

SAFE CITY SOLUTION

- Smart
- Agile
- Sustainable



Smart Detection

- Face Recognition
- License Plate Recognition



Powerful Vision

- Panoramic View
- Ultra-Zoom View
- Thermal Detection



Rapid Response

- Mobile Enforcement
- Integrated Management



Effective Investigation

- Suspicious Target Search
- Path Tracking

City Safety Issues

The global trend of urbanization has led to cities playing an ever more important role in our lives. However, more responsibility presents increasing challenges as modern cities face a wide range of safety threats which could undermine city development.



Dahua provides an integrated safe city solution which enables smart threat detection, rapid emergency responses, and effective crime investigations.

Detection

- **Face Recognition**
Detect and recognize the facial features of passing persons to catch criminals in time.
- **License Plate Recognition**
Read vehicle license plate numbers and trigger an alarm when a target is found.
- **Panoramic View**
Provide a wide field of view to ensure zero blind spots.
- **Ultra-Zoom View**
Extend surveillance range and capture more details when incidents happen.
- **Thermal Detection**
View a reliable image at any time of day and in variable weather conditions.

Response

- **Mobile Enforcement**
Fully record on-site situations as evidence and forward to security center for monitoring.
- **Integrated Management**
Simplify cross-department and cross-system coordination.

Investigation

- **Suspicious Target Search**
Search suspicious targets from history records by related features including face images and license plate numbers.
- **Path Tracking**
Map the path of specific suspects/vehicles on an E-map to predict possible places the target may go.



OVERVIEW

High-Altitude Spot

- Powerful Zoom IR PTZ Camera



Transportation Hub

- Face Recognition System



Security Center

- Video Management System
- Video Wall System
- Storage System
- Video Conferencing System



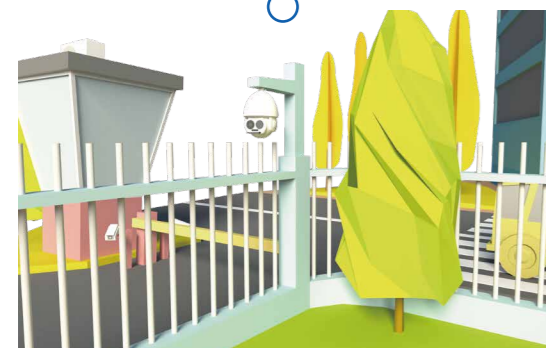
Incident Scene

- Industrial Drone
- Mobile Portable Terminal
- Mobile Vehicle Surveillance



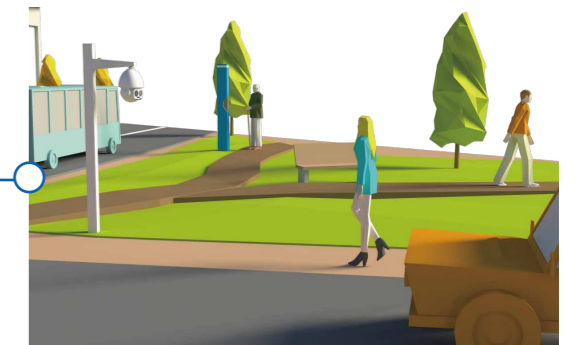
High Traffic Area

- Emergency Phone Terminal



Perimeter

- Thermal Hybrid Camera



Walkway

- Starlight IR Camera

Square

- Multi-Sensor Panoramic + PTZ Camera



Major Road

- Intelligent Traffic Camera

APPLICATION DETAILS

Transportation Hub



- Due to their high traffic flows, metro stations, bus stations, airports, and other transportation hubs are vulnerable to terrorist attacks. Detecting suspects among such flow is a problem that many cities are currently facing. The Dahua Face Recognition system greatly improves the efficiency of finding suspects among large amounts of people.

