

# SECURITY TECHNOLOGY EXECUTIVE

## Security Innovation Awards Gold Medal: Taino Towers security project showcases collaborative success



In 1972, one of the most ambitious government-funded, low-income housing projects broke ground in East Harlem, a section of New York City. Spanning an entire city block, the Taino Towers complex boasted a four-story central building surrounded by four 35-story glass and concrete towers. The project was known as a “pilot block,” meant to serve as a new urban model for the integration of low-income housing into large cities across the United States. The complex provides 656 subsidized rental units for more than 3,000 East Harlem residents. It also includes commercial space and houses the Magic Johnson Computer Learning Center, Touro College, the Boriken Health Center and the Harlem Day Charter School.

Yet, despite the promise of “luxury living for the poor,” the planned community has been plagued by the same high incidents of crime that have dogged other subsidized housing projects. The area alone had some of the highest crime rates in all of New York City. Several analog CCTV security projects were implemented over the years in an effort to reduce crime, yet gang- and drug-related incidents continued to rise. Management struggled with several analog camera systems that had failed to deliver a clear picture of events and proved difficult to search for incident details. Since most of the crime committed at Taino Towers was initiated by non-residents, management felt that a move toward digital technology could provide a proactive solution in preventing incidents and restricting access of unwelcomed guests.

Recognizing that a more effective solution was needed, management turned to an all IP-based system.

### Phasing In Digital Security

The two-phase project began in May 2011. Taino Towers executive director Maria Cruz and assistant director Manny Diaz hired IT and

security integrator Plugout to deploy a state-of-the-art digital security solution. Plugout replaced the complex’s aging analog cable network and in its place deployed IP-based megapixel surveillance cameras from Axis Communications throughout the entire square block running on a Genetec video management software (VMS) platform.

In Phase I, 66 Axis IP video surveillance cameras were deployed on all outdoor corners of the city block and sidewalks, in the courtyard and playground, as well as at building entrances, lobbies, hallways, elevators and rooftops. The open platform integration features of the Axis cameras and Genetec VMS allowed Plugout to equip each building’s elevator with a wireless two-way communication alert system without adding additional hardware. Security and engineering staff receive instant alerts when the elevator emergency is activated and can use video verification to determine whether the event is a false alarm or a real emergency.

The Axis cameras integrated with Genetec’s Security Center VMS, HP servers and Cisco networking gear. With a project of this size involving multiple buildings, powering the solution proved an initial challenge. An underground Cisco private mesh fiber network and rooftop Cisco/Ubiquiti wireless mesh network that were installed on the 35th floor of each building’s roof, and Ethernet networking that was implemented within each building, equated to approximately 120,000 feet of Category 5e wiring. Phase I took six months to complete.

In Phase II, 78 additional Axis cameras were installed on the network, bringing the total camera count to 144. The exceptional clarity, processing power and high resolution of these cameras made it possible to integrate intelligent video applications, specifically the FST2I SafeRise system. The in-motion identification system is an innovative access control solution for main building entry points.

Since the FST2I SafeRise in-motion identification software was not part of the initial plan, it was launched as a pilot in October 2012. The biometric security technology ties a five-megapixel AXIS P3367 fixed dome network camera to facial recognition software in order to bar unauthorized individuals from entering the premises. SafeRise is the only system of its kind that replaces traditional key and card access control systems by utilizing residents’ facial images, height and gait for entry authentication.

Devon Tower, World headquarters for Devon Energy, is the tallest building in Oklahoma and 20th largest in the United States. The 1.8 million square-foot glass tower provides multi-functional space to more than 3,000 employees, consultants, and contractors.

The intelligent recognition analytic is so accurate and fast that it is able to unlock a door with in-motion identification from 10-12 feet away in less than 1.5 seconds under normal lighting. SafeRise can be coupled with a criminal database to deny entrance to anyone

on the do-not-allow list and automatically notify the NYPD of their current whereabouts. In addition, the system can help management ferret out illegal subtenants and criminals living in the building.

The FST2I SafeRise in-motion identification system has proved to be a preventive solution. Some other key benefits include:

- Banned tenants are no longer allowed access
- No one can lend their keys to unauthorized personnel or guests
- No one can enter premises without a facial image capture
- If desired, parents are sent an SMS or email with an image attached when their children arrive home safely
- Traffic flow is electronically measured to better staff security throughout the week

This last phase took eight months -- totaling a year and a half for the entire project implementation.

### Crime No Longer an Unwanted Amenity

The Taino Towers management team has been extremely impressed with the state-of-the-art technology deployments selected as well as how effective the system has proved to be in protecting their residents and property.

The system's overall ease of use has also been key to providing the security staff and the NYPD with instant access to live video and evidence. The high-quality, usable video captured by the integration of Axis cameras, Genetec software and FST2I detection system has led to a dramatic increase in arrests in one of the most criminally active areas of the City. More importantly, Taino Towers has become a safer and more secure community. The new surveillance system has played a vital role in helping police solve incidents, including a fatal stabbing, armed robbery, and destruction of personal property. Specifically in July 2012, a gunman was apprehended in less than an hour as a direct result of the video surveillance system

Even if the system encounters technical problems or the cameras are damaged or tampered with, alerts are automatically sent to Plug-out for immediate investigation and issues have been resolved within very short time periods thanks to the remote health monitoring ability of the systems.

The Taino Towers security project has allowed law enforcement to not only identify the criminals, but also have enough clear evidence to make arrests. The new word out at Taino Towers is, "If seen on camera, then you are caught on camera". This is a far cry from the old analog solutions where facial identification was impossible and most incidents failed to be resolved.

The Taino Towers project combines some of the security industry's most cutting-edge technologies. The seamless combination of these technologies has been credited with successfully eliminating crime up to 90 percent, according to the District Attorney's Office.

### Exceeding Expectations

While crime prevention/reduction was the number one priority as the system was being planned and implemented, one unforeseen benefit has been the operational efficiencies gained by using the



IP system to manage the 50-person staff. Axis megapixel and PTZ cameras with the Genetec software have allowed the Taino Towers management to:

- Improve staff effectiveness by tracking unusual activity from the central base while simultaneously dispatching patrols if necessary
- Maximize staff scheduling
- Train staff when mistakes are made
- Hold staff accountable if errors occur
- Verify time clock punch ins/outs

The reduction in crime in and around the Taino Towers has been so dramatic that the DA's office says they would love to see the system expanded another 10-15 blocks to further reduce crime and help apprehend criminals.

### Seeing Is Believing

There was one specific incident where the capabilities even shocked the systems integrator. Plugout installed a 5 MP / 1080p HDTV quality AXIS P3367-E camera on the 35th floor of each tower. One day, through the pouring rain from 1,000 feet away, one of the cameras clearly captured a small 10-pound dumbbell being thrown from a window of a 23rd floor apartment of an adjacent tower. The dumbbell plummeted 20 stories and crashed through the roof of Touro College and into a classroom. Though the building sustained damage, no students were present at the time.

The apartment was immediately identified and the family members were promptly arrested and evicted. While the dozens of existing analog cameras atop each roof were unable to properly capture the incident, six of the IP cameras were able to clearly capture it.

### Taking It to the Streets

The two initial phases of the project are complete, but the success of the system has led to the planning of an additional phase. The facial recognition system from SafeRise and the Axis camera network is currently being deployed to all the buildings. Phase 3 will take the project to the street level to capture more activity in the surrounding area by deploying an additional 300 Axis IP cameras in 2013-2014.



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