

# ACTi Stadium Surveillance Solutions





## Stadium: Overview



ACTi's end-to-end stadium solutions are designed for ensuring the safety of the crowds and for the protection of the facilities and the equipment. The solutions consist of various types of cameras with the far zoom capabilities, video analytics, VMS, as well as the integration of alarm, intercom and digital signage systems.

Since hundreds and thousands of people will gather in stadiums for concerts or games, the major security related challenges include pick pocketing, robbery, brawling, conflicts between visitors and other criminal activities, such as vandalism.

For such large spaces, ACTi offers a wide range of high zoom cameras, including Bullets, Boxes and PTZ, with up to 40x optical zoom and instant auto-focus. All these cameras can zoom in either manually or automatically.

For panoramic view solutions, ACTi offers Multi-imager cameras with zoom or fixed lenses, and hemispheric cameras with the fisheye lenses.

ACTi cameras also come with the built-in analytics that do not require any AI license. The AI can perform various tasks, such as face recognition. When the PTZ camera scans across the stadium and recognizes a blacklisted person, it will alert immediately.



# Stadium: Map





# Stadium: Applications vs Locations

	Entrance	Gate	Field	Seating Area	Control Room	Gym	Surrounding	Parking
Unauthorized Access Detection	Y	Y			Y	Y		
Tailgating Detection	Y	Y		Y	Y	Y		
Real-time Suspect Tracking	Y	Y	Y	Y		Y	Y	Y
Vehicle Access Control		Y						Y
Intercom Service	Y	Y		Y	Y	Y		Y
Trespassing Detection				Y		Y	Y	Y
Suspicious Items Detection	Y	Y	Y	Y		Y	Y	Y
On-the-Go Surveillance	Y	Y	Y	Y	Y	Y	Y	Y
Safety Assurance	Y	Y	Y	Y	Y	Y	Y	Y
Blacklisted People Identification	Y	Y	Y	Y				





# Stadium: Applications



## Unauthorized Access Detection

Detect the intrusion attempts using video analytics and notify the security personnel.



## Tailgating Detection

Detect tailgating at the entrance of restricted area by comparing the detected head count with number of presented access credentials.



## Real-time Suspect Tracking

Track the suspect seamlessly by switching between video channels using transparent video overlay buttons in video management system.



## Vehicle Access Control

The access control at the gate can be done conveniently using ALPR technology.



## Intercom Service

Interact with other individuals by local voice-based communication system.

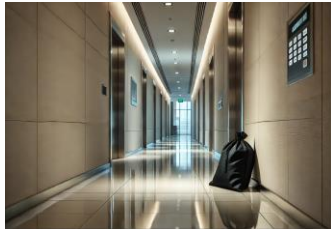


# Stadium: Applications



## Trespassing Detection

Detecting the person entering the area without permission.



## Suspicious Items Detection

Detect the items that are left unattended to prevent serious security and safety hazards.



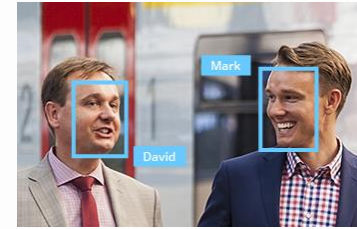
## On-the-Go Surveillance

Monitor the views from surveillance cameras using a mobile device while walking around the premises, to respond to incidents instantly.



## Safety Assurance

Ensure safety of people using video surveillance system.

