

CRITICAL INFRASTRUCTURE SOLUTION

- Perimeter Protection
- Easy Maintenance
- All Environment



Electric Power

- Power Plant
- Power Grid



Oil and Gas

- Exploration and Oilfield
- Pipeline and Station
- Refinery and Chemical
- Gas Station



Telecommunication

- Base Station
- Data Center



CONTENTS

02

Smart Power Solution

- Industry application scenarios
- Challenge and requirement
- Key technology
- Power plant solution details and product showcase
- Power grid solution details and product showcase
- Success cases

22

Oil and Gas Solution

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

51

Base Station Solution

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



SMART POWER SOLUTION



ELECTRICITY INDUSTRY APPLICATION SCENARIOS



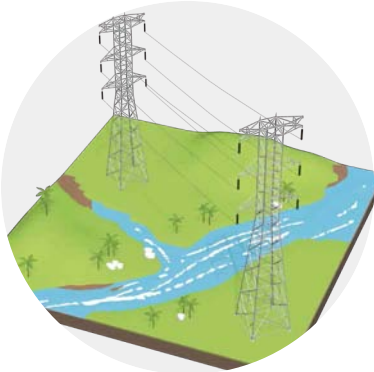
Generation

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



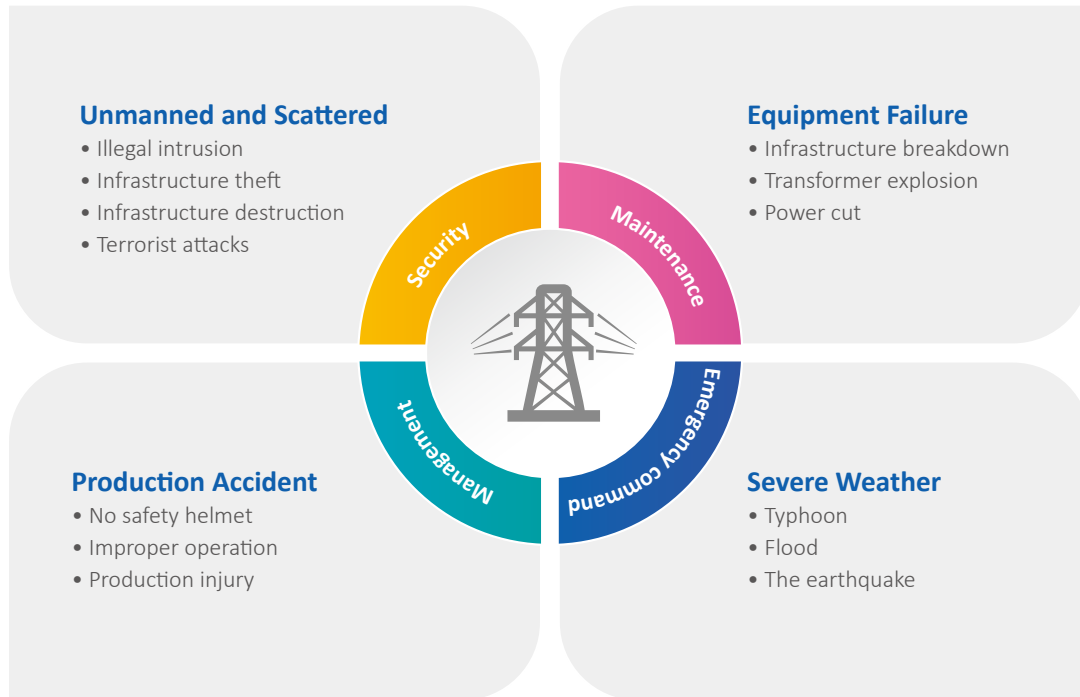
Substation



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 on 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



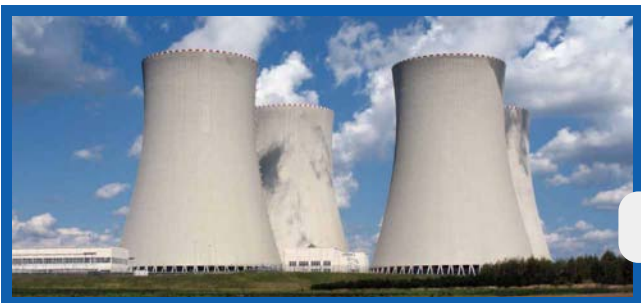
Solar Power

- 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
- Recognize everyone who enters and capture the image
- Support blacklist and alarm for anti-terrorist purpose

Intelligent Perimeter Protection



Thermal Image and Human Body Detection

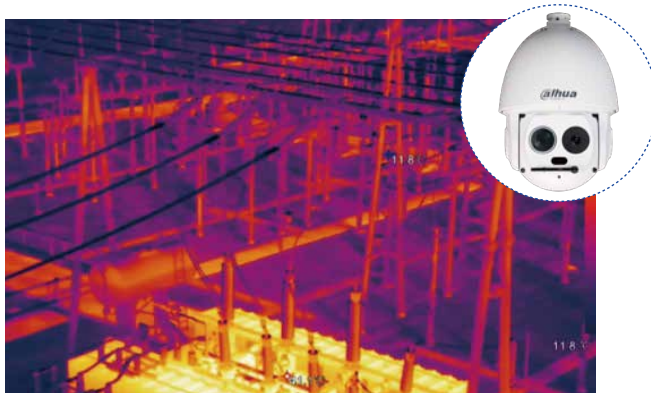
- Thermal imaging is visible both day and night
- Supports human body detection and intrusion alarm
- Supports alarm linkage with PTZ camera



Radar Detection and Smart Tracking

- Radar detects people who enter the surveillance area
- Track every person in the surveillance area and show the path in the VMS software
- Make linkage with PTZ and do auto-tracking surveillance

Predictive Maintenance and Fire Detection

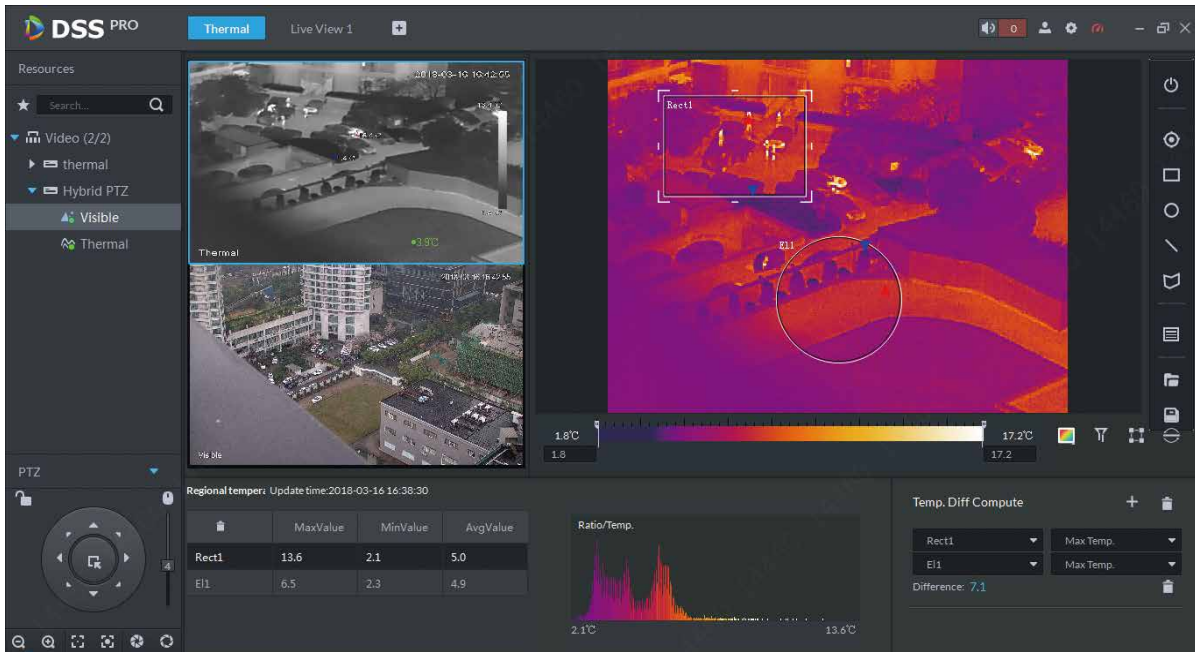


Easy Maintenance

- 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 heat and even get on fire. The thermal camera can detect fire and send alarm to control center



STEP1

Set thermal rule for the preset of camera

STEP2

Connect DSS-PRO and make camera configuration

STEP3

Receive alarm from devices

STEP4

Make online temperature measurement

Remote Surveillance for Special Areas



Dam Panorama Surveillance

Dam is the most important part of hydro power plant, especially for anti-terrorist purpose. Dahua multi-sensor panoramic camera+PTZ camera can monitor the whole dam area and tracks the moving target with 37x zoom.



Oil Storehouse Explosion-proof Surveillance

Oil storehouse is dangerous because of the risk of explosion. The explosion-proof camera is safe for the special environment.



Blade Surveillance From Maintenance Platform

- Wind power plant is always far away from 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 is anti-corrosion and suitable for offshore.

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-HF8242F-FD



- 1/1.9" 2Mp scan CMOS
- 50/60fps@1080P(1920x1080)
- Auto back focus(ABF)
- Micro SD memory, PoE
- Supports face capture, face attributes

IVSS7008-1T



- Meet the middle solution demands, 4 channels face recognition
- Searched by image
- Face modelling speed:12pcs/s
- Supports 100000 faces library(blacklist)
- Supports 10000000 faces library(capture)
- Supports 10 faces searching at same time

TPC-BF5400



- 400x300 VOx uncooled thermal sensor technology
- Athermalized lens (thermal), focus-free
- Support fire detection & alarm
- Various lens optional (7.5/13/19/25/35mm)
- Micro SD memory, IP67, PoE

PFM861-B300



- Active detection: 24-hour continuous detection
- Stereo protection: stereo space, all-round protection
- Real-time scanning: 8 electronic scanning times per second
- Electronic perimeter: free setting of the protection area and time
- Radar-PTZ linkage solution: realize the perfect combination of the video and the radar

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

PSD8802-A180



- Panoramic: 8 1/1.9" 2MP progressive scan CMOS
- PTZ: 1 1/1.9" 2MP progressive scan CMOS
- 2x25fps@4096x1800+50/60fps@1080P
- Supports 360-degree panoramic view
- Smart tracking and intelligent function
- Micro SD memory, IP67, IK10

