

Preparing for the big game with Axis.

Axis partners with City of Houston to secure Super Bowl LIVE and downtown attractions.



Organization:

City of Houston
(Super Bowl LIVE)

Location:

Houston, Texas, USA

Industry segment:

City surveillance

Application:

Safety and security,
perimeter protection

Axis partners:

Siklu Communication,
Jemez Technology, Vidsys,
Preferred Technologies

Mission

With over one million people expected through downtown for Super Bowl LIVE, the City of Houston needed to upgrade its existing camera system to address the needs of law enforcement in the area. A number of moving and temporary structures created a chaotic deployment while wireless interference throughout downtown was an issue in streaming the camera data back to the City's two primary command posts, the Real Time Crime Center and Emergency Operations Center.

Solution

The City of Houston utilized a selection of Axis network cameras, including PTZ, thermal and flexible options to cover all bases. Streaming through a combination of fiber and wireless provided by Verizon Wireless and Siklu respectively, the City was able to gather data at a fluid pace and keep alert as needed in case of incidents.

Result

A wide selection of government and local agencies used the overall camera system for their own needs. These included police, fire, Emergency Management and transportation entities. A successful event overall for the City of Houston, the cameras and partner network added a necessary tool with analytics that not only provided assistance and support for ground operations surrounding this event but laid out the platform for continued advancement of technology use in the City for general safety needs.



Diving into the playbook

When the City of Houston was approached to host the Super Bowl for the 2016-17 football season, city officials immediately began preparations for large expected influx of visitors and fans. From a security perspective, the biggest challenge facing the City of Houston Mayor's Office of Public Safety and Homeland Security was the variability and complexity of the ever-changing environments leading up to and during the events that would soon come to town.

"No matter how much we could plan, things happen," said Jack Hanagriff, Law Enforcement Liaison with the City of Houston Mayor's Office of Public Safety and Homeland Security. "We may want a camera in a certain location but venue structures are moved, changing locations to the other end of the park and now blocking a camera. The layout was planned and designed for months but some changes were made through the final days before the event."

Super Bowl LIVE, a 10-day fan festival including football experiences, concerts, a local food showcase and other attractions added a large security demand to the city. The event was slated to take place at and around Discovery Green, a large green space situated in the heart of downtown Houston. A 750,000 square foot perimeter was secured by fencing leading up to the event. Though attendance was non-ticketed and free, any attendees would need to go through secured gates to access the event.

Setting the lineup

The City of Houston took a two-fold approach to protecting fans and staff downtown. Planning camera installations both at ground level and from above, the City hoped to cover all aspects of the facilities and grounds.

"We needed to augment and support our existing network," Hanagriff added. "Situational awareness is vital. These camera views increase our capabilities as first responders and help determine what resources are needed in any given situation."

With countless points of entry, AXIS F44 Main Units were deployed so that an AXIS F4005-E Sensor Unit could be utilized over each metal detector.

Additionally, an AXIS Q6155-E PTZ Network Camera captured various points in the surrounding area. This five-camera installation at each gate gave officials the necessary views to keep watch over these key choke-points and reviewable footage in case of incident.

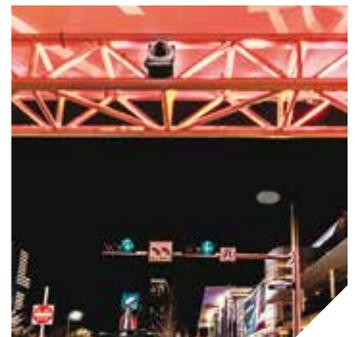
The cameras provided a strong resource for a mix of agencies and teams in Houston. With the command post in the GRB Convention Center and Emergency Operations Center offsite, police, fire and emergency management all utilized camera footage. The Texas Department of Transportation and Department of Public Safety also utilized camera views.

"These cameras helped all the involved resources," Hanagriff described. "Houston Super Bowl Host Committee, the police department, the fire department; they supported operations, crime prevention and emergency response all in one system."

Catching a bird's eye view

Houston Police and Fire Departments sought additional viewpoints that could give useful data and information to their personnel in addressing incidents. The solution provided was a set of cameras nestled on the roof of a downtown building to provide over watch. Primarily, a pair of AXIS Q1942-E Thermal Network Cameras pointed at each main slice of Discovery Green. Another AXIS Q6155-E gave staff PTZ capabilities from above the venue.

"If somebody is injured or down in a crowd," commented Richard Mann, Executive Assistant Fire Chief with the Houston Fire Department, "we can zoom in on the area and radio our roving teams responding to the incident so that we can give them additional information. And with a typical camera, crowds may be dark and we may not





see much more than a dark area. We can flip to a thermal camera view and see the density of people in that crowd and pick out individual bodies. It adds a totally new perspective in the system."

The existing cameras on buildings were not ideal for security of the event due to the variance in temporary circumstances. Cameras were found to be hindered or blocked in multiple instances by 20-foot stages, large banners, balloons and other items that created a need for better viewpoints.

"Thermal camera intrusion detection and PTZ control using the Eagle-i Edge analytic from Jemez Technology provided vital data and additional security capability," explained Shaun Castillo, President of Preferred Technologies, Inc., an Axis partner that took on a bulk of the installation responsibilities for this system. "We have cameras to see things; the color quality and resolution are strong and that helps to identify situations."

Running an audible

Considering the exorbitant number of people expected in the city for the events leading up to the big game, wireless signals and congestion were a large cause for concern. The City's camera system, regularly functioning over wireless, would need a new plan to transmit supplementary video feeds.

The first measure taken on by Verizon Wireless was the addition of a fiber backbone running under Discovery Green through to the command post in the George R. Brown Convention Center.

Verizon also built out a small command center in its promotional building in Discovery Green, using its own cloud VMS platform to view the cameras. The City of Houston utilized its preexisting Vidsys CSIM to bring in all of the active camera feeds for its own needs.

Secondly, to transmit video data from the three IP cameras situated high above downtown, the City deployed a pair of Siklu EH-600TX Radios to deliver high bandwidth over a 60GHz band, a surefire way to avoid interference from below.

"The challenge with fiber here was getting proper cabling to the roof of the building with these cameras," noted Alex Doorduyn, Director of Business Development at Siklu Communication. "Regular wireless would see a high level of interference at ground level."

Planning for future opponents

The City of Houston maintained complete control of the downtown environment and hosted a successful event that saw over one million individuals come through the various events and concerts. The camera system helped engage safety personnel in the happenings on scene while assisting these organizations in advancing their efforts.

"Having the ability of leveraging state-of-the-art analytics, that is something that we want to get involved in," Hanagriff concluded. "Now we need to take advantage of the services that these cameras can offer to make us to help us do our jobs better for the people of this city."

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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 2,600 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.