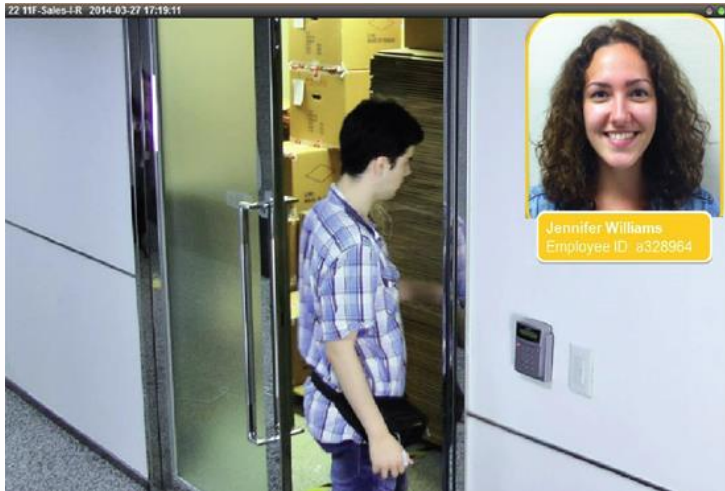


## Blacklisted Persons Identification

Identify the blacklisted persons by recognizing their faces automatically.



## Stadium: Applications



### Unauthorized Access Detection

Detect the intrusion attempts using video analytics and notify the security personnel.

Without surveillance videos, it is hard to be sure if the identity shown in the entry log matches the accessing person. Access control integrated with the surveillance system can remarkably prevent the crises and loss resulted from unauthorized access.

This is based on the **Face Recognition** analytics in ACTi's Door Stations.

### Solutions

Access Control Solution  
(SF20) [Read](#)



## Stadium: Applications

### Tailgating Detection

Detect tailgating at the entrance of restricted area by comparing the detected head count with number of presented access credentials.



Whenever the RFID card is swiped, the system will count the number of the actual entries. When mismatched, the system will create the alarm. This prevents both tailgating and piggybacking.

This is based on the **People Counting** analytics and **RFID** technology. [Read More.](#)

## Solutions

Access Control Solution  
(SF20) [Read](#)





## Stadium: Applications



### Real-Time Suspect Tracking

Track the suspect seamlessly by switching between video channels using transparent video overlay buttons in video management system.

Track the suspect using the video management system interface by using the convenient feature of switching the views with 1 click on the video which opens up the next view of the area the suspect is moving towards to. This method works for both live view and playback. By this method it is possible to instantly find out where the suspect is going and dispatch officers to handle the situation immediately.

This is based on the unique **Visual Tracking** feature of ACTi's **NVR 3 and CMS 2**.

### Solutions

Windows-Based NVR  
Solution (SF11) [Read](#)

Windows-Based NVR  
and Control Center  
Solution (SF12) [Read](#)

Cloud-Based NVR  
Solution (SF13) [Read](#)



## Stadium: Applications



### Vehicle Access Control

The access control at the gate can be done conveniently using ALPR technology.

Except for the highest security facilities, most locations can benefit from the automatic gate control without requiring the gate officer to be present all the time. Only the white-listed vehicles can enter the premises. Furthermore, it is possible to set up a blacklist which alerts the security officers instantly when the blacklisted vehicle appears.

This is based on the **ALPR** analytics inside ACTi cameras. [Read More](#).

## Solutions

Access Control Solution  
(SF20) [Read](#)



## Stadium: Applications



### Intercom Service

Interact with other individuals by local voice-based communication system.

There will be voice access points as intercoms in various locations across the Stadium, such as gates and entrances, loading area, parking lot and others. The employees and the visitors can talk to the security staff immediately using that feature.

This is based on the **NVR 3** or **CMS 2** along with intercom devices such as **Q950**.

### Solutions

Windows-Based NVR  
Solution (SF11) [Read](#)

Windows-Based NVR  
and Control Center  
Solution (SF12) [Read](#)

Cloud-Based NVR  
Solution (SF13) [Read](#)



## Stadium: Applications



### Trespassing Detection

Detecting the person entering the area without permission.

When a person enters someone's land or property without permission, it is considered trespassing, and it is illegal. There are places that are restricted for strangers nearly all the time, such as the whole territory of the Stadium plant. There are also some places that are open for anyone during daytime but are closed at night due to safety reasons. Entering those areas at night would be considered trespassing.