Face Recognition System

- ≥98% detection rate
- ≥90% recognition rate
- <3s recognition time

Major Road

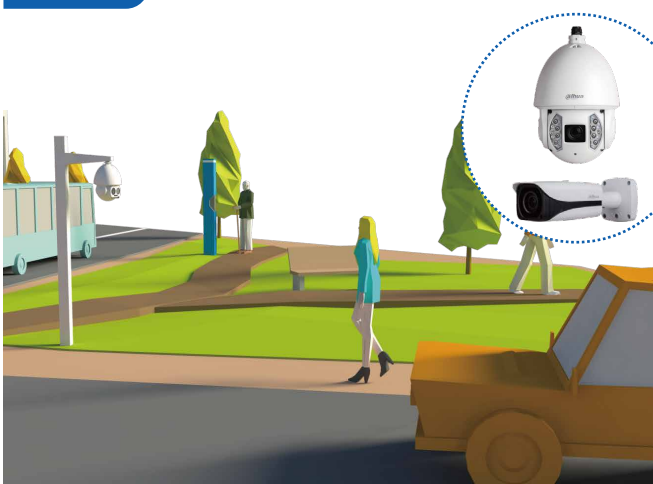


- As the main routes to important facilities, major roads sustain huge amounts of traffic. The detection of suspicious vehicles within high traffic flows plays an important role in preventing attacks aimed at critical facilities and post-event analysis. LPR cameras deployed throughout a city enable reliable vehicle detection and tracking via high-volume vehicle data.

Intelligent Traffic Camera

- Front-end license plate recognition
- Front-end traffic event detection
- Embedded integrated component design

Walkway



- Cameras are used to detect targets and events and monitor vulnerable places such as bus stations, stores, and ATMs. The cameras need to provide high quality images 24 hours a day under dynamic outdoor lighting conditions for rapid incident response and post-event analysis.

Starlight IR Camera

- Starlight and WDR technology
- H.265 encoding
- IP67, IK10

High Traffic Area

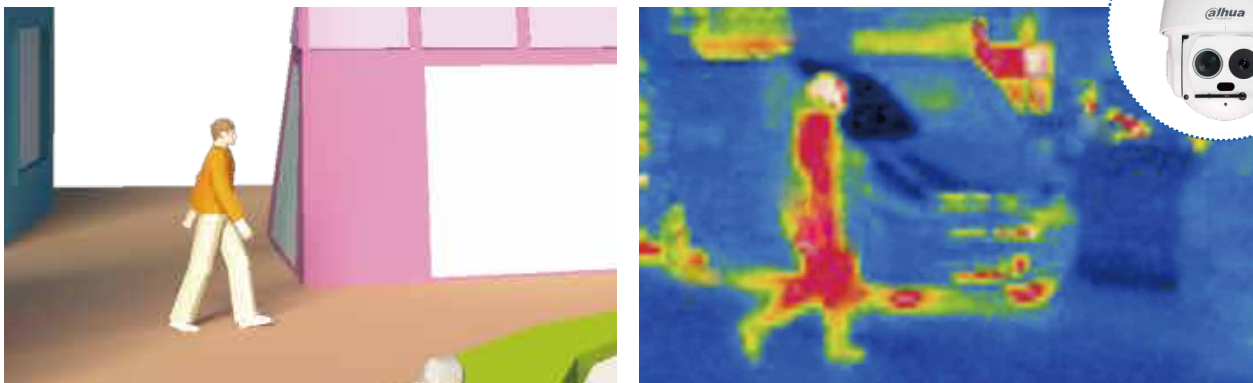


- High traffic areas such as tourist attractions require rapid incident responses. Shorter response times can reduce loss of life and property while making people feel safer.

Emergency Phone Terminal

- Emergency calls at your fingertips
- Video & audio talk
- CCTV extension
- IP65, IK10

Perimeter



- Most city facilities face high risks at night due to large perimeters and not enough patrols. This calls for reliable perimeter protection through full coverage, high quality imaging in variable lighting conditions, along with automatic intrusion detection. Thermal cameras illuminate objects day or night and in variable weather conditions through sensing thermal radiation. This allows security and authorities to find suspects hiding in forests or in foliage.

