

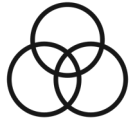


# SAFE STADIUMS

Keep up with the speed of technology on one unified platform



# THE PROMISE OF A MODERN STADIUM



## EFFICIENT OPERATIONS

Create a streamlined experience throughout your facility to increase revenue for your venue, vendors, and teams.



## POSITIVE FAN EXPERIENCE

Ensure that all who visit your stadium leave having had an enjoyable experience and wanting to come back.



## SAFETY & SECURITY

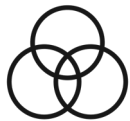
Maintain safety within your entire perimeter through early detection and coordinated response.

The promise to deliver an efficient and enjoyable experience for stadium guests is only possible in an environment built on a foundation of safety.





# THE PROMISE OF A MODERN STADIUM



## EFFICIENT OPERATIONS

Create a streamlined experience throughout your facility to increase revenue for your venue, vendors, and teams.

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**\$59M**

Annual revenue from food and beverage sales at the top U.S. stadium.

- Technomic



## POSITIVE FAN EXPERIENCE

Ensure that all who visit your stadium leave having had an enjoyable experience and wanting to come back.

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**85%**

85% of ticket sales in the NFL are season ticket packages. Season ticket sales is the backbone of professional sports attendance.

- Front Office Sports



## SAFETY & SECURITY

Maintain safety within your entire perimeter through early detection and coordinated response.

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**SAFETY Act**

The SAFETY Act protects venues and leagues from massive liability claims when best practices and tech guidelines are implemented.

- US Dept of Homeland Security

The promise to deliver an efficient and enjoyable experience for stadium guests is only possible in an environment built on a foundation of safety.



# THE CURRENT ENVIRONMENT BY THE NUMBERS



**30.2 K**

Average attendance per game for the 5 major sports leagues in North America.

- Statista



**7 ACRES**

The perimeter of the median capacity stadium of all US professional/collegiate stadiums (Soldier Field).

- Illinois Sports Facilities Authority



**133**

Security 'best practices' and 133 'baseline protective measures' for stadiums to follow.

- National Center for Spectator Sports Safety and Security (NCS4)

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Stadiums are expected to manage and monitor vast amounts of people and staff on a daily basis.

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The perimeter of stadiums is enormous, expanding and expected to be secure at all times.

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There are increasingly demanding and evolving standards of safety that fans and officials have come to expect from all stadiums.



# MODERN CHALLENGES



“

How do we effectively monitor our ever expanding facility perimeter?

- Secure and monitor critical areas
- Manage suspicious packages and items
- Monitor widespread perimeters
- Increase throughput of guests and staff

“

How can we recognize important events and locate points of interest?

- Notify of flagged license plates
- Automatically track people of interest
- Highlight specific behaviors
- Recognize flagged individuals

“

How do we connect all workgroups that need to collaborate?

- Coordinate with local first responders
- Communicate with 3rd party staff
- Share information across devices
- Alert multiple teams simultaneously

“

How can we quickly respond to problems before they escalate?

- Aggregated information feeds
- Share information to all guests
- Directly share data with first responders
- Automatically log incident reports



# SAFE STADIUMS

An integrated technology ecosystem



Instant voice communications to reliably connect teams across your perimeter.

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Video analytics technologies to quickly identify and track points of interest across widespread areas.

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Advanced software and security to centralize command everyday and during emergencies.

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Support services that are always there maintain systems for today and into the future

**Technology unified by a common orchestration platform built to empower you to address the unique challenges of your stadium.**



# FACING MODERN CHALLENGES



## DETECT

Video Security  
Anonymous Tipping  
Watch List Creation and Alert  
Access Control

Know what is happening with better insights to protect people, property & assets.



## ANALYZE

Appearance Search  
Identity Search  
Unusual Motion Detection

Recognize which events are important, see the unseen & make informed decisions to take action.



## COMMUNICATE

Radio Communications/Dispatch  
Broadband Push-to-X  
Private LTE  
Dispatch Software

Connect instantly across devices & networks to keep teams connected and informed.



## RESPOND

Situational Intelligence  
Dynamic Interoperability  
Mass Notification  
Incident and Records Management

Simultaneously mobilize and coordinate an immediate response internally and with public safety.





