

# MORE INTELLIGENT MORE SECURE FOR AIRPORT

-Safe  
-Intelligent  
-Linkage



#### Prediction

- License Plate Recognition
- Face Recognition
- Intelligent Analytics



#### View more

- Panoramic View
- Thermal View
- 4K



#### Management

- Intelligent Operation and Maintenance
- E-map Application
- Alarm Management

# AIRPORT THREATS AND REQUIREMENT

## Common Threats in Airport



## Solution of Airport Security

### Vehicle management



- Adopt all-in-One camera to capture and recognize license plate of vehicle accessing to airport
- Push alarm when detect illegal, stolen, blacklist, hit-and-run, commit crime and other suspect vehicles

### Passenger management



- Combine HD video surveillance with other intelligent analytics like face recognition, E-passport and face verification
- Monitor each area and identify each passenger timely
- Push alarm once the suspects appear or other emergency happens

### Luggage management



- For security check, security personnel at check-in counter and control center can inspect the luggage at simultaneously with the signal conversion of HDMI to HDCVI
- For cargo area, HD camera together with thermal camera ensures the luggage safety



## AIRPORT LAYOUT

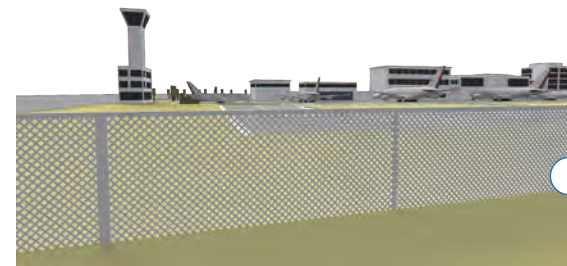
### Runway

- Include monitoring the landing and taking off flight
- Video surveillance, thermal detection, long range viewing, panoramic mode



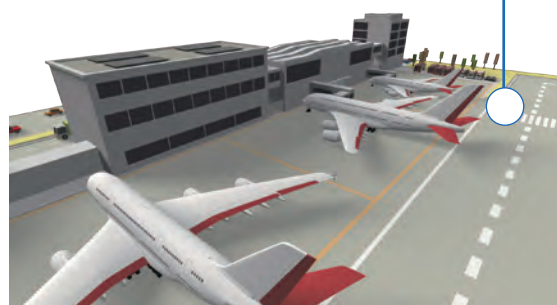
### Duty-free Shop

- Include inspecting the safety of passenger and luggage
- Video surveillance, fisheye mode, people counting, heat map



### Perimeter

- Include the surveillance of perimeter and alarm system
- Video surveillance, thermal detection, alarm system, system linkage

