

Empowering verticals with leading AI technology













"To cope with ever escalating complexity of security challenges involving huge flows of people and vehicles, weneed something like the fabled omniscient guard, which fortunately has materialized now thanks to deep-learning AI.According to IHS report 2019, the total market value of Professional Video Surveillance Equipment grows toUS\$27,199.1 million in 2023. In the last couple of years, the market share of AI in the security industry isbecoming increasingly remarkable.

Dahua Technology, with its award-winning deep-leaning algorithms, proudly releases WizMind, a portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, thermal and software platform, delivering precise, reliable and comprehensive AI solutions to verticals including government, retail, energy, finance and transportation."



Human Applications

Powered by AI chip and deep learning algorithm, WizMind provides comprehensive human-oriented solutions, making it possible to quickly and accurately act on what matters to you. In addition, it provides effective AI search to locate targets, and various human-based data for business analysis.



Thermal Applications

WizMind combines deep learning algorithm with thermal imaging technology to help users achieve ultra-long distance monitoring in harsh environments, highly accurate non-contact temperature monitoring, and early detection of fire.





WizMind Ecosystem

The Dahua WizMind series is compatible with major third party technology partners. Besides, the WizMind Ecosystem provides sufficient DHOP and API for our technology partners.

Vehicle Applications

WizMind boasts multiple vehicle-based AI solutions, which provide more attributes of vehicles for easy control, quick search and business analysis.



Human Applications

- Face Recognition
- Privacy Protection
- Human Video Metadata
- People Counting
- Heat Map
- Stereo Analysis
- Wide Area Security
- Smart Tracking





Face Recognition for further identification













Similarity: 90%



Stranger

Stranger Mode

Common Mode

Features



Blocklist Alarm

Early warning when Blocklistedpersonnel appear.



VIP Recognition

Better service for VIP customers in advance.



Stranger Alarm

Remind administrators when people that are not in the face database appear.



Al Search

Efficiently search videos using face pictures or attributes.



Face Tracking

Quickly locate and catch suspicious people in time.



Statistics

6 kinds of face attributes can be used by customers for BI report analysis.

Application



Through the face recognition's blocklist alarm function, when an unauthorized or target person has been detected in the monitored area, the alarm will be triggered automatically. At the same time, it will also send photos of the target to the portable terminal of security personnel, allowing them to identify the target and act accordingly.

GDPR



Privacy Protection

Based on Deep Learning Algorithm, Privacy Protection supports real-time mosaic masking of human face or human body detected in the monitored scene, protecting people's personal privacy. This function can achieve a targets detection of max. 64 objects/frame with a detection rate of up to 98%.



• Human Body Mosaic



Recoverable Video

Features



Privacy Data Protection

Supports setting of human face or body privacy occlusion in order to meet the different needs of users and help protect customers' personal privacy.



Attribute Extract

Alongside privacy protection, users can also use face and human attributes for business analysis.

6 face attributes 8 body attributes



Video Recovery

The privacy protection system allows users to access recoverable video without the mosaic mask. It can be used as legal evidence in case of an event.

Application



Through the privacy protection system, the witnesses who testify in the witness room are automatically masked with real-time mosaic to protect their privacy and security. It encourages witnesses to testify in court and saves administrator's time from the heavy manual work of privacy masking.



The privacy protection system can help retailers protect consumers' portrait data in order to meet GDPR requirements . At the same time, this system can also aid them to legally analyze the different preferences of different types of consumers through the BI system, so as to provide their customers with more appropriate products.



20+ Attributes

Face: 6 Human: 9

Non-motor Vehicle: 6

*More features are coming soon



Face

- · Gender
- · Age
- GlassesMask
- · Expression
- · Beard



Human Body

- · Gender
- · Age
- · Top Color
- · Top Type
- · Bottom Color
- · Bottom Type
- $\cdot \; \text{Hat}$
- · Bag
- · Umbrella



Non-motor Vehicle

- · Vehicle Type
- · Vehicle Color
- · Cycling Number
- · Top Color
- · Top Type
- · Helmet

Features



Human Video Metadata

It offers up to 20+ human attributes that can pinpoint the appearance of a person. The maximum target it can capture is up to 50 objects per second.

*Features might vary depending on the algorithm version of each product.



