Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, thermal and software platforms that adopts industry-leading deep learning algorithms. Focusing on customer’s requirements, WizMind provides precise, reliable and comprehensive AI solutions for vertical markets.

### Vertical
- Government
- Retail
- Energy
- Building
- Finance
- Transport

### SMB
- Counter
- Warehouse
- Petrol Station
- Business Outlets
- Mall
- Transports Hub
- Hospital
- School
- Hotel
- Railway
- City Road
- Footpath
- High-Voltage
- Square

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

**Vehicle Applications**
- Illegal Parking
- ANPR
- Vehicle Video Metadata

**Thermal Applications**
- Thermal

### Product
- **IP Camera**
- **PTZ**
- **Thermal**
- **NVR**
- **XVR**
- **Software**
Human Applications

- Face Recognition
- Privacy Protection
- Human Video Metadata
- People Counting
- Heat Map
- Stereo Analysis
- Wide Area Security
- Smart Tracking
Through the face recognition’s blacklist 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.
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.
Human Video Metadata technology with deep learning algorithm can detect, track, and capture images of people. It selects the best images and extracts attributes of targets to locate them immediately.

20+ Attributes

Face: 6  
Human: 9  
Non-motor Vehicle: 6

*More features are coming soon

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 track and process moving human body targets to realize accurate statistics of people entering, leaving and currently within the monitored area. This feature provides customers with valuable data for business report analysis. It provides statistics with up to 98% counting accuracy.

People Counting

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

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

Queue Management

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

- Fall Detection
- People Approach
- Violence Detection
- Strand Detection
- People No. Error

Real-time behavior detection and alarm linkage for abnormal behavior

Age Care
It recognizes people’s behavior, such as fall detection, violence detection, strand detection, and people approach detection, and then generates alarms.
Heat Map

With deep learning technology, Dahua's new heat map function demonstrates two types of heat map charts based on the number of people and average dwell time. Being widely used in retail shops, this feature enables business owners to easily analyze customers’ preferences.

Traditional Heat Map

- Heat map based on motion detection output
- **Disadvantages**
  1. Unrecognizable objects
  2. Low accuracy

AI Heat Map

- Heat map based on people counting output
- **Advantages**
  1. Focus on people
  2. High accuracy based on two dimensions: the number of people and average dwell 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.
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.

**Wide Area Security**

Through multi-sensor automatic stitching technology, Dahua Panoramic Surveillance realizes 360° monitoring with high-speed PTZ cameras. It considers both panoramic and detail images to ensure that customers will not miss other targets on the panoramic view while looking at the details of the target’s behavior using the PTZ camera.

**Features**

- **Crowd Density**
  When the crowd quantity or density is larger than the set threshold, it will quickly trigger an 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**

**Airport**

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 tracks objects all the time. According to different scenarios, Dahua provides different tracking solution with accuracy rate of up to 90%.

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.

Features

Application

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

- ANPR
- 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.

**Features**

- **Blacklist Alarm**
  Sends early warning if a Blacklisted 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 a 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 Blacklist and Whitelist 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.
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.

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 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

*Illegal parking duration can be set according to demand

Features

Illegal parking detection
Detected illegal parking on specific roads, and records illegal parking time, location, duration, number plate, etc.

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

Statistical 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.
Thermal Application

- Long Distance Monitoring
- Temperature Monitoring
- Fire Prevention
Long Distance Detection

Dahua’s leading thermal imaging technology provides ultra long detection distance for vehicles (20 km) and humans (8km).

False Alarm Filter

It only receives infrared radiation, and is not affected by environmental factors. It is equipped with built-in deep learning algorithms, 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 ±0.3°C with the blackbody.

Application
With the virus outbreak, airports, railway stations and subway stations are becoming important areas of epidemic prevention. 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.

The high-voltage equipment in an electrical substation requires costly maintenance. 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.
**Fire Prevention**

Thermal cameras can detect mild differences in temperature change. This feature allows thermal camera to detect objects with a temperature difference compared to the average temperature of the scene. As fires usually have much higher temperature than the surrounding environment, Dahua thermal cameras are able to detect the presence of fire in the scene.

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**Features**

**Advanced Fire Detection**

Duel-channel monitoring provides early detection of the fire source and the ability to visibly monitor the scene. Accurate temperature monitoring avoids false positives generated by the environment.

**Real-time Alarm**

Alarm actions can be triggered within milliseconds, informing the user of an event and solving the problem of large-area monitoring.

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**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.
WizMind Ecosystem

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

**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.

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

**DHOP**

Dahua Open Platform space (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 Dahua, 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

**CA/KMS**
Offers CA management, and KMS that securely manages device keys

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

**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

<table>
<thead>
<tr>
<th>WizMind IPC-Panoramic Series</th>
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<tr>
<td><strong>PSDW8 Series</strong></td>
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<td><img src="image1" alt="Support 360-degree panoramic view" /></td>
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<tr>
<td><img src="image3" alt="Starlight technology" /></td>
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<tr>
<td><img src="image7" alt="IR distance up to 400 m" /></td>
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<tr>
<td><img src="image9" alt="Smart tracking, Tripwire, Intrusion" /></td>
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<td><img src="image11" alt="Support Crowd map, Heat map" /></td>
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<th><strong>PDBW5 Series</strong></th>
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<td><img src="image14" alt="Smart H.265+/H.264+ triple-stream encoding" /></td>
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# WizMind IPC Dual-lens Series

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<td><img src="image22" alt="Smart H.264+/H.265+, 3D noise reduction, AWB, HLC, BLC, Defog" /></td>
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<td><img src="image24" alt="Build-in MIC &amp; Speaker, Siren active deterrence" /></td>
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<td><img src="image26" alt="0.005Lux, IP67, IK10" /></td>
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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 five groups of face libraries with 200,000 face

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

5 Series Fixed lens

- 2/4/5MP, Smart codec, Starlight+
- 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**
- 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
WizMind Thermal

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
- AI 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