



# **MultiVision**

LOOK WIDER, PROTECT DEEPER









# ultivision

With the development of the security industry, customers' demand for larger scene monitoring, clearer images, and more intelligent functions that combine with scenes has been growing. Traditional front-end cameras can no longer meet customers' requirements.



# INSUFFICIENT FIELD OF VIEW

Traditional cameras with fixed field of view may have blind spots and miss key information, making it difficult to comprehensively monitor the entire area.



# SINGLE DIRECTION MONITORING

Traditional camera can only monitor a single direction and cannot flexibly monitor multiple scenarios.



# POOR LINKAGE BETWEEN MULTIPLE CAMERAS

When multiple devices monitor large scenes, there is limited and difficult linkage between devices. The data generated by multiple devices is scattered and cannot be integrated for use.

# What did MultiVision do?

To meet the needs of customers, Dahua began developing the first MultiVision camera in 2016 and has been conducting in-depth research on related technologies since then.



#### **Panoramic Splicing Series**

2017

2022

VIDEO 2023 LIGING

**Video Splicing Fusion** 

**Pixel-level Splicing Fusion** 

Miniaturized Pixel-level Splicing Fusion



#### **Multi-direction Series**

2016

2019 LT D R 2024 O A L

Manual adjustment in multiple directions

Motorized adjustment in multiple directions

Long Range Perimeter Protection



#### X-Spans Series

2016

2019 SMART T2024 CKING

Linkage Tracking

Linkage Tracking & Relay Tracking

Linkage Tracking & Relay Tracking 2.0

# **Value**

# of MultiVision



#### All-in-One Design

The MultiVision series integrates multiple cameras into one device, using only one IP address and providing multiple images on different screens.



#### **Enlarged Monitoring Coverage**

The MultiVision series products effectively solve the limited field of view angle in traditional cameras, not only allowing wider and farther viewing, but also providing target details when viewing panoramic images.



#### **Multiple Channels, Multiple Al**

Each channel supports intelligent functions and different channels can use different intelligent functions. Some products can enable multiple intelligent functions at the same time.



#### **Cost Reduction**

The MultiVision series reduces the complexity and difficulty of the installation process, improves efficiency, and provides convenient and user-friendly experiences for users.

# **Multi-sensor Splicing Panoramic Camera**



# **I** Key Features



**EPTZ** 



8K Ultra HD



180° Panoramic Image



Multiple Al Functions



High and Low Altitude Algorithms

# Advanced Technology

#### **Panoramic Splicing**

• MultiVision Panoramic Splicing cameras effectively replace many cameras with one single device, providing a larger field of view and more details in one image.







#### **High and Low Altitude Mode**

- Effectively reduce false alarms, significantly improving the detection rate of targets in low-altitude scenes. The detection rates for human and vehicle targets are increased to 95% and 98% respectively.
- Suitable for medium-sized scenes. Users only need to input the installation height of the camera to automatically switch between high and low-altitude modes.



Perimeter Protection	Vehicle Density	Crowd Map
≥ 6m	≥ 6m	≥ 6m



Perimeter Protection	Vehicle Density	Crowd Map
≤ 6m	≤ 6m	≤ 9m

# **Ultra HD Resolution & Wider Field of View**

• The WizMind Multi-sensor 180° series has ultra 8K HD resolution and wider FOV-V. It can capture more details, providing better panoramic experience.



# **I** Application Scenario

#### **Large Square**





The square is a large open area where crowd gathering increases security risks.

# **□** Key Value

- Ilt effectively provides **early warning** when the crowd number or density in the area exceeds the set threshold to protect public security.
- Crowd-related reports can be used for **BI analysis** to develop corresponding people management policies.
- One camera can achieve 180-degree panoramic coverage, saving installation, wiring, and maintenance costs.



# 4-Directional Panoramic Dome



# **I** Key Features



FlexStream



IP67/IK10



360° Wide Coverage



4-Channel AI Co-Opening

# **I** Advanced Technology

# **Adjustable 4-lens Camera**

• Four motorized vari-focal lenses with remote adjustment capability provide full 360° coverage in all four directions.