Thermal Hybrid Camera

- Dual-lens (thermal & visible)
- Detection in total darkness
- High Sensitivity
- Long Detection Range

High-Altitude Spot

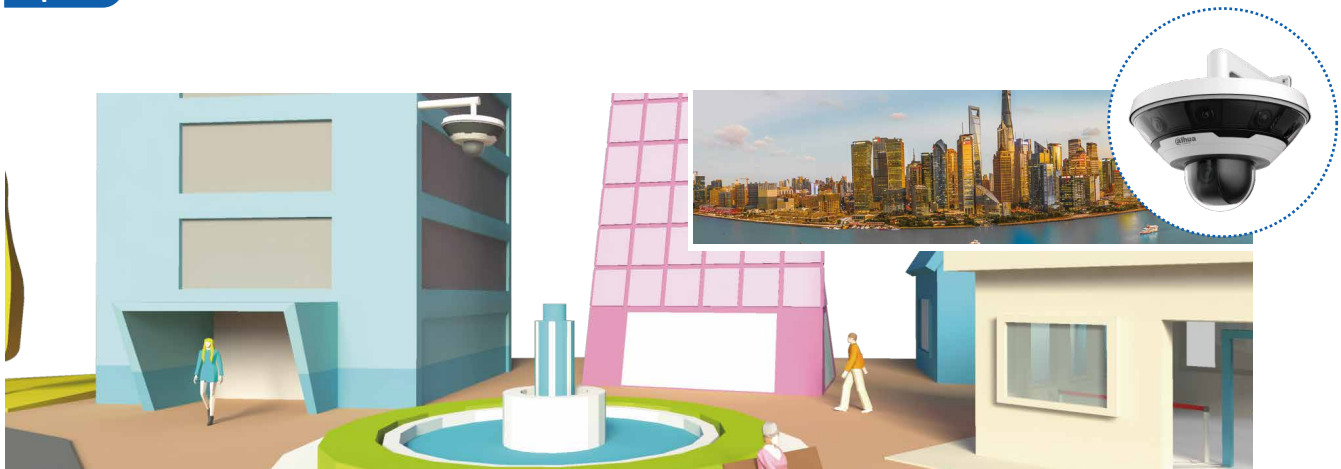


- Cameras deployed at high altitude have a wider monitoring range than near the ground. These cameras are helpful in monitoring the overall city traffic situation and details of incidents such as fires and explosions. The main challenges high altitude surveillance devices face are variable outdoor lighting conditions, rough weather conditions, and interference caused by vibration. Cameras with powerful zoom lenses and IR capabilities placed on tall buildings are suitable for providing a high-quality city overview.

Powerful Zoom IR PTZ Camera

- Starlight and WDR technology
- Powerful optical zoom
- Up to 1200m IR range
- H.265 encoding

Square



- Incidents often occur in crowded public squares, making it essential that surveillance devices visualize the entire area to ensure safety. However, due to limited resolution and field of view, conventional systems are inefficient when monitoring spacious areas. A simple-to-operate agile system is ideal rather than massive front-end installations. The Dahua panoramic series 360 degree camera offers a 360-degree field of view and detailed zooming at the same time, eliminating blind spots.

Multi-Sensor Panoramic + PTZ Camera

- 360-degree panoramic view
- H.265 encoding
- IP67, IK10
- Smart tracking

Incident Scene



- Recent advances in mobile surveillance technology have enabled the real-time collection of various types of data to assist in delivering better incident responses at incident scenes. This data can be used for enhancing situational awareness, supervising field-operations, and dispatching police units.

Mobile Portable Terminal

- Voice talk
- Image and video capture
- GPS location reporting
- 3G/4G/Wi-Fi transmission

Mobile Vehicle Surveillance

- Image and video capture via mobile PTZ camera
- GPS location reporting
- 3G/4G/Wi-Fi transmission

Industrial Drone

- Operating radius: 10km
- Max. flight altitude: 5km
- One-key landing, auto-return



- Security centers are responsible for gathering, processing, analyzing, displaying, and storing all data collected by cameras, sensors, and other devices on the front-end. A integrated security center for safe city applications needs to ensure seamless cross-department communication, unified incident response, and advanced data analysis for more intelligent and efficient policing.

Video Management System

- Supports live monitoring, playback, event management, storage management, video wall, E-map, Face Recognition, LPR, etc.
- Supports distributed deployment and hot standby protection

Storage System

- Supports network video recorder, enterprise video storage, and cloud storage
- High reliability and scalability

Video Wall System

- LCD/LED splicing screen
- Flexible configuration with slotted design
- 4K & H.265 decoding

Video Conferencing System

- H.265 video encoding
- OPUS audio coding
- Share documents such as PPT, etc.

