THE RIGHT WAY TO DO STADIUM SECURITY

Nick Smith, Regional Sales Manager for Salient Systems considers the four best practices for VMS deployment at stadiums

Video surveillance is one of the top technologies used to provide security and safety for public venues like stadiums, arenas and other event facilities. Perhaps overlooked but just as crucial to the success of camera detection is the video management system (VMS) – the backbone for viewing, recording and managing feeds and data.

At public venues in particular, the VMS plays a critical role in enabling security staff to not only monitor onsite activities during game day, but to proactively and remotely detect and respond to incidents as they occur. The VMS is the brains of the operation, integrating with other software and systems such as access control, intrusion, audio or even gunshot detection. It also enables analytics, which pinpoint areas of detection to guard against potential threats.

There are close to 1,000 sports stadiums in the US alone, and each has unique characteristics, so it's important to consider the different needs based on the environment and footprint. Stadiums are multi-purpose facilities that include parking, retail, hospitality, concierge, first-aid and medical. Not only are these venues focused on public safety and security, but they may also be trying to prevent counterfeit merchandise sales or even human trafficking operations. The VMS can deploy targeted analytics to address all the specific challenges the end-user may be faced with.
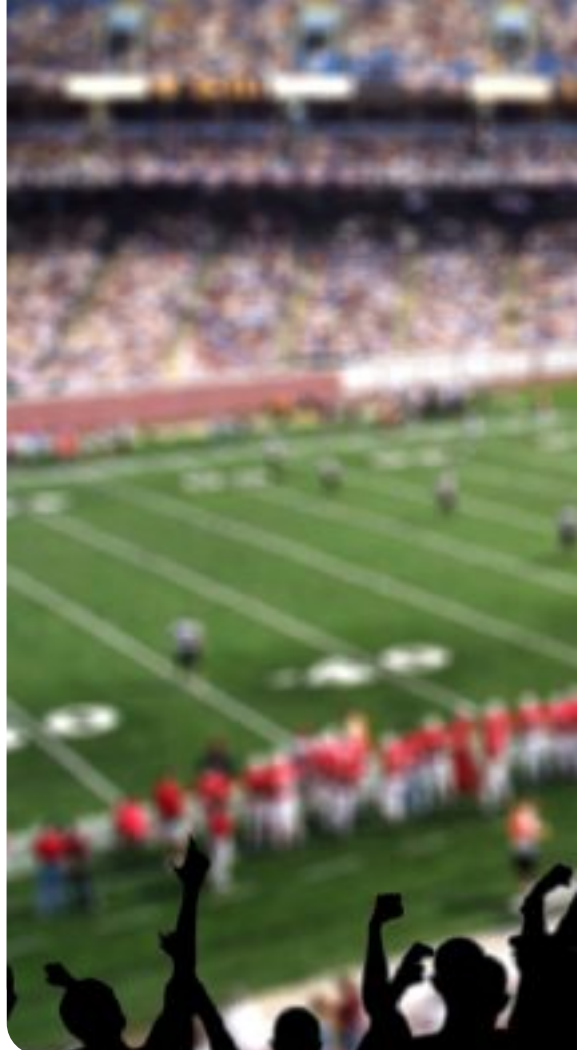
Consider these four best practices to get the most out of your stadium surveillance security and VMS:

1. Dive deep into the market

Every stadium is different in location, size and audience - from sports events to political rallies and every area needs monitoring from seating areas to the shopping and parking facilities.

"When you're responsible for thousands of attendees, being able to navigate video efficiently and without latency is key."

Those responsible must work closely with all stakeholders to determine the primary security issues and map out what security will look like depending on the event. The more you know about how the user conducts business, the greater the opportunity to target the project with just the right VMS and video analytics.

2. Go with an open, flexible and scalable VMS platform

An open and scalable platform allows you to leverage the legacy camera infrastructure as well as connect the latest high-definition IP cameras. With an open system, you can potentially interface with thousands of cameras, access control, analytics solutions and other complementary technologies.

Scalability inherent in a VMS helps you grow the system. You can begin with a handful of cameras and scale up depending on what the end user requirements and as their facility expands. Manufacturers should be able to provide information on which technologies they work with, sometimes identified as certified or verified partners.

Look for a robust SDK to build from

Part of achieving system openness, flexibility and scalability is a robust software development kit (SDK). An open Application Programming Interface (API) allows the VMS to talk to other third party solutions, providing integration with current stadium systems such as access control or intrusion.

The ability to install third party applications into VMS systems can also assist with meeting regulatory compliance or other recording requirements. Software and firmware updates should be automatic to keep processes and cybersecurity safeguards in check.

3. Make it mobile

Being able to get real-time live video to mobile devices like smartphones and tablets assists with remote monitoring and directs personnel or first responders safely to incidents. Mobile capabilities let you access live video, play back and export recorded video and control cameras with PTZ functions from phone or web browser.

Dynamic maps on the VMS platform also direct individuals as they are responding to incidents. Geographical maps instantly create layouts of cameras, allowing live monitoring personnel to track suspects, areas or incidents easily. You should be able to securely access video from any location, network connection or client device without additional cost or complexity.

