



Dahua Critical Infrastructure Solution

Be Prepared for Every Potential Risk



Electric Power



Oil and Gas



Telecommunication



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- Key technology
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- Challenge and requirement
- Key technology
- Solution details and product showcase
- Success Cases



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Base Station Solution

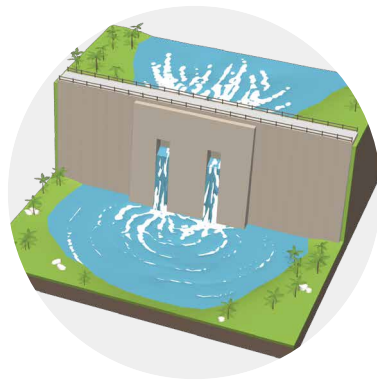
- Challenge and requirement
- Key technology
- Solution details
- Product showcase
- Success case



SMART POWER SOLUTION



ELECTRICITY INDUSTRY APPLICATION SCENARIOS



Generation

Generation

Electricity is generated by hydropower and other independent power producers.

Transmission

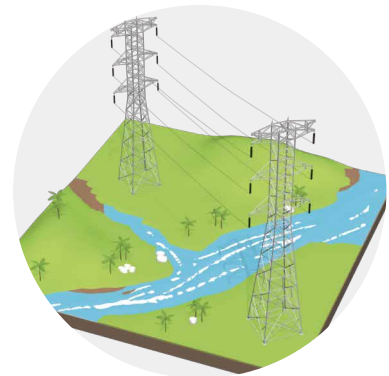
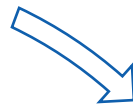
Electricity is moved from where it is produced to where it is used.

Substation

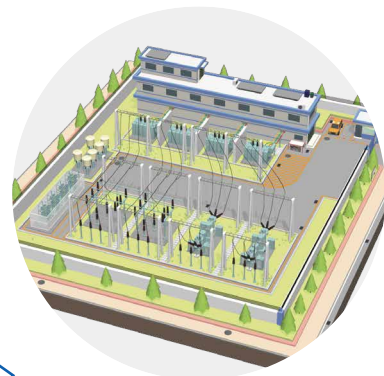
Voltage is reduced at substation to provide power suitable for use in homes and business.

Distribution

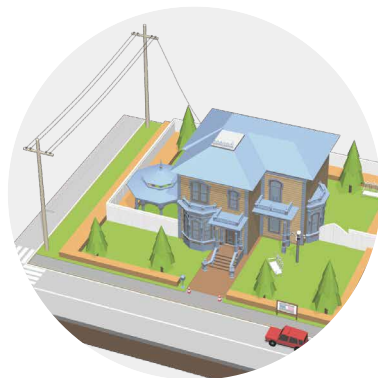
Low voltage electricity is provided to neighborhoods and business.



Transmission



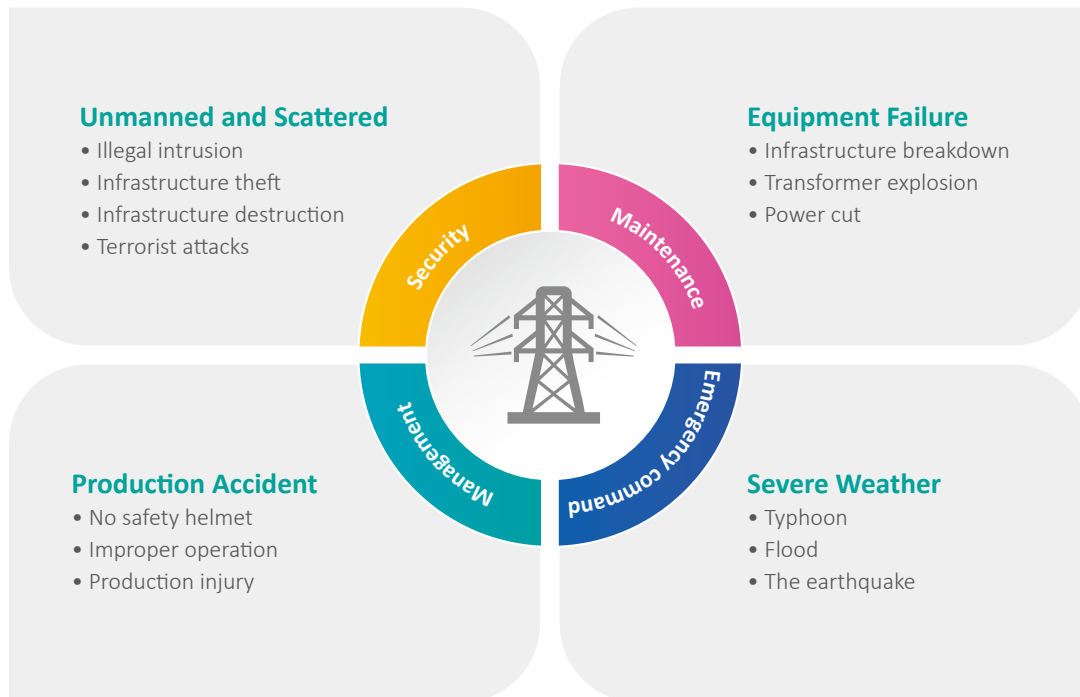
Substation



Distribution



CHALLENGE AND REQUIREMENT



KEY TECHNOLOGY

01

AI for Security

- Human recognition
- Human body detection
- Perimeter intrusion alarm
- Searched by image

02

Easy Maintenance

- Thermal detection alarm
- Online thermal temperature analysis
- HD video online checking

03

All-environment

- Explosion proof
- Anti-corrosion
- Industrial designed

04

Remote Surveillance and Control

- HD video surveillance
- VMS for integration
- Make linkage with SCADA system

POWER PLANT

SOLUTION INTRODUCTION



Hydro Power

- Entrance security
- Predictive maintenance
- Dam panorama surveillance
- Oil house explosion surveillance
- Control center remote surveillance
- Substation management



Wind Power

- Control center remote surveillance
- Predictive maintenance
- Substation management



Solar Power

- Intelligent perimeter protection
- Substation management



Nuclear Power

- Entrance security
- Intelligent perimeter protection
- Substation management



Thermal Power

- Entrance security
- Intelligent perimeter protection
- Predictive maintenance
- Fire detection
- Control center remote surveillance
- Substation management



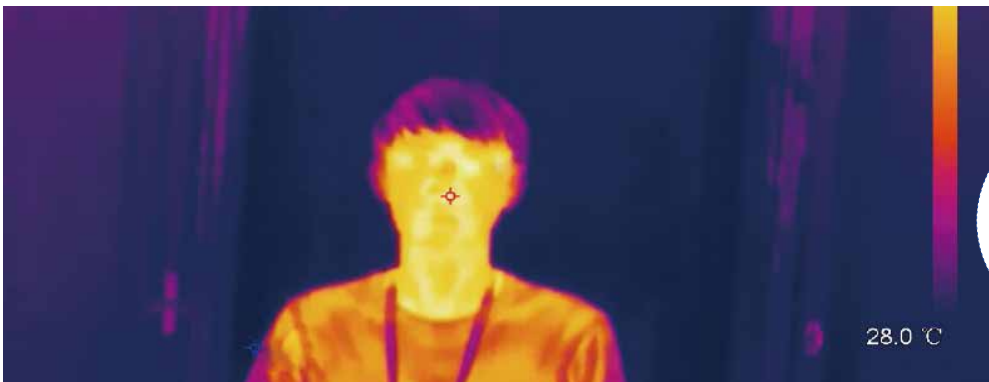
Intelligent Entrance Security



Entrance Surveillance and Human Recognition

- Entrance area video surveillance
- Infrastructure everyone who enters and capture the image
- Supports blacklist and alarm for anti-terrorist purpose

Intelligent Perimeter Protection



Thermal Image and Human Body Detection

- Thermal imaging is visible both day and night
- Supports human body detection and intrusion alarm
- Supports alarm linkage with PTZ camera

Predictive Maintenance and Fire Detection



Easy Maintenance

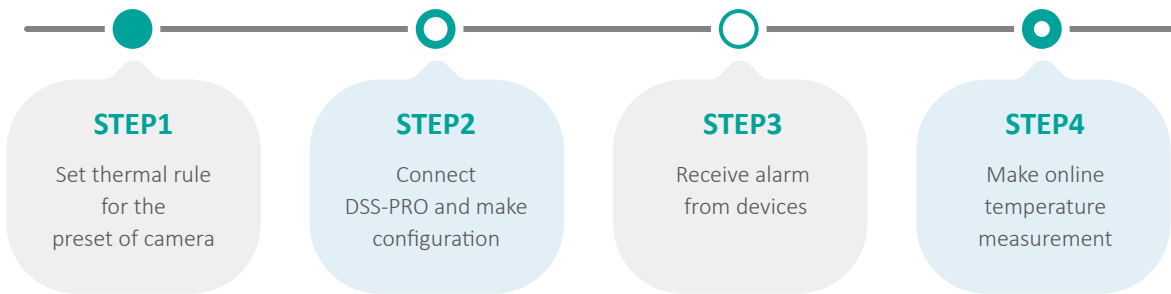
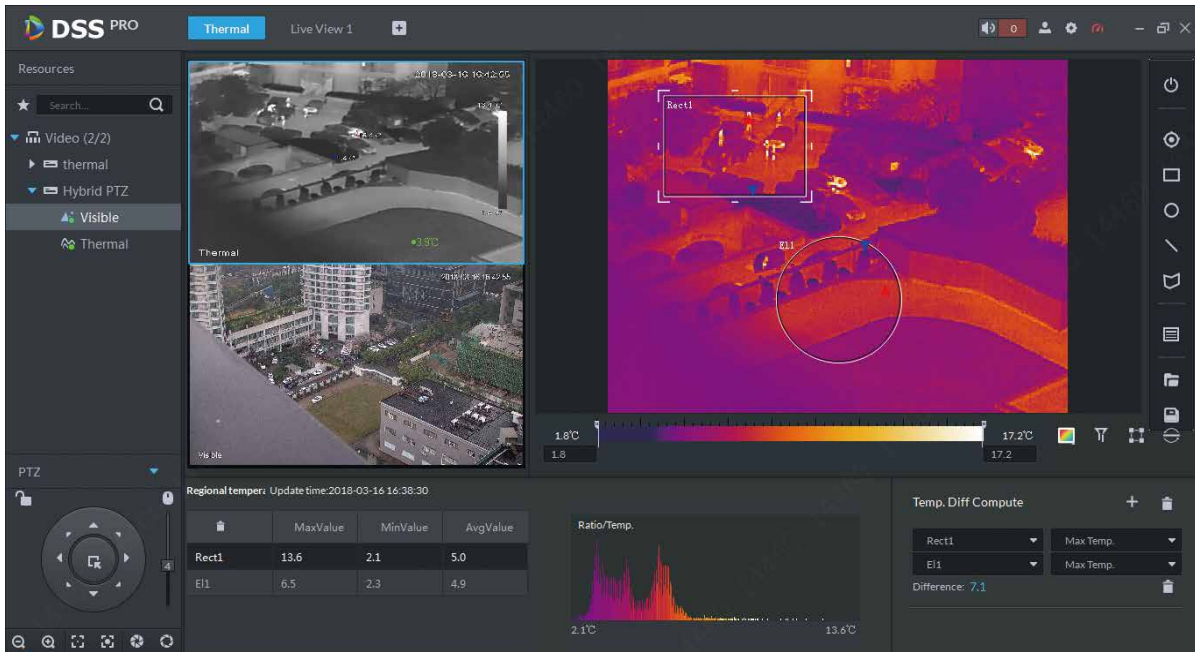
- By thermal channel of hybrid camera and DSS-PRO software, it can do electric infrastructure maintenance during production
- The visible channel shows the production area clearly

Fire Detection

- Fuel area may overheat or even catch fire. The thermal camera can detect fire and send alarm to control center

Critical Infrastructure Solution

Be Prepared for Every Potential Risk



Remote Surveillance for Special Areas



Dam Panorama Surveillance

Dam, as the most important part of a hydro power plant, is at risk to threats like terrorism, etc. Dahua multi-sensor panoramic camera+PTZ camera can monitor the whole dam area and can track moving targets with 37x zoom.



Oil Storehouse Explosion-proof Surveillance

Oil storehouse is dangerous due to the risk of explosion. The explosion-proof camera is suitable for this kind of environment.



Blade Surveillance From Maintenance Platform

- Wind power plants are always situated away from the city. It takes a lot of time for maintenance.
- By installing this camera on the platform, users can see every detail of the blades.
- This camera has anti-corrosion capability that is suitable for offshore installation.