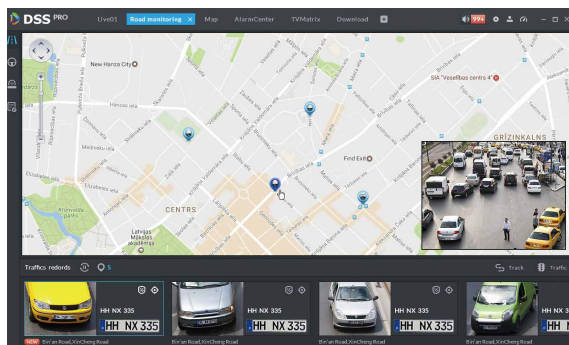
Typical Application



- The DSS Control Client provides powerful functions for daily operation and the handling of surveillance tasks. GPU decoding and multi-screen support allow the simultaneous display of multiple types of content.

LPR

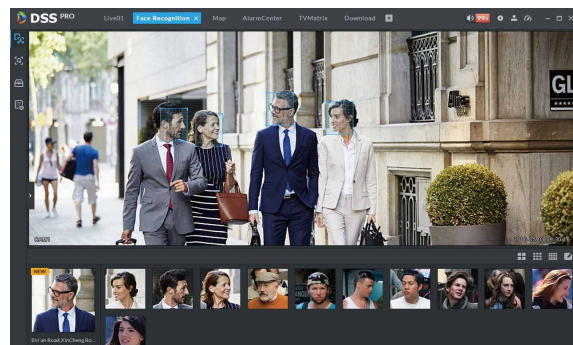
The LPR module features automatic license plate recognition, vehicle image capture, vehicle database management, and more.



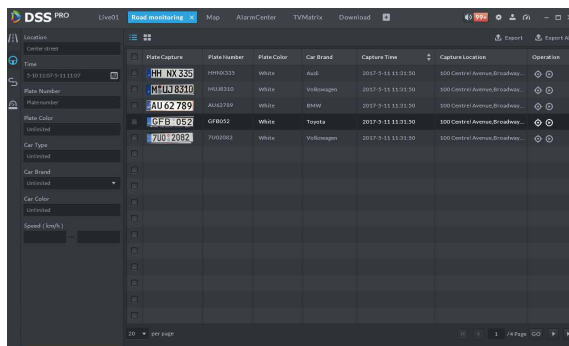
• Real-time Monitoring

Face Recognition

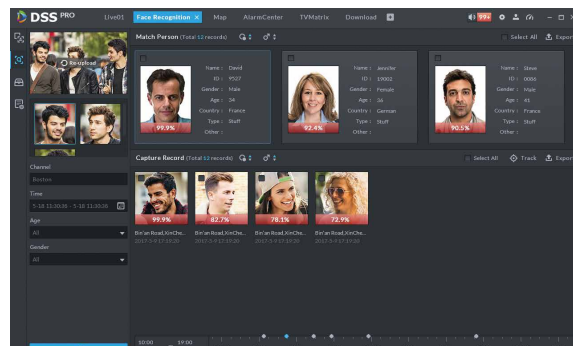
Face recognition can be used in a broad spectrum of applications, such as the entrances and exits of railway and metro stations or airport terminals, etc.



