

# ACTi Prison Surveillance Solutions





## Prison: Overview



ACTi's NDAA compliant prison solution contains anti-grip vandal proof IK10 rated dome cameras, wide angle cameras with no blind spots, thermal cameras, deep learning AI and the advanced video management system with the TV wall, access control, intercom, alarm system and more.

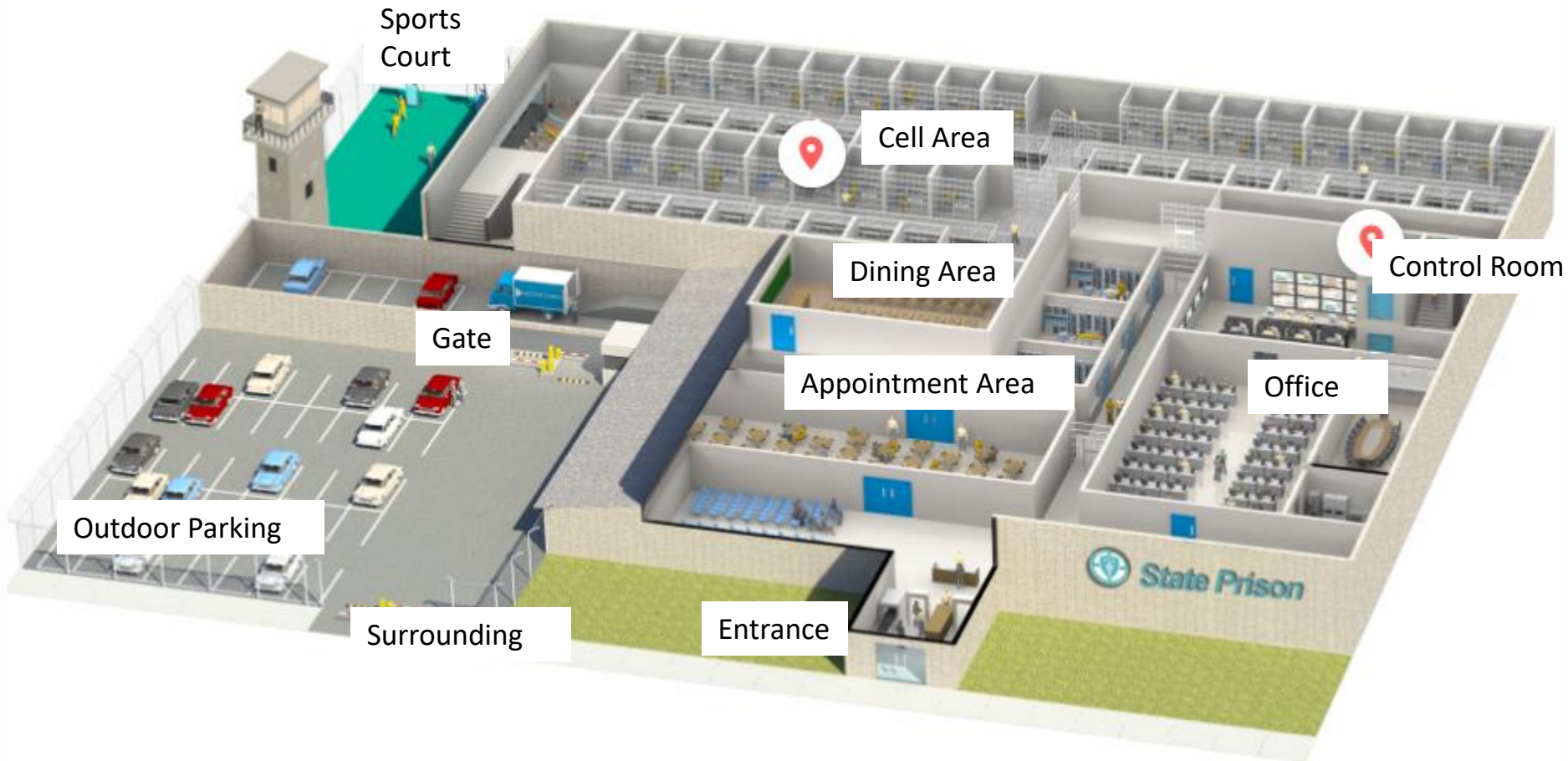
Since jail-breaking and organized crime are always the problem of the prison system, actions controlling, escapes prevention, and officers' safety are the most important issues here.