Entrance and Switch Room Security

- HD PTZ camera monitors the entrance and switch room for security

Remote Surveillance at Control Center



VMS Platform

- DSS software and sever access all cameras from different areas
- The platform supports remote video surveillance, playback, thermal temperature analysis and other functions

Video Wall

- Video wall includes LCD video wall, LED display and monitors
- M70 decodes the video signal and controls video walls

PRODUCT SHOWCASE

IPC-HFW5242E-ZE



- 1/1.8" 2Megapixel progressive scan CMOS
- 2.7 mm–12.0 mm motorized lens
- 2/1 Alarm in/out, 1/1 audio in/out
- Max. IR LEDs Length 50 m

IVSS7008-1I



- Industry embedded micro-controller
- Up to 16-channel perimeter protection
- Up to 6-channel face recognition by device
- Up to 20-channel face recognition by camera
- Up to 4-channel Video Metadata
- Up to 50 face databases with 300,000 face pictures in total

TPC-BF5401



- 400x300 VOx uncooled thermal sensor technology
- Athermalized Lens (thermal), Focus-free
- Support Fire detection & alarm
- Various lens optional (7.5/13/25/35mm)
- 2/2 alarm in/out
- Micro SD memory, IP67, PoE, ePoE

SDT5A405WA-4F-B



- Dual 1/1.8" 4M CMOS
- 5x Optical Zoom
- Starlight+ Technology
- 100m IR Distance
- Face recognition
- Deep-learning-based auto tracking and perimeter protection

SD6AL245U-HNI-IR



- 1/2.8" 2Mp STARVIS™ CMOS
- Powerful 45x optical zoom
- Auto tracking and IVS
- Supports Hi-PoE
- IR distance up to 300m
- IP67

PSDW8842M-A180



- Panoramic: Four 1/1.8" 2 Megapixel progressive scan CMOS
- PTZ: One 1/1.8" 4 Megapixel progressive scan CMOS
- Starlight technology
- IR distance up to 400 m
- Smart tracking
- Crowd map



PRODUCT SHOWCASE

TPC-SD8x20-T



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

PTZ19245U-IRB-N(-B)



- 1/2.8" 2MP STARVIS™ CMOS
- Powerful 45x optical zoom
- Starlight technology
- Max. 50/60fps@1080P
- IR distance up to 350m
- Anti-corrosion, IP68

EPC230U



- 1/2.8" 2MP STARVIS™ CMOS
- Powerful 30x optical zoom
- 304 stainless steel housing
- Supports IVS
- IR distance up to 100m
- ATEX and IECEx Certification, IP68

DSS Pro



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

NVR608-32-4KS2



- Intel processor
- Max 32 IP camera inputs
- Max 384Mbps incoming bandwidth
- Up to 12MP resolution for preview and playback
- Supports RAID 0/1/5/6/10
- Smart tracking and intelligent video

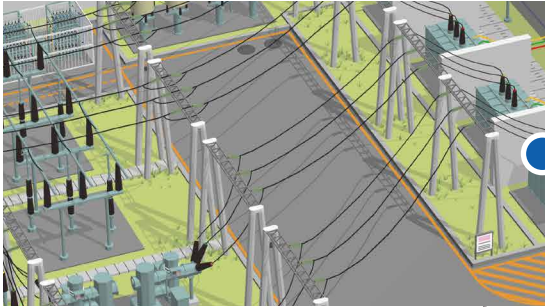
M70-4U-E



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

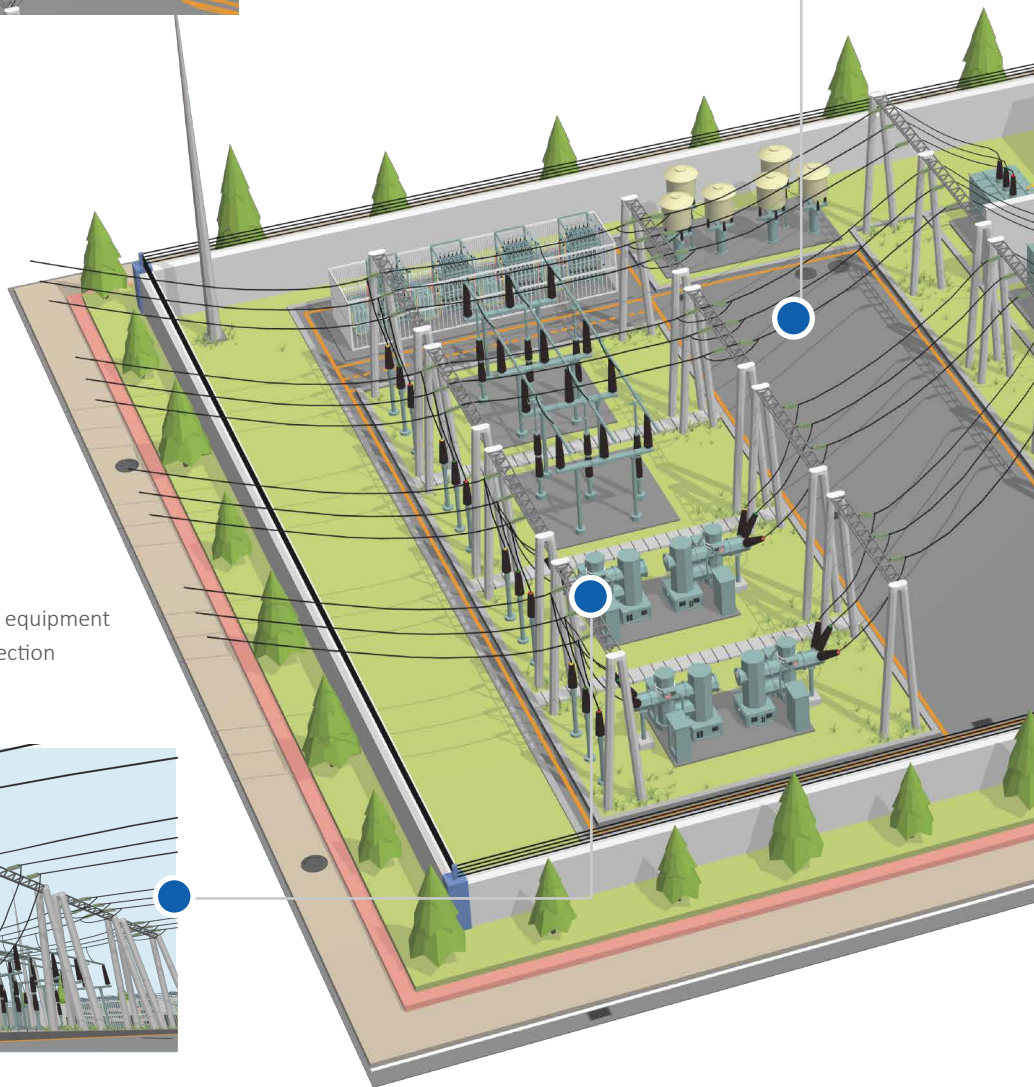
POWER GRID SOLUTION

SOLUTION OVERVIEW



• Production Safety

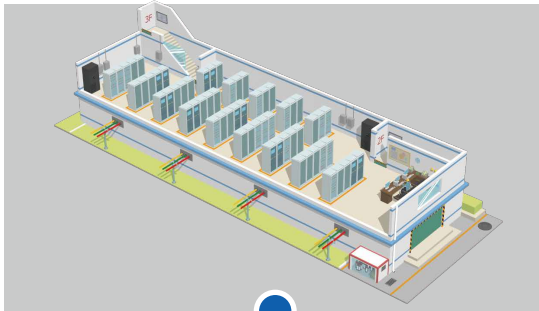
- High resolution video surveillance and record
- Auto tracking by staff.



• Predictive Maintenance

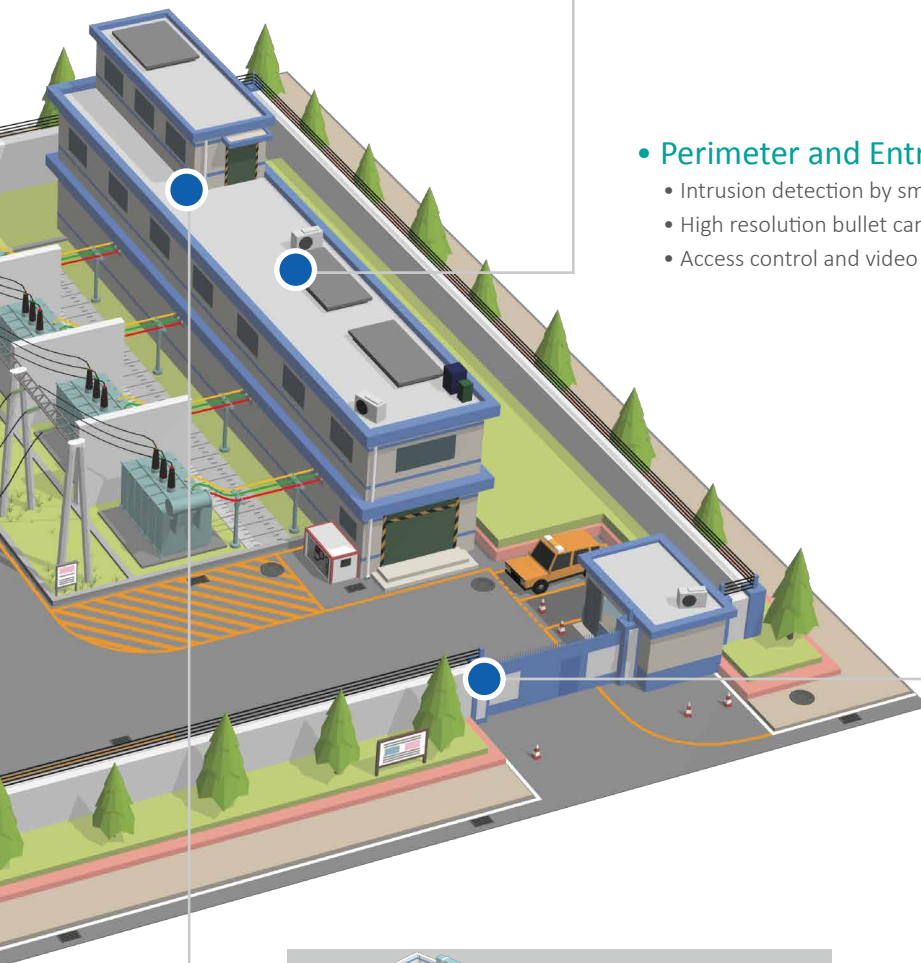
- Thermal detection and alarm of key equipment
- Real-time thermal temperature detection
- Thermal picture analysis





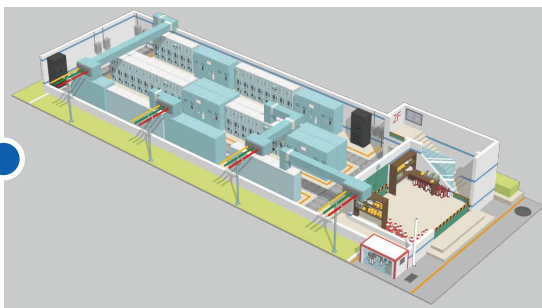
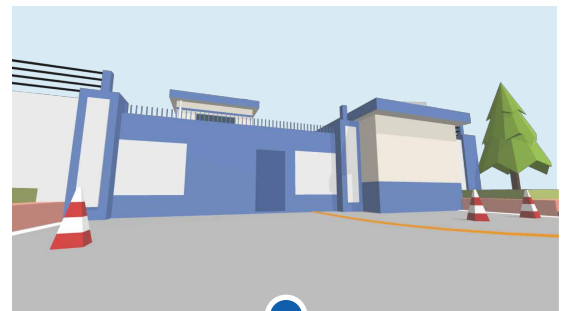
• Control Center

- DH-DSS VMS platform
- Several types of video wall
- Linkage with SCADA system



• Perimeter and Entrance Security

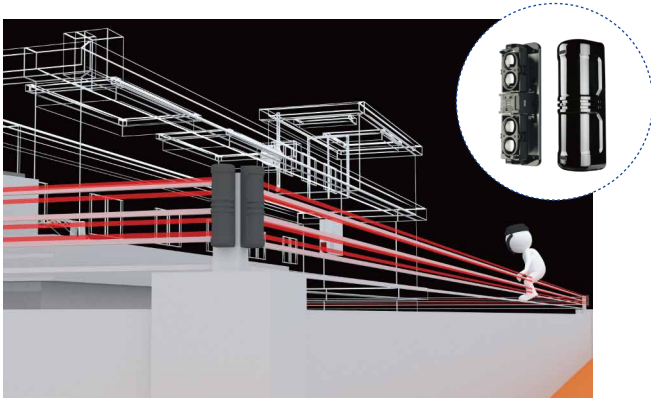
- Intrusion detection by smart cameras, including thermal camera and AI camera
- High resolution bullet camera for entrance, and also some AI camera
- Access control and video linkage



• Environment Monitoring

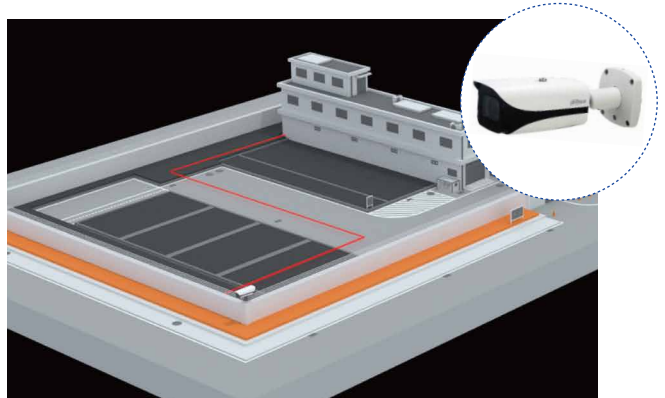
- Smoke detection
- Water detection
- Environment temperature and humidity detection
- Integration with other sensors

Perimeter Security



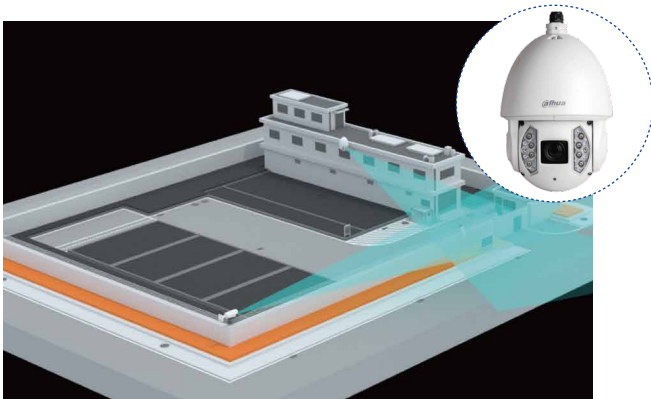
Traditional Security Solution

- Installing PIR detector at the corner of a fence provides effective intrusion detection.
- Sends intrusion alarms to warn the controller or FSU
- Sends intrusion alarms to DSS platform in the control center



ePoE Video Solution

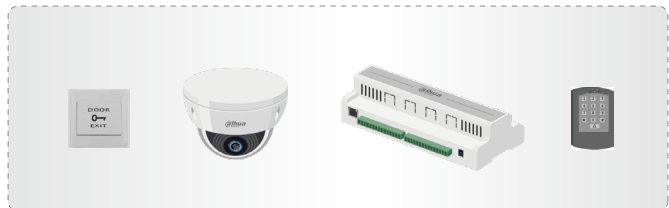
- IR network camera monitors the perimeter both day and night
- ePoE is one of Dahua's key technologies
- For normal cameras, they can transmit video and power for less than 100m, but ePoE cameras support 800m transmission