Quick Target Search

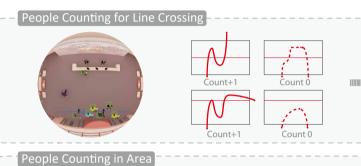
Admin can search targets using metadata on back-end device or platform and can accurately and quickly locate targets from massive data after events.

Application



Using video metadata, the admin can quickly locate specific targets, thus improving the timeliness of case detection, enhancing the utilization of police resources, and saving almost 90% of time. It makes up for the lack of coverage of face and vehicle cameras, increases the integrity of pedestrian and vehicle evidences, and effectively improves the security personnel's ability to detect cases.





Dahua People Counting can obtain in-depth information, filter hovering and provide report with high accuracy.



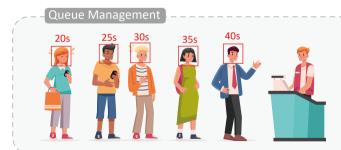






Report export

It supports 4 areas independent detection, real-time detects the changes in the number of people in every area.







Dahua Queue Management supports two types of alarm: the number of people and waiting time alarm in a queue.

Application



The statistics of daily people count is very important for business analysis. It is one of the most important data for the operation manager. This data enables retailers to align staff and customer-to-staff ratio during peak hours using the traffic data. In addition, retailers can also measure the performance of marketing campaigns according to the change in customer traffic.



With the queue management function, when the number of people or the waiting time reaches the preset threshold, it will alert the manager to open additional checkout counters to serve customers without delay. This enables retailers to deliver better in-store experience and reduce labor costs.



Stereo Analysis

With deep learning algorithm and 3-dimensional technology, Dahua Stereo Analysis technology offers various functions that can recognize people's behaviors, including fall detection, violence detection, strand detection, and people approach. These features generate alarm signals and trigger linkage alarm.

Features



Application



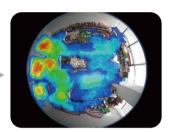
It provides 24-hour intelligent monitoring, greatly improve the monitoring efficiency. When the abnormal behavior occurs, real-time alarm be sent to the security, and the police force can be dispatched in time.



Traditional Heat Map



Heat map based on motion detection output



Disadvantages

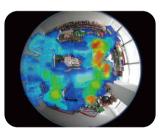
- 1. Unrecognizable objects
- 2. Low accuracy

Al Heat Map



Heat map based on people counting output

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Advantages

1. Focus on people
2. High accuracy based on two dimensions: the number of people and average strand time.

Application



Traditional retailers rely on the experience of operations managers to make adjustments, and it is difficult to check the adjusted results intuitively. The heat map feature helps retailers to optimize the layout of supermarkets. It also enables retailers to discover which products draw more attention based on the time the customers stay in an area.



Features



Crowd Density

When the crowd quantity or density is larger than the set threshold, it will quickly triggered alarm linkage to remind monitoring personnel to evacuate crowd to prevent accidents caused by congestion.



Wider Coverage

360° panoramic coverage replaces multiple cameras to save wiring and labor cost for customers.



Smart Tracking

With 40x optical zoom, it can quickly auto-track moving targets without missing target's behavior details.



AR Map

The AR Label displays the video of the corresponding camera, which makes monitoring more visual and convenient, significantly improving command efficiency.

Application



Using this system, when a sudden flow of traffic occurs, the security departments or the management departments are alerted in time, so that they can immediately initiate the response plan, avoiding accidents caused by unexpected traffic events or reducing the efficiency and experience of passengers.



Smart Tracking

Aside from detecting humans entering a restricted area, smart tracking also automatically track objects all the time. According to different scenarios, Dahua provides different tracking solution with accuracy rate of up to 90%.





Auto Tracking

Features



Auto Tracking

Track any human who enters restricted areas, capture their details and find out the direction of their movements



Bullet-PTZ Tracking

Panoramic and detail views can be utilized simultaneously. The detail camera focuses on humans who are in the monitored area.



Radar PTZ Tracking

Fully achieve 24/7 monitoring – Radar detects intruders, and PTZ tracks and captures details. RCS technology solves false alarm issues of traditional video surveillance.

Application



Smart tracking technology can monitor 24/7 without missing any details. At the same time, the system can also automatically warn off intruders which can help reduce the number of maintenance personnel in the border, saving manpower and investment of customers.

Vehicle Applications

- ANPR
- Vehicle Video Metadata
- Vehicle Illegal Parking



ANPR

With deep learning algorithm, Dahua ANPR
(Automatic Number Plate Recognition) technology can recognize the number plate information of vehicles from 58 countries. This system can also be used to provide higher security in restricted area.





