



Traffic



Traffic: Overview



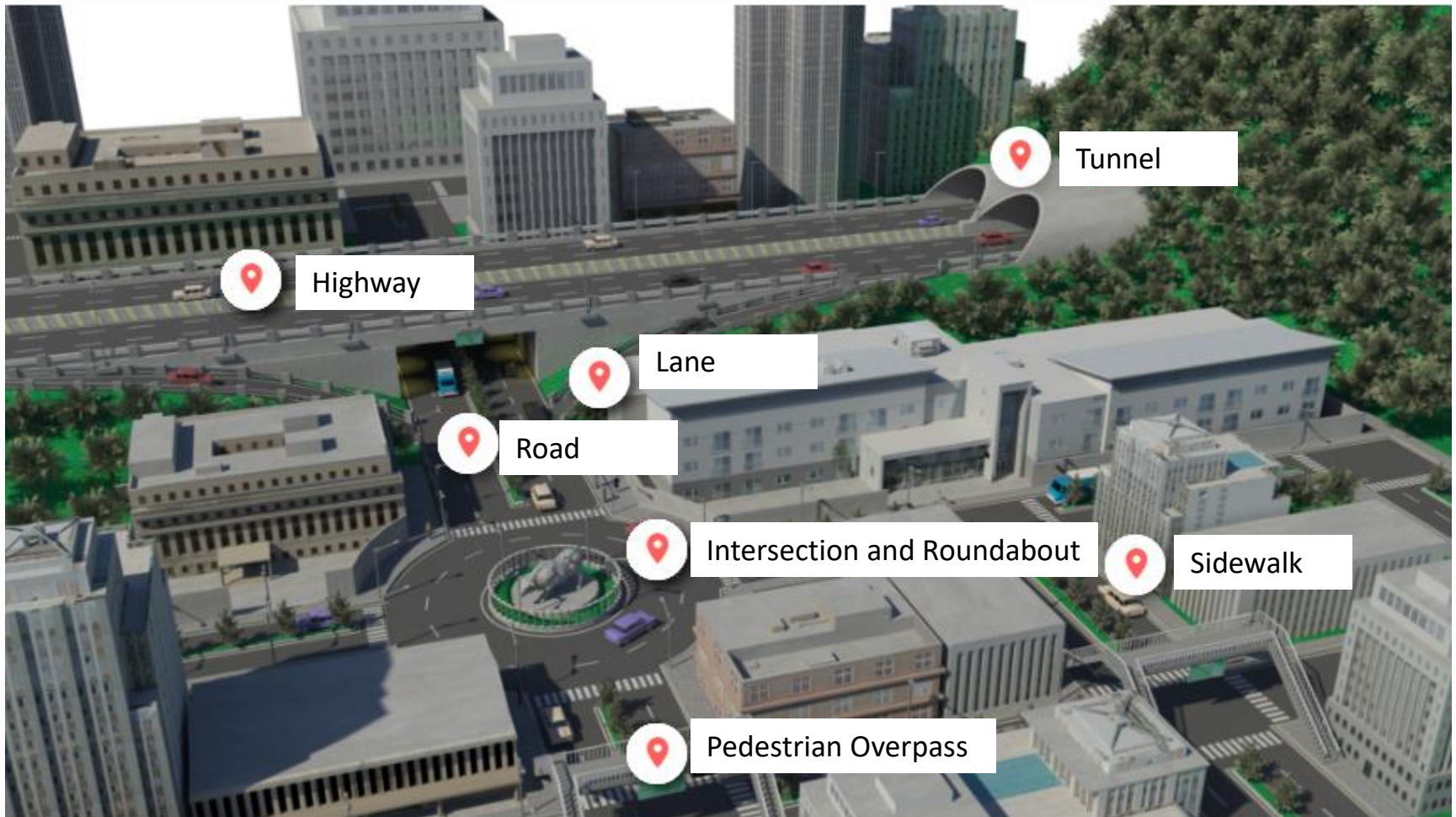
ACTi offers end-to-end solutions to optimize city security and traffic management using high quality surveillance cameras, video analytics, and management servers. Traffic congestion, car accidents, driving in the wrong direction, blacklisted vehicles passing by and many more types of incidents can be 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 automatic license plate recognition technology as they pass by the static or mobile checkpoints.



Trucks 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
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Solution (SF12) [Read](#)

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Third Party Application
Integrated Solution
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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](#)

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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.](#)

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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 city parks, especially at night.