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

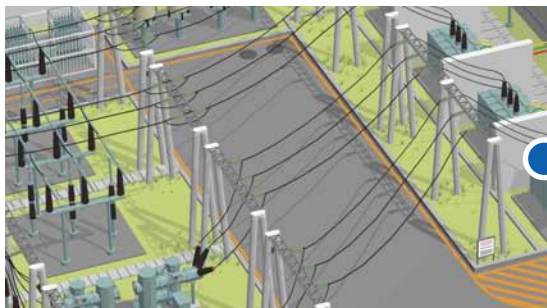
M70-4U-E



- 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

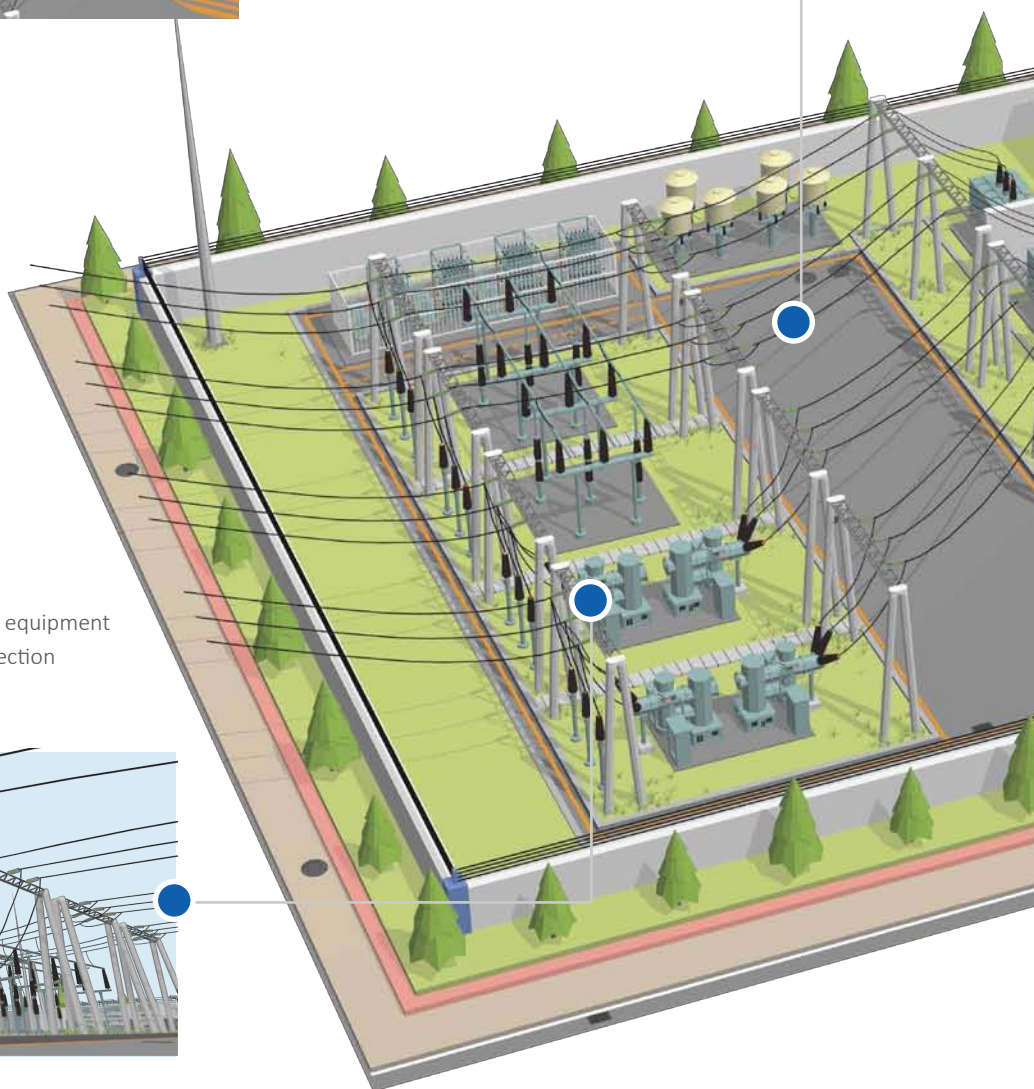
POWER GRID SOLUTION

SOLUTION OVERVIEW



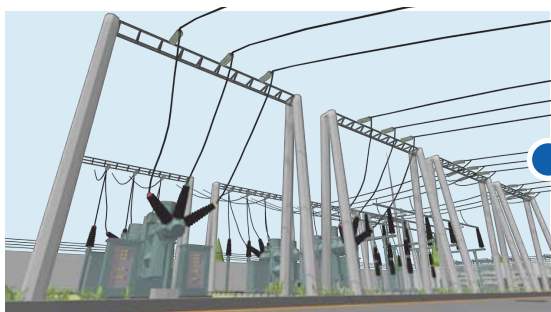
• Production Safety

- High resolution video surveillance and record
- Auto tracking by staffs



• Predictive Maintenance

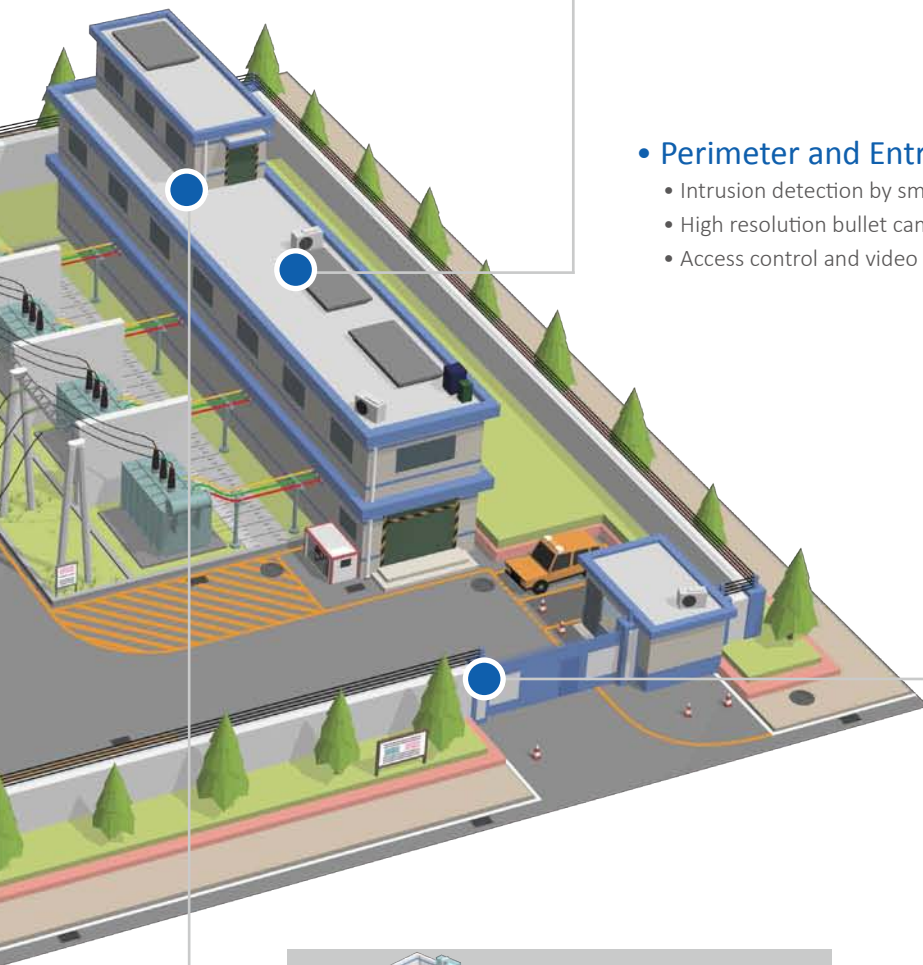
- Thermal detection and alarm of key equipment
- Real-time thermal temperature detection
- Historical thermal picture analysis





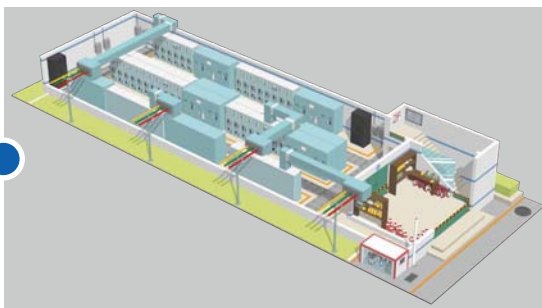
• Control Center

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



• Perimeter and Entrance Security

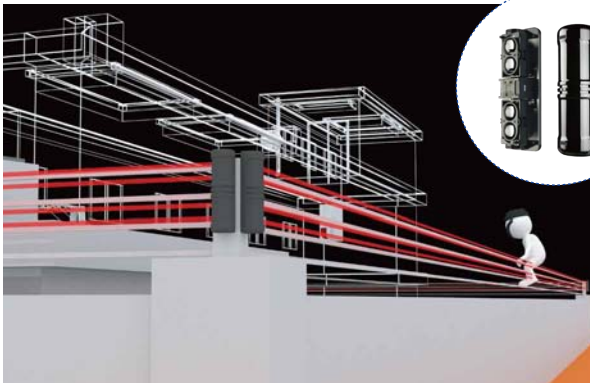
- Intrusion detection by smart cameras, including thermal camera and AI camera
- High resolution bullet camera for entrance, and also some AI camera
- Access control and video linkage



• Environment Monitoring

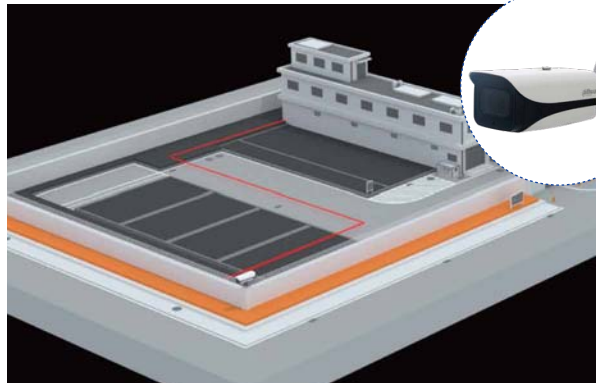
- Smoke detection
- Water detection
- Environment temperature and humidity detection
- Integration with other sensors

Perimeter Security



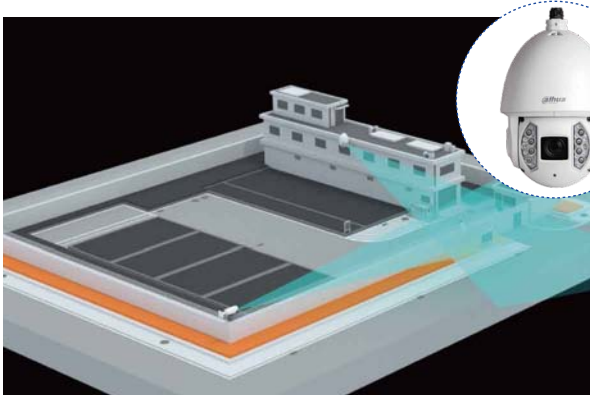
Traditional Security Solution

- By installing PIR detector at the corner of fence, provide intrusion detection
- Send intrusion alarm to alarm controller or FSU and send alarm out
- Send intrusion alarm to DSS platform in the control center



ePOE Video Solution

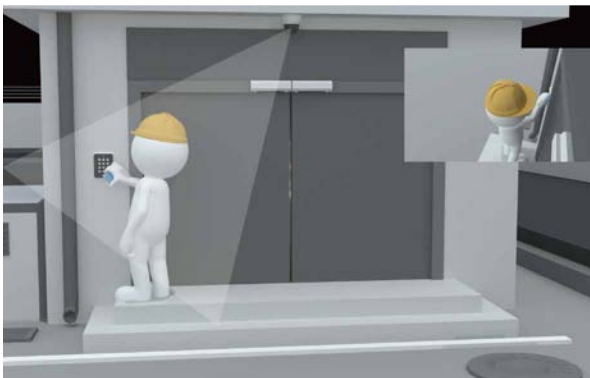
- IR network camera monitors the perimeter both day and night
- ePOE is one of Dahua key technologies
- For normal camera, it supports the video and power transmission less than 100m, and ePOE camera supports 800m transmission