The deep learning AI helps automatically monitoring the behavior of the inmates, including alerting about the suspicious gatherings, suspicious loitering, attempts to tamper with the camera views and more.

There are also redundancy systems available for both video management system and storage system. ACTi's redundancy servers will take over the video management as soon as the access to the original NVR has been cut off for some reason. The storage redundancy is designed to protect the video evidence in case of any issues with the hard drives. Lastly, ACTi systems are compatible with the power redundancy systems, such as UPS.



# Prison: Map





# Prison: Applications vs Locations

|                                  | Entrance | Gate | Control Room | Dining Area | Appointment | Cell Area | Parking | Sports Court |
|----------------------------------|----------|------|--------------|-------------|-------------|-----------|---------|--------------|
| Unauthorized Access Detection    | Y        | Y    | Y            | Y           | Y           |           | Y       |              |
| Tailgating Detection             | Y        | Y    | Y            | Y           |             |           |         |              |
| Real-time Suspect Tracking       | Y        | Y    | Y            | Y           | Y           | Y         | Y       | Y            |
| Vehicle Access Control           |          | Y    |              |             |             |           | Y       |              |
| Intercom Service                 | Y        | Y    | Y            | Y           | Y           |           | Y       | Y            |
| Human Body Temperature Detection | Y        |      |              | Y           | Y           |           |         |              |
| Suspicious Items Detection       |          |      |              |             |             | 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            |
| Fight Detection                  |          |      |              | Y           | Y           | Y         |         | Y            |



# Prison: 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.



# Prison: Applications



## Human Body Temperature Detection

Detect abnormal human body temperature by using a high accuracy thermal camera together with built-in face detection AI.



## 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.



## Fight Detection

Detect unexpected fights to intervene before serious injuries.



## Prison: 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](#)



## Prison: 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](#)



## Prison: 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](#)



## Prison: 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](#)



## Prison: 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 Prison, 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](#)



## Prison: Applications



### Human Body Temperature Detection

Detect abnormal human body temperature by using a high accuracy thermal camera together with built-in face detection AI.

To prevent the spread of diseases, there are smart surveillance devices that can detect high body temperature from the distance using specially designed high precision thermal imagers. These cameras will first detect human faces using its deep learning AI and then analyze each face using the thermal image and get the exact temperature reading of the face. The temperature above the threshold will trigger an event.

This is based on the **Temperature Detection** analytics inside ACTi thermal cameras, such as [VMGB-370](#), [VMGB-371](#).

### 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](#)



## Prison: 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 or tools 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 weapons 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](#)

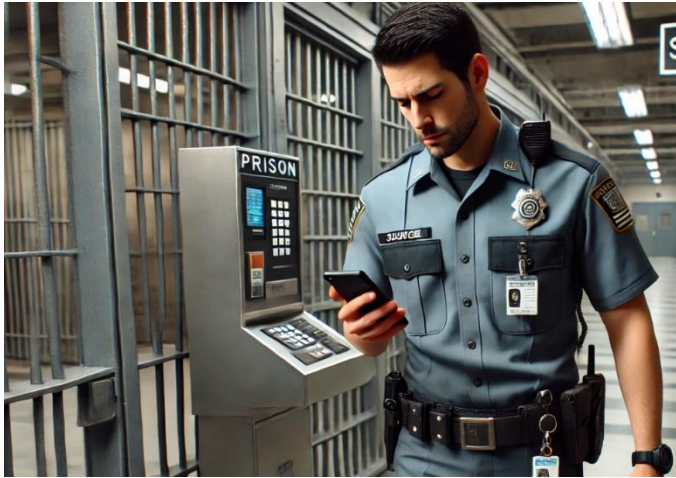
Windows-Based NVR  
and Control Center  
Solution (SF12) [Read](#)

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

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



## Prison: 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](#)



## Prison: 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](#)



## Prison: Applications



### Fight Detection

Detect unexpected fights to intervene before serious injuries.

The safety of all the inmates is one of the responsibilities of the prison staff. Serious fights can occur in any shared spaces where the inmates are allowed to interact, including indoor and outdoor locations.

