

ACTi Traffic Surveillance Solutions





Traffic: Overview



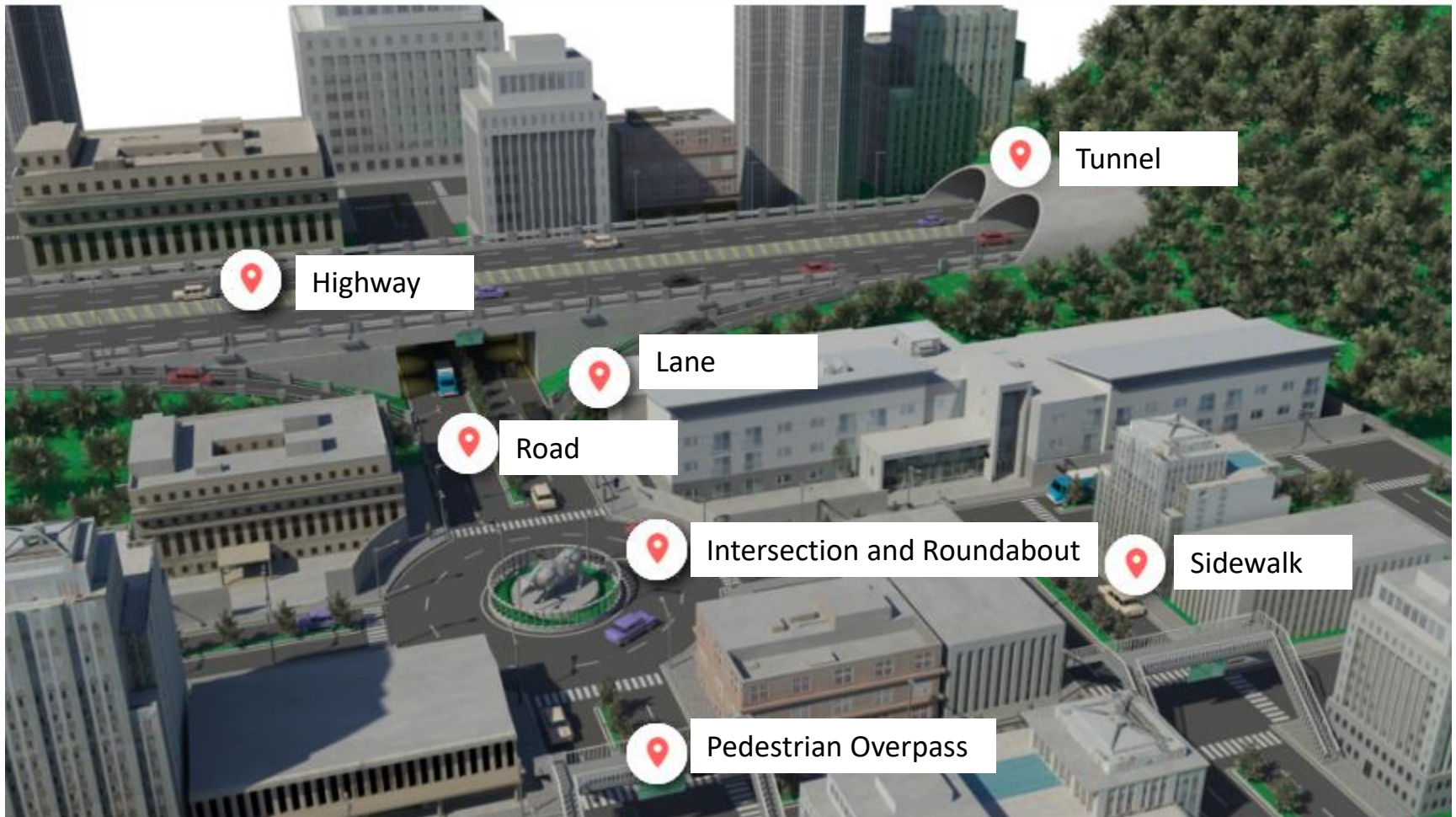
ACTi offers end-to-end solutions to optimize Traffic security and traffic management using high quality surveillance cameras, video analytics, and management servers. Traffic congestion, car accidents, driving in the wrong direction, blacklisted vehicles passing by and many more types of incidents can be detected using video surveillance together with AI technology.

