

Optimised Smart Cities Solutions



Cover Every Angle. Keep Cities Safe... and On The Move.

Video surveillance nowadays offers much more than just a simple way to monitor activity. Powerful analytical tools integrated into a video surveillance system provide valuable insights to help local authorities keep cities safe and on the move as well as plan for the future.



Traffic Management

- Automatic Number Plate Recognition (ANPR) cameras
- Deter traffic rule violations or parking infringements
- Monitor moving or parked vehicles
- Keep traffic on the move with automatic incident detection
- Real-time traffic flow data (e.g average speed and number of vehicles on road)
- Traffic data analysis for long term planning
- Road AI: Edge based ANPR with Make, Model & Colour Recognition (MMCR)



City Wide Video Surveillance

- Multi-directional and up to 8K ultra high resolution cameras for wide coverage capturing even the smallest details
- AI Multi-directional cameras with PTZ enable operators to zoom in and track a moving object
- Slip and Fall for improved incident response rates (P Series)
- High performance 55x zoom Full HD IR outdoor PTZ cameras enable a person or object to be identified within 500 metres and in complete darkness
- AI auto-tracking allows control room operators to efficiently monitor the movement of objects whilst remaining hands-free to control other cameras
- Vandal and weather resistant housings will provide cameras with a high level of protection in a variety of environments
- Built-in wipers remove rain, sleet or snow and then activate a heater on the lens to dry any residual water
- Efficient operation with intelligent video and audio analytics
- AI cameras with deep learning based analytics offer a high level of detection accuracy whilst minimising false alarms
- Smart Search can significantly reduce time searching for a crime scene or suspects
- Wisenet Wave: lightweight, scalable and feature rich Video Management System
- Video Wall solution for control centres, fully integrated with Wisenet Wave



Occupancy Monitoring

- Instruct people on when to enter or wait
- Integration with IP audio system
- Crowd control



Car Park Management

- Monitor car parks including time spent and occupancy rates
- Manage entry/exits through barriers
- Grant or restrict access to specific areas through black/white lists
- Fast vehicle identification and integrated barrier control means queues are minimised
- ANPR: cost-effective car park management solution for small to medium applications
- Monitor free and occupied spaces using advanced video analytics
- Advanced reporting, statistical & analytical information to assist productivity & planning
- Parking guidance camera



End-to-End Cybersecurity

- Cybersecurity certifications, including UL CAP, NIS2, and NDAA compliance
- Integrity: Secure Boot, Secure Firmware, Secure Open Platform App, Secure JTAG
- Data Protection: Secure Storage, Secure OS



Transport Solutions













- Mobile cameras and NVRs for on-board situations, such as in buses or trains
- Wireless solutions enabling data to be transferred to the required location
- Reduced bandwidth requirements from the latest compression technologies (WiseStream II and WiseStream III)

Wisenet WAVE VMS: Simple. Scalable. Powerful.

Hanwha Vision's lightweight, scalable, and feature rich video management is capable of supporting up to 128 IP video streams per server. It is integrated with Hanwha Vision's NVR and IP camera video and audio analytics.