Smart Video Solution

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

Access Control



Substation Rooms

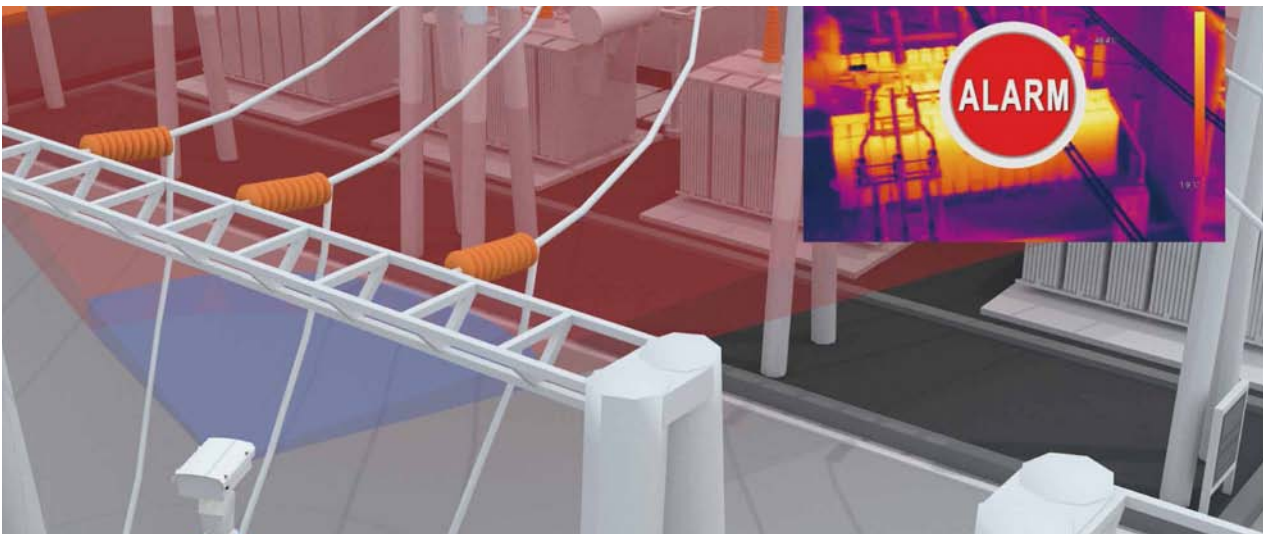
- Door controller manages doors in the substation
- Open the door with cards
- Make linkage with camera

Predictive Maintenance



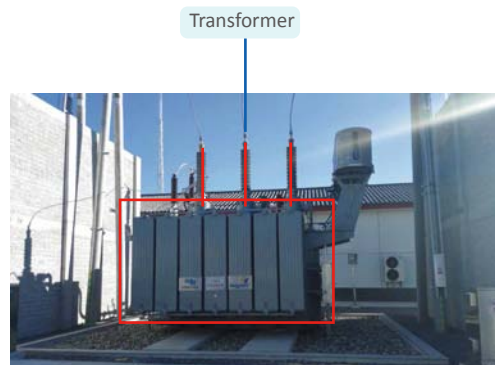
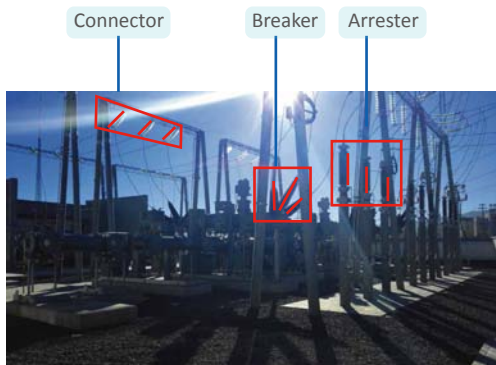
• **Easy Maintenance for Smart Power Grid**

- 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

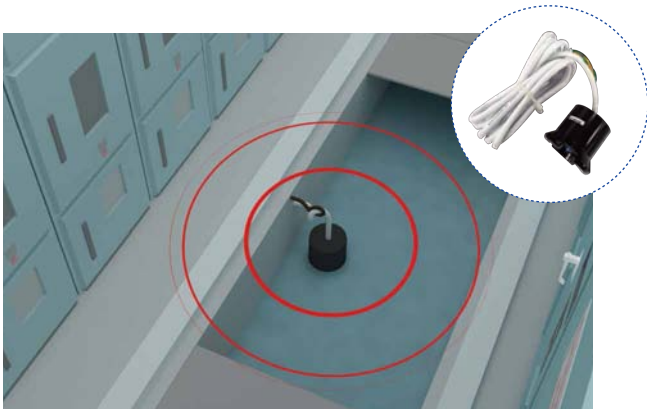


Temperature and humidity detector, water detector, smoke detector and others all connect to this unit. It can connect to the platform and can also be used by local device.



T & H Detection

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



Water Detection

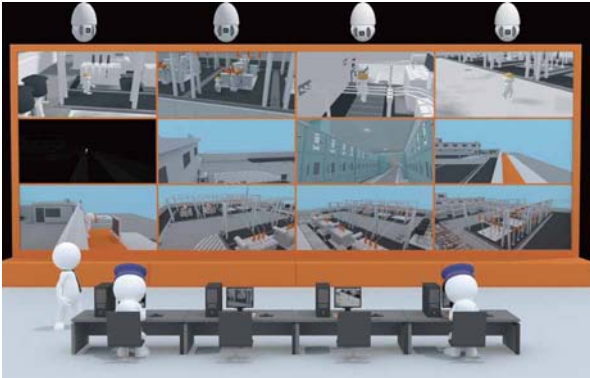
- If water flows into the room, it gets alarm



Smoke Detection

- It will send an alarm if the device gets on 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 some accident happens unfortunately, the video recorded will help manager do analysis.

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 power transmission line and tower remotely.

Distribution Room Surveillance



Outdoor Switch Room

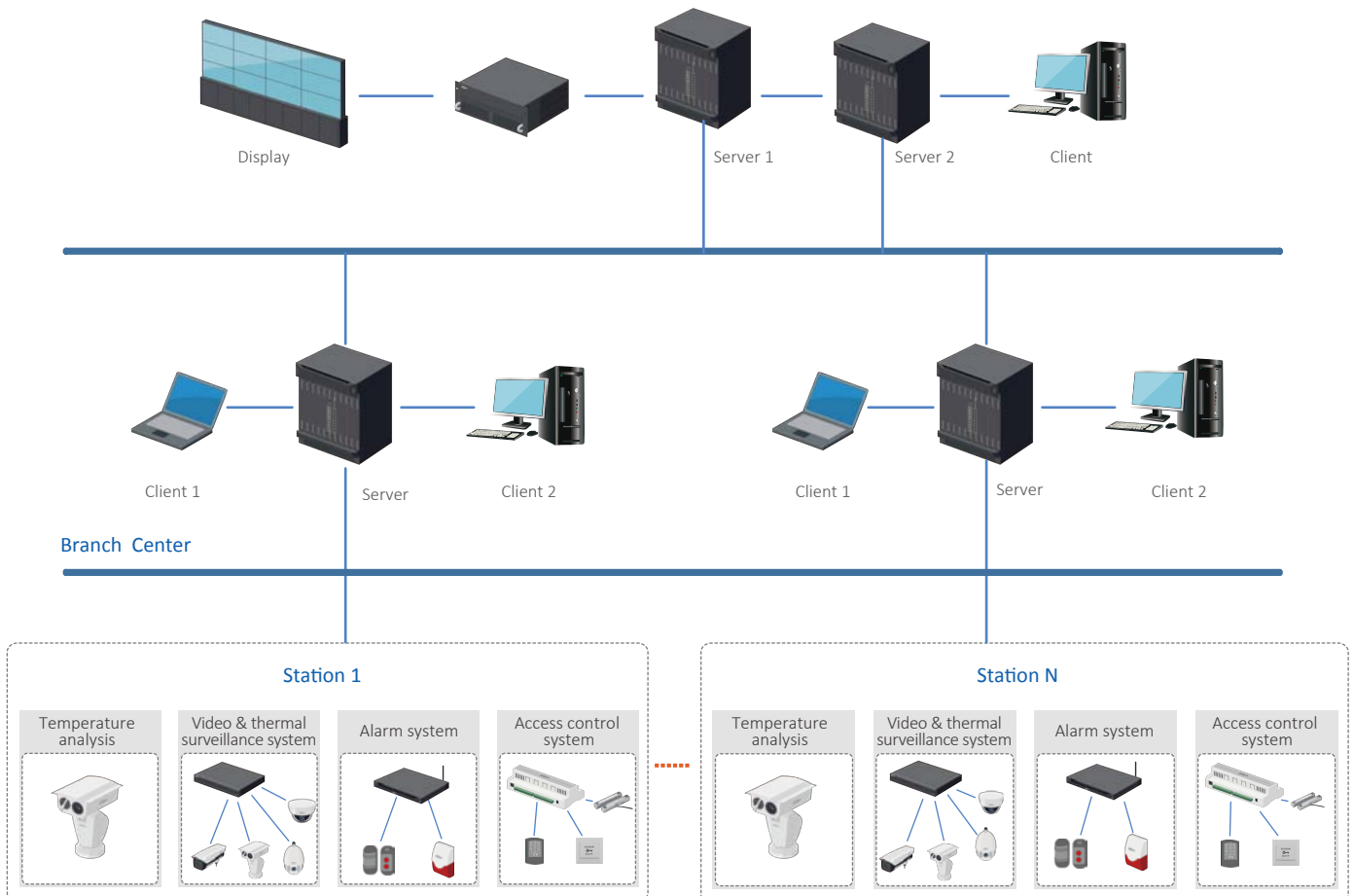
- Install camera outside of switch room for damage prevention.
- Managers can check the equipment by cameras inside the switch room



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-BF5400



- 400*300 VOx uncooled thermal sensor technology
- Athermalized Lens (thermal), focus-free
- Support fire detection & alarm
- Various lens optional (7.5/13/19/25/35mm)
- 2/1 alarm in/out
- Micro SD memory, IP67, PoE

SD6AE230F-HNI



- 1/1.9" 2MP CMOS
- Powerful 30x optical zoom
- Starlight technology
- Supports Hi-PoE
- 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-HFW5231E-Z12E



- 1/2.8" 2Mp scan STARVIS™ CMOS
- 5.3mm ~64mm 12x zoom lens
- 2/1 Alarm in/out, 1/1 audio in/out
- Max. IR LEDs length 200m
- Micro SD memory, IP67, IK10, PoE

TPC-PT8x20A-T



- VOx uncooled thermal sensor technology
- 1/1.9" 2MP progressive scan Sony CMOS
- Powerful 30x optical zoom
- Support temperature measurement
- Support fire detection & 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 connecting to third-party devices via standard ONVIF protocol.
- DSS Pro SDK for third-party platform or mobile development

DSS7016D



- Embedded Linux System, C/S Architecture
- Support hot standby for master server
- Support N+M hot standby for slave server
- Support up to 5-level cascade
- Support 500 IP devices and 2,000 channels
- Support 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

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 ensure device free from halting
- Surface mounted installation

SUCCESS STORIES



Project Introduction

- This project includes company center, manage center, power station center and various places of power station. This project focuses on video surveillance, also includes access control. Dahua help CTG (China three gorges power plant) construct the whole system and renewed for single station every five years. Dahua do the maintenance for CTG every year.