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

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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](#).

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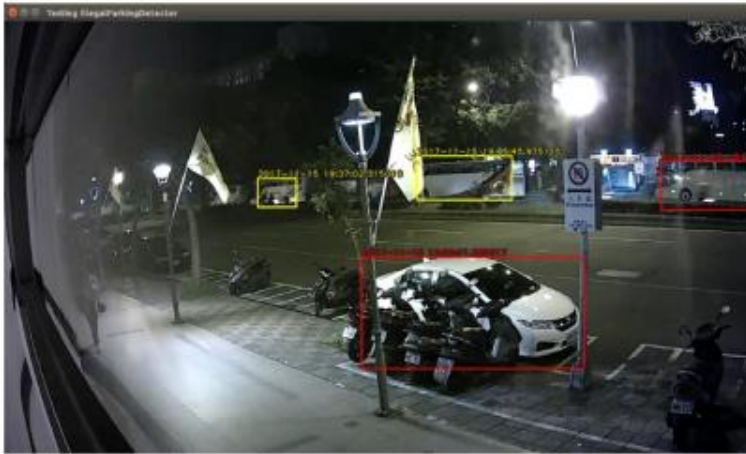
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Traffic: Applications



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.](#)

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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.](#)

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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.](#)

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Traffic: 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.

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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.](#)

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Traffic: Project References





Park & Square



Park & Square: Overview



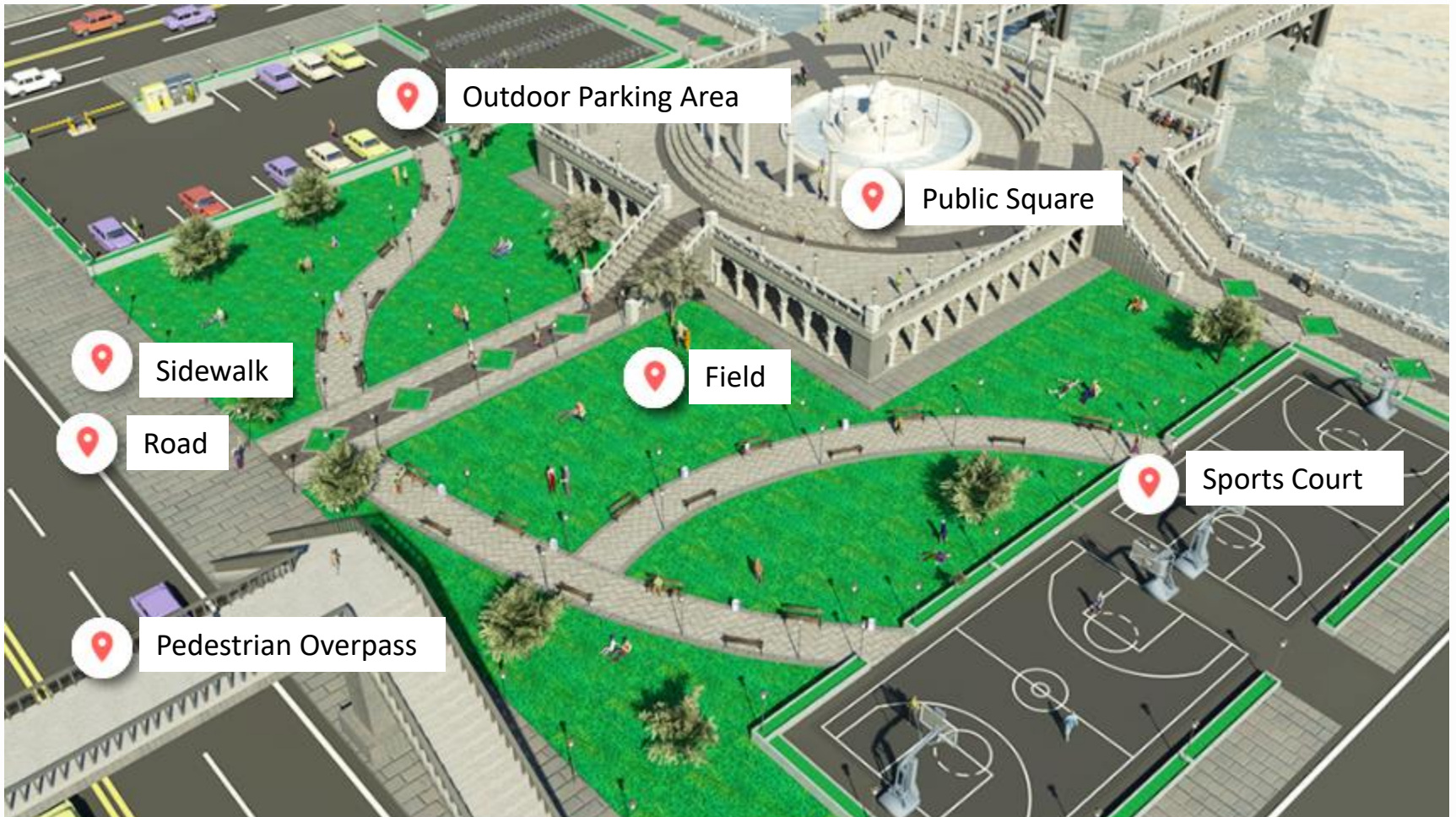
To provide a safe environment for the citizens, ACTi provides its cameras, analytics and VMS as a full solution for the public safety purposes. Gangster gathering, criminal activities, homeless issues and much more can all be detected using deep learning AI for prompt handling.

