

ACTi Mobile Vehicle Surveillance Solutions





Mobile Vehicle: Overview



ACTi video-based mobile vehicle security solution ensures passengers and drivers safety. The fully vibration proof surveillance equipment ensures clear and uninterrupted video evidence even in rough roads and sudden brakes.

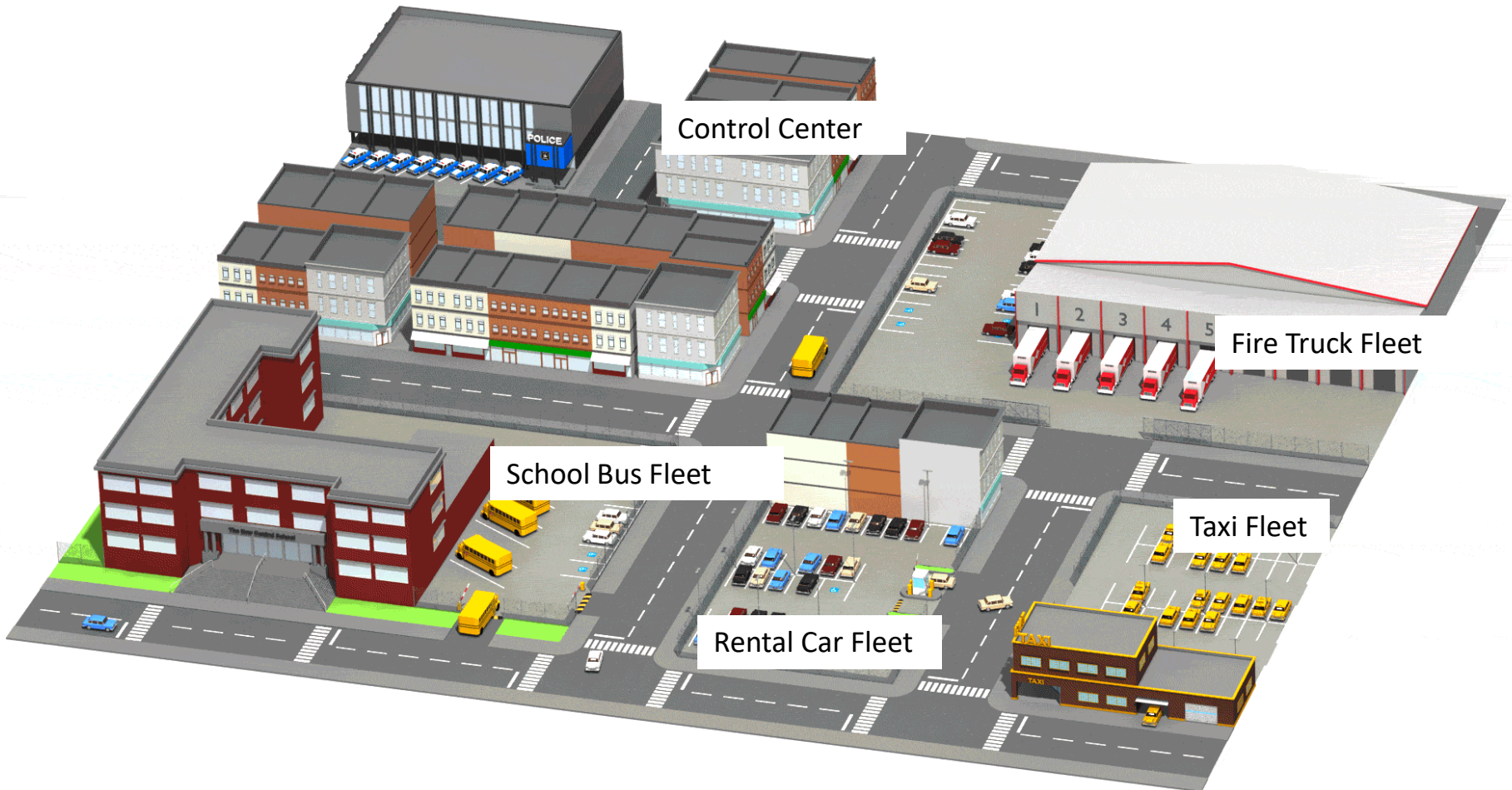
Nowadays, in-vehicle surveillance has become more and more significant in order to deter pickpocketing, bullying, vandalism, clarify incidents or car collisions, and reinforce driver's accountability as well as respond to the driver's safety issues.

