German Road Tunnel Upgrades Surveillance System with Pelco Solutions

Success Story at a Glance:

- Enhanced user interface, the ability to export video with ease, and greater visibility using VideoXpert VMS and Esprit Enhanced cameras.

- The security team successfully prepared for the new system with a 3-day training session administered by Pelco Professional Services

The Customer

The Warnow Tunnel Rostock, also known as Warnowquerung, is the first privately financed road infrastructure project in Germany. Nearly 800 meters long, the subaqueous passageway became operational in September 2003 and has since connected motorists across the east and west bank of the Warnow River in Rostock, Mecklenburg-Vorpommern, Germany.

Used by millions each year, the Warnow tunnel contains one toll station located on the east side of the Warnow River with 11 traffic lanes: five eastbound lanes, five westbound lanes, and one bi-directional lane used at night. The tunnel is able to handle approx. 20.000 vehicles each day. The construction of the road tunnel was completed using immersed tube construction with six concrete conduits, which were lowered into a dredged channel at the bottom of the Warnow River.

The tunnel features one control center with two maintenance buildings. Security staff monitors activity from three different locations, with the supervisor managing the maintenance building from a centralized room; the other two locations are dedicated to law enforcement and the fire brigade.

Some of the overall priorities for the Warnow tunnel include reducing greenhouse gas emissions, improving local infrastructure, and helping to increase economic growth in the Rostock region. They have also invested in boosting their security approach across the tunnel and toll station using updated Pelco solutions to ensure the safety of passengers and staff year-round, along with boosting operational efficiency across the security team.

The Challenge

The task of monitoring road tunnels poses many challenges that require specialized surveillance solutions. For one, the tunnel control centre has to coordinate between incident detection and verification, emergency and law enforcement personnel, traffic management and evacuation. A major step in ensuring smooth surveillance operations is incorporating solutions that can present activity within a scene clearly and easily for operators to successfully resolve security breaches and maintain the status of their equipment.

For instance, if an accident occurs in the tunnel, the security operator must be able to quickly and accurately pinpoint the license number of the offending vehicle owners and gather forensic evidence that may be useful during investigations. With the potential for blind spots or inadequate lighting, road tunnels such as the Warnow Tunnel Rostock, can greatly benefit from cameras that can adapt to changing lighting conditions and offer a wide breadth-of-view.

The Warnow tunnel security team also needs to efficiently manage their video storage, which can be a challenge in environments where 24/7 monitoring is essential to ongoing operational functionality. One way to achieve this is to adopt a video management system (VMS) with the ability to compress large amounts of data so teams can experience a more manageable storage output.

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Case Study: Warnow Tunnel

The Solution

The security staff at the Warnow tunnel upgraded their entire surveillance system using Pelco solutions, including the install of Esprit Enhanced cameras and VideoXpert VMS. Certfied partner SV Service & Technik based in Hemer, Germany, worked with the security team at Warnow tunnel to successfully implement the solution at all levels.

With the support of Pelco's Sales Manager for this region, Warnow Tunnel Rostock was able to upgrade its surveillance system, said Edgar Sigmanek, Managing Director of B&S Data Systems GMBH. The upgrade also included a second recorder and implemented redundancy to better help manage their storage needs.

Sigmanek added that while the staff was previously using analogue cameras to monitor the road tunnel, IP cameras were ultimately chosen as part of the most recent upgrade to achieve sharper, forensic-quality video. With the Esprit Enhanced cameras, the security team was given access to a highly reliable and durable solution that can adapt to any lighting condition. The solutions also aided in managing video storage by using Pelco Smart Compression and H.264 technology.

"The new cameras have very good functionality for improving the quality of the video being collected inside the tunnels," Mr. Plihal, Technical Section Leader EDP and Maintenance for the Warnow tunnel said. "Outside of the tunnel, the sun is shining, which can impede lighting capability. But the Pelco cameras are able to adapt to lighting differences. Even the zoom functionality and resolution have been improved as a result of the technology install."

A total of 14 cameras were installed every 150 meters inside the tunnel, where video is funneled to the VideoXpert VMS. When an incident occurs or a security operator presses the emergency alert, an incident notification is generated. The cameras zoom into the section where the incident is happening, which helps pinpoint the cause of the incident or possible breach.

To become familiar with their new Pelco system, the security team enrolled in a 3- day training session in Warsaw, Poland, hosted by Pelco Professional Services, receiving the essential day-to-day tools needed to operate the system efficiently.

The Result

Upgrading to Pelco solutions benefited the surveillance operations across the Warnow Tunnel Rostock, from boosting visibility and detection to providing a user-friendly VMS.

"The main priorities were to adopt solutions with high-quality video and a user-friendly interface," said Yvonne Osterkamp, Managing Director at the Warnow Tunnel said. "With Pelco, we were able to achieve those goals while also making exporting video easier for the staff."

"The new system is more flexible," she said. "The installation was seamless and the system remained online the whole time, eliminating the possibility of lack of oversight during an install."

Learn more about Pelco's full range of surveillance solutions.