Trigger the Alarm

Features



Blocklist Alarm

Sends early warning if a Blocklisted car has been detected, protecting safety in the monitored area.



VIP Recognition

Can be used in company or residential area entrance to effectively provide VIP customers and individuals with excellent service in advance.



Quick Search

The target can be searched using Plate No., time and location, making it easy to locate and catch suspicious car in time.

Application



The ANPR function can be used in the entrance and exit points of a residential community to conduct vehicle control. With its Blocklist and Allowlist functions, the ANPR can help protect the safety of the community, and provide a more efficient service for its residents. In addition, the video recordings can also be restored and searched quickly in case of an event.







Plate No. : CZ1A234

Plate Color: Blue

Car Color: Red

Car Type: Sedan

Sullatificia. No

Features



Vehicle Video Metadata

Vehicle video metadata includes Plate No., Plate Color, Car Color, Car Type, Sunshield, and Ornament, which provide users with more details of every passing vehicle. It can be used in safe city solution, and can also provide valuable information to the police.



Quick Target Search

It can help users to accurately and quickly locate the target from massive amount of data after an event. For vehicles, targets can be quickly searched using plate number, color, type etc., thus saving a lot of time.

Application



There are lots of traffic accidents on city roads everyday. In case of a hit and run, some drivers manage to escape the scene by covering their vehicle's number plate. In addition, using traditional method, the policemen have to watch a lot of CCTV recordings to find some clues that can solve the case, consuming time and even manpower. The video structuring technology increases the efficiency of case investigation by providing additional details of the target vehicle. It can also obtain more vehicle attribute for further surveillance.



Illegal Parking Detection

When a vehicle enters the monitored area, the Dahua Parking Detection technology based on CNN deep learning will capture its images and save metadata. It helps security personnel to ensure smooth traffic, and reduce accidents and property losses caused by illegal parking.









Illegal parking composite graph

Illegal parked time: 2020-04-04 14:30:12

Illegal parking location: DA road

Plate number: HUA1199

Vehicle type: Minivan

Vehicle color: White

Plate color: White

Features



Illegal parking detection

Detects illegal parking on specific roads, and records illegal parking time, location, duration, number plate, etc.



Warn vehicle away

Supports linkage with speaker alarm to warn off vehicles when illegally parked vehicle is detected.



Statistic analysis

Based on statistical data of this technology, reports can be generated to prevent illegal incidents and promote road safety.

Application

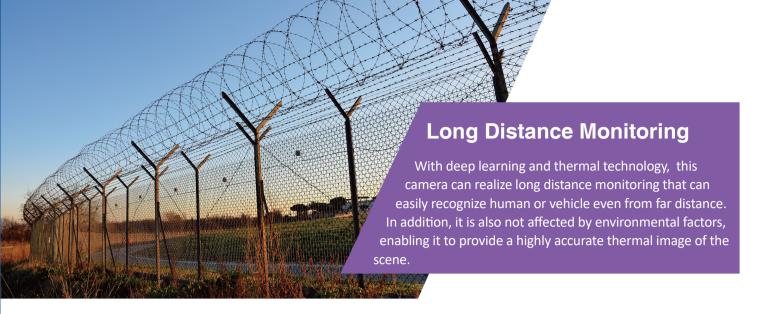


Vehicles parked on and off the road increase the risk of traffic congestion and accidents. Through the deployed camera, 24/7 detection of violation behavior can be achieved, significantly improving monitoring efficiency. At the same time, when an illegal parking has been detected, the alarm linkage can be used to remind the driver to leave on time, thus ensuring traffic safety on the road.

^{*}Illegal parking duration can be set according to demand

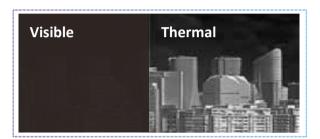
Thermal Application

- Long Distance Monitoring
- Temperature Monitoring
- Fire Prevention





• Ultra long range detection up to 20km



· Tested in foggy weather

Features



Long Distance Detection

With Dahua leading thermal imaging technology, it has ultra long distance detection capability to spot vehicles (20 km) and human target (8 km) with fine details.