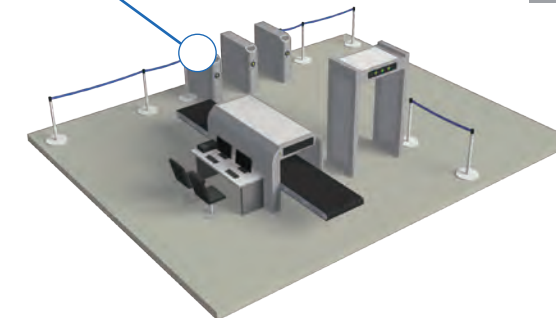
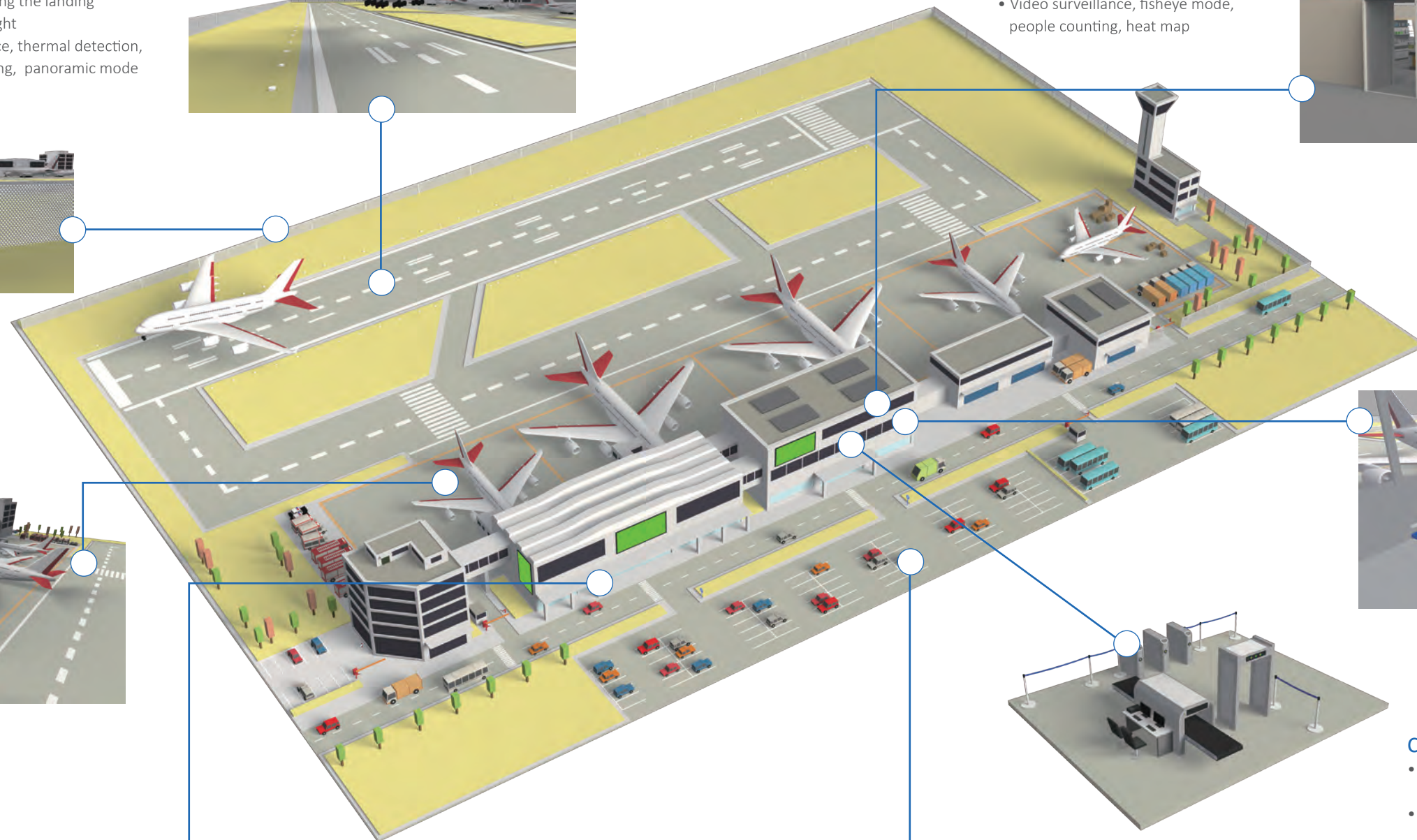
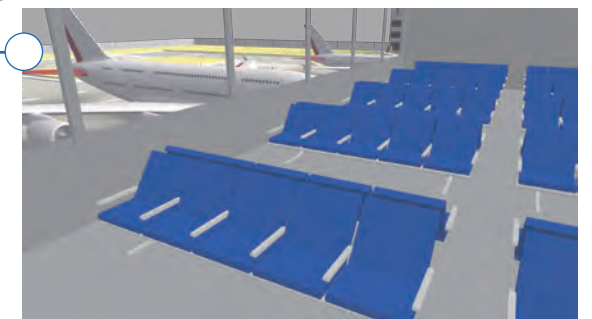


### Apron

- Include monitoring the flights and boarding scenes of passengers
- Video surveillance, PTZ camera, panoramic mode

### Lounge

- Include departure and arrival area and other sensitive area
- Video surveillance, ultra high definition, intelligent analysis, wireless transmission



### Check-in Counters

- Include inspection of passenger and luggage
- Video surveillance, face recognition, E-passport and face verification



### Roads to Airport

- Include traffic control and vehicle check
- Video surveillance, license plate recognition, suspect car alarm, information issuing



### Parking Lots

- Include parking lots and entrance control
- license plate recognition, video surveillance, parking guidance, find car

## APPLICATION DETAILS

### Road to Airport



- Adopt image recognition algorithm to auto recognize the license plate
- Compare the plate with black list in database and find the suspect vehicle in time
- Push the alarm and help police catch the criminals