Smart Video Solution

- Thermal camera supports perimeter surveillance both day and night
- Thermal camera supports human body detection and intrusion alarm
- Supports linkage with PTZ camera

Access Control



Substation Rooms

- Door controller manages doors in the substation
- Opens doors with cards
- Supports linkage with camera

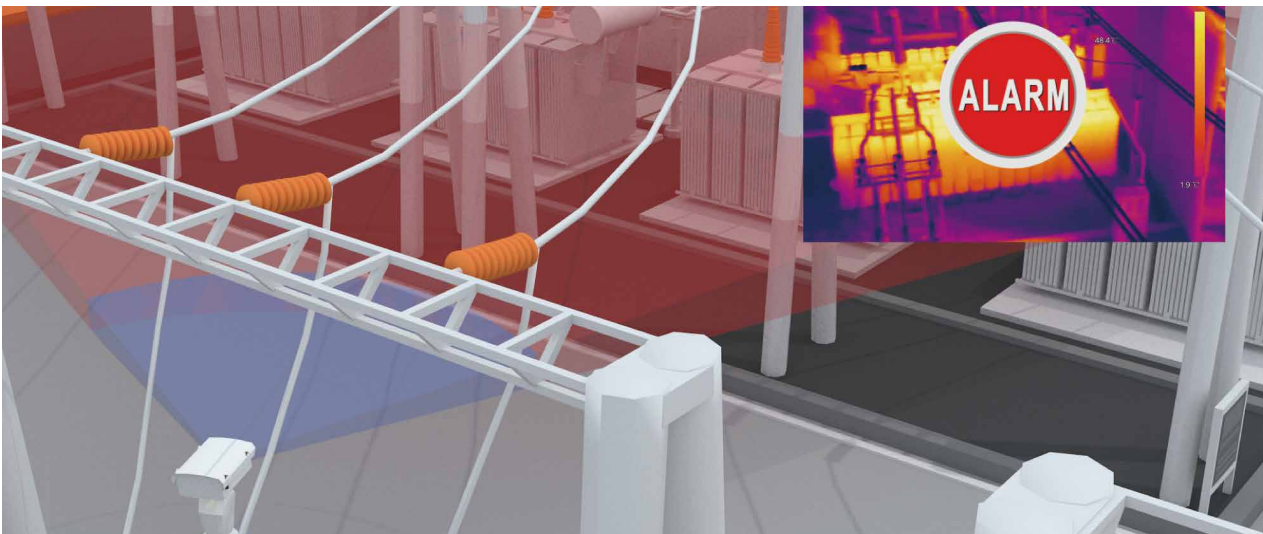


Predictive Maintenance



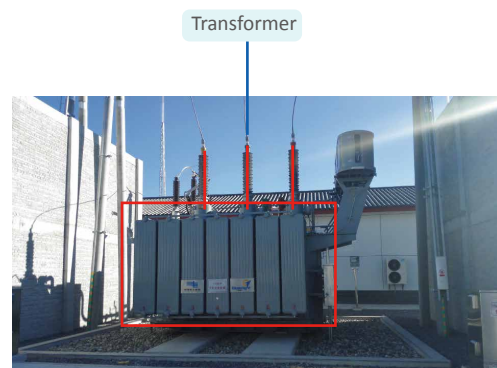
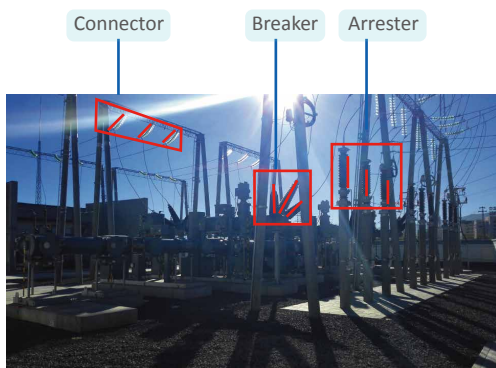
• Easy Maintenance for Smart Power Grid

- Easy Connect: Camera + PC + DSS Pro
- Easy Test: All functions in one model
- Professional for maintenance



Thermal temperature measurement is the most effective means for real-time, remote on-line detection of high-voltage equipment.

• Typical Subjects of Thermal Temperature Measurement



Environment Surveillance

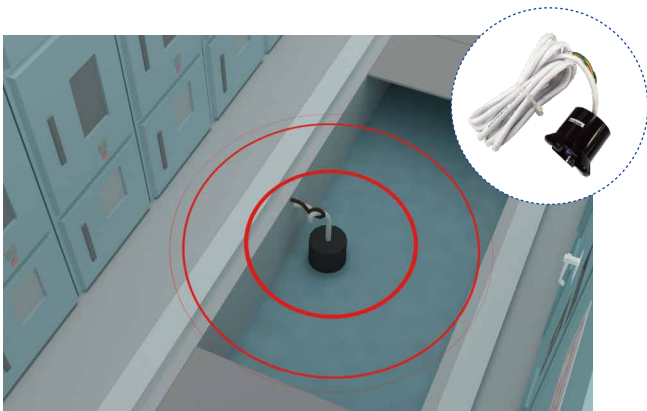


Temperature and humidity detector, water detector, smoke detector and other detectors all connect to this unit. It can connect to the platform and can also be used locally.



T & H Detection

- Temperature and humidity detection and alarm
- Supports linkage with air conditioner



Water Detection

- If water flows into the room, it will alarm.

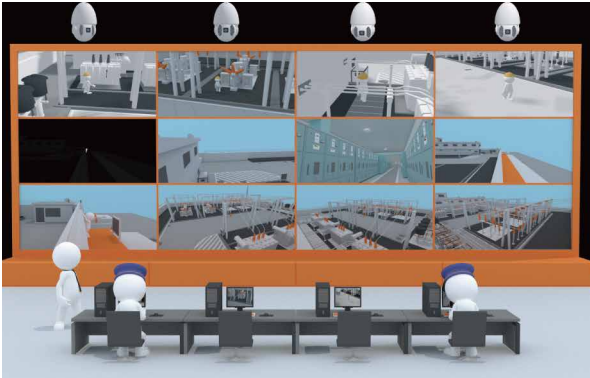


Smoke Detection

- It will send an alarm if the device detects fire.



Production Safety



Staff Auto-tracking and Record

- Dahua PTZ camera automatically tracks the process of production and records it.
- The production safety manager can remotely inspect the staff in the substation.
- If an accident occurs, the recorded video will help the manager analyze the situation.

Remote Surveillance and Control



Power Grid Control Center

- Power grid control center manages all its substations with Dahua VMS platform and video wall. Dahua system also supports the linkage with SCADA system.

Drone for Transmission Line



Tour Inspection

- Power transmission line inspection is hard work and drone tour inspection makes it easy.
- By drone tour inspection, staff can check the tower and power transmission line remotely.

Distribution Room Surveillance



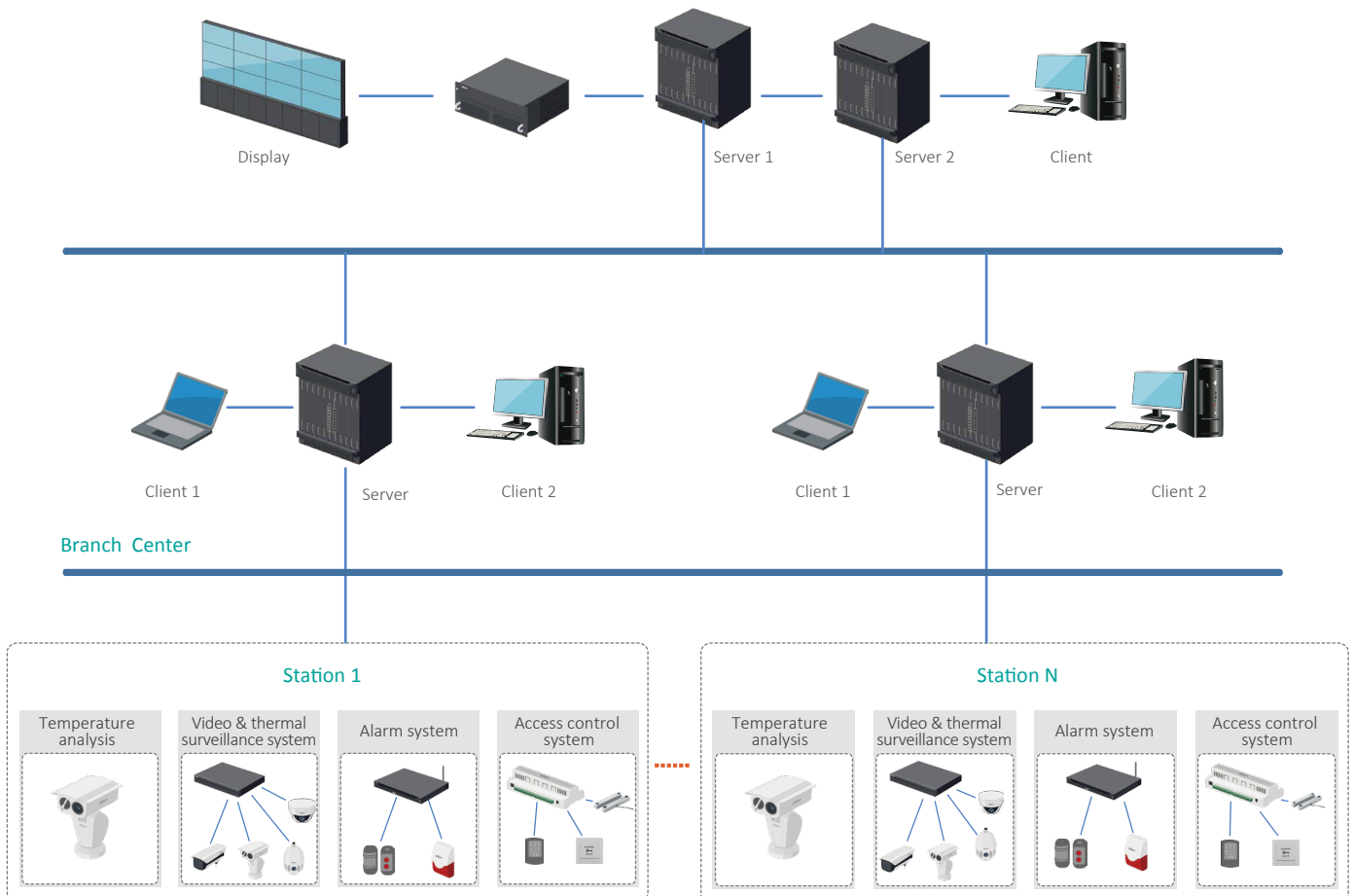
Outdoor Switch Room

- Install camera outside the switch room to prevent any damages.
- Managers can check equipments through cameras inside the switch room.

Indoor Switch Room

- Cameras in this kind of switch room can monitor the whole room including the entrance, windows and equipment.

SYSTEM STRUCTURE





PRODUCT SHOWCASE

TPC-BF5401



- 400x300 VOx uncooled thermal sensor technology
- Athermalized Lens (thermal), Focus-free
- Supports fire detection and alarm
- Various lens optional (7.5/13/25/35mm)
- 2/2 alarm in/out
- Micro SD memory, IP67, PoE, ePoE

SD6AE233XA-HNR



- 1/1.8" 2Megapixel CMOS
- Powerful 33x optical zoom
- Starlight technology
- Deep-learning-based auto tracking
- IR distance up to 200m
- IP67 , IK10

LHP-200Q



- Detecting distance 200m
- Sensitivity level adjustable, level 1~5
- Anti-tamper function
- Adjust beams easily
- Alarm type N.C/N.O. optional

IPC-HFW5241E-Z12E



- 1/2.8" 2Megapixel progressive scan STARVIS™ CMOS
- 5.3 mm–64.0 mm motorized lens
- 2/1 Alarm in/out, 1/1 audio in/out
- Max. IR LEDs Length 150 m
- Micro SD memory, IP67, IK10

TPC-PT8x20A-T



- VOx uncooled thermal sensor technology
- 1/1.9" 2MP progressive scan Sony CMOS
- Powerful 30x optical zoom
- Supports temperature measurement
- Supports fire detection and alarm

ARC6416U-C



- 8 AI (analog input 4~20mA, 0~2V, 0~5V) detectors, customize threshold definitions
- 16 on-board zones, 8 RS485 detectors, 2 RS232 detectors, 4 channel relay output
- 4 channel@1080P IPC
- 4 Ethernet ports, 2 GB SFP fiber module ports
- Support 3G WCDMA(-C only)
- Support 2x3.5-inch HDD, up to 4TB for each HDD
- Web configuration, alarm and video review

PRODUCT SHOWCASE

ASC1202B-D



- Support 100,000 valid cards & 150,000 records
- Support card, password, fingerprint and combination
- Wiegand or RS-485 interface to readers (2 door)
- Door timeout alarm, intrusion alarm, duress alarm and tamper alarm
- Supports 128 efficient time and holiday schedules
- Surface mounted installation

NVR608-32-4KS2



- Intel processor
- Max 32 IP camera inputs
- Max 384Mbps incoming bandwidth
- Up to 12MP resolution for preview and playback
- Supports RAID 0/1/5/6/10
- Smart tracking and intelligent video

DSS Pro



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

ASR1100B ASR1100B-D



- Supports RS485, Wiegand34 protocol (Wiegand 26 optional)
- 13.56MHz (Mifare)
- 125KHz (EM-ID)
- Water-proof design
- Red and Green indicator LEDs
- Watch dog function ensures device free from halting
- Surface mounted installation

M70-4U-E



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

DHI-LS550UEM-EG



- Ultra-narrow 0.88mm bezel-to bezel design(0.44mm even panel bezel)
- Built-in 3D COMB filter and 3D noise reduction
- Wide array of connectivity options HDMI, DVI, VGA, BNC, RS232, USB, Audio
- Built-in picture splicing function
- Built-in power, low energy consumption, ultra-quiet



SUCCESS STORIES



Project Introduction

- This project includes company center, management center, power station center and various places of power station. This project focuses on video surveillance and also includes access control. Dahua helped CTG (China Three Gorges Power Plant) construct the whole system which is renewable every 5 years for single station.