The security or management related challenges and solution requirements vary for each traffic type. The biggest traffic-related challenges are traffic congestion, weather conditions influencing traffic safety, car accidents, and behavior related issues, such as driving in the wrong direction.

ACTi's end-to-end traffic surveillance solution consists of IP cameras, video management system, mobile surveillance, video analytics, alarm system, eMap system and much more.



Traffic: Map





Traffic: Applications



Vehicle Direction Violation Detection

Detects when the vehicle is moving in the incorrect direction and alerts instantly.



Restricted Area Driving Detection

Detects vehicles appearing in the restricted areas, such as sidewalks, parks and other non-drivable places.



Illegal Stopping Detection

Detects when a vehicle unexpectedly stops at the no-stop area.



Suspicious Loitering Detection

Detect suspiciously loitering people during night hours in public places.



Traffic Congestion Monitoring

Monitor the traffic throughput and congestion with the help of AI-based Traffic Congestion Detection technology.



Traffic: Applications



Illegal Parking Detection

Detect the vehicles that have parked by the roadside or in the areas where the parking is prohibited.



Stolen Vehicle Detection

Identify stolen vehicles by high-speed ALPR technology as they pass by the static or mobile checkpoints.



Truck Detection in the Fast Lane

Monitor the fast lanes of the public roads and automatically detect trucks illegally driving there.



Safety Assurance

Ensure safety of people using video surveillance system.



Blacklisted Vehicles Identification

Identify the blacklisted vehicles by recognizing the license plates automatically.



Traffic: Applications



Vehicle Direction Violation Detection

Detects when the vehicle is moving in the incorrect direction and alerts instantly.

A vehicle going in the opposite direction of the permitted traffic flow is huge safety risk, regardless of this is being intentional or by accident. An early response allows handling the incident before the accident happens.

This is based on the **Vehicle Incorrect Direction 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](#)



Traffic: Applications



Restricted Area Driving Detection

Detects vehicles appearing in the restricted areas, such as sidewalks, parks and other non-drivable places.

There are many locations where the motor vehicles are not permitted to drive. They may include sidewalks, public squares, parks, certain types of tunnels, bridges and other locations. The violation will be detected by the vehicle detection analytics and reported instantly.

This is based on the **Vehicle 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](#)



Traffic: Applications

Illegal Stopping Detection

Detects when a vehicle unexpectedly stops at the no-stop area.



Illegal stopping can immediately cause the risks of traffic accidents or traffic jams. To resolve them as quickly as possible, the automatic stopped vehicle detection analytic alerts the officers.

This is based on the **Stopped Vehicle 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](#)



Traffic: Applications



Suspicious Loitering Detection

Detect suspiciously loitering people during night hours in public places.

The public areas are monitored for the safety purposes. One of the signs of potential safety risk is the detection of suspicious loitering in the public areas such as Traffic parks, especially at night.

This is based on the **People Loitering 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](#)



Traffic: Applications



Traffic Congestion Monitoring

Monitor the traffic throughput and congestion with the help of AI-based Traffic Congestion Detection technology.

There are two reasons to be alerted automatically about traffic congestions:

1. To collect the statistics about the traffic congestion patterns for the long-term solutions planning
2. To detect unusual traffic congestions and handle them instantly.

The unexpected traffic jams can be a result of some incident. Without immediate handling, the congestion could affect thousands of vehicles.

This is based on the **Vehicle Counting** 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](#)



Traffic: Applications



Illegal Parking Detection

Detect the vehicles that have parked by the roadside or in the areas where the parking is prohibited.

Detect the vehicles that have parked by the roadside or in the areas where the parking is prohibited. The violations may include:
Wrong parked vehicle type, Prohibited area for parking, Prohibited time period for parking

This is based on the **Vehicle Loitering 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](#)



Traffic: Applications



Stolen Vehicle Detection

Identify stolen vehicles by high-speed automatic license plate recognition technology as they pass by the static or mobile checkpoints.

Identify stolen vehicles by high-speed automatic license plate recognition technology as they pass by the checkpoint. The checkpoint could be a static traffic surveillance post or a police vehicle.

