



MAKING CITIES SAFE AND  
KEEPING CITIZENS SECURE  
**SMART CITY SOLUTION**



CITY



Cities around the world are getting smart. City leaders are drawing on information and communication technologies in various ways, with advancements that improve the lives of citizens, keeping them safe and enhancing their day-to-day experiences. In the pages following, you will see Smart City Surveillance Solution – a full range of products designed to assist civil authorities in the strategic implementations of smart technologies. Details of the components in our state-of-the-art solution, along with examples of existing applications, will prepare and equip you for every step in the process. Whether you are developing Smart City systems for government services, transportation and traffic management, energy plants, health care, water and waste systems, or any combinations of these, you will find Smart City Solution carries everything your smart city will need – and probably even more.



## SMART CITY SOLUTION

### 1. Effectively protect citizens and valuable property

Effective protection of citizens and of private and public property concerns city authorities around the world. Balancing daily life and freedoms with city-wide surveillance remains difficult, but one that is more important now than in the recent past. Authorities do not want to interfere with normal life or cause unnecessary discomfort among citizens; however, security professionals agree that global security needs are increasing in our ports, on our airlines, and especially in our cities.

### 2. Instantly deter vandals and unexpected intrusions

A well-crafted city surveillance system will deter vandals and prevent catastrophes, and the best systems go unnoticed by the public at large. Public transportation and transit hubs are often the most vulnerable to vandalism, violence, and other crimes. The core of a total CCTV system is the Security Center, where all the critical video from daily operations is compiled. It requires premiere reliability and manageability for data protection and alarm response. We provides a full range of products to help authorities monitor their city and prevent criminal activities. And when events do occur, this smart surveillance system significantly improves post-event investigation.

### 3. Increase criminal investigation efficiency and response time

Surveillance intelligence and analytics increase criminal investigation efficiency and improve rescue and response strategies. The security hardware must be made of the highest quality components, proven reliable in all weather conditions. Likewise, the software platform must be intelligent and cost effective. Our products are chosen around the globe for their stability, durability, and helpful video management platform. Our Smart City system supplies a wide range of electronic and digital information and communication technologies (ICTs) for community-wide surveillance. When our products assist a city's local law enforcement, working, shopping, and recreational environments improve radically.

### 4. Help authorities manage traffic and vehicle control

One of the key features of our Smart City Solution is its ability to help authorities manage traffic and monitor vehicles. Our Traffic Camera and Speed Radar improve a vehicle speed-control system for a city's expressways and highways and even deliver forensic snapshots or video clips of speeding vehicles. Additionally, our CMS platform and LED indicators manage and display the availability of public parking spaces. Our products bring ICTs and people together to enhance knowledge and innovation that each one offers.



### CITY TRANSPORTATION

A full range of on-board mobile products to monitor in-vehicle's activities and help position vehicles.

### SECURITY CENTER

- Centralized video management platform;
- Reliable redundancy data safety;
- Video wall display.

### PUBLIC PARKING

- Vehicle entrance control with ANPR recognition, barrier linkage and vehicle counting;
- PanoVu multi-imagers cameras for large perimeter protection.



### TEMPORARY SURVEILLANCE

An easy-to-use portable PTZ dome helps event enforcement.

### TOWN SQUARE

Various type of PanoVu multi-imagers cameras to meet different requirements of city surveillance.

