INTEGRATED SECURITY SOLUTION FOR AIRPORT

Face recognition Passenger flow management Emergency Alarm

AIRPORT THREATS AND REQUIREMENT

Common Threats in Airport

Carrying illegal items into terminal or plane

Shoot passengers in the terminal

Suicide bomber attack in the terminal

Perimeter intrusion

Challenges

Other threats

Hijack or suicide attack on the plane

Dangerous goods/ radioactive/ chemical / biological etc

Car bombing outside the terminal

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 analysis like facial attributes extract, human attributes extract, people counting
- Monitor each area and identify each passenger timely
- Push alarm once the suspects appear or other emergency happens

Cargo management

- Video surveillance and Intrusion detection system for cargo warehouse. There are many kinds of detectors can be linkage with PTZ camera, like radar detector, Thermal detector, Active infrared detector etc.
- For cargo area, HD camera together with thermal camera ensures the luggage safety

AIRPORT LAYOUT

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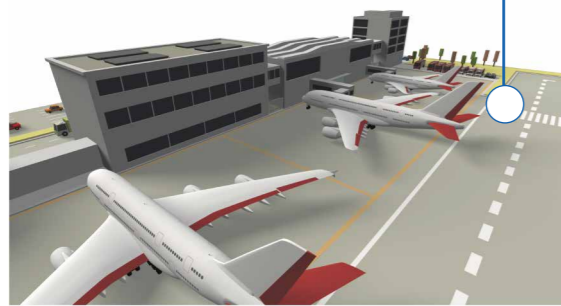- Video surveillance, thermal detection, long range viewing, panoramic mode

Duty-free Shop
- Include security & loss prevention and business intelligent.
- Video surveillance, POS integration, data visualization, people counting, remote patrol shop, queue management, heat map

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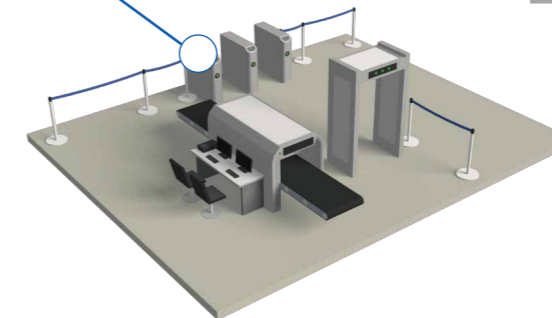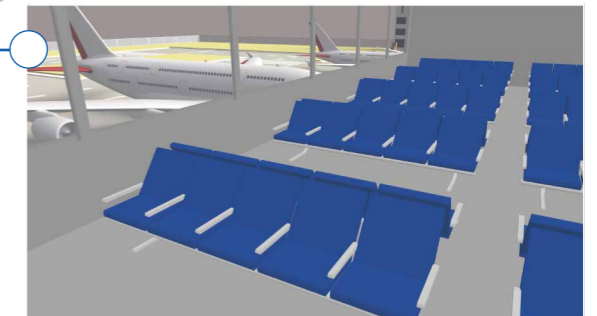- Video surveillance, thermal detection, alarm system, system linkage

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

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

Security screening
- Include face recognition, facial attributes extract, human attributes extract.

Roads to Airport
- Include traffic control and vehicle check
- Video surveillance, license plate recognition, suspect car alarm, information issuing
- Traffic incident detection

Parking Lots
- Include parking lots and entrance control
- license plate recognition, video surveillance, parking guidance, Vehicle position

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
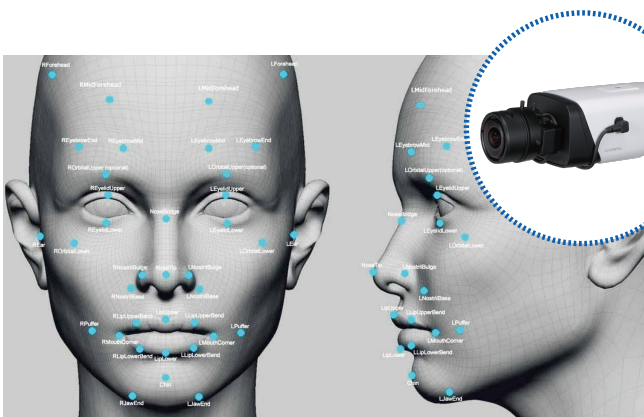- Push the alarm and help police catch the criminals