The security or business management related challenges and solution requirements vary for each park and squares type. Since these public areas are open to everyone, gangster gathering, criminal activities and homeless issues are the challenges here.

To provide a safe environment for residents, ACTi incorporates its cameras, video management system, analytics, public intercom and much more for a complete and reliable solution for the public safety management.



City Area: Park & Square





Park & Square: Applications vs Locations

| | Parking Lot | Sidewalk | Road | Public Square | Pedestrian Overpass | Sports Court | Field |
|--|-------------|----------|------|---------------|---------------------|--------------|-------|
| Restricted Area Driving Detection | | Y | | Y | | Y | Y |
| Suspicious Loitering Detection | Y | Y | Y | Y | Y | Y | Y |
| Trespassing Detection | | | | | | Y | |
| Suspicious Items Detection | | Y | | Y | Y | Y | Y |
| Blacklisted Persons Identification | Y | Y | | Y | Y | Y | Y |
| Intercom Service | Y | Y | | Y | Y | Y | Y |
| On-the-Go Surveillance | Y | Y | | Y | Y | Y | Y |
| Real-time Suspect Tracking | Y | Y | Y | Y | Y | Y | Y |
| Safety Assurance | Y | Y | | Y | Y | Y | Y |
| Video Evidence Push to NVR by Mobile Phone | Y | Y | | Y | Y | Y | Y |



Park & Square: Applications



Restricted Area Driving Detection

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



Suspicious Loitering Detection

Detect suspiciously loitering people during night hours in public places.



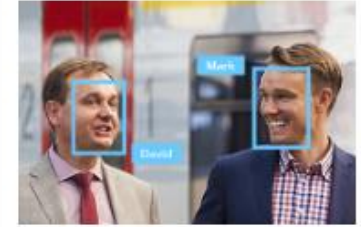
Trespassing Detection

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.



Blacklisted Persons Identification

Identify the blacklisted persons by recognizing their faces automatically.



Park & Square: Applications



Intercom Service

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



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.



Real-time Suspect Tracking

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



Safety Assurance

Ensure safety of people using video surveillance system.



Video Evidence Push to NVR by Mobile Phone

Use the built-in camera of the mobile phone to stream the video evidence of the incident to NVR.



Park & Square: 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.](#)

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Park & Square: 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 city parks, especially at night.

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

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Park & Square: 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 residential areas, schools. There are also some places that are open for anyone during daytime but are closed at night due to safety reasons. For example, certain parks and outdoor sport courts. Entering those areas at night would be considered trespassing.

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

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Park & Square: 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, strollers, carts, are considered risk items that should be handled quickly. Those objects can sometimes simply be of value and someone accidentally forgot them there. An early detection saves them from being stolen. 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.](#)

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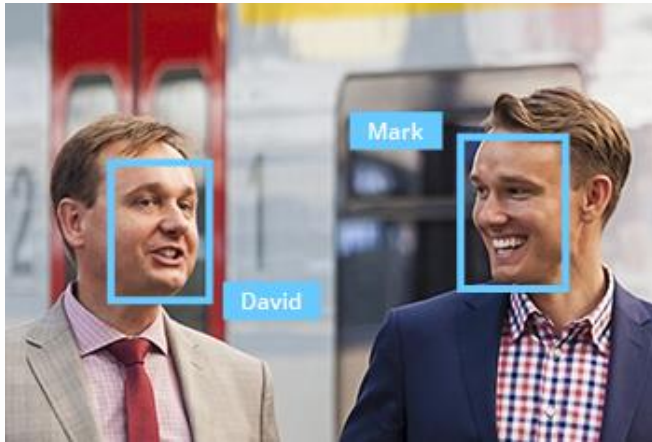
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Park & Square: Applications



Blacklisted Persons Identification

Identify the blacklisted persons by recognizing their faces automatically.