Key Point 1

- In February 2012, Dahua signed the contract of VMS platform of Guangdong province Power Grid with the customer.

Key Point 2

- In 2010, Dahua signed a contract about VMS platform with CTG.
- In 2011, Dahua help Yangtze CTG compile video surveillance enterprise standard.



Project Introduction

- This project includes grid center, province center, city center and substation system. This project includes all substations 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

- In February 2012, Dahua signed the contract of VMS platform of Guangdong province Power Grid with the customer.

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 and improve the reliability of power supply.



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 a key project of "the Belt and Road" in China. Dahua is responsible for upgrading the security system of the power station to ensure the safety and stability of the power station.

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
- Searched 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

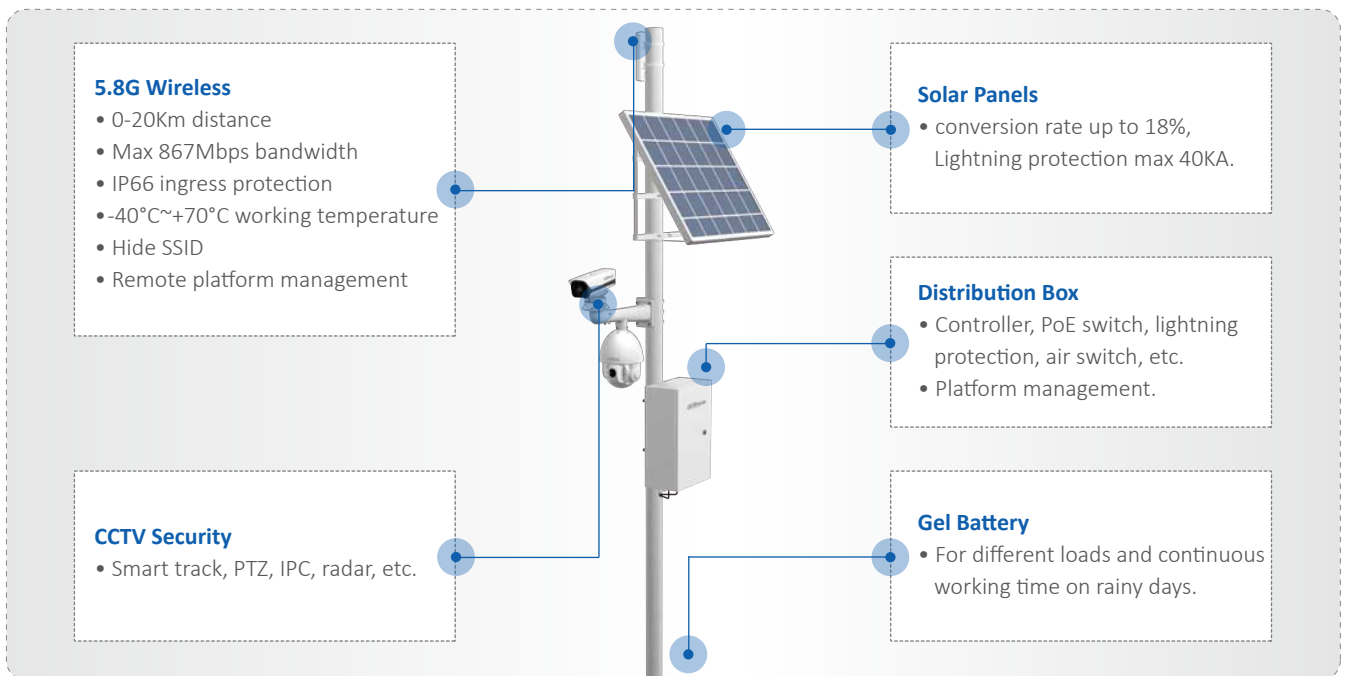
EXPLORATION AREA AND OIL FIELD

PUMPING UNIT SURVEILLANCE

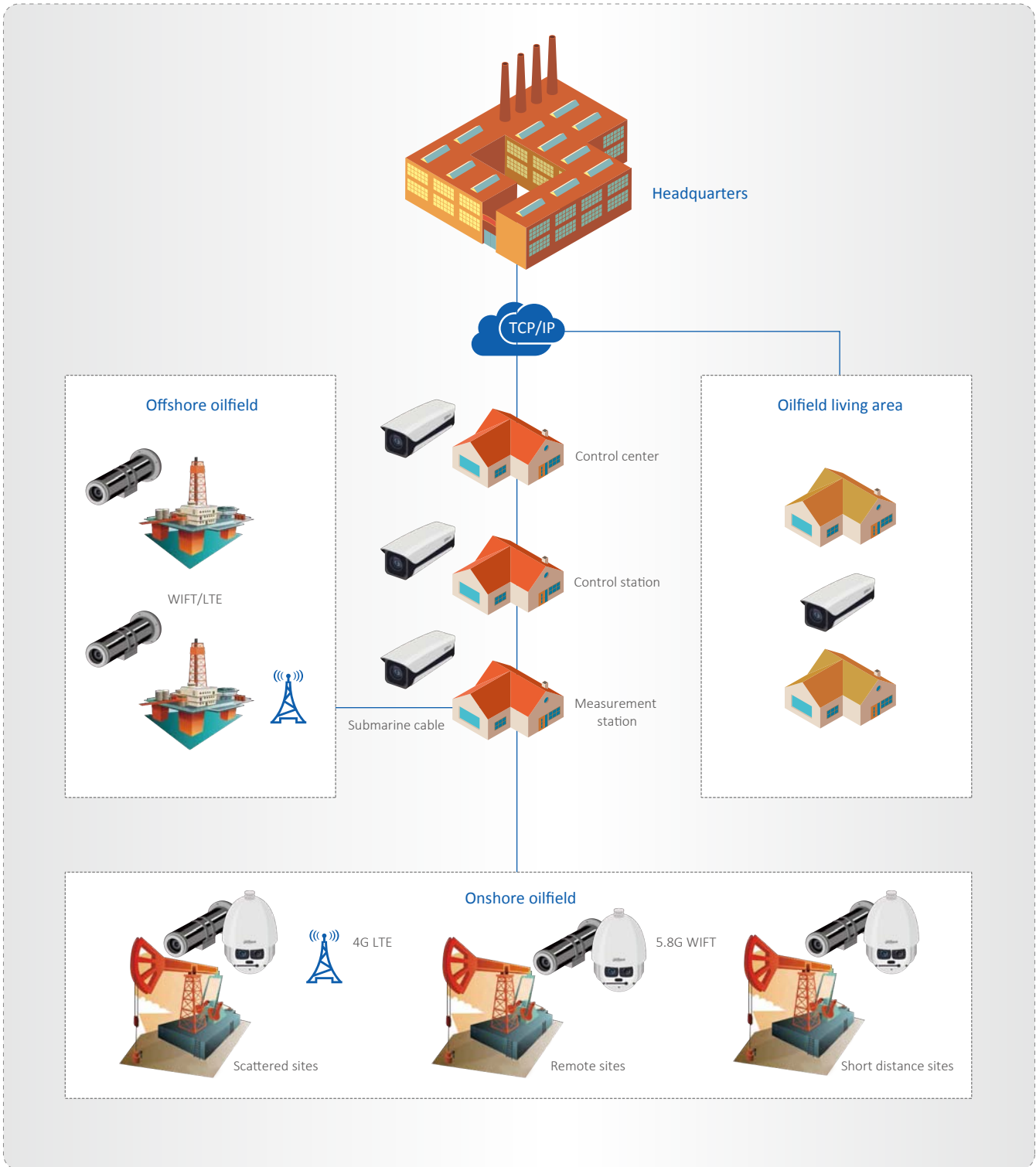


- Important oilfield drilling equipment is secured.
- Cameras feature intelligent analytics functions such as tripwire detection, intrusion, and auto-tracking to ensure oilfield safety.
- Real-time alarms prevent illegal personnel and vehicle trespassing by sending an alert when triggered.