Terminal

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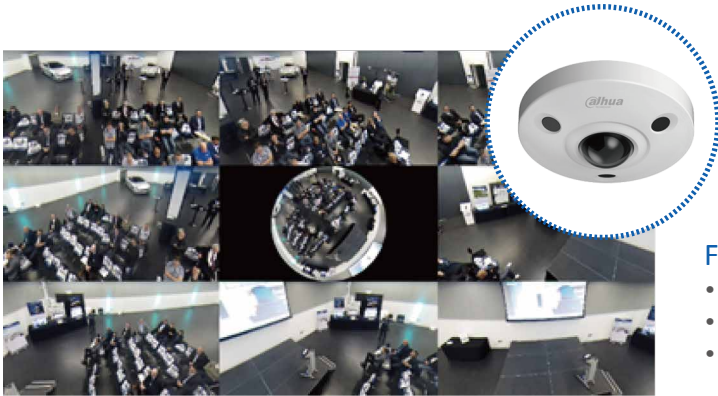

Intelligent behavior analysis

- Combine video analysis, image processing, deep learning and artificial intelligence technology to achieve high protection of the surveillance scene
- Achieve many intelligent applications like the tripwire, intrusion, abandoned object, missing object, object protection, parking detection, loitering detection, directional flow violation detection, fast-moving, scene changing, crowd gathering estimation, crowd density and so on
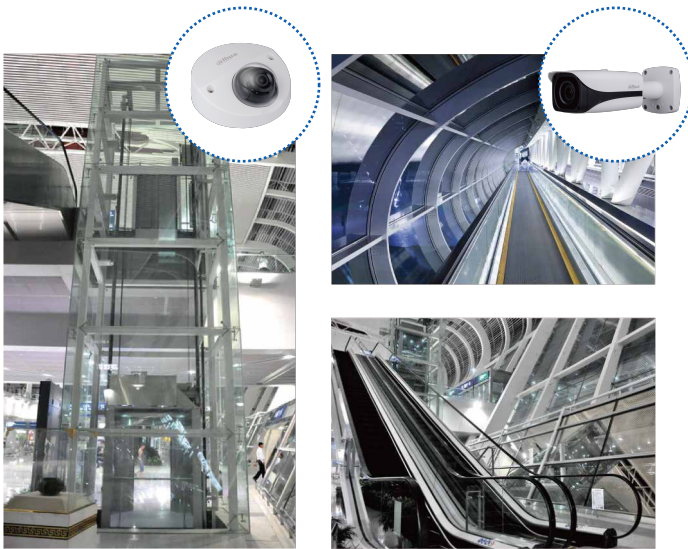

Face recognition

- Recognize the face by intelligent algorithm
- Input personnel information and establish the blacklist for the system
- Trigge 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 dewarpping 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

Business intelligence

- Line crossing people counting, Region people counting, Queue management, Heat map.
- Reduce OPEX , increase store operating efficiency. Enhance profits by grasping the direct relationship between foot traffic data and transaction data.