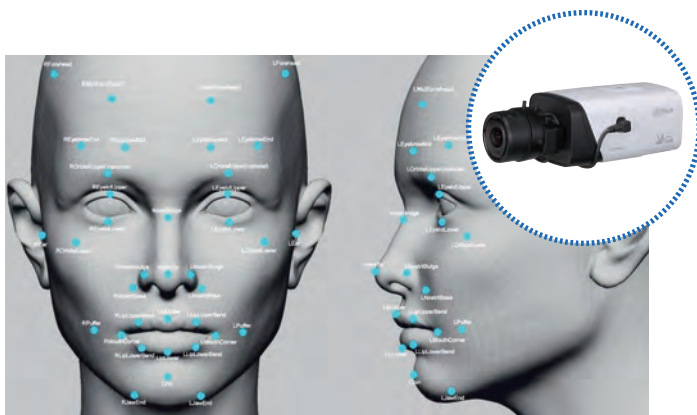
### Terminal

Terminal is the most significant surveillance area due to its heaviest foot traffic among all airport areas with retail stores, check-in counters, duty-free shops, airport lounges, departure and arrival area, etc.



#### Intelligent behavior analysis

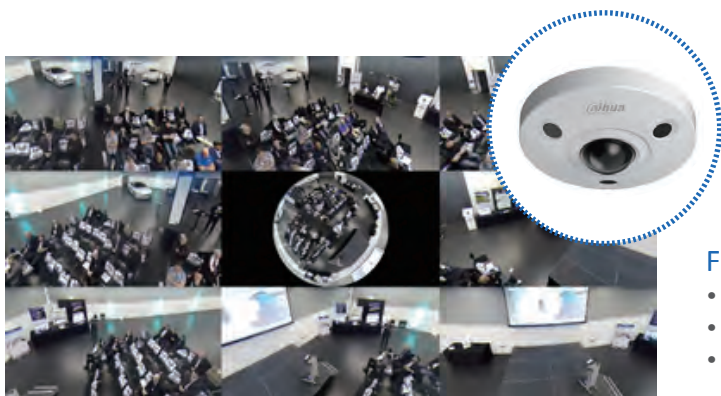
- Combine video analysis, image processing, pattern recognition and artificial intelligence technology to achieve a high degree of protection of the surveillance scene
- Achieve many intelligent applications like the intrusion, abandoned object, missing object, fast moving, loitering detection and so on



#### Face recognition

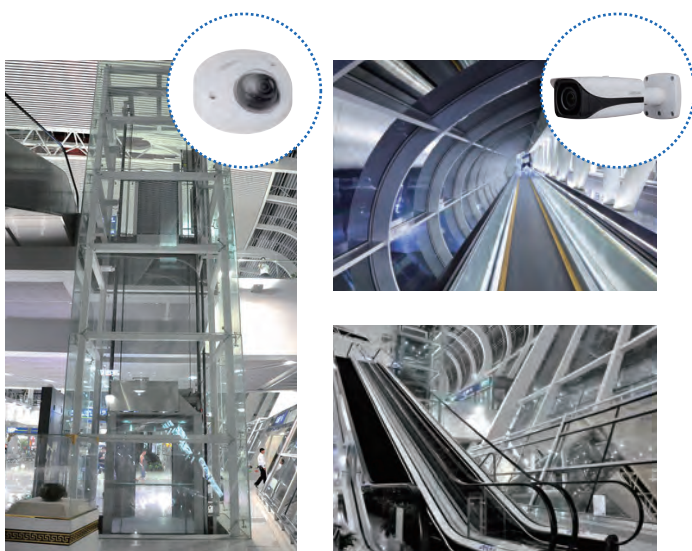
- Recognize the face by intelligent arithmetic
- Input personnel information and establish the blacklist for the system
- Generate the alarm when recognized face match in the blacklist and help police find the criminal





### Fisheye

- One camera catch 360° scene with no blank area
- Show real video with calibration for any area
- Multiple dewarping modes: original, panoramic, double panoramic, 1+3, E-PTZ



### Elevator Monitoring

- Video surveillance for all kinds of elevators
- Long wireless transmission distance up to 500m



### Security Check

- Convert HDMI signal to HDCVI and record at HCVR as video format
- Security personnel at check-in counter and control center can inspect the luggage at the same time
- Easy to find the evidence once the emergency happens

## Airside



### Multi-lens Monitor

- Multi-Lens with 180 degree panoramic view to achieve real-time video
- See the airport surrounding environment more intuitive and clearer
- Effectively improve the performance of emergency command