This is based on the **People Enter Area Detection** analytics inside ACTi cameras. [Read More.](#)

### Solutions

Windows-Based NVR  
Solution (SF11) [Read](#)

Windows-Based NVR  
and Control Center  
Solution (SF12) [Read](#)

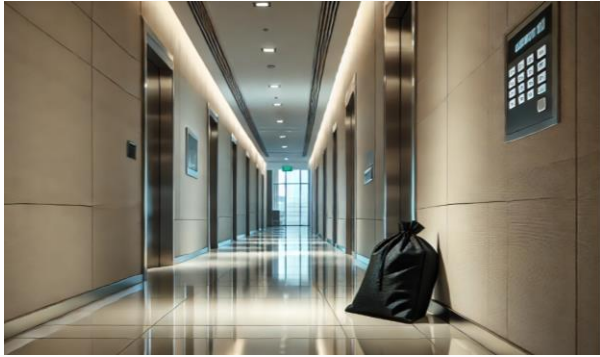
Cloud-Based NVR  
Solution (SF13) [Read](#)

Third Party Application  
Integrated Solution  
(SF22) [Read](#)

Third Party VMS  
Integrated Solution  
(SF23) [Read](#)



## Stadium: Applications



### Suspicious Items Detection

Detect the items that are left unattended to prevent serious security and safety hazards.

The unattended objects, such as bags, boxes, suitcases or suspicious devices are considered risk items that should be handled quickly. Those objects can sometimes be accidentally forgotten there. Rarely, these items could also pose threats as being malicious. They could disguise explosives or other dangerous substances.

This is based on the **Unattended Object Detection** analytics inside ACTi cameras. [Read More.](#)

### Solutions

Windows-Based NVR  
Solution (SF11) [Read](#)

Windows-Based NVR  
and Control Center  
Solution (SF12) [Read](#)

Cloud-Based NVR  
Solution (SF13) [Read](#)

Third Party Application  
Integrated Solution  
(SF22) [Read](#)





## Stadium: Applications



### On-the-Go Surveillance

Monitor the views from surveillance cameras using a mobile device while walking around the premises, in order to respond to incidents instantly.

Universal mobile application designed to remotely access NVR, CMS or camera for video playback and management.

Features: Live view and playback, Search video recordings by events, PTZ Control, Google Maps, Activate Digital Output, Playback from camera's memory card

This is based on the **ACTi Mobile Client**, both for Android and iOS. It is free.

### Solutions

Windows-Based NVR  
Solution (SF11) [Read](#)

Windows-Based NVR  
and Control Center  
Solution (SF12) [Read](#)

Cloud-Based NVR  
Solution (SF13) [Read](#)



## Stadium: Applications



### Safety Assurance

Ensure safety of people using video surveillance system.

ACTi provides surveillance solution for ensuring the safety with both overview and details monitoring. By installing a camera with wide viewing angle at the center or the corner of the store, the whole area can be perfectly covered. Meanwhile, the faces of people entering the premises can be captured by the covert camera discreetly installed into the height strip at the entrance.

For large scale projects, ACTi TV Wall enables multiple views to be displayed on different monitors at the same time. Get the complete overview to improve situational awareness and operational efficiency.

## Solutions

Windows-Based NVR  
Solution (SF11) [Read](#)

Windows-Based NVR  
and Control Center  
Solution (SF12) [Read](#)

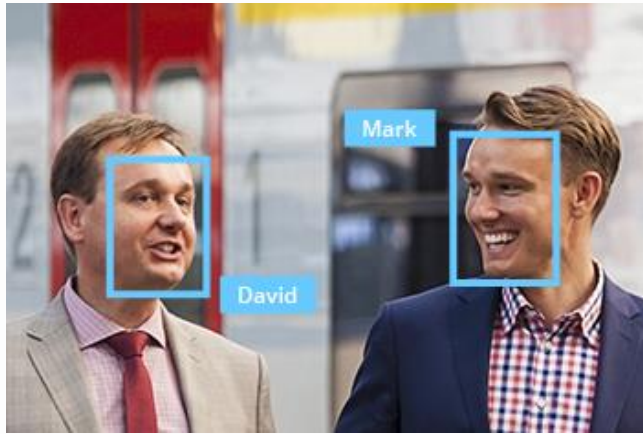
Cloud-Based NVR  
Solution (SF13) [Read](#)

Third Party Application  
Integrated Solution  
(SF22) [Read](#)

Third Party VMS  
Integrated Solution  
(SF23) [Read](#)



## Stadium: Applications



### Blacklisted Persons Identification

Identify the blacklisted persons by recognizing their faces automatically.

