IVS Position
Huawei has accumulated a vast experience in the Security and Surveillance Solution. An End to End portfolio for video surveillance products and security solutions for different verticals has been developed.

- More than 18 years of experience in CHIP Design and Manufacturing
- Above 10 years of Continuous Research in audio and video core algorithms
- More than 20 years experience in Developing wired and wireless network transmission technologies
- Rich research experience of more than 15 years in Storage technologies

One Platform and Four Box Series

### Huawei’s Four Video Surveillance Solutions

- **Safe City**: Urban security management, Traffic Surveillance, Emergency Command
- **Traffic Surveillance**: Urban traffic management, Subway surveillance, Highway surveillance
- **Emergency Command**: Firefighting command, Medical emergency command
- **Campus Security**: Industrial park security, Airport security

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**Box 1: Network Video Recorders**

- SmartNVR 100 (16 software channels)
- SmartNVR 3000 (100 channels)
- NVR6008 (8 channels)
- NVR6016 (16 channels)
- NVR6032 (32 channels)
- NVR6064 (64 channels)
- NVR6256 (256 channels)

**Box 2: Encoders/Decoders**

- VS-EC-D21S-C (Portable DVR)
- VS-EC-D21M (Vehicle-mounted DVR)
- VS-EC-D21S/D21M (1/4-channel encoder/DVR)
- VS-EC-D24R/D28R/D29R (4/8/16-channel DVR)
- VS-EC-D24S (1-channel HD encoder)
- VS-EC-D24M (4-channel HD encoder)
- ENC6001-SDI (3G-SDI encoder)
- ENC6001-SDI-W (HD wireless encoder)
- ENC6004-SDI (4CH-SDI encoder)

**Box 3: Surveillance Data Units**

- SDU6016 (16 hard disk slots)
- SDU6024 (24 hard disk slots)

**Box 4: Cameras**

- HD box
- Wide Dynamic HD box
- HD semi-dome
- Violation-proof HD semi-dome
- HD dome

- Box
- Wireless box
- IR box
- Wide dynamic box
- IR semi-dome
- Violation-proof semi-dome
- Wide dynamic semi-dome
- High-speed dome
- IR high-speed dome

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**IVS platform**

- HD, Standard definition, Analog

- Large screen (DLP, matrixes, and digital keyboards)
- Mobile clients for Android, iPhone, and iPad
- PC clients using browser/server (B/S) and client/server (C/S) modes

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**eSpace Intelligent Video Surveillance Solution**

- Oriental Smart City
- Traffic Surveillance
- Emergency Command
- Campus Security

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**IVS platform**

- Large screen (DLP, matrixes, and digital keyboards)
- Mobile clients for Android, iPhone, and iPad
- PC clients using browser/server (B/S) and client/server (C/S) modes
Network Video Surveillance Product Features

**Mobility**
- **Saving Bandwidth**: Using low-bandwidth codec technology reduces the required bandwidth by 50% without compromising video quality.
- **Network Fault Tolerance**: Surveillance video quality is unaffected within 5% packet loss.
- **Multiple Wireless Access Modes**: Supports WiFi, WiMAX, 3G, and LTE wireless network access modes.
- **Consistent User Experience**: The SVC codec provides users with a consistent experience across various mobile terminals.

**Intelligent Systems**
- **Intelligent Image Recognition**: Recognizes specific image features and stores snapshots.
- **Intelligent Storage**: Uses the HIA algorithm that reduces storage requirements by 40%.
- **Intelligent Query**: Videos can be queried according to time, events, and video features.
- **Intelligent Maintenance**: Supports automatic preventive maintenance, fault detection, and automatic software updates.

**High Definition**
- **Most Advanced Codec Technology**: Supports 1080P 60 fps HD codec.
- **Low Bandwidth Consumption**: Only 2 Mbps bandwidth is required to support 1080P resolution.
- **Advanced Video Image Enhancement**: HD quality video is guaranteed by using low-luminance, wide dynamic range, and noise reduction technologies.
- **Low Storage Requirements**: ROI-enhanced technology is used to reduce storage requirements by 50% while ensuring HD quality video in key areas.

**Cloud Collaboration**
- **Largest Cloud Surveillance Platform in the Industry**: The cloud surveillance platform is a network of distributed terminals forming a high performance, low energy consumption network. More than 200,000 peripheral terminals can be connected in a single cloud.
- **Cloud Edge Node Terminals**: Terminals on cloud edge nodes have plug-and-play features allowing them to seamlessly access the cloud surveillance platform.
### Mobility

- **Consistent User Experience across Multiple Terminals**
  - Supports real-time video surveillance on multiple terminals, including mobile phone, tablet, and PC.
  - Seamlessly switches between terminals.

- **Radio Bearer**
  - Ensures video image quality through a high-definition and low-bandwidth compression algorithm.
  - Enhanced error correction capability: Images are displayed smoothly without mosaics or streaking when network packet loss rate is less than 5%. Images are displayed with minimal mosaics and slight streaking when network packet loss rate is less than 10%.

- **Mobile Access**
  - Supports wireless camera and wireless vehicle-mounted system access, and allows videos from mobile phones to be uploaded to the surveillance platform.

### Intelligence

- **Intelligent Recognition**
  - Quick image recognition, feature collection, and image quality diagnosis
  - Configurable exception conditions

- **Intelligent Storage**
  - Supports intelligent strategy storage based on intelligent analysis
  - Reduces frame rates of expired videos, reducing required storage space by 40%

- **Intelligent Search**
  - Collects video information by time, event, and feature
  - Constructs an information library that facilitates multiple keywords queries

- **Intelligent Maintenance**
  - Automatic preventive maintenance inspection (PMI) of periphery units (PUs) and fault detection
  - Automatic software upgrades and updates
A BETTER WAY

HD

1. **HD Decoder**
   - Provides HD-quality video surveillance solution through the entire system from PU access, transmission, platform, storage, to image display
   - Supports 1080P codec at 60 fps
   - Supports 1080P at 30 fps with 2 MB bandwidth

2. **Image Enhancement**
   - HD video images provided using low illumination, Wide Dynamic Range (WDR), and noise reduction technologies

3. **ROI Enhancement**
   - Enhanced Region of Interest (ROI) technology compresses HD video images from user-defined or intelligently identified areas, reducing required storage space by 50% while maintaining video image quality

Cloud Collaboration

Cloud
- Monitoring Cloud: An integrated cloud surveillance platform built around the Huawei Unified Communication and Collaboration (UC&C) platform. It is a high performance, low consumption, distributed deployment solution which provides various cloud solutions, including safe city, intelligent traffic, and campus surveillance
- Storage Cloud: Supports petabyte storage volumes (maximum 43 PB)

Pipeline
- Analog wired access (optical cable or coaxial cable)
- IP network access (standard network interface, xPON, or optical fiber)
- Wireless access (Wi-Fi, WiMax, 3G, or LTE)

Terminal
- Multiple kinds of PUs and various surveillance modes
- PUs: Box camera, dome camera, semi-dome camera, and DVR
- Surveillance client: PC, tablet, and smart phone
Four Solutions
Safe City
Intelligent Traffic Surveillance
Emergency Command Center
Campus Security
Huawei eSpace Safe City Solution

Huawei eSpace Safe City Solution applies a comprehensive public security video surveillance platform to video surveillance resources from public security departments and other sources. This solution provides real-time urban surveillance and surveillance video query services. Police “cyber pursuit” is facilitated using real-time, space-based surveillance services for accurate tracing and analysis in combating crimes and securing public environment.