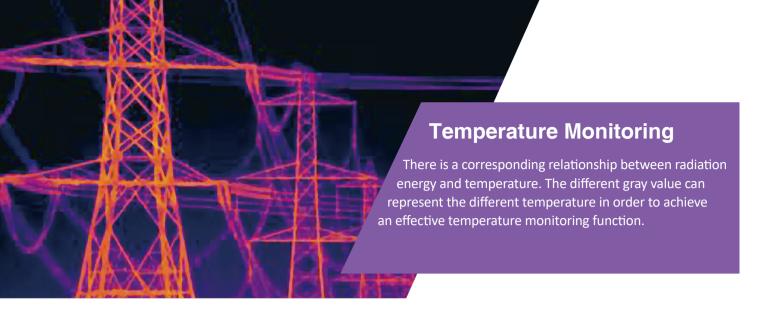
False Alarm Filter

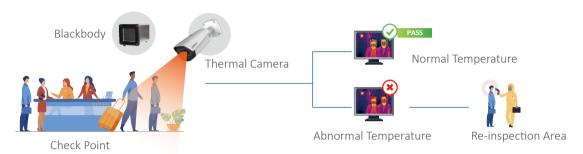
It only receives infrared radiation, and is not affected by environmental factors. It is equipped with built-in deep learning algorithm, and only focused on alarms triggered by human or vehicle, providing users with more accurate alarms.

Application



National borders are often in remote areas with complex environments and poor lighting. Traditional video surveillance cannot cover the monitored area in a large scale, nor adapt to all weather conditions. Thermal imaging technology can identify people or vehicles over long distance and determine in time whether they are intruding the border perimeter.





Features



Industrial Temperature Monitoring

Industrial temperature monitoring distance is as far as 50 meters, which meets the requirements for 24/7 real-time monitoring of multiple devices.



Human Body Temperature Monitoring

This non-contact body temperature monitoring offers quick screening, wide coverage and multi-person detection. The accuracy can reach $\pm 0.3\,^{\circ}\mathrm{C}$ with the blackbody.

Application



With the virus outbreak, airports, railway stations and subway stations are becoming important areas of epidemic prevention, which means human body temperature monitoring in these sites is essential in preventing the spread of the virus. The heavy passenger flow in transport hubs and the traditional temperature measurement methods can cause congestion and have hidden safety hazards. Thus, a more secure and effective way of temperature monitoring needs to be applied.



There are lots of high-voltage equipment in a substation, which require maintenance work. Under most situations, electrical equipment failure indicates rising temperature. Before the staff get into the substation, it is required to cut off power. Substations are usually located in suburban areas so it requires a lot of time and cost for travelling. Without automatic inspection, the staff have to use handheld equipment which is very time-consuming. Thermal imaging technology can help managers to remotely monitor the operation status of equipment and locate the defective equipment in time.









Thermal camera can prevent the fire before it occurs

Features



Advanced Fire Detection

Dual-channel monitoring allows thermal cameras to detect early the source of the fire, and visibly track it in the system. Accurate detection of the fire source through temperature changes to avoid false positives generated by the environment.



Real-time Alarm

Millisecond rapid response, timely push the accurate fire alarm information to the platform, inform the administrator to take the corresponding plan, effectively solve the problem of difficult fire patrol in a large area.

Application



Forest is a large area covered with trees and underbrush. It is prone to fires during hot weather and thunderstorms. Early detection of forest fire is also difficult to achieve in time. By detecting temperature changes in the forest environment, the thermal imaging cameras can spot fires in time to prevent them from growing out of control and to keep minimal damage as much as possible through timely intervention.



Good Compatibility

Compatible with main video management system, like Milestone, Genetec, Axxon, Avigilon, ISS, Qognify, Luxriot, etc.

Supports advanced features with Milestone, Qognify, Network Optix, Luxriot and others, such as face recognition, people counting, perimeter protection, and heatmap.

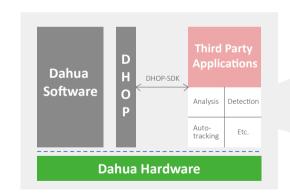
Milestone Verified, Dahua heat map, metadata, people counting, face recognition, and plugin is tested and verified by Milestone team.



DHOP

Dahua Open Platform(Wizmind IPC and thermal), allows you to customize the camera based on your actual needs

More than 10 existing partners



Sufficient API

Sufficient API provided by us, which allows any technology partners to communicate with Wizmind products.

Complete SDK demo and API document available in our website, with strong customer support.