The stadiums may have a list of individuals who might be a potential risk for the crowds. An early notification of the arrival of the blacklisted person helps the staff be prepared for that.

This is based on the **Face Recognition** supported surveillance cameras.

### Solutions

Windows-Based NVR  
Solution (SF11) [Read](#)

Windows-Based NVR  
and Control Center  
Solution (SF12) [Read](#)

Cloud-Based NVR  
Solution (SF13) [Read](#)



# Recommended Products vs Locations

	Entrance	Gate	Field	Seating Area	Control Room	Gym	Surrounding	Parking
Thermal Cameras ( <a href="#">A-Series</a> , <a href="#">VMGB-Series</a> )	Y	Y	Y	Y			Y	Y
Intercom ( <a href="#">Q950</a> )	Y	Y		Y	Y	Y		Y
ALPR Bullet Camera ( <a href="#">A426</a> )		Y						Y
Access Control Door Station ( <a href="#">R1- R7- series readers/controllers</a> )					Y	Y		
People Counter for Tailgating prevention ( <a href="#">Q963</a> )				Y	Y			
General Surveillance Bullets ( <a href="#">3xx</a> , <a href="#">4xx series</a> )	Y	Y	Y	Y	Y	Y	Y	Y
General Surveillance Domes ( <a href="#">91x</a> , <a href="#">7xx</a> , <a href="#">8xx series</a> )	Y	Y	Y	Y	Y	Y	Y	Y
Surveillance PTZ ( <a href="#">95x/96x/97x Series</a> )	Y	Y	Y	Y		Y	Y	Y



# Products vs Management Servers

	Windows NVR (NVR 3)	Access Control Smart Server
Thermal Cameras ( <a href="#">A-Series</a> , <a href="#">VMGB-Series</a> )	Y	Y
Intercom ( <a href="#">Q950</a> )	Y	
ALPR Bullet Camera ( <a href="#">A426</a> )	Y	Y
Access Control Door Station ( <a href="#">R1- R7- series readers/controllers</a> )		Y
People Counter for Tailgating prevention ( <a href="#">Q963</a> )	Y	Y
General Surveillance Bullets ( <a href="#">3xx</a> , <a href="#">4xx series</a> )	Y	Y
General Surveillance Domes ( <a href="#">91x</a> , <a href="#">7xx</a> , <a href="#">8xx series</a> )	Y	Y
Surveillance PTZ ( <a href="#">95x/96x/97x Series</a> )	Y	Y*

PTZ controls available via NVR interface.





# Windows NVR (NVR 3)



**NVR 3** is one of the most famous ACTi products – it is a professional and elegant network video recorder platform with wide range of features and extremely reliable performance, available in two editions ([read more](#)).

Feature	NVR 3 Business	NVR 3 Corporate
Maximum Number of Channels	100	200 (Standalone NVR 256)
Free ACTi Camera Channels Included	32	1
Free 3 <sup>rd</sup> Party Camera Channels Included	1	1
CMS Support	No	Yes
POS, Access Control, Network IO Support	No	Yes
eMap	Yes	Yes
Google Map	No	Yes
Embedded Websites within Display	No	Yes
PTZ Control	Yes	Yes
Redundancy Support (N+1, N-to-N)	Yes	Yes
Workstation, Web Client, Mobile Client	Yes	Yes
Display Layouts (maximum grid size)	225	225



# Access Control Smart Server

Access Control Smart Server (ACSS) is an easy-to-use access control software for managing **employees and visitors access** through the doors and gates as well as managing **employee attendance**. ([read more](#))

## Core Function

### Access Control Management

Doors, gates, locks, identification of face\*, card, ALPR\*, tailgating\* detection