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
- Support 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
- Support 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

PFM360



- Supports 50W load, continuous work for 72/168h on rainy days
- DC48V output, use Hi-PoE switch to power loads, no inverter loss
- Solar module has max. 40kA lightning protection
- Controller has over-temperature, overcharge, over discharge, overload, short circuit protection
- Gel battery has three-year free maintenance

PIPELINE AND STATIONS

PIPELINE SURVEILLANCE



Pipeline Long-distance Positioning System

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

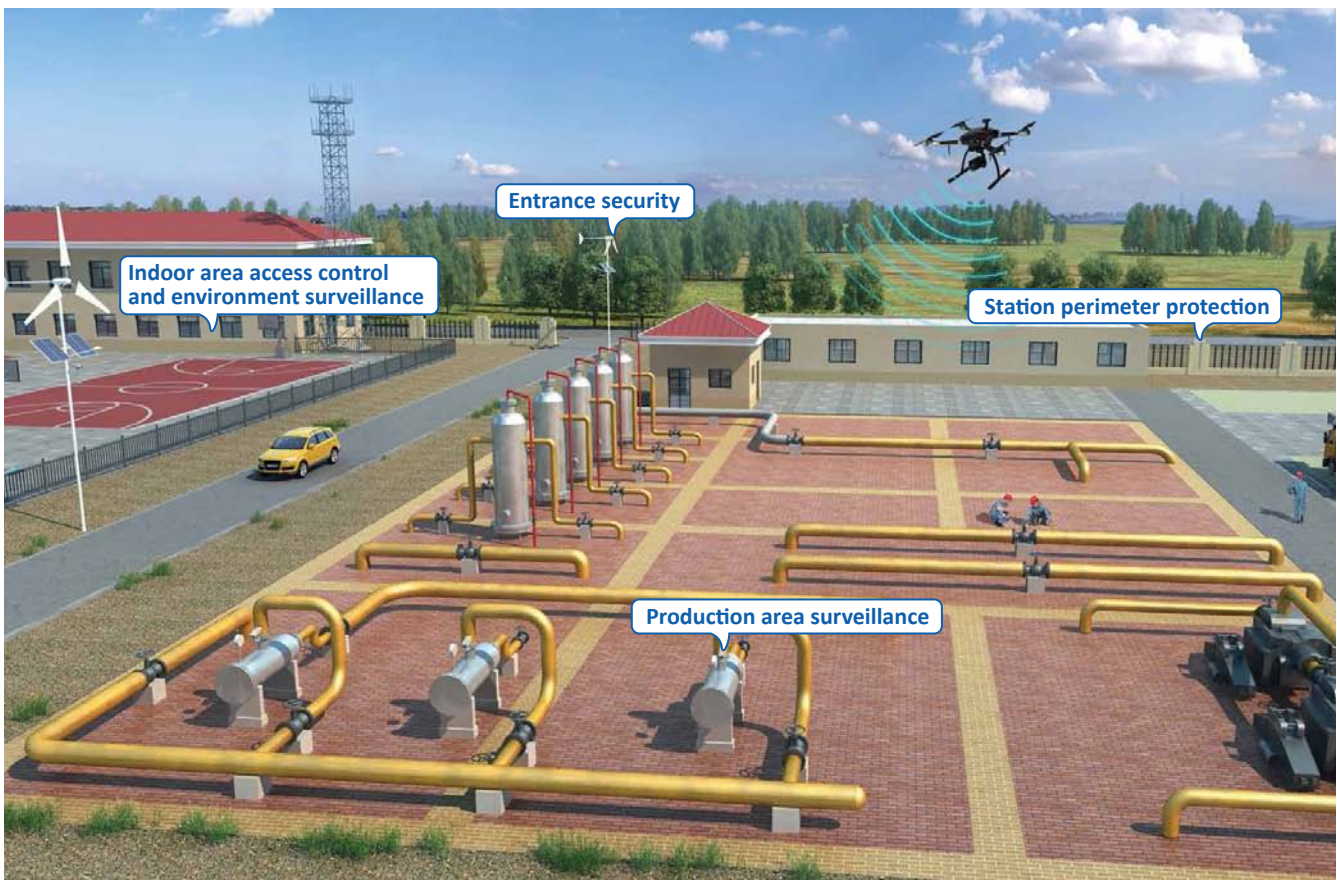
Solar Power System

- Solar power system is suitable for the area where long-distance positioning system can not reach

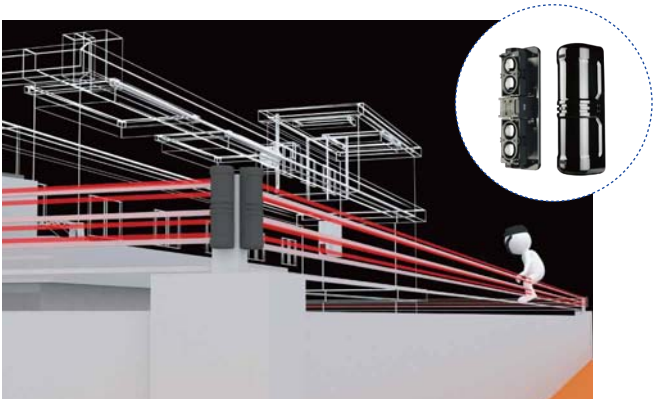
Drone Tour Inspection

- Pipeline inspection is hard work and drone tour inspection makes it easy
- By drone tour inspection, staff can check the pipeline remotely

Smart Station Solution

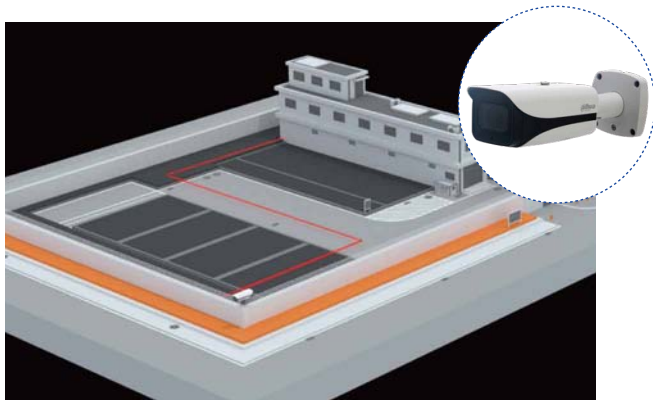


Station Perimeter Protection



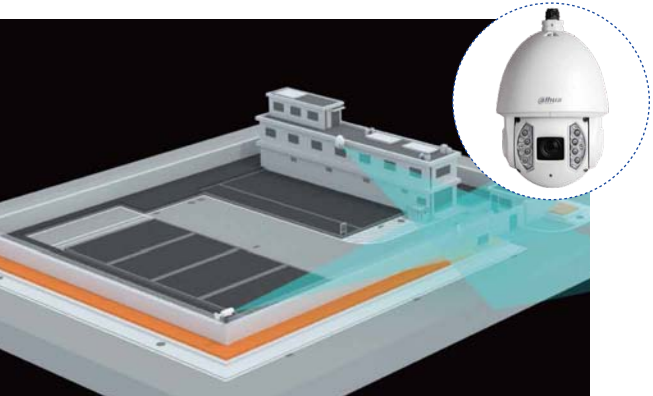
Traditional Security Solution

- Install PIR detector at the corner of fence for intrusion detection
- Send intrusion alarm to alarm controller or FSU and send alarm out
- 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 key technologies
- For normal camera, it supports the video and power transmission less than 100m, and ePOE camera supports 800m transmission



Smart Video Solution

- Thermal camera supports perimeter surveillance both day and night
- Thermal camera supports human body detection and intrusion alarm
- Make 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-terrorist purpose

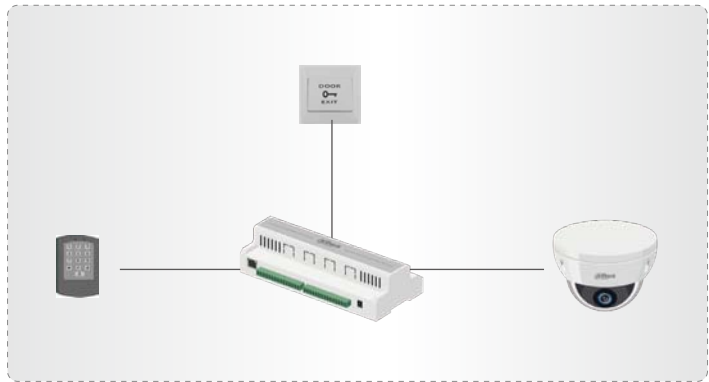
Production Area Surveillance



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 to the special environment.

Access Control



Access Control of Substation Rooms

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

Environment Surveillance

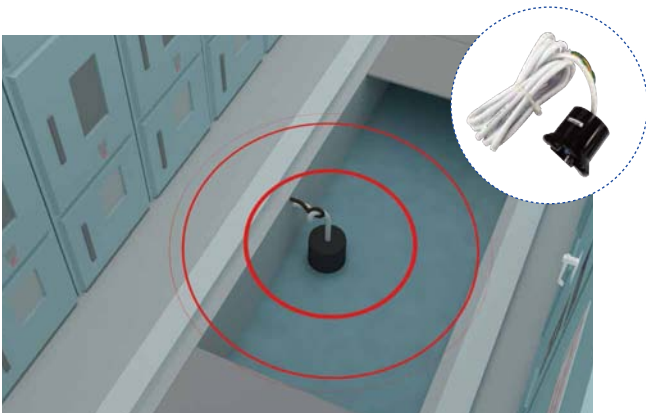


Temperature and humidity detector, water detector, smoke detector and others all connect to this unit. It can connect to the platform and can also be used by local device.



T & H Detection

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



Water Detection

- If water flows into the room, it gets alarm



Smoke Detection

- It will send an alarm if the device gets on 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

PFM360



- Supports 50W load, continuous work for 72/168h on rainy days
- DC48V output, use Hi-PoE switch to power loads, no inverter loss
- Solar module has max. 40kA lightning protection
- Controller has over-temperature, overcharge, over discharge, overload, short circuit protection
- Gel battery has three-year free maintenance

TPC-BF5400



- 400*300 VOx uncooled thermal sensor technology
- Athermalized lens (thermal), focus-free
- Support fire detection & alarm
- Various lens optional (7.5/13/19/25/35mm)
- 2/1 alarm in/out
- Micro SD memory, IP67, PoE

SD6AE230F-HNI



- 1/1.9" 2MP CMOS
- Powerful 30x optical zoom
- Starlight technology
- Max. 25/30fps@1080P, 25/30/50/60fps@720P
- Supports Hi-PoE
- 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-HFW5231E-Z12E



- 1/2.8" 2MP progressive scan STARVIS™ CMOS
- 5.3mm ~64mm 12x zoom lens
- 2/1 alarm in/out, 1/1 audio in/out
- Max. IR LEDs length 200m
- Micro SD memory, IP67, IK10, PoE

PRODUCT SHOWCASE

IPC-HF8242F-FD



- 1/1.9" 2MP progressive scan CMOS
- 50/60fps@1080P(1920×1080)
- Auto back focus(ABF)
- Micro SD memory, PoE
- Supports face capture, face attributes

IVSS7008-1T



- Meet the middle solution demands, 4-channel face recognition
- Searched by image
- Face modelling speed: 12pcs/s
- Supports 100,000 faces library(blacklist)
- Supports 10,000,000 faces library (capture)
- Supports 10 faces searching at same time

EPC230U



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

ASC1202B-D



- Support 100,000 valid cards & 150,000 records
- Support card, password, fingerprint and combination
- Wiegand or RS485 interface to readers (2-door)
- Door timeout alarm, intrusion alarm, duress alarm and tamper alarm
- Support 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
- Support 3G WCDMA(-C only)
- Support 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

DSS4004



- Embedded Linux System, C/S Architecture
- Supports distributed and cascade deployment
- Supports hot standby for master server
- Supports N+M hot standby for slave server
- Supports up to 5-level cascade
- Supports 256 IP devices and 256 channels
- Supports 128 doors

DSS7016D



- Embedded Linux System, C/S Architecture
- Supports hot standby for master server
- Supports N+M hot standby for slave server
- Supports up to 5-level cascade
- Supports 500 IP devices and 2,000 channels
- 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

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
- Support human body detection and intrusion alarm
- Support alarm linkage with PTZ camera