Multi-lens monitor

• Multi-Lens with 180 degree panoramic view up to 32 Mega Pixels 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
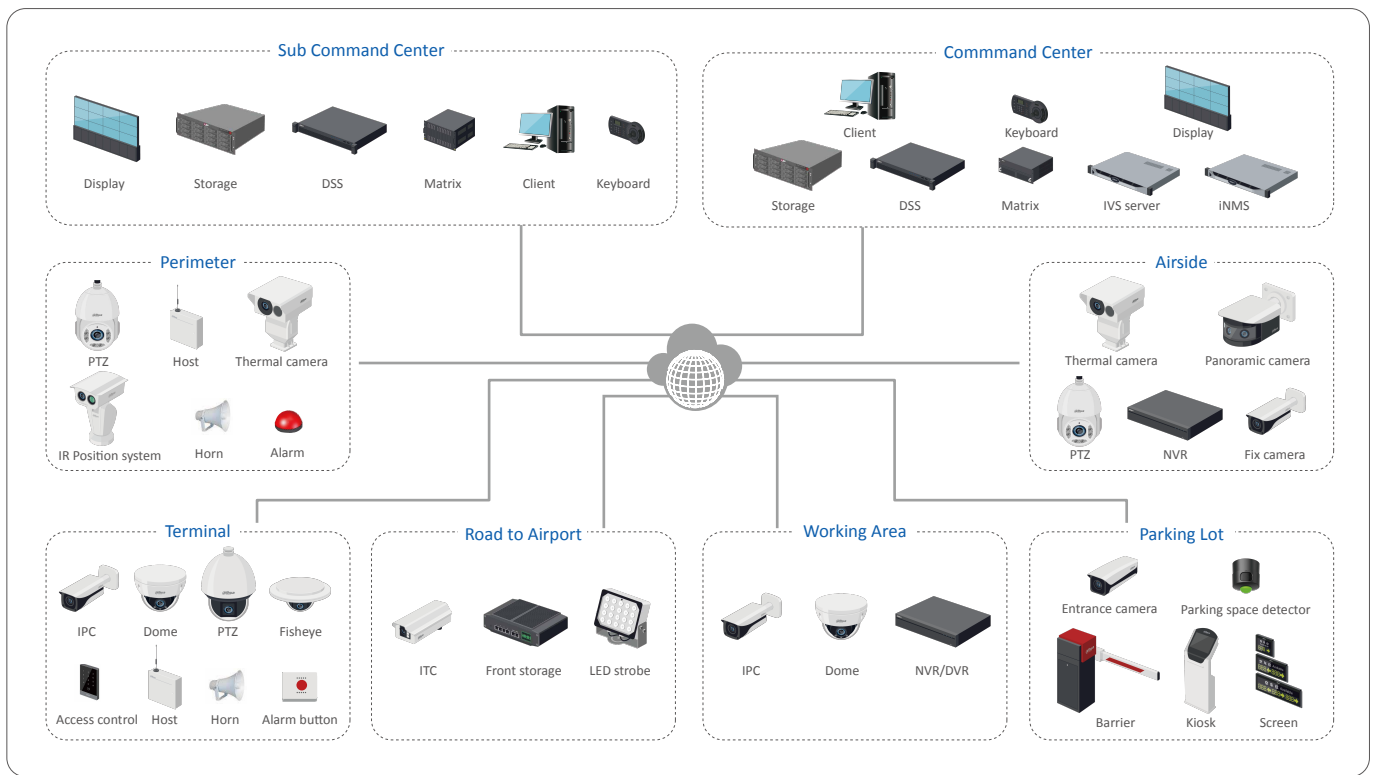

- Detect up to six parking spaces and monitor in real time
- Display different color for different statuses of parking spaces
- Recognize license plate and upload vehicle information to platform

SYSTEM STRUCTURE AND TOPOLOGY

System Topology

Highlights:

- Unified management: management of vehicle, passenger and luggage at the same time
- High definition: 4k, panorama, fisheye, 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: ePOE 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

- Panorama mode: Wider angle for apron and runway

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

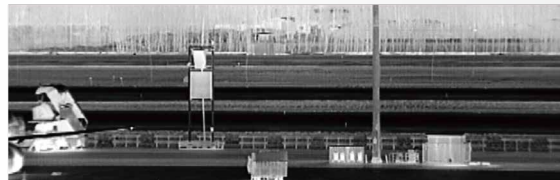

4K Ultra HD Resolution (3840x2160P)
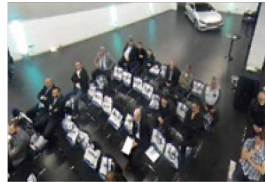
HD Resolution (1920x1080P)

- 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

Overtime parking detect · LPR · Parking entrance & exit · Parking spot detection

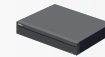- Face recognition: Alarm in advance and easy to find target

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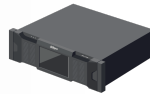