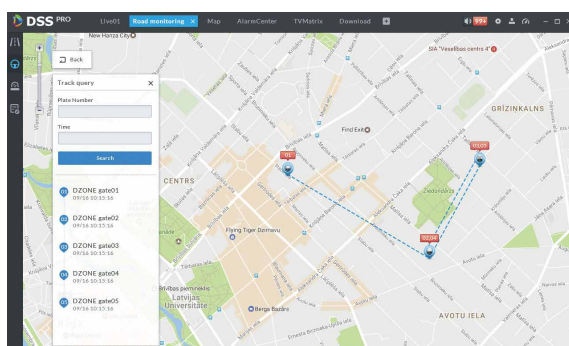
• Real-time Monitoring



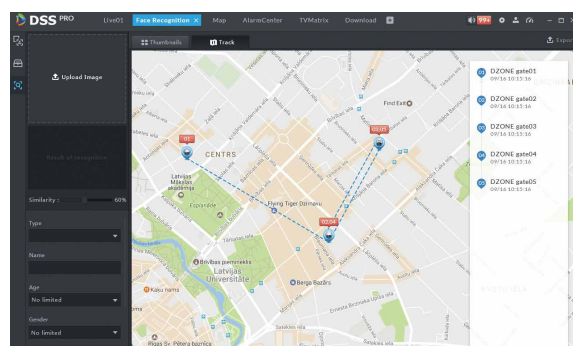
• License Plate Search



• Face Search



• Vehicle Path Tracking

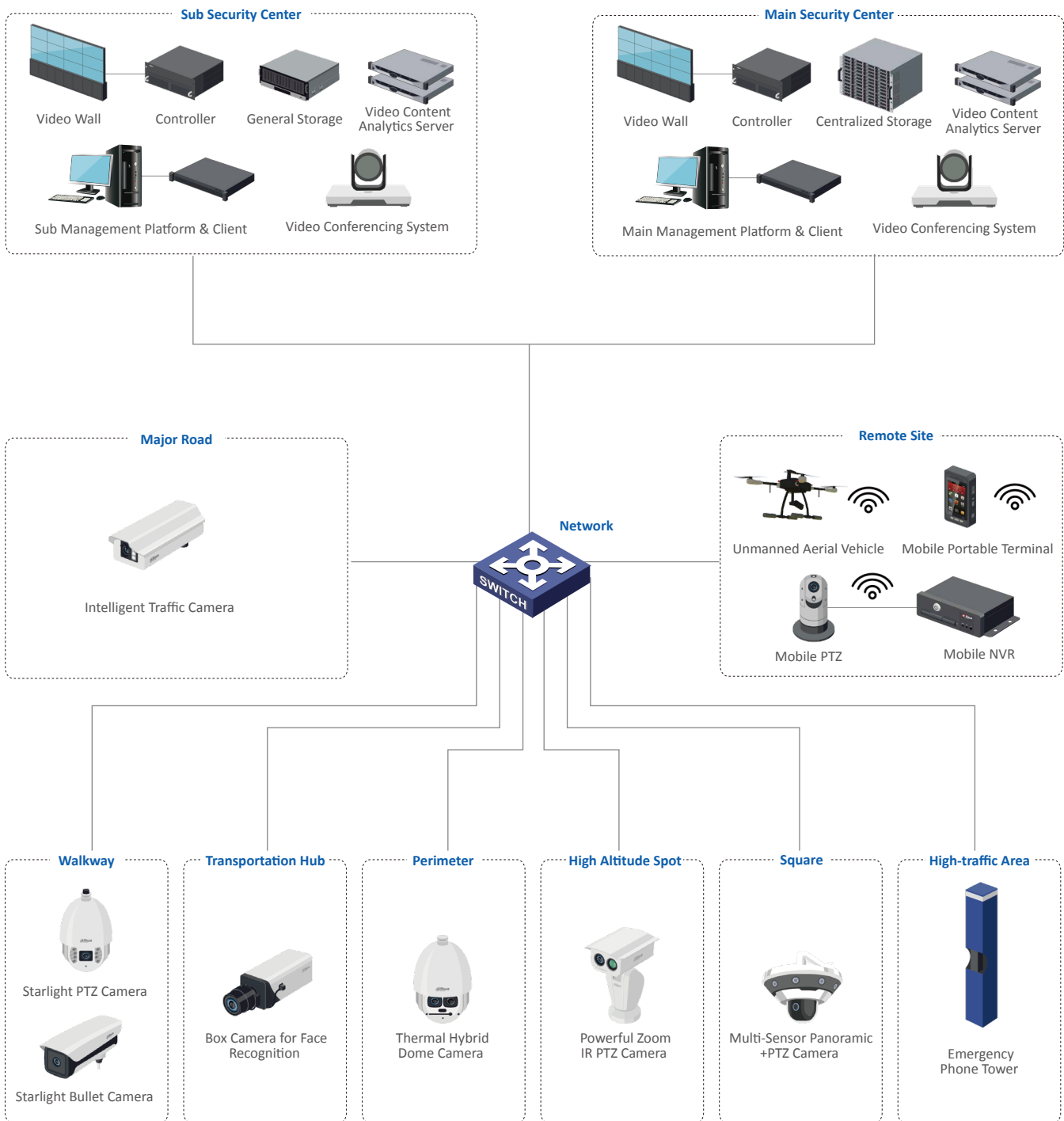


• Person Path Tracking

SYSTEM STRUCTURE

Highlights

- Smart threat detection via Face Recognition and License Plate Recognition (LPR)
- Better coverage and more details with ultra-zoom and panoramic view
- Powerful target sensing with thermal detection
- Rapid emergency response with mobile enforcement and integrated management
- Effective crime investigation with the help of suspicious target search and path tracking



PRODUCT SHOWCASE

IPC-HF8242F-FD



- 1/1.9" 2MP progressive scan CMOS
- H.265&H.264 triple-stream encoding
- Auto back focus(ABF)
- Face detection: Built-in deep learning algorithm. Support facial image capture and facial attributes analysis

IVS-F7500



- $\geq 98\%$ detection rate; $\geq 90\%$ recognition rate
- Efficient retrieval speed, recognition in less than 3 seconds
- Logs up to 300,000 human faces in database for fugitive alerts
- Sends out notification or alarm when previously defined face is recognized
- One IVS-F7500 server supports 32 channels 1080P recognition.

IPC-HFW8231E-Z



- 1/2.8" 2MP progressive scan STARVIS™ CMOS
- H.265&H.264 triple-stream encoding
- 2.7mm ~12mm motorized lens
- Max. IR LEDs length 50m
- Micro SD memory, IP67, IK10, PoE +

SD6AE240V-HNI



- 1/2.8" 2MP STARVIS™ CMOS
- Powerful 40x optical zoom ensure a wide range of monitoring
- Starlight technology provides a bright image at night
- H.265 encoding
- Supports Hi-PoE
- Up to 200m IR range
- IP67 & IK10 helps reduce maintenance costs