## 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](#)



# Recommended Products vs Locations

|  | Entrance | Gate | Control Room | Dining Area | Appointment | Cell Area | Parking | Sports Court |
|--|----------|------|--------------|-------------|-------------|-----------|---------|--------------|
| Thermal Cameras ( <a href="#">VMGB-370</a> , <a href="#">VMGB-371</a> )            | Y        | Y    |              | Y           | Y           |           |         | Y            |
| Intercom ( <a href="#">Q950</a> )  | Y        | 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    | Y            | Y           | Y           |           |         |              |
| People Counter for Tailgating prevention ( <a href="#">Q963</a> )                  | Y        | Y    | Y            | Y           | Y           |           |         |              |
| General Surveillance Bullets ( <a href="#">3xx, 4xx series</a> )                   | Y        | Y    |              |             |             |           | Y       | Y            |
| Anti-Grip Surveillance Domes ( <a href="#">91x, 7xx, 8xx series</a> )              | Y        | Y    | Y            | Y           | Y           | Y         | Y       | Y            |
| Surveillance PTZ ( <a href="#">95x/96x/97x Series</a> )                            | Y        | Y    |              |             |             |           | Y       | Y            |



# Products vs Management Servers

|  | Windows NVR (NVR 3) | Access Control Smart Server |
|--|---------------------|-----------------------------|
| Thermal Cameras ( <a href="#">VMGB-370</a> , <a href="#">VMGB-371</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, 4xx series</a> )                   | Y                   | Y                           |
| Anti-Grip Surveillance Domes ( <a href="#">91x, 7xx, 8xx series</a> )              | Y                   | Y                           |
| Surveillance PTZ ( <a href="#">95x/96x/97x Series</a> )                            | Y                   | Y                           |



# 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                      |



## Redundancy Solutions for NVR 3 Editions

There may be situations where the NVR server may become inaccessible, and the cameras have no recorder to send the video stream to. It could happen due to the network failure, data switch failure, power outage, human error or due to any other reasons. Even though such incidents are very unlikely to happen, the mission critical solutions should have a protection against that.

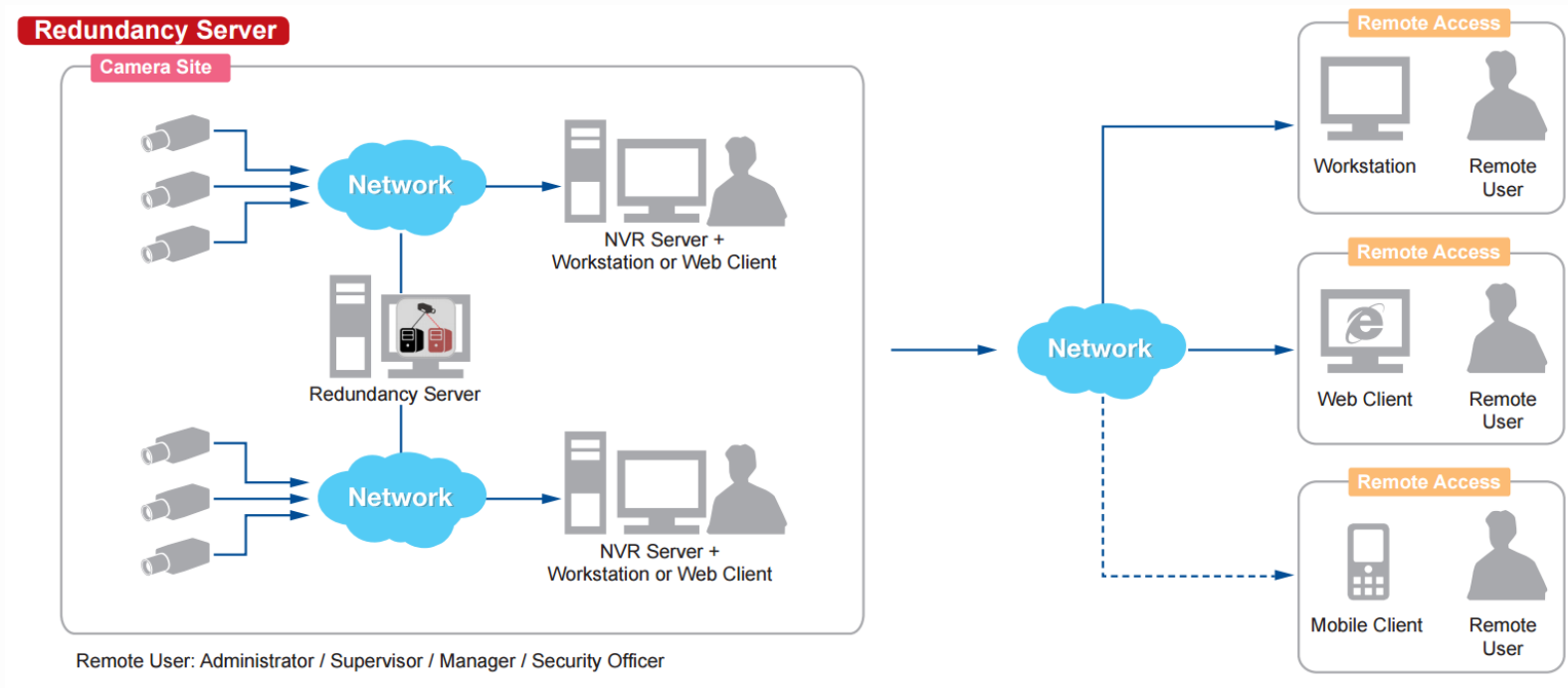
The **seamless service** can be achieved by using **NVR Redundancy Service**. It would ensure that whenever the original NVR is not accessible, the alternative system will immediately step in and start recording the video streams of the cameras belonging to the original NVR.

