

# SMART TRANSPORTATION SOLUTION

-Secure  
-Reliable  
-Intelligent



Parking



Entrance&Exit



Bus



Airport



Seaport



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# SMART PARKING MANAGEMENT SOLUTION



- High Efficiency
- User Friendly
- Easy Management



#### Convenient

- Parking Guidance
- Vehicle Locating



#### Safe

- Comprehensive Surveillance
- High Definition



#### Efficient

- ANPR Entrance
- Remote Control



#### Cost Saving

- Easy Installation
- Unattended Management

# PARKING MANAGEMENT CHALLENGES AND SOLUTION

## Challenges

### Entrance & Exit

Manual control  
Stop for authorization  
Low efficiency



### Locating Vehicle

No statistics  
Hard to find  
Poor driver experience



### Parking

No detection  
No guidance  
Management plight



### Car Accident

No surveillance  
No evidence  
Burden of responsibility



## How to address the challenges

### How to improve entrance efficiency?

- Replace manual entrance control with ANPR technique.
- Automatic control enhances the efficiency.

### How to make parking easy?

- Detect available space automatically.
- Display available numbers in each area on the screens.
- Guide driver to find available space.

### How to help drivers locate their car?

- ANPR technique provides car license plates data.
- Display your car position on locating kiosk.

### How to keep accident evidence?

- Provide comprehensive video surveillance in parking lot.
- Rich parking log including data, image and video.



# SOLUTION OVERVIEW

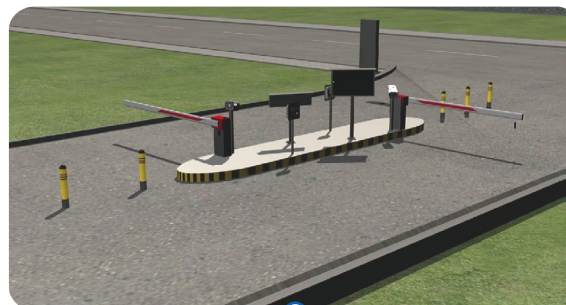
Parking Management



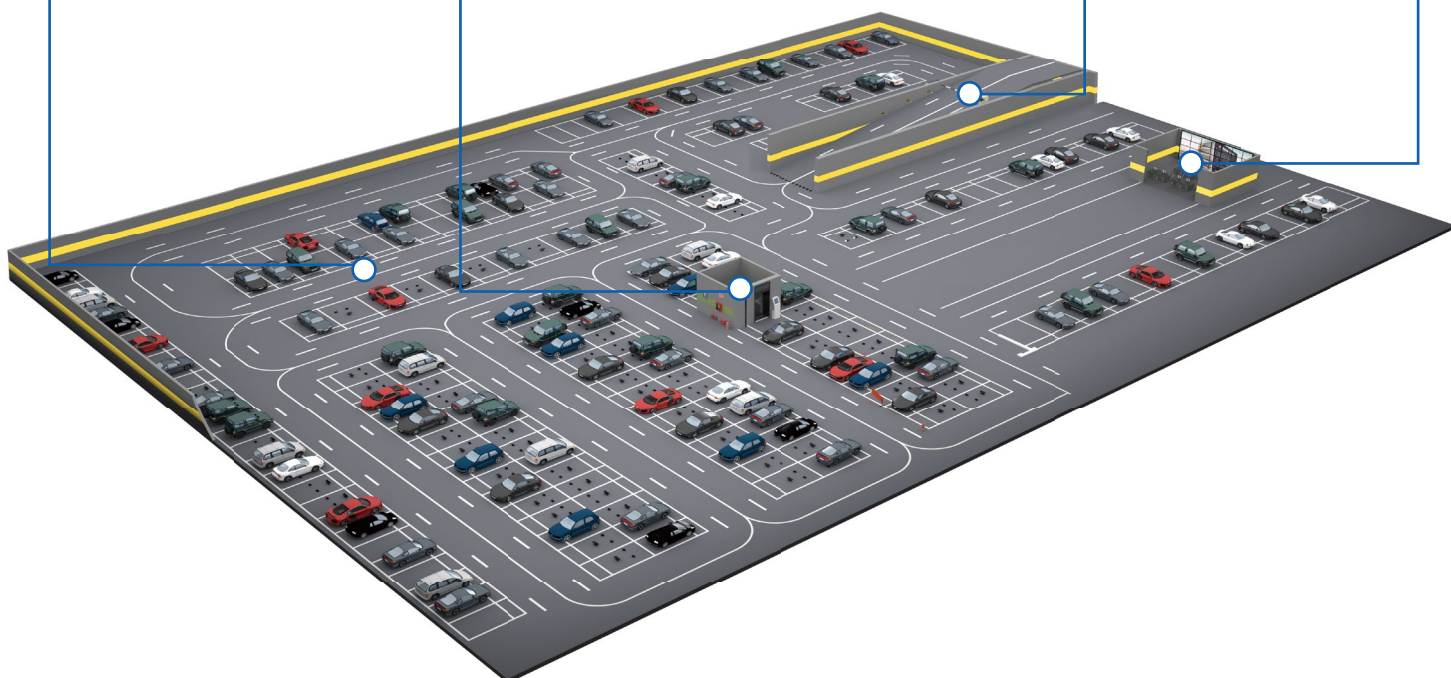
Parking Guidance



Entrance & Exit

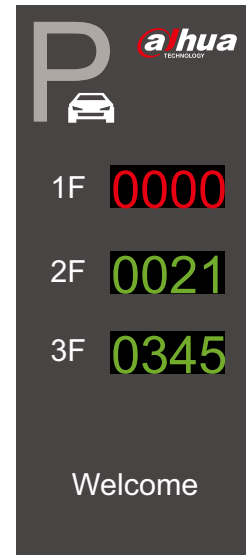


Car Locating



# APPLICATION DETAILS

## Entrance & Exit



- Take in everything in a glance

Available number is counted by software and displayed on the outdoor screen (DHI-IPMPGI series). Multi-area display (max 6 areas) is supported. Before driving inside, drivers could see the available number clearly via the LED screen.

Info Screen would show the indication information for the driver when enter or exit.



- No ticket and no stop

Vehicle access is controlled by ANPR Camera, without any tickets. It improves traffic flow with no delays.

ANPR Camera: Capture and recognize the vehicle plate, support video/loop detection and enable the barrier to open. Embedded with LPR algorithm, the camera could control barrier even when the management software is offline.

Recognition rate  $\geq 95\%$ .



- There is always a way in and out

Call to administration center via VTO while abnormal situation occurs or visitors come.



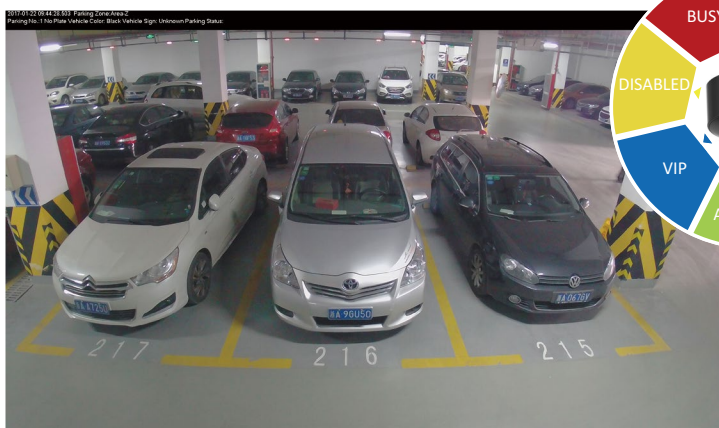
- Flexible setting of access authorization  
Black/White List setting. Flexible template with plate, time, lane-channel and etc.

## Parking Guidance



- **Parking space guidance**

Indoor screen (DHI-IPMPGI series) shows the numbers of available parking space at every direction, which could guide the driver to the available parking space efficiently. Parking light which is integrated with spot camera gives a visual guidance of the parking space by colour.



- **No space to be hidden**

Spot camera can automatically identify the current status of the parking space, and provide the car plate information to management center.

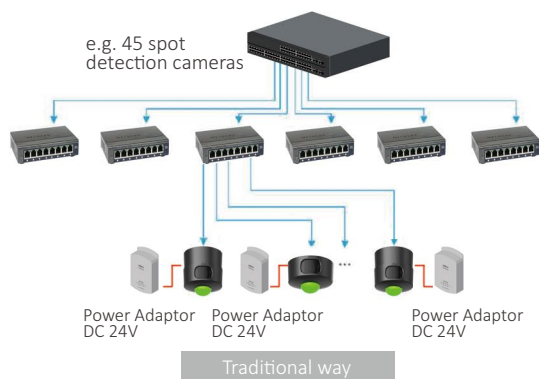
At the same time, it could provide real time video stream to the administration center for security monitoring and evidence preservation. Furthermore, the built-in seven-color indicator light can indicate different kinds of parking spaces obviously by colors.

## Easy Deployment & Cost Down

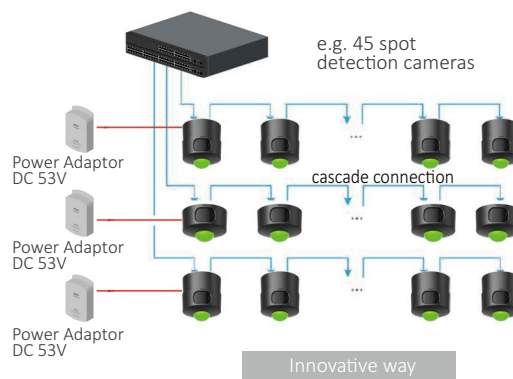
### Power via Ethernet (PvE):

Only the first device needs to access the wire and power cord, and the other connected devices can be powered by Ethernet cable.

- Up to 6 dual-lens cameras or 10 single lens cameras can be connected in series connection.
- Reduce UTP cable deployment and cost (83%) .
- Reduce the quantities of switches.
- Reduce the power cable.
- Reduce the cost of cable tray (63%) .

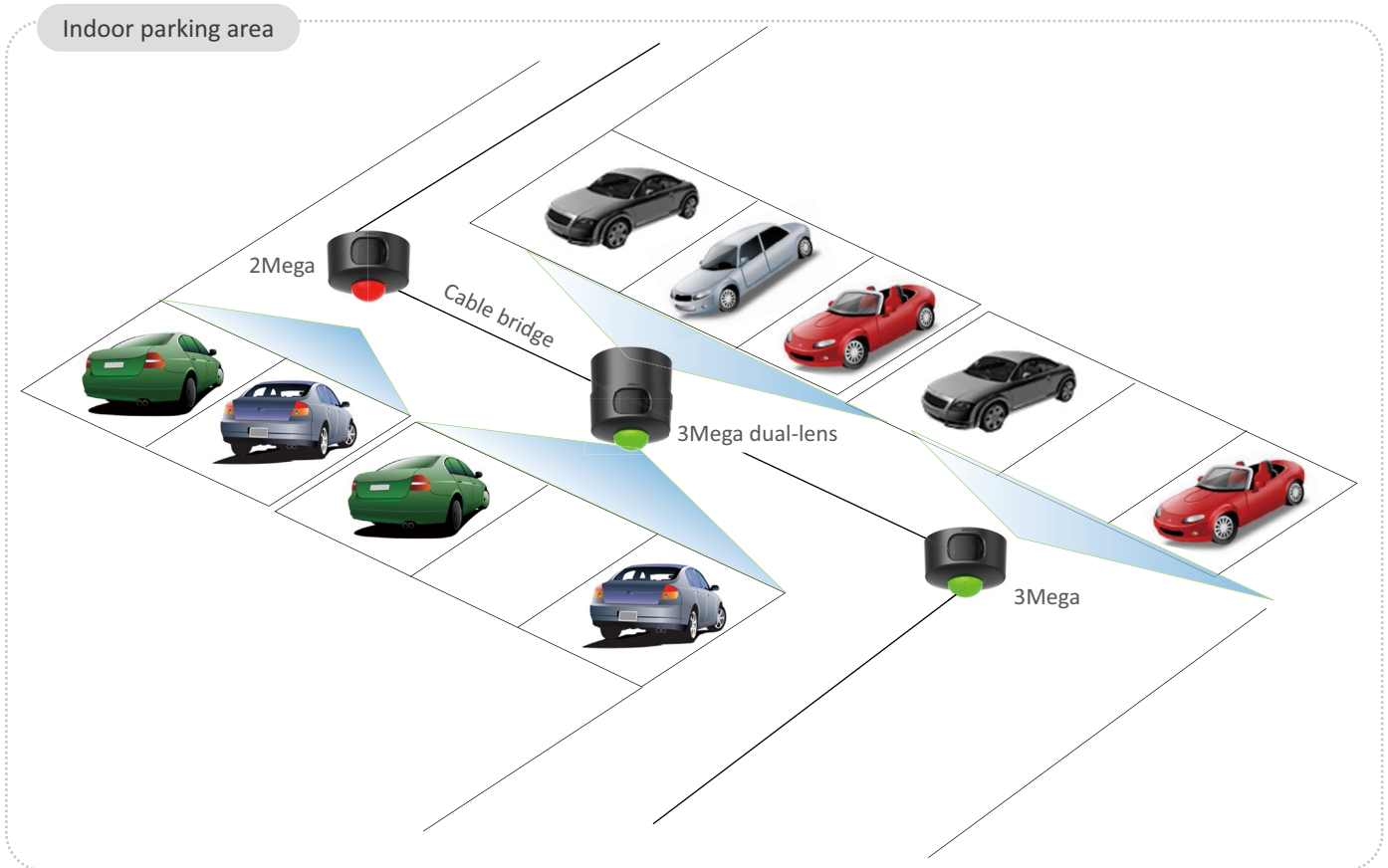


VS



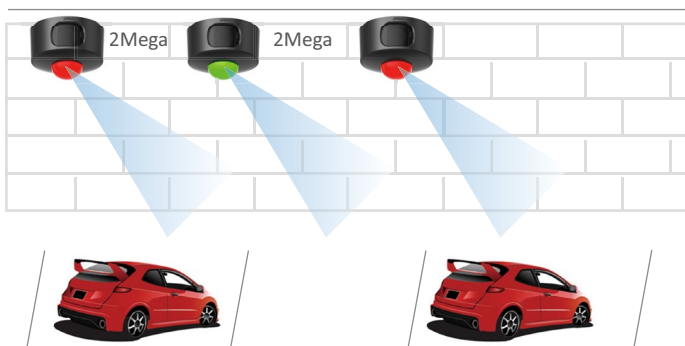
### Flexible spot detecting choices

- Different parking scenes have cost-effective solutions respectively.
- 2Mega spot camera could detect two parking spaces.
- 3Mega spot camera could detect three parking spaces.
- 3Mega dual-lens spot camera could even detect six parking spaces, which could save over 25% of the cost for every parking space.



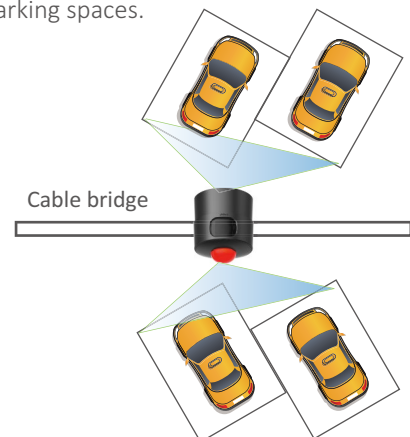
### Indoor parallel parking

ITC-214 can be further used to detect parallel parking spaces as shown in the picture if necessary.



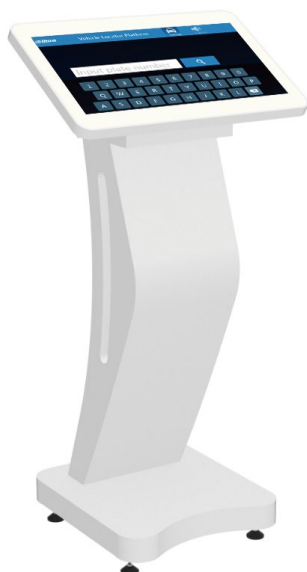
### Indoor Parking area

Owing to the adjustable two axis, ITC-314-PH2A-TF series support angled parking space detection for up to 4 parking spaces.

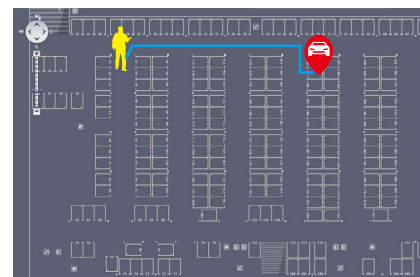
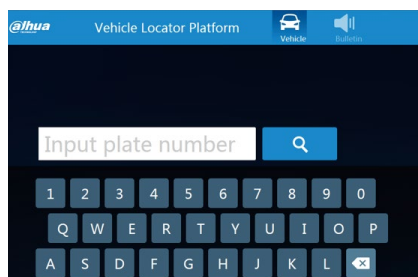




## Car Locating



Car locating kiosk with touch screen makes it easy to find your car. Fuzzy search of license plate, confirm the vehicle image and its position. Furthermore, it could show the best path from kiosk to your car.



## Parking Management



- **Easy-to-use platform**  
Special design for parking management. Visual interface and operation, based on maps.
- **Comprehensive surveillance**  
Car accident and property theft in parking lot make quite troubles for parking lot manager, as lack of evidences causes disputes. High definition video preview and record can be provided by access cameras and space detection cameras. Parking lot manager could help customers to find the video evidences of accident and unearth the incidents, which would benefit both the parking lot manager and customers.



- **Intercom handling**  
Response to visitor or emergency call by VTO.
- **Remote management**  
Modify the vehicle information remotely. Control the barrier remotely.
- **Smart search**  
Search the video and image by date/time/license plate.
- **Parking log**  
Rich parking, entry and exit history log, including vehicle picture, license plate, parking space number, time information and etc.