#### **FlexStream**

• FlexStream supports four-channel streams viewed in the first channel simultaneously, effectively helping to save license costs.





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#### 4-channel Al Co-opening

• The four channels' intelligent functions can be enabled **simultaneously** (either the same or different intelligent functions).



# **I** Application Scenario

#### **Airport**





Airports require CCTV security measures in their crucial pedestrian walkways. However, traditional single-lens cameras requires numerous installations to cover various directions of these walkways, resulting in a complicated installation and extensive wiring requirements.

#### **■** Key Value

- One Panoramic camera can cover **4-direction pedestrian walkways** in the airport. It can be independently configured with AI functions to capture details.
- One camera supports **people counting** and **queue management** in four directions simultaneously, making it convenient for airport administrators to promptly monitor passenger flow and carry out regulation and management.
- **FlexStream** supports four-channel streams viewed in the first channel simultaneously, effectively saving license costs.



# **Dual-Sight Polarlight Bullet Network Camera**



#### | Key Features



Dual Micro PTZ



Dual Visual Angle



180° Panaromic view



Dual Light Fusion Illuminator



Dual Intelligence Co-opening

# Advanced Technology

#### **Hyper DoF**

 Dahua Hyper DoF technology enables cameras to display images with large aperture and large depth of field simultaneously. It is capable of clearly capturing both distant and nearby targets at the same time. It effectively enhances the monitoring distance of human vehicle targets by over 5 times.





#### **Illumination by Area**

It differentiates illumination lighting on targets or areas
with varying base brightness, enabling balanced
brightness for monitoring during night time. It can be
applied in environments with complex lighting or
multiple targets monitored at the same time, which
helps reduce overexposure and underexposure,
and offers clear and bright monitoring effect.





#### **Time-Division Exposure**

• In order to provide higher-quality images in multi-target scenarios, Dahua's Time-Division Exposure independently configures the optimal shutter speed for targets of **different speeds and brightness levels**. This ensures simultaneous clear monitoring of people, vehicles and non-motor vehicles.

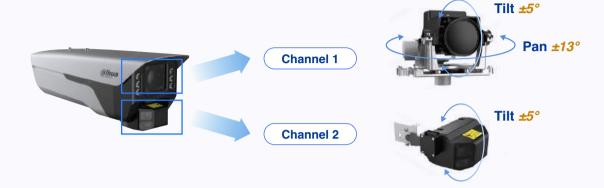


**Before Time-Division Exposure** 



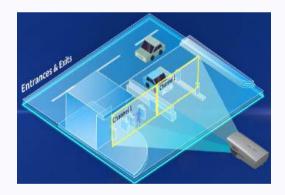
#### **Dual Micro PTZ: Remote Adjustment**

• The Dual Micro PTZ technology enables adjustment of lenses physically or remotely for easy installation. Users can also easily modify the monitoring coverage after installation.



# **I** Application Scenarios

#### **Entrances & Exits**



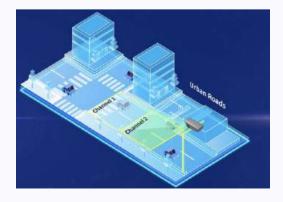
Channel 1: People Counting Channel 2: Video Metadata

#### **□** Ke

#### Key Value

- The broader monitoring width is ideal for wider entrances and exits, eliminating the requirement for multiple cameras.
- One camera enables two Al functions at the same time, and supports detection and identification of personnel and vehicle attributes.

#### **Urban Roads**



Channel 1: Video Metadata

**Channel 2: Vehicle Plate Recognition** 



#### Key Value

- Increases the depth of monitoring and captures video metadata information of vehicles, thus improving warning time and accuracy.
- It realizes cross-channel seamless tracking and tracks targets from channel 1 to channel 2.