### Attendance Management

Work shifts, clock-in, clock-out, late, absent

### Visitor management

Visitor enrollment for temporary access

### Construction site management

Temporary sites management

### Food ordering management

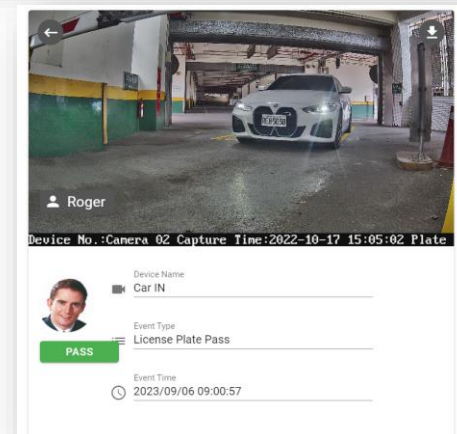
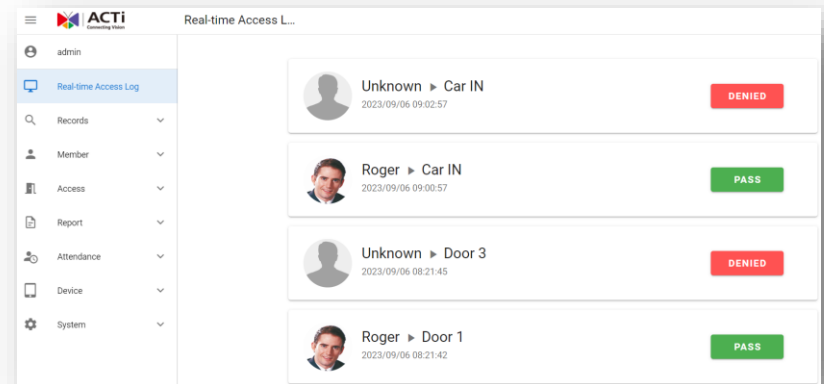
Conveniently manage the employee services

### Conference room management

Book the available meeting rooms in your company

### Customer arrival management






Track when the customers arrive to the appointments





# ACTi Deep Learning AI Camera Product Line

**Deep learning** is a method in artificial intelligence (AI) that teaches computers to process data in a way that is inspired by the human brain. Deep learning models can recognize complex patterns in pictures, text, sounds, and other data to produce accurate insights and predictions.

Model	<u>A426</u>	<u>A826</u>	<u>A952</u>	<u>A956</u>	<u>Q83</u>
Photo					
Type	Zoom Bullet	Zoom Dome	Speed Dome	Speed Dome	Multi-Imager
Resolution	5MP	5MP	8MP	2MP	20MP
Lens	4.4x Zoom	4.4x Zoom	22x Zoom	40x Zoom	4 zoom lenses
Built-in Vehicle Related Analytics	Vehicle Counting, Vehicle Line Crossing Detection, Vehicle Enter Area Detection, Vehicle Incorrect Direction Detection, Vehicle Loitering Detection, Vehicle Tracking, Stopped vehicle detection, License Plate Detection, Automatic License Plate Recognition				



## A426 Stadium Installation



### **PMAX-0534**

Pole Mount with Junction Box,  
supports 3.25" to 7.0" Poles



### **A426**

5MP Zoom Bullet with D/N,  
Adaptive IR, Extreme WDR, SLLS,  
4.4x Zoom Lens, **Deep Learning  
AI**



## ALPR Camera (A426)

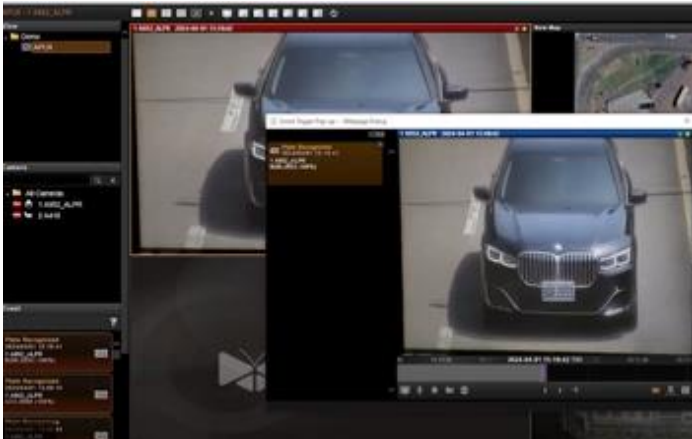


<https://www.acti.com/video/v2902>

The AI camera can recognize multiple license plates across multiple lanes at the same time.