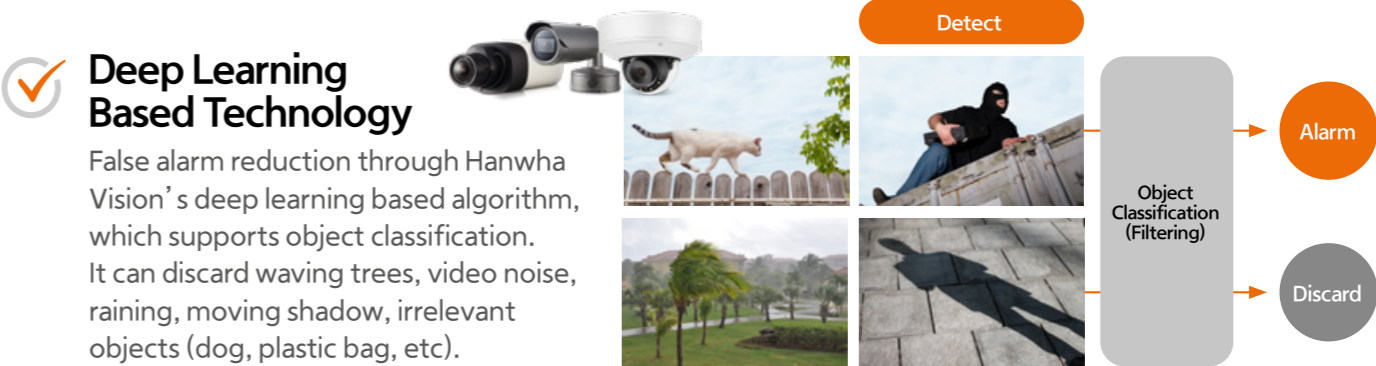


- ✓ **Easy setup** - complete system install and configuration in minutes
- ✓ **Flexibility** - drag and drop interface with resizable viewing panes for intuitive navigation
- ✓ **Compatibility** - full integration with SUNAPI Wisenet device features and advanced analytics and other popular third-party security solutions
- ✓ **Reliability** - robust server hive architecture ensures continuous system uptime
- ✓ **Portability** - accessible from anywhere via WAVE Sync with mobile client applications
- ✓ **Accessibility** - add an unlimited number of users to a single system, each with custom or preset roles

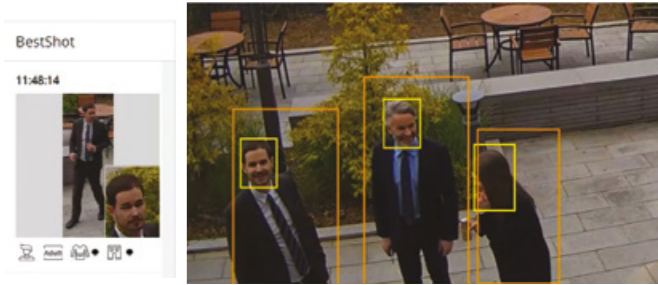
SUPPORTED BROWSERS	SUPPORTED DESKTOP OS	SUPPORTED MOBILE OS	SUPPORTED SERVER OS
			
			
			
			
			





AI Cameras

Hanwha Vision high-resolution cameras have been equipped with AI-based analytics with attribute extraction that can accurately identify both humans and vehicles. Being able to differentiate and identify objects leads to faster and more efficient forensic searches as well as a reduction in bandwidth and storage through metadata tagging.



- ✓ **AI Camera BestShot Feature**
All extracted attributes are presented in real time via Hanwha Vision's BestShot feature, which displays a still image of a detected object for easy identification along with any attributes detected.

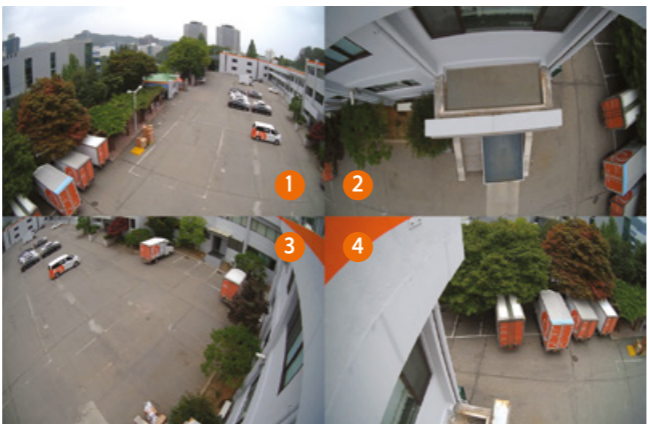
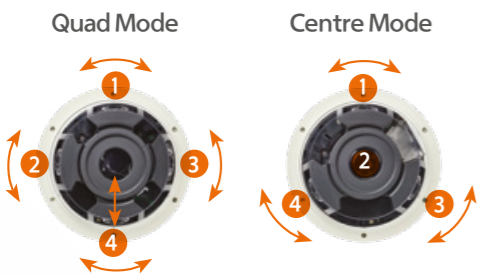