# ELEVATED SKIN TEMPERATURE DETECTION

## Use Case

Stadiums need an effective and efficient way to monitor the health of fans who wish to enter their facility, especially during times of a public health crisis. Video analytics can empower security operations teams to screen more people in less time than manual alternatives.

# ELEVATED SKIN TEMPERATURE DETECTION

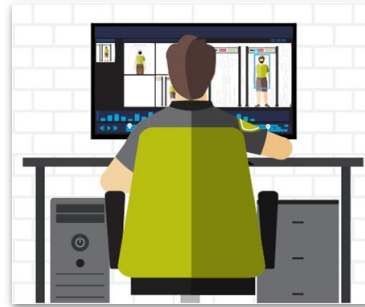
## Use Case



## DETECT

### ELEVATED SKIN TEMPERATURE DETECTED

A thermal camera at a security checkpoint detects a fan with elevated skin temperature and automatically alerts the security operations center.



## ANALYZE

### TEMPERATURE ALERT VERIFIED

The security operations center acknowledges the alert and identifies the visitor with elevated skin temperature.



## COMMUNICATE

### RESOURCES DISPATCHED

Agents at the entrance point are notified of the individual and a medical professional is dispatched to the checkpoint.



## RESPOND

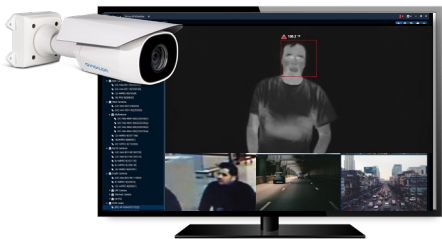
### SITUATION RESOLVED

The fan is discreetly isolated and a medical screening is conducted and an incident report is logged with pre-populated fields and relevant data.



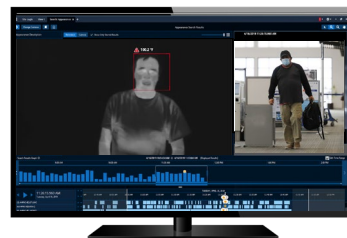
# ELEVATED SKIN TEMPERATURE DETECTION

Use Case



## DETECT

- Avigilon Camera
- Avigilon Control Center
- Skin temperature detection



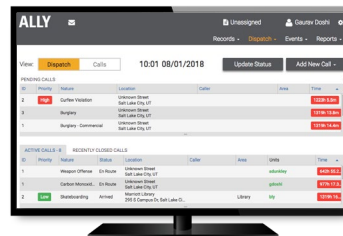
## ANALYZE

- Avigilon Cameras
- Avigilon Control Center



## COMMUNICATE

- WAVE / Broadband Push To Talk
- Radio Communications
- Dispatch



## RESPOND

- Ally Incident Management



# BANNED PERSON

Use Case

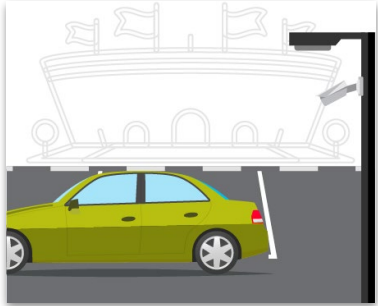
**Stadiums can ban a fan for life. But they can't easily enforce it** May 4, 2017 

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When an individual is banned from a stadium, aside from identifying them by the name on their ticket, which can easily be avoided, stadiums have very few ways to prevent them entering the stadium. Security teams need a way to effectively identify and locate banned individuals before they cause a disturbance or even before they enter the stadium.

# BANNED INDIVIDUAL

## Use Case



### DETECT

#### KNOWN PERSON IDENTIFIED

Using an existing database, an automatic license plate reader recognizes a banned individual's vehicle entering the stadium parking lot and alerts stadium operations.



### ANALYZE

#### MOVEMENT TRACKED

Using appearance recognition from a watchlist, the individual is confirmed as being banned their movements are automatically tracked as they approach the stadium.



### COMMUNICATE

#### NOTIFICATION COMMUNICATED

The nearest entry gate security personnel are notified with an alert and an image of the individual.