### WATER GUARDING

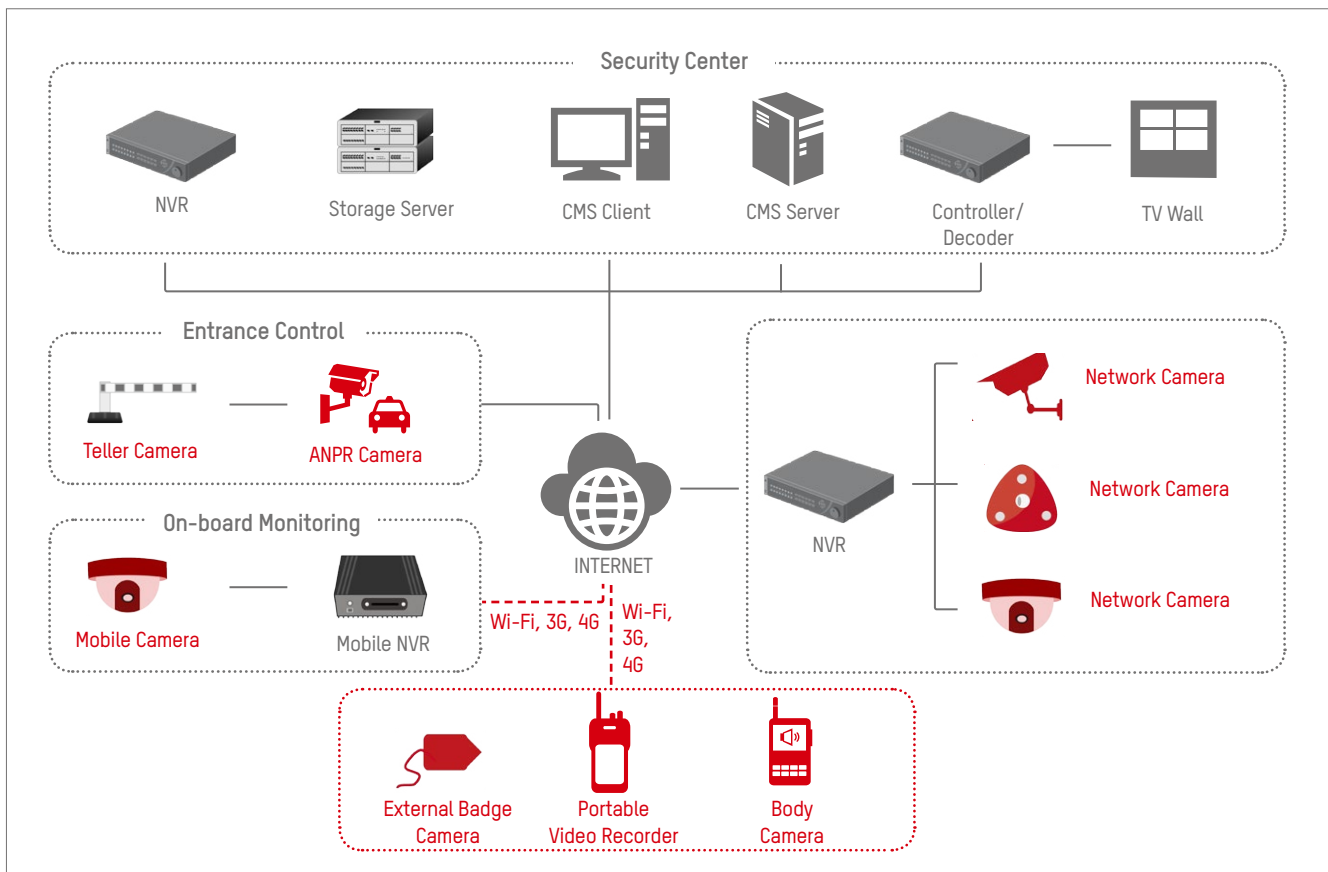
Compact size HD camera with stainless steel housing protection to prevent sea salt erosion.

### RAIL TRANSIT & STATIONS

Rail-dedicated on-board recorder and cameras.

### PERIMETER MONITORING

Dual-lens thermal system and Laser PT system for long range detection and monitoring.





### Temporary Surveillance

High mobility and easy-to-use HD system to prevent violence and deter crimes during parades, demonstrations or concerts.