Radar Detection and Smart Tracking

- Radar detects people who enter the surveillance area
- Track every person in the surveillance area and show the path in the VMS software
- Make linkage with PTZ and do auto-tracking surveillance

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-terrorist purpose

Intelligent Entrance Control for Vehicles



No Ticket No Stop

- For efficiency, vehicle entrance is controlled by LPR. Without any tickets, improve traffic flow with no delays

Two Trigger Ways

- Supports induct loop trigger and video trigger, simplify construction

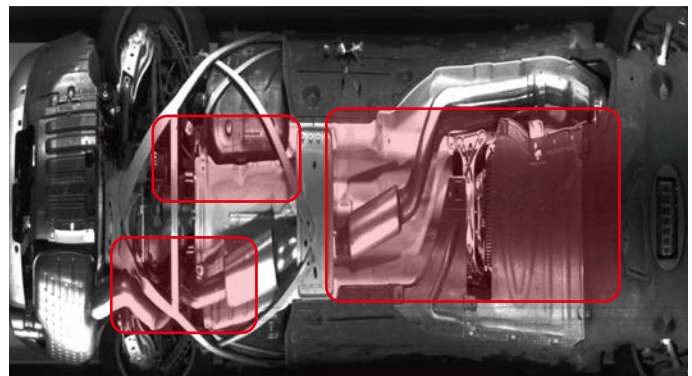
Info Screen

- Information screen will show some notification messages

Abnormal Holding

- Press VTO button once needed

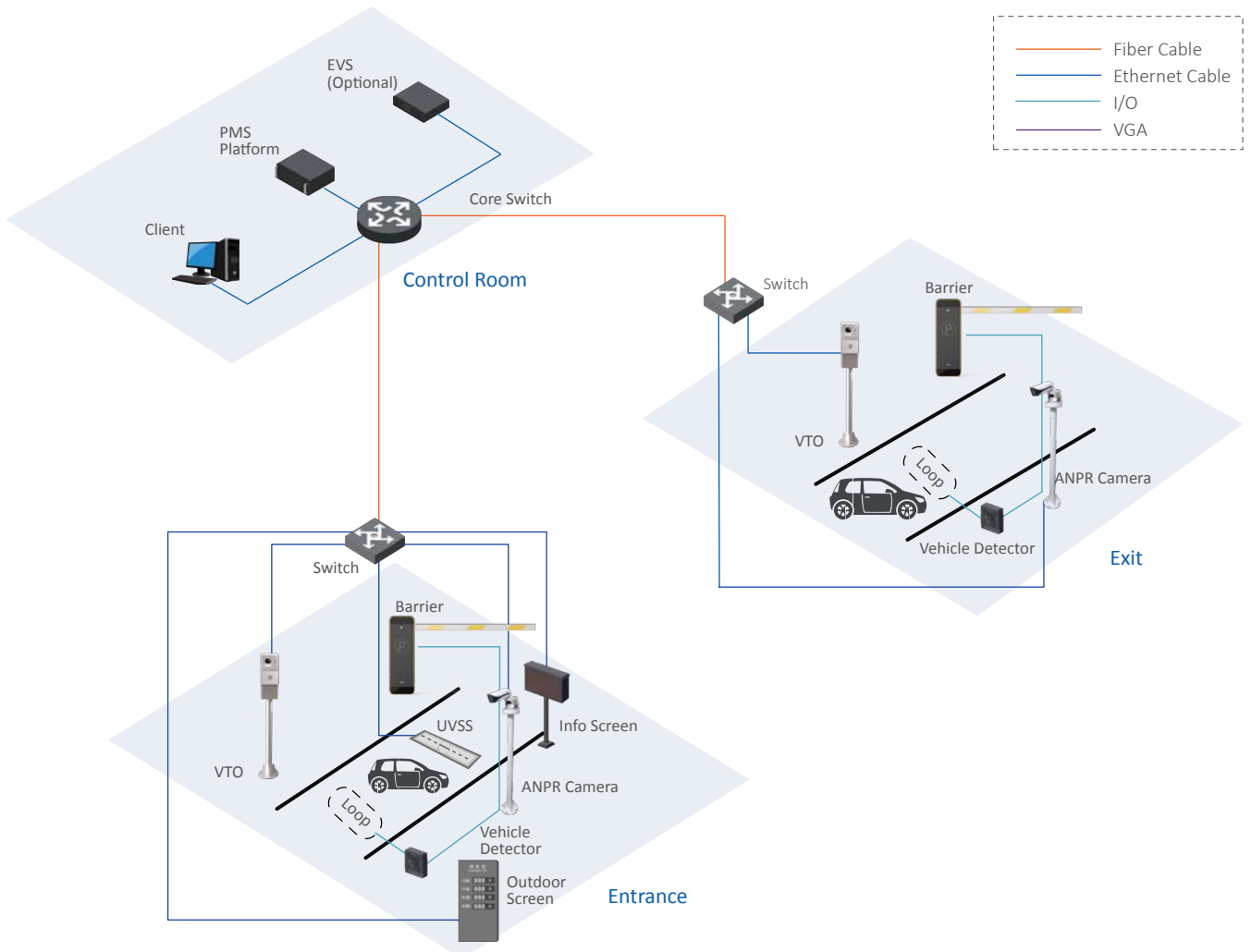
Under Vehicle Scanning System



UVSS Work Flow

- Loop sensor detects the vehicle coming into the scan area and triggers UVSS scan module
- The UVSS scan module grabs the image of under vehicle chassis
- The client presents the stitched image of full 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

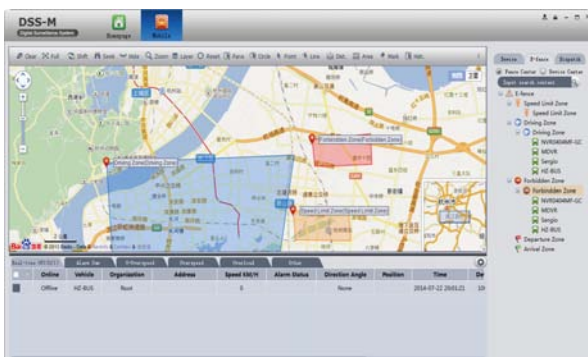
Production Area Surveillance



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 to the special 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, wide-range working temperature area

PRODUCT SHOWCASE

TPC-BF5400



- 400*300 VOx uncooled thermal sensor technology
- Athermalized lens (thermal), focus-free
- Support fire detection & alarm
- Various lens optional (7.5/13/19/25/35mm)
- 2/1 alarm in/out
- Micro SD memory, IP67, PoE

PFM861-B300



- Active detection: 24-hour continuous detection
- Stereo protection: stereo space, all-round protection
- Real-time scanning: 8 electronic scanning times per second
- Electronic perimeter: free setting of the protection area and time
- Radar-PTZ linkage solution: realize the perfect combination of the video and the radar

SD6AL245U-HNI-IR



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

TPC-PT8420C-B



- VOx uncooled thermal sensor technology
- Athermalized lens (thermal), focus-free
- 1/1.9" 2MP progressive scan Sony CMOS
- Laser range finder or laser illuminator optional
- 2/2 alarm in/out
- Micro SD memory, IP66

IPC-HF8242F-FD



- 1/1.9" 2MP progressive scan CMOS
- 50/60fps@1080P(1920x1080)
- Auto back focus(ABF)
- Micro SD memory, PoE
- Supports face capture, face attributes

IVSS7008-1T



- Meet the middle solution demands, 4-channel face recognition
- Searched by image
- Face modelling speed: 12pcs/s
- Supports 100,000 faces library (blacklist)
- Supports 10,000,000 faces library (capture)
- Supports 10 faces searching at the same time

PRODUCT SHOWCASE

ITC237-PU1B-IR



- Embedded with LPR algorithm inside the camera
- Support plate cutout, overview picture snapshot and video recording
- Embedded with whitelist list database, control the barrier
- Powerful 5-50mm manual lens and IR light, ideal for monitor ANPR distance as 40m
- Wide working temperature, IP66 and superior performance for outdoor applications

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

EPC230U



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

MNVR8104-GFW



- Up to 4 channels with 4K realtime live view
- Support 1 SATA HDD up to 2TB, 2 USB2.0
- 4-channel synchronous realtime playback
- Support IPC UPnP, 4 PoE ports
- Aviation connectors adopted ensuring signal stability

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

PRODUCT SHOWCASE

DSS7016D



- Embedded Linux System, C/S Architecture
- Supports hot standby for master server
- Supports N+M hot standby for slave server
- Supports up to 5-level cascade
- Supports 500 IP devices and 2000 channels
- 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

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

- ITC237 camera supports the 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
- Criminal and terrorist

• Management Improvement

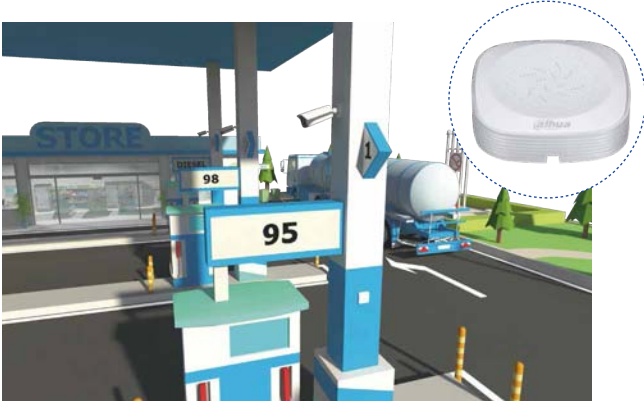
- Vehicle flow analysis for human resource arrangement
- Vehicle flow analysis for weekly, monthly and yearly business report



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 Help Resolve Dispute



Video + Audio

- Pickup synchronized recording
- Pickup and audio evidence for disputes

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 room, warehouse and so on
- Time attendance of staffs
- It supports face recognition and fingerprint identification