ITC602-RU1A-HL/IRHL



- All-in-one camera
- High performance CCD image sensor, high color reduction, high sensitivity
- Embedded integration component design, variety of built-in algorithms
- Built-in lighting-proof module
- Operating conditions: temperature -40°C- +80°C, 10%- 90% humidity, suitable for the rough environments

ITC231-RU1A-(IR)L



- 1/1.9inch Starlight CMOS image sensor,
- H.265 and 50/60 fps
- Embedded IP67 & IK10 helps reduce maintenance costs
- Variety of built-in algorithms, such as ANPR, traffic data collection and analysis, vehicle type classification, traffic incidents detection, vehicle brand detection, etc.
- Supports traffic flow, occupancy, headway, average speed, and queue length statistics
- Supports motor, tricycle detection

PRODUCT SHOWCASE

VTA8111A-4



- HD CMOS camera
- Night vision
- Video & audio talk
- Remote monitoring and broadcast
- Alarm integration
- Excellent vandal proofing with IP65, IK10

TPC-SD8620-T



- 640x512 VOx uncooled thermal sensor technology
- Athermalized lens(thermal), focus-free
- Powerful 30x optical zoom
- Supports temperature measurement
- Supports fire detection & alarm

PSD81602-A360



- Panoramic: 8 1/1.9" 2MP progressive scan CMOS
- PTZ: 1 1/1.9" 2Megapixel progressive scan CMOS
- H.265/H.264 triple-stream encoding
- 2x25fps@4096x1800+50/60fps@1080P
- Supports 360-degree panoramic view
- Smart tracking and Intelligent function
- Micro SD memory, IP67, IK10

PTZ12248V-LR8-N



- 1/1.9" 2MP CMOS
- Powerful 48x optical zoom
- Starlight technology
- Supports Triple-stream encoding
- Max. 50/60fps@1080P
- Auto-tracking and IVS
- IR Distance up to 1200m
- IP66