Detected Objects	Attribute Category	Supported Attribute Items
 Person	Gender	Female, Male
	Upper garment	(Up to 2 colours simultaneously)
	Lower garment	Black, Grey, White, Red, Orange, Yellow, Green, Blue, Purple
	Bag	Carries a bag, does not carry a bag
 Face	Gender	Female, Male
	Age	Young/Adult/Middle/Senior
	Glasses	Wearing glasses, not wearing glasses
 Vehicle	Type	Car (sedan/SUV/van/etc.), bus, truck, motorcycle, bicycle
	Make / Model	Make and model of vehicle (Road AI)
	Colour	(Up to 2 colours simultaneously) Black, Grey, White, Red, Orange, Yellow, Green, Blue, Purple
 Number plate	Number plate	Presence of a number plate

Easy to Use Innovation: AI Multi-sensor Cameras

Hanwha Vision multi-sensor/multi-directional cameras monitor wide-open areas without blind spots with a single device. Cameras with replaceable lens modules allow you to customise the camera to meet your specific needs while PTRZ (Pan/Tilt/Rotate/Zoom) equipped devices can be adjusted remotely without physically accessing the unit. All multi-sensor devices use a single network cable and IP address for quick installation and configuration and can be recorded using a single camera recording licence.

- ✓ Eliminate the need for multi-camera installations
- ✓ Advanced object detection and classification, based on deep-learning AI
- ✓ AI-based object detection reduces false alarms
- ✓ Require only a single network cable and IP address for installation
- ✓ Record all sensors using a single camera recording licence for popular VMS solutions
- ✓ PTRZ models reduce maintenance costs when camera readjustments are needed
- ✓ Multi-directional cameras with PTZ enable operators to zoom in and track a moving object
- ✓ Licence-free onboard intelligent video analytics for each sensor
- ✓ Centre Mode to remove blind spots below the camera



Panoramic

AI PTZ Plus

The AI PTZ Plus cameras capture evidence grade images in large open areas and this is enhanced by technically advanced features:

- ✓ AI based object tracking, select the object you want e.g. a car or person
- ✓ Exceptional image quality for clearer and more detailed video
- ✓ Enhanced cybersecurity for extra peace of mind
- ✓ Monitoring in complete darkness up to 200 metres with adaptive IR
- ✓ High-resolution, high-magnification zoom (4K 30x). Up to 55x zoom available in Wisenet range of PTZ Dome models



AI Auto tracking – cars



AI Auto tracking – people

- ✓ All weather conditions – built-in wipers remove rain, sleet or snow and heater on the lens dries any residual water
- ✓ 65% lighter than conventional PTZ' s for easier installation and increased speed of the Pan/Tilt functionality
- ✓ Single RJ45 cable for quick and easy installation



Shakes off water



Lightweight

The World’s First 8K Surveillance Camera

The TNB-9000’s 8K ultra high resolution easily replaces the need for several conventional cameras in a single location while capturing images in full detail. Its compatibility with many Canon EF mount lenses makes it easy to capture wide fields of view from even greater distances.

- ✓ 43.3mm full-frame CMOS Image Sensor
- ✓ Compatible with several Canon EF mount Lenses
- ✓ Licence-free AI based object detection and classification video analytics
- ✓ Efficient video streaming with H.265 with WiseStream II
- ✓ 100/1000Mbps Network connectivity via RJ-45 & SFP slot for long distance cable runs
- ✓ RS-485 for pan and tilt mount controls
- ✓ Simple Focus & MicroUSB port allows for easy and perfect focus control remotely



Compatible Lenses



Wisenet 7 Powered X Series Cameras

The Wisenet 7 SoC is our latest and most advanced chipset to date, featuring recording resolutions of up to 4K, licence-free video and audio analytics, eXtreme WDR with scene analysis, and best-in-class cybersecurity measures. These capabilities are available in a variety of form factors that meet the challenges of even the toughest environments.