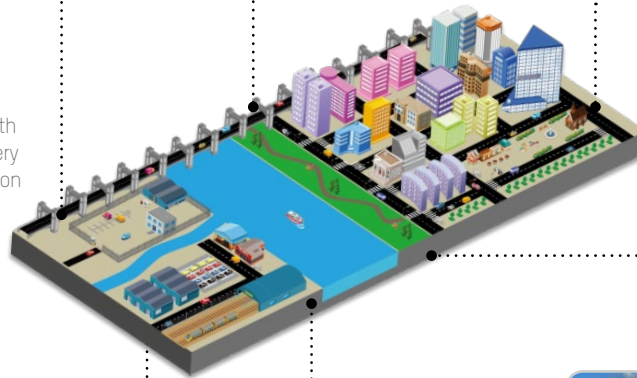
### City Transportation

Monitor passengers' safety and track vehicle's routes.



### Rail Transit & Station

It requires powerful, robust and large-capacity on-board recorder with high-flexible cameras to monitor every corner of train. And also high definition cameras to protect in-station passengers' safety.



### Town Square Safety

Large area and heavy people flow require high definition and smooth video.



### Public Parking

Records entrant vehicles' information and surrounding area's monitoring 24/7.



### Water Guarding

A robust and fit-to-vessel IP system to provide HD video and prevent from sea-salt erosion.



### Perimeter Monitoring

Capable of detect far-off intrusions for pro-active operations.

## Public Square Monitoring



Town squares and city parks are often filled with people during both daytime and night. These locations have high crime-potential – especially during special community events.

**DarkFighter Cameras:** from 36x IR PTZ to outdoor bullet, our full range of Darkfighter cameras allows to see clearly what goes on in these locations.

**PanoVu Multi-imagers Cameras:** four or eight Darkfighter imagers provide 16MP or 8MP panoramic view, and a 23x 2MP PTZ camera for detailed capturing.

**4K Ultra HD Cameras:** we have a full range of 4K products to meet highest definition requirement.

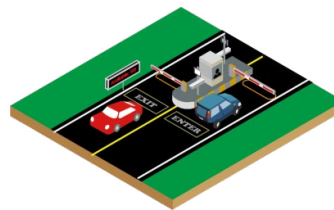
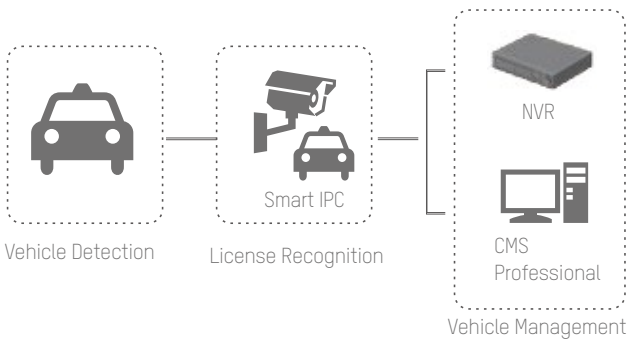


## Public Parking



We have a complete product solution for monitoring very large areas and detecting suspicious targets, even in dim light conditions. Additionally, our CMS platform and LED indicators manage and display the availability of public parking spaces.

- **PanoVu Panoramic Camera:** Four innovative Darkfighter imagers can deliver a panoramic view with ultra-low-light vision, effectively covering entire parking areas.
- **ANPR Camera:** These cameras support HD video, are weather-proof, and provide ultra-low-light vision and barrier linkage.



*\* The exact functionalities may vary based on local strategy and product development.*

## ANPR System

- Auto License Plate Comparison
- B/W List Filtering
- Alarm Triggering
- Result Query
- Result Export
- Auto Network Recovery (ANR)
- ANPR Remote Configuration
- Lot Availability Display
- Manual LPR Correction
- Customizable Message Display
- Overtime Alarming



4 x rotated images in 1920x1080 resolution



Stitching to one panoramic image in (4096x1800) resolution



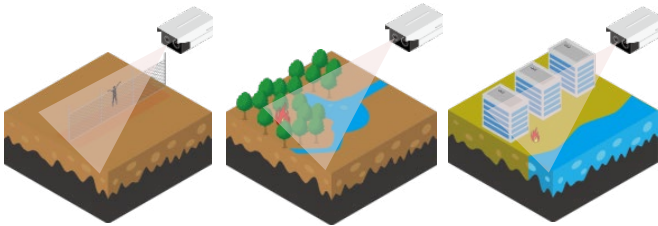


## Perimeter Protection



From sea side to deserted area, City's border is often vulnerable to illegal immigration, smuggling or other criminal activities. Our thermal camera and Laser PT positioner can detect faraway intrusion for carrying out pro-active operations.