ACTi offers two kinds of Redundancy Service solutions: **N+1** and **N-to-N**



# N+1 Redundancy

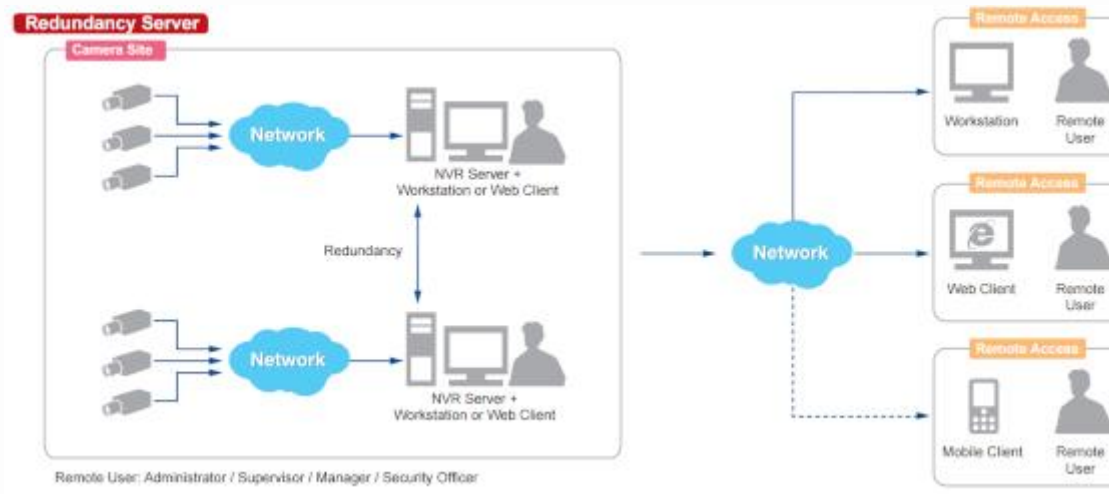
There will be an additional NVR 3 server installed in the network which will stay idle and watch over the other NVR servers. By activating the redundancy service licenses (LRDS3000) in that idle NVR 3 server, it will have the capability to watch over the other NVR 3 servers. One redundancy server can monitor up to 16 other NVR servers. If any of those NVR servers becomes inaccessible, then the redundancy server will notice it and will immediately take over the camera management of the original NVR.





## N-to-N Redundancy

There is also another way to set up the redundancy without requiring the additional server to be installed. It is called N-to-N redundancy. It means that when there is a group of NVR servers installed in the same network, they can watch over each other and take over the cameras of the inaccessible NVR server.



Although the additional idle server is not required, in order to achieve the redundancy capabilities, each of the NVRs must have unused video channels capacity. For example, a standalone NVR server INR-470 comes with the 64 free channels license included and can be extended up to 200 channels with add-on licenses (LNVR3003).



## N-to-N Redundancy

If that server has 150 cameras of its own to manage, it could potentially take the role of watching over 50 more cameras from any other NVR server, provided that the full 200 channels capacity has been enabled with the help of LNVR3003 licenses. In such case, INR-470 becomes the redundancy server for 50 selected camera channels from any other NVR 3 in the network.