### Thermal Detection

- Have one thermal camera for monitoring in total darkness and one visible camera with starlight feature and motorized lens for confirming details
- Have high thermal sensitivity to capture more image details and temperature information
- Detect illegal intrusion personnel and other objects with thermal technology

## Perimeter



- Set intelligent intrusion analysis to discover and detect illegal intrusion personnel and foreign objects
- Provide visual image and confirm alarm recheck when sending alarm information to monitoring center
- Mark the intrusion object and its moving track in the video image

## Cargo Area



- Set video surveillance to monitor the cargo area all the time
- Starlight camera displays the picture of place in low light clearly
- Thermal camera can detect abnormal heat source to prevent fire

## Control Center



- Intelligent operation and maintenance system uses the unified management system including video surveillance, storage system, display system, access control system, alarm system, etc.
- Manage all devices including views and play back of video and all the other daily operations
- Operate and maintain system, according to the information collected by the system, to provide business processes, and to maximize of system function usage

## Parking Lot



- Base on plate recognition technology to identify vehicle and control the entrance of vehicle
- Set different level of user rights to improve the security level and management effectiveness



- Detect up to six parking spaces and monitor in real time
- Display different color for different statuses of parking spaces
- Recognize license plate and upload vehicle information to platform

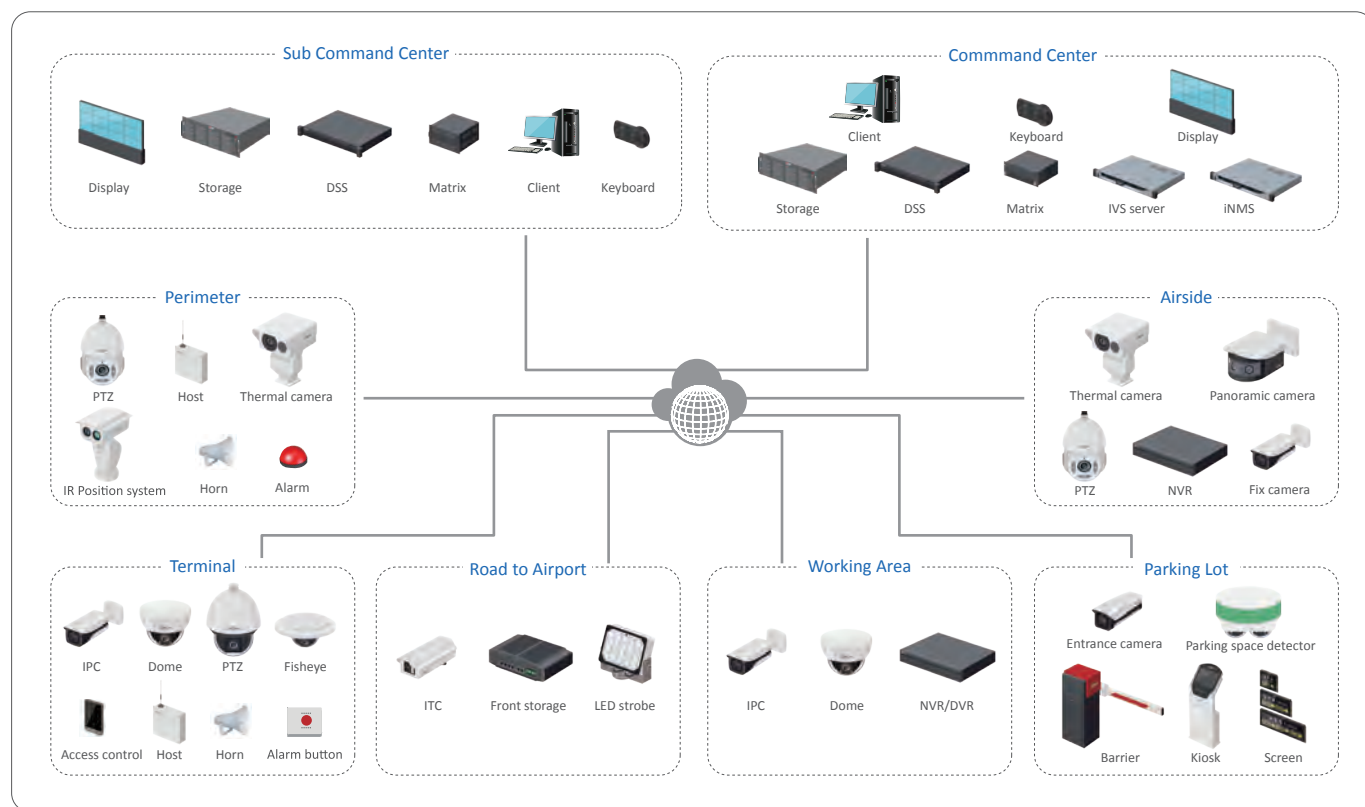


# SYSTEM STRUCTURE AND TOPOLOGY

## System Topology

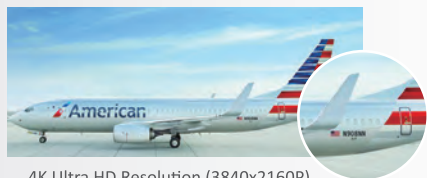
### Highlights:

- Unified management: management of vehicle, passenger and luggage at the same time
- High definition: 4k, panorama, fish eye, thermal, top spot
- High integration: all-in-One platform, M series for display
- Intelligent function: license plate recognition, face recognition, perimeter intrusion alarm and intelligent behavior analysis, etc.