This is based on the **ALPR** 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](#)



Traffic: Applications



Trucks Detection in the Fast Lane

Monitor the fast lanes of the public roads and automatically detect trucks illegally driving there.

In most countries trucks are not allowed to enter the fast lane of the freeway to provide more safety to smaller vehicles. However, when the right lanes run into congestions, some truck drivers may be tempted to temporarily switch to the fast lane to get ahead of traffic and meet the delivery deadlines. Such reckless driving is penalized with big fines whenever detected. However, there is no police around each time to see the incident.

This is based on the **Vehicle Type 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](#)



Traffic: Applications



Safety Assurance

Ensure safety of people using video surveillance system.

ACTi provides surveillance solution for small-scale retail, 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)

Windows-Based NVR
and Control Center
Solution (SF12)

Cloud-Based NVR
Solution (SF13)

Third Party Application
Integrated Solution
(SF22)

Third Party VMS
Integrated Solution
(SF23)



Traffic: Applications



Blacklisted Vehicles Identification

Identify the blacklisted vehicles by recognizing the license plates automatically.

There are various types of blacklists. There are blacklists of the vehicles that are not permitted to certain locations. There are also blacklists of the vehicles that are associated with the crime suspects. There may also be vehicles with the expired license plates or other reasons of being listed.

This is based on the **ALPR** 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](#)








Traffic: Project References





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 Traffic 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)

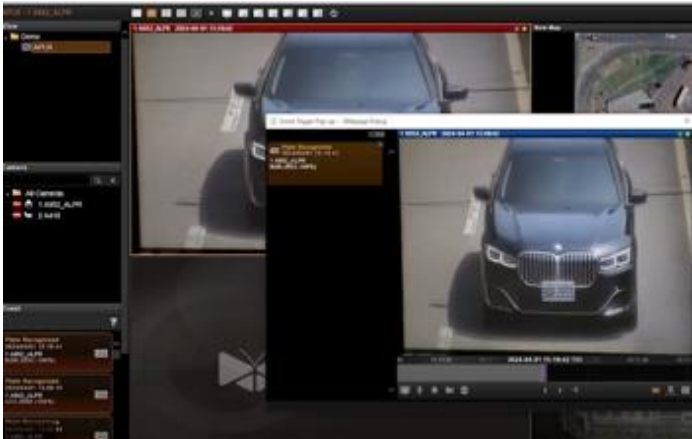


<https://www.acti.com/video/v2902>

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

[WATCH THE VIDEO](#)