The mobile vehicle surveillance solution consists of wide-angle vandal proof IP cameras, covert cameras for more discreet applications, on-board standalone NVR, panic button, local display and more. All these are fully vibration proof and certified.

Furthermore, the control center of the fleet can monitor every single vehicle remotely thanks to the 4G/5G and Wi-Fi connectivity - the live video stream can immediately be accessed when suspicious events occur.



Mobile Vehicle: Map





Mobile Vehicle: Applications vs Locations

	School Bus Fleet	Taxi Fleet	Fire Truck Fleet	Rental Car Fleet	Parking	Control Center
Driver's Safety Alert	Y	Y				
Vehicle Crash Detection	Y	Y	Y	Y		
Vehicle Out of Area Detection	Y	Y		Y		
Map-Based Vehicle Tracking	Y	Y	Y	Y		
On-Board Fight or Vandalism Detection	Y	Y				
Video Evidence Backup	Y	Y	Y	Y		Y
Unauthorized Access Detection						Y
Tailgating Detection						Y
Real-time Suspect Tracking						Y
Vehicle Access Control					Y	



Mobile Vehicle: Applications



Driver's Safety Alert

Instantly alert the control center when the driver presses the panic button upon being attacked or due to severe health issue.



Vehicle Crash Detection

Detect when the vehicle stops abruptly using the g-sensor module of the on-board NVR.



Vehicle Out of Area Detection

Alert when the vehicle drove outside of the pre-defined zone on the map.



Map-Based Vehicle Tracking

Check the location of the whole fleet on a map.



On-Board Fight or Vandalism Detection

Instantly review the video footage to confirm fight or vandalism when the alert is received.



Mobile Vehicle: Applications



Video Evidence Backup

Offload the recorded videos from the on-board NVR to the Backup Server at the Control Center over Wi-Fi.



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.



Mobile Vehicle: Applications



Driver's Safety Alert

Instantly alert the control center when the driver presses the panic button upon being attacked or due to severe health issue.

Driver's safety is important to the drivers themselves, to the passengers and to the other vehicles nearby. When the driver is suddenly unable to drive while the vehicle is in motion, it might become a severe hazard.

There is a wide range of cameras and the NVRs supporting digital input feature, allowing the **Panic Button** to be connected.

Solutions

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

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



Mobile Vehicle: Applications



Vehicle Crash Detection

Detect when the vehicle stops abruptly using the g-sensor module of the on-board NVR.

When the vehicle decelerates too fast, it usually indicates a potential vehicle crash. Since the driver may not be able to respond, it is extremely important that the control center of the fleet would get the alert instantly using automatic solution.

Solutions

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

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



Mobile Vehicle: Applications



Vehicle Out of Area Detection

Alert when the vehicle drove outside of the pre-defined zone on the map.

When the vehicle appears outside of the pre-defined zone, it may indicate one of the following: vehicle being stolen, the driver not knowing the route, or the vehicle's misuse.

This is based on the **Live Map** 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](#)



Mobile Vehicle: Applications

Map-Based Vehicle Tracking

Check the location of the whole fleet on a map.



ACTi VMS provides the map-based live view option in addition to the conventional grid-based live video views. The maps allow seeing the exact location of each vehicle of the fleet.

This is based on the **Live Map** 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](#)



Mobile Vehicle: Applications



On-Board Fight or Vandalism Detection

Instantly review the video footage to confirm fight or vandalism when the alert is received.

When there is a fight on-board or someone is behaving aggressively or there is vandalism going on, the driver or the passengers can press the panic button to alert the control center. The control center staff can instantly access the on-board NVR over the 4G/5G mobile network and verify the incident even when the driver has no opportunity to communicate. The help can be sent instantly to deal with the incident.

Solutions

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

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



Mobile Vehicle: Applications



Video Evidence Backup

Offload the recorded videos from the on-board NVR to the Backup Server at the Control Center over Wi-Fi.

When the vehicle reaches its destination parking lot, it is usually covered with the Wi-Fi network. The on-board NVR will be able to analyze which of the files have not been backed up yet and starts the transmission of the video files to the backup server, located in that Wi-Fi network. This way, the important evidence is always protected.

This is based on the **NVR 3** and **Backup Server**.