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## VIP Services

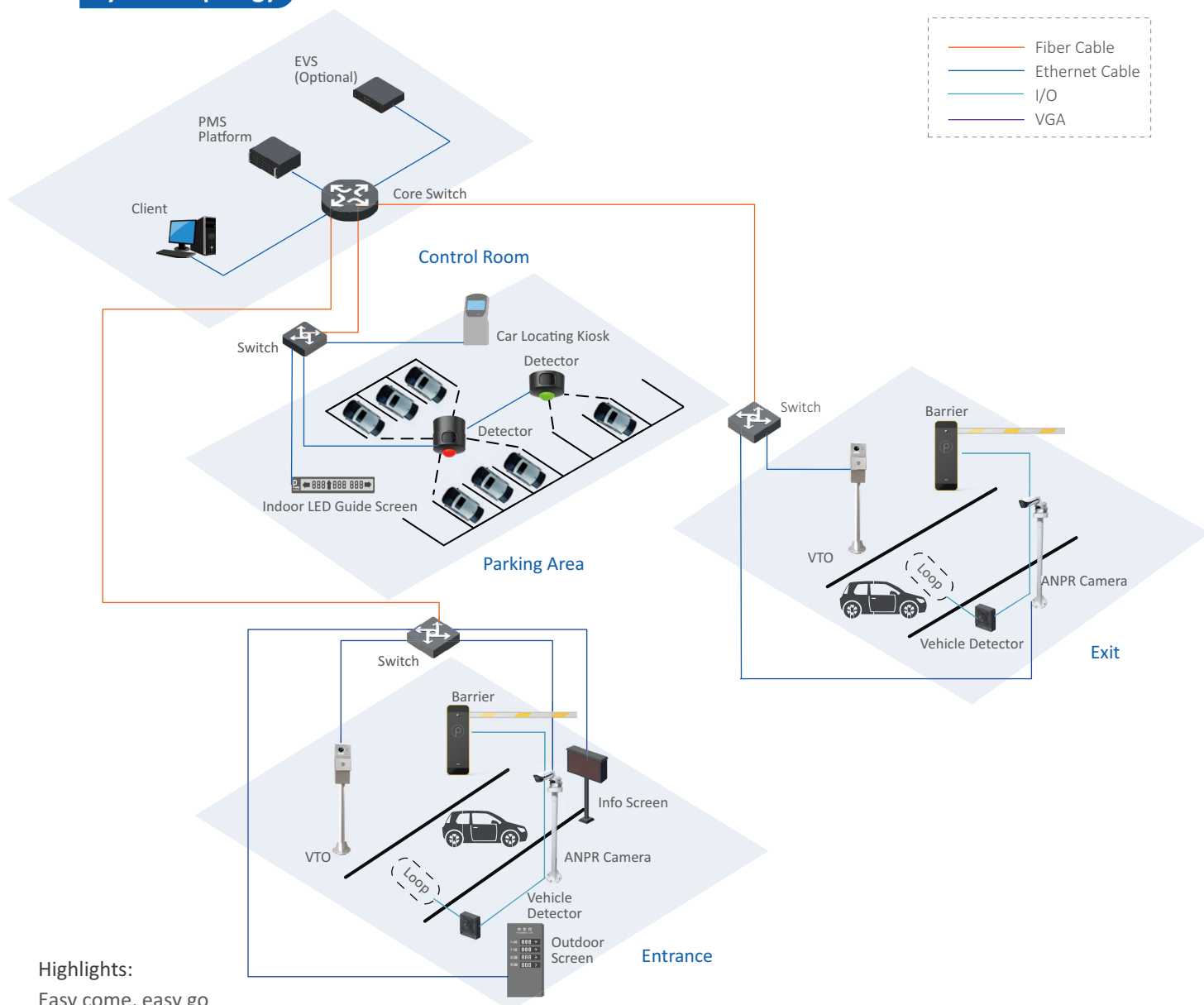
### Reservation & VIP parking services

- **Reservation services:** making reservation of important customers conveniently.
- **VIP parking services:** guarding VIP reserved parking space, special indicator colour for VIP parking space.
- **Illegal occupation warning:** If reserved or special parking place is occupied illegally, there would be a warning for the administrator.



# SOLUTION STRUCTURE & TOPOLOGY

## System Topology



### Highlights:

Easy come, easy go

- Help you find available parking space.
- Locate your car and pay to leave conveniently.

ANPR, video or loop trigger optional

- Offer more economical choice.
- Recognition rate higher than 95%.

Comprehensive surveillance

- Provide 7×24 surveillance with access camera and spot detection camera.
- Search the video record and image by date/time/license plate number.

Networking management

- Support centralized networking management of multiple parking areas and parking lots.

Open system

- Open system with rich interfaces, to meet different customer requirements. Easy integration with 3<sup>rd</sup> party payment system.

# KEY TECHNOLOGY

## Powerful Algorithm

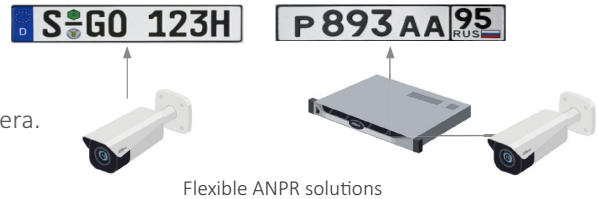


### Convenient entrance & exit with camera embedded ANPR

- Efficiency ANPR, complete plate recognition in less than 1 second.
- Video stream or image transferring is not required, less time consumption.
- Individual server for ANPR is not required, reduce the cost of server.
- More stable, even if the network is offline, ANPR would not be influenced.

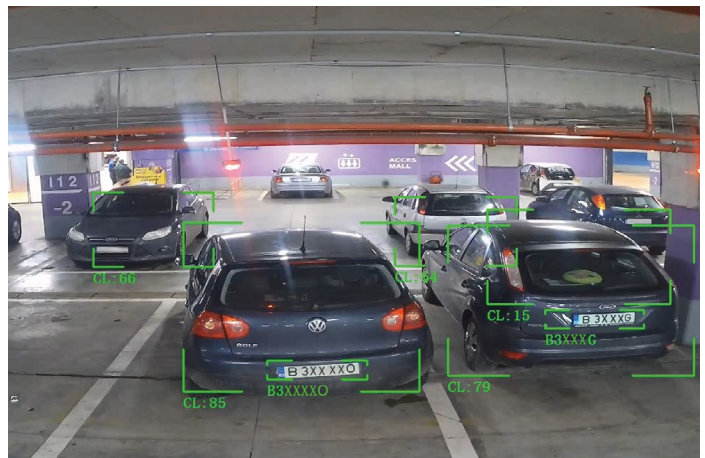
### Economic space detection

- Efficiency ANPR makes spot camera multi-function.
- Multi-space coverage, up to 3 space per lens and 6 space per camera.
- ANPR provides key information for vehicle locating.

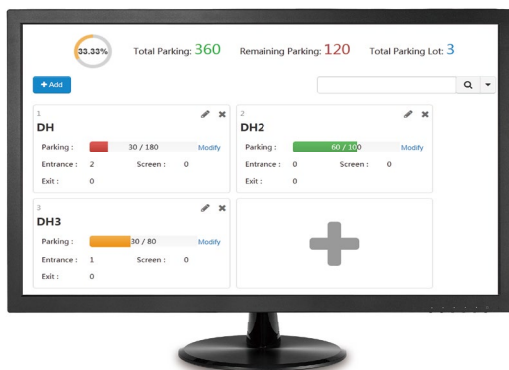


### High Accuracy Vehicle Shape Detection Algorithm

- Latest deep learning vehicle shape detection algorithm applied.
- Detection based on Vehicle Shape, whether there is a license plate (such as the license plate is covered by snow, mud, etc.).
- Parking status results less affected by other objects, such as passerby.
- Vehicle Detection rate higher than 99%.














## Professional Management Platform



### Special designed for parking management

- Based on map, easy-to-use visual interface.
- Professional functions, like reservation and VIP parking.
- Rich parking data, open for management and analysis.
- Improve management efficiency and reduce labour costs.

## PRODUCT OVERVIEW

Product	Description	Entrance & Exit	Parking Guidance	Car Locating	Parking Management
 DHI-ITC237-PW1B-IRZ	2 Megapixel Full HD Access ANPR Camera	●			
 DHI-VTO2000A	Outdoor Video Intercom	●			
 DHI-IPMECD Series	Automatic Barrier	●			
 DHI-IPMECP Series	Outdoor LED Screen	●			
 DHI-IPMPGI-2x1AA Series	Outdoor LED Screen	●			
 DHI-ITC314-PH2A	3Mega Parking Space Detection Camera (Single-Len)		●		
 DHI-ITC314-PH2A-TF2	3Mega Parking Space Detection Camera (Dual-Lens)		●		
 DHI-IPMPGI-AC	Indoor LED Guidance Screen		●		
 DHI-IPMPGS-221A	Car Locating Kiosk			●	
 DHI-PMS	Professional Parking Management System				●
 DHI-EVS7024S-R	24-HDD Enterprise Video Storage				●

## SUCCESS CASE



### Czech Republic Shopping Mall

Large commercial shopping mall. Dahua parking management solution offers diversified services. Parking guidance system helps customers find available parking spaces quickly, find my car system ensures the vehicle can be found, provide first class user experience and management efficiency.

- 1200 parking spaces
- 400 detection cameras, 25 guidance screens, 1 car locating kiosks



### Commercial Building of Mongolia

Complex commercial building in Ulan Bator, includes banks, restaurants and retails. Dahua parking management solution has promoted the efficiency of entrance & exit. Parking guidance and car locating system let the customers have a better parking experience. Custom-made charge rules of parking fee improve the management level of parking lot.

- 500 parking spaces
- 120 detection cameras, 4 ANPR cameras, 8 guidance screens



### Serbia Residence Community

High-end residential area, Dahua parking management solution offer Entrance & Exit control and private space management (VIP Management). System control Entrance & Exit by ANPR white list. Provide 24\*7hours video record in the parking.

- 400 parking spaces, 4 Entrance & Exit.
- 115 detection cameras, 4 access ANPR cameras and VTOs

# ENTRANCE & EXIT CONTROL FOR VEHICLES



- Security
- Efficiency
- End-to-End



## Vehicle Safety

- ANPR record
- Dual video stream
- Intercom for emergency



## High Efficiency

- ANPR to open barrier
- Flexible white list
- Show available parking lots

# ENTRANCE & EXIT CHALLENGES AND SOLUTIONS

## Common Challenges in Entrance & Exit



Low efficiency, have to stop car and open barrier manually



Unsafe, accident happened in parking, no record for vehicle



Labor cost waste, need a guard on site once emergency occurs



## How to address challenges



### ANPR to open barrier

- Embedded ANPR technology
- White list to control entrance



### Video door phone for visitor

- Press button to ask for help



### Available parking lots

- Vehicle counting by software

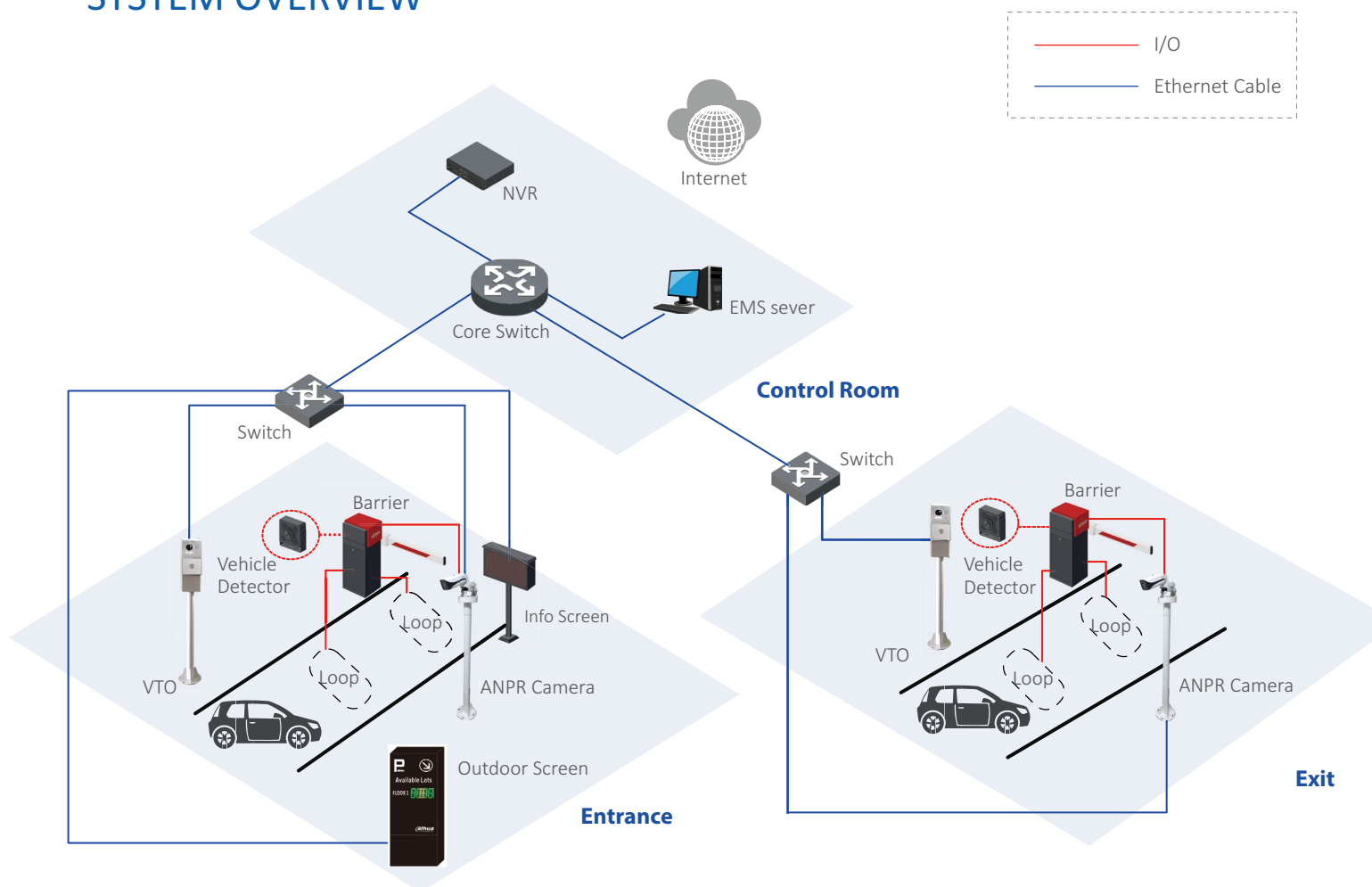


### Entrance Management Software

- Search history list of car info



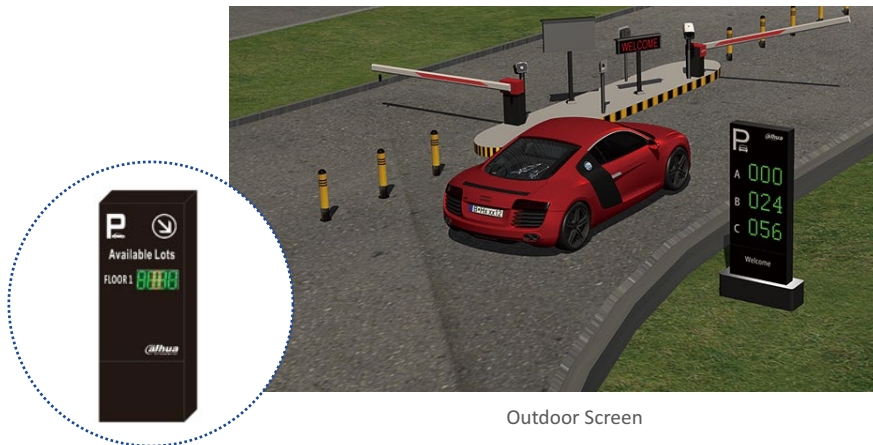
## SYSTEM OVERVIEW



## APPLICATION DETAILS

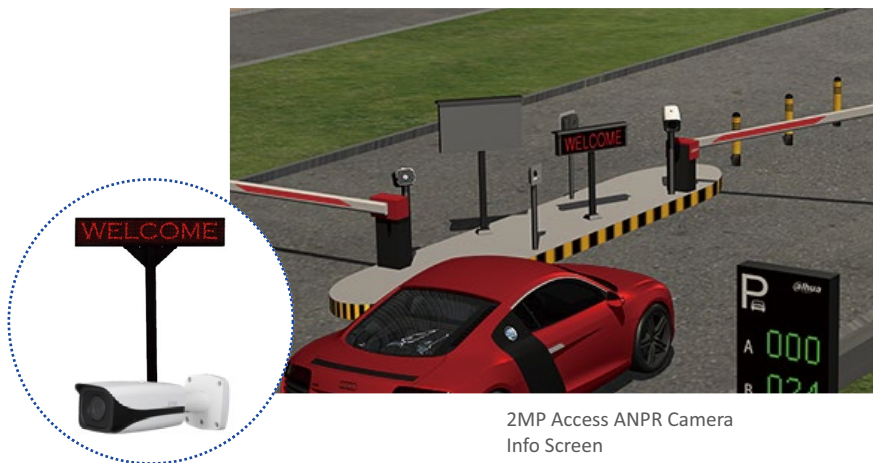
### Entrance & Exit – High Efficiency

- **Outdoor Screen:** Clearly shows the available number of parking lots and help driver to know if the parking is occupied or empty.
- **Info Screen:** Clearly show the car plate info for driver, to indicate driver related information when barrier doesn't open and help driver to acknowledge the vehicle plate.
- **ANPR Camera:** Capture and recognize the vehicle plate with video & loop detection, relay out to enable the opening of the barrier and improve the entrance efficiency and safety.
- **VTO:** Inter-communication with security center when ANPR function fails to reduce the necessity of guard on-site.
- **Barrier:** Automatic open with remote authorization and close with loop detector.



Outdoor Screen

Clear indication of available parking lots to guide the visitor and to reduce the efforts of parking lot search.



2MP Access ANPR Camera  
Info Screen

For a 3-4 meter-width entrance, ANPR camera can detect the moving car in 3-8 meters distance with the assistance of video & loop. Snapshot will then help to recognize the plate number. The plate data, plate cut out, and overview image and video from camera will be stored in the platform for late search. The barrier will be automatically opened in less than 1 second via alarm out if the plate number is already registered in whitelist.

Once the number plate is recognized successfully, the info screen will indicate the plate number, helping driver to acknowledge. ANPR with over 95% recognition rate and remote authorization via control center can greatly reduce the human intervene and increase the operation efficiency.



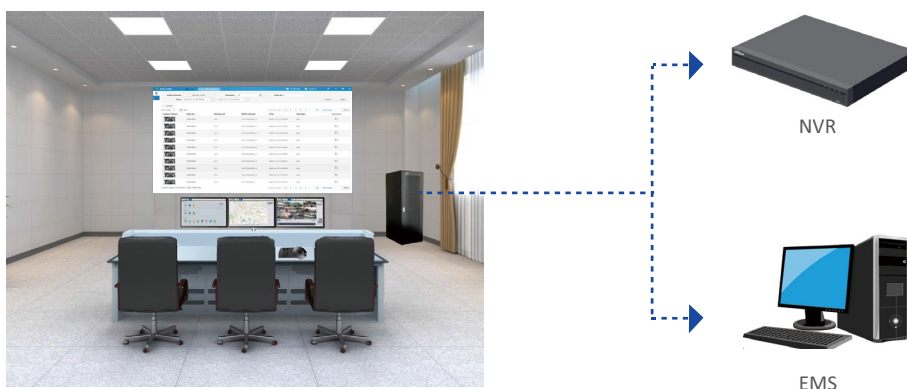
- Embedded ANPR, complete plate recognition in less than 1 second
- Video recognition, reduce construction cost greatly
- Present plate cutout, vehicle overview image and live video
- Video & Loop detection, improve recognition rate to more than 95%

Once the ANPR function fails, the info screen will indicate "Please press the emergency button" via text and speaker, the driver could press VTO button to call security center.



## Security Center - Improving efficiency with high security

- **Record and search** the history list of car approaching and departure.
- **Simplify the registration process** of coming visitor without human intervene.
- **Emergency handling** when vehicle authorization of entrance and exit fails.



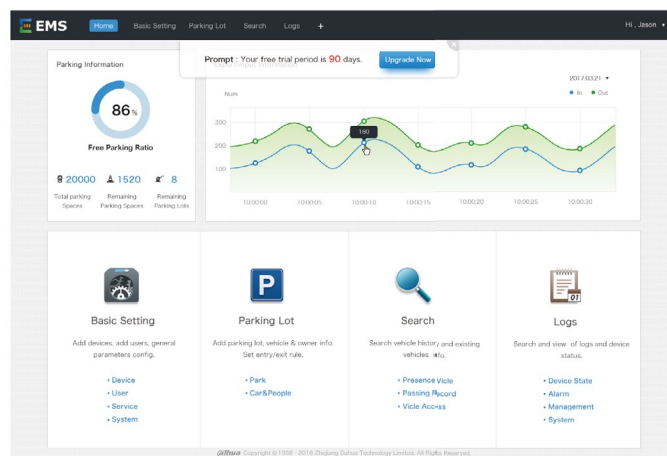
• **Comprehensive Surveillance:** Real-time preview and playback for video, modify the plate info if it's incorrect, help the guard to quickly response once an accident or an event happens.