4. Focus on the experience

Ease of use in programming analytics and viewing video is paramount to deployment and a positive user experience. Whether edge-based analytics in the cameras or third-party server-based analytics, an open API allows seamless integration and easier management and control of analytics through a single platform interface. The open API permits the user to get specific about search criteria for analytics – for example, to search for an individual with a

backpack, red hat, blue jeans or shorts. Other analytics frequently deployed by stadiums may include object detection, people counting, integration with retail transaction data, vehicle detection and license plate recognition.

Enhanced remote investigations

When you're responsible for thousands of attendees, being able to navigate video efficiently and without latency is key. VMS systems with capabilities such as live search and export give users the ability to see, search and export the video incident quickly, rather than toggling through different clicks to find the scene of interest.

VMS systems with specialized bandwidth reducing technology allow multiple users to simultaneously download and search video remotely for investigations without overloading the network or the VMS. This capability 'fits' the resolution of the video stream from the VMS to the capacity of the monitor – mobile, desktop client, browser – so the person viewing gets what they need faster and with less bandwidth constraint. It also allows playback and search while exported video is simultaneously downloaded at full resolution, so no time is lost during forensic discovery.

↑ Nick Smith, *Regional Sales Manager, Salient Systems*

are 170,000 people on the ground - equivalent to the third largest city in the USA, yet the city of Happy Valley is served by a 200-bed hospital. Once you step out of UK there are no countries that have passed laws, says Dane. "For large gathering the USA you have National Fire Protection Agency Standards (NFPA) and most of the states - 43 of the 50 - have adopted the code for live safety as administrative law. But there aren't any laws per se."

In the USA those NFPA regulations mean for every 250 people you have attending, the organizer has to have one person trained in crowd management.

"But they stop there, they don't say what the training is they don't tell you," says Dane. "So, we continue to have this problem."

He continues: "The USA has a terrible history: the Iroquois theatre fire in December 1903, saw 600 people die after a fire started on the stage. To prevent people from sneaking in the organizers chained the doors.

> "If you create a crowd, you have to protect it - you have responsibility like a parent for welfare."

"As a result of the Iroquois fire we have building codes but these are business orientated that need to make money so the thought is often, we don't want to have laws that

hinder us so we'll have these as administrative code."

He turns then to one of his biggest wishes: better paid, better trained stewards: "Venues and concerts are always short on staff. It's low-paid and often irregular. So, why would someone chose to work as a steward for $12 an hour when they can earn $20-24 an hour in McDonald's or Target? And also currently in the USA we have too few workers for the jobs we have."

Former US Marine Dane has been involved in crowd safety and security for almost 30 years. In the late 90s he began work at the Metropolitan Museum in Central Park New York.

"Located by 5th Avenue big parades are frequent and there are concerts in park or building I got pulled into

planning session with NYPD. The museum could hold about 200,000 people.

"Through those processes I got involved in crowd management. And then 9/11 happened. Everything changed on that Tuesday morning, public gatherings became a difficult thing. Now you had added concerns for crowd management not just about their safety, but additional risks from shootings, bombings and attacks."

He moved to Florida in 2002 joining the the Contemporary Services Corp, which provided crowd services to large events. My main client was the NFL. Then three years after 9/11 the federal government admitted they didn't have the knowledge of protecting stadiums and I was tapped to help group of experts."

Over the next few years he found himself involved in stadium and crowd protection projects and has worked with the National Centre for Spectator Sports Safety & Security - known by everyone as NCS4 - since its inception in 2004.

In 2004 he was part of committee that developed NFL's stadium security protocols and in 2008

helped the with the Department of Homeland Security's stadium security and safety guide.

He's travelled and advised around the world. From the Winter Olympics in Vancouver to the London Olympics in 2012.

"Crowds are nervous right now, a car backfires or they hear a loud noise and people will run. There's your danger."

"The real danger comes from crowd density," he explains. "If you've never been in it, then it's important to understand density is the first thing to manage."

The second danger is the mentality of the crowd. Referring for a second time to the Independence Day attack in Chicago, he said: "Crowds are nervous right now, a car backfires or they hear a loud noise and people will run. There's your danger."

He is concerned about preparations for the Chicago July 4 parade where seven were shot just days before the interview. "And there were crowd stampedes in Orlando - fire crackers - and Philadelphia -celebratory gun fire- which also occurred the same days but were overshadowed by the shooting in Highland Park, IL earlier in the day," he said.

As a conference speaker at the end of June at the National Sports Safety and Security Conference & Exhibition in Florida, Dane says the audience were familiar with the concept of crowd density - more than six in each square yard and you run a real risk of tragedy.

"People understand the concept of density but they don't get how to manage it," he said. "Historically random things happen and the crowd reacts adversely. Everything will go normal but what we're seeing ever more so random things from outside I showed list at conference."

There is no simple way to protect crowds he says. "We have a few quiet years and people keep thinking we're out of the problem and things only going get worse."