There may be various types of attention lists. There may be lists maintained by the police department. There may also be lists created by the private sector for the safety purposes, such as for the shoplifting prevention.

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

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Park & Square: Applications



Intercom Service

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

Secure building: Intercom for door opening request

Gate: Intercom for gate opening request

Train Station: Intercom for emergency situations

Kiosk: Intercom for support

Taxi stop: Intercom for car request

This is based on the **Intercom Cameras**, such as [Q950](#).

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Park & Square: 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

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Park & Square: 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 **NVR 3 and CMS 2 series products.**

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Windows-Based NVR
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Park & Square: Applications



Safety Assurance

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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.

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Park & Square: Applications



Video Evidence Push to NVR by Mobile Phone

Use the built-in camera of the mobile phone to stream the video evidence of the incident to NVR.

The patrolling security guard can now use his smartphone with ACTi Mobile Client to capture live video and "push" it through wireless network to NVR 3 in real time. Moreover, the recording can be reviewed later during incident investigation using advanced features that apply to surveillance cameras including synchronized playback, bookmarks, timeline search, and more.

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

Solutions

Windows-Based NVR
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Park & Square: Project References



Taiwan



Taiwan



Taiwan



Taiwan



Taiwan








Taiwan



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)

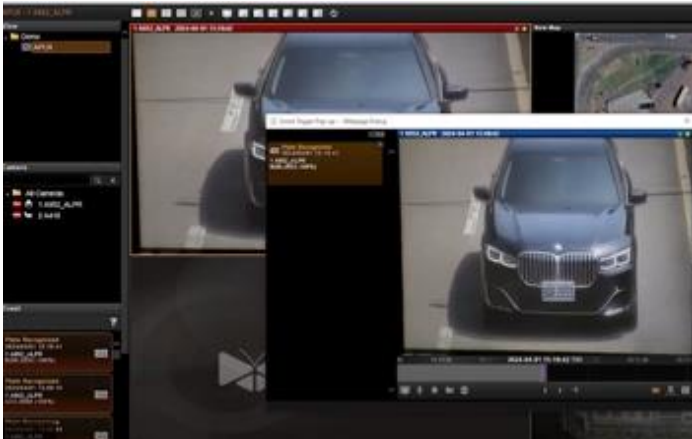


<https://www.acti.com/video/v2902>

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

[WATCH THE VIDEO](#)