• **Smart Search:** Search the video and image by date/time/license plate number from the server to locate the key evidence efficiently.

• **Intercom Handling:** Response to visitor or emergency call from VTO, keep the safety even without on-site watch house. Define various parameters for white list: Time, Gate channel, Plate, Quantity.

• **Multiple Linkage:** The administrator can set different linkage rules following ANPR such as open the barrier or e-mail once plate number is recognized.

• **Flexible Visitor Management:** Flexible policy for manage barrier: Automatic operation by whitelist or manual control by software remotely.

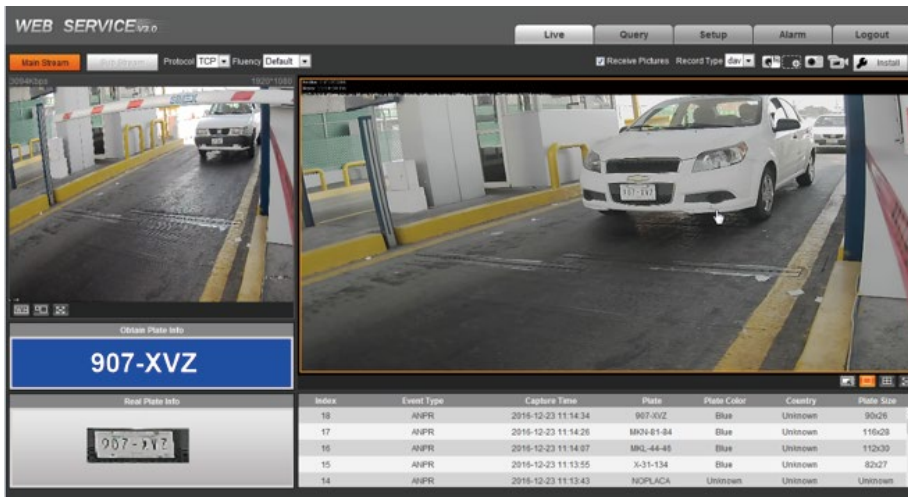


# KEY TECHNOLOGY

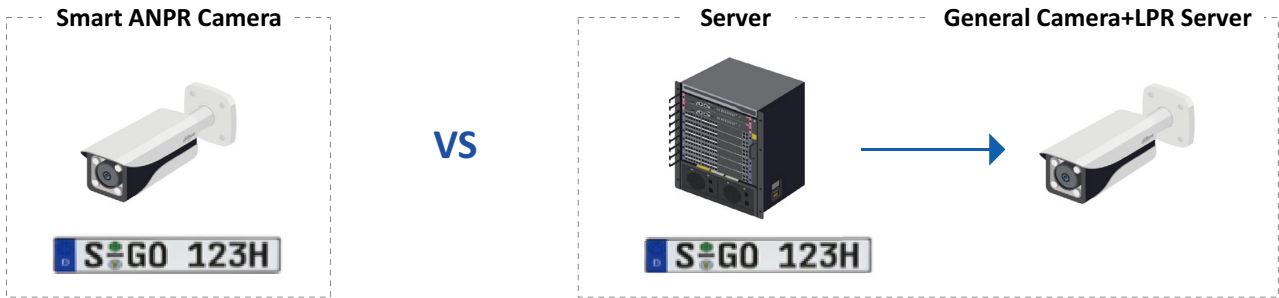
## Embedded ANPR

High ANPR accuracy, Plate capture rate by video  $\geq 98\%$ ; Recognition rate  $\geq 95\%$

With built-in intelligent video analytics, the camera is able to detect and recognize moving vehicle's plate number in low speed less than 40km/h. No matter for approaching or departing ring vehicle, the access ANPR will take a snapshot for plate cutout, vehicle overview picture and also record the surveillance video.



Our embedded ANPR's advantage

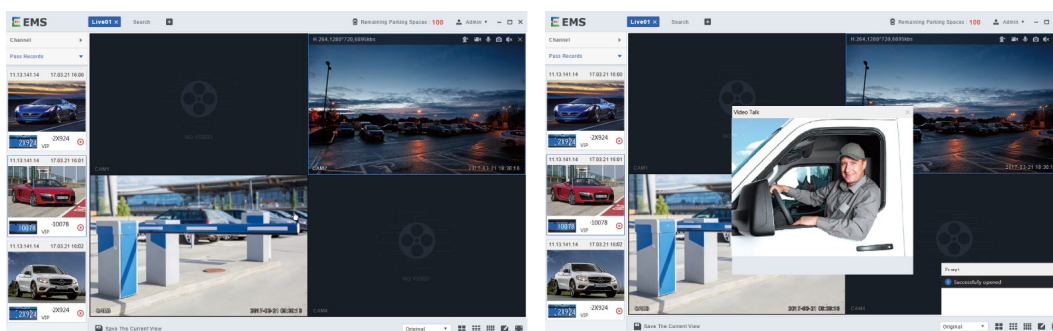


	Smart ANPR Camera	General Camera + LPR Server
<b>Bandwidth</b>	Less (Transfer image and plate)	Much more (Transfer the video)
<b>Cost</b>	Cost Saving (Only camera cost)	Expensive (Separate LPR server cost)
<b>Reliability</b>	Network independent (Work when network is offline)	Network dependent (Can't work if network is offline)

## Unmanned Management of Entrance

No need for a guard onsite to manage the barrier, the ANPR system can easily judge if the approaching vehicle's plate is in the white list, open the barrier once the plate has already been registered. In case of accidents, such as visitor or ANPR failed, the intercom will be linked to the monitor center for alarming a guard to control the barrier remotely.

All the system function above can be easily configured and operated in management platform EMS, which is software based on windows available. C/S architecture design enables flexible function extension.



## Open API for Integrator

Provide abundant data through API of different product combinations.



ITC237



CGI



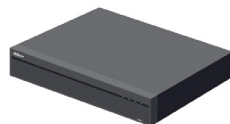
Third-Party Platform

### ITC+3<sup>rd</sup> party software

- Data: Plate, image (overview and plate cutout), time, white & black list event
- Command: Snapshot manually
- Support API customization for special business



ITC237



NVR



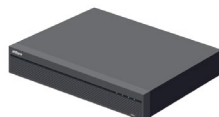
Third-Party Platform

### ITC+NVR+3<sup>rd</sup> party software

- Data: Plate, image(overview and plate cutout), video, time, white & black list event
- Command: Snapshot manually
- Support API customization for special business



ITC237



NVR



EMS



Third-Party Platform

### ITC+NVR+EMS+3<sup>rd</sup> party software

- Data: Plate, image (overview and plate cutout), video, time (entrance, exit and parking), available No. , white & black list event
- Support API customization for special business

## SUCCESS CASES



### East Coach Center of Xi'an

Stereo & Intelligent parking building, higher passenger throughput, including different system such as: Parking guidance and Reverse lookup; Card Payment & Parking fee management; Higher accuracy of license recognition

- 2200 Parking lots, 580 Spot Detection Camera
- 10 Guidance Screen, 5 Kiosks

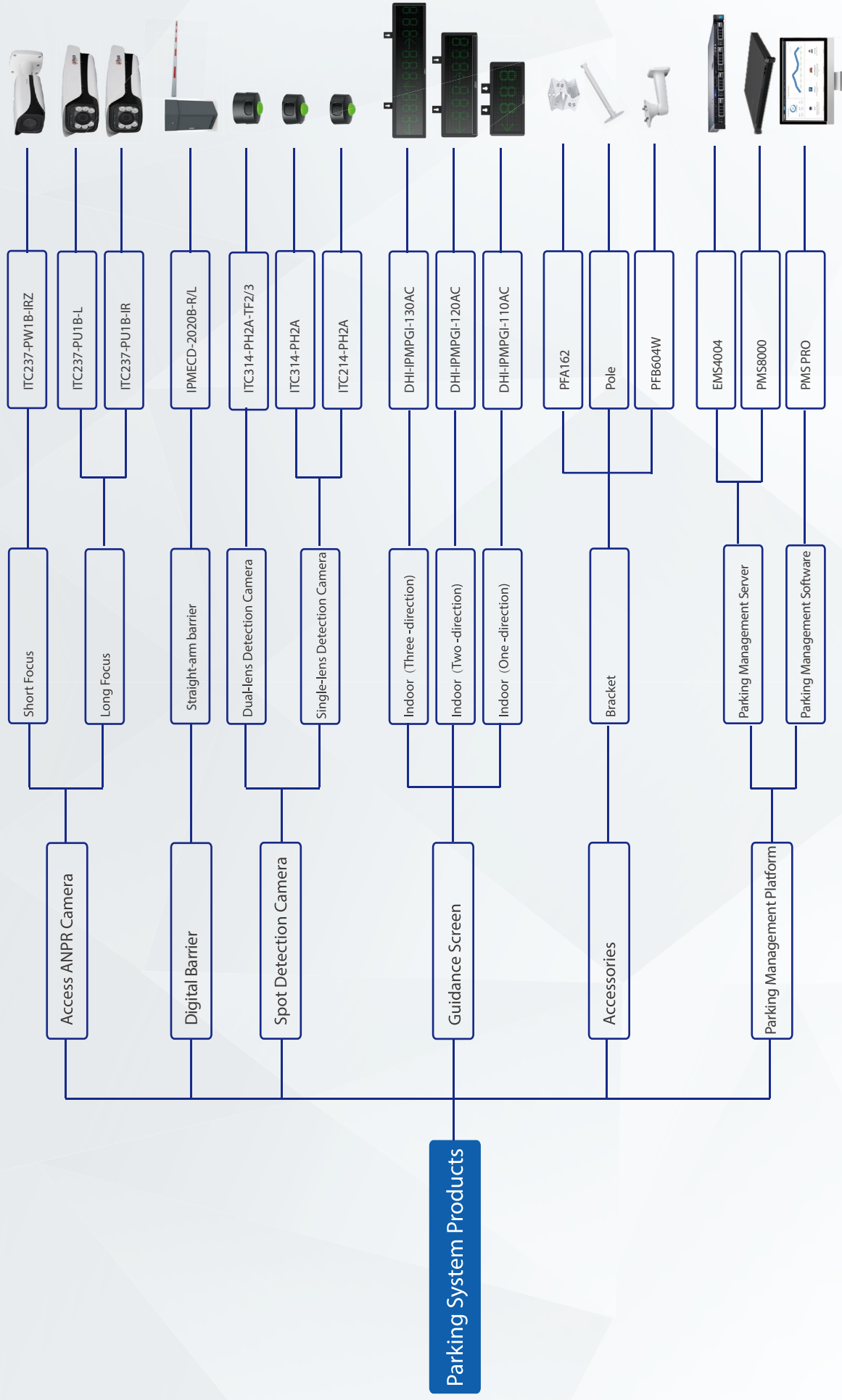


### Macalline Plaza in Guiyang

The first "Double MALL" urban commercial project in Guiyang, promote the efficiency of access or exit including different system such as: Video recognition making non-stopping for entry & exit; Visualization of parking guidance and reverse lookup

- 3000 Parking lots/1020 Detection cameras/ 5 Kiosks
- 6 ANPR cameras,80 Guidance screens
- 350 CCTV camera

# Product Guide (Parking)



# Parking System Products

Access ANPR Camera		Short Focus	Long Focus
		ITC237-PW1B-IRZ ★★★★	ITC237-PU1B-IR
Model			
Image Sensor		1/2.8" CMOS	1/2.8" CMOS
Max. Resolution		2MP (1920x1080)	2MP (1920x1080)
Speed Range for LPR		0~70km/h	0~70km/h
License Plate Recognition (LPR)		Support (Global)	Support (Global)
LPR Monitor Distance		3~8m	4~40m
Detection Mode		Loop & Video trigger	Loop& Video trigger
Electronic Shutter Speed		1/50~1/10000s	1/50~1/10000s
Video Compression		H.265/H.264M/H.264H/H.264B	H.265/H.264M/H.264H/H.264B
Video Frame		50/60fps@1080P (WDR Off); 25/30fps@1080P (WDR On)	50/60fps@1080P (WDR Off); 25/30fps@1080P (WDR On)
Day/Night		ICR	ICR
Lamp		Built-in IR light	Built-in IR light
Lens		2.7~12mm, Motorized	5~50mm, Variable focal manually
Ingress Protection		IP67	IP66
Interface		1 x100/1000M Ethernet, 2 I/O inputs, 1 relay output	1 x100/1000M Ethernet, 2 I/O inputs, 2 relay output, 1 RS485
Working Temperature		-40°C~+60°C (-22°F~+140°F)	-30°C~+60°C (-22°F~+140°F)
Power		DC12V, PoE, Max. 12W	PoE+, Max. 17W



## Parking System

- Parking entry solution promote the efficiency of vehicle access
- Parking guidance solution help to find a free space easily
- LPR camera, recognize the vehicle plate automatically
- Includes the guidance screen/detection camera/ticket controller and etc



# Parking System Products




Barrier		Spot Detection Camera			
	Straight-arm barrier		3MP Duel Lens Camera	3MP Camera	1.3MP Camera
	IPMECD-2020B-R/L		ITC314-PH2A-TF2/3	ITC314-PH2A	ITC214-PH2A
Model					
Speed	3s		Duel 1/2.8" CMOS 3MP (2048x1536)	1/2.8" CMOS 3MP (2048x1536)	1/2.8" CMOS 2MP (1920x1080)
Arm Length	Straight-arm, 3.5m		6	3	2
Control way	Manual button, hand movement when power is off		Video trigger Support	Video trigger Support	Video trigger Support
Interface	1 IO for open, 1 IO for close, 1 IO for stop, 1 RS485		7 colors (red/yellow/blue/green/cyan/white/pink)	7 colors (red/yellow/blue/green/cyan/white/pink)	7 colors (red/yellow/blue/green/cyan/white/pink)
Automatic falling	Support, 1 ch loop		1/3~1/10000	1/3~1/10000	1/3~1/10000
Anti Hit	Support		H.264 standard 20fps@3MP	H.264 standard 20fps@3MP	H.264 standard 20fps@2MP
Consumption	150W		Electronic color to B/W 2.8 mm/3.6 mm	Electronic color to B/W 3.6 mm/6 mm	Electronic color to B/W 3.6 mm/6 mm
Working Temperature	-20°C~+85°C		2 ×100M self-adaptive Ethernet, 1 RS485	2 ×100M self-adaptive Ethernet, 1 RS485	2 ×100M self-adaptive Ethernet, 1 RS485
Power	AC110V, 60HZ/AC220V, 50HZ		DC12 V~DC 48V Support PVE power supply, 8.5W	DC12 V~DC 48V Support PVE power supply, 6W	DC12 V~DC 48V Support PVE power supply, 6W

# Parking System Products

## Guidance Screen

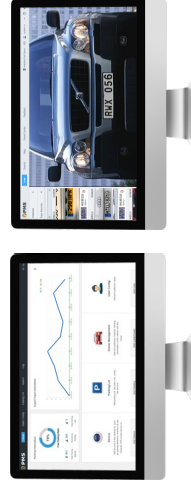
	Three-direction Screen	Two-direction Screen	One-direction Screen
Model	DHI-IPMPGI-130AC (Three-way) 	DHI-IPMPGI-120AC (Two-way) 	DHI-IPMPGI-110AC (One-way) 
Display Content	Arrow (straight, left, right) + number (3 digit)	Arrow (straight, left, right) + number (3 digit)	Arrow (straight, left, right) + number (3 digit)
Content Color	Support red/green bicolor display	Support red/green bicolor display	Support red/green bicolor display
Interface	1 x100M Ethernet, 2 RS485	1 x100M Ethernet, 2 RS485	1 x100M Ethernet, 2 RS485
Offline Work Mode	Support parking lot counting when offline	Support parking lot counting when offline	Support parking lot counting when offline
Max. Camera Access	128	128	128
Max. Ultra-sonic Access	30	30	30
Ingress Protection	IP50	IP50	IP50
Power	AC90~264V, Max. 35W	AC90~264V, Max. 25W	AC90~264V, Max. 15W
Working Temperature	-30°C~+60°C (-22°F~+140°F)	-30°C~+60°C (-22°F~+140°F)	-30°C~+60°C (-22°F~+140°F)
Dimensions	954.8x195.0x75.2mm	650.8x195.0x75.2mm	346.8x195.0x75.2mm

# Accessories & Parking Management

<b>Bracket</b>	
Model	PFA162  Connection bracket
Description	Access ANPR 1200mm Pole  1.2 m pole
Application	PFB604W  Dimensions: 100x146x264mm Wall bracket of ITC237-PU1B-IR, ITC237-PU1B-L

## Parking System Management Platform

PMS series  
Parking Management System  
Stable server with hardware & software all-in-one  
Various function for Vehicle ocation and guidance system in the parking



<b>Model</b>	
Supported Device	PMS8000 ★★ ★ NVR, IPC, VTO, EVS, Access ANPR, Spot Detector, Car Locator, Barrier, LED Screen, IVS-T, Car Locator
Add Device Method	IP
Device	Up to 1000 Spot Detectors, 10 Access ANPR
User	200 online users, Unlimited users
Live Preview	1/4/6/8/9/16/25/36/64
Max. Preview Screens	1
Max. Channels	16
Feature	Speed 1/8x~8x, Optional video scale, Synchronization playback, search by time and etc
E-map	Raster map
Form	All in one(include hardware) Software
Other Function	<ul style="list-style-type: none"> <li>· Find the car's position and view the status of device on E-map.</li> <li>· Support parking guide via controlling the guide LED and spot detector device</li> <li>· Support alarm scheme CFG and event confirm</li> <li>· Support vehicle locating</li> <li>· Manual toll collection</li> <li>· Auto-calculating &amp; display the available number of parking lots;</li> <li>· Assign different users with different rights and parking-lots</li> <li>· Support set established customized content for display on common screen</li> <li>· Support card manager and rights manager to control the vehicle, include white and black list, and etc.</li> <li>· Record the vehicle's entrance &amp; exit time/plate No./daily report and etc, support fuzzy search and export;</li> <li>· One key to call management center via VTO, and remote barrier opening, while abnormal situation occurs</li> <li>· Support flexible configuration of entry rules and fast departure mode for vehicles on site</li> <li>· Support video search and playback</li> <li>· Live view for various entrance &amp; exit, customized layout, support view license plate snapshots and related information.</li> </ul>
Minimum System Requirements (Management & Client)	<ul style="list-style-type: none"> <li>OS 64 bit Windows 7/8/10</li> <li>CPU Core 2 dual-core 3.0 or above</li> <li>RAM 2GB or above</li> <li>Display Resolution 1024 x768 or above</li> </ul>

# INTEGRATED SECURITY SOLUTION FOR PUBLIC BUS



- More Secure
- More Efficient
- More Profits



## Crime and Accidents Prevention

- Alarm system
- Crash detection system



## Management Efficiency

- Fleet tracking
- E-fence



## Profit Enhancement

- Fare printer integration
- Automatic Wi-Fi upload

# CUSTOMER CHALLENGES IN PUBLIC BUS



## Security Concerns

Crime and accidents (vandalism, pickpocketing, traffic incidents)  
Irregular driving behavior (fatigue driving, over-speed, sharp turn, rapid acceleration, idling)