- **Real-time Information Access**: Police and public video surveillance resources can be obtained using the video access gateway. Users can access, query, and remotely monitor dynamic surveillance information in real time.
- **Video-Assisted Detection**: By quickly querying and using EID system and intelligent devices to analyze a wide range of resources, users can accurately trace people, vehicles, and crimes in progress.
- **Quick and Accurate Detection**: Based on GIS, GPS, and three-dimensional, real-time video surveillance, users can visibly monitor and deal with criminal activities as they happen.

**Case Study**

**Safe City Project in Qingdao**

The solution was developed to meet public security requirements like evidence collection, and city management, and to monitor fires, floods and storms, etc. Safe city projects were also successfully implemented in Wuhan, Karamay, Wuhua, Xi'an, Anyang, and Qitaihe in China.
**Huawei eSpace Safe City Solution: Network and System Components**

### Service Applications
- **Visible GIS Application**
- **Case Video Management**
- **Video-assisted Detection**
- **Vehicle Tracking**
- **ID Verification**

### City Command Center
- **PC Client**
- **Video Decoder**
- **Media Distribution Server**
- **Service Gateway**
- **Public Security Video Surveillance Application Server**

### Surveillance Points
- **Small-sized Surveillance Room**
- **PC Client**
- **DvS/DVR**
- **NVR**
- **Mobile Client**

### Video Collection Devices
- **Box Camera**
- **Dome Camera**
- **Semi-dome Camera**
- **Wireless Camera**
- **Analog**
- **Standard Definition (SD)**
- **HD**
- **ID Verification Devices**

### System Components
- **Cameras**: Various types of cameras: box camera, semi-dome camera, speed dome, and wireless camera. Various resolutions: D1, 720P, and 1080P
- **Video Networking Platform**: Standard interfaces enable the platform to integrate with other service systems. Standard protocols and specifications ensure compatibility with platforms and PUs from other vendors. Central management of devices and videos. Stores and distributes large volumes of media streams.
- **Comprehensive Public Security Video Surveillance Platform**: This platform applies information association technology to the case video database to share case information, intelligently analyze cases, aid in decision-making, and improve case handling efficiency.
- **Intelligent Analysis System**: Intelligent analysis modes include tripwire detection, abandoned object detection, face recognition, and license plate recognition.
- **EID Management Platform**: The EID management platform applies intelligent card technology to population information and an electronic identification (EID) card management system. It integrates digital signature and biometric identification technologies to collect and manage population information, identify personal information, and shares this data with government, financial, and public security institutions.
Huawei eSpace Urban Traffic Surveillance Solution

The urban traffic surveillance solution, with e-police and checkpoint systems at its core, monitors roads and vehicles and detects traffic violations in real time, ensuring efficient urban traffic management.

- **Intelligent Recognition and Snapshot Capture**: The e-police system automatically recognizes traffic violations and takes snapshots.
- **Intelligent Retrieval and Quick Positioning**: The checkpoint system allows users to retrieve checkpoint records and recognize license plates.
- **Open Platform and Integrated Services**: Standard interfaces allow system to integrate with other intelligent traffic systems, forming a unified urban intelligent traffic system.

**Case**

**Tajikistan - Intelligent Traffic Solution**

With the command center and security networks at its core, Huawei constructed various sub systems: automatic vehicle locating (AVL) system, urban traffic signal control system, traffic signal violation recording system, urban road surveillance system, and WIMAX wireless transmission system. These systems significantly improved the response time of traffic control departments, the efficiency of off-site law enforcement, and overall traffic services in Dushanbe, the capital of Tajikistan.

This solution has also been successfully implemented in Ecuador, Langfang, China, and the Maldives.
Huawei eSpace Urban Traffic Surveillance Solution: Network and System Components

**Traffic Command Center**
- Off-site Law Enforcement Platform
- Storage Center
- Intelligent Analysis Server
- Media Server
- SmartNVR
- Video Surveillance Platform

**Display**
- Decoder
- Intelligent Mobile Terminal
- PC Client

**PU**
- HD e-Police Integrated Camera
- HD e-Police Controller
- HD Camera
- Intelligent HD Checkpoint Controller
- HD Checkpoint Integrated Camera
- Road Surveillance Camera

**e-Police**
- Checkpoint Surveillance
- Highway Surveillance
- Road Surveillance

**System Components**
- **Camera**: Various types of cameras: box camera, semi-dome camera, and speed dome. Various resolutions: D1, 720P, and 1080P
- **HD e-Police Integrated Camera and Controller**: Detects vehicle and traffic signals, and vehicle speed, collects traffic data, and records videos
- **HD Checkpoint Integrated Camera and Controller**: Recognizes human faces, vehicle type and color, and detects vehicle speed and traffic violations
- **Off-site Law Enforcement Platform**: Monitors passing vehicles, identifies traffic violations, manages surveillance deployment, and supports vehicle tracing and GIS display
Huawei eSpace Railway Traffic Surveillance Solution

The railway traffic surveillance solution uses sophisticated devices and technologies to construct a stable and reliable video surveillance system. This solution provides interfaces for connecting to standard devices and other systems.

**Safe and Standard Operation:** Real-time video surveillance ensures safe and standard operation of railways

**Sophisticated Technologies and a Stable System:** Sophisticated analog video cameras are connected to the platform using encoders and decoders, forming a reliable digital surveillance system

**Open Platform and Integrated System:** Support for ONVIF, PSIA, GA/T 669, and TR-069, and provides a platform software development kit (SDK)

**Case**

**Turkish Express Railway Surveillance Solution**

The express railway between Ankara and Istanbul is 270 kilometers long. This project installed 390 IP cameras, covering the length of the railway, major entries and exits, and other key areas. The system improved emergency management, improved railway management efficiency, helped ensure normal operation of the railway system, and detection of vandalism. This solution has also been successfully implemented in Shanxi, China.
Huawei eSpace Railway Traffic Surveillance Solution: Network and System Components

**System Components**

- **Analog and HD Cameras**: Various types of cameras: box camera, semi-dome camera, speed dome, and wireless camera. Various resolutions: D1, 720P, and 1080P
- **DVS/DVR/NVR**: 1- or 4-channel DVS, 1-, 4-, or 16-channel DVR, and 8-, 16-, 32-, 128-channel NVR (NVR with greater than 128 channels also supported)
- **Data Communication and Storage**: SAN (SDU6008, SDU6012, and SDU6024), switch, and router
- **Video Surveillance Platform**: Image collection, real-time surveillance, PTZ control, level-, or domain-based management, intelligent retrieval, and open SDK
The Huawei eSpace Emergency Command Solution is composed of the unified computer assistant decision (CAD) center, intelligent command, intelligent decision analysis, and disaster response systems. It integrates advanced information and communications technology (ICT) capabilities including location based service (LBS), GPS, GIS, and remote access. This enables the emergency command center to interact with on-site personnel to control accidents and disasters in a timely and effective manner to minimize loss of life and property.