Key Point 1

- On February 2012, Dahua signed the VMS platform contract with Guangdong Province Power Grid.

Key Point 2

- In 2010, Dahua signed the VMS platform contract with CTG.
- In 2011, Dahua helped Yangtze CTG in compiling video surveillance enterprise standard.



Project Introduction

- This project includes grid center, provincial center, city center and substation system. This project includes all substations that belong to China southern power grid, from 35kV to 1000kV substations. We have accessed 30000 cameras and other devices in the power grid center. This project includes CCTV, access control, alarm, environment surveillance and control subsystems.

Key Point

- On February 2012, Dahua signed the VMS platform contract with Guangdong Province Power Grid.

SUCCESS STORIES



Project Introduction

- Dahua provides remote video surveillance system for 220kV and 66kV power grid in Nairobi, Kenya, to help improve the remote monitoring and management ability of Kenya's power grid. On February 2012, Dahua signed the VMS platform contract with Guangdong Province Power Grid.



Project Introduction

- Electricity is a secondary energy source. Due to the shortage of primary energy, Bengal power supply has been in short supply for a long time. Built in the 1950s, Bengal Gu La Sau power station was the largest in Bengal with a total installed capacity of 950 megawatts by the early 1990s. Gu La Sau power station is one of the key projects of China's "One Belt One Road" initiative. Dahua is responsible for upgrading the security system of the power station to ensure the safety and stability of the power station.

A low-angle photograph of an oil pumpjack against a clear blue sky. The structure is painted in bright red and blue. The main vertical support is blue, while the long walking beam and counterweights are red. The counterweights have yellow tips and several circular holes. The pumpjack is mounted on a yellow base. A small green horizontal bar is located above the text.

OIL AND GAS SOLUTION

OIL AND GAS LAYOUT

- **Oil Transportation**

- Pipeline
- Stations



- **Oil Exploration & Extraction**

- Exploration area
- Offshore oil field
- Onshore oil field





• Oil and Gas Sales

- Depot
- Oil truck
- Gas station



• Oil Refining

- Refinery plant
- Petrochemical plant

CHALLENGE AND REQUIREMENT



KEY TECHNOLOGY OF OIL AND GAS SOLUTION

01

AI for Security

- Human recognition
- Vehicle recognition
- Search by image
- Perimeter intrusion alarm

02

Smart Gas Station

- Vehicle flow analysis
- Fire & smoke detection
- Vehicle blacklist alarm
- VIP recognition
- Integrated with BOS and POS

03

All-environment

- Explosion-proof
- Anti-corrosion
- Industrial designed

04

Remote Surveillance

- HD video surveillance
- Off-grid surveillance
- Mobile surveillance
- VMS for integration



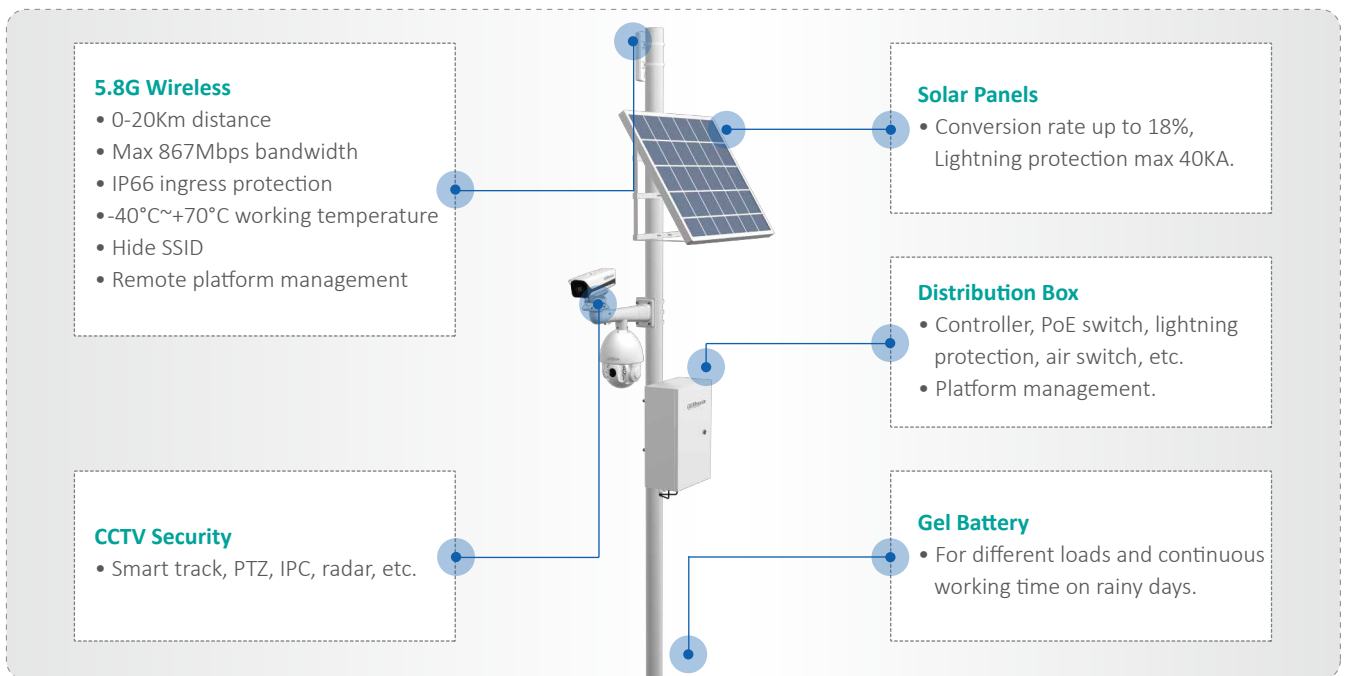
EXPLORATION AREA AND OIL FIELD

PUMPING UNIT SURVEILLANCE

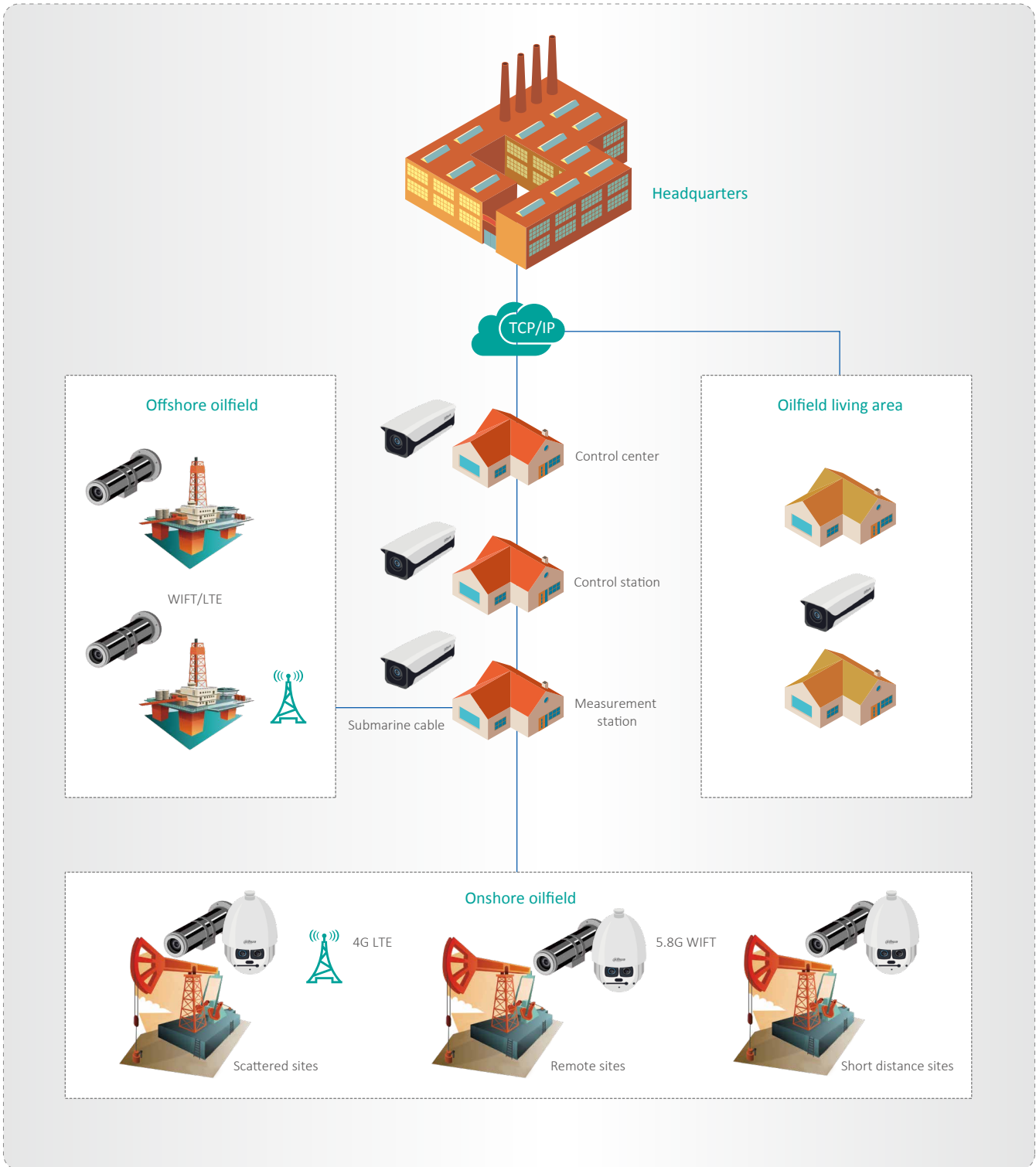


- Important oil field drilling equipment is secured.
- Cameras feature intelligent analytics functions such as tripwire detection, intrusion, and auto-tracking to ensure oilfield safety.
- Real-time alarms prohibit unauthorized personnel and vehicles from trespassing by sending an alert when it's triggered.

5.8G Wireless Transmission and Solar Power System



Oil Field Video Surveillance System Network Construction





PRODUCT SHOWCASE

EPC230U



- 1/2.8" 2MP STARVIS™ CMOS
- Powerful 30x optical zoom
- 304 stainless steel housing
- Supports IVS
- IR distance up to 100m
- ATEX and IECEx certification, IP68

SD6AL245U-HNI-IR



- 1/2.8" 2MP STARVIS™ CMOS
- Powerful 45x optical zoom
- Max. 50/60fps@1080P
- Auto tracking and IVS
- Supports Hi-PoE
- IR distance up to 300m
- IP67

DSS Pro



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

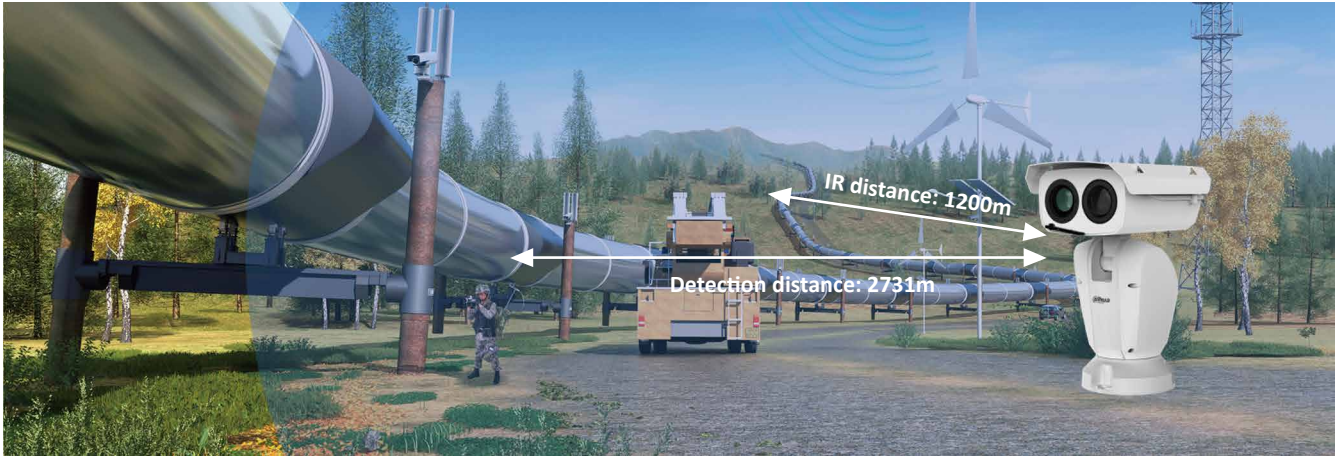
PFM363L-SD1



- Aluminum alloy frame
- Monocrystalline solar panel
- Lithium battery pack
- Maximum Power Point Tracking (MPPT) charging controller
- Electronic protection
- Non-standard PoE for wireless device through combiner