Solutions

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

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



Mobile Vehicle: 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](#)



Mobile Vehicle: 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](#)



Mobile Vehicle: 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](#)



Mobile Vehicle: 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](#)



Mobile Vehicle: Solution Architecture #1

Control Station (with CMS)



CMS Workstation
Track vehicles on the Map, watch video

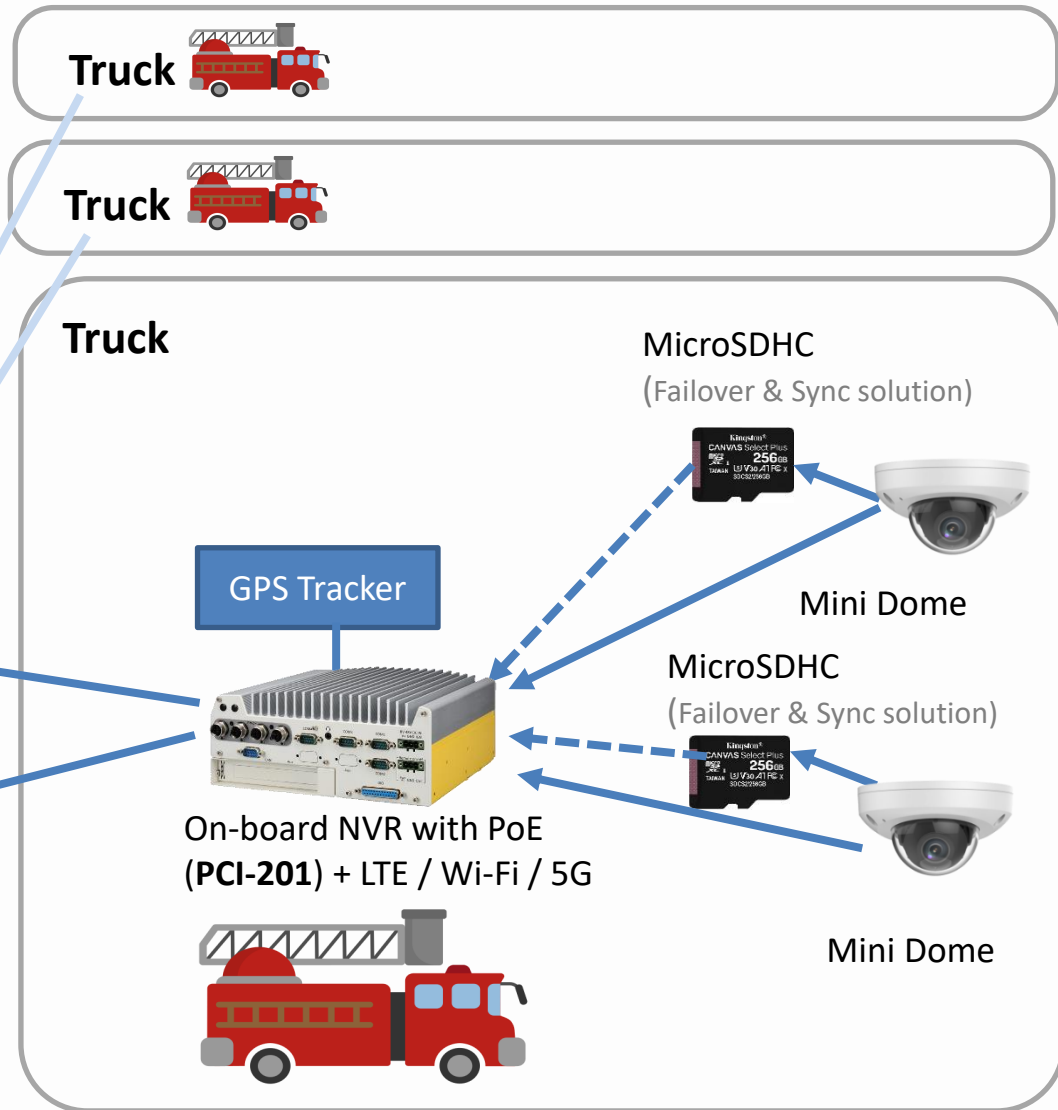


CMS 2 Server



Backup Server

Connects to the on-board NVR and backs up the recorded data whenever the vehicle arrives in the Wi-Fi zone.