[WATCH THE VIDEO](#)

## ALPR Camera + NVR 3



<https://www.acti.com/video/v2904>

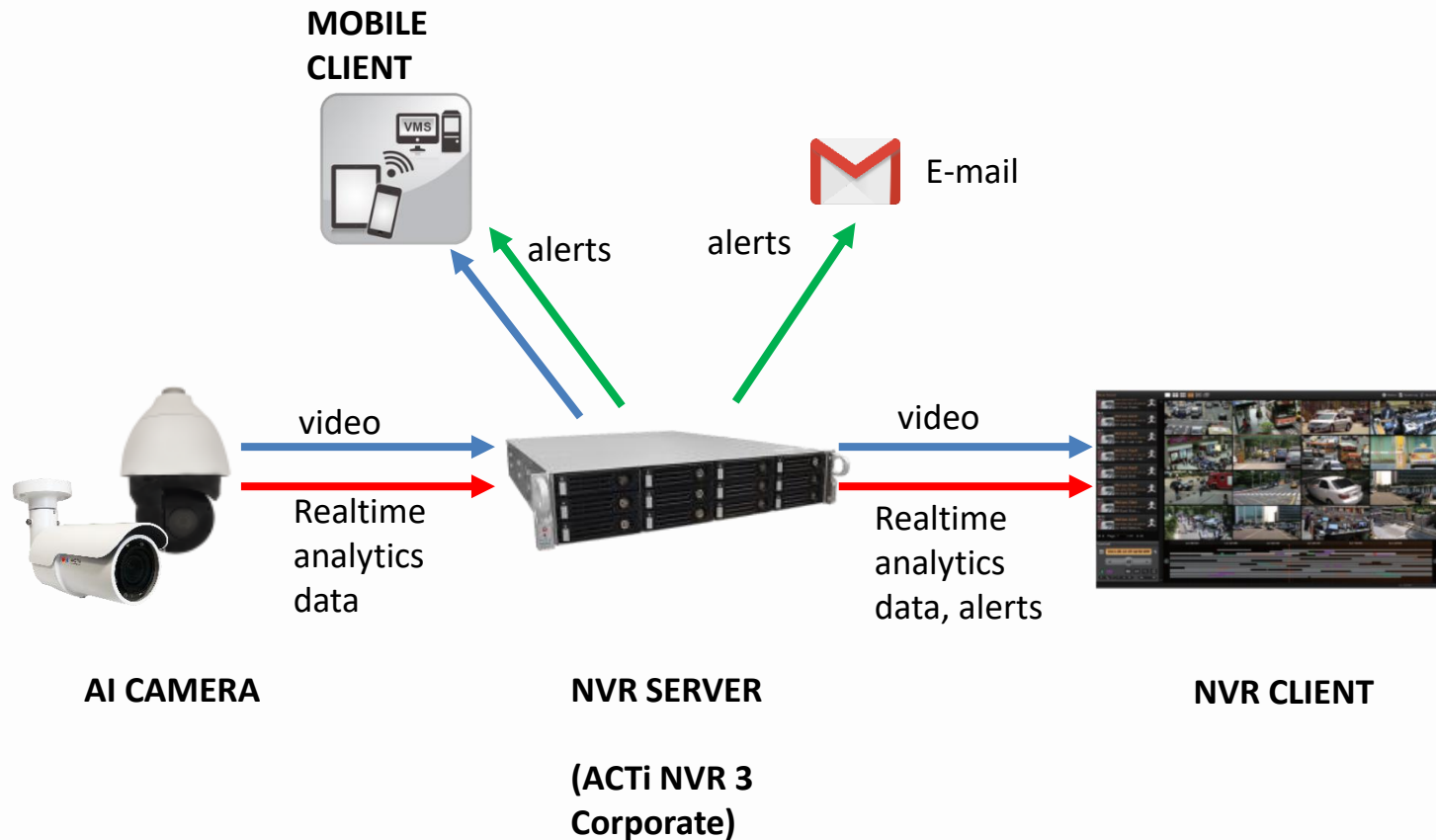
ACTi NVR 3 supports the deep learning AI events and metadata. When the blacklisted vehicle is detected, the NVR will display instant alert.