- **Multiple Alarm Reporting Channels:** Users can report alarms in real time using fixed-line phones, mobile phones, SMS messages, and the Internet. Intelligent video alarms and sensor alarms are also supported.
- **Intelligent Command:** Static and dynamic video collection capability, remote negotiation capability, and GIS capability are integrated.
- **Intelligent Analysis and Decision Making:** Disaster management, emergency plan adjustment, and automatic vehicle tracing platforms support the system’s analysis and decision making capabilities and ensure that emergencies can be properly dealt with in a timely and effective manner.

**Case Study**

**Nigerian Police Emergency Command Centers**

Emergency command centers have been established in 37 states in Nigeria, integrating GIS and CAD systems into a unified CAD service platform. These command centers help the Nigerian government manage emergency center operations and improve emergency services. The Emergency Command Solution has also been successfully implemented in Laos, Pakistan, and Liaoyuan in China.
Huawei eSpace Emergency Command Solution: Network and System Components

System Components

- **Surveillance Platform**: Various camera types, such as box camera, semi-dome camera, speed dome, and wireless camera are connected to an intelligent analysis system
- **CAD System**: Computer Assisted Dispatch (CAD) platform and Computer Telephony Integration (CTI) system
- **Command Center**: Dispatching exchange, GIS, Integrated Services System (ISS), large screen video surveillance, Location Based Services (LBS), and video conference system
- **On-site Emergency Equipment**: Truestar cluster, mobile emergency command vehicle, vehicle GPS terminal, and alarm reporting devices
Huawei eSpace Campus Security Solution

The Huawei eSpace Campus Security Solution is connected to campus video surveillance, intrusion alarms, border protection, access control, electronic night patrol registration, voice communication, broadcasting, and parking management systems. This intelligent security solution is used in industrial parks, airports, prisons, campuses, and energy development parks.

- **Open Security System Platform**: The platform supports industrial standards and integrates eight different systems for routine campus security protection
- **Emergency Plan Customization**: An emergency plan can be customized in ten minutes on average
- **Mobile Surveillance and Rapid Positioning**: Mobile video surveillance improves security protection efficiency by 30%
- **Real-time Intelligent Surveillance**: Comprehensive real-time intelligent surveillance methods including intelligent detection and infrared alarm technologies are used in key location

**Case Study**

**Huawei Campus Surveillance Center**

Huawei has built a globalized campus monitoring center that monitors and manages 27 branch offices, 10 campuses in China, and 5 campuses outside China. More than 70% newly erected devices use HD cameras. Automatic security protection and intelligent analysis technologies are widely used to improve overall management efficiency.

The Campus Security Surveillance Solution has also been successfully implemented in Malaysia Kuala Lumpur airport and Shanghai World Expo Park.
Huawei eSpace Campus Security Solution:
Network and System Components

- **Campus Security Platform**: Integrates with security subsystems, centrally manages alarms, and triggers alarm linkage of subsystems according to preset policies
- **Video Surveillance System**: Various camera types, a video surveillance platform connected to an intelligent analysis system
- **Access Control System**: User level-based access control
- **Alarm System**: Various alarm detectors monitor campus security in real time
- **Voice Intercom System**: Real-time communication when reporting alarm details to the campus surveillance center
- **Voice Broadcast System**: Promptly broadcasts incident details and other key information regarding campus security
- **Parking Management System**: Efficient vehicle management
Products Introduction

Camera
Encoder/Decoder(ENC/DEC)
Network Video Recoder(NVR)
Surveillance Data Unit(SDU)
<table>
<thead>
<tr>
<th>Product Name</th>
<th>Model</th>
<th>Sensor</th>
<th>Focal length</th>
<th>Minimum illumination</th>
<th>Infrared night surveillance</th>
<th>Video resolution</th>
<th>Audio interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semi-Dome Indoor Network Camera</td>
<td>eSpace IPC2701-P</td>
<td>1/2.7” high-performance Sensor</td>
<td>3.3mm-12mm</td>
<td>Color: 0.5Lux(30IRE, F1.2) BW: 0.25Lux(30IRE, F1.2)</td>
<td>-</td>
<td>1280×720</td>
<td>1x LINE IN, 1x LINE OUT</td>
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<tr>
<td>Semi-Dome Indoor Network Camera</td>
<td>eSpace IPC5701-P</td>
<td>1/2.7” high-performance Sensor</td>
<td>3.3mm-12mm</td>
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<td>1920×1080</td>
<td>1x LINE IN, 1x LINE OUT</td>
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<tr>
<td>Box Network Camera</td>
<td>eSpace IPC2601-P</td>
<td>1/2.7” high-performance Sensor</td>
<td>C/CS interface, Lens optional</td>
<td>Color: 0.5Lux(30IRE, F1.2) BW: 0.25Lux(30IRE, F1.2)</td>
<td>-</td>
<td>1280×720</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Box Network Camera</td>
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<td>1/2.7” high-performance Sensor</td>
<td>C/CS interface, Lens optional</td>
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<td>1920×1080</td>
<td>1x LINE IN, 1x LINE OUT</td>
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<tr>
<td>Outdoor HD Intelligent Dome Network Camera</td>
<td>VS-IPC-D33C3</td>
<td>1/3” high-performance Sensor</td>
<td>4.7~84.6mm</td>
<td>0.01Lux/F1.6</td>
<td>-</td>
<td>20fps(1280×960), 30fps(1280×720)</td>
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<tr>
<td>HD Box Network Camera</td>
<td>VS-IPC-D13C-P</td>
<td>1/3” high-performance Sensor</td>
<td>C/CS interface, Lens optional</td>
<td>Color: 0.1Lux/F1.2 BW: 0.01Lux/F1.2</td>
<td>-</td>
<td>1280×960, 1280×720, D1</td>
<td>1x LINE IN, 1x LINE OUT</td>
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<tr>
<td>HD Box Network Camera</td>
<td>VS-IPC-D14C</td>
<td>1/1.5” high-performance Sensor</td>
<td>C/CS interface, Lens optional</td>
<td>Color: 0.1Lux/F1.2 BW: 0.01Lux</td>
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<td>1920×1080, D1</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Outdoor HD Intelligent Dome Network Camera</td>
<td>VS-IPC-H33C3</td>
<td>1/3” high-performance Sensor</td>
<td>4.7mm-84.6mm</td>
<td>0.5Lux/F1.6(Color); 0.02Lux/F1.6(B/W)</td>
<td>-</td>
<td>1280×720P, dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Wide Dynamic HD Box Network Camera</td>
<td>VS-IPC-H13BM-P</td>
<td>1/3” high-performance Sensor</td>
<td>C/CS interface, Lens optional</td>
<td>Color: 0.01Lux/F1.2 BW: 0.001Lux/F1.2</td>
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<td>25fps(1280×960), 25fps(1280×720), dual streams</td>
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<tr>
<td>2 Megapixel CMOS ICR Box Network Camera</td>
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<td>1/3” high-performance Sensor</td>
<td>C/CS interface, Lens optional</td>
<td>Color: 0.5Lux(F1.2), 0.1Lux(F1.2) BW: 0.05Lux(F1.2), 0.01Lux(F1.2)</td>
<td>-</td>
<td>12.5fps(1600×1200), 12.5fps(1600×912), 25fps(1280×960), 25fps(1280×720), dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Indoor HD Box Camera</td>
<td>VS-IPC-H14M</td>
<td>1/2.5” high-performance Sensor</td>
<td>C/CS interface, Lens optional</td>
<td>Color: 0.6Lux(F1.2, AGC ON) BW: 0.08Lux(F1.2, AGC ON)</td>
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<td>12.5fps(2048x1536), 25fps(1920×1080), 25fps(1600×1200)</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Waterproof Violation-proof HD Semi-Dome Network Camera</td>
<td>VS-IPC-H23C-PoE</td>
<td>1/3” high-performance Sensor</td>
<td>3.3mm-12mm</td>
<td>Color: 0.14Lux(F1.4) BW: 0.014Lux(F1.4)</td>
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<td>12.5fps(1280×960), 25fps(1280×720), dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
</tbody>
</table>
### A BETTER WAY