Applying the same concept to all the NVR 3 servers, they all will be able to use their surplus channel quota to act as redundancy servers.

This method also provides flexibility - you can decide which camera channels you want to serve under redundancy mode. You can skip less important channels, for example. However, if the full redundancy must be achieved in the network, then on average each NVR should have twice as many video channel licenses activated than there are cameras under that NVR.



# System Health Management



## SHM-102

- Monitors the health ACTi NVR 3 Servers, CMS Servers, TV Wall Servers and Cameras
- Send email notification for issues
- Reports and graphs
- Map based monitoring with instant alerts
- License (LMAS50000) is required per each managed server (NVR, CMS, TV Wall)
- The health management plug-in will be installed in each target server.
- The System Health Management server (SHM-102) will be able to monitor the servers via plug-in.

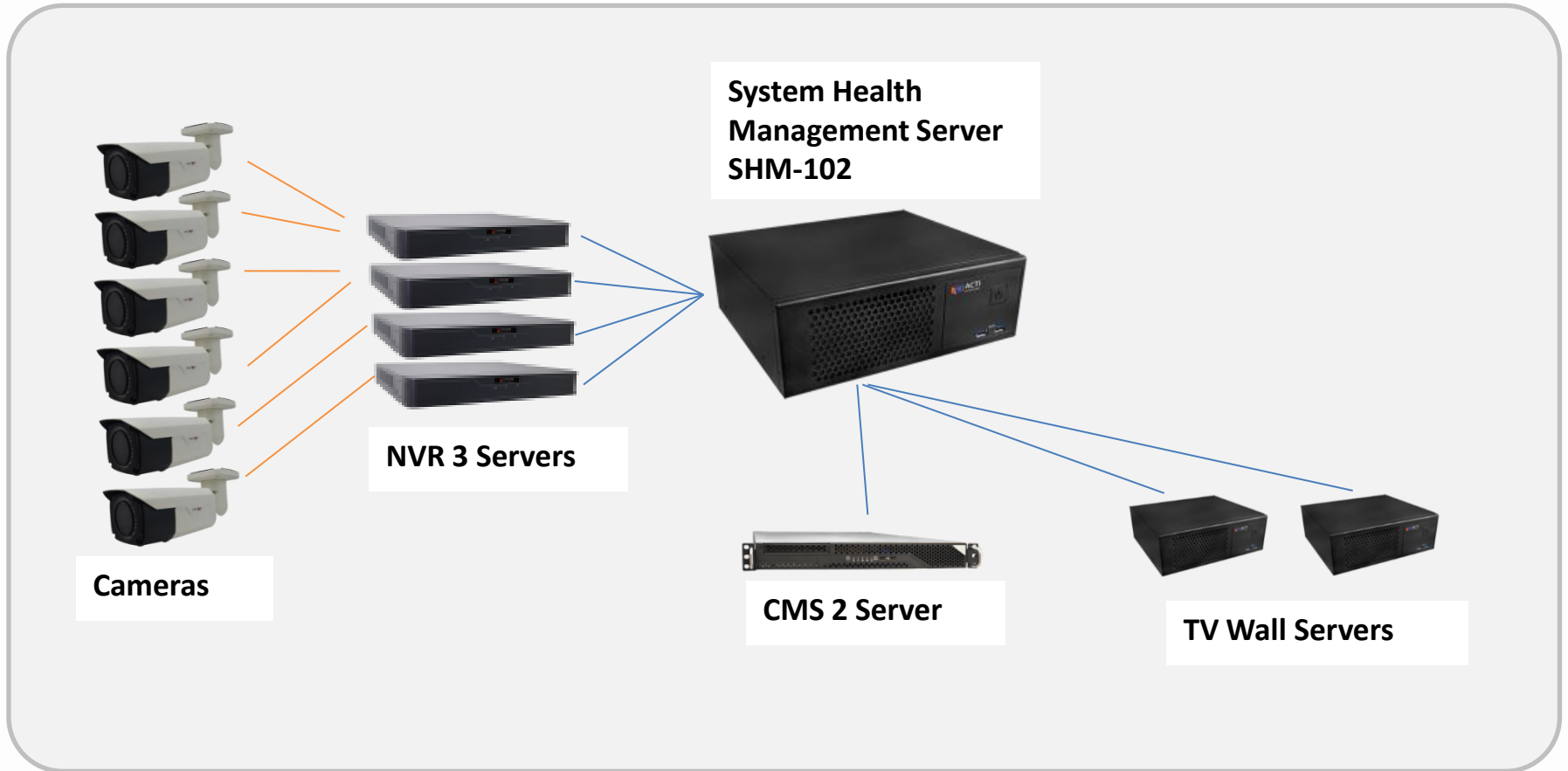


# System Health Management

| Features                           |   | SHM-102  |
|------------------------------------|---|--|
| Managed products for health status | Cameras via ACTi NVR 3                    | Y  |
|                                    | NVR 3, GNR, INR                           | Y  |
|                                    | CMS 2                                     | Y  |
|                                    | TV Wall Server                            | Y  |
| Health data                        | Basic product status                      | Y  |