PIPELINE AND STATIONS

PIPELINE SURVEILLANCE



Pipeline Long-distance Positioning System

- Dahua 48x starlight laser network positioning supports 2731m detection with up to 1200 IR distance

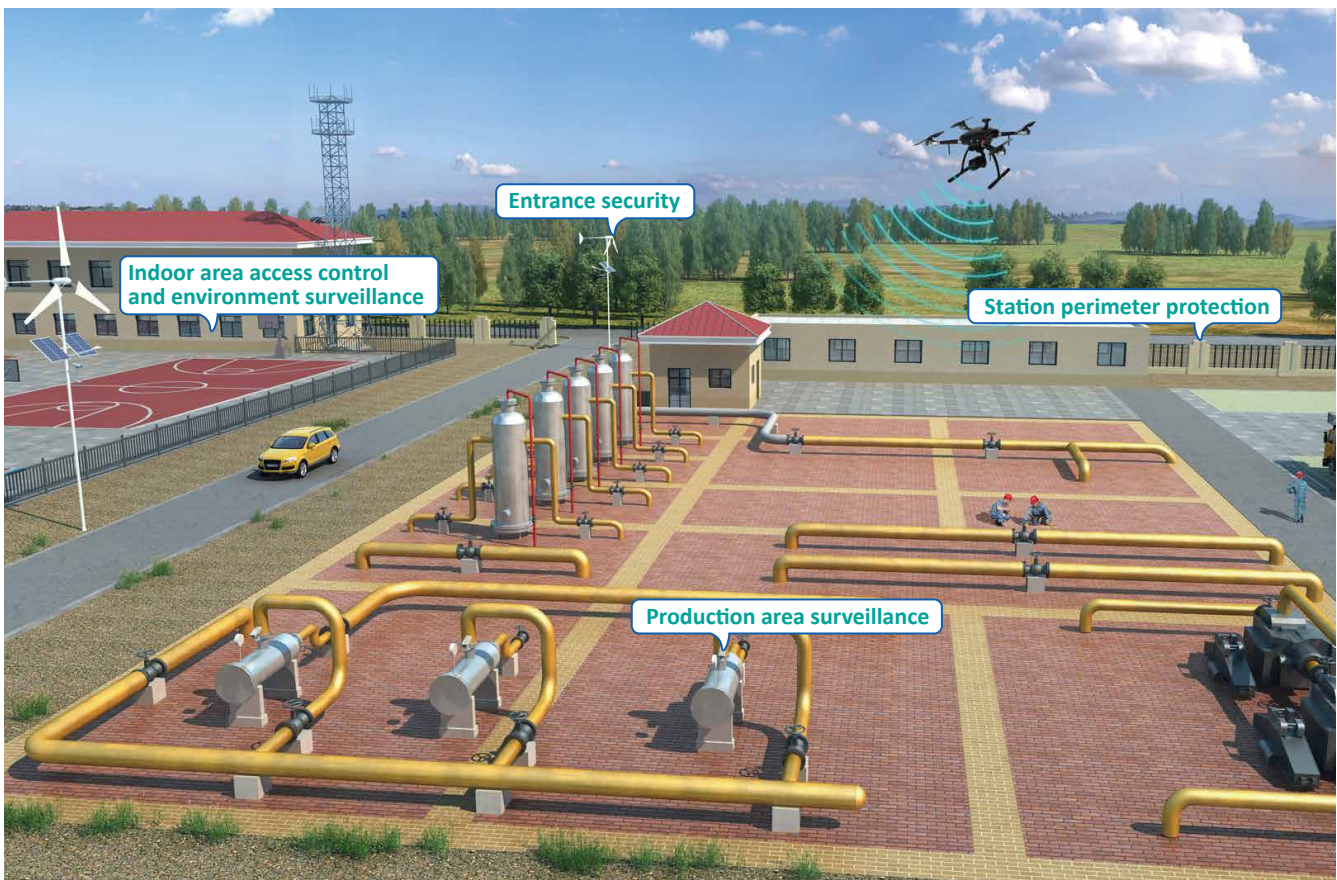
Solar Power System

- Solar power system is suitable for areas that long-distance positioning system cannot reach.

Drone Tour Inspection

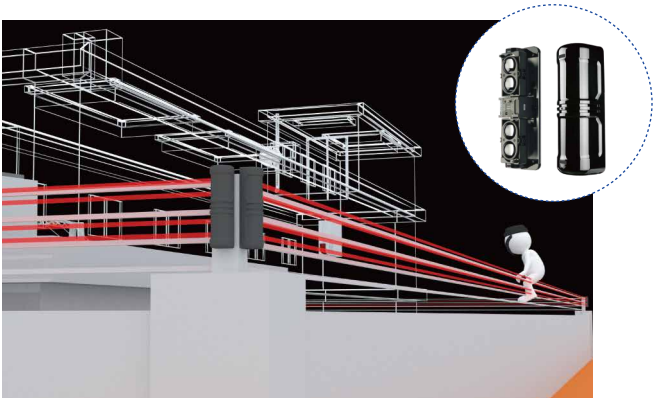
- Pipeline inspection is hard work and drone tour inspection makes it easy
- Staff can check pipelines remotely via the drone tour inspection.

Smart Station Solution



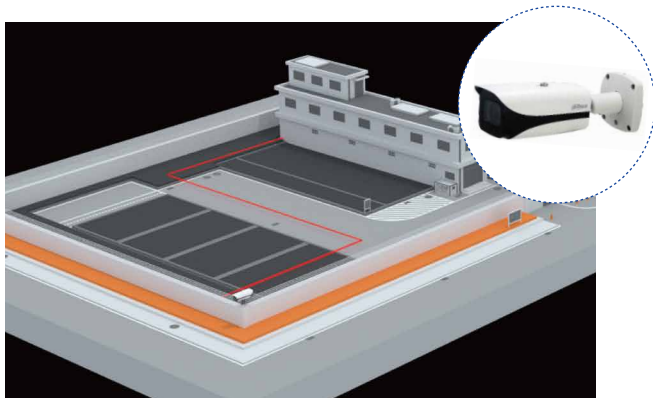


Station Perimeter Protection



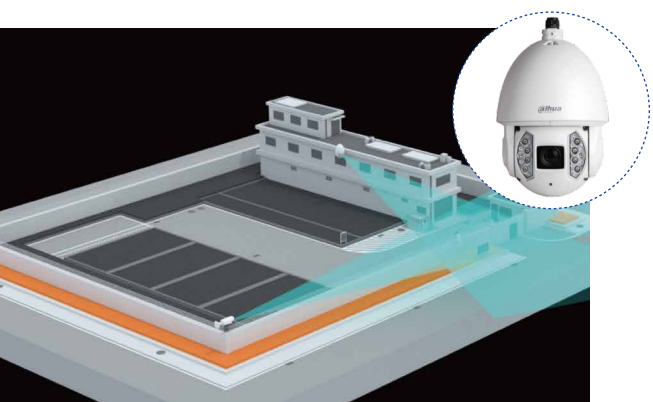
Traditional Security Solution

- Install a PIR detector at the corner of a fence to detect intrusion.
- Sends intrusion alarms to controllers or FSU.
- Send intrusion alarm to DSS platform in the control center.



ePoE Video Solution

- IR network camera monitors the perimeter both day and night
- ePoE is one of Dahua's key technologies
- For normal cameras, they can transmit video and power for less than 100m, but ePoE cameras support 800m transmission



Smart Video Solution

- Thermal camera supports perimeter surveillance both day and night
- Thermal camera supports human body detection and intrusion alarm
- Supports linkage with PTZ camera

Intelligent Entrance Security



Entrance Surveillance and Human Recognition

- Entrance area video surveillance.
- Recognize everyone who enters and capture the image.
- Support blacklist and alarm for anti-terrorism purposes.

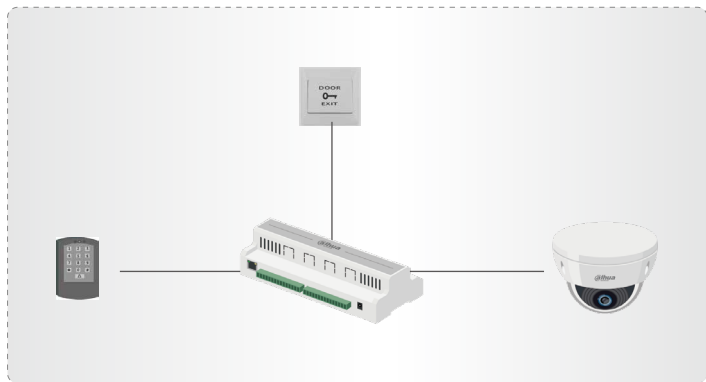
Production Area Surveillance



Explosion-proof Surveillance for Production Area

- The production area with oil transmission management equipment is at risk of explosion.
- Explosion-proof PTZ camera monitors the whole area and anti-terrorism purposes.

Access Control



Access Control of Substation Rooms

- Door controller manages doors in the substation
- Open doors with cards
- Supports linkage with camera



Environment Surveillance

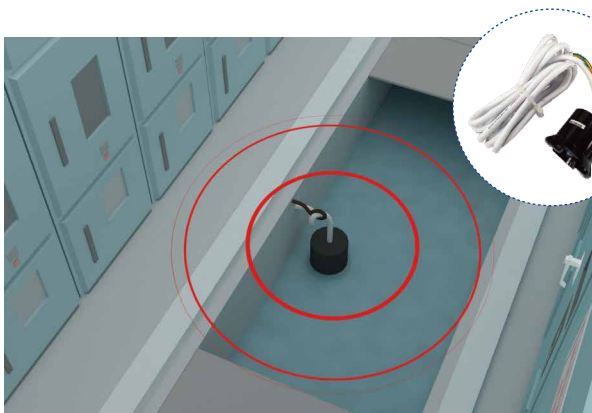


Temperature and humidity detector, water detector, smoke detector and other detectors all connect to this unit. It can connect to the platform and can also be used locally.



T & H Detection

- Temperature and humidity detection and alarm.
- Supports linkage with air conditioner.



Water Detection

- It will alarm if water flows into the room.



Smoke Detection

- It will send an alarm if the device detects fire.

PRODUCT SHOWCASE

PTZ12248V-LR8-N



- 1/1.9" 2MP CMOS
- Powerful 48x optical zoom
- Starlight technology
- Max. 50/60fps@1080P
- IR Distance up to 1200m
- IP66

PFM363L-SD1



- Aluminum alloy frame
- Monocrystalline solar panel
- Lithium battery pack
- Maximum Power Point Tracking (MPPT) charging controller
- Electronic protection
- Non-standard PoE for wireless device through combiner

TPC-BF5401



- 400x300 VOx uncooled thermal sensor technology
- Athermalized Lens (thermal), Focus-free
- Supports fire detection and alarm
- Various lens optional (7.5/13/25/35mm)
- 2/2 alarm in/out
- Micro SD memory, IP67, PoE, ePoE

SD6AE233XA-HNR



- 1/1.8" 2Megapixel CMOS
- Powerful 33x optical zoom
- Starlight technology
- Deep-learning-based auto tracking
- IR distance up to 200m
- IP67 , IK10

LHP-200Q



- Detecting distance 200m
- Sensitivity level adjustable, level 1~5
- Anti-tamper function
- Easily adjustable beams
- Alarm type N.C. /N.O. optional

IPC-HFW5241E-Z12E



- 1/2.8" 2Megapixel progressive scan STARVIS™ CMOS
- 5.3 mm–64.0 mm motorized lens
- 2/1 Alarm in/out, 1/1 audio in/out
- Max. IR LEDs Length 150 m
- Micro SD memory, IP67, IK10



PRODUCT SHOWCASE

IPC-HFW5242E-ZE



- 1/1.8" 2Megapixel progressive scan CMOS
- 2.7 mm–12.0 mm motorized lens
- 2/1 Alarm in/out, 1/1 audio in/out
- Max. IR LEDs Length 50 m

IVSS7008-1I



- Industry embedded micro-controller
- Up to 16-channel perimeter protection
- Up to 6-channel face recognition by device
- Up to 20-channel face recognition by camera
- Up to 4-channel Video Metadata
- Up to 50 face databases with 300,000 face pictures in total

EPC230U



- 1/2.8" 2MP STARVIS™ CMOS
- Powerful 30x optical zoom
- 304 stainless steel housing
- Max. 50/60fps@1080P
- Supports IVS
- IR distance up to 100m
- ATEX and IECEx Certification, IP68

EPC230U-PTZ-IR



- 1/2.8" 2MP STARVIS™ CMOS
- Powerful 30x optical zoom
- 316L stainless steel housing
- Supports IVS
- IR distance up to 100m
- IP68

ASC1202B-D



- Supports 100,000 valid cards & 150,000 records
- Supports card, password, fingerprint and combination
- Wiegand or RS485 interface to readers (2-door)
- Door timeout alarm, intrusion alarm, duress alarm and tamper alarm
- Supports 128 efficient time and holiday schedules
- Surface mounted installation

ARC6416U-C



- 8 AI (analog input 4~20mA, 0~2V, 0~5V) detectors, customized threshold definitions
- 16 on-board zones, 8 RS485 detectors, 2 RS232 detectors, 4-channel relay output
- 4 channel@1080P IPC
- 4 Ethernet ports, 2 GB SFP fiber module ports
- Supports 3G WCDMA(-C only)
- Supports 2x3.5-inch HDD, up to 4TB for each HDD

PRODUCT SHOWCASE

NVR608-32-4KS2



- Intel processor
- Max 32 IP camera inputs
- Max 384Mbps incoming bandwidth
- Up to 12MP resolution for preview and playback
- Supports RAID 0/1/5/6/10
- Smart tracking and intelligent video

M70-4U-E



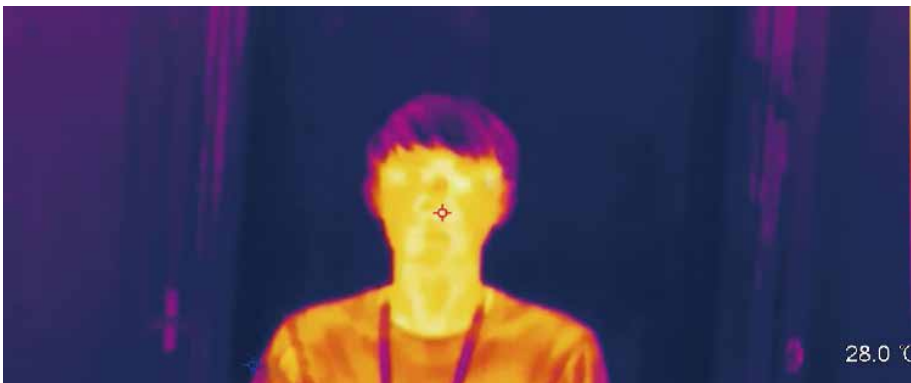
- Easy and flexible configuration with pluggable card module design
- 80ch@1080P or 320ch@D1 signal encoding
- 80ch@4K or 320ch@1080P or 720ch@720P or 1500ch@D1 signal decoding
- Supports max 60 screens splicing
- Remote cast analog/digital video onto the video wall

REFINERY PLANT, DEPOT AND OIL TRUCK

SOLUTION OVERVIEW



Intelligent Perimeter Protection



Thermal Image and Human Body Detection

- Thermal imaging is visible both day and night
- Supports human body detection and intrusion alarm
- Supports alarm linkage with PTZ camera

Intelligent Entrance Security



Entrance Surveillance and Human Recognition

- Entrance area video surveillance.
- Recognizes anyone who enters and captures images.
- Support blacklist and alarm for anti-terrorism purposes.