ALPR Camera + NVR 3



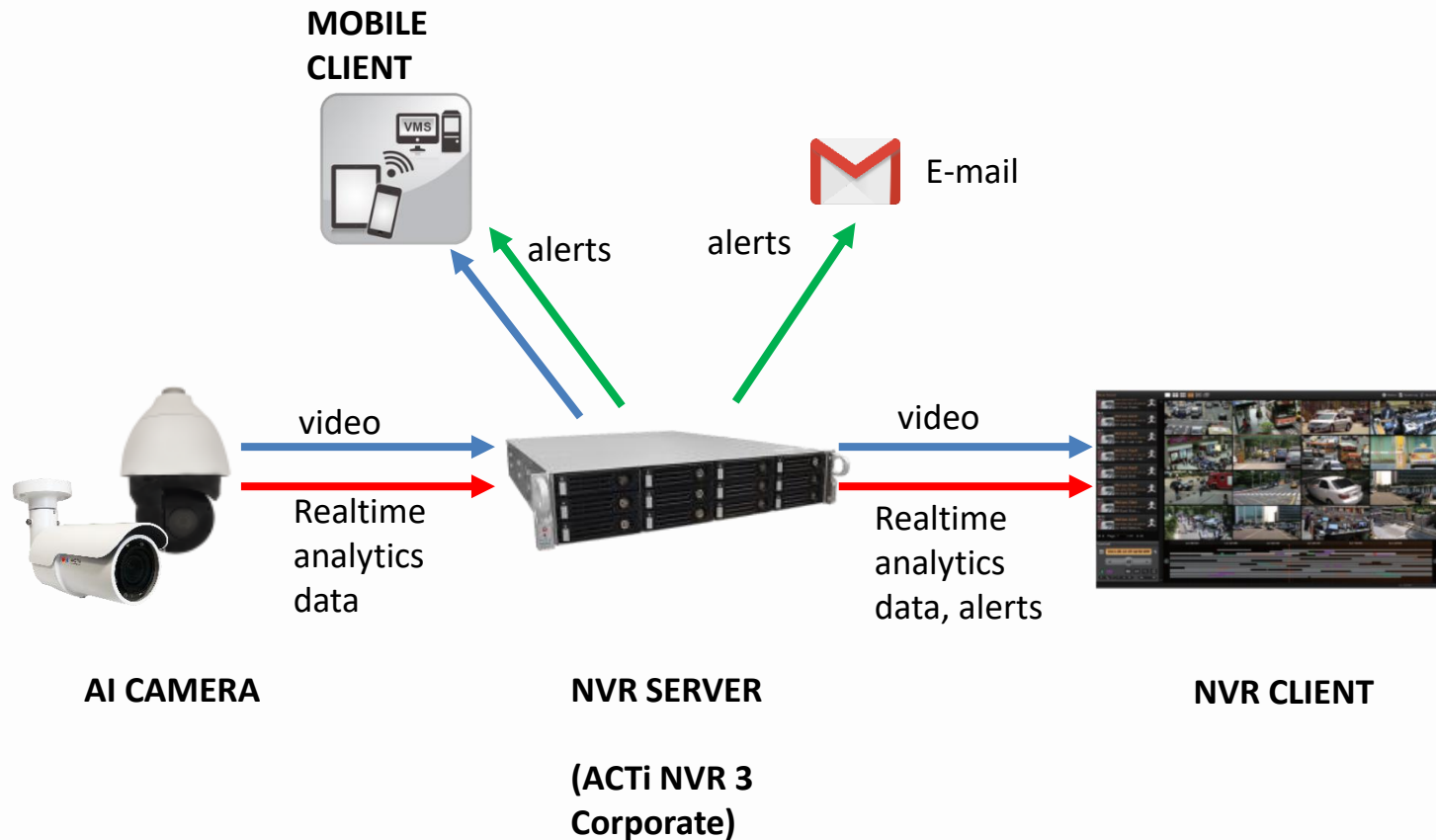
<https://www.acti.com/video/v2904>

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:

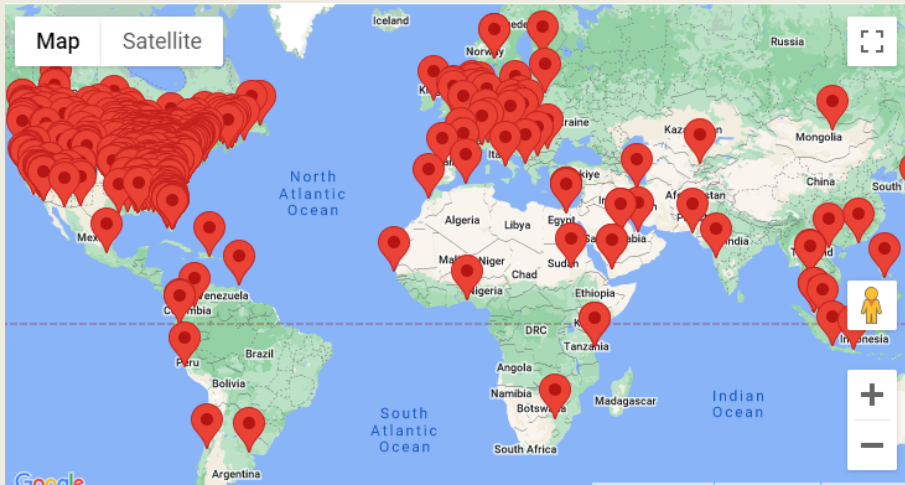
1. Set up the analytic rules and thresholds – for example, how big is the crowd, how long time is considered loitering.
2. Receive real-time analytic events from all the cameras and respond by the pre-defined actions, such as send e-mail, instant pop-up of the video channel on the VMS screen and more.
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

- [Warranty](#)

- [Repair services](#)

Training

- [Self-learning](#)