# **IPC Triple-Sight Long Range Perimeter Protection Camera**



#### | Key Features











Three Lenses

Two-Way Talk

100m Detection

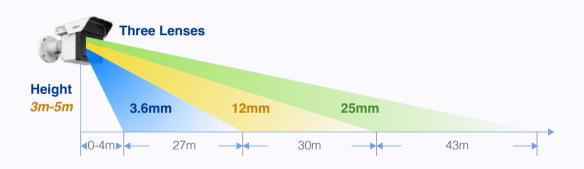
Easy Installation

Illumination By Area

# Advanced Technology

#### **Three-lens Detection**

• It uses three different lenses and supports running three perimeter intelligent functions simultaneously. It is also possible to validate the continuity of monitoring scenes and achieve day and night detection control within 4-104 meters.



#### Long-distance Illumination by Area

• With illumination control algorithm by area, 8 IR LEDs can be used as supplementary lights at night for different areas with varying distances. Compared with the traditional method, the long-distance illumination light intensity is increased by 30% and the overall balanced brightness is increased by 50%.



Nearest Illumination



Medium Illumination



Farthest Illumination

IR fill light uniformity increased by 50% IR distant light intensity increased by 30%

#### **Micromotor Control**

- It utilizes high-precision, high-torque metal gear motor.
   Compared with ordinary motor, its own torque is increased by 23%, while its own backlash is reduced by 16%.
- It also supports remote adjustment control and enables quick and stable adjustment of the vertical tilt angle.



Remotely adjust the vertical tilt angle

#### **Remove Duplicate Targets**

- Based on spatial information and algorithm features, the object in the camera is calibrated and de-weighted to reduce repeated alarm events.
- Output the image with the largest target pixel and relatively complete and clear outline.



# I Application Scenario

#### **Solar Power Station**





The overall area of a solar power station is very large. It often requires deployment of a large number of traditional cameras to monitor its vast area and to prevent intrusion, incurring high costs and consuming so much valuable time.

# **E** Key Value

- · One intelligent camera can replace three traditional cameras, greatly reducing product costs.
- It is easy-to-install, with built-in gradienter and micro-motor structure, reducing a lot of installation and debugging time.
- It reduces a large number of manual input and other investment for vertical rod accessories materials, significantly saving costs.



# **Hubble Series**



# **I** Key Features

#### S3 Hubble

( 180°/270°/360° Wide Coverage

32MP HD Resolution

(AI) Multiple AI Functions

#### Mini Hubble

( 180°/360° Wide Coverage

🮇 7kg Easy Installation

(A) Multiple Al Functions

# **I** Advanced Technology

#### **Super Wide Coverage**

• Equipped with multiple lenses, the Dahua panoramic camera can implement seamless splicing between lenses and achieve 180°, 270° and 360° field of view, providing high-definition panoramic images.



#### **AR Panorama**

• Based on AR technology and resources integration, the AR Panorama\* achieves a visual, controllable and dispatchable new command mode in a single system.



\* AR Panorama: Combined with the platform, the Hubble series and Multi-Sensor 180° series can realize this function.

# **Multiple Al Functions**

• The Dahua Panoramic Solution effectively captures image details of human and vehicle targets through a series of intelligent functions, overcoming challenges often faced by traditional monitoring methods.



# **I** Application Scenarios

#### **Urban Road**



Large-sized Scenarios: S3 Hubble

# **Background**

Traffic jams on urban roads impact journeys. Traditional surveillance can't monitor large areas effectively.

#### **□** Key Value

 Designed for real-time vehicle counting in large scenarios, it promptly triggers alarms during traffic congestion. This feature proves valuable in assisting traffic management departments to timely adjust their traffic management strategies.

#### **Middle-sized Scenarios**



Mid-sized Scenarios: Mini Hubble

# **Background**

Due to high installation costs and maintenance, monitoring multiple targets with one camera at traditional crossroads is challenging.

#### **■ Key Value**

- The mini Hubble camera is **60% smaller and 50% lighter** than the Hubble, one person can easily install it.
- One mini Hubble camera is suitable for middle-sized scenarios.
   Its Smart Tracking function links panoramic and PTZ cameras for detailed panorama coverage without image loss.