Intelligent Entrance Control for Vehicles



No Ticket No Stop

- Vehicle entrance is controlled by LPR without tickets, efficiently improving traffic flow without delays.

Two Trigger Ways

- Supports induct loop trigger and video trigger for simplified construction.

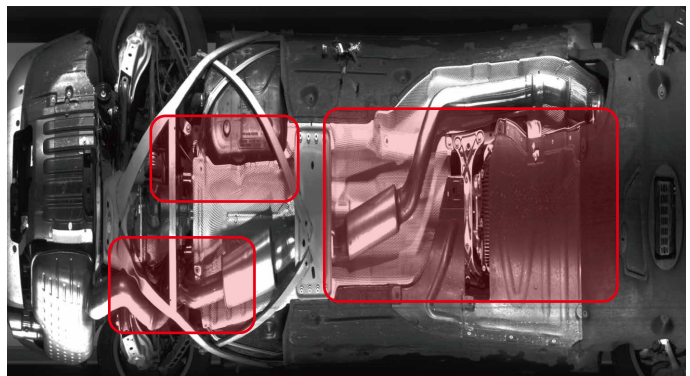
Info Screen

- Information screen will display some notification messages.

Abnormal Holding

- Press VTO button once needed.

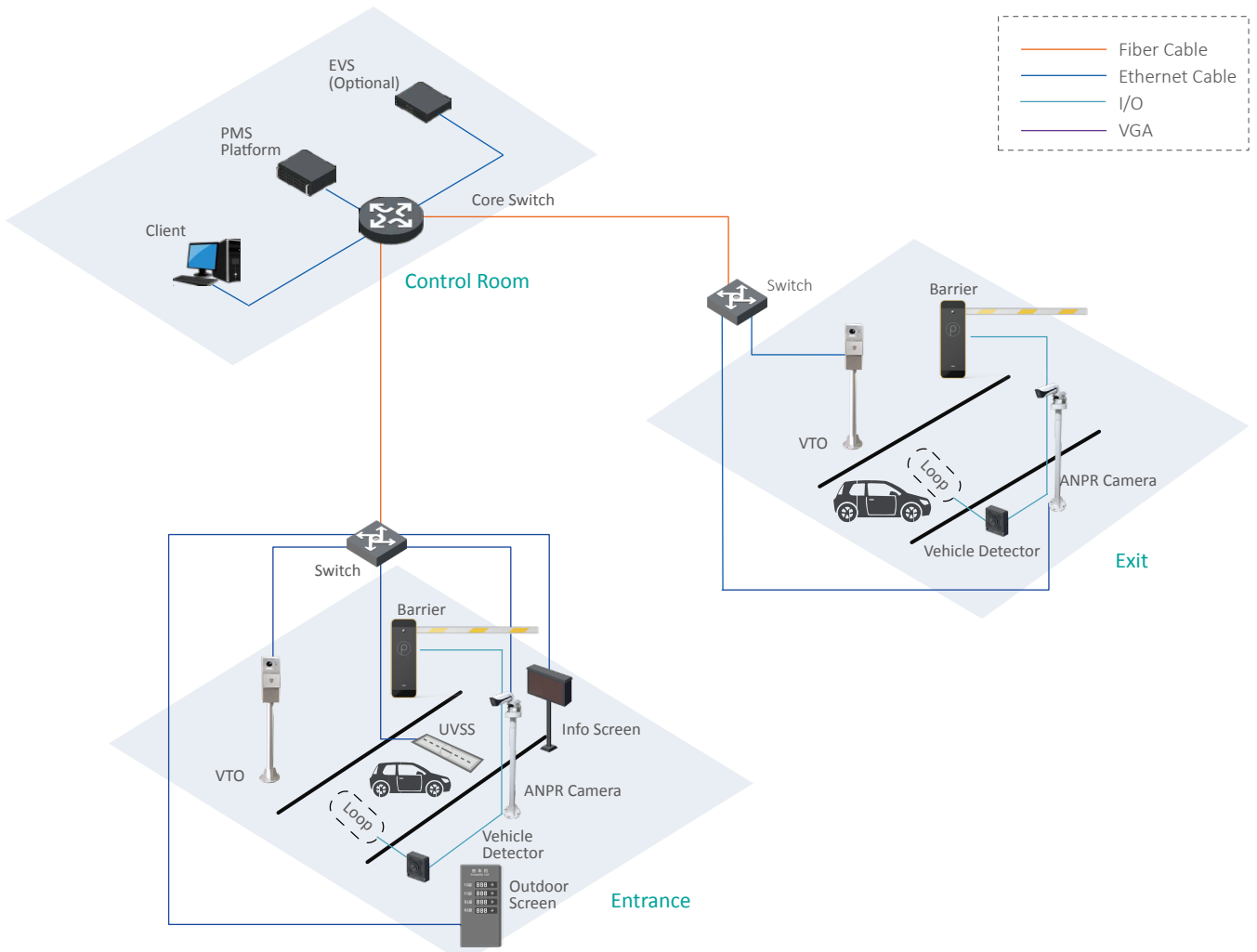
Under Vehicle Scanning System



UVSS Work Flow

- Loop sensor detects incoming vehicles and triggers UVSS scan module.
- The UVSS scan module captures an image of the chassis under the vehicle.
- The client presents the stitched image of whole chassis, and checks if there is any abnormality.

Entrance Control for Vehicle Topology



Fire Detection with Thermal Camera



Smarter Protection from High Point

- Thermal network hybrid PTZ camera supports large area surveillance
- Fire detection alarm distance up to 6000m
- Visible channel for checking details

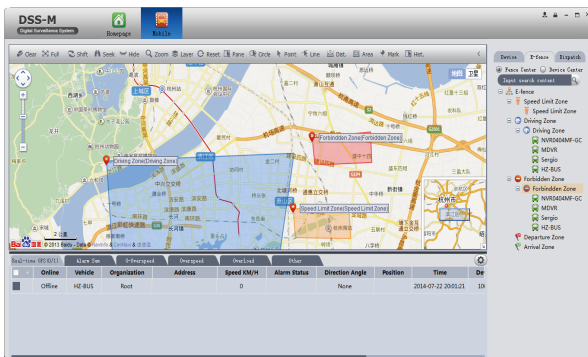
Production Area Surveillance



Explosion-proof Surveillance for Production Area

- The production area with oil transmission management equipment is at risk of explosion.
- Explosion-proof PTZ camera monitors the whole area and is safe for such environment.

Mobile Surveillance of Oil Truck



E-map for Oil Truck Tracking

- DSS software supports real-time remote surveillance, GPS positioning and tracking.

Video Surveillance and Record

- Mobile camera and recorder are specially designed for vehicle environment, including EIS technology and wide-range working temperature area.



PRODUCT SHOWCASE

TPC-BF5401



- 400x300 VOx uncooled thermal sensor technology
- Athermalized Lens (thermal), Focus-free
- Supports fire detection and alarm
- Various lens optional (7.5/13/25/35mm)
- 2/2 alarm in/out
- Micro SD memory, IP67, PoE, ePoE

TPC-PT8421B



- 400x300 VOx uncooled thermal sensor technology
- Athermalized lens(thermal), focus-free
- 1/1.9" 2 Megapixel progressive scan CMOS
- Powerful optical zoom lens(thermal&visible)
- Supports fire detection and alarm
- Max 30°/s pan speed, 360° endless pan rotation
- Up to 300 presets, 5 auto scan, 8 tour, 5 pattern

SD6AL245U-HNI-IR



- 1/2.8" 2MP STARVIS™ CMOS
- Powerful 45x optical zoom
- Max. 50/60fps@1080P
- Auto tracking and IVS
- Supports Hi-PoE
- IR distance up to 300m
- IP67

IVSS7008-1I



- Industry embedded micro-controller
- Up to 16-channel perimeter protection
- Up to 6-channel face recognition by device
- Up to 20-channel face recognition by camera
- Up to 4-channel Video Metadata
- Up to 50 face databases with 300,000 face pictures in total

IPC-HFW5242E-ZE



- 1/1.8" 2Megapixel progressive scan CMOS
- 2.7 mm–12.0 mm motorized lens
- 2/1 Alarm in/out, 1/1 audio in/out
- Max. IR LEDs Length 50 m

ITC215-PW4I-IRLZF27135



- 1/2.8 inch 2Megapixel Progressive scan CMOS
- Powerful 2.7-13.5mm motorized lens and white light, ideal for monitor ANPR distance 3-8m
- IP67, and superior performance for outdoor applications
- Embedded with LPR algorithm inside the camera
- Vehicle data structuring: license plate recognition, vehicle size, vehicle color detection and etc.

PRODUCT SHOWCASE

EPC230U



- 1/2.8" 2MP STARVIS™ CMOS
- Powerful 30x optical zoom
- 304 stainless steel housing
- Supports IVS
- IR distance up to 100m
- ATEX and IECEx Certification, IP68

EPC230U-PTZ-IR



- 1/2.8" 2MP STARVIS™ CMOS
- Powerful 30x optical zoom
- 316L stainless steel housing
- Supports IVS
- IR distance up to 100m
- IP68

MNVR4208



- Supports 8 channels POE IP cameras input
- Supports H.265/smart H.265 video compression
- Supports 8 channels 4MP realtime recording
- VGA, TV, HDMI simultaneous video output
- Supports 2 HDDs, 3 USB2.0
- Aviation connectors adopted
- Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS

IPC-HDBW4231F-M/M12



- 1/2.8" 2MP progressive scan STARVIS™ CMOS
- Smart detection supported
- WDR(120dB), Day/Night(ICR), 3DNR, AWB, AGC, BLC
- 2.8mm fixed lens (3.6mm, 6mm optional)
- Max. IR LEDs length 20m
- Micro SD memory, IP67, IK10, PoE

MV-VDM5021E-00



- High resolution with 2K per line, max image resolution up to 20MP
- Low image distortion, high image grey level up to 11
- Supports max 80km/h vehicle speed
- Less than 1s to synthesize whole vehicle image
- Large FOV up to 170°, easy to capture the whole image of under vehicle

M70-4U-E



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



SMART GAS STATION SOLUTION

GAS STATION OVERVIEW



Entrance & Exit

- Vehicle recognition
- Vehicle flow analysis
- Black and white list



Refueling Zone

- Video and audio record
- Fire detection with thermal camera
- Vehicle recognition for each pump
- Integrated with POS and BOS (project customization)



Loading Zone

- Video record
- Fire detection by thermal camera



Working Area

- Video surveillance for retail area
- Access control
- Time attendance
- Heat map of shelf area
- Retail BI solution

Vehicle Recognition



Vehicle recognition is the basis of smart gas station

- ITC215 camera supports vehicle recognition for most countries around the world. AI NVR IVSS 7008 supports station management.

Smart Gas Station Based ANPR Camera



• Blacklist Detection

- Cars that escaped without paying
- Criminals and terrorists

• Management Improvement

- Vehicle flow analysis for work scheduling and arrangement
- Vehicle flow analysis for weekly, monthly and yearly business report

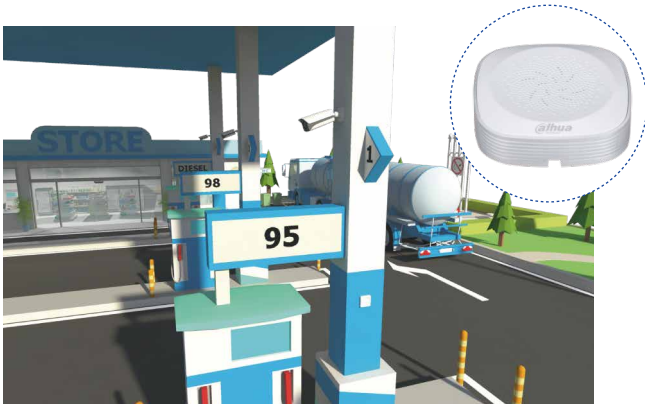


Integrated with BOS and POS

- Oil pump is visible with remote control
- VIP cars data collection and analysis
- VIP cars recognition
- Auto refueling and e-payment of VIP cars
- Video record of refueling process



Hi-fidelity Audio Pickup Helps Resolve Dispute



Video + Audio

- Pickup synchronized recording.
- Records audio evidence in case of a dispute.