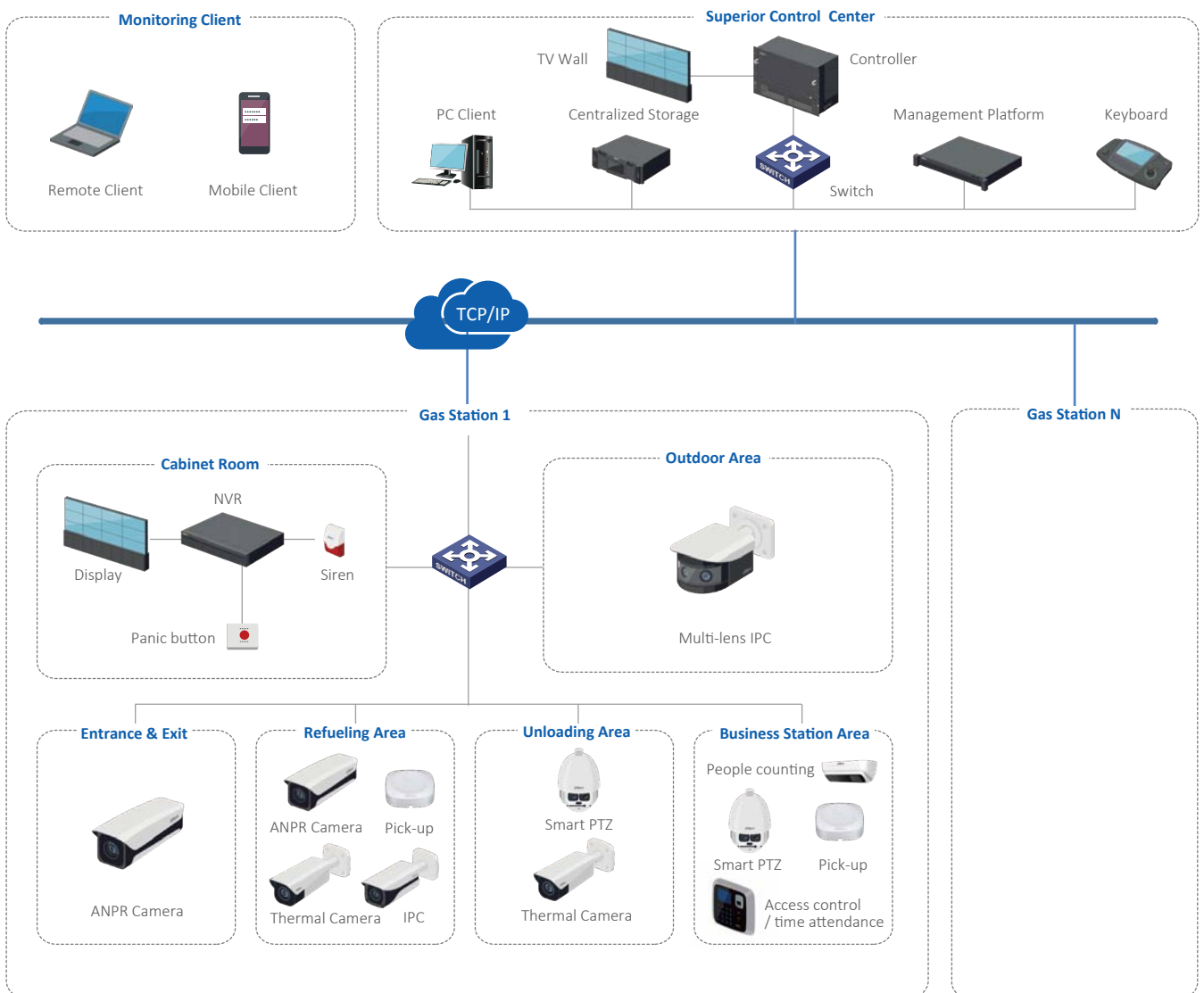
Smart Retail Solution



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

ITC237-PU1B-IR



- Embedded with LPR algorithm inside the camera
- Support plate cutout, overview picture snapshot and video recording
- Embedded with whitelist database, control the barrier
- Powerful 5-50mm manual lens and IR light, ideal for 40m ANPR monitoring distance
- Wide working temperature, IP66 and superior performance for outdoor applications

ITC237-PW1B-IRZ



- Embedded with LPR algorithm inside the camera
- Support plate cutout, overview picture snapshot and video recording
- Embedded with whitelist database, control the barrier
- Powerful 2.7-12mm motorized lens and IR light, ideal for 3~8m ANPR monitoring distance
- Wide working temperature, IP67, IK10 and superior performance for outdoor applications

IVSS7008-1T



- Meet the middle solution demands, 4-channel face recognition
- Searched by image
- Face modelling speed: 12pcs/s
- Supports 100,000 faces library (blacklist)
- Supports 10,000,000 faces library (capture)
- Supports 10 faces searching at the same time

TPC-BF2120



- 160x120 VOx uncooled thermal sensor technology
- Athermalized lens (thermal camera), focus-free
- 1/2.8" 2MP progressive scan Sony CMOS
- Supports fire detection & alarm
- Built-in 2/1 alarm in/out
- Micro SD memory, IP67

IPC-HFW5231E-Z12E



- 1/2.8" 2MP scan STARVIS™ CMOS
- Smart detection supported
- 5.3mm ~64mm 12x zoom lens
- 2/1 alarm in/out, 1/1 audio in/out
- Max. IR LEDs length 200m
- Micro SD memory, IP67, IK10, PoE

HAP200



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

PRODUCT SHOWCASE

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: Support line crossing people counting, region people counting

ASA6214F



- Dual- biometric identification: face and fingerprint
- NTP--network time protocol
- TCP/IP and Wi-Fi for communication
- Support 3rd party controller connection via Wiegand
- Supports face/fingerprint/card/password or combination identification
- Export attendance reports from the device with USB

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

"West-East" pipeline is the longest and largest caliber gas pipeline in China. The length of pipeline is 4200 km.

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 with a total amount of 15 million RMB and enhanced the security level of chemical district.

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

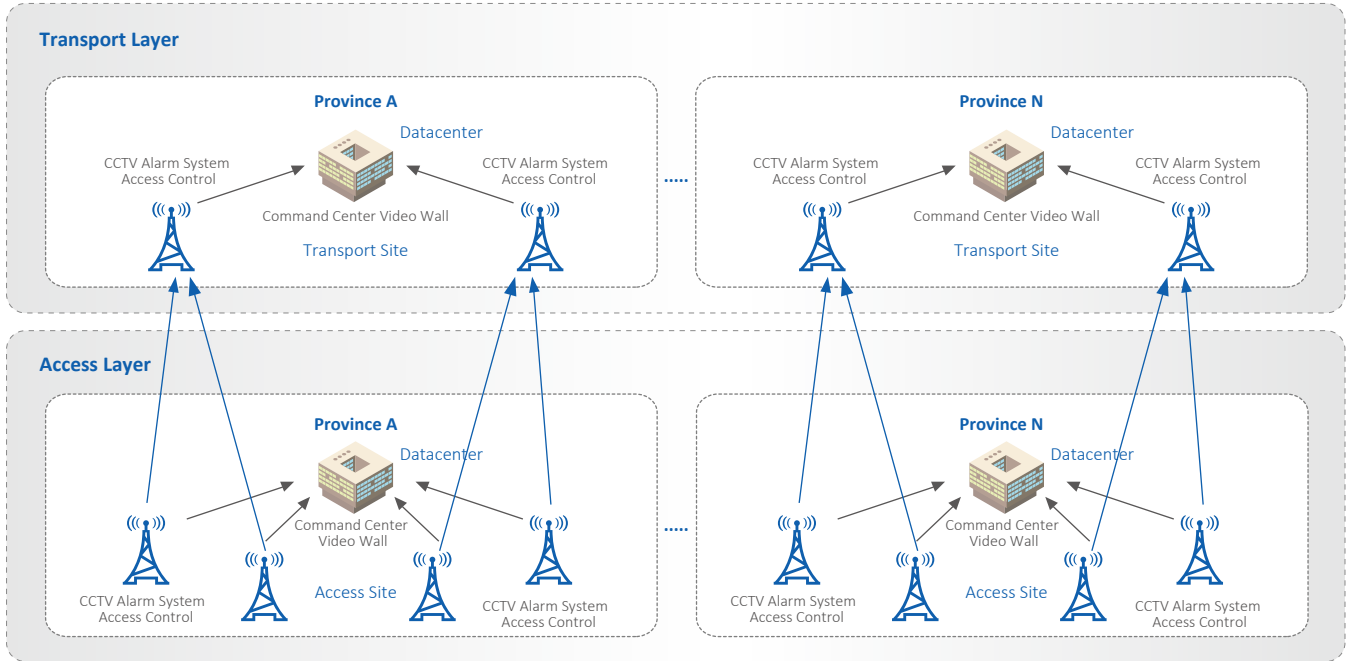
Sinopec oil sales market covers the whole of China with 30,121 gas stations. In 2015, the company's domestic refined oil sales reached 151 million tons with an increase of 7.6%.