|                                    | Details                                   | Y  |
|                                    | server's system status                    | Y  |
| Health Management                  | Display health status on web client       | Y  |
|                                    | Issue ticket auto-generation & assignment | Y  |
| Scalability                        | Maximum number of managed devices         | up to 200 NVR servers with related cameras with single SHM architecture                        |
| Solution installation              | Solution options                          | Use standalone only  |
|                                    | Works outside SHM                         | Must install plugin to all the managed Windows-based servers, including NVR 3, CMS 2, TV Wall. |
| Licensing                          | License unit                              | Per plugin   |



# System Health Management Architecture



In this example, there are totally 13 managed items via 7 servers. The SHM license LMAS5000 is required for each of those 7 servers. The plug-in shall be installed in each of those 7 servers.



# 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

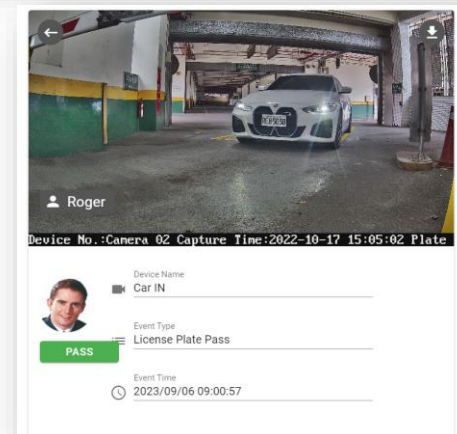
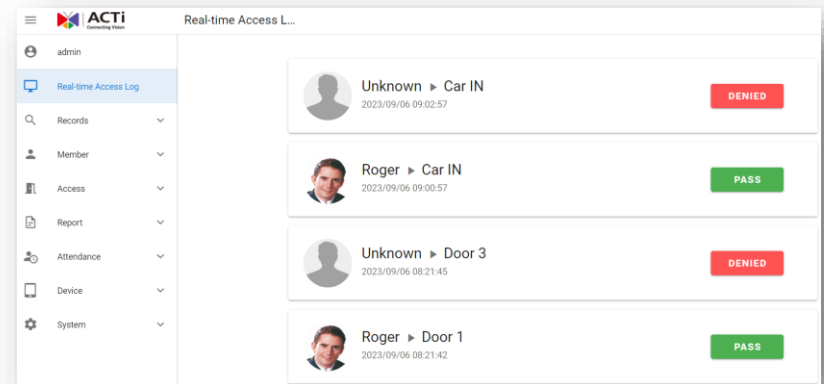
Conveniently manage the employee services

### 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 |   |   |   |   |



## ALPR Camera (A426)

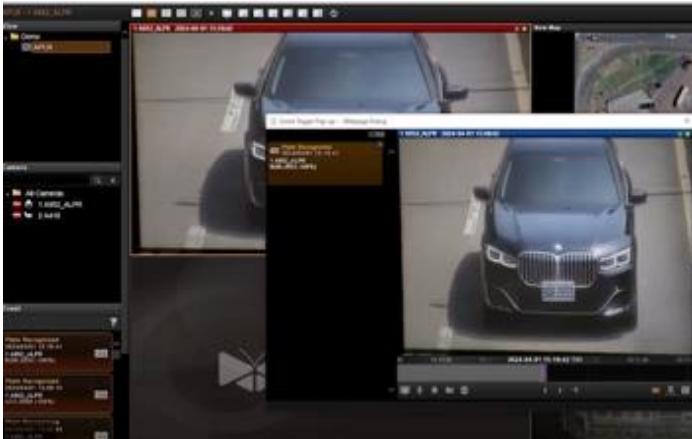


<https://www.acti.com/video/v2902>

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

[WATCH THE VIDEO](#)