ITC

IPC/PTZ

NVR

Intelligent video server

Alarm controller
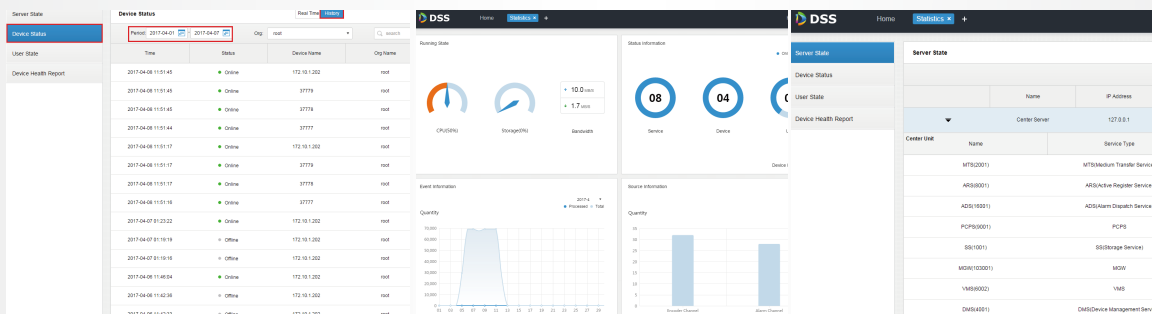

Display controller& keyboard

VDP

Access controller

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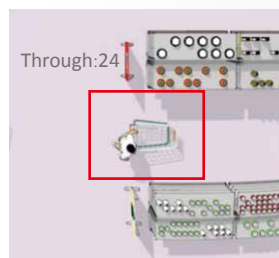

Video quality diagnosis

System Statistics
information diagnosis

Server status diagnosis

• Business Intelligence: Decrease OPEX, increase store operating efficiency, enhance profits.

Entrance:15
Exit:8

• People Counting
Advanced cameras provide People Counting functionality which counts foot traffic at store entrances and can export daily/monthly/yearly reports. Traffic analysis can greatly improve business efficiency

Through:24

• Regional People Counting
Understanding how customers move through a store is the key in helping businesses optimize product placement and prolong customer stay. People Counting can be set to monitor traffic flow in certain regions.

• Heat Map
A fisheye camera provides heat map functionality displaying hot and cold areas based on customer low, allowing for enhanced business analysis. Fisheye cameras also provide a 360 degree image of the store floor

• POS Integration
Video and corresponding POS information can be shown simultaneously in both live and playback mode. The system also supports text search to find bills and their associated video recordings.

PARTNERS

As a global open company, Dahua hopes to work with partners to provide customers with perfect solutions. We give our greatest efforts to achieve customers, partners, and thus achieve Dahua.

Build Smart Solutions with Dahua
Dahua provide different integration possibilities

1. Different integration protocols
- Private protocols---CGI, SDK, Restful protocols
- ONVIF---ONVIF Full Member, support ONVIF Profile S&G&Q&T&A&C
- SIA—Alarm products integration

2. Different development environment support
- Windows, Linux, IOS, Android, ARM

3. Different programmer language
- C, C+C, C++, JAVA, etc.

4. Compete test environment
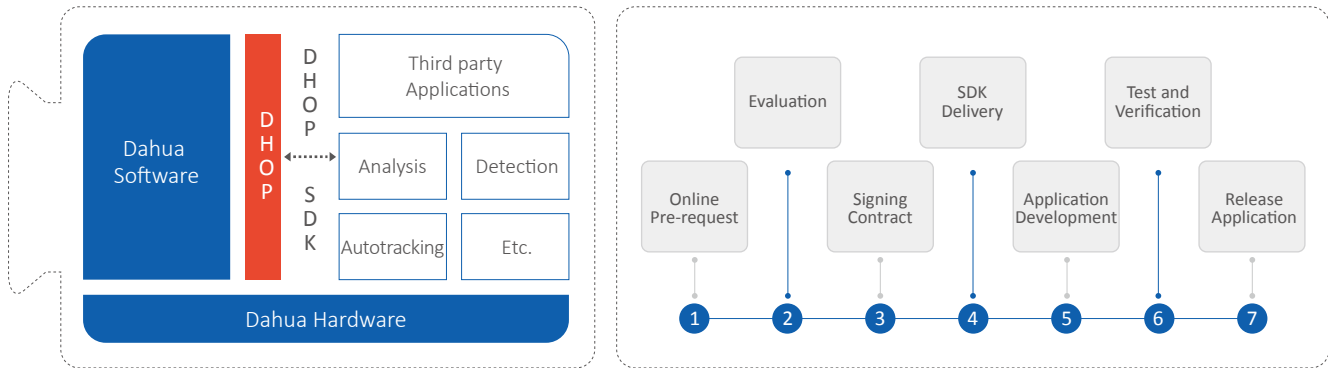- Online test, discount sample, DH certification

Dahua Technology Partners

DAHUA OPEN PLATFORM (DHOP)

What is DHOP about?

Dahua Open Platform extends functionality to meet specific end-user needs. DHOP enables downloading third-party applications to Dahua network cameras.
• Value added beyond the Dahua product's core functionality.
• Tailor-made solutions developed and installed by system integrators, resellers and end users.
• Metadata generated at the edge.