ALPR Camera + NVR 3



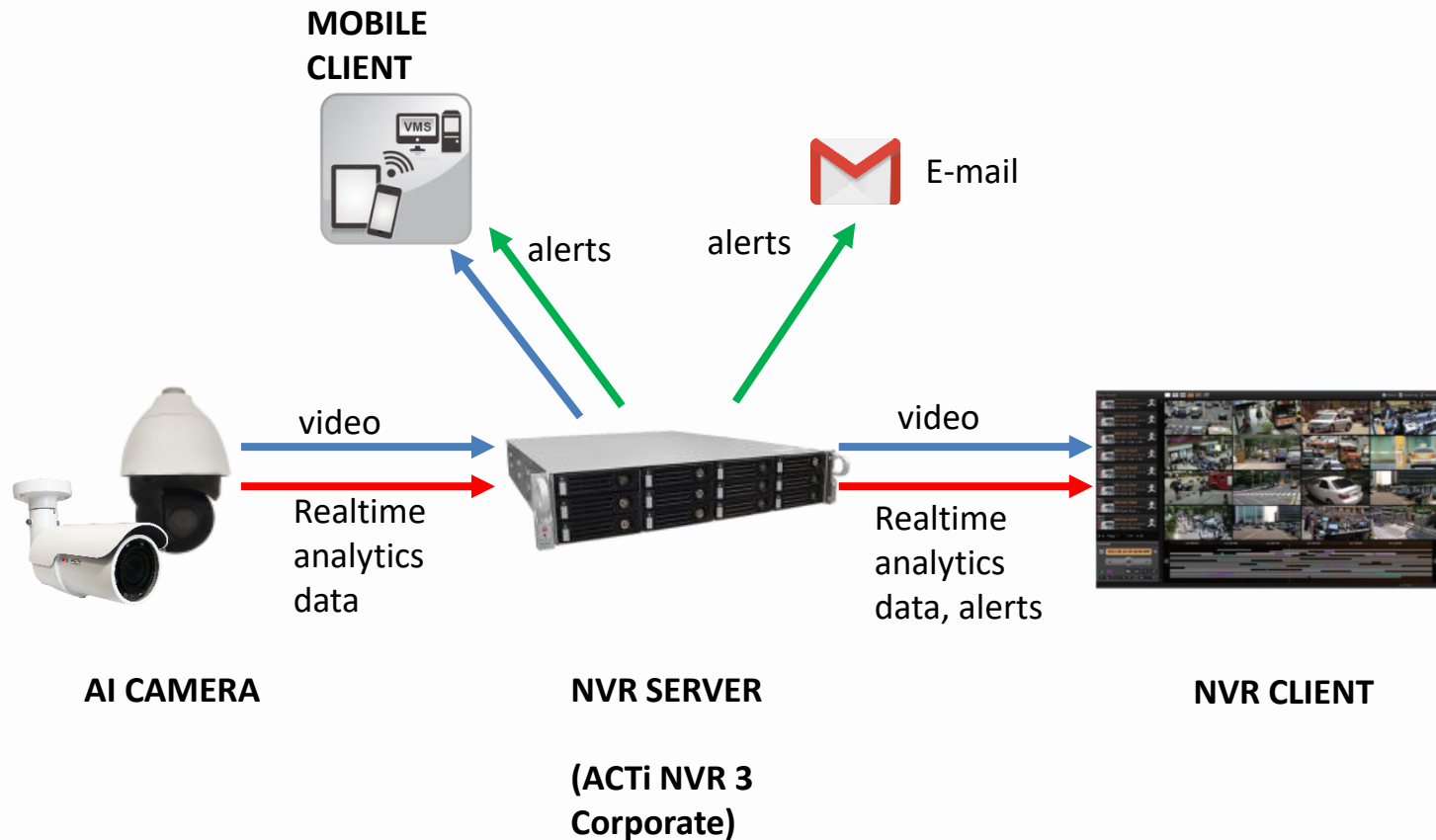
<https://www.acti.com/video/v2904>

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:

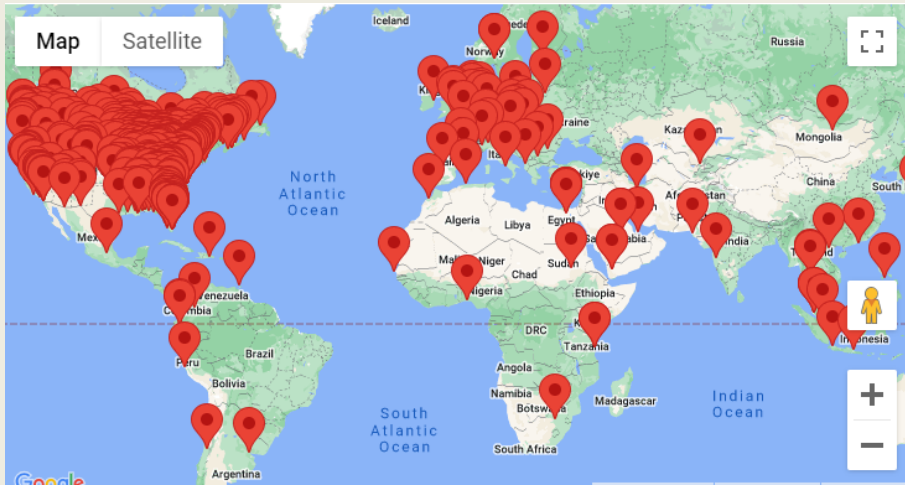
1. Set up the analytic rules and thresholds – for example, how big is the crowd, how long time is considered loitering.
2. Receive real-time analytic events from all the cameras and respond by the pre-defined actions, such as send e-mail, instant pop-up of the video channel on the VMS screen and more.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



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- [Repair services](#)

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