X820



- Carbon fiber material
- 940mm diagonal wheelbase
- Max flight time: 38mins
- Max speed: 25m/s
- Max transmission distance: 10km
- Max flight height: 1500m
- PTZ accuracy: ±0.01°
- Satellite positioning systems: GPS / beidou / GLONASS

NVR0404MF



- Up to 4 channel with 1080P realtime live view
- H.264 dual-stream video compression
- HDMI/VGA/TV simultaneous video output
- Supports 2 SATA HDD, 2 USB3.0
- Aviation connectors adopted (4 M12 POE connectors optional)

PRODUCT SHOWCASE

MPTZ1100



- 30X optical zoom
- Pan range: 360° endless, up to 90° tilt
- 80m IR distance
- Evaporates mist via heating lens
- IP66: good anti-vibration / anti-corrosion protection
- GPS info overlay on video
- Ceiling or fixed installation

MPT310



- H.264 dual-stream video compression
- Supports one touch recording, take photos, alarm and PTT
- HD LCD; Supports touchscreen
- Supports hot-swap SD card storage
- Supports real time GPS location reporting, image and video capture, voice talk, emergency command, and 3G/4G/Wi-Fi transmission.

DSS Pro



- New design interface, better experience, based on Windows OS
- Easy performance upgrade through distributed hardware extension.
- Easy functionality upgrade via add-ons.
- Supports hot standby for master server
- Supports connecting to third-party devices via standard ONVIF protocol.
- DSS Pro SDK for third-party platform or mobile development

M70-4U-E



- Easy and flexible configuration with pluggable card module design
- 80ch@1080P or 320ch@D1 signal encoding
- 80ch@4K or 320ch@1080P or 720ch@720P or 1500ch@D1 signal decoding
- Supports max 60 screens splicing
- Remote cast analog/digital video onto the video-wall

DHL550UCM-ES



- Industrial level DID LCD panel, suitable for extensive 7x24 continuous operation
- Ultra-narrow 3.5mm side LCD patchwork
- High contrast and high brightness
- Built-in picture splicing function
- Abundant interfaces: HDMI, DVI, VGA, BNC, supports video loop

VCS-RPS3C0








- Integrates 1080P HD camera, codec, mic and 2 display screens
- Supports H.265, two streams with 1080p resolution and 4K UHD display (optional).
- Supports OPUS audio coding technology.
- Provides life-like experience even over ultra-low bandwidth.
- Perfectly interoperable with other conferencing products







PRODUCT SELECTION

Product	Description	Transportation Hub	Major Road	Walkway	High Traffic Area	Perimeter	High-Altitude Spot	Square	Incident Scene	Security Center
 IPC-HF8242F-FD	2MP Starlight Face Detection Box Network Camera	●								
 IVS-F7500	Face Recognition Server	●								
 IPC-HFW8231E-Z	2MP WDR IR Bullet Network Camera			●						
 SD6AE240V-HNI	2MP 40x Starlight IR PTZ Network Camera			●						
 ITC602-RU1A-HL/IRHL	6.8MP Traffic Picture Capture Camera		●							
 ITC231-RU1A-(IR)L	DeepSense Traffic Camera		●							

PRODUCT SELECTION

Product	Description	Transportation Hub	Major Road	Walkway	High Traffic Area	Perimeter	High-Altitude Spot	Square	Incident Scene	Security Center
 VTA8111A-4	Emergency Phone Tower				●					
 TPC-SD8620-T	Thermal Network Hybrid Dome Camera					●				
 PSD81602-A360	8x2MP Multi-Sensor Panoramic Network Camera+PTZ Camera							●		
 PTZ12248V-LR8-N	2MP 48x Network Laser IR Positioning System						●			
 X820	A Quad Copter Drone for Industry Application								●	
 NVR0404MF	4 Channel Mobile NVR								●	

PRODUCT SELECTION

Product	Description	Transportation Hub	Major Road	Walkway	High Traffic Area	Perimeter	High-Altitude Spot	Square	Incident Scene	Security Center
 MPTZ1100	2MP Mobile PTZ								●	
 MPT310	HD Mobile Portable Terminal								●	
 DSS Pro	General Surveillance Management Center									●
 M70-4U-E	Multi-service Video Management Platform									●
 DHL550UCM-ES	Video Wall Display Unit									●
 VCS-RPS3C0	Video Conferencing System									●