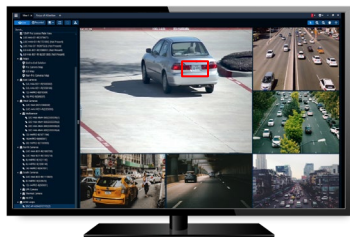
### RESPOND

#### INCIDENT MANAGED AND REPORTED

Stadium operations monitors the situation via video and the security personnel prevent the individual from entering. An incident report is logged with pre-populated fields and relevant data.

# BANNED INDIVIDUAL

## Use Case



## DETECT

- Avigilon Camera
- License Plate Recognition
- Avigilon Control Center
- Radio Alert



## ANALYZE

- Avigilon Cameras
- Watchlist
- Radio Alert
- Appearance Capture



## COMMUNICATE

- WAVE / Broadband Push To Talk
- Radio Communications
- Dispatch
- CommandCentral Aware Enterprise



## RESPOND

- Ally Incident Management
- CommandCentral Aware Enterprise



# ESCALATED FAN INTERACTION

## Use Case

**Drunken fan punched trooper, threw racial slurs at Michigan-Ohio State game, police say**

Dec 02, 2019

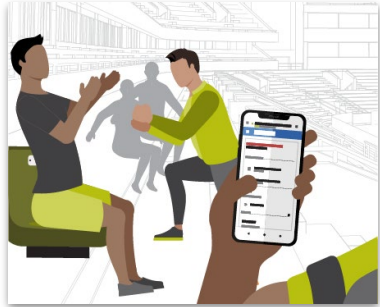


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When security team approaches a rowdy or troublesome guest, the situation can escalate quickly, especially when alcohol is involved. Security operations centers need an effective way to monitor these situations and notify public safety for support allowing the security responders on the ground to stay focused and for the situation to quickly be resolved.

# ESCALATED FAN INTERACTION

## Use Case



## DETECT

### FAN REPORTS DISRUPTION

A fan reports an anonymous tip about disruptive individual in their vicinity.



## ANALYZE

### DISRUPTION LOCATED AND IDENTIFIED

A video of the area where the disruption was reported is viewed and the appearance of the individual is captured.



## COMMUNICATE

### RESOURCES DISPATCHED

The nearest security personnel is located and dispatched with an image of disruptor to approach the situation.



## RESPOND

### PUBLIC SAFETY CONTACTED

The fan begins an altercation with the security personnel and security operations directly dispatches nearby public safety for assistance.

# ESCALATED FAN INTERACTION

## Use Case



## DETECT

- TipSubmit
- Tip Management Software



## ANALYZE

- Avigilon Cameras
- CommandCentral Aware Enterprise
- Avigilon Control Center
- Appearance Capture



## COMMUNICATE

- CommandCentral Aware Enterprise
- WAVE / Broadband Push To Talk
- Radio Communications
- Dispatch



## RESPOND

- Ally Incident Management
- CommandCentral Aware Enterprise
- Critical Connect



# LOST ITEM

## Use Case

Following the security screening process at the entrances of stadiums, it is not uncommon for visitors to continue into the stadium without retrieving all of their belongings. The process to identify and locate the individual to return the forgotten item is manual and very time consuming. Stadiums need a way to quickly resolve these occurrences without devoting excessive time and resources.



# LOST ITEM

## Use Case



## DETECT

### ITEM LEFT AT SECURITY

A security checkpoint reports that a personal item has been left behind by a fan who entered the stadium.



## ANALYZE

### DETERMINE PERSON AND LOCATION

Stadium operations uses video feeds from the area to identify the individual who left the item and then uses appearance search to work through recorded and live video to determine their location.



## COMMUNICATE

### RESOURCES DISPATCHED

The individual's image and seat location is shared with security personnel who are dispatched to return the item.



## RESPOND

### ITEM RETURNED

The item is returned and the incident is securely logged with relevant data.