- ✓ **Vivid 4K Resolution**
Hanwha Vision’s F1.2 varifocal lens is implemented into the Wisenet 7 4K camera lineup, allowing the most light into the camera’s sensor and producing clear and vivid images
- ✓ **extreme WDR with Scene Analysis Technology**
Hanwha Vision’s improved multi-frame WDR technology lets you take full advantage of image contrast to see detailed objects clearly even in environments with strong backlight conditions



- ✓ **End-to-end Cybersecurity**
Hanwha Vision security policies begin at the factory, with our own device certification issuing system embedding certificates and encryption keys into each chip
 - ✓ **NIS2/CRA ready**
 - ✓ **UL CAP certified:** Our latest network video surveillance cameras, equipped with Wisenet7 SoC have acquired the UL CAP (Cybersecurity Assurance Program) certification, meeting all evaluation cybersecurity criteria: network penetration, access control, encryption and software updates
- The result:** a fully secure end-to-end surveillance workflow, assuring all video is securely stored, encrypted and accessible only by authorised users

Traffic Management

- ✓ Monitor roadways, including traffic density, traffic speed and average travel time
- ✓ Traffic and parking infringements
- ✓ Early detection of incidents to keep people safe as well as keep traffic on the move
- ✓ Detect events simultaneously on independent zones, from traffic slowing down, to vehicles broken down or illegally stopped, wrong way drivers and a multitude of other possible scenarios
- ✓ Collect statistical data to assist infrastructure planning, and road safety
- ✓ RoadAI: edge-based ANPR with make, model and colour recognition



Car Park Management / Access Control

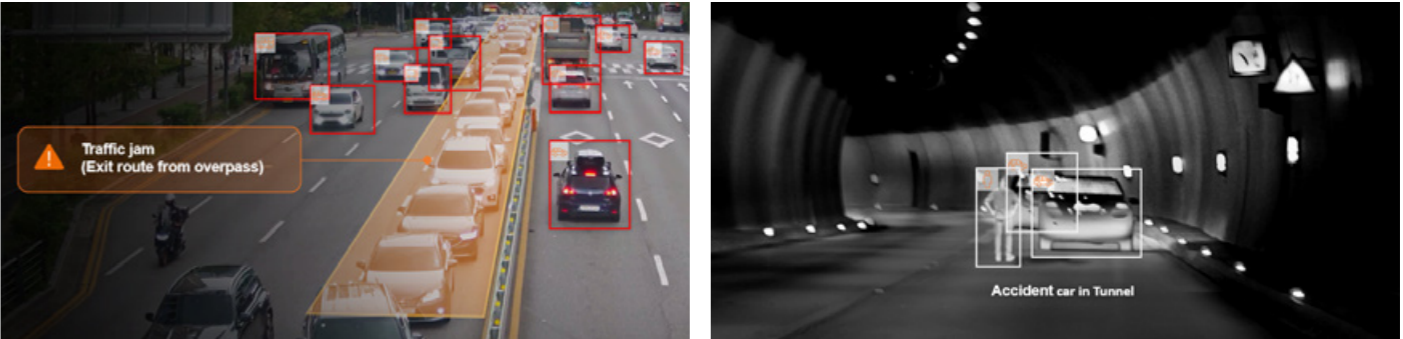
Highlights

- ✓ Edge based solutions
- ✓ Multiple countries' licence plate support
- ✓ Monitor car parks, including time spent and occupancy rates, and manage entry/exits through barriers
- ✓ Grant or restrict access to specific areas through black/white lists
- ✓ Automatically control the movement of white listed cars through barriers
- ✓ Monitor activity at petrol stations
- ✓ Monitor free and occupied parking spaces using advanced video analytics
- ✓ Parking indicator camera