- **Dual-lens Thermal Cameras:** one thermal imaging lens for long range detection, one Darkfighter visual imaging lens for detailed footage recording.
- **Laser PT Positioner:** Full HD Video quality, 36x optical zooming and up to 1km long detection range with laser light.



Thermal Imager



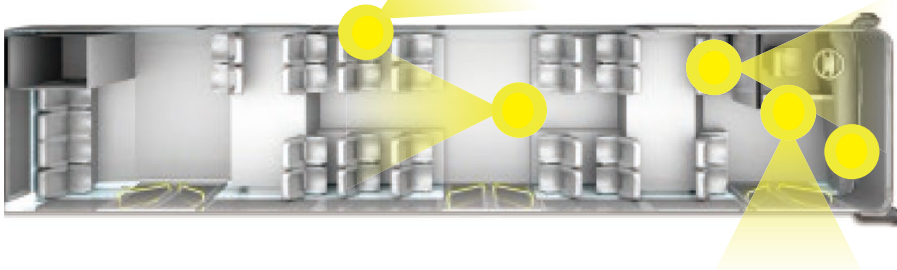
Visual Imager

## City Transportation



Public transportation and its surroundings are vulnerable to terrorism or other criminalities. We have a full range of products to help transit authorities to deter, prevent abnormal activities and for post-event investigation as well.

- **City Bus On-board System:** High definition IP or HD-TVI on-board system, dedicated GIS platform for wireless video live view and real-time tracking.
- **Rail Transit On-board System:** robust network recorder and dedicated fisheye camera provide HD solution for on-board monitoring. Additionally, dual-lens thermal cameras and PanoVu multi-imagers panoramic cameras can help authorities guard the perimeters and in-stations' security.



### NETWORK

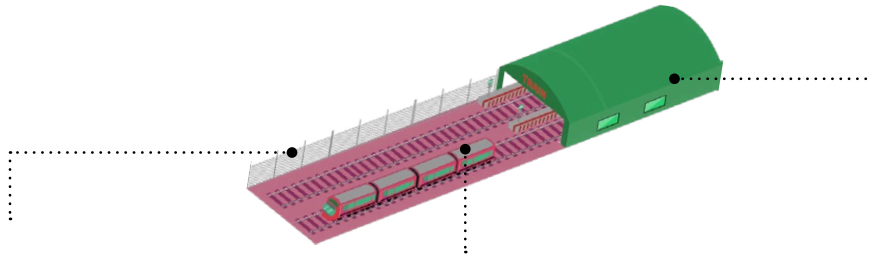
- Full HD Video
- Inner/outer vehicle
- 4/8-ch recorder



## Rail Transit & Station



Our Smart Rail Transit Solution equips you with everything necessary to ensure the highest level of surveillance technology. This solution includes a powerful, dedicated, on-board recorder with expansive storage capacity and complete data protection. Compact on-board cameras with high-megapixel resolution, IR visibility, and Smart IP cameras protect station perimeters. This brochure will guide you through our proven technologies specifically designed to keep your railways safe.



**Perimeter Protection**  
Dual-lens Thermal Cameras



**On-board Recording**  
On-board Recorder & Fisheye Cameras



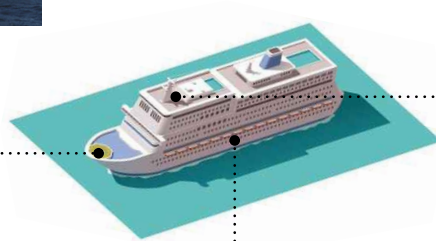
**In-station Monitoring**  
PanoVu Panoramic Cameras

## Coast Guard Vessels



Our stainless steel based corrosion-proof cameras and mobile network encoders combine a high resolution, IP-based system for coast guard ship protection.