Protects Network Security and Prevents Privacy Disclosure

Privacy Protection

Follows GDPR, protects personal privacy

Video Encryption

Encryption protection of video data throughout its whole life cycle

Security Alarm

Monitors and records security anomalies in real time, and notifies users for timely response

CA/KMS

Offers CA management, and KMS that securely manages device keys

Trusted Protection

Provides trusted firmware protection throughout its whole life cycle

Defense against Attacks

Configures a defense strategy based on the scenario to proactively safeguard against external attacks

WizMind IPC-Panoramic Series

PSDW8 Series









- Support 360-degree panoramic view
- Starlight technology
- Smart H.265+/H.264+ triple-stream encoding
- IR distance up to 400 m
- Smart tracking, Tripwire, Intrusion
- Support Crowd map, Heat map

PFW8 Series











- Four 1/1.8" 8MP/2MP progressive scan CMOS
- Smart H.265+/H.264+ triple-stream encoding
- Max 30fps@8192x3840/4096x1800
- Support 180-degree panoramic view
- Support Crowd map, Heat map, Vehicle counting

EBW81242 Series













- 12MP@30fps, 1/1.7"CMOS image sensor
- Smart H.265+/H.264+ triple-stream encoding
- People counting in multiple areas, queuing management in multiple areas, heat map (number of pepole /time), and track map
- IP67, IK10, POE

PDBW5 Series









Coming Soon

- Support 360-degree panoramic view
- Four 1/1.8" 5Megapixel progressive scan CMOS
- Starlight technology
- \bullet Smart H.265+/H.264+ triple-stream encoding
- Perimeter Protection
- Face Detection

WizMind IPC Dual-lens Series

HDW8341X-3D Series

















- 3MP Dual-Lens
- Smart H.264+/H.265+, 3D noise reduction, AWB, HLC, BLC, Defog
- Build-in MIC & Speaker, Siren active deterrence
- 0.005Lux, IP67, IK10
- 12V DC power output, max. current 165mA
- HDW8341X-BV-3D: Five Types Stereo Analysis
- HDW8341X-3D-S2: People counting, Queue management

HFW8241X-3D











- 2MP Dual-Lens
- Smart H.264+/H.265+, 3D noise reduction, AWB, HLC, BLC
- 120 dB, 0.003Lux, IP67
- Five Types Stereo Analysis

WizMind IPC-7 Series

7442 Series

- 4MP (2688×1520) @50 fps/60 fps
- Smart H.264+/H.265+, 3D noise reduction, AWB, HLC, BLC, EIS, Defog
- 140 dB, 0.001Lux
- IP67, IK10, ePoE ,Heater
- Five streams for three-channel HD video
- 12V DC power output, max. current 165mA
- -FR: Face Recognition, 5 group face libraries with 200,000 face images in total

7842 Series/71242 Series









- 8MP (3840×2160) @25fps/30fps (7842 Series)
- 12MP (4000×3000) @25fps/30fps (71242 Series)
- Smart H.264+/H.265+, 3D noise reduction, AWB, HLC, BLC, EIS, Defog
- IP67, IK10, ePoE, Heater
- Five streams for three-channel HD video
- 12V DC power output, max. current 165mA

WizMind IPC-5 Series

5 Series Junction Box











- 8MP, Smart codec, Starlinght+
- 8MP@25/30fps
- WDR (120 dB), ICR, 3D DNR, AWB, AGC, BLC, EIS, Defog
- Smart IR, IP67, IK10, ePoE
- Alarm in/out: 2/3

5 Series Vari-focal













- 2/4/5MP, Smart codec, Starlinght+
- WDR (140 dB), ICR, 3D DNR, AWB, AGC, BLC, EIS, Defog
- Smart IR, IP67, IK10, ePoE
- -MF: 50/60fps@1080P

5 Series Fixed-focal













- 2/4/5MP, Smart codec, Starlinght+
- WDR (140 dB), ICR, 3D DNR, AWB, AGC, BLC, Defog
- Smart IR, IP67, IK10, ePoE
- -MF: 50/60fps@1080P

5 Series Full-color













- 2/4MP, Smart codec, full-color
- WDR (140 dB), ICR, 3D DNR, AWB, AGC, BLC, Defog
- F1.0
- Smart IR, IP67, IK10
- ePoE