SUCCESS CASES



Dahua Solutions in 2016 G20 Hangzhou Summit

As the one of most high-profile international summits, the G20 requires top security solutions to protect the heads of G20 nations. During the 2016 G20 Hangzhou summit, Dahua provided more than 20,000 devices to secure the entire city, including 90% of the devices used within the district where the summit was held. Various Dahua advanced systems such as Face Recognition, fake number plate detection, and smart traffic restriction played key roles in G20 security. As a result, the Hangzhou police department and the 2016 G20 Security Council were impressed with Dahua's outstanding work.



Dahua Security Solution for Public Safety in Boa Vista

Boa Vista is the capital of Roraima, Brazil. Dahua was chosen by the city government to provide an integrated safe city solution to prevent crime and violence and to create a better environment for citizens to live, work, and socialize. More than 100 network cameras were installed across Boa Vista, allowing observation and detection of incidents in real-time with reliable data storage and high-quality images 7 days a week, 24 hours per day. The Dahua Safe City Solution enabled Boa Vista to implement real-time monitoring and played an important role in dealing with emergencies and guaranteeing city security.



Dahua IP Solution Secures Arezzo, Italy

Arezzo is the capital of a province by the same name located in Tuscany, Italy. A highly innovative, reliable IP solution was tailored by Dahua specialists to ensure the city's safety. Dahua's network cameras feature a progressive scan Exmor CMOS sensor, providing high quality images at 25/30fps @1080P. To ensure the safety of roads, streets and venues, ITC series cameras with LPR (License Plate Recognition) were deployed to capture ultra-clear images of vehicles and recognize license plates, even while driving at high speeds. Excellent image quality captured even in extreme lighting conditions enables seamless monitoring of at-risk areas. Dahua has achieved the protection of local residents and tourists in Arezzo.

ENABLING A SAFER SOCIETY AND SMARTER LIVING

Dahua Mexico

Tel: +52 55 67231936
Email: sales.mx@global.dahuatech.com

Dahua Brazil

Tel: +55 11 32511871
Email: comercial.br@global.dahuatech.com

Dahua Thailand

Tel: +66 29382674
Email: info.th@global.dahuatech.com
hr.th@global.dahuatech.com

Dahua S.Korea

Tel: +82 7081618889
Email: DH-KOREA@global.dahuatech.com

Dahua Singapore

Tel: +65 65380952
Email: info.sg@global.dahuatech.com

Dahua Turkey

Email: sales.tr@global.dahuatech.com

Dahua Indonesia

Email: support.id@global.dahuatech.com
sales.id@global.dahuatech.com

Dahua Malaysia

Tel: +60376620731
Email: sales.mas@global.dahuatech.com

Dahua India

Tel: +91 1244569100
Email: sales.india@global.dahuatech.com

Dahua Russia

Tel: +7 (499) 682-60-00
Email: info@global.dahuatech.com

Dahua Kazakhstan

Tel: +7 727 3110838

Dahua UK

Tel: +44(0)1628 673 667
Email: sales.UK@global.dahuatech.com

Dahua Europe

Tel: +31 797999696

Dahua France

Email: sales.france@global.dahuatech.com

Dahua Iberia

Tel: +34 917649862
Email: sales.iberia@global.dahuatech.com

Dahua Italy

Tel: +39 3703446609
Email: sales.italy@global.dahuatech.com

Dahua Germany

Email: sales.de@global.dahuatech.com

Dahua CEE & Nordic

Tel: +48 223957400
Email: biuro.pl@global.dahuatech.com

Dahua S. Africa

Email: Dahua.sa@global.dahuatech.com

Dahua Australia

Tel: +61 299285200
Email: sales.oc@global.dahuatech.com

Dahua Middle East

Tel: +971 48815300
Email: sales.me@global.dahuatech.com

* Design and specifications are subject to change without notice.

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**DAHUA TECHNOLOGY**

No.1199 Bin'an Road, Binjiang District, Hangzhou, China. 310053

Tel: +86-571-87688883 Fax: +86-571-87688815

Email: overseas@dahuatech.com

www.dahuasecurity.com

