunnel. Failover capability was a necessity as well. TT2 sought a system that delivered 24/7 failover protection regardless of what caused any downtime. The Verint video management system is fully redundant, and a 40 Gigabyte server retains video for a pre-determined amount of time to be used later for investigative or legal purposes.

The command center facilitates 24/7 monitoring of all activity within the tunnel. Monitoring is streamlined with eight 55-inch screens that present 42 camera images at a time. Automatic incident detection from FLIR analytics, including smoke detection, is employed to detect situations in a rapid and informed manner.

"We have incidents of smoke in the tunnel, which reduces visibility and makes conditions challenging for drivers, so immediately identifying the problem is critical. Stopped vehicles are another common occurrence," says James McKenna, equipment engineer, TT2. "We also have instances where people drive the wrong way and instances where we have to manage heavy chemical transport situations. All of these conditions are critical and can force us to shut down if they are not immediately addressed and mitigated."

The Result

With Verint solutions in place, Tyne Tunnels has been able to streamline its video monitoring efforts and be more effective and efficient with emergency management and response. Public safety efforts are enhanced through higher resolution video and operators are empowered to make rapid decisions because of the ease of system management.

"Verint has improved our cameras, the recording process, and image quality," McKenna says. "Everyone has found the system easy to use and now, we can have everything at our fingertips in a single system and interface, which is incredibly beneficial from a manpower and training perspective."

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