Core value

• Allows 3rd party partners to develop their own applications, eliminating restrictions from Dahua.
• Integrators, resellers, and end users may select the most suitable add-on applications developed by 3rd party partners from official channels.
• Comprehensive testing and verification will be performed by Dahua to ensure their interoperability and reliability before official release.
• Third party partners can develop their own webpage/web client to manage their applications.
• End user can purchase license directly from DHOP partners. Dahua will assistant its official DHOP partners to release the license in cameras Free of Charge.

DHOP Partners

Dahua have already 6 partner that finish the integration for DHOP
• Intellivision: Intrusion, lotering, ObjectLeft, Line crossing and so on
• A.I.Tech: People Counting, lotering and so on
• Axxon: Auto-Tracking
• Technoware: People Counting, Hot zones, LeftObject and so on
• FF Group: LPR Alogorithm
• Facit: People counting

PRODUCT SHOWCASE

ITC352-RU2D-IRL

- All-in-One camera
- 1/1.8" 3M Global Shutter COMS
- Embedded design, built-in a variety of algorithms
- Supports ANPR, metadata collection and analysis, traffic data statistics, etc.
- Temperature-40°C~+80°C, humidity 10%~90%, suitable for the rough work scene

IPC-EBW81240

- 1/1.7" 12M STARVIS™ CMOS
- Multiple dewarpping mode: original, panoramic
- Micro SD memery, IP67, IK10, PoE
- Built-in deep learning algorithms
- Support People counting, queue detection and alarm, dwell time management and heat map etc.

SD8A240VA-HNA

- 1/1.9" 2Mp CMOS
- Powerful 40x optical zoom
- Micro SD memery, IP67, IK10, Hi-PoE
- IR distance up to 450m
- Built-in deep learning algorithms
- Support Face capture, Metadata, Face recognition, Blacklist alarm, Vehicle capture and Vehicle recognition etc.

IPC-HF8242F-FD

- 1/1.9" 2Mp STARVIS™ CMOS
- WDR(120dB), Day/Night(ICR), 3DNR,AWB,AGC,BLC
- Auto back focus(ABF)
- Micro SD memory, PoE
- Built-in deep learning algorithms
- Support face capture, face attributes

IPC-HFW8242E-Z20FD-IRA-LED

- 1/1.9" 2Mp STARVIS™ CMOS
- WDR(120dB), Day/Night(ICR), 3DNR,AWB,AGC,BLC
- Micro SD memory, PoE+
- Build-in 20x optical motorized zoom len
- Max. LED Length 30m
- Built-in deep learning algorithms
- Support face capture, face attributes

IPC-PF83230-A180

- Four 1/2.0" 8Mp STARVIS™ CMOS
- H.265/H.264 triple-stream encoding
- Max 25fps@8640x3840
- Support 180-degree panoramic view
- Day/Night(ICR), 3DNR, AWB, AGC, BLC

PRODUCT SHOWCASE

IPC-HDBW8242E-Z4FD

- 1/1.9"2Mp STARVIS™ CMOS
- WDR(120dB), Day/Night(ICR), 3DNR,AWB,AGC,BLC
- Micro SD memory, PoE+
- Build-in 4x optical motorized zoom len
- Max. IR LEDs Length 100m
- Built-in deep learning algorithms
- Support face capture, face attributes

IPC-HDW8341X-3D

- Two 1/2.8" 3Mp STARVIS™ CMOS
- DWDR, Day/Night(ICR), 3DNR, AWB, AGC, BLC
- Max. IR LEDs Length 10m
- Micro SD memory, IP67, PoE
- Built-in deep learning algorithms
- People Counting: Support line crossing people counting, region people counting

DH-TPC-ACPT8620C-B

- 640*521 VOx uncooled thermal sensor technology
- 1/1.9" 2Mp STARVIS™ CMOS
- Powerful optical zoom lens(Thermal&Visible)
- Laser range finder or laser illuminator optional
- Support fire detection & alarm
- Max 12°/s pan speed, 360° endless pan rotation
- Anti-corrosion/NEMA 4X, IP66

NVR5832-I

- 32 Channel IP video access
- Built-in deep learning algorithms
- 16 Channel perimeter protection
- 4 Channel video stream face recognition
- 24 face pictures/sec processing
- 20 face databases with 100,000 face images in total
- Support ANPR and POS integration