## ALPR Camera + NVR 3



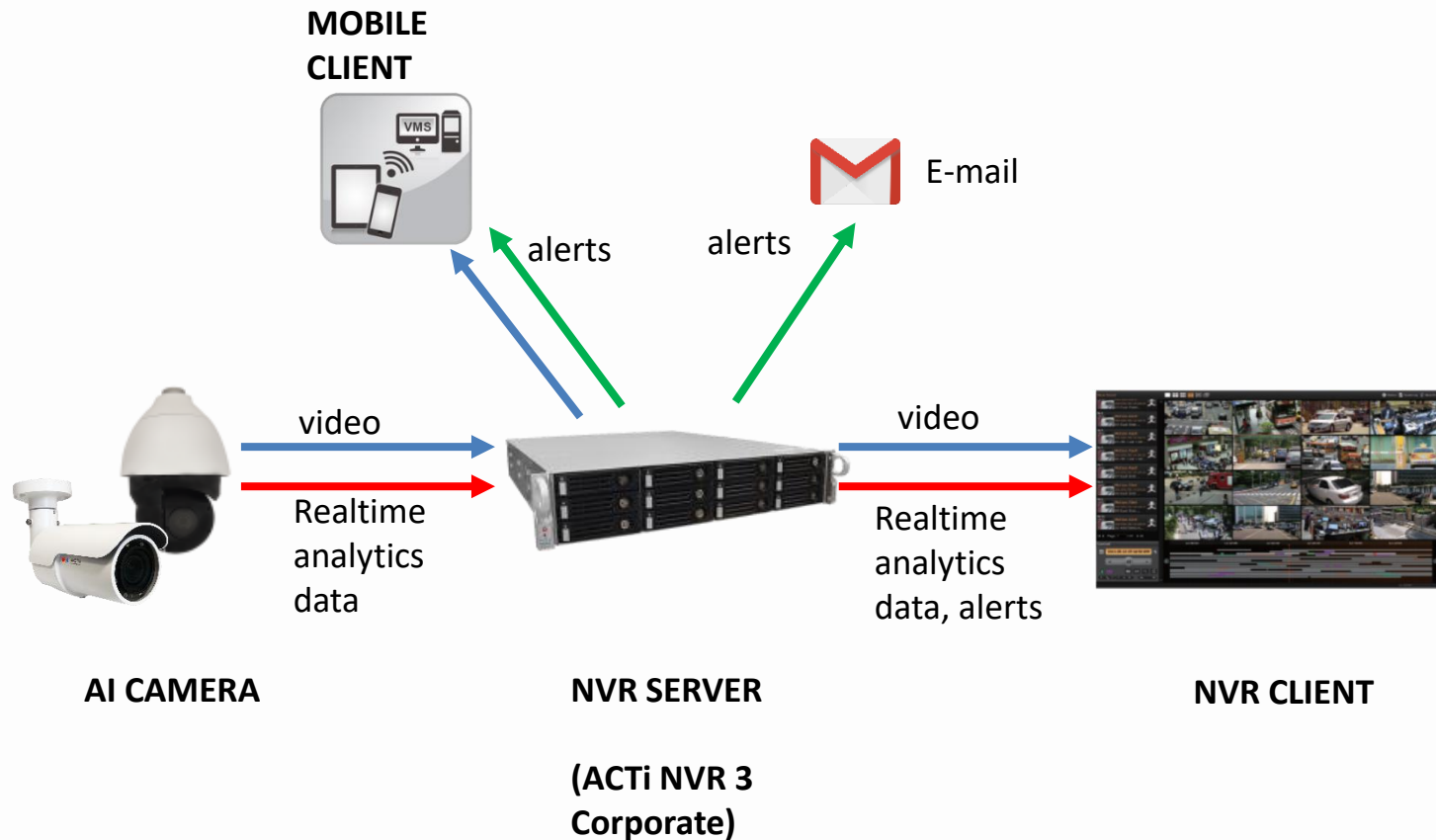
<https://www.acti.com/video/v2904>

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](#)