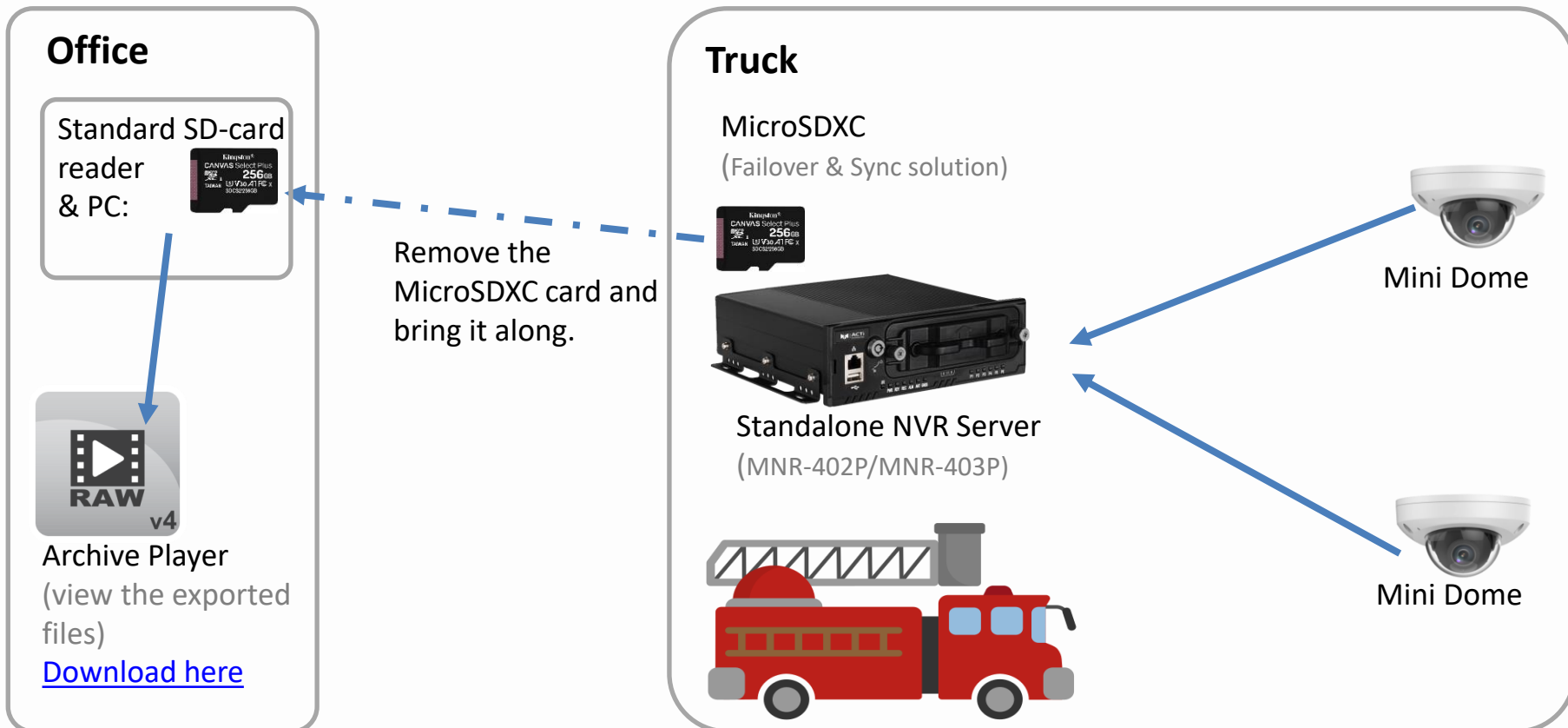




Mobile Vehicle: Solution Architecture #2


Mobile Solution without any wireless connectivity:

All the on-board channels are recorded on the removable MicroSDXC card. Every day the storage card can be removed and carried to the facility to offload the video files. The offloaded video files can be viewed with ACTi's Archive Player.







On-board Camera Specifications

Model	Z721
Photo	
Product Type	Fixed Rugged Dome
Maximum Resolution	4MP @ 30fps
HOR Viewing Angle	101.1°
IR LED	Yes
WDR	135 dB
Vibration Proof (Transportation grade)	Yes
Environmental Casing	IP67, IK10
Ethernet Cable Connector	M12
NDAA Compliant	Yes



Transportation NVR Server Comparison

Model	PCI-101	PCI-201
Photo		
Type	Server	Server
CPU	Intel® Atom® x6425E (quad-core 2.0GHz/ 3.0GHz 12W)	Intel® Core™ i3-12100E (12M Cache, up to 3.20 GHz)
RAM	8GB, DDR4, 3200MT/s	16GB, DDR5, 4800MT/s
Storage Bay	1	2
PoE Ports	M12, 4 port(s)	M12, 4 port(s)
DI/DO	4/4	4/4
Operating System	Windows 11 IoT Enterprise	Windows 11 IoT Enterprise
Power Input	DC 8-35V	DC 8-48V
Ignition Control	Yes	Yes
Vibration Proof	EN50155	EN50155
Approvals	E-Mark	E-Mark

NVR 3 Corporate edition will be installed in those Servers upon the project.