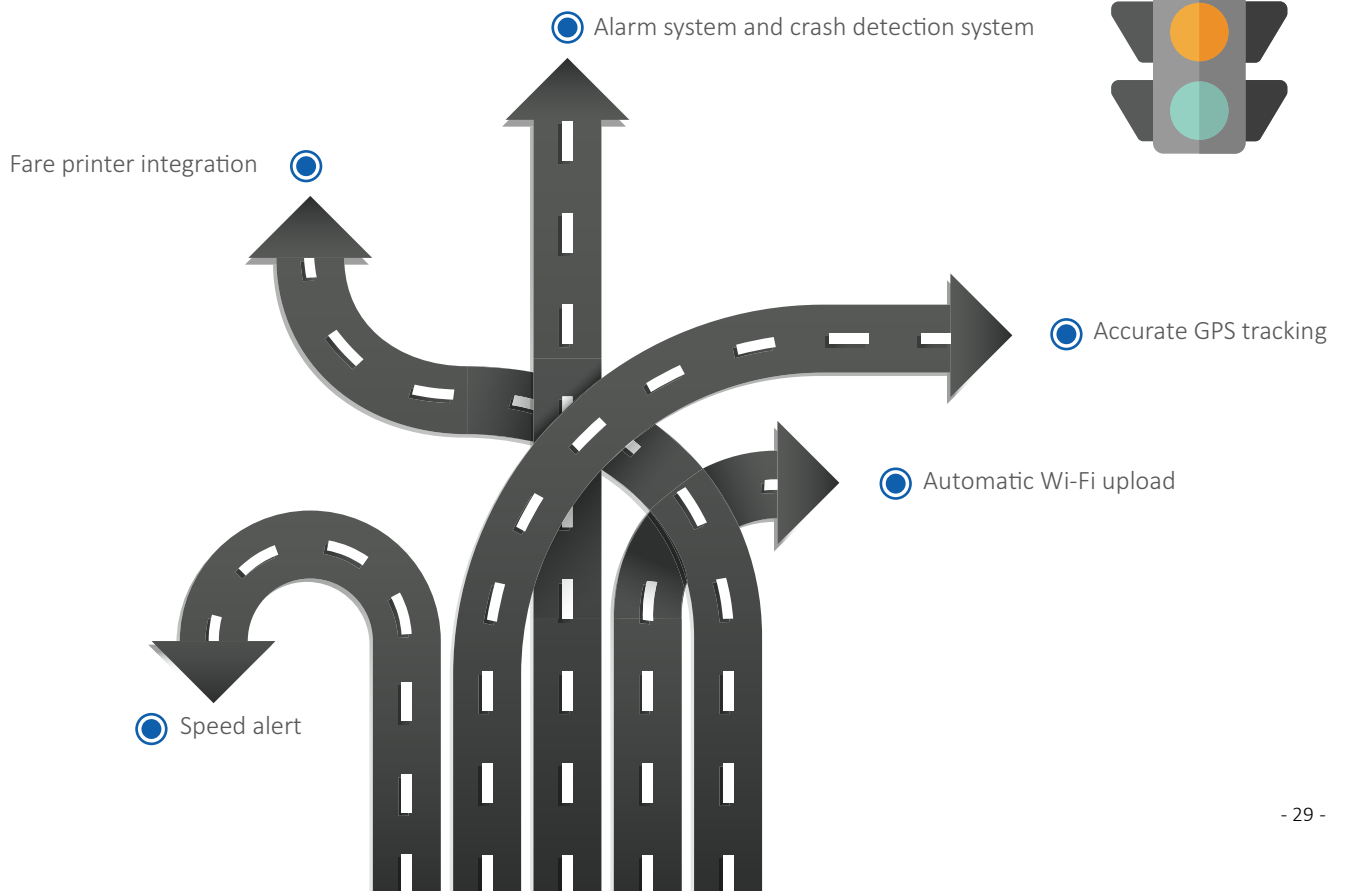
## Management Efficiency

Fleet tracking  
Bus scheduling

## More Profits

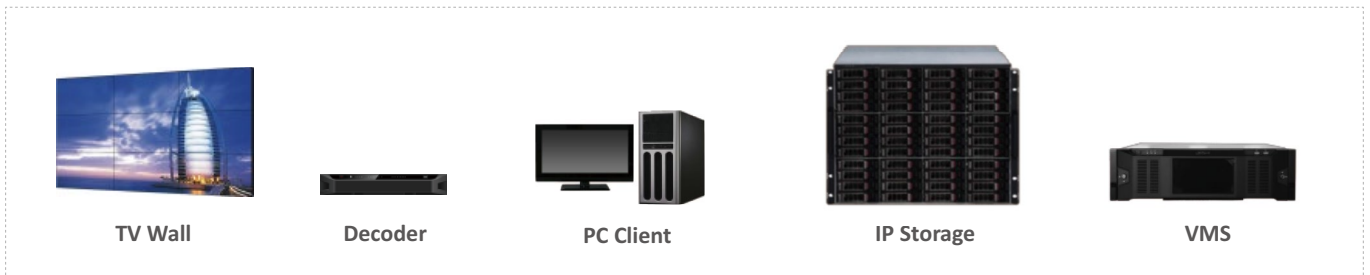
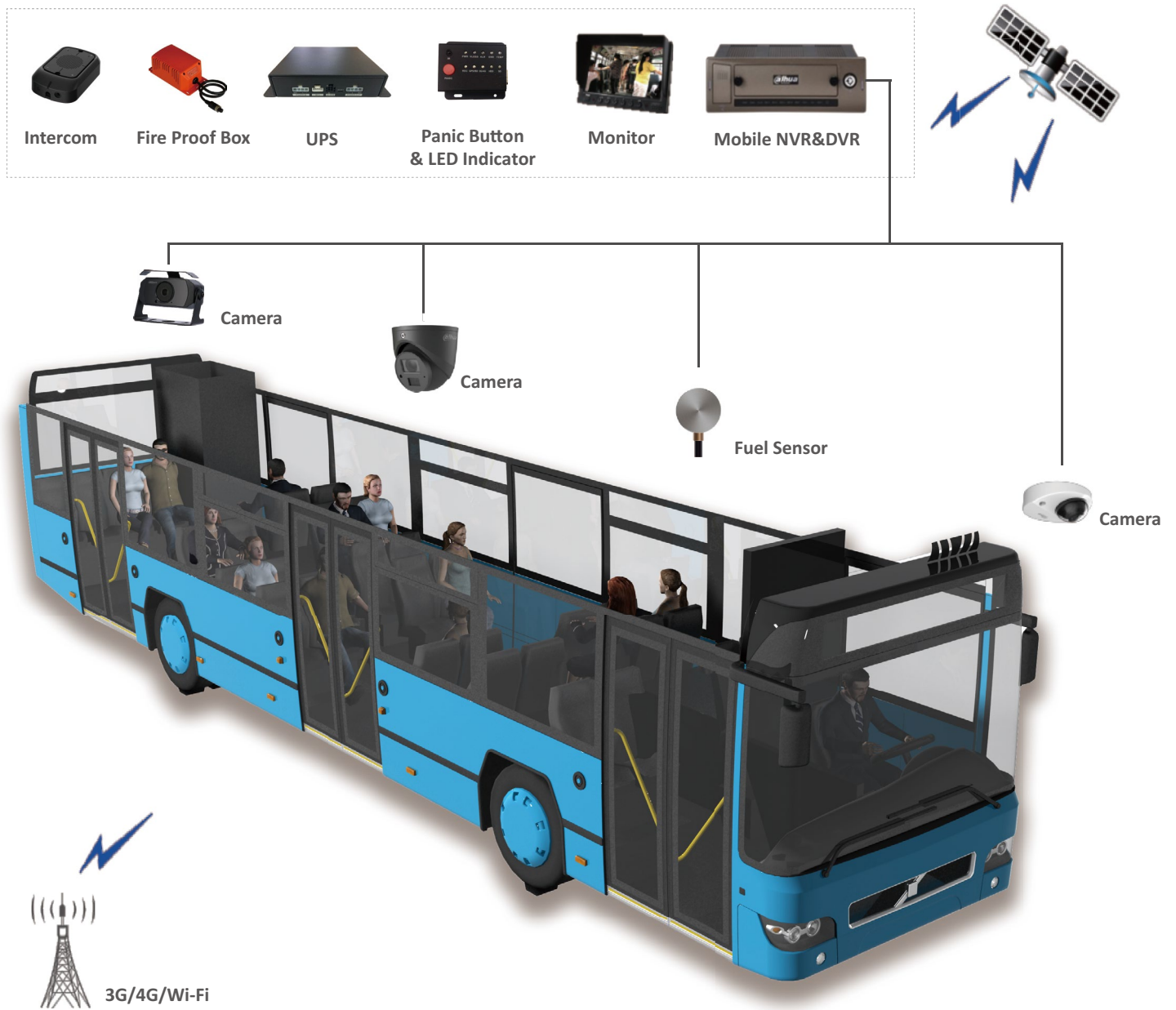
Controlling measures of fare fraud  
Reduce network traffic cost

# CORRESPONDING SOLUTION



# PUBLIC BUS DEVICE LAYOUT

## Overview



- **Onboard surveillance:** IP/ HDCVI/ Analog camera and Mobile NVR/ DVR
- **Data transmission:** 3G/ 4G and Wi-Fi network
- **Control center:** VMS/ Central Storage/ TV wall

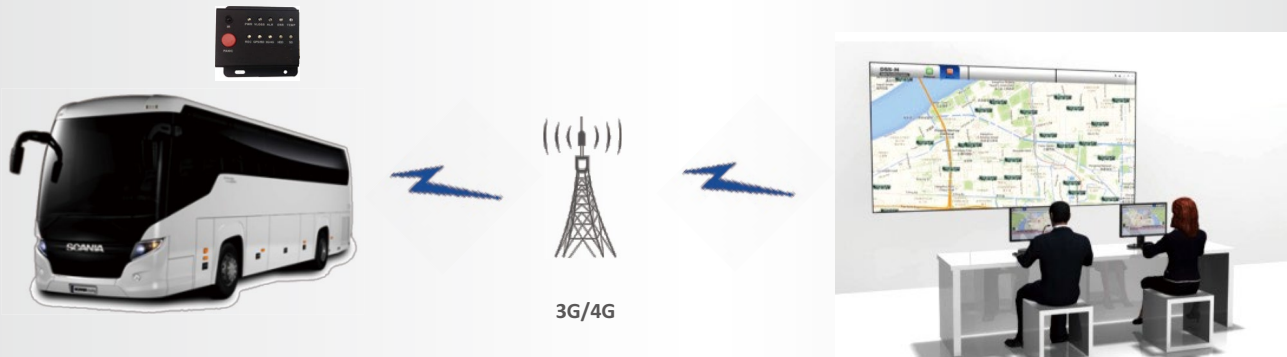
# SOLUTION DETAIL

## Alarm System and Crash Detection System

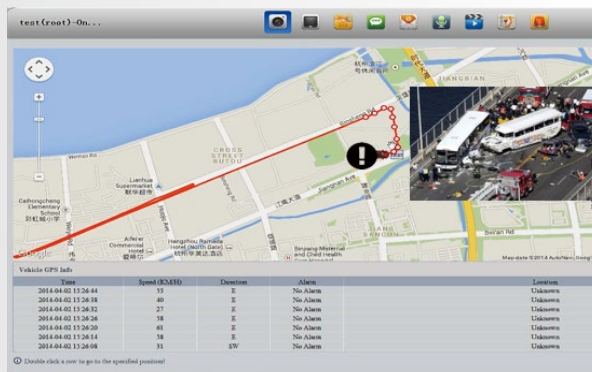
Various alarm detectors connected with mobile DVR help to safeguard passengers and driver against pickpocket, vandalism, robbery and crash accident.

### Alarm Report

Control center can be notified through the 3G or 4G network immediately once the onboard incidents happened.



### Crash Detection System



### Built-in 3 axis G-sensor

Mobile DVR equipped with G-sensor inside is able to detect vehicle collision or crash accident and push an alarm to notify the control center.

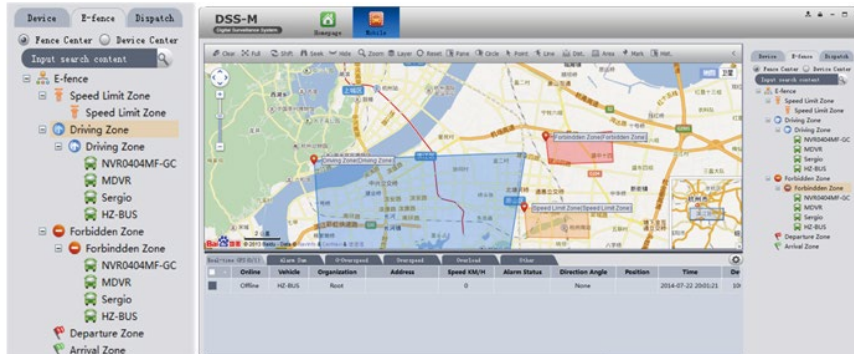
## Fare Fraud

Fare printer integration and fare amount statistic report everyday automatically to avoid fare fraud.



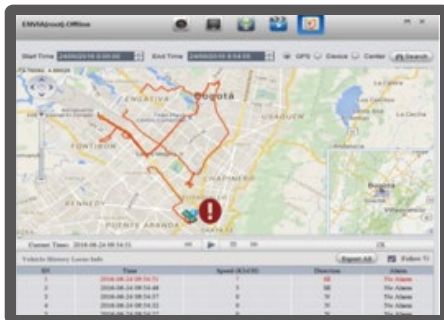
## Fleet Tracking

- Various zone like speed limit zone, driving zone, forbidden zone, departure zone and arrival zone can be set on the client e-map to correct limit driving route.
- **Support:** Google online map, Google offline map, Raster map.



## Speed Alert

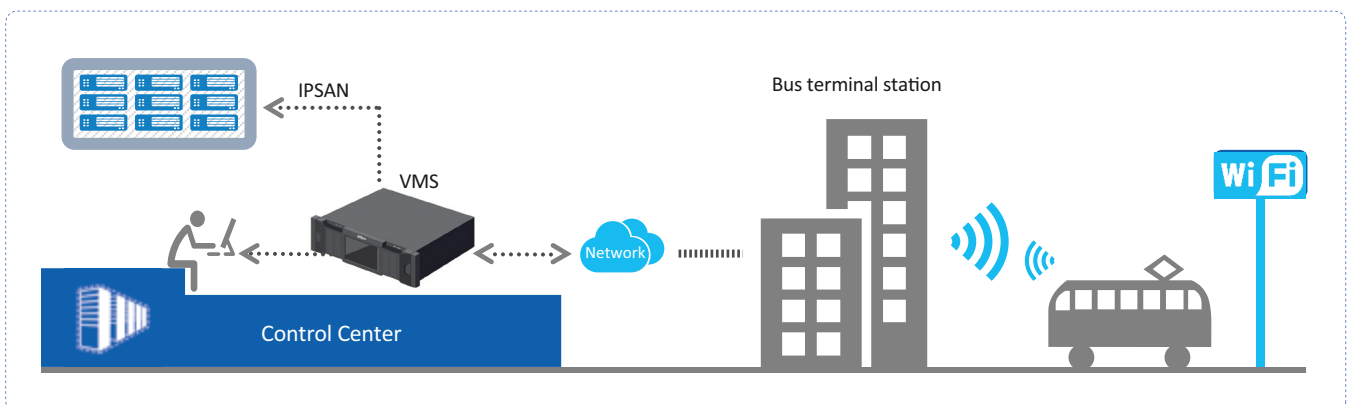
Getting updates and alerts on bus location, direction, speed so that control center can intervene driver immediately with audio talk once abnormal situation happens.



## Cost Effective Network Transfer

### Automatic Wi-Fi upload

When the vehicles arrive at the terminal station, the mobile NVR can switch from the 3G or 4G network to the Wi-Fi network and backup the data to the control center saving the network traffic cost.

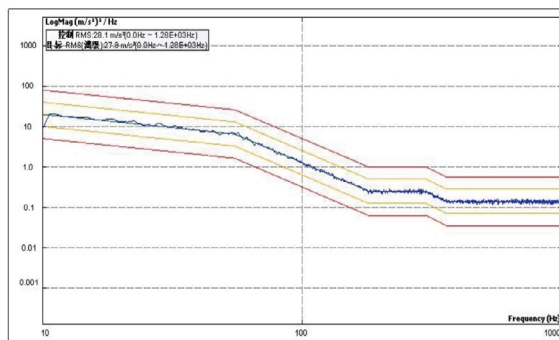
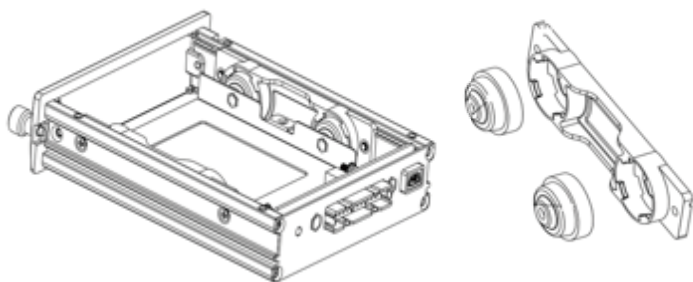




## HIGHLIGHTED TECHNOLOGY

### Anti-vibration

When the vehicle is running on the road, the onboard shock and vibration are the main causes of HDD damage and video footage loss. Dahua mobile devices comply with **ISO 16750-3** and **EN50155** to protect the system from electrical surge and vibration.



### Power-off Protection

- Super-capacitor is applied to achieve smooth switch off in case of sudden system power down thus to avoid data loss and extend the hard disk lifespan.
- It keeps working about **5 sec after power off**.
- Dahua devices have already passed standards **ISO7637-2**.
- Wide voltage input **6-36V**.

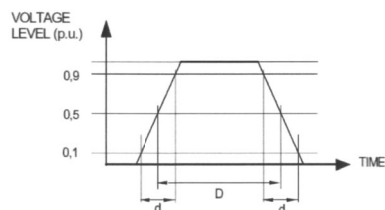
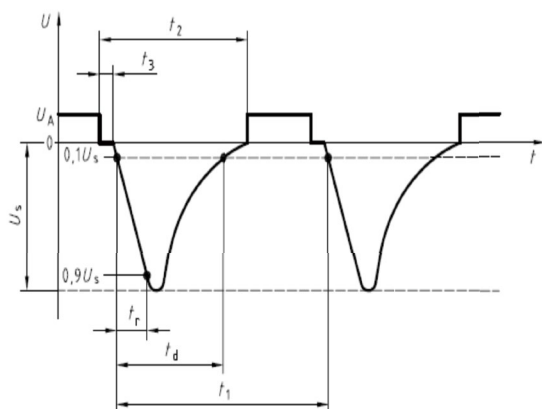


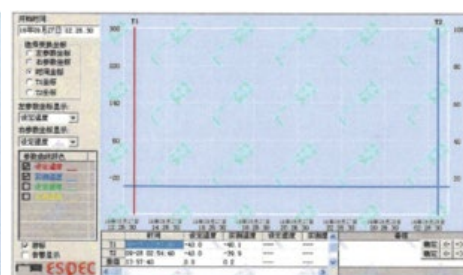
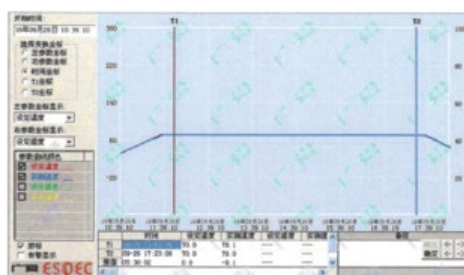
Figure 1: Test waveform

Table 1: Supply overvoltage(Un=24V)

Voltage level min.	Duration d max.	Duration D max.	Series Resistor (Tol. ±10%)
1.4Un	0.1s	1.0s	1Ω

### Temperature Protection

Working temperature: **-30°C (heater optional) ~ +60°C** to cater extreme working conditions inside the vehicle.