Smoking and Unknown Fire Detection



Fire Detection and Alarm with Thermal Camera

- Thermal mini hybrid bullet camera has both thermal and visible channels.
- Thermal channel is for fire detection and alarm.
- Visible channel is for video surveillance.

Access Control and Time Attendance



Standalone Solution for Station Management

- Access control for station manager's room, warehouse, etc.
- Staff time attendance.

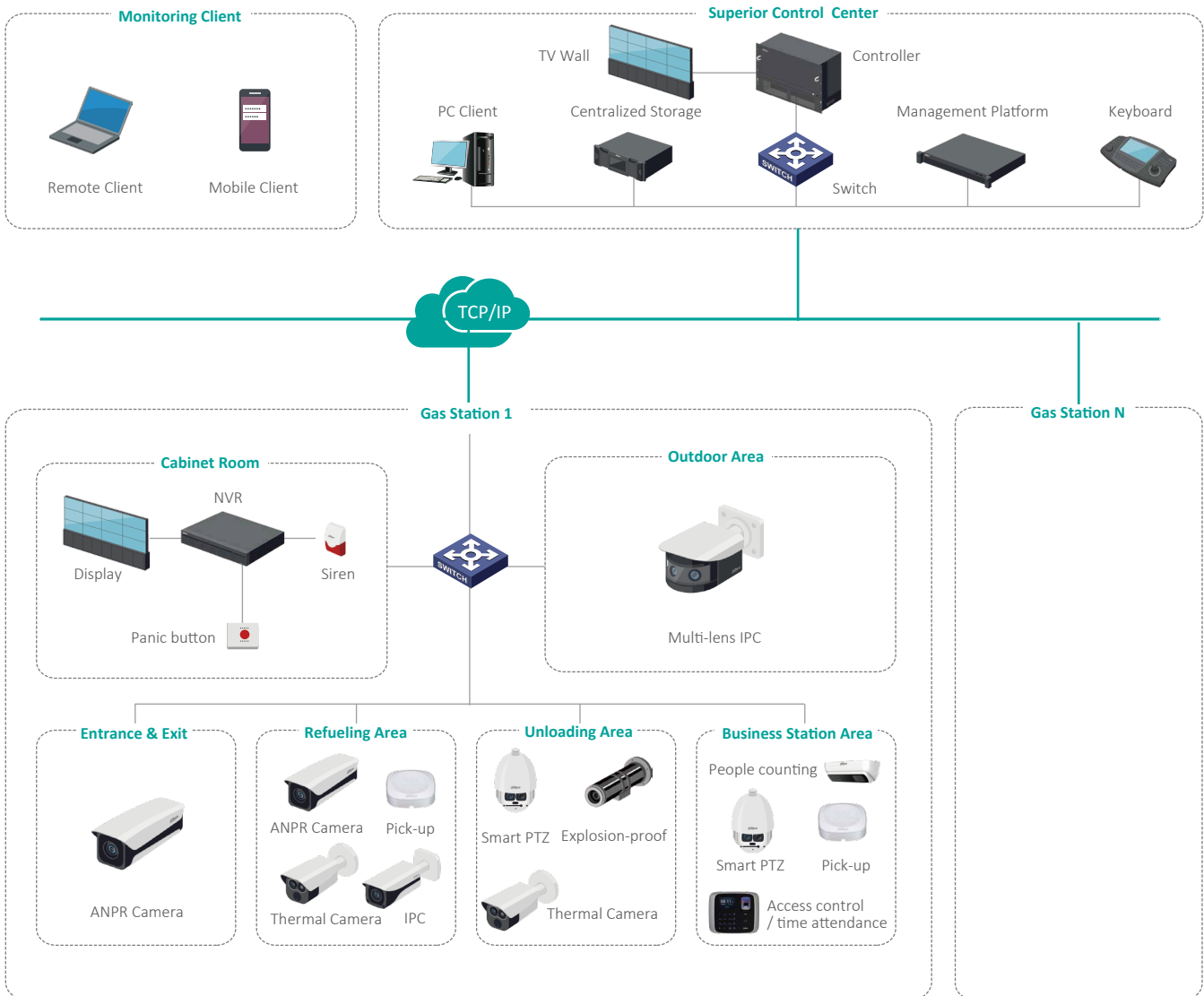
Smart Retail Solution



People Counting

- People counting at retail area entrance
 - Customer flow analysis of retail area
- Integrated with POS for BI**
- Integrated with gas station POS
 - Business analysis with DSS platform

SYSTEM STRUCTURE OF GAS STATION SOLUTION





PRODUCT SHOWCASE

ITC215-PW4I-LZF27135



- 1/2.8 inch 2Megapixel Progressive scan CMOS
- Powerful 2.7-13.5mm motorized lens and white light, ideal for monitoring ANPR distance 3-8m
- IP67, and superior performance for outdoor applications
- Embedded with LPR algorithm inside the camera
- Vehicle data structuring: license plate recognition, vehicle size, vehicle color detection and etc.

IVSS7008



- Intel dual-core processor
- Max 400Mbps incoming bandwidth
- 128 Channel IP video access
- Supports RAID 0/1/5/6/10
- 3HDMI/2VGA video output

TPC-BF2221



- 160x120 VOx uncooled thermal sensor technology
- Athermalized Lens (thermal camera), Focus-free
- 1/2.8" 2Megapixel progressive scan Sony CMOS
- Supports ROI, Motion Detection, Color Palettes
- Supports Fire detection & alarm
- Built-in 2/1 alarm in/out
- Micro SD memory, IP67

IPC-HFW5241E-Z12E



- 1/2.8" 2Megapixel progressive scan STARVIS™ CMOS
- 5.3 mm–64.0 mm motorized lens
- 2/1 Alarm in/out, 1/1 audio in/out
- Max. IR LEDs Length 150 m
- Micro SD memory, IP67, IK10

HAP200



- Plastic material
- Easy to install
- ALC processing circuit
- Basic noise reduction
- Supports cascading

IPC-HDW8341X-3D



- Two 1/2.8" 3MP scan STARVIS™ CMOS
- Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS
- 2.8mm fixed lens (3.6mm optional)
- Max. IR LEDs length 10m
- Micro SD memory, IP67, PoE
- People counting: Supports line crossing people counting, region people counting

PRODUCT SHOWCASE

ASA2212A



- Simple access control or external bell
- Fingerprint, card or password verification methods
- Camera (build in) support to capture the real time photo
- Supports configuration of timetable and shift standalone
- All users are allowed to access their attendance records
- Photo storage via SD card

DSS Pro



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



SUCCESS STORIES



Angot Oilfield, Afghanistan

The Angot Oilfield Project was the first large-scale oilfield development project in Afghanistan.

Dahua provided a complete video surveillance system for the Angot oilfield, including speed domes on the front-end, and DVR storage on the back-end.



China National Petroleum Corp. (CNPC) Daqing Oilfield

Daqing Oilfield is a wholly-owned subsidiary of CNPC and the world's largest tertiary oil production base. Daqing Oilfield has more than 90,000 oil wells and 27 consecutive years of crude oil production reaching 50 million tons.

Dahua helped Daqing Oilfield to construct and transform their security system. Dahua provided a full set of video surveillance and perimeter alarm system equipment in which total sales exceeded 20 million RMB.



China National Petroleum Corp. (CNPC) West - East Gas Transmission Pipeline

With the length of 4,200 km, the "West-East" pipeline is the longest and largest caliber of gas pipeline in China.

From 2008- 2015, Dahua constructed the first-line, second-line, and third-line security systems, including video surveillance systems, industrial television systems and perimeter alarm systems.



Sinopec Corp. Sinopec Qilu Petrochemical Company

Qilu Petrochemical Company is a national super-large petrochemical enterprise directly under Sinopec Group. It is a large-scale oil refining, chemical and chemical fiber joint venture.

Dahua provided a full set of industrial television and video surveillance system worth 15 million RMB in order to enhance the security level in the area.

SUCCESS STORIES



China National Petroleum Corp. (CNPC) Oil Truck

The oil truck security monitoring project uses three-level platform management and four application architecture.

Dahua has built security systems for nearly 2,000 oil trucks. The systems includes DVR, front-end camera and ancillary equipment. The network construction uses a 3G + Wi-Fi combination.



Shell & BP Gas Stations in the UK & Ireland

Shell and BP are multinational oil and gas companies with gas stations situated across the United Kingdom.

Dahua was tasked with upgrading outdated analogue systems throughout Shell and BP gas stations. Dahua secured their gas stations with an IP system. A total of over 1600 cameras (3MP IP camera) were used across 140 sites.



Statoil ASA (Norway) Gas Station

Statoil ASA is one of the world's largest oil companies, the largest oil company in Northern Europe and the largest company in Norway with more than 25,000 employees. As one of the world's largest net oil sellers and a major supplier of natural gas to the continent, Statoil operates 2,000 gas stations in nine countries. Dahua provided a full range of video surveillance solutions, including a full set of HDCVI (HCVR+HAC 2MP Camera) products to ensure the daily operation of gas station security.



Sinopec Corp. Sinopec Gas station

Sinopec oil sales market covers the whole of China with 30,121 gas stations. In 2015, the company's domestic refined oil sales reached 151 million tons with an increase of 7.6%.

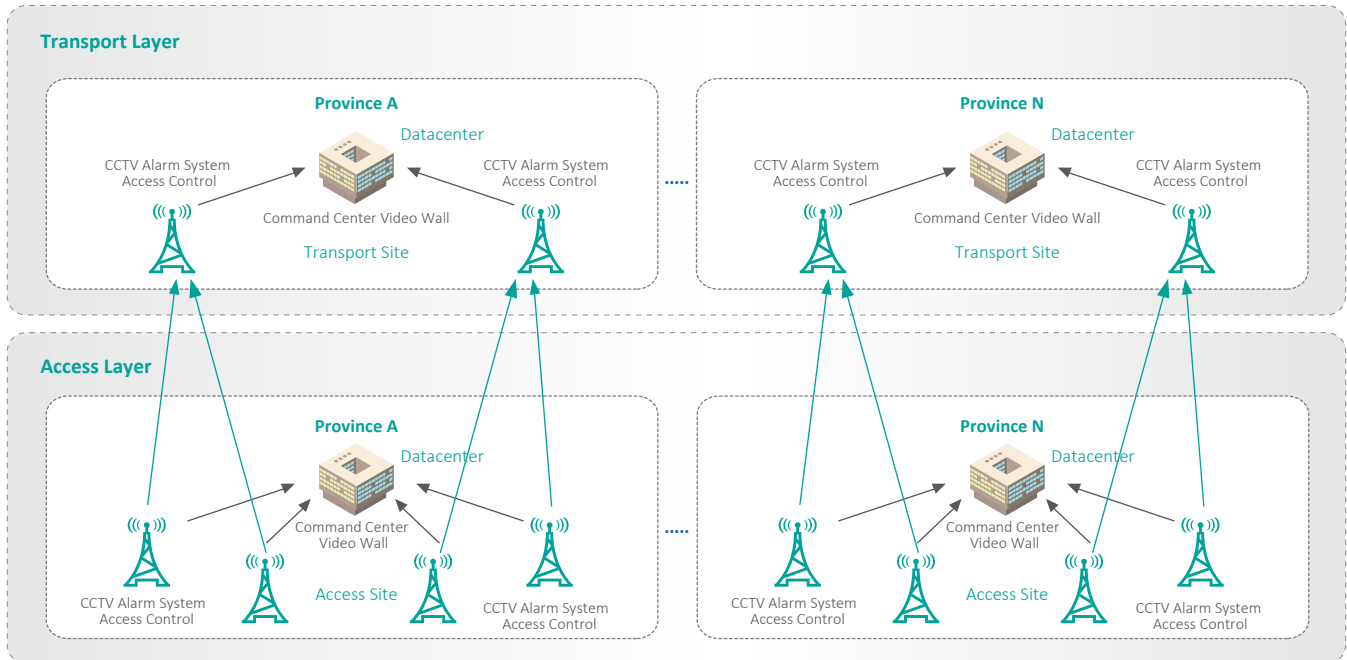
From the beginning of 2014, Dahua undertook the construction of video surveillance systems (2MP IP Camera+5 series NVR+DSS) in many provinces including Jiangsu, Shanghai, Hunan, Hebei, Guangdong, and Guizhou. The total number of gas station exceeds 3000.



