Axis keeps the power flowing.

City of Naperville, IL selects Axis network cameras to protect electric and water infrastructure.

Organization:
City of Naperville

Location:
Naperville, IL, USA

Industry segment:
Critical infrastructure

Application:
Safety and security, remote monitoring

Axis partners:
WOWaccess, Milestone Systems

Mission

Naperville, IL is the fifth largest city in Illinois, and officials manage multiple electrical and water utility stations for its 145,000 residents. To ensure the utilities provide dependable service, the city must protect against perimeter intrusions. They must also achieve these goals in a cost-efficient manner to avoid undue strain on the city's budget.

Solution

The city has been building an IP-based surveillance camera network since 2009. Based on successful increase in situational awareness, officials decided to expand the network to cover the utilities. With Naperville-based systems integrator, WOWaccess, the City of Naperville installed fixed Axis network cameras to monitor the utilities' perimeter and Axis pan/tilt/zoom (PTZ) cameras to zoom into the facility. Axis cameras were chosen because officials could fine-tune bandwidth consumption while maintaining high image quality and perform maintenance checks from a central location. The system is managed by a Milestone XProtect® VMS.

Result

The initial pilot sites effectively developed the results that the City desired, and the decision was made to deploy the solution to other electrical and water utility stations they operate. The new cameras at the utility stations tie into the rest of the network at the city's central monitoring hub. The camera feeds give the city increased protection over its infrastructure without adding to its staffing resources. Additionally, in the event of a power outage, officials can use the PTZ camera to diagnose the issue beforehand to streamline the repair process.

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Expanding situational awareness

The City of Naperville, Illinois, is a prosperous community 30 miles west of Chicago that is routinely ranked as a top place to live in the United States. With 145,000 residents, a thriving downtown district and a strong business sector, the city manages an extensive utility infrastructure, including numerous electrical and water utility stations. However, these utility stations are spread across 40 square miles, which makes it challenging to monitor them with city personnel in a cost-effective manner.

Since 2009, the city has been building a network of IP surveillance cameras at key locations in town. This includes Axis PTZ cameras at the busiest intersections in the downtown. Over 60 analog cameras at their Municipal Center and parking garages have been network-enabled with Axis video encoders. The cameras are monitored from the 9-1-1 dispatch center, and the increase in situational awareness has greatly improved public safety efforts. The city decided that expanding the network to the utilities would be the best and most cost-effective solution to protect these assets.

"It gives Naperville the ability to have someone monitoring all these sites from one convenient location," said Brian Armstrong, owner of systems integrator WOWaccess.

Keeping the lights on

WOWaccess and the city set up pilot sites to assess the security risks for each facility. At the water utility stations, the city was most concerned about someone tampering with the water supply. At the electrical substations, the concern was protecting against break-ins and thefts, which, in addition to property loss, are dangerous for both the intruder and first responders.

"Because of the high voltage, they wanted to make sure no one was attempting to climb over the fence," Armstrong said.

After significant testing, they selected AXIS P3364-LVE Fixed Dome Network Cameras for the perimeters of both facilities.

The AXIS P3364-LVE camera's wide-angle 105° field of view captures all the important elements of the scene, and the HDTV-quality 720p resolution provides a detailed image of any potential intruder. Should the city need to investigate an incident at night, Lightfinder technology provides color images in low light, and IR-illumination offers clear black-and-white images in total darkness. Additionally, at the power substation, the city mounted an AXIS Q6044-E PTZ Network Camera atop a light pole looking into the interior of the station. In the event of a power outage, this camera can be used to zoom into the facility to diagnose the issue before dispatching a repair crew.

"If the power goes out, we can zoom in on a transformer to examine the circuits or check a power line to see if there was an equipment failure, or a fire, or some other incident," said Linda LaCloche, Communications Manager for the City of Naperville. "This gives our crews a better idea of the situation right away."

Reducing costs, increasing security

By expanding the IP surveillance network to the utilities, the City of Naperville increased its ability to secure its infrastructure and protect its residents in a budget-friendly manner.

The Axis cameras are monitored, controlled, and maintained remotely from the 9-1-1 dispatch center through a Milestone XProtect® VMS. In addition to displaying live or recorded images, the VMS offers a range of video management features to adjust resolution, bandwidth consumption and other maintenance activities system wide. The IT department will also receive an immediate alert if there is an issue so that they can fix the problem without losing valuable video footage. This ensures the system runs smoothly and provides effective security while freeing resources for other uses in the city.

"The cameras make Naperville a safer city," said LaCloche. "Furthermore, we are reducing costs by having another set of eyes watching over these areas on a regular basis."

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