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 gets on fire



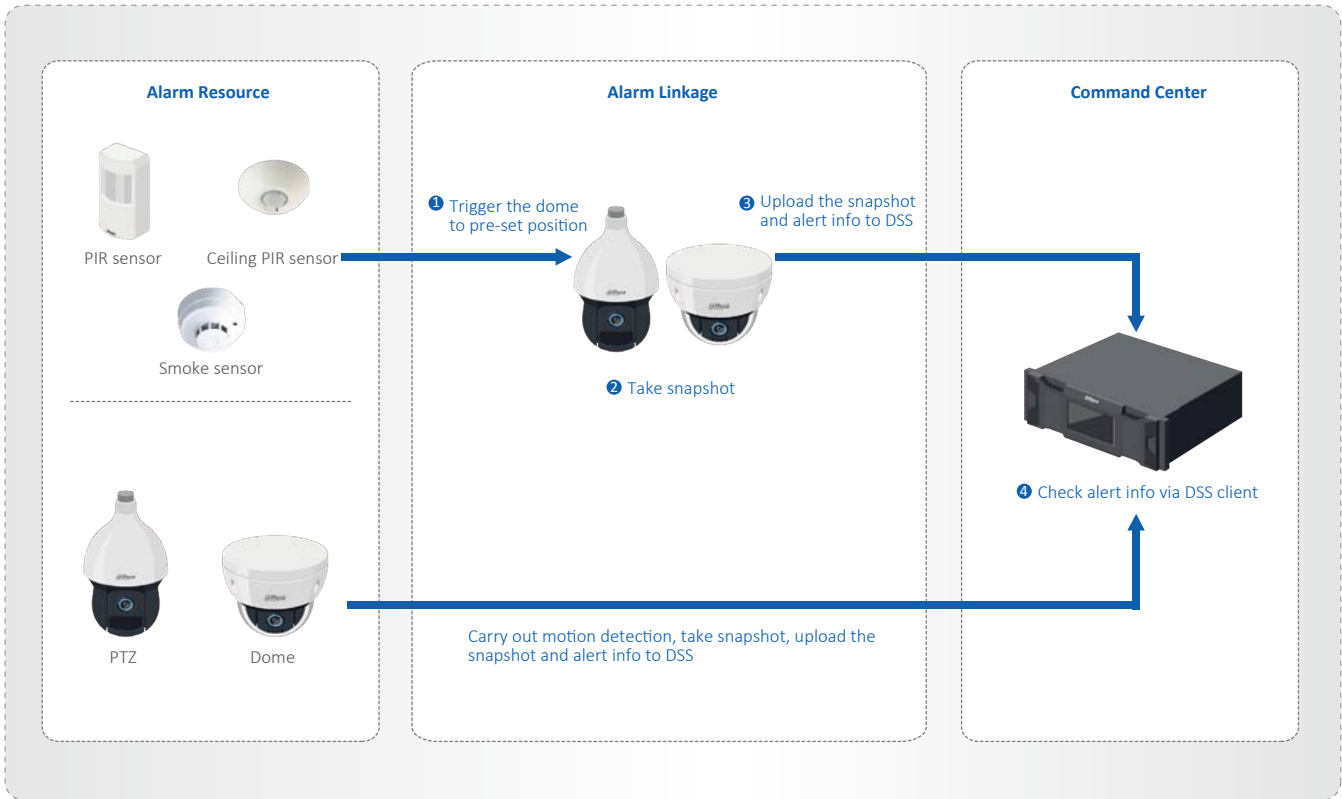
STEP

4

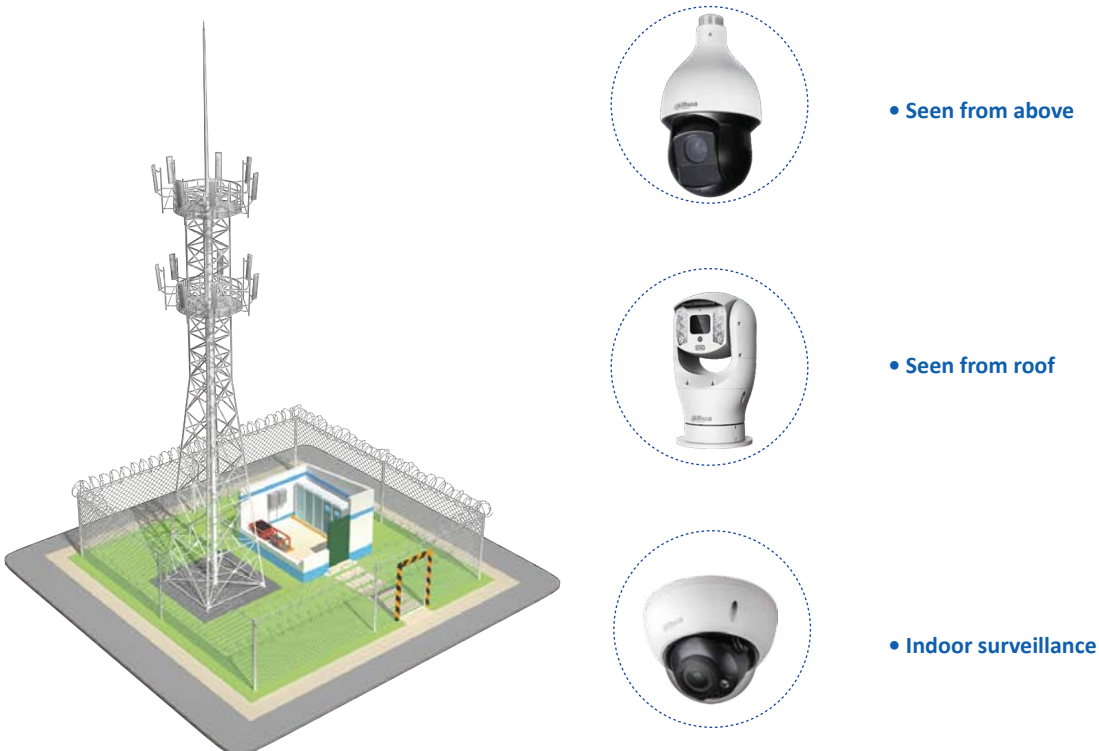
Optimize the Management Work

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

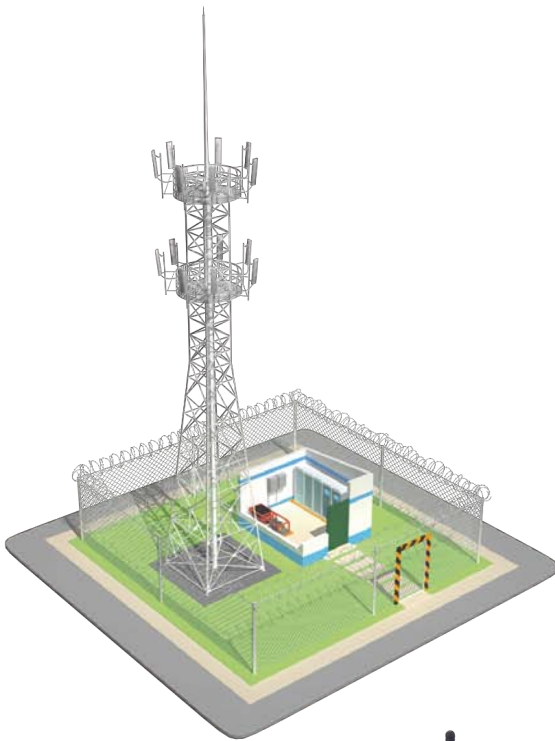
Key Technology of Base Station Solution



Whole Station Surveillance and IVS Detection



Alarm



• Smoke detection



• Indoor intrusion detection

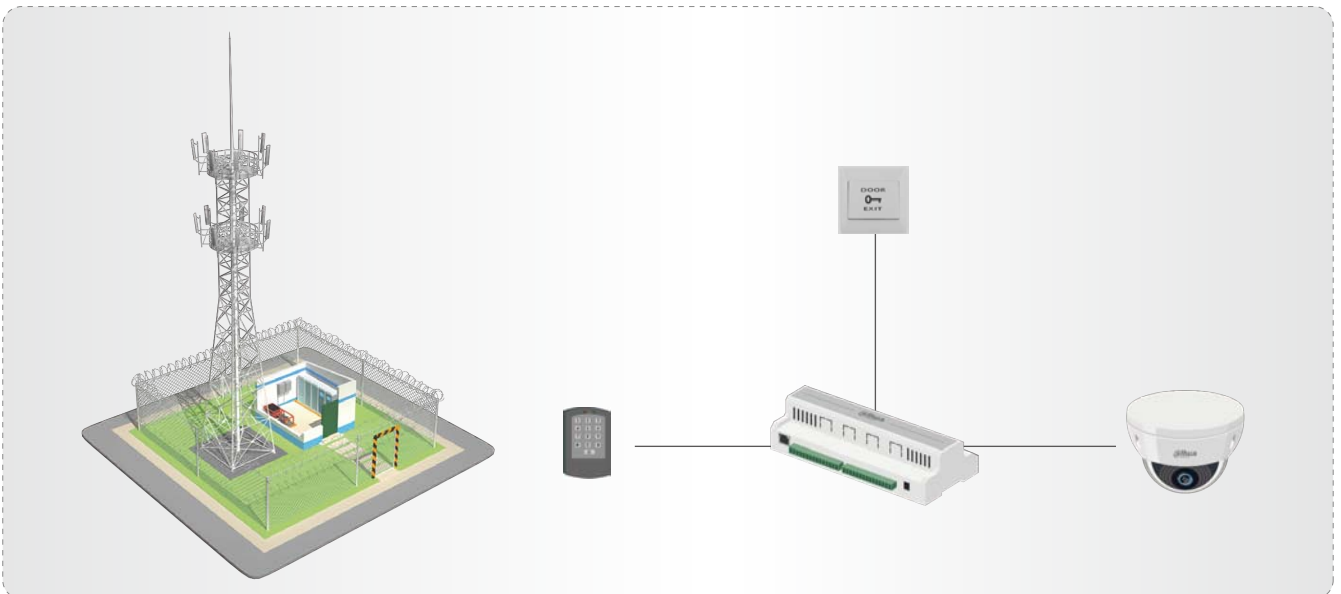


• Fence intrusion detection



• 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
- Support PoE+
- IR distance up to 150m
- IP66

IPC-HDBW2231R-ZS/VFS



- 1/2.8" 2MP progressive Starvis™ CMOS
- H.265 & H.264 dual-stream encoding
- 25/30fps@1080P(1920×1080)
- 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
- Support 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
- Support 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
- Support 3G WCDMA(-C only)
- Support 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

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



Transport Site

263 sites in total, distributed in 3 provinces across Peru work as convergent point for all access sites



Command center

6 centers in total, each center manages all the access sites or transport sites from one province respectively

ENABLING A SAFER SOCIETY AND SMARTER LIVING

Dahua Mexico

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

Dahua Colombia

Tel: +571 7446110
Email: sales.co@dahuatech.com
support.co@dahuatech.com

Dahua Brazil

Tel: +55 11 32511871
Vendas: comercial.br@dahuatech.com
Suporte Técnico: suporte.br@dahuatech.com

Dahua Perú

Tel: +511 500-8555
Email: sales.pe@dahuatech.com
support.pe@dahuatech.com

Dahua Chile

Tel: +56 232705421
Email: sales.cl@dahuatech.com
support.chile@dahuatech.com

Dahua Argentina

Email: project.ar@dahuatech.com

Dahua Panama

Email: sales.pa@dahuatech.com
support.pa@dahuatech.com

Dahua Thailand

Tel: +66 2541 5188
Email: info.th@dahuatech.com
hr.th@dahuatech.com

Dahua Singapore

Tel: +65 65380952
Email: sales.sg@dahuatech.com

Dahua Turkey

Email: sales.tr@dahuatech.com
support.tr@dahuatech.com

Dahua Malaysia

Tel: +60376620731
Email: sales.my@dahuatech.com

Dahua Indonesia

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

Dahua S.Korea

Tel: +82 7081618889
Email: sales.kr@dahuatech.com
support.kr@dahuatech.com

Dahua India

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

Dahua Russia

Tel: 8 (499) 682-60-00
Email: info@dahuatech.com

Dahua Kazakhstan

Tel: +7 727 3110838
Email: sales.kz@dahuatech.com

Dahua UK

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

Dahua the Netherlands

Tel: +31 (0) 79 799 96 96
Email: sales.benelux@dahuatech.com

Dahua Iberia

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

Dahua Italy

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

Dahua Germany

Tel: +49 211 20544121
Email: sales.de@dahuatech.com

Dahua France

+33 1 48 53 70 53
Email: sales.france@dahuatech.com

Dahua CEE & Nordic

Tel: +48 223957400
Email: dh.cen@dahuatech.com

Dahua Poland

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

Dahua SRB

+38 1 (11) 4429999
Email: dh.srb@dahuatech.com

Dahua Denmark

Email: Nordic.ne@dahuatech.com

Dahua Hungary

Tel: +36 17899852
Email: sales.hu@dahuatech.com

Dahua Bulgaria

Tel: +35929950013
Email: support.bg@dahuatech.com

Dahua SRL

Email: marketing.ro@dahuatech.com

Dahua Czech

Tel: +420 225 986 001
Email: admin.cz@dahuatech.com

Dahua S. Africa

Email: sales.za@dahuatech.com

Dahua Australia

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

Dahua Middle East

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

* Design and specifications are subject to change without notice.

CRITICAL INFRASTRUCTURE SOLUTION - 01, Aug 2018



DAHUA TECHNOLOGY

No.1199 Bin'an Road, Binjiang District, Hangzhou, China. 310053
Tel: +86-571-87688883 Fax: +86-571-87688815
Email: overseas@dahuatech.com
www.dahuasecurity.com



© Dahua Technology, All rights reserved