**Coast guard ship:** stainless steel mini dome + mobile IP recorder



- Corrosion-resistant
- 2 Mega-pixel
- DarkFighter Bullet Camera



- Corrosion-resistant
- 2 Mega-pixel
- Mini Dome Camera

**UPCOMING!**



- 4/8-channels
- Mobile Network Recorder



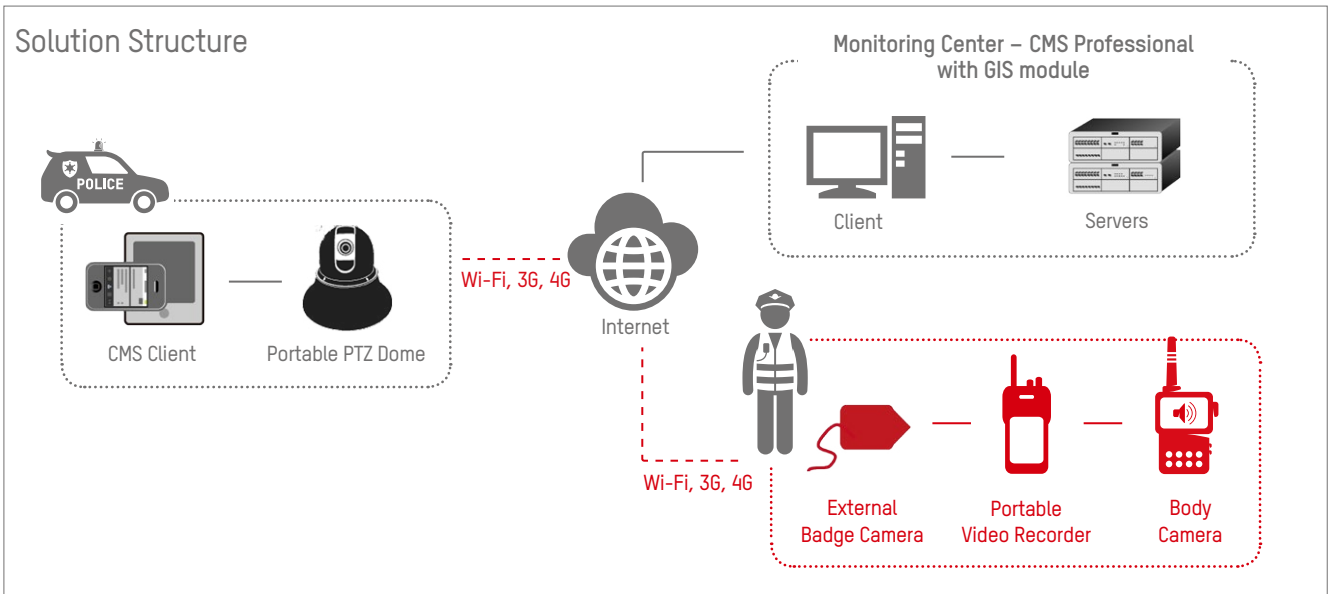
## Temporary Surveillance



The heavy crowding activity such as strike or parade, or public construction require a temporary CCTV system to prevent violence or deter any valued objects loss in location. Our remote surveillance system can help police or other authorities to meet these kind of requirements.

- **Police Remote Surveillance System:** on-car HD PTZ with dedicated joystick and on-board storage recorder.
- **Temporary self-powered PTZ:** on-car HD PTZ with built-in power supply

## Solution Structure



## Mobile Enforcement Solutions - Typical application



Incident Occurs



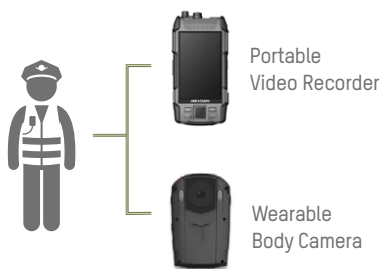
Forensic Capture



Post-Event Investigation



Instant Communication



Wearable devices capture incidents promptly for forensic evidence or establish communication with security centers for post-event handling.