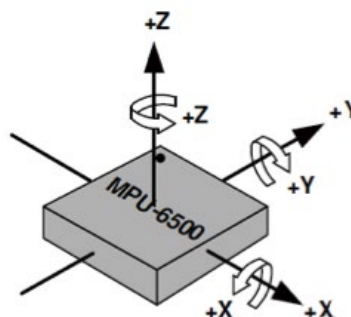
## Water and Dust Resistant

Dahua offers the cameras corresponding to water and dust resistant, with IP6K9K-rating.



## G-sensor

Built-in G-sensor inside can help users to detect the vehicle turnover and collision immediately.



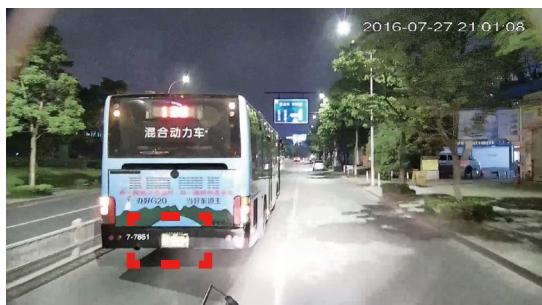
## Smart Scene Adaptive

Dahua unique image processing technology makes the camera to suit different light conditions automatically.



## WDR

- The WDR function is extremely useful in vehicle doors and spaces near windows to get clear enough images.
- Up to 120dB Wide Dynamic Range to capture a optimized image quality even in high contrast sunshine environment.



## SUCCESS CASE



### Mexico

The hybrid MCVR5104 developed by Dahua was used in Mexico city public bus.

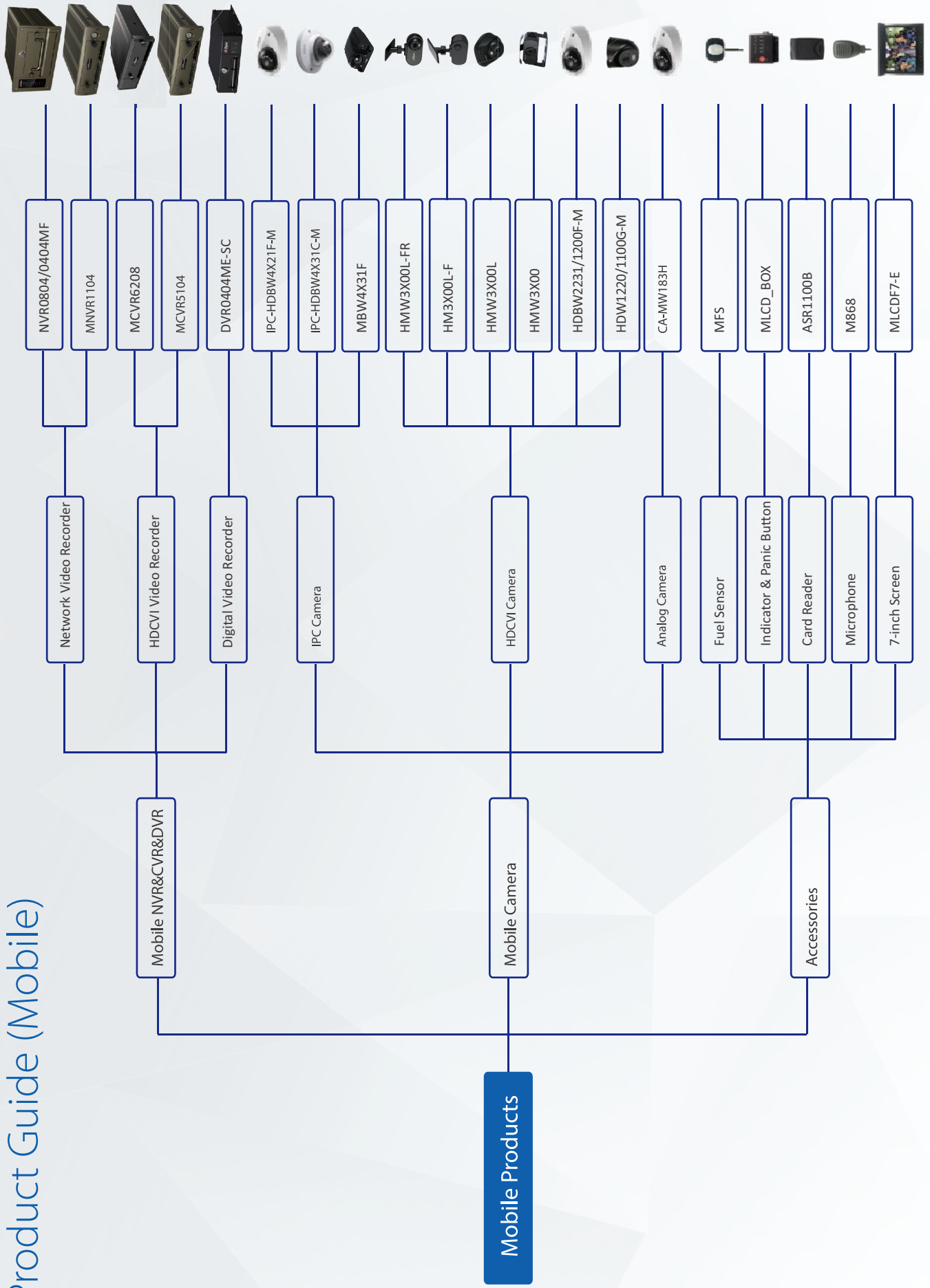
Dahua provides a full set of solution for video surveillance management, video storage management, vehicle location tracking, GPS positioning, emergency alarm and ticket counting, to meet the comprehensive needs of crime prevention and improve income.



### Thailand

Dahua's public bus solution is deployed by the Bangkok Mass Transit Authority(BMTA).During the first phase,the solution is deployed on 2600 of the 7000 buses operated by BMTA.

# Product Guide (Mobile)








# Mobile System Products

## Mobile System Products

- Superior anti-vibration performance and excellent resistance in high and low temperature conditions
- Support Max. 16ch @ 1080P video input, all ports support PoE
- Support GPS/3G/4G/Wi-Fi, real-time position and video upload to platform
- Aviation connectors to ensure signal stability



Mobile Camera		IPC Camera					
	IPC-HDBW4221F-M	IPC-HDBW4121F-M	IPC-HDB4431C-M	IPC-HDB4231C-M	IPC-MBW4431-M12	IPC-MBW4231-M12	
<b>Model</b>							
<b>Image Sensor</b>	1/2.7" 2MP CMOS optional	1/3" 1.3MP Exmor CMOS	1/3" 4MP CMOS F1.6	1/2.8" 2MP Exmor CMOS F1.8	1/3" 4MP CMOS	1/2.8" 2MP STARVIS™ CMOS	
<b>Focal Length</b>	2.8mm/F2.0, 3.6mm/F1.8, 6mm/F1.8 optional	2.8mm/F2.0, 3.6mm/F1.8, 6mm/F1.8 optional	2.8mm/F2.0, 3.6mm/F1.6	2.8mm/F2.0, 3.6mm/F1.8	2.8mm/F2.0, 3.6mm/F2.0, 6mm/F2.0	2.8mm/F2.0, 3.6mm/F2.0, 6mm/F2.0	
<b>FOV-H</b>	120°/93°/63°	86°/74°/47°	110°/87°	104°/82.5°	104°/87°/55°	110°/87°/51°	
<b>Min. Illumination</b>	0.01Lux/F2.0 (color) 0Lux/F2.0 (IR on)	0.01Lux/F2.0 (Color) 0Lux/F2.0 (IR on)	0.08Lux/F2.0 (Color) 0.008Lux/F2.0 (B/W)	0.009Lux/F2.0 (Color) 0.0009Lux/F2.0 (B/W)	0.08Lux/ F2.0 (Color, 1/3s, 30IRE) 0.3Lux/F2.0 (Color, 1/30s, 30IRE) 0Lux/F2.0 (IR on)	0.009Lux/ F2.0 (Color, 1/3s, 30IRE) 0.07Lux/F2.0 (Color, 1/30s, 30IRE) 0Lux/F2.0 (IR on)	
<b>Day/Night</b>	ICR	ICR	Electronic	Electronic	ICR	ICR	
<b>WDR</b>	120dB	120dB	120dB	120dB	120dB	120dB	
<b>Max. IR Distance</b>	20m	20m	-	-	30m	30m	
<b>Video Compression</b>	H.264+/H.264	H.264+/H.264	H.265/H.264	H.265/H.264	H.265+/H.265/H.264+/H.264	H.265+/H.265/H.265+/H.264+/H.264	
<b>Max. Resolution</b>	1080P (1920x1080)	1.3M (1280x960)	4M (2688x1520)	1080P (1920x1080)	4M (2688x1520)	1080P (1920x1080)	
<b>Frame Rate</b>	30fps@1080P	30fps@1.3M	30fps@4M	60fps@1080P	30fps@4M	60fps@1080P	
<b>Multi-streaming</b>	3 Streams	3 Streams	3 Streams	3 Streams	3 Streams	3 Streams	
<b>Pan/Tilt/Rotation</b>	Pan: 0°~60° Tilt: 0°~80° Rotation: 0°~360°	Pan: 0°~60° Tilt: 0°~80° Rotation: 0°~360°	-	-	Pan: 0°~170° Tilt: 0°~20° Rotation: 0°~360°	Pan: 0°~170° Tilt: 0°~20° Rotation: 0°~360°	
<b>Intelligent Video(Optional)</b>	Tripwire, Intrusion Scene Change Abandoned/Missing Face Detection	Tripwire, Intrusion Scene Change Abandoned/Missing Face Detection	-	-	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection	
<b>Compatibility</b>	ONVIF(2.4), PSIA, CGI	ONVIF(2.4), PSIA, CGI	ONVIF(2.4), PSIA, CGI	ONVIF(2.4), PSIA, CGI	ONVIF profile S&G, CGI	ONVIF profile S&G, CGI	
<b>Audio In/Out</b>	1/1	1/1	Built-in Mic	Built-in Mic	-	-	
<b>Memory Slot</b>	Micro SD, Max. 128GB	Micro SD, Max. 128GB	Micro SD, Max. 128GB	Micro SD, Max. 128GB	Micro SD, Max. 128GB	Micro SD, Max. 128GB	
<b>Alarm In/Out</b>	1/1	1/1	IP66	IP66	-	-	
<b>Ingress Protection</b>	IP67, IK10	IP67, IK10	IK10	IK10	IP67, IP66, IK10	IP67, IP66, IK10	
<b>Working Temperature</b>	-30°C~+60°C (-22°F~+140°F)	-30°C~+60°C (-22°F~+140°F)	-30°C~+60°C (-22°F~+140°F)	-30°C~+60°C (-22°F~+140°F)	-30°C~+60°C (-22°F~+140°F)	-30°C~+60°C (-22°F~+140°F)	
<b>Power</b>	DC12V, PoE (802.3af), Max. 5W	DC12V, PoE (802.3af), Max. 5W	DC12V, PoE (802.3af), Max. 4.5W	DC12V, PoE (802.3af), Max. 4W	DC12V, PoE (802.3af), Max. 6.4W	DC12V, PoE (802.3af), Max. 6.4W	

## Mobile Camera

Analog Camera									
	HAC-HMW3200L-FR	HAC-HMW3100L-FR	HAC-HM3200L-F	HAC-HM3100L-F	HAC-HMW3200L	HAC-HMW3100L	HAC-HMW3200	HAC-HMW3100	
<b>Model</b>									
<b>Image Sensor</b>	1/2.7" 2Mp CMOS	1/2.7" 1Mp CMOS	1/2.7" 2Mp CMOS	1/2.7" 1Mp CMOS	1/2.7" 2Mp CMOS	1/2.7" 1Mp CMOS	1/2.9" 2Mp CMOS	1/3" 1Mp CMOS	
<b>Min. Illumination</b>	0.02Lux/F2.0, 0Lux IR on	0.02Lux/F2.0, 0Lux IR on	0.02Lux/F2.0, 0.001lux/F2.0(B/W)	0.02Lux/F2.0, 0.001lux/F2.0(B/W)	0.02Lux/F2.0, 0Lux IR on	0.02Lux/F2.0, 0Lux IR on	0.02Lux/F2.0 (Color) 0Lux/F2.0 (IR On)	0.05Lux/F2.0 (Color) 0Lux/F2.0 (IR On)	
<b>Lens</b>	2.1mm (Rear)2.8mm (Front)	2.1mm (Rear)2.8mm (Front)	2.8mm	2.8mm	2.1mm	2.1mm	3.6mm (2.8mm)	2.8mm	
<b>FOV-H</b>	H: 139° (Rear) H: 116° (Front)	H: 139° (Rear) H: 116° (Front)	H: 116°	H: 116°	H: 139°	H: 139°	82.8° (106°)	91.6°	
<b>Day/Night</b>	Electronic (Rear) Color(Front)	Electronic (Rear) Color(Front)	Color	Color	Electronic	Electronic	ICR	ICR	
<b>Max. IR Distance</b>	3m (9feet), Smart IR	3m (9feet), Smart IR	NA	NA	3m (9feet), Smart IR	3m (9feet), Smart IR	20m(66ft), Smart IR	20m(66ft), Smart IR	
<b>OSD Menu</b>	Multi-language	Multi-language	Multi-language	Multi-language	Multi-language	Multi-language	Multi-language	Multi-language	
<b>WDR</b>	DWDR	DWDR	DWDR	DWDR	DWDR	DWDR	DWDR	DWDR	
<b>Noise Reduction</b>	2D	2D	2D	2D	2D	2D	2D	2D	
<b>Resolution</b>	30fps@1080P 30/60fps@720P	30/60fps@720P	30fps@1080P 30/60fps@720P	30fps@1080P 30/60fps@720P	30/60fps@720P 30/60fps@720P	30/60fps@720P	30fps@1080P 30/60fps@720P	30fps@720P	
<b>Video Output</b>	HD (Aviation Connector)	HD (Aviation Connector)	HD (Aviation Connector)	HD (Aviation Connector)	HD (Aviation Connector)	HD (Aviation Connector)	HD (Aviation connector)	HD (Aviation connector)	
<b>Audio In</b>	Built-in Mic	Built-in Mic	Built-in Mic	Built-in Mic	Built-in Mic	Built-in Mic	Built-in Mic	Built-in Mic	
<b>Pan/Tilt/Rotation</b>	Pan: 0° ~ 30° Tilt: 0° ~ 30° Rotation: 0° ~ 360°	Pan: 0° ~ 30° Tilt: 0° ~ 30° Rotation: 0° ~ 360°	Pan: 0° ~ 30° Tilt: 0° ~ 30° Rotation: 0° ~ 360°	Pan: 0° ~ 30° Tilt: 0° ~ 30° Rotation: 0° ~ 360°	Pan: 0° ~ 40° Tilt: 0° ~ 55° Rotation: 0° ~ 360°	Pan: 0° ~ 40° Tilt: 0° ~ 55° Rotation: 0° ~ 360°	Pan: 0°~360° Tilt: 0°~360° Rotation:--	Pan: 0°~360° Tilt: 0°~360° Rotation:--	
<b>Ingress Protection</b>	-	-	-	-	-	-	IP67	IP67	
<b>Working Temperature</b>	-40°C ~ +60°C (-40°F ~ +140°F)	-40°C ~ +60°C (-40°F ~ +140°F)	-40°C ~ +60°C (-40°F ~ +140°F)	-40°C ~ +60°C (-40°F ~ +140°F)	-40°C ~ +60°C (-40°F ~ +140°F)	-40°C ~ +60°C (-40°F ~ +140°F)	-40°C ~ +60°C (-40°F ~ +140°F)	-40°C ~ +60°C (-40°F ~ +140°F)	
<b>Power</b>	DC12V±25% Max. 2.4W	DC12V±25% Max. 2.4W	DC12V±25% Max. 0.9W	DC12V±25% Max. 0.9W	DC12V±25% Max. 1.5W	DC12V±25% Max. 1.5W	DC12V±25% Max. 2.9W	DC12V±25% Max. 2.5W	
<b>Special Features</b>	-	-	-	-	-	-	Horizontal mirror (Default)	Horizontal mirror (Default)	

# Mobile System Products

## Mobile Camera

### Analog Camera

	HAC-HDBW2231F-M	HAC-HDBW1200F-M	HAC-HDB1200F-M	HAC-HDW1220G-M	HAC-HDW1000G-M	CA-MW183H-IR1	CA-MW183H
<b>Model</b>							
<b>Image Sensor</b>	1/2.8" 2Mp Exmor R CMOS	1/2.7" 2Mp CMOS	1/2.7" 2Mp CMOS	1/2.9" 2MP CMOS	1/3" 1MP CMOS	1/3" CMOS	1/3" HDIS
<b>Min. Illumination</b>	0.005Lux/F1.5 (Color) 0Lux/F1.5 (IR On)	0.02Lux/F2.0 (Color) 0Lux/F2.0 (IR On)	0.02Lux/F2.0 (Color) 0.002Lux/F2.0 (B/W)	0.02Lux/F2.0 (Color) 0Lux/F2.0 (IR On)	0.05Lux/F2.0 (Color) 0Lux/F2.0 (IR On)	0.05Lux/F2.0, 0Lux IR on	0.05Lux/F2.0, 0.001lux/ F2.0(B/W)
<b>Lens</b>	3.6mm (2.8mm, 6mm Optional)	3.6mm (2.8mm Optional)	2.1mm	3.6mm (6mm)	2.8mm	3.6mm (2.8mm, 6mm Optional)	2.1mm (2.8mm, 3.6mm, 6mm Optional)
<b>FOV-H</b>	87°(108.3°/53°)	89.9°(115.6°)	136°	82.8°(51.2°)	91.6°	69° (87°/45°)	107°(87°/69°/45°)
<b>Day/Night</b>	ICR	ICR	Electronic	ICR	ICR	ICR	ICR
<b>Max. IR Distance</b>	20m (66ft), Smart IR	20m (66ft), Smart IR	-	20m(66ft), Smart IR	20m(66ft), Smart IR	Up to 20m (66feet)	20m(66ft), Smart IR
<b>OSD Menu</b>	Multi-language	Multi-language	Multi-language	Multi-language	Multi-language	Multi-language	-
<b>WDR</b>	120dB	DWDR	DWDR	DWDR	DWDR	DWDR	-
<b>Noise Reduction</b>	2D/3D	2D	2D	2D	2D	2D	2D
<b>Resolution</b>	30fps@1080P, 30fps@720P	30fps@1080P, 30/60fps@720P	30fps@1080P, 30/60fps@720P	30fps@1080P, 30/60fps@720P	30fps@720P	720TVL	720TVL
<b>Video Output</b>	HD (Aviation Connector)	HD (Aviation Connector)	HD (Aviation Connector)	HD (Aviation connector)	HD (Aviation connector)	CVBS (Aviation Connector)	CVBS (Aviation connector)
<b>Audio In</b>	-	Built-in Mic	Built-in Mic	Built-in Mic	Built-in Mic	Built-in Mic	Built-in Mic
<b>Pan/Tilt/Rotation</b>	Pan: 0°~60° Tilt: 0°~80° Rotation: 0°~360°	Pan: 0°~60° Tilt: 0°~80° Rotation: 0°~360°	Pan: 0°~60° Tilt: 0°~80° Rotation: 0°~360°	Pan: 0°~360° Tilt: 0°~85° Rotation: 0°~360°	Pan: 0°~360° Tilt: 0°~85° Rotation: 0°~360°	Pan: 0°~60° Tilt: 0°~80° Rotation: 0°~360°	Pan: 0°~60° Tilt: 0°~80° Rotation: 0°~360°
<b>Ingress Protection</b>	IP67, IK10	IP67, IK10	IP67, IK10	IP67	IP67	IP67, IK10	IP67, IK10
<b>Working Temperature</b>	-40°C~+60°C (-40°F ~ +140°F)	-40°C~+60°C (-40°F ~ +140°F)	-40°C~+60°C (-40°F ~ +140°F)	-40°C~+60°C (-40°F~+140°F)	-40°C~+60°C (-40°F~+140°F)	-40°C~+60°C (-40°F~+140°F)	-40°C~+60°C (-40°F~+140°F)
<b>Power</b>	DC12V±25% Max. 2.2W	DC12V±25% Max. 2.4W	DC12V±25% Max. 1W	DC12V±25% Max. 2.3W	DC12V±25% Max. 2.3W	DC12V±25% Max. 0.79W	DC12V±25% Max. 2.11W
<b>Special Features</b>	-	-	-	-	-	-	-