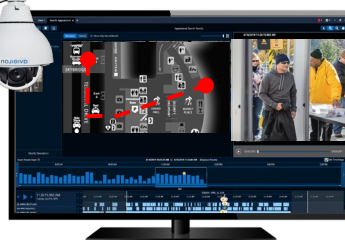
# LOST ITEM

Use Case



## DETECT

- Radio Communications
- WAVE / Broadband Push To Talk



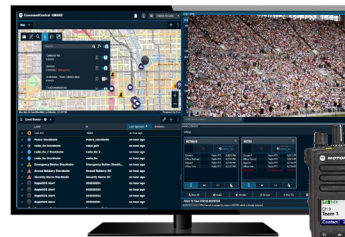
## ANALYZE

- Avigilon Cameras
- Appearance Search
- Avigilon Control Center



## COMMUNICATE

- CommandCentral Aware Enterprise
- WAVE / Broadband Push To Talk
- Radio Communications
- Dispatch



## RESPOND

- Ally Incident Management
- CommandCentral Aware Enterprise



# LITIGATION RESPONSE AND PROTECTION

## Use Case

Dodgers fan says he was beaten by security guards at stadium, sues team for \$2 million

APRIL 17, 2019

Los Angeles Times

When unfortunate events happen, affected parties are quick to take legal action seeking compensation. Gathering the appropriate information from stadium systems is a manual and time consuming process. Stadiums need to prepare themselves for these situations and have unified systems to automatically gather all relevant information from one common platform.



**MOTOROLA SOLUTIONS**

# LITIGATION RESPONSE

Use Case



DETECT

ANALYZE

COMMUNICATE

RESPOND



## FAN/SECURITY ALTERCATION

The intoxicated fan begins an altercation with the security personnel who are wearing body-cams. The fan is restrained and escorted out of the stadium and an incident report is automatically generated with the associated video.



## EVIDENCE GATHERING

Litigation is brought against the stadium. Using their single unified platform, stadium operations is able to quickly retrieve and share all fixed and body-worn camera footage that was already associated with the incident report.



# RESTRICTED AREAS

Use Case

## Fan in Stolen Security Jacket Tried to Sneak into Patriots Locker Room

2/4/2019, 9:54 a.m.

Boston

Within a stadium there are many critical areas that must be secured at all times such as office areas, player areas, server rooms and other pieces of critical infrastructure. Even when access control systems are in place these areas still need to constantly be monitored. Stadiums need a way to efficiently investigate and respond to door alarms without causing disruption whether the alerts are real or false.



# RESTRICTED AREA ACCESS

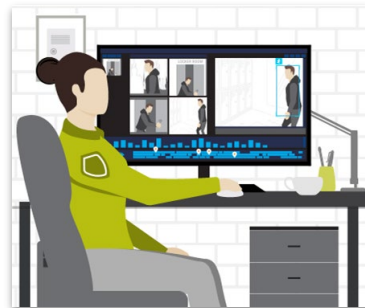
## Use Case



## DETECT

### FORCED ENTRY RECOGNIZED

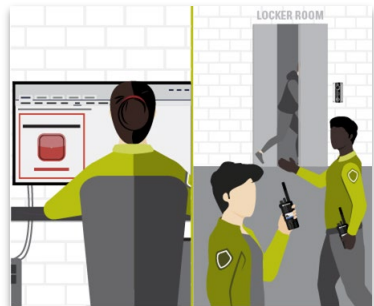
Alert is sent to security operations center and personnel of a forced entry into a player locker room area.



## ANALYZE

### APPEARANCE TRACKED THROUGH STADIUM

The intruder's appearance is captured and automatically tracked over multiple areas and camera



## COMMUNICATE

### NOTIFICATION COMMUNICATED

After the initial radio alert, intruder image and location sent to nearby security teams in the field. Anticipated escape route determined and security directed to intercept.



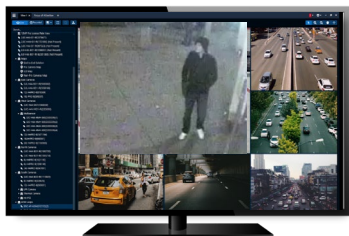
## RESPOND

### INCIDENT MANAGED AND REPORTED

Public safety is notified and security apprehends intruder and the incident is logged with pre-populated fields and relevant data.