[WATCH THE VIDEO](#)





# ACTi AI Solution Architecture





## ACTi Advantages compared to Server-Based AI Providers

- Hundreds of channels with deep learning analytics can be managed by a single VMS server, using just a common server hardware configuration. The Server-based AI solutions have limited number of channels and require very expensive hardware.
- VMS video recording functionality is much better secured when the VMS does not have the burden of running the analytics that may consume the server resource to its limits.
- Faster response to the events – AI cameras can control the other nearby PTZ cameras for instant response, to get better video coverage of the scene. The analyses that are processed on the VMS side will be too slow for proper response.
- Since the AI features are inside the camera, there are no Analytics related licenses required on the server side. Therefore, the cost of VMS in some cases is up to 10 times lower than the server-side AI solutions.



## NVR and CMS Features

ACTi NVR 3 Corporate (and CMS 2) manages the analytics events from the cameras as follows:

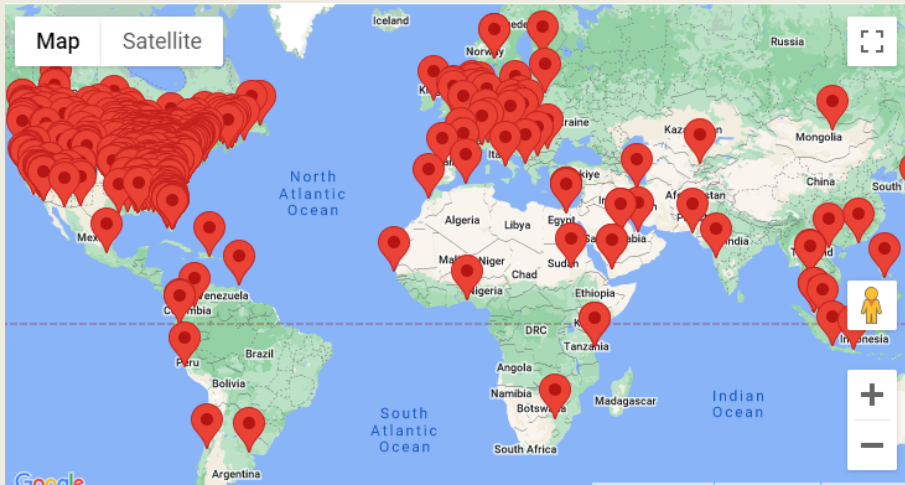
1. Set up the analytic rules and thresholds – for example, how big is the crowd, how long time is considered loitering.
2. Receive real-time analytic events from all the cameras and respond by the pre-defined actions, such as send e-mail, instant pop-up of the video channel on the VMS screen and more.
3. Automatically push video to the mobile app of the patrolling security guards.
4. Search by the specific filter rules, bookmarks, thumbnails.



# Where to Buy

## Via Authorized Resellers

<https://www.acti.com/Corporate/WhereToBuy>



## From ACTi Corporation Directly

E-Mail: [sales@acti.com](mailto:sales@acti.com)

Tel (US): +1-866-410-2284 (Toll Free)

Tel (Non-US): +886-2-2656-2588



# Support & Services

## Technical Support

- Online Customer Helpdesk - <https://www.acti.com/chd>

- Phone support

US: +1-866-410-2284 (Toll Free)

Other Regions: +886-2-2656-5200

## RMA Services

- [Warranty](#)

- [Repair services](#)

## Training

- [Self-learning](#)