#### SD IPC

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Model</th>
<th>Sensor</th>
<th>Focal length</th>
<th>Minimum illumination</th>
<th>Infrared night surveillance</th>
<th>Video resolution</th>
<th>Audio interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoor High-Speed Intelligent Dome Network Camera</td>
<td>VS-IPC-D323</td>
<td>1/3&quot; high-performance Sensor</td>
<td>4.1mm~73.8mm</td>
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<td>D1, dual streams</td>
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<td>Outdoor High-Speed Intelligent Dome Network Camera</td>
<td>VS-IPC-D329</td>
<td>1/4&quot; high-performance Sensor</td>
<td>3.4mm~122.4mm</td>
<td>1.4Lux/F1.6</td>
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<td>D2, dual streams</td>
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<td>Outdoor High-Speed Intelligent Dome Network Camera</td>
<td>VS-IPC-D325</td>
<td>1/4&quot; high-performance Sensor</td>
<td>3.5mm~80.5mm</td>
<td>Color: 0.2Lux/F1.6, BW: 0.02Lux/F1.6</td>
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<td>Outdoor High-Speed Intelligent Dome Network Camera</td>
<td>VS-IPC-D32B</td>
<td>1/4&quot; high-performance Sensor</td>
<td>3.5mm~105mm</td>
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<td>--</td>
<td>D4, dual streams</td>
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<td>1/3&quot; high-performance Sensor</td>
<td>ClInterface, Lens optional</td>
<td>Color: 0.1Lux/F1.2, BW: 0.01Lux/F1.2</td>
<td>--</td>
<td>D1/D2/HD1/VGA/ CIF/QVGA/QCIF, dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Box Network Camera</td>
<td>VS-IPC-D11P</td>
<td>1/4&quot; high-performance Sensor</td>
<td>ClInterface, Lens optional</td>
<td>Color: 0.1Lux/F1.2, BW: 0.01Lux/F1.2</td>
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<td>D1/D2/HD1/VGA/ CIF/QVGA/QCIF, dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
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<tr>
<td>Indoor Violation-proof Semi-Dome Network Camera</td>
<td>VS-IPC-D22P</td>
<td>1/4&quot; high-performance Sensor</td>
<td>M12, 6mm/F1.2</td>
<td>Color: 0.1Lux/F1.2, BW: 0.01Lux/F1.2</td>
<td>--</td>
<td>D1/D2/HD1/VGA/ CIF/QVGA/QCIF, dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>IR Waterproof Box Network Camera</td>
<td>VS-IPC-D11P-R1</td>
<td>1/3&quot; high-performance Sensor</td>
<td>M12, 6mm/F1.2</td>
<td>Color: 0.1Lux/F1.2, BW: 0.01Lux/F1.2</td>
<td>support IR1: 10m~20m</td>
<td>D1/D2/HD1/VGA/ CIF/QVGA/QCIF, dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
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<tr>
<td>Box Network Camera</td>
<td>VS-IPC-D11P</td>
<td>1/4&quot; high-performance Sensor</td>
<td>ClInterface, Lens optional</td>
<td>Color: 0.1Lux/F1.2, BW: 0.01Lux/F1.2</td>
<td>--</td>
<td>D1/D2/HD1/VGA/ CIF/QVGA/QCIF, Dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Indoor IR Semi-Dome Network Camera</td>
<td>VS-IPC-D22P-R1</td>
<td>1/4&quot; high-performance Sensor</td>
<td>M12, 6mm/F1.2</td>
<td>Color: 0.1Lux/F1.2, BW: 0.01Lux/F1.2</td>
<td>support IR1: 10m~20m</td>
<td>D1/D2/HD1/VGA/ CIF/QVGA/QCIF, dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>IR Waterproof Box Network Camera</td>
<td>VS-IPC-D11P-R1</td>
<td>1/4&quot; high-performance Sensor</td>
<td>M12, 6mm/F1.2</td>
<td>Color: 0.1Lux/F1.2, BW: 0.01Lux/F1.2</td>
<td>support IR1: 10m~20m</td>
<td>D1/D2/HD1/VGA/ CIF/QVGA/QCIF, dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Outdoor High-Speed Intelligent Dome Network Camera</td>
<td>VS-IPC-D328</td>
<td>1/4&quot; high-performance Sensor</td>
<td>3.4mm~122.4mm</td>
<td>Color: 1.4Lux/F1.6, BW: 0.01Lux/F1.8</td>
<td>--</td>
<td>25fps(704x576)</td>
<td>80m</td>
</tr>
<tr>
<td>Outdoor IR High-Speed Intelligent Dome Network Camera</td>
<td>VS-IPC-H315-R8</td>
<td>1/4&quot; high-performance Sensor</td>
<td>3.84mm~88.4mm</td>
<td>Color: 0.2Lux/F1.6, BW: 0.02Lux/F1.6</td>
<td>Minimum illumination: 0Lux/F1.6</td>
<td>25fps(704x576)</td>
<td>--</td>
</tr>
<tr>
<td>Box Network Camera</td>
<td>VS-IPC-H11P-P</td>
<td>1/4&quot; high-performance Sensor</td>
<td>ClInterface</td>
<td>0.1Lux(F1.2)</td>
<td>--</td>
<td>25fps(704x576), dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Infrared Weather-proof Network Bullet Camera</td>
<td>VS-IPC-H12P-R3</td>
<td>1/3&quot; high-performance Sensor</td>
<td>12mm@F1.8</td>
<td>0.2Lux(F1.8, AGC ON), Minimum illumination: 0Lux</td>
<td>support IR1: 30m~40m</td>
<td>25fps(704x576), dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Indoor Wide Dynamic Violation-proof Semi-Dome Network Camera</td>
<td>VS-IPC-H22BP</td>
<td>1/3&quot; high-performance Sensor</td>
<td>2.8mm~11mmp F1.4</td>
<td>0.14Lux(F1.4)</td>
<td>--</td>
<td>25fps(704x576), dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Box Network Camera</td>
<td>VS-IPC-H12W/P/C</td>
<td>1/3&quot; high-performance Sensor</td>
<td>ClInterface</td>
<td>0.1Lux(F1.2)</td>
<td>--</td>
<td>25fps(704x577), dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Wide Dynamic Box Network Camera</td>
<td>VS-IPC-H12B-Poe</td>
<td>1/3&quot; high-performance Sensor</td>
<td>ClInterface</td>
<td>Colour: 0.1Lux(F1.2, AGC ON), BW: 0.01Lux(F1.2, AGC ON)</td>
<td>--</td>
<td>25fps(704x576), dual streams</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Indoor High-Speed Intelligent Dome Network Camera</td>
