Outsmarting Criminals with Intelligent Surveillance

Cutting-edge intelligent surveillance is a reliable, cost-effective way to minimize crime on campuses.

By Mark Rocchio



outhern California's San Bernardino City Unified School District police officers patrol 74 elementary, middle, high school, special education and adult school campuses with 56,000 students and 7,500 teachers and staff members. They do this 24/7/365 with 20 full-time sworn officers—considered a small force for such a large patrol area.

The Challenge

The district was losing tens of thousands of dollars each month to thieves and vandals who stole

copper wire and tubing from the school's air-conditioning units located on the roofs of school buildings. Damage caused by the thefts cost the district nearly \$300,000 between January and March 2014. Damage to the AC units forced the district to close classrooms during hot weather—which also cost the school thousands of dollars in lost federal funding.

"When we start seeing air conditioning damage at \$100,000 a pop, that takes money out of our programs that are so necessary to student achievement," says Board of Education Chairman Michael. J. Gallo. The existing analogue surveillance cameras on the campuses were good for recording a theft, but were ineffective in stopping them. The district needed a surveillance solution that could act as a "force multiplier" for the district's 20-officer police force.

The Solution

The district installed a cutting-edge intelligent surveillance solution as a reliable, cost-effective way to minimize crime. The completed intelligent surveillance solution included more than 850 cameras on the 74 campuses and administration building sites. The cameras are constantly monitored in "real time" by the district police department. The scalable system employs the latest in IP surveillance: fixed, pan-tilt-zoom (PTZ), infrared HD cameras; an "open architecture" platform; OnSSI software; an infrastructure; servers; motion detectors; network video recorders; and interactive video walls.

What set the system apart is its ability to alert the district police department's dispatch center of abnormal movements and events on playgrounds, in parking lots, and around rooftop air conditioning units, 24/7/365.

The intelligent surveillance solution fills school boundaries with infrared beams, alerting police dispatchers when a beam is broken. Dispatchers receive alerts on school maps within seconds of a breach. A dispatcher can turn on the specific camera and immediately view the camera location. Police officers can also view the camera location on their laptops from inside their patrol cars, maximizing their preparedness and ability to apprehend suspects and collect evidence. Some camera sites are equipped with speakers to deter potential perpetrators from crime or to issue warnings to suspicious loiterers.

Hierarchical retrieval is another feature of the system that maximizes surveillance capabilities. It's been determined through testing and practical application that a dispatcher can effectively view no more than eight cameras at one time. Hierarchical retrieval allows officers to prioritize which video streams are visible in the dispatch center, ensuring that troublesome areas and crime hot spots are the focal points of observation.

The Results

The intelligent surveillance solution at each district site costs between \$30,000 and \$170,000. Even before the entire system was in place, it generated 108 calls that resulted in 20 arrests, including four felony arrests and 11 misdemeanor arrests for crimes such as theft and vandalism.

In June 2014 and April 2015, the surveillance system captured suspected copper wire thieves at two elementary schools. Also in April, the intelligent surveillance

solution caught two men attempting to steal the cameras from the eaves of a high school. As captured on high-definition video at around 3:00 a.m., the suspects climbed on plastic milk crates and peered into the cameras they attempted to steal, triggering alarms at the dispatch center. Police officers arrested the men and charged them with grand theft, burglary, and trespassing.

When you analyze the cost versus losses at the various district sites, the intelligent surveillance solution paid for itself before the project completion.

The Future

Along with the safety benefits, district officials see an additional benefit in the intelligent surveillance solution: it piques the interest of students in information technology careers. Traditionally, the district has been a proponent of experiential learning, and the intelligent surveillance solution is a tangible way to educate students about careers in information technology as well as law enforcement.

Educational benefits aside, an intelligent surveillance system is a cost-effective, efficient, and reliable way for districts to "future-proof" their security operations and eliminate crime in the present moment.

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