After receiving an alarm, security centers can auto-position an incident location and dispatch the nearest team for support.

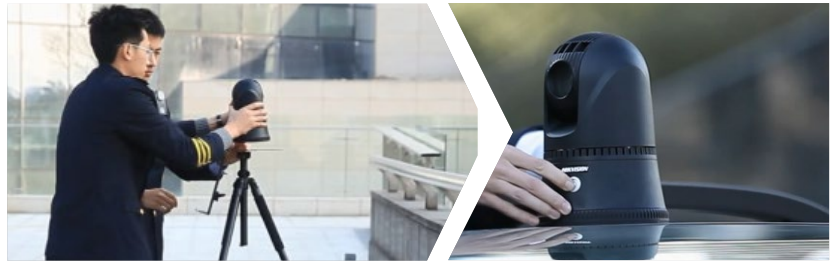


Police personnel can take immediate action at the incident location. The on-board monitoring system ensures accountability regarding enforcement and abuse.

PORTABILITY | EXTENSIBILITY | OPERABILITY



**Portable PTZ Dome**  
Actual application snapshot in Dubai, UAE



Magnetic or Tripod Mount

Built-in Battery with Extended Life

Easy Wi-Fi Connection for Operation



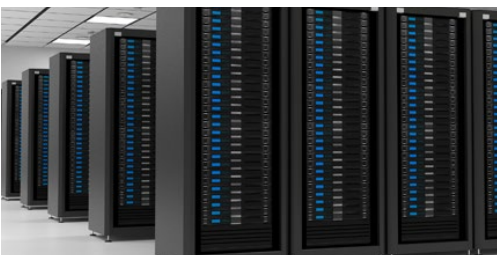
Easy Wi-Fi Connection

## Security Center



Storing critical video footage of daily operations in a bank's security center is a core component of a total CCTV system. It requires the utmost reliability and manageability for data protection and security operations.

- **Embedded NVR:** We have the richest embedded network recorder product line – from 4 channels to 256 channels – for every level of need
- **Video Management Platform:** CMS Professional Video Platform is the CCTV system core that manages, views, plays back, and controls all the daily operations among all devices
- **Network Storage Server:** A must-have product line for total secure data storage
- **Monitor Display System:** From standalone monitors to large TV walls, Hikvision has it all