- Easy to upgrade: HDCVI technology, cost effective and easy to install
- High reliability of storage: SD card record, RAID technology and N+M hot standby
- High efficient of system: E-map, self-diagnosis and record intelligent analysis

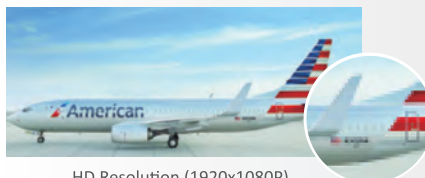


## Highlighted Technology

- 4K: Resolution makes revolution, perfect application in terminal or outside to have clear details of target



4K Ultra HD Resolution (3840x2160P)



HD Resolution (1920x1080P)



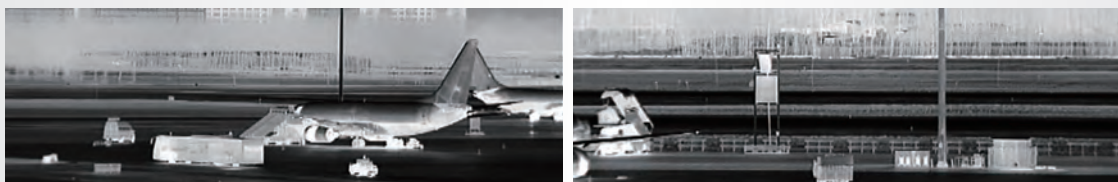
- Panorama mode: Wider angle for apron and runway



- Long range viewing: Long distance coverage



- Thermal detection: Better night and contrast effect, for apron, cargo area and perimeter



- Fisheye mode: 360° and calibration, less cameras installed for store and hall



- Vehicle management: Record license plate, alarm suspect in advance and easy to find vehicle



- Face recognition: Alarm in advance and easy to find target



- Platform: Powerful and stabilized system integrated with multi-system, including camera, storage, access control, alarm, etc.



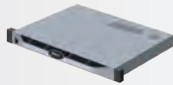
ITC



IPC/PTZ



NVR



Intelligent video server



Alarm controller



Display controller& keyboard



VDP



Access controller

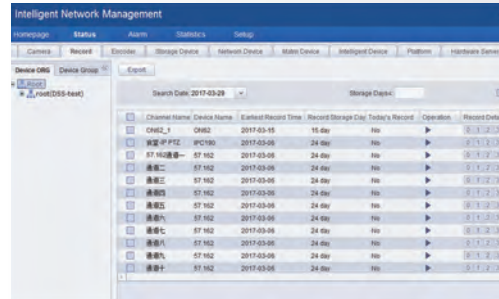
- Intelligent operation and maintenance: Find the failure devices timely and get them fixed in time



Video quality diagnosis



Device information diagnosis



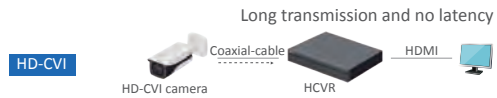
Storage status diagnosis

- HDCVI: High definition, low latency, high integration

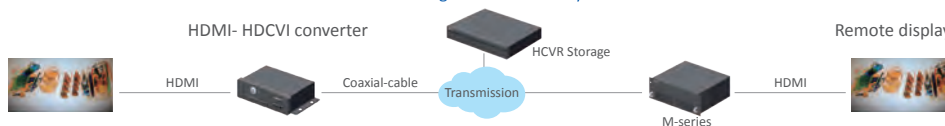
Easy upgrade for existing analog system



Low latency for runway surveillance



Video integration for security check



## PRODUCT SHOWCASE

DHI-ITC302-RU1A



- All-in-One camera
- High performance CCD image sensor, high color reduction degree
- Embedded design, built-in a variety of algorithms
- Built-in thunder-proof module to prevent being struck by lightning
- Temperature -40°C~+80°C, humidity 10%~90%, suitable for the rough work scene