<td>VS-IPC-H32B6</td>
<td>1/4&quot; high-performance Sensor</td>
<td>3.5mm~98mm</td>
<td>Color: 0.65Lux/F1.35 BW: 0.005Lux/F1.35</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Product Name</td>
<td>Model</td>
<td>Sensor</td>
<td>Focal length</td>
<td>Minimum illumination</td>
<td>Infrared night surveillance</td>
<td>Video resolution</td>
<td>Audio interface</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>---------</td>
<td>-----------------</td>
<td>--------------------</td>
<td>----------------------</td>
<td>-----------------------------</td>
<td>------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Wide Dynamic Box Analog Camera</td>
<td>VS-CA-D12BP</td>
<td>1/3&quot; high-performance Sensor</td>
<td>C/CSinterface</td>
<td>Color: 0.1Lux/F1.2, 0.0003Lux/F1.2 B/W: 0.01Lux/F1.2, 0.00003Lux/F1.2</td>
<td>-</td>
<td>752(H)x582(V)</td>
<td>1x LINE IN, 1x LINE OUT</td>
</tr>
<tr>
<td>Indoor Semi-Dome Analog Camera</td>
<td>VS-CA-D21P</td>
<td>1/3&quot; high-performance Sensor</td>
<td>3.5mm-8.8mm</td>
<td>Color: 0.05Lux/F1.2; B/W: 0.01Lux/F1.2</td>
<td>-</td>
<td>752(H)x582(V)</td>
<td>-</td>
</tr>
<tr>
<td>Outdoor Intelligent Dome Analog Camera</td>
<td>VS-CA-D323</td>
<td>1/4&quot; high-performance Sensor</td>
<td>3.8mm-85.9mm</td>
<td>0.1Lux/F1.6</td>
<td>-</td>
<td>752(H)x582(V)</td>
<td>-</td>
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<tr>
<td>IR Box Analog Camera</td>
<td>VS-CA-D12P</td>
<td>1/3&quot; high-performance Sensor</td>
<td>6mm</td>
<td>Color: 0.1Lux/F1.2; Minimum Illumination: 0Lux</td>
<td>10-20m</td>
<td>752(H)x582(V)</td>
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<tr>
<td>Box Analog Camera</td>
<td>VS-CA-D12BP</td>
<td>1/3&quot; high-performance Sensor</td>
<td>3.5-8mm</td>
<td>Color: 0.05Lux/F1.2; B/W: 0.01Lux/F1.2</td>
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<td>752(H)x582(V)</td>
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</tr>
<tr>
<td>Indoor Mini Semi-Dome Analog Camera</td>
<td>VS-CA-D21P</td>
<td>1/3&quot; high-performance Sensor</td>
<td>3.6mm</td>
<td>0.1Lux/F1.2</td>
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<td>500(H)x582(V)</td>
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<tr>
<td>Outdoor Intelligent Dome Analog Camera</td>
<td>VS-CA-D323</td>
<td>1/4&quot; high-performance Sensor</td>
<td>3.3mm-75.9mm</td>
<td>Color: 0.6Lux/F1.6; B/W: 0.1Lux/F1.6</td>
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<td>752(H)x582(V)</td>
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<tr>
<td>IR Waterproof Box Analog Camera</td>
<td>VS-CA-D12P</td>
<td>1/3&quot; high-performance Sensor</td>
<td>12mm@f1.8</td>
<td>0.0001Lux@f1.8, AGC ON, Minimum Illumination: 0Lux</td>
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<td>752(H)x582(V)</td>
<td>-</td>
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<tr>
<td>Wide Dynamic Box Analog Camera</td>
<td>VS-CA-H12BP</td>
<td>1/3&quot; high-performance Sensor</td>
<td>C/CSinterface</td>
<td>Color: 0.001Lux@f1.8, 0.00001Lux@f1.2 B/W: 0.0001Lux@f1.2, 0.000001Lux@f1.2</td>
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<td>752(H)x582(V)</td>
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<tr>
<td>Outdoor High-Speed Intelligent Dome Analog Camera</td>
<td>VS-CA-H32BP</td>
<td>1/4&quot; high-performance Sensor</td>
<td>4.1-73.8mm</td>
<td>Color: 0.1Lux/F1.4; B/W: 0.01Lux/F1.4</td>
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<td>752(H)x582(V)</td>
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<tr>
<td>Outdoor High-Speed Intelligent Dome Analog Camera</td>
<td>VS-CA-H32BP9</td>
<td>1/4&quot; high-performance Sensor</td>
<td>3.4mm-122.4mm</td>
<td>Color: 1.4Lux/F1.6; B/W: 0.01Lux/F1.6</td>
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<td>752(H)x582(V)</td>
<td>-</td>
</tr>
<tr>
<td>Semi-Dome Analog Camera</td>
<td>VS-CA-H21P</td>
<td>1/3&quot; high-performance Sensor</td>
<td>3.6mm@f2.0</td>
<td>0.28Lux@f2.0, AGC ON</td>
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<td>752(H)x582(V)</td>
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</tr>
<tr>
<td>Indoor IR Waterproof Semi-Dome Analog Camera</td>
<td>VS-CA-H22P-R3</td>
<td>1/3&quot; high-performance Sensor</td>
<td>12mm@f1.8</td>
<td>0.0001Lux@f1.8, AGC ON, Minimum Illumination: 0Lux</td>
<td>30m-40m</td>
<td>752(H)x582(V)</td>
<td>-</td>
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<tr>
<td>Outdoor IR High-Speed Intelligent Dome Analog Camera</td>
<td>VS-CA-H3315-IRB</td>
<td>1/4&quot; high-performance Sensor</td>
<td>3.84mm-88.4mm</td>
<td>Color: 0.2Lux/F1.6; B/W: 0.02Lux/F1.6, Minimum Illumination: 0Lux</td>
<td>80m</td>
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<tr>
<td>Box Analog Camera</td>
<td>VS-CA-H112P</td>
<td>1/3&quot; high-performance Sensor</td>
<td>4mm-9mm@f1.6</td>
<td>Color: 0.01Lux@f1.2, 0.0001Lux@f1.2 B/W: 0.001Lux@f1.2, 0.00001Lux@f1.2</td>
<td>-</td>
<td>752(H)x582(V)</td>
<td>-</td>
</tr>
<tr>
<td>Indoor Violation-proof Semi-Dome Analog Camera</td>
<td>VS-CA-H22P</td>
<td>1/3&quot; high-performance Sensor</td>
<td>4mm-9mm@f1.6</td>
<td>0.18Lux@f1.6</td>
<td>-</td>
<td>752(H)x582(V)</td>
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</tr>
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</table>
# A BETTER WAY