Storage Server



Modularized design and hot plugging for easy maintenance



Double controller & power module for data safety



Supports CVR mode for better return on investment



LAN



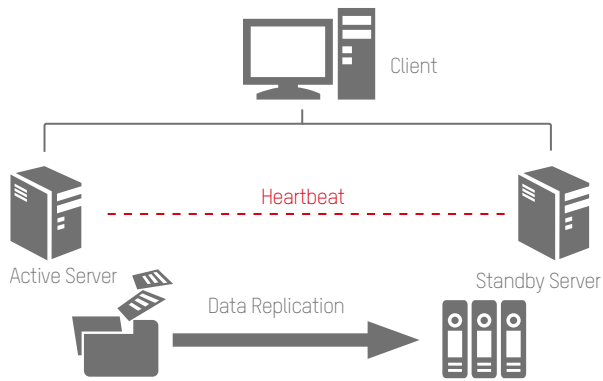
Decoder



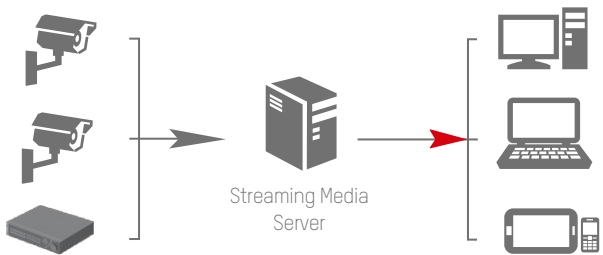
Video Wall Controller



TV Wall

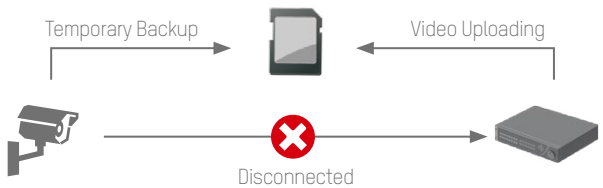


- Data Safety**  
**Server Redundancy Design**
- Active & standby servers
  - "Heartbeat" function automatically backs up users' information if one server is interrupted
  - Ensures users' live view and playback in case of failover

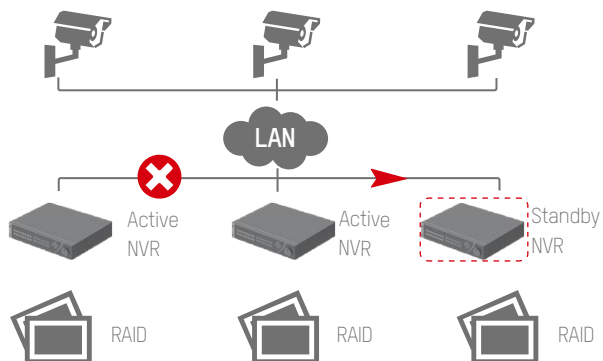


- Transmission Optimization**  
**Streaming Media Server**
- Streaming Media Server enable multiple users to live view or playback the same camera with only one channel bandwidth transmission;
  - 1 Streaming Media Server supports up to 200 x 2Mbps video data streaming and up to 200 channels.

Analytic Reporting

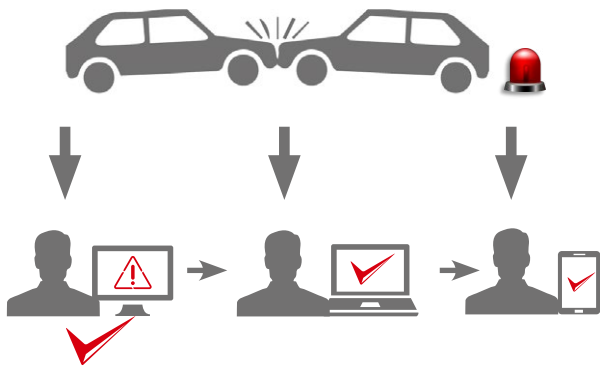


- Data Safety**  
**Auto Network Recovery (ANR)**
- Auto backup if network connection is interrupted
  - Data moves from SD card to back-end device while network connection is restored
  - We recommended using brand Micro SD card for ANR storage

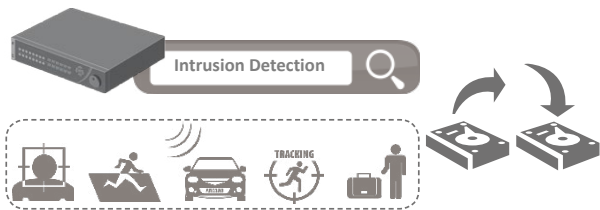


- Data Safety**  
**RAID & N+1 Failover**
- **Single-spot storage backup:** Multi-RAID supported by embedded NVR and Storage Server
  - **Multi-spot storage backup:** When any active NVR is out of service, the standby NVR can take over recording automatically

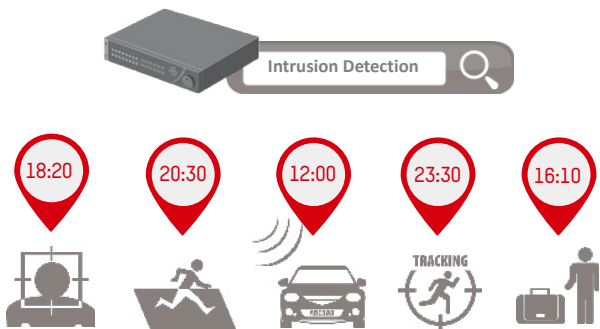




- Alarm Management**  
**Multi-users Notification**
- Real-time alarm notifications sent to CMS's control clients
  - Even mobile clients can receive notifications
  - One-Check-All mechanism allows one user to handle the event and others to simply receive notification