IVSS7016DR-4T

- Intel quad-core processor
- 512Mbps incoming bandwidth, 256 Channel IP video access
- Embedded with deep learning algorithm
- 16 Channel video stream face recognition
- 40 Channel picture stream face recognition
- Search by image, Face database management
- Supports RAID 0/1/5/6/10, Redundant power

EVS7024D-R

- Dual Controller architecture
- 768 IP Cameras Inputs, 1536Mbps Incoming Bandwidth
- 24 HDDs, SAS, Hot-Swap
- Supports RAID 0/1/3/4/5/6/10/50/60/JBOD, Hotspare
- Supports iSCSI and Mini SAS Expanded
- Support standard iSCSI Protocol Storage
- Modular&Cableless Design, Redundant Power

PRODUCT SHOWCASE

IVS-F7500-2P

- 2 Intel Xeon processors, 20 cores per processor
- 2 NVIDIA TESLA P4 GPU. Using GPU for deep learning and computing
- 2 x M.2 SSD 240 GB, raid1. 512GB DDR4 ECC memory, 12 × 4T SATA HDD
- Up to 200 channels face recognition
- Dynamic Database 300,000, Static Database 100 million
- Search by image, Blacklist alarm

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

DHL550UCM-ES

- 55'' Full-HD video wall display
- Industrial level DID LCD panel, suitable for extensive 7×24 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

ITC215-PW4I-IRL

- 1/2.8" 2Mp STARVIS™ CMOS
- Embedded with deep learning LPR algorithm
- Support plate cutout, overview picture snapshot
- Embedded with White list database, control the barrier
- Wide working temperature, IP66, True WDR technology
- Suitable for parking, access control and urban street

ITC314-PH2A-TF3

- 3MP 1/2.8" inch CMOS, 0.01lux min illumination
- Dual-Lens design, simultaneously detect up to 6 spaces
- Parking space Indicator supports at least 7 colors
- Supports WDR.
- Supports PvE (Power via Ethernet)
- Supports up to 4 angled parking spaces detection

DSS Pro

- High Reliability. Supports hot standby for master server.
- High Compatibility. Connects third-party devices via standard ONVIF protocol.
- Dahua's devices included: network camera, network speed dome, decoder, NVR, DVR, ANPR, IVS-F, IVS-T, etc.
- DSS Pro SDK for third-party platform or mobile development

PRODUCT OVERVIEW

Product	Description	Road to airport	Terminal	Airside	Cargo area	Perimeter	Control center	Parking lot
ITC352-RU2D-IRL	3MP AI Traffic Picture Capture Camera	●						
IPC-EBW81240	12MP AI Panoramic Network IR Fisheye Camera		●		●			
SD8A240VA-HNA	2MP 40x Starlight IR PTZ AI Network Camera	●	●	●	●	●		
IPC-HF8242F-FD	2MP Starlight Face Recognition Box AI Network Camera		●	●	●		●	
HFW8242E-Z20FD-IRA-LED	2MP Starlight Bullet AI Network Camera		●	●	●		●	
IPC-PF83230-A180	4x8MP Multi-Sensor Panoramic Bullet Network Camera		●	●				
IPC-HDBW8242E-Z4FD	2MP IR Starlight Dome AI Network Camera		●	●	●		●	
IPC-HDW8341X-3D	3MP Dual-Lens People Counting AI Network Camera		●					
DH-TPC-ACPT8620C-B	Thermal Network Anti-corrosion Tribrid PTZ Camera			●		●		

PRODUCT OVERVIEW

Product	Description	Road to airport	Terminal	Airside	Cargo area	Perimeter	Control center	Parking lot
NVR5832-I	32 Channel 2U AI Network Video Recorder		●	●	●	●	●	
IVSS7016DR-4T	3U 16HDD AI Network Video Recorder		●	●	●	●	●	
EVS7024D-R	24-HDD Enterprise Video Storage with Dual Controller						●	
IVS-F7500-2P	Face Recognition Server		●	●	●		●	
DHI-M70-4U-E	Multi-service Video Management platform						●	
DHL550UCM-ES	55'' Full-HD Video Wall Display Unit (Ultra Narrow Bezel 3.5mm)						●	
ITC215-PW4I-IRL	2M Full HD AI Access ANPR Camera	●				●		●
ITC314-PH2A-TF3	3MP Dual-Lens Parking Space Detector							●
DSS Pro	General Surveillance Management Center						●	

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

Contact us

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