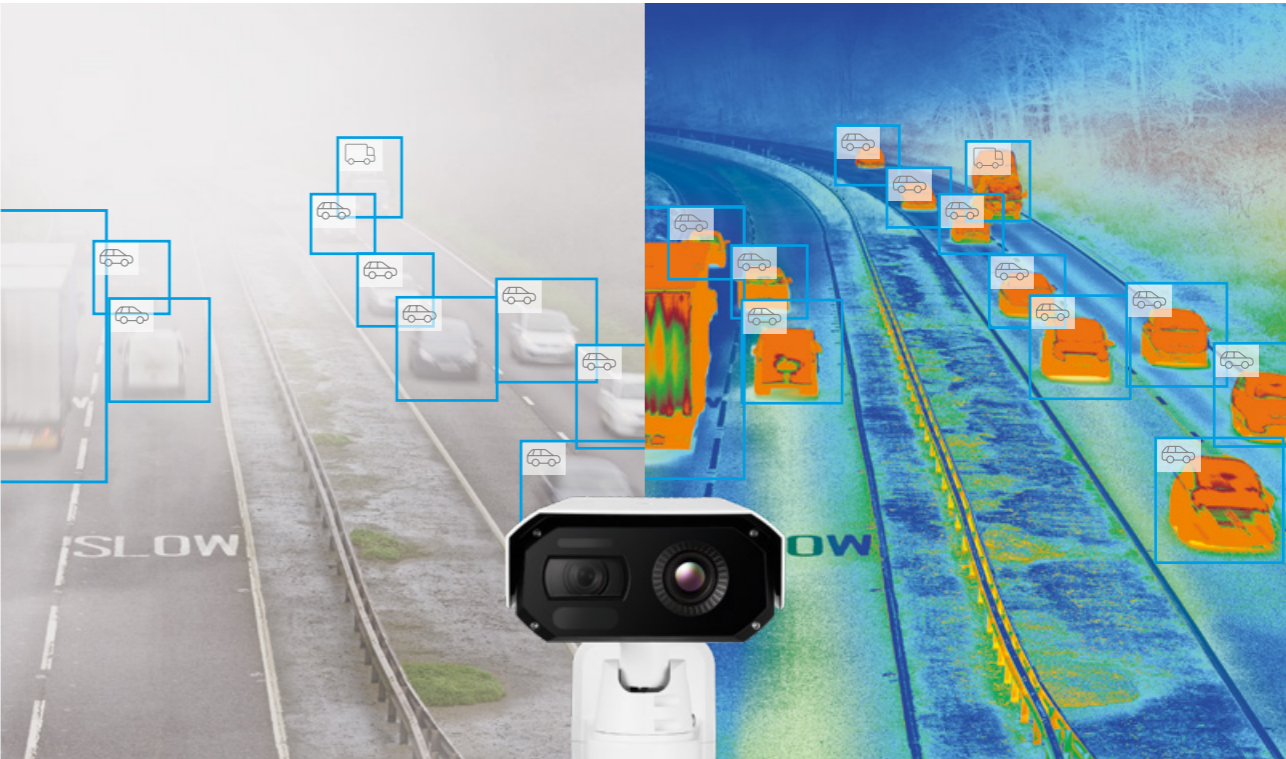
Automatic Incident Detection

Hanwha Vision's AID solution is an edge-based application available in Hanwha Vision high-definition Bi-Spectrum Thermal cameras. It detects incidents and events in traffic flow on critical transport infrastructure such as roads, highways, tunnels and intersections. With our partner, a2, we also offer server-based video analytics to detect incidents and events.



Highlights


- ✓ Ideal for traffic monitoring with accurate AI-based object detection and classification
- ✓ Reduces false alarms, providing operators with a reliable source of events
- ✓ Cameras can identify particular vehicles and number plates



Hanwha Vision IP Camera Features Advanced Video and Audio Analytics

Hanwha Vision’s licence-free intelligent video and audio analytics technology operates on the edge, alerting operators to abnormal activities in real time. This increase in situational awareness can help to prevent or minimise damage or harm during an event by prompting a rapid and efficient response.