<table>
<thead>
<tr>
<th>Decoder</th>
<th>Model</th>
<th>Video compression</th>
<th>Video interface</th>
<th>Audio interface</th>
<th>Auxiliary Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft-Decoding Server</td>
<td>VS-DC-D24F</td>
<td>MPEG4/H.264</td>
<td>8xD1 or 32xD1</td>
<td>12xBNC</td>
<td>— —</td>
</tr>
<tr>
<td>Decoder</td>
<td>VS-DC-D24</td>
<td>MPEG4/H.264</td>
<td>4 x BNC</td>
<td>—</td>
<td>1x USB 2.0</td>
</tr>
<tr>
<td>HD Decoder</td>
<td>VS-DC-D24H</td>
<td>MPEG4/H.264</td>
<td>4 x BNC</td>
<td>—</td>
<td>1x USB 2.0</td>
</tr>
<tr>
<td>HD Decoder</td>
<td>VS-DC-D21H</td>
<td>MPEG4/H.264</td>
<td>1 x BNC</td>
<td>—</td>
<td>1x USB 2.0</td>
</tr>
<tr>
<td>HD Decoder</td>
<td>VS-DC-H21F</td>
<td>MPEG4/H.264</td>
<td>1x8BNC, 1xVGA, 1xHDMI, 1xDVI</td>
<td>2xRCA</td>
<td>1x RS-485 interface, 1x RS-232 interface</td>
</tr>
<tr>
<td>Decoder</td>
<td>VS-DC-H24H</td>
<td>MPEG4/H.264</td>
<td>4x8BNC, 2xVGA</td>
<td>6x BNC</td>
<td>1x RS-485 interface, 1x RS-232 interface</td>
</tr>
<tr>
<td>Decoder</td>
<td>VS-DC-H28H</td>
<td>MPEG4/H.264</td>
<td>8x8BNC, 4xVGA</td>
<td>12x BNC</td>
<td>1x RS-485 interface, 1x RS-232 interface</td>
</tr>
<tr>
<td>Decoder</td>
<td>eSpace DEC6001</td>
<td>H.264</td>
<td>1xVGA, 1xHDMI, 1xCVBS</td>
<td>—</td>
<td>1xRS-485/RS-232 interface</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Encoder</th>
<th>Name</th>
<th>Model</th>
<th>Video &amp; Audio compression</th>
<th>Audio output</th>
<th>Video resolution</th>
<th>Alarm input</th>
<th>Dual streams</th>
<th>Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decoder</td>
<td>VS-DC-D24</td>
<td>MPEG4/H.264</td>
<td>4</td>
<td>D1/4CIF/ND1/2CIF/1/2CIF/1QCIF</td>
<td>4</td>
<td>D1/HD1/2CIF/CIF, support dual streams</td>
<td>3x USB2.0 interface, 8x SATA interface, 1x eSATA interface</td>
<td></td>
</tr>
<tr>
<td>Decoder</td>
<td>VS-DC-D28</td>
<td>MPEG4/H.264</td>
<td>8</td>
<td>D1/4CIF/ND1/2CIF/1/2CIF/1QCIF</td>
<td>8</td>
<td>D1/ND1/2CIF/CIF, support dual streams</td>
<td>3x USB2.0 interface, 8x SATA interface, 1x eSATA interface</td>
<td></td>
</tr>
<tr>
<td>Decoder</td>
<td>VS-DC-D21F</td>
<td>MPEG4/H.264</td>
<td>16</td>
<td>D1/4CIF/ND1/2CIF/1/2CIF/1QCIF</td>
<td>16</td>
<td>D1/ND1/2CIF/CIF, support dual streams</td>
<td>3x USB2.0 interface, 8x SATA interface, 1x eSATA interface</td>
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<tr>
<td>Decoder</td>
<td>VS-DC-D11</td>
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<td>D1/1CIF/1QCIF/1VGA/1QVGA</td>
<td>4</td>
<td>support dual streams</td>
<td>1x RS-232 interface, 1x RS-485 interface</td>
<td></td>
</tr>
<tr>
<td>Decoder</td>
<td>VS-DC-D11</td>
<td>MPEG4/H.264</td>
<td>4</td>
<td>D1/1CIF/1QCIF/1VGA/1QVGA</td>
<td>4</td>
<td>support dual streams</td>
<td>1x RS-232 interface, 1x RS-485 interface</td>
<td></td>
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<tr>
<td>Decoder</td>
<td>VS-DC-D11</td>
<td>MPEG4/H.264</td>
<td>4</td>
<td>4CIF/2CIF/CIF/QCIF</td>
<td>4</td>
<td>support dual streams</td>
<td>2x USB2.0 interface, 8x SATA interface, 1x eSATA interface</td>
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<tr>
<td>Decoder</td>
<td>VS-DC-D11</td>
<td>MPEG4/H.264</td>
<td>8</td>
<td>4CIF/2CIF/CIF/QCIF</td>
<td>16</td>
<td>support dual streams</td>
<td>2x USB2.0 interface, 8x SATA interface, 1x eSATA interface</td>
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<tr>
<td>Decoder</td>
<td>VS-DC-D11</td>
<td>MPEG4/H.264</td>
<td>16</td>
<td>4CIF/2CIF/CIF/QCIF</td>
<td>16</td>
<td>support dual streams</td>
<td>2x USB2.0 interface, 8x SATA interface, 1x eSATA interface</td>
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</tr>
<tr>
<td>Decoder</td>
<td>VS-DC-D11</td>
<td>MPEG4/H.264</td>
<td>1</td>
<td>4CIF/2CIF/CIF/QCIF</td>
<td>4</td>
<td>support dual streams</td>
<td>— —</td>
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</table>