# Mobile System Products

## Mobile NVR & CVR & DVR

	Mobile NVR		Mobile CVR		
Model	NVRO404/0804MF 	MNVR1104 ★★★ 	MCVR6208 ★★★ 	MCVR5104 	DVR0404ME-5C 
Max. Resolution	1080P	1080P	1080P	1080P	960H
Input	4/8 IP(Aviation/RJ45)	4 IP(Aviation/RJ45)	8 HDCVI/CVBS(Aviation)	4 HDCVI/CVBS(Aviation)	4 CVBS(Aviation)
Video Compression	H.264	H.264	H.264	H.264	H.264
Display	1 CVBS, 1 VGA	1 CVBS, 1 VGA	1 CVBS, 1 VGA	1 CVBS, 1 VGA	1 CVBS
Two-way Talk	1 input, 1 output	1 input, 1 output	1 input, 1 output	1 input, 1 output	1 input, 1 output
Storage	2 SATA, 1 SD(Max128G)	1 SATA, 1 SD(Max128G)	2 SATA, 1 SD(Max128G)	1 SATA, 1 SD(Max128G)	1 SD(Max128G)
Alarm Input/Output	8/3	7/2	7(Trigger support high or low)/2	7/2	7/2
USB	3(2 USB3.0, 1 USB2.0)	2 USB2.0	3(2 USB3.0, 1 USB2.0)	2 USB2.0	2 USB2.0
RS232/RS485/CAN	1/1/1	1/1/1	2/2/1	1/1/1	1/1/--
GPS/Cellular/Wi-Fi	GPS (Optional) 3G/4G (Optional) Wi-Fi(Optional)	GPS (Optional) 3G/4G (Optional) Wi-Fi(Optional)	GPS (Optional),3G/4G (Optional), Wi-Fi(Optional)	GPS (Optional) 3G/4G (Optional) Wi-Fi(Optional)	GPS (Optional) 3G/4G (Optional) Wi-Fi(Optional)
G-sensor	Built-in	Built-in	Built-in	Built-in	--
Upgrade/Maintenance	Remote upgrade and maintenance	Remote upgrade and maintenance	Remote upgrade and maintenance	Remote upgrade and maintenance	Remote upgrade and maintenance
Vehicle Function	Auto power on/off, ACC delay poweroff	Auto power on/off, ACC delay poweroff	Auto power on/off, ACC delay poweroff	Auto power on/off, ACC delay poweroff	Auto power on/off, ACC delay poweroff
UPS	Built-in UPS (5s working)	Built-in UPS (5s working)	Built-in UPS(5s working)	Built-in UPS(5s working)	Built-in UPS (5s working)
Dimensions	180x208x100mm (7.08"x8.18"x3.93")	180x220x50mm (7.08"x8.66"x1.96")	180x190x50mm (7.08"x7.48"x1.96")	180x220x50mm (7.08"x8.66"x1.96")	160x138x48mm (6.29"x5.43"x1.88")
Weight	3kg (6.60lb)	2kg (4.40lb)	2.2kg (4.60lb)	2kg (4.40lb)	1kg (2.20lb)
Working Temperature	-30°C~+60°C (-22°F~+140°F)	-30°C~+60°C (-22°F~+140°F)	-30°C~+65°C (-22°F~+149°F)	-30°C~+60°C (-22°F~+140°F)	-30°C~+60°C (-22°F~+140°F)
Power	DC6~36V, Max. 17W (no HDD), Max. 0.2W (Standby)	DC6~36V, Max. 15W (no HDD), Max. 0.2W (Standby)	DC6~36V, Max. 12W (no HDD), Max. 0.035W (Standby)	DC6~36V, Max. 15W (no HDD), Max. 0.2W (Standby)	DC6~36V, Max. 15W, Max. 0.2W (Standby)



# Accessories

	7-inch Screen	Microphone	Indicator & Panic Button	Fuel Sensor	Card Reader	Camera Housing
Model	MLCDF7-E 	M868 	MLED_BOX 	TUB 	ASR1100B 	PFA201W 
Description	Resolution:800x480 Effective Display: 154.08x85.92(mm) Dimensions: 181.4x121.6x25.7(mm) Connect with MDVR Local preview and playback	Sensitivity: -38dB±3dB (at1kHz,0dB-1V/pa) Frequency: 20-20KHz Impedance: 2.2KΩ 1.5V Connect with MDVR Talk with platform	10 LED indicator Dimension:70x50x27.5(mm) Connect with MDVR Display working status	Serial Type:RS232/RS485 Ingress Protection: IP66 Working voltage: DC9~36V Connect with MDVR Obtain fuel consumption information	Read format: 13.56MHz Transmission Distance: 40m Ingress Protection: IP67 Connect with MDVR Obtain card information	Material: Aluminum Dimension: 180x125.8x85mm Weight:370g Protect camera Support: IP6K9K
Application						

## Mobile System Management Platform

DSS series (DSS-M)  
Digital Surveillance System  
Stable server with hardware & software all-in-one  
Various function for mobile system

	DSS7016-M	DSS4004-M
Model	DSS7016-M	DSS4004-M
Supported Device	MDVR, MCVR,NVR, IPC, EVS, Keyboard,Cardreader,Video wall Controller	
Add Device Method	IP/Domain, SN, DDNS	
Device	500MDVR, 2000 Channels	200MDVR, 1000 Channels
User	1000 online, 10000 total	
Video Display Split	1/4/6/8/9/16/25/36/64	
Max. Preview Screens	4	
Max. Views	256	
Max. Channels	36	
Max. Task of Export	50 once	
Feature	Snapshot, E-PTZ, Audio, Speed 1/8x~8x, Synchronization playback, POS, Fisheye dewarp, Faster/Slower play, Optional video scale	
Video Display Split	1/4/9/16/25/32/64	
Feature	Liveview, Playback, PTZ control on the TV Wall	
E-map	Raster map, Google online/offline map	
Deployment	Stand-alone, Distributed, Cascade	
Feature	Support google e-map for vehicles Support E-Fence function for different area (forbidde--rriwie/departure area and etc.) Support Vehicles Monitoring function (real-time locus / history locus) Support various vehicles reports	
OS	32/64 bit Windows XP/Vista/7/8/10	
CPU	Core 2 dual-core 3.0 or above	
RAM	2GB or above	
Display Resolution	1024 x768 or above	

# 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 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

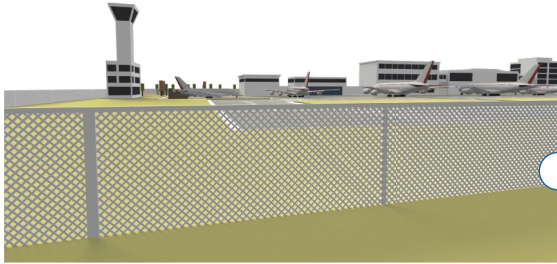
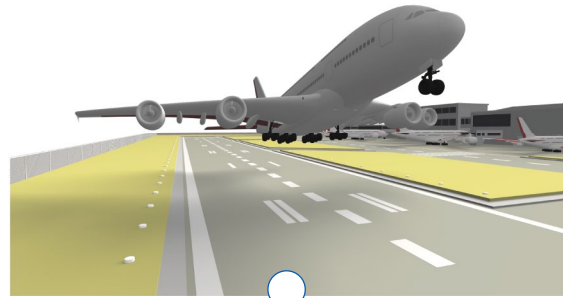


- Video surveillance and Intrusion detection system for cargo warehouse. There are many kinds of detectors can be linkage with PTZ camera, like radar detector, Thermal detector, Active infrared detector etc.
- For cargo area, HD camera together with thermal camera ensures the luggage safety

# AIRPORT LAYOUT

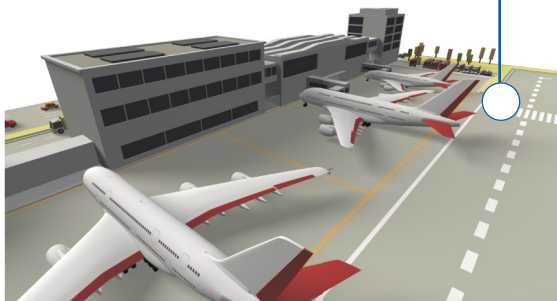
## Runway

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



## Perimeter

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



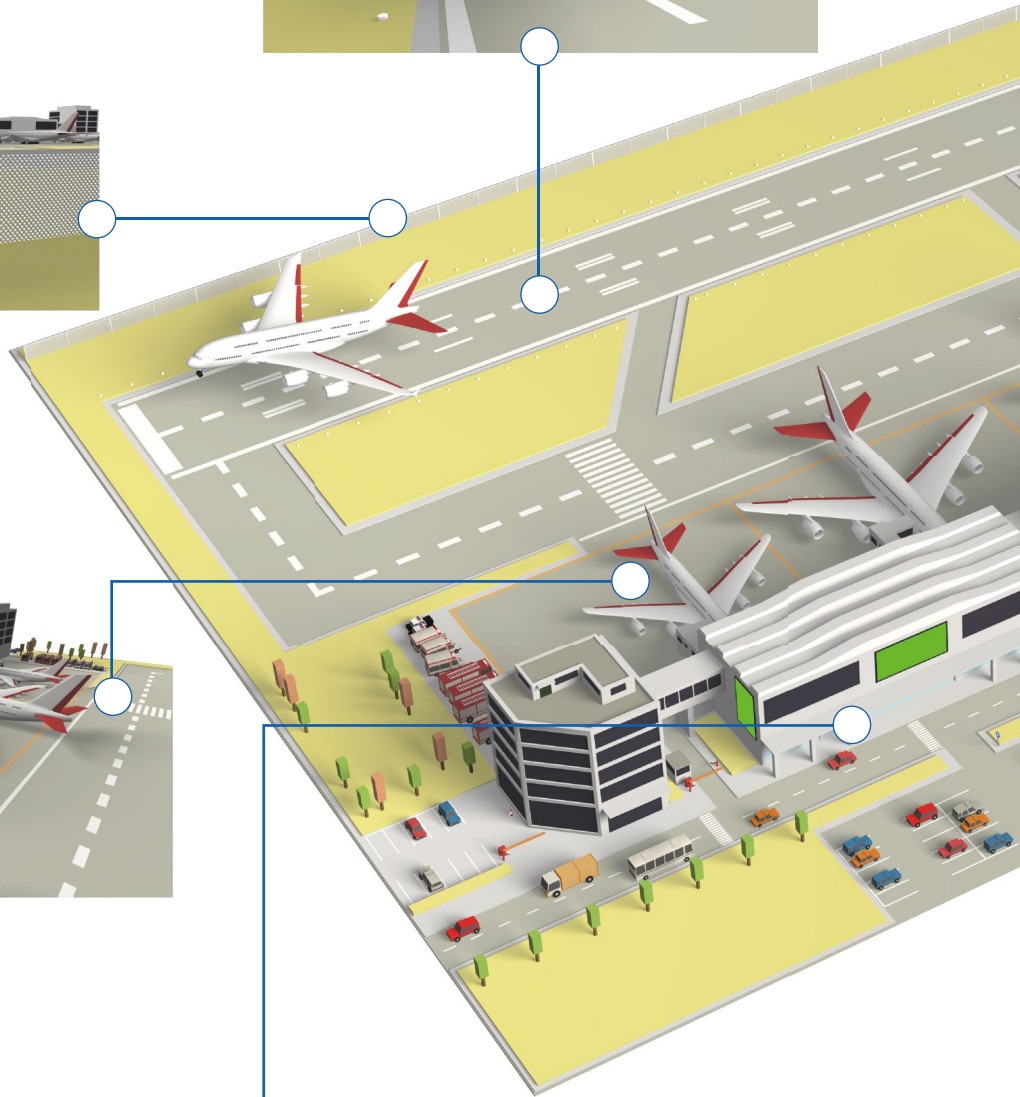
## Apron

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



## Roads to Airport

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



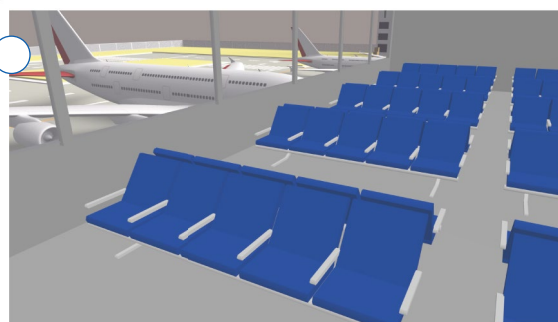
### Duty-free Shop

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



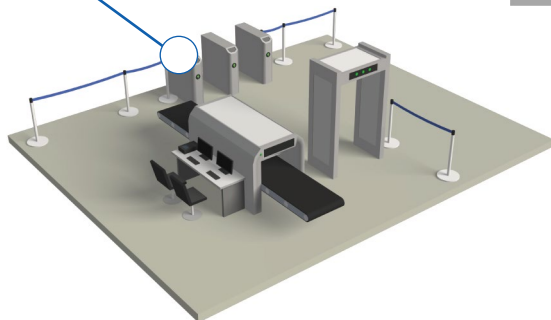
### Lounge

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



### Security screening

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



### 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

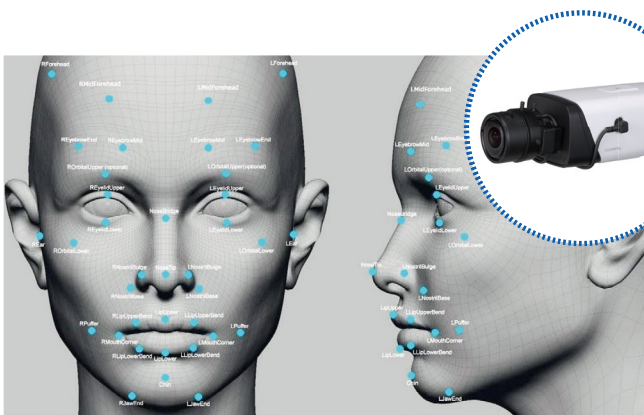
## Terminal

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.



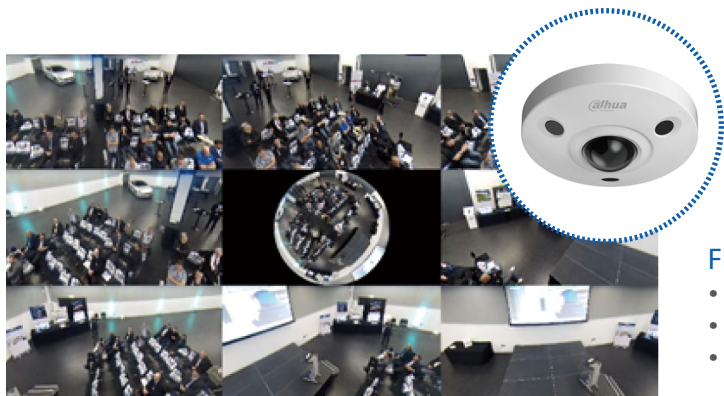
### Intelligent behavior analysis

- 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



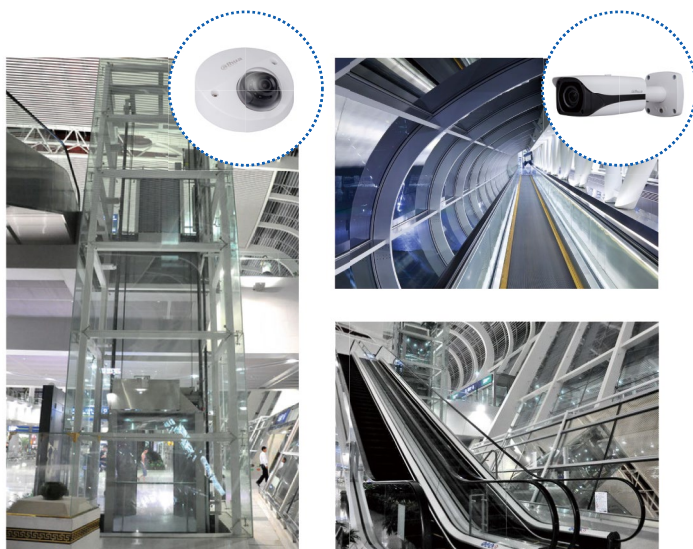
### Face recognition

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



### 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.

## Airside



### 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



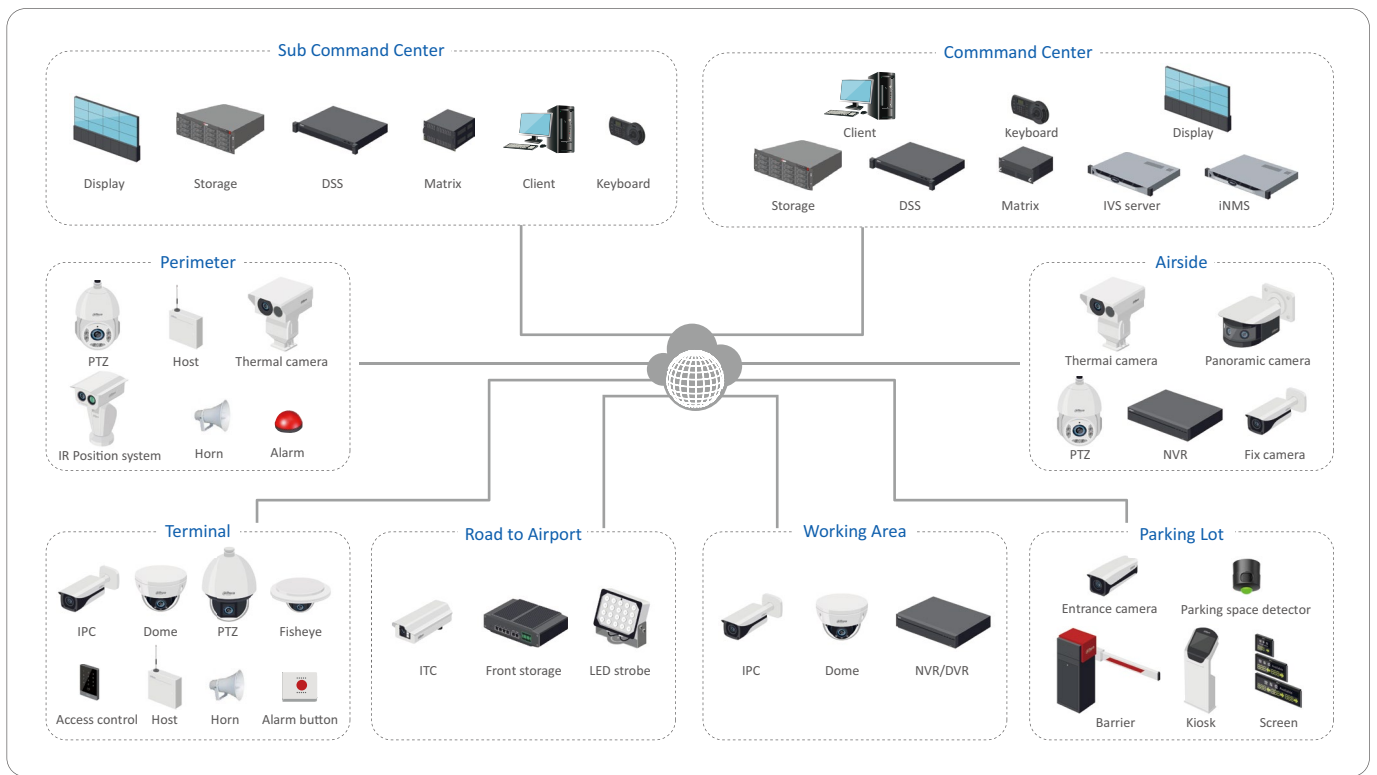
- Detect up to six parking spaces and monitor in real time
- Display different color for different statuses of parking spaces
- Recognize license plate and upload vehicle information to platform