DH-IPC-EBW81230



- 1/1.7" 12M STARVIS™ CMOS
- Max 15fps@12M, 30fps@3M, H.265
- Multiple dewarping mode: original, panoramic
- Max.IR LEDs length 10m
- 1/1 Audio in/out (Built in Mic)
- Micro SD memory, IP67, IK10, PoE

DH-SD6AE830V-HNI



- 1/1.7" 12Mp STARVIS™ CMOS
- Powerful 30x optical zoom
- Max. 30fps@4K, 50/60fps@1080P
- IR distance up to 200m
- IP67, IK10, Hi-PoE

DH-IPC-HF8231F



- 1/2.8" 2Mp STARVIS™ CMOS
- H.265&H.264 triple-stream encoding
- 50/60fps@1080P
- WDR(140dB), auto back focus(ABF)
- Micro SD memory, PoE

DH-HAC-HFW3231E-ZH



- Starlight, 120dB true WDR, 3DNR
- Max 30fps@1080P
- 2.7-12mm motorized lens
- Max. IR length 100m, smart IR
- IP67, IK10, AC24V/DC12V, heater

DH-IPC-PFW8601-A180



- Three 1/2.8" 2Mp STARVIS™ CMOS
- Smart triple streams supported
- Max 25/30fps@4096x832
- Support not less than 180-degree panoramic view
- Max. IR LEDs length 30m
- IP67, IK10, PoE



## PRODUCT SHOWCASE

### DH-IPC-HDBW8331E-Z



- 1/2.8" 3Mp STARVIS™ CMOS
- 50/60fps@3M, H.265
- WDR(140dB), ICR, starlight
- Max. IR LEDs length 100m
- Micro SD memory, IP67, IK10, PoE

### DH-IPC-HDBW4231F-AS



- 1/2.8" 2Mp STARVIS™ CMOS
- 50/60fps@2M(1920×1080)
- WDR(120dB)
- Max. IR LEDs length 20m
- Micro SD memory, IP67, IK10, PoE

### DH-TPC-PT8320B



- 336\*256 VOx uncooled thermal sensor technology
- Athermalized lens (thermal), focus-free
- 1/1.9" 2Mp STARVIS™ CMOS
- Powerful optical zoom lens (Thermal & Visible)
- Support fire detects & alarm

### DHI-DSS7016D



- High performance stream media transfer and storage capability
- Support distribute and cascade deployment
- Support local storage and IP-SAN storage
- Max support 2000 channels
- Support 10000 accounts management and 700M transfer capability

### DH-PFT2100



- Input HDMI video signal, self-adaptive output HDCVI signal
- HDMI support mode: 1024\*768@60Hz, 1280\*720@50/60Hz, 1280\*1024@60Hz, 1600\*1200@60Hz, 1920\*1080@50/60Hz
- HDCVI output format: 720P/50, 720P/60, 1080P/25, 1080P/30

### DHI-HCVR8816S-URH-S3



- Embedded processor
- H.264 dual-stream video compression
- Support HDCVI/AHD/CVBS/IP video inputs
- Max 64 channels IP camera inputs, each channel up to 12MP
- Max 200Mbps incoming bandwidth, 384Mbps forwarding bandwidth

## PRODUCT SHOWCASE

DH-EVS7024S-R



- Intel processor
- Max 768 IP camera inputs
- Max 1536Mbps incoming/recording bandwidth
- 24 HDDs, SAS/SATA, hot-swap, RAIDS, hot-spare
- iSCSI and Mini SAS for expanded storage space
- Redundant power

DHL550UCM-ES



- 55" Full-HD video wall display
- Industrial level DID LCD panel, suitable for extensive 7x24 continuous works
- Ultra-narrow 3.5mm side LCD patchwork
- High contrast and high brightness
- Built-in picture splicing function
- Abundant interfaces HDMI, DVI, VGA, BNC, support video loop