Recommended Products vs Locations

	School Bus Fleet	Taxi Fleet	Fire Truck Fleet	Rental Car Fleet	Parking	Control Center
On-Board Cameras (e.g Z721)	Y	Y	Y	Y		
Intercom (Q950)					Y	Y
ALPR Bullet Camera (A426)					Y	
Access Control Door Station (R1-R7- series readers/controllers)						Y
People Counter for Tailgating prevention (Q963)						Y
General Surveillance Bullets (3xx, 4xx series)						Y
General Surveillance Domes (91x, 7xx, 8xx series)						Y
Surveillance PTZ (95x/96x/97x Series)						Y



Products vs Management Servers

	Windows NVR (NVR 3)	Access Control Smart Server
On-Board Cameras (e.g Z721)	Y	Y
Intercom (Q950)	Y	Y**
ALPR Bullet Camera (A426)	Y	Y
Access Control Door Station (R1- R7- series readers/controllers)	Y	Y
People Counter for Tailgating prevention (Q963)	Y	Y
General Surveillance Bullets (3xx, 4xx series)	Y	Y
General Surveillance Domes (91x, 7xx, 8xx series)	Y	Y
Surveillance PTZ (95x/96x/97x Series)	Y	Y*

* PTZ controls available via NVR interface.

** Video stream only



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 rd 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

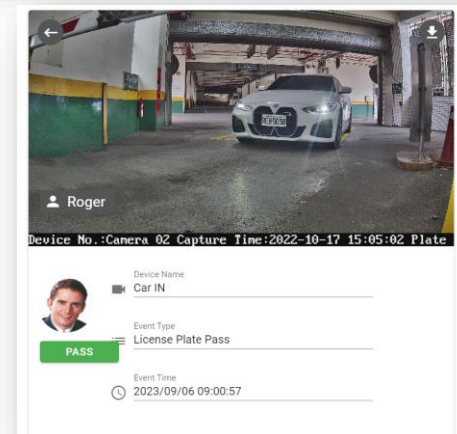
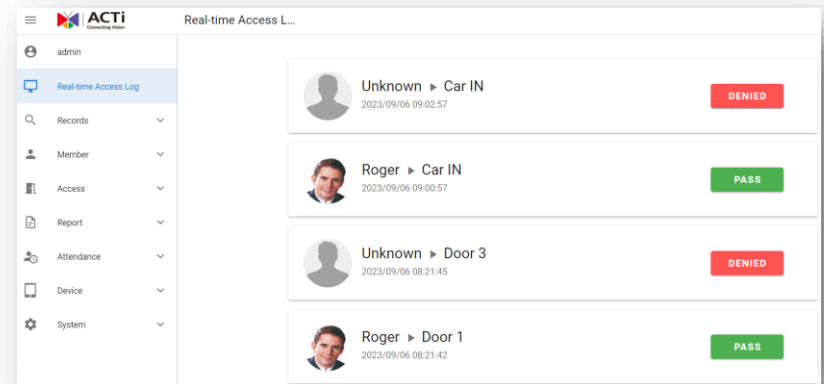
Conveniently manage the employee services

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 Mobile Vehicle 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)

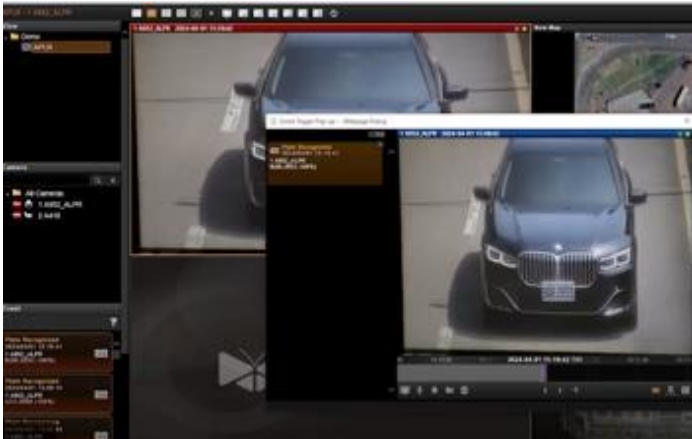


<https://www.acti.com/video/v2902>

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

[WATCH THE VIDEO](#)

