Thermal Axis cameras create a virtual fence.

Thermal cameras from Axis protect NedTrain against intruders and vandalism.

Organization:
NedTrain

Location:
Haarlem, The Netherlands

Industry segment:
Transport

Application:
Safety and security, logistics

Axis partner:
Secured by Web, Milestone, Agent VI

Mission
NedTrain wanted a scalable solution for 24-hour surveillance of the open grounds.

Solution
NedTrain opted for four types of IP cameras which in combination provides a solid solution for warding off unwanted visitors and supply excellent images all day and all night. The thermal cameras are equipped with analytical software, which detects intruders and vandals at an early stage. Next, the security guards can make a more detailed assessment from a central room using the optic cameras. This will limit the number of false alarms.

Result
The Nedtrain Haarlem site has currently been equipped with Axis cameras, installed at strategic locations. Unwanted intruders are easily intercepted and the damage to railway carriages will be limited. In the first weekend that the system was active, a group of graffiti vandals was detected and arrested in collaboration with the police. This minimized the damage; the system has been proven to be highly effective.

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NedTrain Haarlem upgrades security with virtual fence.

NedTrain, part of NS Dutch Rail, has over 175 years of specialized experience in maintaining and upgrading railway carriages: from technical maintenance to quick servicing and from cleaning to short-term maintenance and long-term overhaul.

NedTrain makes sure that the 1.2 million rail passengers that NS transports on a daily basis arrive at their destination safely and in a clean train. Distributed across the Netherlands, the company has over thirty locations. Geert Ritskes is project leader of the facilities department of the NedTrain location in Haarlem. Over 850 people work in shifts to overhaul rolling stock at this location. Existing railway carriages undergo maintenance, repairs and even complete upgrades here. Ritskes: "We primarily work based on big projects. This means that we close deals for maintaining or upgrading trains in larger volumes. They are delivered to us and often remain here in Haarlem for weeks or even months before they are handed back again."

Unwanted visitors

The NedTrain location in Haarlem is just outside the city center, right at the outskirts of an industrial zone. This means that there is considerable traffic around the site, which covers 140,000 m², continuing all day and all night. "It is quite difficult to protect such a large site," Ritskes continues. "We do use fences, but that will not stop anyone bent on gaining access to our site. Vandalism in the form of graffiti or damage to rail carriages is a serious problem for us. We want to keep intruders out and we went looking for a party that could help us with a future-proof, cost-efficient and scalable video surveillance solution based on IP cameras."

From analog to IP

NedTrain Haarlem has been using surveillance cameras for some time now. However, these were all analog and fairly outdated. The most important drawback of the existing security system was that it was not capable of producing usable images after dark.

In addition, it was also not possible to perform intelligent analysis of the images and instantly alert security guards of the on-site situation, enabling them to take decisive action.

A virtual fence

Ronny Koster, ICT project leader at NedTrain Haarlem responsible for the technical infrastructure, immediately knew who he wanted to use in meeting this challenge. "In the meeting Geert and I had about security and the use of surveillance cameras, we decided to invite Secured by Web, a Tilburg-based security company. They were invited because Secured by Web had already gained experience in configuring and installing a network consisting of IP security cameras at other NedTrain locations, including one in Tilburg.

In addition, the company has considerable experience with video content analysis in combination with thermal cameras and creating virtual fences. These fences will immediately raise an alarm when someone crosses the virtual line drawn by the software in the Axis cameras. Thermal technology and HD recordings make it possible to see clearly what is happening on the site at any time of day or night.

Before Secured by Web started implementation of the new security environment in Haarlem, they first organized something called a 'video shoot-out'. For that purpose, various Axis cameras were tested to determine which cameras NedTrain would use at each location. In addition, Koster's team started installing the necessary infrastructure for connecting the IP cameras. "That was a very time-consuming job," says Ronny Koster.

"In total, we had to install 34 cameras at existing and new locations. We had to do that while the location was still fully operational. Since safety always comes first at NedTrain, it was not possible to work at locations where trains were currently in motion. Those locations required an out of service request, and employees needed to have the required papers to work there."

Video shoot-out
Based on the shoot-out, the chosen solution was a combination of 19 AXIS Q1932-E thermal cameras with a high resolution for detection and for setting up a virtual fence, as well as 11 AXIS Q6114-E optical dome cameras and 3 AXIS P3364 LVE fixed dome cameras to achieve a comprehensive overview and for the purpose of verifying alarm notifications. In addition, an AXIS Q1635 camera, which offers wide dynamic range, has been installed at the main gate of the complex to register license plates.

The thermal cameras have been installed in such a way that they collectively create a virtual network. The cameras record 24/7, during the day with clear sight as well as at night with limited sight, monitoring whether individuals pass the virtual fence. When that happens at locations or at times when it is not authorized, an alarm is immediately activated at the security center of the complex. Secured by Web has also made sure that alerts are sent to the mobile phones of security guards when they are not at the booth, but patrolling somewhere else on-site. By using the Axis dome cameras, the image can rotate 360 degrees and can even zoom in on people or objects as needed. This provides security guards with a complete overview of what is happening on-site. Since all footage of the cameras are recorded up to seven days in the past, the security guards on duty can immediately identify where the uninvited guests entered the site and can take effective steps to address the intrusion.

A conscious choice
"We opted for the proven combination of Axis cameras and the Milestone video management solution. This will ensure all images are always accessible and will be displayed in a clear overview on the monitors viewed by our security guards. In addition, we employ the intelligence of Agent VI software which has been fully tailored to our location by the experts at Secured by Web. This solution analyzes the video footage from the Axis cameras in real time and takes action based on pre-programmed rules in the system. This helps us avoid unnecessary incident reports. Such as false alarms when a rabbit jumps through the virtual fence, or when staff members walk from one building to another during their scheduled working hours," Ritskes continues.

Additional benefit
In addition to the benefits that Axis cameras provide in the field of security and vandalism prevention, NedTrain Haarlem also gains ground in a different field due to the new cameras. "Our site frequently has to shunt railway carriages from one track to another. In order to do that safely and properly, the process leaders need to have a good overview of the entire site from their location," Ritskes continues. "Now they can rely on video images to achieve that overview. An additional benefit is that the people who used to do that work have now been moved from a shack on the site to the main building. This means that they are much closer to the operational processes and can immediately confer with their colleagues."

A satisfied customer
"We are very pleased with the collaboration with Secured by Web and the system we developed together. We have had very positive experiences with the virtual network; we notice that we have sent a strong warning signal to potential intruders and vandals by using these cameras. We are also very satisfied with our decision to choose Axis technology. They have made it possible for us to benefit from crystal-clear images by day and by night, which help us create a safer environment for our people and for our customers' rolling stock. The current system is running very well. Together with experts from Secured by Web, Axis and others, we will continue to innovate by adding new functionalities which will make our work safer and more effective," Koster decides.

secured by web

milestone

AGENT VI

About Axis Communications

Axis offers intelligent security solutions that enable a smarter, safer world. As the market leader in network video, Axis is driving the industry by continually launching innovative network products based on an open platform - delivering high value to customers through a global partner network. Axis has long-term relationships with partners and provides them with knowledge and ground-breaking network products in existing and new markets.

Axis has more than 2,700 dedicated employees in more than 50 countries around the world, supported by a global network of over 90,000 partners. Founded in 1984, Axis is a Sweden-based company listed on NASDAQ Stockholm under the ticker AXIS.

For more information about Axis, please visit our website www.axis.com.

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