<table>
<thead>
<tr>
<th>Encoder</th>
<th>Name</th>
<th>Model</th>
<th>Video compression</th>
<th>Audio output</th>
<th>Video resolution</th>
<th>Alarm input</th>
<th>Dual streams</th>
<th>Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Video Recorder</td>
<td>VS-EC-D24R</td>
<td>H.264/G.711</td>
<td>4</td>
<td>—</td>
<td>D1/4CIF/ND1/2CIF/1/2CIF/1QCIF</td>
<td>3x USB Interface, 8x SATA Interface, 1x eSATA Interface</td>
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</tr>
<tr>
<td>Digital Video Recorder</td>
<td>VS-EC-D28R</td>
<td>H.264/G.711</td>
<td>8</td>
<td>—</td>
<td>D1/4CIF/ND1/2CIF/1/2CIF/1QCIF</td>
<td>3x USB Interface, 8x SATA Interface, 1x eSATA Interface</td>
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<tr>
<td>Digital Video Recorder</td>
<td>VS-EC-D29R</td>
<td>H.264/G.711</td>
<td>16</td>
<td>—</td>
<td>D1/4CIF/ND1/2CIF/1/2CIF/1QCIF</td>
<td>3x USB Interface, 8x SATA Interface, 1x eSATA Interface</td>
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<tr>
<td>Embedded Standalone DVR</td>
<td>VS-EC-D11</td>
<td>H.264/G.711</td>
<td>4</td>
<td>—</td>
<td>D1/704×576</td>
<td>16 support dual streams</td>
<td>2x USB Interface, 1x SATA Interface</td>
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</tr>
<tr>
<td>Vehicle-holding Standalone DVR</td>
<td>VS-EC-D24M</td>
<td>H.264/G.711</td>
<td>4</td>
<td>—</td>
<td>D1/704×576/704×480</td>
<td>7 support dual streams</td>
<td>1x USB 2.0 Interface, 1x SATA Interface</td>
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<td>Digital Video Server</td>
<td>VS-EC-D21S</td>
<td>H.264/G.711</td>
<td>1</td>
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<td>D1/1CIF/1QCIF/1VGA/1QVGA</td>
<td>4 support dual streams</td>
<td>1x RS-232 Interface, 1x RS-485 Interface</td>
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<td>Digital Video Server</td>
<td>VS-EC-D14S</td>
<td>H.264/G.711</td>
<td>4</td>
<td>—</td>
<td>D1/1CIF/1QCIF/1VGA/1QVGA</td>
<td>4 support dual streams</td>
<td>1x RS-232 Interface, 1x RS-485 Interface</td>
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</tr>
<tr>
<td>Digital Video Recorder</td>
<td>VS-EC-H21</td>
<td>H.264/G.711</td>
<td>4</td>
<td>—</td>
<td>4CIF/2CIF/CIF/QCIF</td>
<td>4 support dual streams</td>
<td>2x USB Interface, 8x SATA Interface, 1x eSATA Interface</td>
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<tr>
<td>Digital Video Recorder</td>
<td>VS-EC-H24</td>
<td>H.264/G.711</td>
<td>4</td>
<td>—</td>
<td>4CIF/2CIF/CIF/QCIF</td>
<td>16 support dual streams</td>
<td>2x USB Interface, 8x SATA Interface, 1x eSATA Interface</td>
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<tr>
<td>Digital Video Recorder</td>
<td>VS-EC-H28</td>
<td>H.264/G.711</td>
<td>8</td>
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<td>4CIF/2CIF/CIF/QCIF</td>
<td>16 support dual streams</td>
<td>2x USB Interface, 8x SATA Interface, 1x eSATA Interface</td>
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<td>Digital Video Recorder</td>
<td>VS-EC-H29</td>
<td>H.264/G.711</td>
<td>16</td>
<td>—</td>
<td>4CIF/2CIF/CIF/QCIF</td>
<td>16 support dual streams</td>
<td>2x USB Interface, 8x SATA Interface, 1x eSATA Interface</td>
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<tr>
<td>Digital Video Server</td>
<td>VS-EC-H21S</td>
<td>H.264/G.711</td>
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<td>—</td>
<td>4CIF/2CIF/CIF/QCIF</td>
<td>4 support dual streams</td>
<td>— —</td>
<td></td>
</tr>
</tbody>
</table>

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**Note:** The table above contains information related to video and audio compression standards, resolution, alarm input, dual streams support, and various interface configurations for different models of encoders and decoders. The interface configurations include USB, SATA, eSATA, RS-232, RS-485, and audio interfaces like VGA, HDMI, and CVBS. The table is designed to provide a comprehensive view of the hardware compatibility and functionality across different models and applications.
SmartNVR 100

16-Channel NVR (Software)

<table>
<thead>
<tr>
<th>Technical Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
</tr>
<tr>
<td>Operating system</td>
</tr>
<tr>
<td>Max. capacity</td>
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SmartNVR 3000

128-Channel NVR

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A BETTER WAY

**16-Hard-Disk Surveillance Data Unit**

- Height: 3 U
- 16 hard disks (1 TB or 2 TB SATA II disk)
- RAID 0/1/5/6/10, hot backup, video storage, video management, and recording control
- Video download, query, playback, forwarding, and distribution
- 340 W power consumption

**24-Hard-Disk Surveillance Data Unit**

- Height: 4 U
- 24 hard disks (1 TB or 2 TB SATA II disk)
- RAID 0/1/5/6/10, hot backup, video storage, video management, and recording control
- Video download, query, playback, forwarding, and distribution
- 410 W power consumption
Case Sharing
Huawei eSpace Safe City Solution
Karamay - Safe City Project

Customer Issues
- The Karamay region is a target of terrorist attacks and other public security risks
- Multiple isolated information systems, and information silos were commonly visible
- Existing information platform could not intelligently predict emergencies or integrate with other systems

Huawei Solution
- Constructed a service cloud for urban security based on the unified safe city platform
- Integrated with safe city solution, emergency command solution, urban traffic surveillance solution, and comprehensive alarm prediction platform

Customer Benefits
- Eliminated information silos and implements resource integration and sharing
- Increased the value of existing video feeds to security efforts
- Optimized the video surveillance network covering the entire city by constructing a security information system

Qingdao - Shinan District - Safe City Project

Customer Issues
- Original surveillance system did not cover entire Shinan district, leading to poor emergency response times
- Surveillance resources from public security bureaus and police stations were isolated, and could not be managed centrally

Huawei Solution
- Constructed a comprehensive safe city management platform by integrating HD video surveillance, checkpoint surveillance, and urban area surveillance
- Level-based platform management and hierarchical authentication mechanisms

Customer Benefits
- Improved decision-making abilities and response times during major emergencies
- Helped ensure public security and prevent disasters
Huawei eSpace Urban Traffic Surveillance Solution

Tajikistan - Intelligent Traffic Solution

**Customer Issues**
- Traffic in Dushanbe was chaotic and the traffic signal control system was outdated
- Some vehicles were driving in the wrong lane. The traffic management and surveillance system was outdated
- Dushanbe lacked a traffic violation snapshot system to identify vehicles violating traffic laws

**Huawei Solution**
- Constructed various sub systems, including automatic vehicle locating (AVL) system, urban traffic signal control system, traffic signal violation recording system, urban road surveillance system, WiMAX wireless transmission system, and a command center

**Customer Benefits**
- With the command center and security networks at its core, the solution integrated systems and network technologies to improve the response speed of traffic control departments and off-site law enforcement forces, improving the overall traffic conditions in Dushanbe

Langfang - Intelligent Traffic Solution

**Customer Issues**
- Langfang was dealing with severe traffic violations, ineffective traffic management policies, and had an inflexible police force and vehicle dispatch system