ALPR Camera + NVR 3



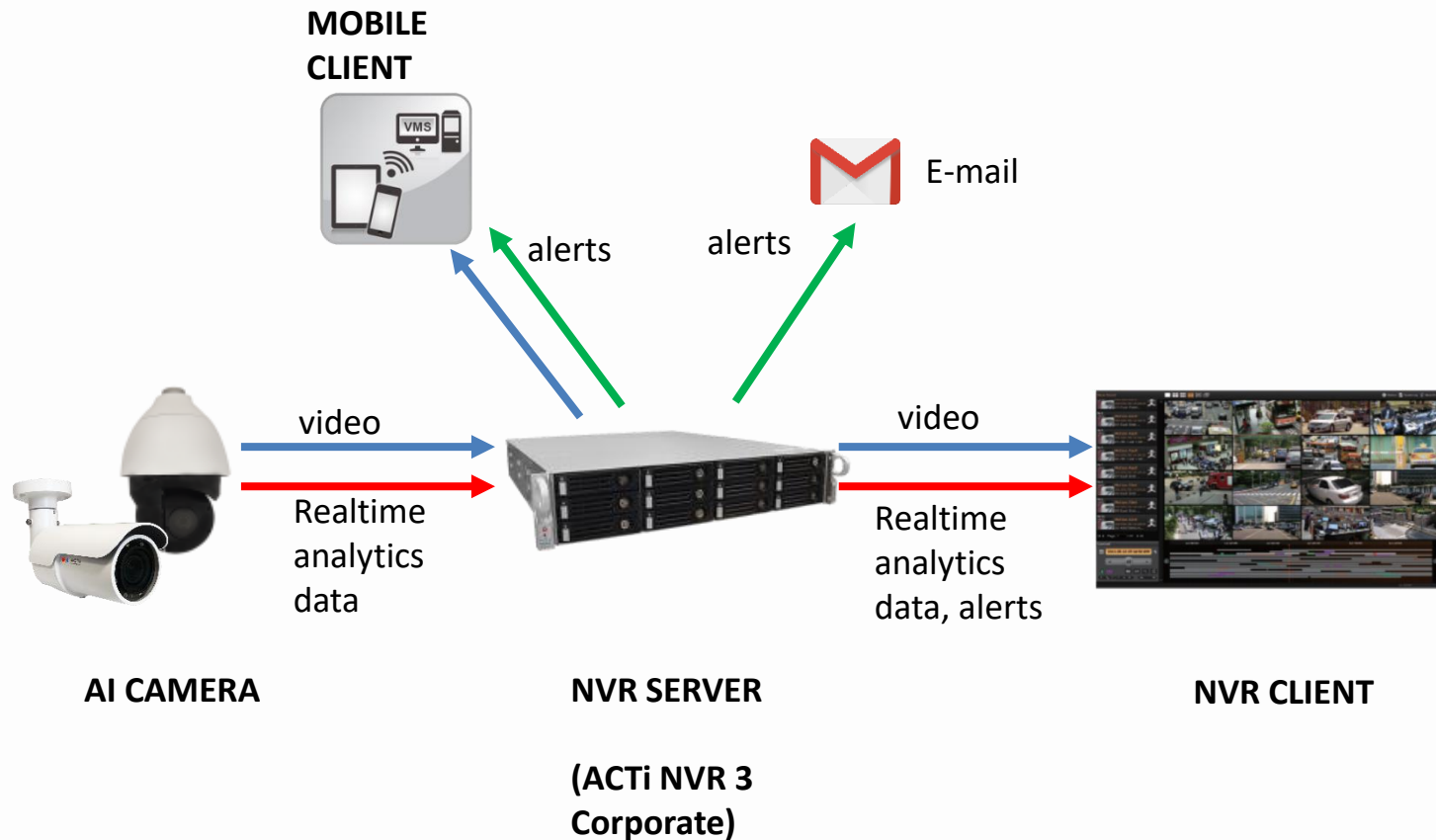
<https://www.acti.com/video/v2904>

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

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

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