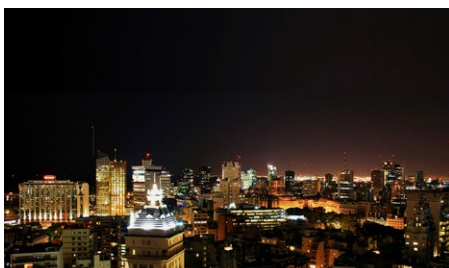


- Large Data Management**  
**Smart Backup**
- Supports event footage backup
  - Saves maximum storage space



- Large Data Management**  
**Smart Search**
- Fully compatible with Smart IP Cameras
  - Easy and quick event search for snapshots and video recording
  - Plays back the target event footage at standard speed and can fast-forward (up to 16x)
  - Unrelated video can be skipped during playback

## APPLICATION REFERENCE



### ■ Buenos Aires, Argentina

Provided a high definition surveillance solution for the city of Buenos Aires to provide the citizens a greater level of security. A combination of long-range wireless links and fiber-optic cable was used to connect cameras to the head office for centralised management.

**"The cameras provided tremendous resolution and detail, allowing a central monitoring center the ability to clearly see what was happening in real time".** Christian Uriel Solano, President of Security One Argentina, Distributor



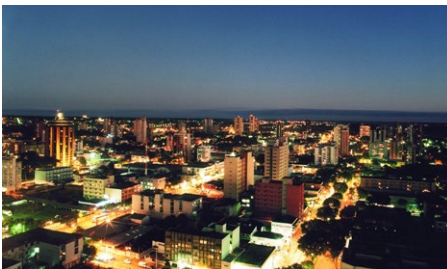
### ■ City of Salford, UK

Darkfighter cameras were installed to offer a true 24 hour monitoring service, with clear colored images in the evening. It also helps the operators to detect flytipper, illegal dumping rubbish in the city.

**"The CCTV cameras play a vital role in our city. Our staff report incidents to police, enabling them to respond quickly, gather evidence for prosecuting flytippers and have saved dozens of vulnerable missing people by alerting the authorities."**

David Lancaster, Salford Deputy City Mayor Councilor

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### ■ Foz do Iguaçu, Brazil

High performance speed domes were placed in strategic locations throughout the city and border regions to protect Foz do Iguaçu's roughly 300,000 residents, as well as its vital tourism industry.

**"They are a leader in both technical and quality aspects. But, it is also a leader in the little things that make a company successful, such as open-sourced SDK. I am really excited about their expansion into future Brazilian public surveillance projects such as Foz do Iguaçu."**

Alvaro De Souza, CCTV Manager at VMI, Distributor

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### ■ Philadelphia Recreation Center, USA

Hikvision's high-performance cameras, NVRs, and VMS technology were selected as a cost-effective solution at over 140 recreation centers to protect the city, to ensure a 'fun, safe, Philly summer'.

**"With introduction of their video surveillance equipment, not only are we covering our sites, we can tell what's going on in the streets and coordinate with the police department if need be."**

Susan Slawson, Deputy Commissioner of Parks and Recreation

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### ■ Safe Cities Memphis, USA

Memphis police department has established a network of about 600 of analog and IP bullet and dome PTZ cameras throughout the city, with cameras attached to utility poles, cameras attached to buildings, and mobile trailers, to keep the city safe.

**"The DarkFighter is a great camera and the quality is unbelievable. The analytics are impressive as well."**

Sergeant Joseph Patty, video surveillance manager for MPD

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### ■ Seoul safe city project, South Korea

More than 750 units of 2MP Network IR PTZ Dome Cameras are installed in Seoul and adjacent suburbs in South Korea, to provide a safer environment for both vehicles and commuters.