# 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)

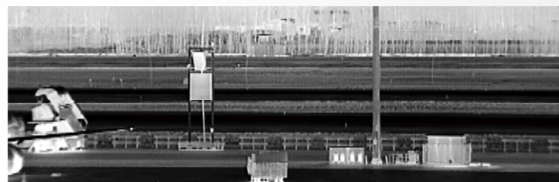


HD Resolution (1920x1080P)

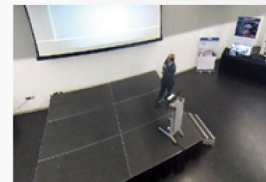
- Long range viewing: Long distance coverage



- 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

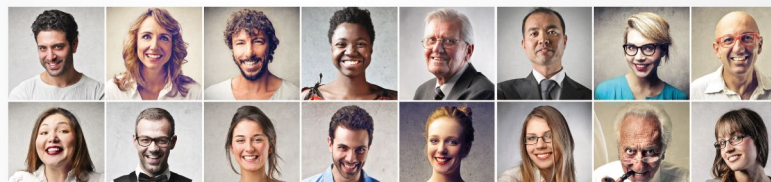


Parking entrance & exit



Parking spot detection

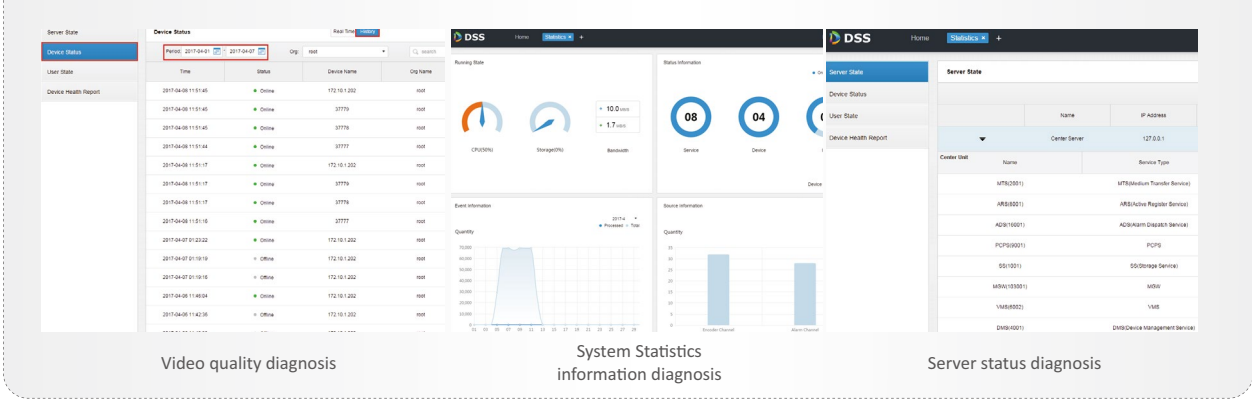
- Face recognition: Alarm in advance and easy to find target



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



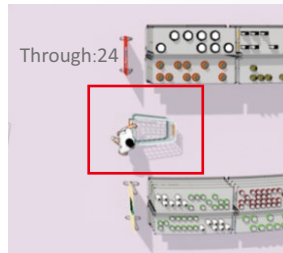
- Intelligent operation and maintenance: Find the failure devices timely and get them fixed in time



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



- 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



- 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#, JAVA, etc.

### 4. Compete test environment

- Online test, discount sample, DH certification

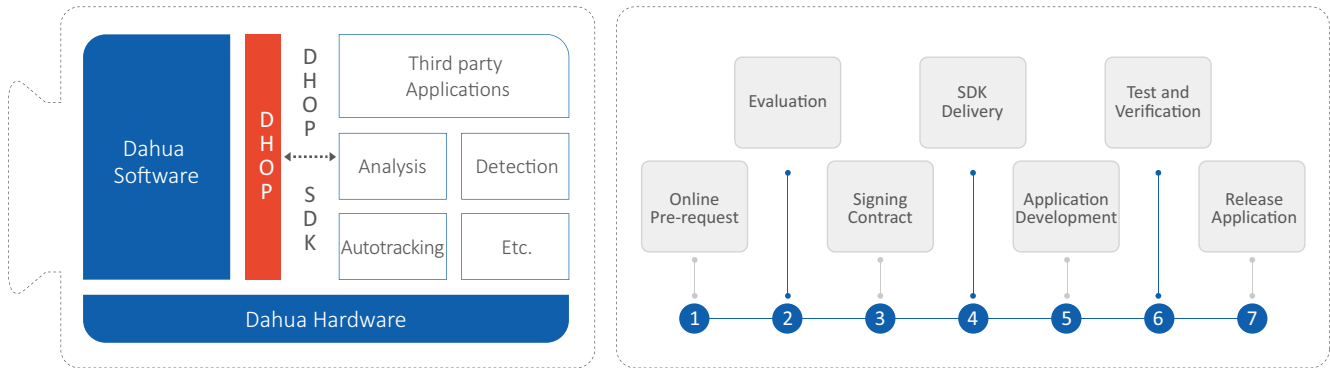
## Dahua Technology Partners

# 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 assist 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, loitering, ObjectLeft, Line crossing and so on
- A.I.Tech: People Counting, loitering and so on
- Axxon: Auto-Tracking
- Technoware: People Counting, Hot zones, LeftObject and so on
- FF Group: LPR Algorithm
- 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 dewarping mode: original, panoramic
- Micro SD memory, IP67, IK10, PoE
- Built-in deep learning algorithms
- Support People counting, queue detection and alarm, dwell time management and heat map etc.

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

SD8A240VA-HNA



- 1/1.9" 2Mp CMOS
- Powerful 40x optical zoom
- Micro SD memory, 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

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

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

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

# PRODUCT SHOWCASE

## 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

## 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 x 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

## 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

## 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

## 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

## 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

## 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
 <p>NVR5832-I</p>	32 Channel 2U AI Network Video Recorder		●	●	●	●	●	
 <p>IVSS7016DR-4T</p>	3U 16HDD AI Network Video Recorder		●	●	●	●	●	
 <p>EVS7024D-R</p>	24-HDD Enterprise Video Storage with Dual Controller						●	
 <p>IVS-F7500-2P</p>	Face Recognition Server		●	●	●		●	
 <p>DHI-M70-4U-E</p>	Multi-service Video Management platform						●	
 <p>DHL550UCM-ES</p>	55" Full-HD Video Wall Display Unit (Ultra Narrow Bezel 3.5mm)						●	
 <p>ITC215-PW4I-IRL</p>	2M Full HD AI Access ANPR Camera	●					●	●
 <p>ITC314-PH2A-TF3</p>	3MP Dual-Lens Parking Space Detector							●
 <p>DSS Pro</p>	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

# MORE INTELLIGENT MORE SECURE FOR SEAPORT



#### More Details

- Panoramic View
- Thermal View
- 4K



#### Better Reliability

- Anti-Corrosion
- Explosion-Proof
- Dustproof



#### Video Analysis

- Container No. Recognition
- License Plate Recognition
- Face Recognition

# SEAPORT THREATS AND REQUIREMENTS

## Environmental Challenges of Seaport Surveillance



## Common Seaport Surveillance Management Requirements



### Container No. Recognition

- OCR technology recognizes container numbers, avoiding human error and interference
- It facilitates and enhances seaport management efficiency at the gate, yard, quay as well as operations of quay crane and spreader in the loading and unloading zones.



### License Plate Recognition

- All-in-one camera captures and recognizes the license plate of vehicles accessing seaport (country-specific)
- Drivers can communicate with command center through video intercom in emergencies or to verify identity



### Face Recognition & Access Control

- Face Recognition at the gate records a subject's facial characteristics, entrance time, and place of entrance
- The system will generate an alarm if recognized face is on the blacklist

# SEAPORT LAYOUT



## Perimeter

- Monitor the seaport perimeter
- Thermal detection



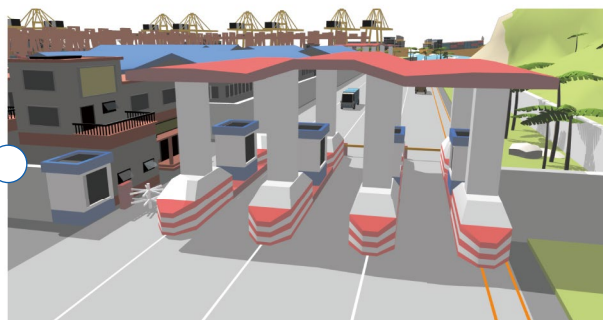
## Berth

- Monitor berth operations
- Anti-corrosion
- Container No. recognition



## Shipping Lane

- Monitor ships in shipping lanes
- Thermal detection, long-range zoom, panoramic mode



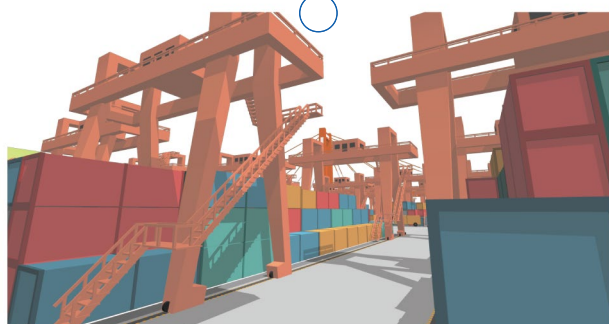
### Gate

- Monitor vehicles and personnel at the gate
- License Plate Recognition
- Container No. Recognition
- Face Recognition



### Warehouse

- Monitor warehouse cargo and operations in warehouse
- Starlight and low illumination technology
- Intelligent analysis of warehouse stock and movement



### Yard

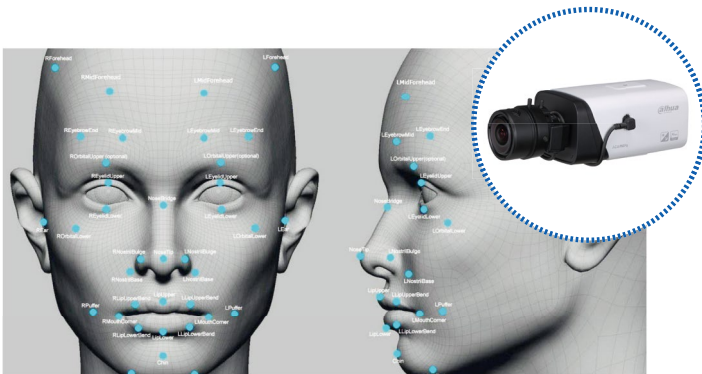
- Monitor yard operations in detail with 4K HD
- Explosion-proof design
- Anti-corrosion design

# BUSINESS UNIT

## Gate



- Uses image recognition algorithms to automatically recognize the license plate number
- Capture and recognize container numbers
- Container damage inspection



### Face recognition

- Recognizes distinct facial characteristics with intelligent algorithms
- Set blacklist entries and alarms for certain facial characteristics and information (such as name, gender, date of birth, ID number, etc.)
- Track when and where a suspect appeared at a crime scene
- Generate an alarm when a blacklisted face is recognized and help police catch criminals

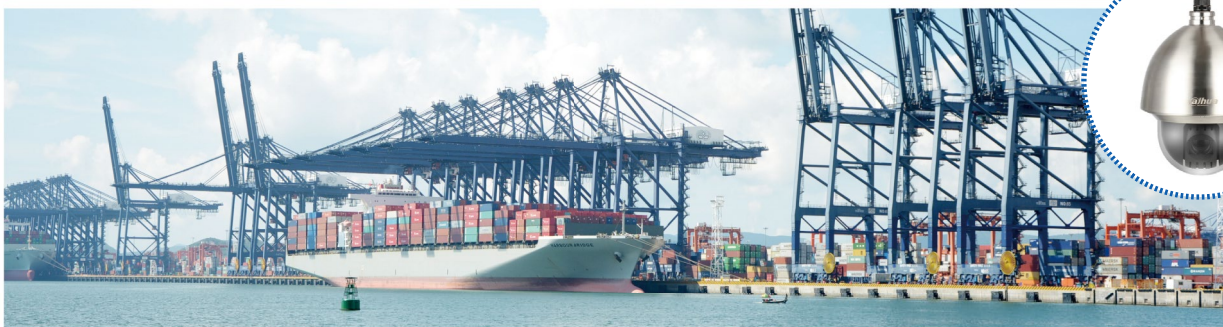
## Shipping Lane



- Multi-lens camera with 180 degree panoramic video displays wide-angle video in real-time
- Seaport shipping lane can be viewed more clearly
- Effectively improve the performance of emergency response command
- Thermal camera can work around-the-clock and in all weather conditions

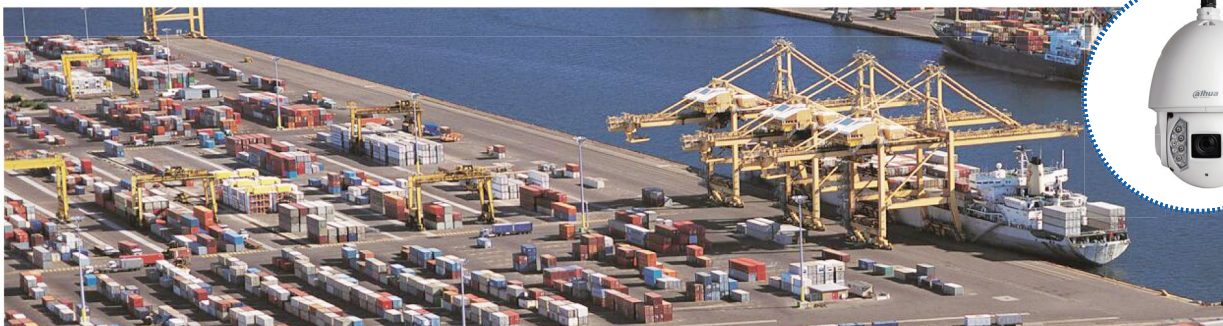


## Berth



- PTZ with corrosion-resistant shell reliably monitors the handling of cargo
- Container No. recognition tracks containers at each point during loading / unloading

## Yard



- PTZ camera with explosion-proof technology monitors the yard in real time
- Record container operation and provide images and video as evidence

## Perimeter



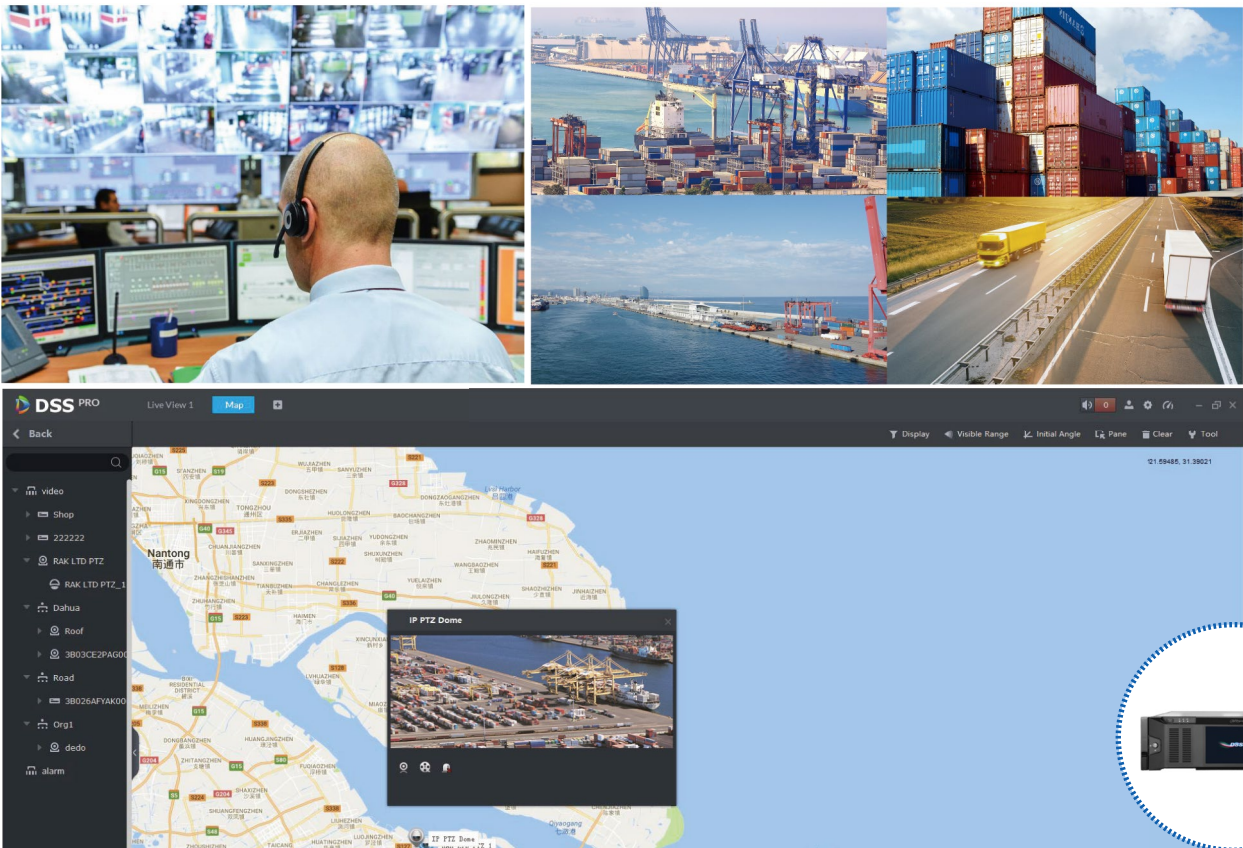
- Configure intelligent intrusion analysis system to automatically detect trespassers and foreign objects
- Alarm is linked to video surveillance and pops up on VMS client
- System displays intruding object and trajectory on video image
- Thermal camera can work around-the-clock and in all weather conditions