Camera Features

- 







Tamper detection – Detects when a camera’s direction is changed due to impact, sudden loss of focus, painting or blockage.
- 

Image stabilisation – Cameras can detect shaking or vibration and digitally stabilise the image.
- 

Fog detection – Cameras can detect the presence of fog or steam and automatically improve image quality.
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Digital image stabilisation (DIS) with gyro sensor – An internal gyroscopic sensor is used to detect vibration in an image and work to stabilise the affected image.
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Highlight compensation (HLC) – Low light feature that blocks sources of intense light such as vehicle headlights in order to maintain a clear image.
- 

PTZ handover – Strategically placed cameras can be used to trigger PTZ presets, patrol patterns, and target tracking based on detected events.
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Open platform – This policy allows third-party software and applications to run on the edge in parallel with normal camera operations, adding utility to your IP camera device beyond surveillance functions.

Intelligent Video & Audio Analytics

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Face detection – Identifies key features of a human face and issues an alert when a face is present.
- 

Virtual line crossing detection – Objects crossing a designated virtual line can be detected.
- 

Loitering detection – Objects appearing and resting in a designated virtual zone will trigger an event.
- 

Intrusion detection – Triggers an event when movement is detected in a designated virtual zone.
- 

Appear/disappear – Detects the presence or loss of an item in a designated virtual zone.
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Enter/exit detection – Detection of objects entering or exiting a designated area.
- Audio detection** – Detects and identifies the sound of explosions, gunshot, screams, and breaking glass.

 Gunshot

 Glass Break

 Scream

 Explosion

IP Audio System

Benefits

- ✓ Link with video surveillance for an integrated solution that takes advantage of video analytics
- ✓ Broadcast real-time or scheduled text to speech or audio file messages, or directly use a microphone control keyboard
- ✓ Manage people flow in cities through audio messages

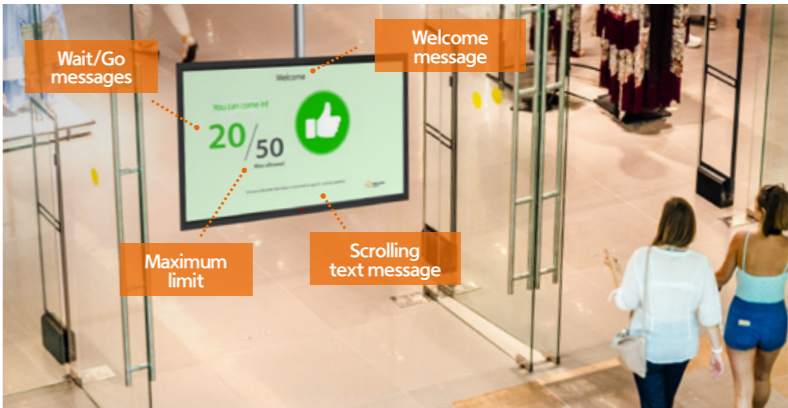


People Counting and Crowd Control

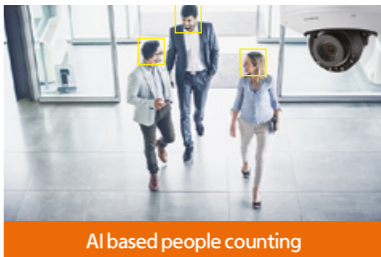
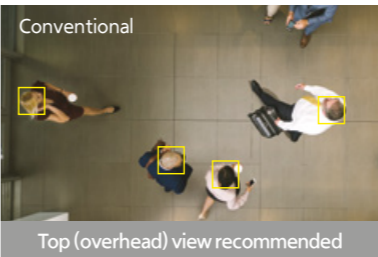
Benefits

- ✓ Control the number of people on premises, from buildings to waiting rooms
- ✓ Supports multiple entrances and exits
- ✓ Highly accurate people counting solution
- ✓ Easy to set up, serverless yet scalable

Customisable interface



No need for “top-view” mounting



*Camera features and analytics vary by model



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