**Huawei Solution**
- Integrated PUs, a large-screen display, and GPS system to provide functions such as traffic signal control, traffic flow data collection, traffic condition broadcasts for drivers, and traffic violation recording
- Constructed an HD video surveillance system, covering about 100 lanes

**Customer Benefits**
- The command center’s integrated traffic subsystems provided users with unified management, command, and dispatch of vehicles by constructing a
Huawei eSpace Railway Traffic Surveillance Solution

Customer Issues
- The express railway between Ankara and Istanbul is 270 kilometers long. A project was needed to monitor the length of the railway, important entries and exits, and other key areas
- An intelligent detection system was needed to predict warnings

Huawei Solution
- 31 sets of dense wavelength division multiplexing (DWDM) ring network transmission devices
- 390-channel IP cameras
- Two surveillance center (each has eight LCD large screens)
- Intelligent analysis and alarm linkage subsystems

Customer Benefits
- Supported video and environment surveillance, improving emergency response time and overall management efficiency
- Ensured normal operation of the railway system and monitor vandalism attempts
- Network and video resource sharing

Taiyuan Railway Solution

Customer Issues
- Needed to ensure secure railway operations around the clock. This included monitoring vehicle scheduling, emergency command, disaster prevention, and passenger and freight transportation scheduling
- Required high-resolution surveillance at night in key areas

Huawei Solution
- Secure and stable platform: Linux operating system, Oracle database, support for N+1 cluster deployment, ensuring services are uninterrupted.
- High surveillance quality: Laser or infrared night surveillance cameras, and low-illumination cameras collect high-resolution night images in key areas
- Leveraged existing devices and video resources to increase return on investment (ROI) for client

Customer Benefits
- Centralized resource management and elimination of single point failure
- Improved security management and surveillance quality
## Huawei eSpace Emergency Command Solution

### Nigeria - Police Emergency Command Center

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<tr>
<th>Customer Issues</th>
<th>Huawei Solution</th>
<th>Customer Benefits</th>
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<tbody>
<tr>
<td>Needed to establish a network of nationwide emergency centers in 37 provinces covering 140 million residents</td>
<td>• Unified CAD platform&lt;br&gt;• Integrated call center, GIS, and CAD systems&lt;br&gt;• Virtual private network (VPN) and the session border controller (SBC) to ensure system security&lt;br&gt;• End-to-end management services</td>
<td>• Stable and reliable systems&lt;br&gt;• Cost-effective solution that integrated and utilized existing devices to reduce carrier investment&lt;br&gt;• Developed in cooperation with the Nigerian Communication Commission (NCC) to manage and operate the emergency command center, which improves service quality and efficiency</td>
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### Liaoyuan - Emergency Command Solution

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<th>Customer Issues</th>
<th>Huawei Solution</th>
<th>Customer Benefits</th>
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<td>Ineffective cross-department collaboration when incidents occur&lt;br&gt;Needed to collect comprehensive statistics for analysis&lt;br&gt;Could not assign appropriate priority to emergencies and disasters</td>
<td>• A highly integrated urban emergency command system&lt;br&gt;Users could view information on GIS maps and dispatch resources&lt;br&gt;Assisted users with decision-making and supported intelligent analysis and emergency recovery practices</td>
<td>• Resources dispatched using predetermined procedures within a network&lt;br&gt;Emergencies processed using information and intelligent decision-making technologies&lt;br&gt;Optimized resource allocation and emergency response schemes&lt;br&gt;Improved emergency command efficiency</td>
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Huawei eSpace Campus Security Solution
Kuala Lumpur International Airport (KLIA)

Customer Issues
- KLIA is the major airport in Malaysia, with 35 million passengers and 20 million tones of freight per year passing through
- A video surveillance based security protection system was needed to monitor the airport

Huawei Solution
- 800 cameras, Power Over Ethernet (POE), and SD card storage
- Two security surveillance centers, one flight scheduling center, one BHS scheduling center, and PU clients in other departments
- Cameras equipped with intelligent analysis function in key areas

Customer Benefits
- Secured the airport by detecting potential threats, and assisting with security checks
- Monitoring and management of crowds and objects, providing references for real-time decision-making
- Detection of potential threats on the runway and monitors the parking apron

Shanghai World Expo Campus - Wireless Surveillance Project

Customer Issues
- Needed to continuously monitor a radius of 3.28 kilometers within the core of the World Expo
- Wired surveillance was too costly to use on the World Expo campus

Huawei Solution
- Wide-area wireless video surveillance system based on Long Term Evolution (LTE) technology
- First time using video surveillance products with an LTE network
- Support for various video services such as vehicle-mounted, ferry-mounted, and man-carried surveillance, instant video upload, and large-screen display

Customer Benefits
- Support for high transmission bandwidth, low operation latency, a large number of users, and high-quality images, and provides panoramic views of campus surroundings
- Enhanced campus security and helps administrative departments respond to emergencies quickly
Huawei Campus - Surveillance Project

Customer Issues

- Security subsystems in Huawei campuses were separate, and did not support integrated security management
- Large Huawei campuses, with a large number of employees, have high requirements for information security. Some areas were not monitored
- Recorded videos and images were not clear

Huawei Solution

- Constructed a globalized campus surveillance center to monitor five campuses outside China, 10 campuses in China, and 27 provincial offices
- Implemented automatic security protection and intelligent analysis technologies.
- HD video cameras account for 70% of all video devices

Customer Benefits

- Comprehensively monitors all Huawei campuses
- Facilitated surveillance network integration and quick response to emergencies
- Ensured automatic security protection by integrating various applications, such as video surveillance, access control, electronic night patrol, and intelligent analysis

Other Success Stories

- Huawei Safe City Solution has been implemented in the following cities and provinces:
  - Yanbian, Jilin province
  - Qitaite, Heilongjiang province
  - Bozhou, Anhui province
  - Kunming, Yunnan Province
  - Wenshan, Yunnan province
  - Guizhou
  - Xi’an
  - Yingkou, Liaoning province
  - Highway surveillance project in Qingyuan, Guangdong province
  - Intelligent traffic project in Bijie, Guizhou province
  - e-Police project in Rizhao, Shandong province
  - Surveillance project in Shenzhen World University Games

- Pakistan Safe City Project
- Nigerian Police Emergency Command Center
- Bank of China (BOC): Indonesia branch
- Industrial and Commercial Bank of China (ICBC): Indian branch
- China National Petroleum Corporation (CNPC) in Kazakhstan
- Tajikistan Intelligent Traffic Solution
- Laos Police Command Center
- KLIA Project in Malaysia
- Turkish Express Railway Surveillance project
- Ecuador Intelligent Traffic Project
- Maldives Intelligent Traffic Project
- ……

- Guangdong Telecom Global Eye
- Jiangsu Telecom Global Eye
- Jiangsu Mobile Clairvoyance
- Chongqing Telecom Global Eye
- Guangxi Mobile Clairvoyance
- Fujian Mobile Clairvoyance
- Shanghai Telecom Global Eye
- Inner Mongolian Telecom Global Eye
- Harbin Mobile Clairvoyance
- Yanji Mobile Clairvoyance
- ……