## Warehouse



- Configure cameras to monitor warehouse operations 24/7
- Cameras equipped with Starlight can record color images in dark environments with brightness as low as 0.006 Lux
- Thermal camera can detect abnormal heat sources to prevent fires

## Control Center



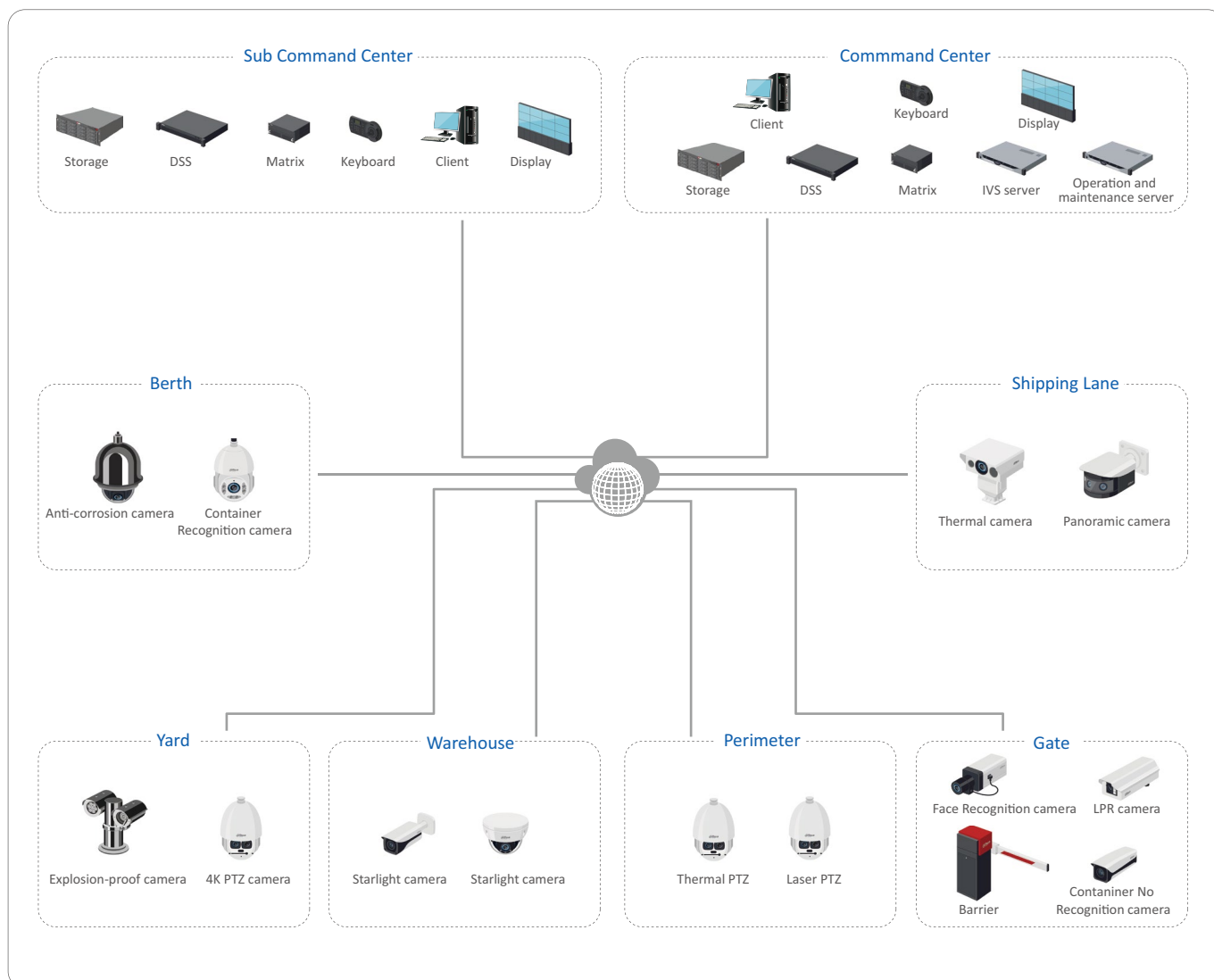
- Display map with satellite cloud images, hydrology and meteorology, weather, wave, tidal, and other image information and port operation information
- Manage all devices including viewing real-time video feed and playback
- Intelligent operation and management system allows centralized management of video surveillance, storage, display, and alarm systems
- Video synopsis displays summary of useful information for records sorted by subject and time

# SYSTEM STRUCTURE AND OVERVIEW

## System Overview

### Highlights :

- Unified management: Centralized management of vehicles, containers, and personnel
- High definition: 4K
- Adaptive camera: Anti- corrosion, explosion-proof, panorama, thermal camera
- High integration: All-in-one, M series for display
- Intelligent functions: License Plate Recognition, Face Recognition, Container Number Recognition, perimeter intrusion alarm, intelligent behavior analysis, etc.
- Easy to upgrade: HDCVI technology is cost-effective and easy to install
- High storage reliability: Local SD card storage, RAID technology, N+M solution, and hot spare
- High system efficiency: E-map, self-diagnosis



## Highlighted Technology

- 4K Resolution: Provides 4 times the details of 1080p in the same scenario



4K Ultra HD Resolution (3840x2160P)

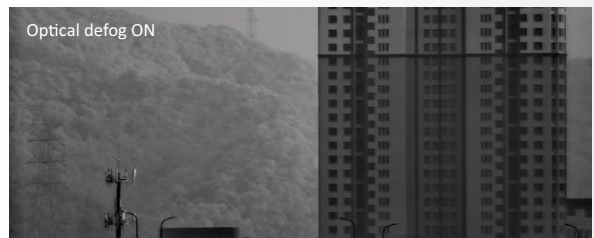
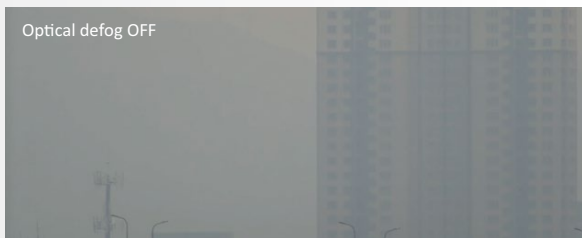


HD Resolution (1920x1080P)

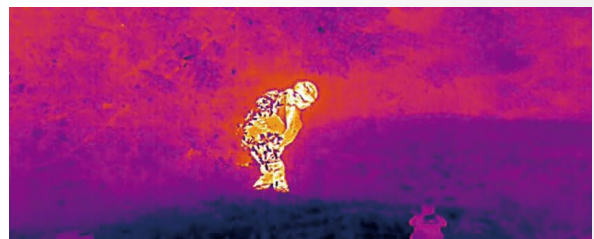
- Panorama Mode: One camera with a 180 degree field of view seamlessly covers shipping lanes like never before



- Optical Defog: Advanced optical defog with IR filter can remove 98% of fog, allowing you to see clearly



- Thermal Detection: Better night effect and contrast effect for shipping line cargo area and perimeter



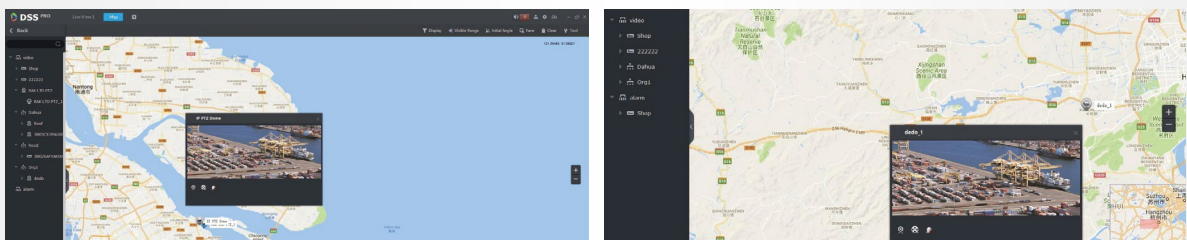
- License Plate Recognition: Recognize and record license plates and unauthorized actions. Blacklist alarm notifies command center if blacklisted plate is detected



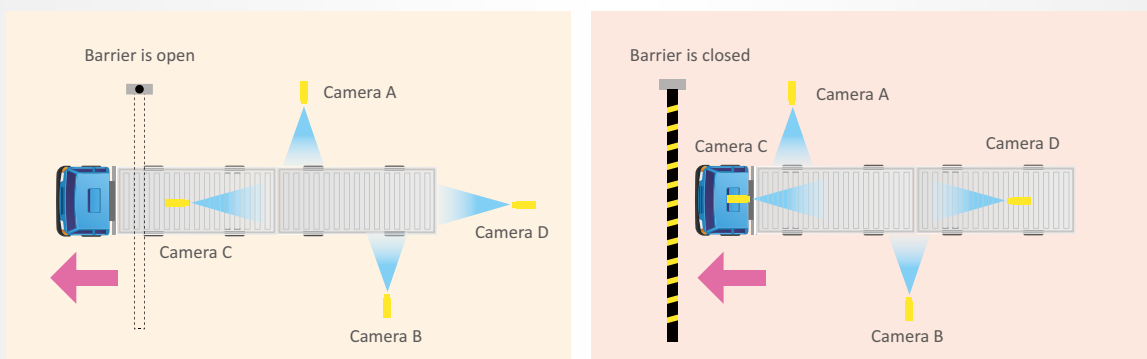
- Face Recognition: Face recording, blacklist alarm, and facial searches make it easy to keep track of personnel



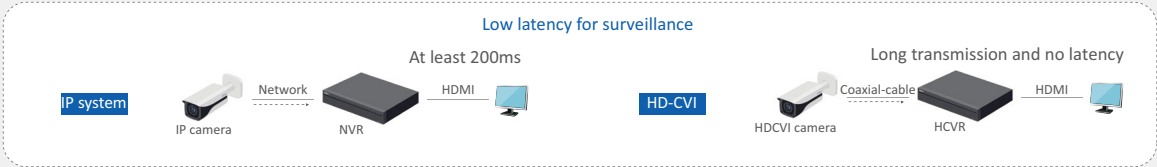
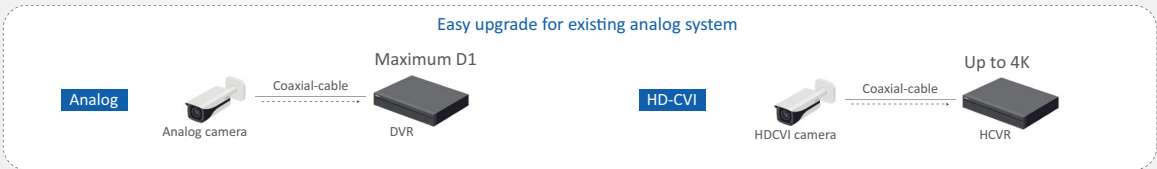
- E-Map Display: Smart tools provide an easy to use and intuitive visual experience



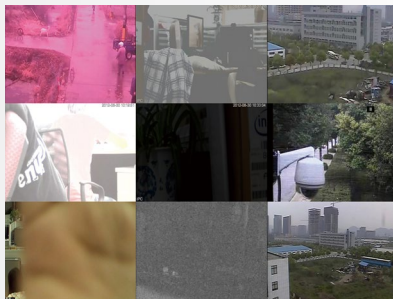
- Container Recognition: Recognize and record container numbers automatically and easily manage container data



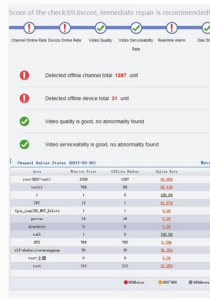
- HDCVI: High definition, low latency image paired with high scalability presents cost-effective system



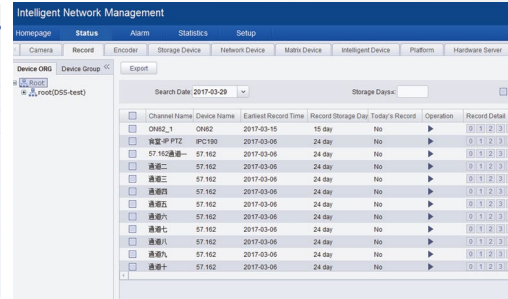
- Intelligent Operation and Maintenance: Find malfunctioning devices instantly



Video quality diagnosis



Device information diagnosis





Storage status diagnosis

## PRODUCT OVERVIEW

Product	Description	Gate	Shipping line	Berth	Yard	Warehouse	Perimeter	Control center
 DHI-ITC237-PU1B-IR	2 Megapixel Full HD WDR Access ANPR Camera	●						
 VTO2000A	Emergency Video Intercom	●						
 DHI-ITC302-RU1A	3M Traffic Picture Capture Camera	●						
 DH-IPC-HF8231F	2MP WDR Box Network Camera	●						
 DH-PFW8601-A180	Multi-Lens Panoramic Network IR Camera		●					
 DH-TPC-PT8620C	Thermal Network Tribrid PTZ		●					
 DH-SD6AE240V-HNI	2MP 40x IR PTZ Network Camera				●			
 DH-SD60230U-HNI-SL	2MP 30x Anti-Corrosion PTZ Network Camera			●				
 DH-SD6AE830V-HNI	4K 30x IR PTZ Network Camera				●			

## PRODUCT OVERVIEW

Product	Description	Gate	Shipping line	Berth	Yard	Warehouse	Perimeter	Control center
 DH-EPC230U-PTZ-IR	2MP 30x Explosion-Proof IR PTZ Network Camera				●			
 DH-TPC-SD8320-T	Thermal Network Hybrid Dome Camera						●	
 TPC-BF5600	Thermal Network Bullet Camera					●		
 DH-IPC-HFW5231E-Z	2MP WDR IR Bullet Network Camera					●		
 DHI-DSS7016D	General Surveillance Management Center							●
 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-IVS-F7500	Face Recognition Server							●



## PRODUCT SHOWCASE

DHI-ITC237-PU1B-IR



- 1/2.8" 2Mp STARVIS™ CMOS
- Embedded with LPR algorithm inside the camera
- Embedded with whitelist database and barrier control
- Powerful 5-50mm manual lens and IR light
- WDR, IP66

VTO2000A



- 1/3" 1.3Mp CMOS, 2.8mm lens
- Audio compression: G.711, Audio Input: omnidirectional mic
- Audio output : built-in speaker, keypad: single mechanical button
- Ethernet: 10M/100Mbps self-adaptive
- Ingress protection: IP54, IK07

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 harsh environments

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-IPC-PFW8601-A180



- Three 1/2.8" 2Mp STARVIS™ CMOS
- H.265/H.264 triple streams supported
- Max 25/30fps@4096x832
- Support 180-degree panoramic view
- IP67, IK10, PoE+

DH-TPC-PT8620C



- 640x512 VOx uncooled thermal sensor technology
- Athermalized Lens(thermal), autofocus
- 1/1.9" 2Mp progressive scan Sony CMOS
- Powerful optical zoom lens(Thermal&Visible)
- Laser range finder or laser illuminator optional
- Supports fire detection & alarm

## PRODUCT SHOWCASE

DH-SD6AE240V-HNI



- 1/2.8" 2Mp STARVIS™ CMOS
- Powerful 40x optical zoom
- H.265 Encoding
- Max. 50/60fps@1080P
- Hi-PoE, IP67, IK10

DH-SD60230U-HNI-SL



- 1/2.8" 2Mp STARVIS™ CMOS
- Powerful 30x optical zoom ,Starlight
- Max. 50/60fps@1080P, H.265
- PoE+, IP68, IK10, NEMA 4X report
- Material: 316L Stainless steel
- Anti-corrosion

DH-SD6AE830V-HNI



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

DH-EPC230U-PTZ-IR



- 1/2.8" 2Mp STARVIS™ CMOS
- Powerful 30x optical zoom
- 316L stainless steel housing
- H.265/H.264 Triple-stream Encoding
- Max. 50/60fps@1080P
- Explosion Proof

DH-TPC-SD8320-T



- 1/1.9" 2Mp progressive scan Sony CMOS
- 336x256 VOx uncooled thermal sensor technology
- Powerful 30x optical zoom
- Supports fire detection & alarm
- Supports temperature measurement
- Micro SD memory, IP66

TPC-BF5600



- 640x512 vox uncooled thermal sensor technology
- Athermalized Lens(thermal),Focus-free
- Supports Fire detect&alarm
- Various lens optional(9/13/19/25/35mm)
- Micro SD memory, IP67,POE

## PRODUCT SHOWCASE

### DH-IPC-HFW5231E-Z



- 1/2.8" 2Mp progressive scan STARVIS™ CMOS
- 50/60fps@1080(1920×1080)
- WDR(120dB), day/night(ICR), 3DNR, AWB, AGC, BLC
- Max. IR LEDs Length 50m
- Micro SD memory, IP67, PoE

### DHI-DSS7016D



- High performance stream media transfer and storage capability
- Supports distributed and cascade deployment
- Supports local storage and IP-SAN storage
- Supports max 2000 channels
- Supports management of 200 accounts and 700Mbps transfer capabilities

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

### DHI-IVS-F7500



- Combines face detection, face image comparison, and face image search with database functions
- Dynamic comparison register library supports up to 100,000 images
- Up to 4 channels simultaneous detection and comparison
- Search image database by time & location
- Detect faces in designated regions and enable tracking

## SUCCESS STORIES



### Pescara Harbor in Italy

Dahua Technology and its megapixel solution successfully secured the Pescara Port. Dahua solutions overcame unpleasant weather conditions which threatened to corrode devices, shorten their lifespan, and affect network transmissions.

- Dahua cameras provided a comprehensive solution for all types of surveillance scenarios including superb night surveillance.
- Dahua NVR devices satisfied storage requirements, and their RAID functionality enhanced system reliability and stability.
- The system adopts a ring networking structure with optical fiber, and guaranteed an adequate bandwidth at 108Mbps. The radio transmission system was configured at an access point of dual band 2.4/5.8GHz.



### Suva Harbor in Fiji

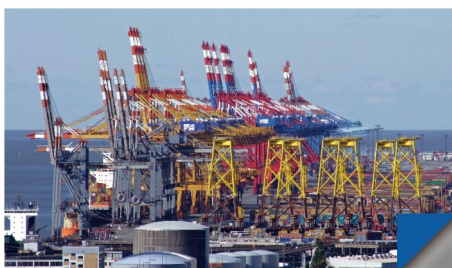
Dahua completed video surveillance for Suva Harbor in Fiji to guarantee the security of daily operation work.

- Multiple types of IP cameras met the various requirements of different scenes, including the outdoor working area, office hall, etc.
- 5.8G wireless transmission overcame need for wiring and ensured reliable transmission speeds.



### Manila North Harbor in the Philippines

Dahua provided a video surveillance solution for Manila North Harbor( PHMNN ). Dahua installed dozens of PTZ cameras to guarantee the security of daily operations.



### Hainan Yangpu Harbor in China

Dahua Technology and its megapixel solution successfully secured Hainan Yangpu Harbor through an HD surveillance solution, including HD IP cameras, encoders, IP storage and VMS platform.

- Hundreds of network cameras and speed domes
- Back end eco-savvy NVR and super NVR at monitoring center for back up storage.



# ENABLING A SAFER SOCIETY AND SMARTER LIVING

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

Smart Transportation Solution - 01, Jan 2019

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