BASE STATION SOLUTION



Solution Overview



Challenge and Requirement



STEP

1

Guard Against Theft

Provide full range of intelligent video surveillance both outside the fence and inside the room, and integrate with access control system



STEP

2

Prevent Incidents from Happening

Ability to detect potential risks such as fire and intrusion to determine if it is necessary to take action



STEP

3

Fire Detection and Alarm

Make fire predictive detection alarm with smoke detector or thermal camera when the generator or battery heats up and catches fire



STEP

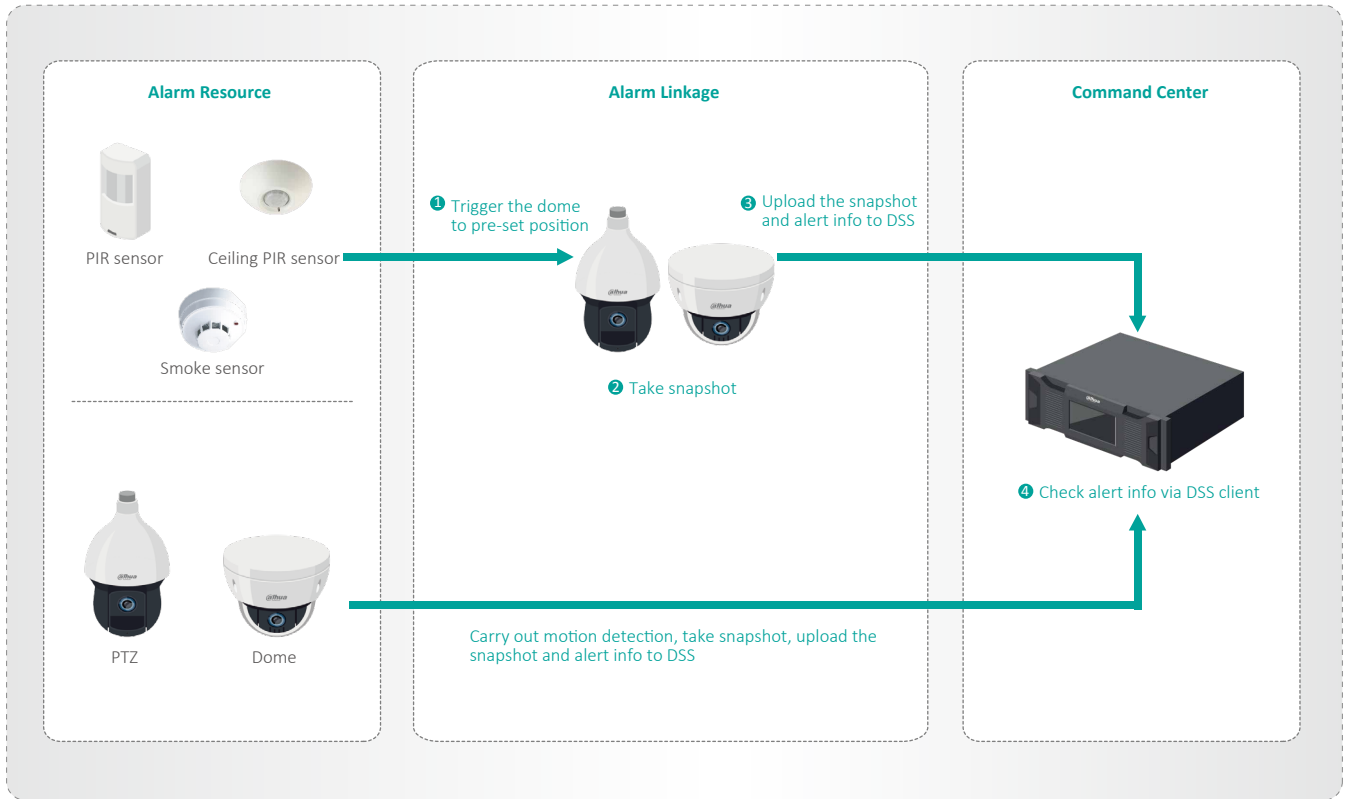
4

Optimize Management Work

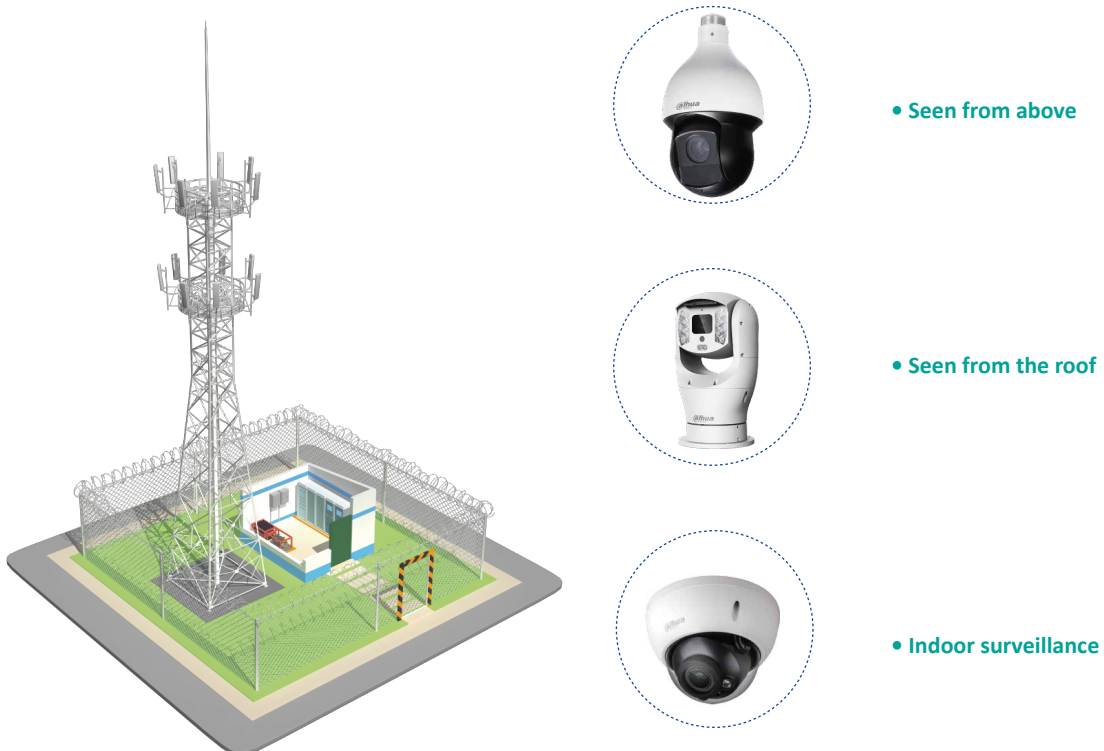
Reduce manpower security needs by increasing real-time visibility of equipment on sites



Key Technology of Base Station Solution

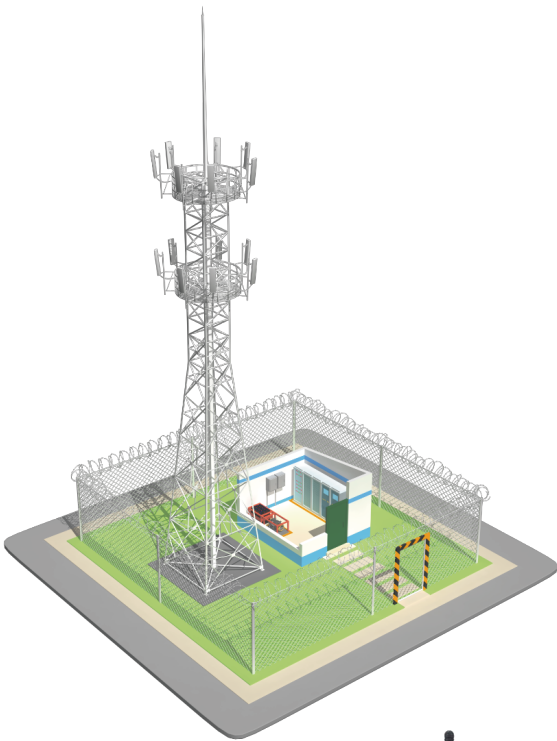


Whole Station Surveillance and IVS Detection





Alarm



• Smoke detection



• Indoor intrusion detection

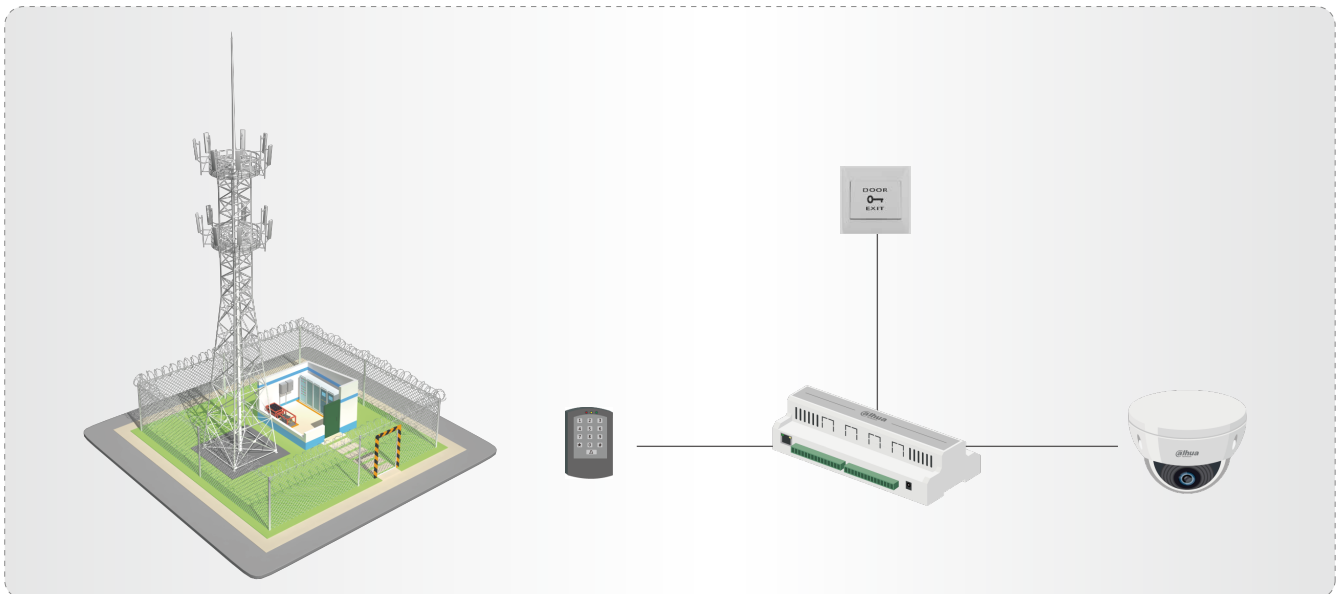


• Fence intrusion detection



• FSU is for alarm detector access and integration with other sensors.

Access Control





Data Center



VMS platform

- DSS software and server access all cameras from different areas
- The platform supports remote video surveillance, playback, alarm pop-up and other functions



Video wall management

- Video wall includes LCD video wall, LED display and monitors
- M70 decodes the video signal and controls video walls

PRODUCT SHOWCASE

SD59230U-HNI



- 1/2.8" 2MP STARVIS™ CMOS
- Powerful 30x optical zoom
- Starlight technology
- H.265 encoding
- Max. 50/60fps@1080P
- Auto-tracking and IVS
- Supports PoE+
- IR distance up to 150m
- IP66

IPC-HDBW2231R-ZS



- 1/2.8" 2MP progressive Starvis™ CMOS
- H.265 & H.264 dual-stream encoding
- 25/30fps@1080P(1920x1080)
- WDR(120dB), Day/Night(ICR), 3DNR, AWB, AGC, BLC
- Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS
- Micro SD card slot, up to 128GB
- 2.7~13.5mm varifocal lens
- Max IR LEDs length 30m
- IP67, IK10, PoE

PTZ19245U-IRB-N(-B)



- 1/2.8" 2MP STARVIS™ CMOS
- Powerful 45x optical zoom
- Starlight technology
- H.265 encoding
- Max. 50/60fps@1080P
- IR distance up to 350m
- Anti-corrosion, IP68

FAD201A



- Infrared photoelectric sensor
- MCU processing, eliminate false alarm
- Relay NO output and LED indicating alarm
- Surface-mount device (SMD) circuit board design

LHP-30D



- Digital circuit design, more stable
- Detecting distance 60m
- Sensitivity level adjustable, level 1~5
- Anti-tamper function
- Installation base optional
- Adjust beams easily
- Alarm type N.C./N.O. optional
- Intelligent adaptation to the environment temperature
- IP 55

ASC1202B-D



- Supports 100,000 valid cards & 150,000 records
- Supports multiple cards
- Supports card, password, fingerprint and combination
- TCP/IP interface to PC
- Wiegand or RS-485 interface to readers (2 doors)
- Door timeout alarm, intrusion alarm, duress alarm and tamper alarm
- Anti-passback back, multi-door interlock, multi-card open
- Supports 128 efficient time and holiday schedules
- Watchdog dog function ensures device free from halting
- Surface mounted installation



PRODUCT SHOWCASE

ARD1111C



- 8-bit low-power CMOS processor
- 360 degree angle, 6M detecting range
- Ceiling mounted at 3.6M
- Temperature auto-compensation, avoiding false alarm
- Three digital pulses optional for different alarm time delays (5/10/30s)
- RFI protection: 20 to 1000 MHz(e.g. mobile communication)
- LED on/off optional

NVR4108/4116HS-8P-4KS2



- H.265/H.264 codec decoding
- Max 80Mbps incoming bandwidth
- Up to 8MP resolution for preview and playback
- Up to 2ch@4K/8ch@1080P decoding
- HDMI/VGA simultaneous video output
- Supports IPC UPnP, 8PoE ports

ARC6416U-C



- 8 AI (analog input 4~20mA, 0~2V, 0~5V) detectors, customized threshold definitions
- 16 on-board zones
- 8 RS485 detectors
- 2 RS232 detectors
- 4-channel relay output
- 4 channels@1080P IPC
- 4 Ethernet ports, 2 GB SFP fiber module ports
- Supports 3G WCDMA(-C only)
- Supports 2x3.5-inch HDD, up to 4TB for each HDD
- Web configuration, alarm and video review

DSS7016D



- Embedded Linux System, C/S Architecture
- Supports hot standby for master server
- Supports N+M hot standby for slave server
- Up to 20 slave servers can be managed per master server
- Supports up to 5-level cascade
- Supports unlimited accounts management, 200 online users and 100 roles
- Supports 500 IP devices and 2,000 channels
- Supports 500 devices to auto-Register
- Supports 100 Onvif devices
- Supports 256 doors

M70-4U-E



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

SUCCESS STORIES



Access Site

A total of 1,067 sites distributed in 3 provinces across Peru work as access point for all wireless signals.



Transport Site

A total of 263 sites that are distributed in 3 provinces across Peru work as convergent points for all access sites.



Command center

Each of the 6 centers manages all the access sites or transport sites in the respective province.

ENABLING A SAFER SOCIETY AND SMARTER LIVING

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* Design and specifications are subject to change without notice.

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