# RESTRICTED AREA ACCESS

Use Case



## DETECT

- Access Control Manager
- Radio Alert



## ANALYZE

- Avigilon Cameras
- Appearance Search
- Avigilon Control Center



## COMMUNICATE

- CommandCentral Aware Enterprise
- WAVE / Broadband Push To Talk
- Radio Communications
- Dispatch



## RESPOND

- Ally Incident Management
- CommandCentral Aware Enterprise
- Critical Connect

# VEHICLE BURGLARY

Use Case

## THIEVES TARGET CARS IN OUTER LOTS AT CHIEFS GAMES

01/09/2020



KANSAS CITY MISSOURI  
POLICE DEPARTMENT

Stadium parking lots are expansive and can extend far beyond the immediate perimeter of the stadium. Providing network coverage to these remote lots for video security technology poses a unique challenge for stadiums leaving these often targeted areas vulnerable and ineffectively monitored. Stadiums need a way to effectively cover these areas with video solutions and network backhaul to better respond to and prevent vehicle break-ins and thefts.



**MOTOROLA SOLUTIONS**



# VEHICLE BURGLARY

Use Case



## DETECT



### UNUSUAL MOTION DETECTED

Using video analytics, an HD camera recognizes suspicious movement in a remote parking lot after hours and alerts security operations via a CBRS network.

## ANALYZE



### MOVEMENT TRACKED

Security operations observes the flagged individuals attempting to break-in to vehicles. Their appearance is captured and tracked as they move through the parking lots.

## COMMUNICATE



### NOTIFICATION COMMUNICATED

From the security operations center, the nearest 3rd party parking lot security team members are notified and provided an image of the individuals.

## RESPOND



### INCIDENT MANAGED AND REPORTED

Public safety is notified and security personnel apprehend the individuals and an incident report is automatically logged.



# HAZARDOUS WEATHER RESPONSE

## Use Case

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Dealing with inclement weather can not only cause a delay or cancellation of a game or event, but can also be a danger to the safety of fans and staff inside of an open stadium. Stadium operations needs a way to monitor weather conditions and have plans in place to effectively alert and communicate to fans and staff about changing weather conditions and the proper actions needed to ensure everyone's safety.

# HAZARDOUS WEATHER RESPONSE

Use Case



## DETECT



### INCOMING STORM

Integrated weather monitoring software alerts stadium operations of incoming inclement weather.

## ANALYZE



### TIMEFRAME ESTABLISHED

Time until storm arrival is determined and proper response plan established.

## COMMUNICATE



### NOTIFICATION COMMUNICATED

All radio and broadband staff talkgroups are unified and the situation and proper procedure is communicated across workgroups.

## RESPOND



### STADIUM VISITORS DIRECTED

In one motion, an alert is broadcast over the loudspeaker and on the scoreboard display to direct fans of proper procedure and an alert is sent to a predetermined list of contacts.



# SUSPICIOUS PACKAGE

## Use Case

Vivint Smart Home Arena evacuated due to suspicious package, later found to be a toolbox

November 22, 2019

*The Salt Lake Tribune*

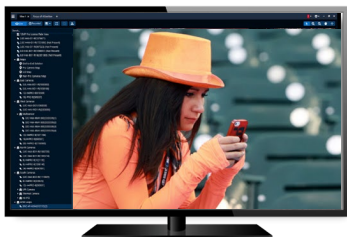
During the chaos of a game day or special event, it is difficult for security teams to identify abandoned or suspicious packages throughout their vast perimeter that could pose a security threat. Stadiums need to be able to quickly recognize and investigate these items without causing an unnecessary disturbances.

# SUSPICIOUS PACKAGE

## Use Case



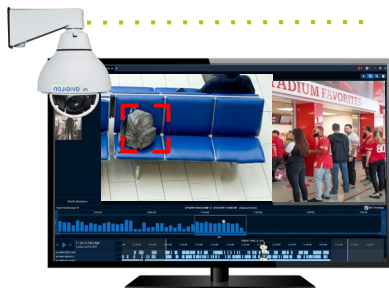
### DETECT



#### SUSPICIOUS PACKAGE REPORTED

A concerned fan submits an anonymous tip about an unattended package near their seat.

### ANALYZE



#### DETERMINE PERSON & LOCATION

Stadium operations uses video analytics to identify the person who left the backpack and automatically tracks them throughout the stadium using Appearance Search.

### COMMUNICATE



#### RESOURCES DISPATCHED

Simultaneously, nearby security and operations staff are notified to close the area around the item and the public safety canine unit is dispatched.

### RESPOND



#### SITUATION RESOLVED

Stadium operations determines that the object was left by maintenance personnel and the canine unit determines it to be benign. The incident is automatically logged with associated data.