DHI-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
- Support max 60 screens splicing
- 6 RJ-45 gigabit network ports for matrix control, preview and online central storage

DHI-IVS-F7200



- Combine the face detection, face image comparison, face image search and database functions together
- Dynamic comparison register library support up to 100,000 images
- Up to 4 channels detection and comparison at the same time
- Search the capture image according to time or location
- Detect the face in designated region, tracking the move track

DHI-ITC237-PW1B-IRZ



- Embedded with LPR algorithm inside the camera
- Support plate cutout, overview picture snapshot and video recording
- Embedded with white list database, control the barrier
- Powerful 2.7-12mm motorized lens and IR light ideal for monitor ANPR distance as 3~8m
- IP67, IK10 and true WDR

DHI-ITC314-PH1A-TF2











- 3M 1/3inch CMOS, 0.01lux min illumination
- Dual-Lens design, simultaneously detect 6 spaces
- Indicator supports at least 7 colors
- Interactive design with parking space indicator

## PRODUCT OVERVIEW

Product	Description	Road to airport	Terminal	Airside	Cargo area	Perimeter	Control center	Parking lot
 DHI-ITC302-RU1A	3M Traffic Picture Capture Camera	●						
 DH-IPC-EBW81230	12M Ultra HD IR Fisheye Camera		●					
 DH-IPC-HF8231F	2MP WDR Box Network Camera		●					
 DH-SD6AE830V-HNI	4K 30x IR PTZ Network Camera		●	●	●	●		
 DH-IPC-HDBW4231F-AS	2MP IR Mini Dome Network Camera		●					
 DH-HAC-HFW3231E-Z(H)	2M Starlight HDCVI IR Camera		●	●	●			
 DH-PFW8601-A180	Multi-Lens Panoramic Network IR Camera			●				
 DH-TPC-PT8320BP	Thermal Network Hybrid PTZ Camera			●	●	●		
 DH-PFT2100	HDMI-HDCVI Converter		●					



## PRODUCT OVERVIEW

Product	Description	Road to airport	Terminal	Airside	Cargo area	Perimeter	Control center	Parking lot
 DH-IPC-HDBW8331E-Z	3Mp WDR IR Dome Network Camera		●			●		
 DHI-IVS-F7200	Face Recognition Server						●	
 DH-EVS7024S-R	24-HDD Enterprise Video Storage						●	
 DHL550UCM-ES	55" Full-HD Video Wall Display Unit (Ultra Narrow Bezel 3.5mm)						●	
 DHI-M70-4U-E	Multi-service Video Management Platform						●	
 DHI-DSS7016D	General Surveillance Management Center						●	
 DHI-ITC237-PW1B-IRZ	2M Full HD WDR Access ANPR Camera							●
 DHI-ITC314-PH1A-TF2	3Mega Parking Space Detector							●
 DHI-HCVR8816S-URH-S3	16 Channel Quadri-brid 1080P 2U Digital Video Recorder						●	

## SUCCESS CASES



### Dahua Secures Peruvian LAN Airline Premises

Dahua provided a hybrid solution — a combination of AP (access points) and wire transmission for Peruvian LAN Airline. The system supported wirelessly transmit the camera data to inter-connected sub-centers, and then cable-transmit to the control room.

- Total hundreds of network cameras and speed domes
- Over 15 16-channel PoE NVRs were applied for storage, accommodating up to 16TB with 4 SATAs supported, ensuring a large volume 7/24 storage



### Santiago Pudahuel Airport in Chile

Dahua provided video surveillance solution for Santiago Pudahuel Airport. The whole system included front-end camera and storage and control center.

- More than 100pcs IP cameras and 50pcs IP PTZ cameras
- 2pcs NVR6000
- Control center



### Nadi International Airport in Fiji

Dahua completed video surveillance for more than 60 duty-free shops in Nadi International Airport, the rest of the complex and shops were under updating gradually.

- Fish-eye camera combined with heat map function to have 360 degree monitoring and business analysis for duty free shops
- Back end ultra and pro NVR at monitoring center for back up storage
- Use SmartPSS and P2P technology to make full management



### Liverpool Airport Surveillance Project

Dahua provided TV wall for Liverpool Airport to display daily work, including front-end cameras, PC desktop signal and wall-mounting.

- 6 46" video wall
- 1 video matrix



## QUALITY BY DESIGN

\* Design and specifications are subject to change without notice.

More intelligent, more secure for airport - 01, Mar 2017



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