WizMind IVSS & NVR

IVSS7000-I Series















- Up to 256 Channel IP video access, 8/16/24HDD
- Max 512Mbps incoming bandwidth
- Supports max resolution up to 16MP
- Up to 128 channel video stream face recognition
- Up to 64 channel video metadata
- Up to 256 Channel perimeter protection
- Up to 50 face image databases with 300,000 face images in total

NVR5000-I Series

















- 16/32/64 Channel IP video access, 2/4/8 HDD
- Max 320Mbps incoming bandwidth (when AI function is disabled)
- Supports max resolution up to 16MP
- Up to 4 channel video stream face recognition
- Up to 4 channel video metadata
- Up to 16 Channel perimeter protection
- Up to 20 face image databases with 100,000 face images in total

WizMind XVR-8 Series

XVR8208A-4KL-I









- H.265+/H.265 dual-stream video compression
- Supports HDCVI/AHD/TVI/CVBS/IP video inputs
- Supports 16 channels of IPC access, each channel up to 12MP input
- Up to 4 channel perimeter protection
- Up to 2 channel video stream face recognition
- Up to 2 channel metadata
- Up to 12 face pictures/sec processing
- Up to 10 face databases with 20,000 face images in total

XVR8208A-4K-I XVR8x16-4KL-I









- H.265+/H.265 dual-stream video compression
- Supports HDCVI/AHD/TVI/CVBS/IP video inputs
- Supports 64 channels of IPC access, each channel up to 12MP input
- Up to 16 channel perimeter protection
- Up to 6 channel video stream face recognition (analog channel max. supports 4 channel)
- Up to 4 channel metadata
- Up to 24 face pictures/sec processing
- Up to 20 face databases with 100,000 face images in total

WizMind PTZ

SDT5X Series













- Dual-PTZ System
- Time division multiplex
- Powerful Optical Zoom
- Starlight technology
- Auto calibration • Hi-PoE
- IP67

PTZ8 Series











- Powerful 40/48/60x optical zoom
- Starlight technology
- IR distance up to 400m
- Laser distance up to 1000m
- Optical defog
- Optical fiber
- IP67

SD8A/10A Series











- Powerful 40/48x optical zoom
- Starlight technology
- IR distance up to 500m
- Optical image stabilization
- Optical defog
- Smart wiper
- IP67



SD6 Series













- Powerful optical zoom
- Starlight technology
- Laser distance up to 550m
- Supports Hi-PoE/PoE+
- IVS
- IP67

WizMind Thermal

TPC-PT8X21A Series











- 640x512/400x300 VOx uncooled thermal sensor technology
- Athermalized lens (thermal), focus-free
- 1/2.8" 2Megapixel progressive scan CMOS
- Powerful 50X optical zoom
- Support optical defog, optical image stabilization
- Support tripwire, intrusion
- Support cold/hot spot trace

TPC-SD8X21 Series









- 640x512/400x300 VOx uncooled thermal sensor technology
- Athermalized lens (thermal), focus-free
- 1/2.8" 2Megapixel progressive scan CMOS
- Powerful 45X optical zoom
- Support tripwire, intrusion
- Support cold/hot spot trace

TPC-BF3221-T Series





- 256x192 VOx uncooled thermal sensor technology
- Athermalized lens(thermal), focus-free
- 1/2.8" 2Megapixel progressive scan CMOS
- Support face detection
- Support temperature measurement
- Accuracy: ±0.3°C, with blackbody
- Smart linkage with strobe light & audio

WizMind Software

DSS Pro

















- Face Recognition: face database alarm, face type alarm, records searching, face tracking, visual reports
- Flow Analysis: people counting in an area, people counting for line crossing, heat map
- Object Detection: object detection for human, motorized vehicles, and non-motor vehicles, records searching, visual reports
- Al Alarm: strand detection alarm, people approach alarm, fall detection alarm, number of people error detection alarm, violence detection alarm, etc.
- ANPR: real time vehicle recognition, records searching, vehicle tracking
- Entrance: overview of entrance and exit information, parking lot editing, configuration of barrier control rules
- Traffic: traffic flow statistics, violation searching, speed measurement
- Thermal: real-time temperature display, temperature alarm, fire alarm
- Smart Tracking: smart track with fisheye, smart track with bullet, smart track with radar
- Alarm Linkage: pop up, snapshot, record, PTZ, alarm output, door, e-mail, etc.

DMSS







- Thermal: real-time temperature display, temperature alarm, fire alarm
- Face Recognition: FR Alarm, FD Alarm

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