# **X-Spans Panoramic Series**



# **I** Key Features

#### SDT8C Series

4K Resolutions

PoE 802.3bt

Vehicle Density

200° Horizontal FoV

SD16C Seri

4MP Resolutions

180° Horizontal FoV

(g) 25/32x Optical Zoom

#### **SDT6C Series**

Active Deterrence

Smart Tracking

# **I** Advanced Technology

#### **Panoramic Splicing**

• SDT8C/SDT6C cameras splice the lenses of two cameras into one lens. After distortion correction, it provides a 200° (180°) field of view and more details in one view.t



# **Remote Panoramic Lens Adjustment**

• It can adapt to different installation heights, providing more flexible monitoring capability.



#### **Smart Tracking**

• The overview channel and detail channel can be linked to achieve smart tracking. When a human/vehicle target triggers the IVS rule of the overview channel, the detail channel will proceed to track the detected target.



The detail channel moves to the position according to the coordinates until the target disappears in the overview channel. **High Tracking Accuracy** 

#### **Relay Tracking**

The target can still be tracked continuously after walking out of the overview channel.

Linkage Tracking + Auto Tracking Long Tracking Distance



#### **Equipped with Wiper**



- Only the **SDT8C series** has a wiper. It can be used to clean the surfaces of the lens.
- Enables timely cleaning of surface stains according to customer's preference to ensure clear video footages.

# | Application Scenario

#### **Railway Station**



# **Background**

The train station square is expansive, bustling with people day and night due to continuous train schedules. Generally, stations host more potential security risks due to diverse foot traffic.

# **E** Key Value

- With a 200° horizontal field of view in the overview channel, the SDT8C Series can cover the deployment and controlling areas, allowing for real-time monitoring and detection of illegal parking.
- The built-in crowd map algorithm enables real-time analysis of the flow of people. This allows for timely evacuation of congested sections and crowded areas.



# **Dual-PTZ Hunter Series**

# | Key Features

#### General Model



Easy Installation

Perimeter Protection



Viedo Metadata

হৈ Face Recognition

#### **Traffic Model**

Dual PTZ System

Easy Installation

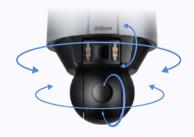
lllegal Parking Detection



# **I** Advanced Technology

# **Dual-PTZ Technology**

 The SDT5X series provides two PTZ channels in one camera; both can be adjusted horizontally and vertically.



Panoramic:

Pan: 0°-360° endless Tilt: 0-30°

Detail:

Pan: 0°-305° Tilt: -10°-90°

• The product can be used to monitor two directions simultaneously.





#### **Multiple AI Combinations (General Mode)**

• Equipped with advanced chips, the AI functions of both overview channel and detail channel can be activated simultaneously. Both overview and detail channels support **3** types of AI functions. There are **3x3** kinds of combinations available for customers based on different scenarios.



Video Metadata



**Face Recognition** 



Perimeter Protection





• Illegal parking detection can be used in both independent and linkage modes. The independent mode has a wider detection range, while the linkage mode helps solve the problem of the detail camera not being able to capture all vehicle detection in a scene when zooming in and capturing details.

#### **Independent Mode**



Draw illegal parking rules in any channel Detect illegally parked vehicle in any channel Capture images via the detail channel

Overlay plate number and other violation information

#### **Linkage Mode**



Draw illegal parking

Detect illegally parked rules in overview channel vehicle in overview channel Capture images via the detail channel

Illegal Parking Time: 2024-07-01 10:25:20 Illegal Parking Duration: 60s

Overlay plate number and other violation information

# | Application Scenario

#### City Road





Vehicles parked on and off the road increase the risk of traffic congestion and accidents, which can cause injuries and property damage.

#### Key Value

- Dual PTZ system with panoramic and detail cameras for comprehensive monitoring.
- Offers wide coverage for illegal parking detection, providing a larger detection range.
- Provides 24/7 real-time monitoring of illegal parking activities. It is a cost-effective solution as one device can replace multiple cameras.



# **X-Spans Smart Eyes Series**

# o inside

# **I** Key Features



Both Channels Support 4MP



Attendance Management



Classroom Behavior Analysis



Examination Behavior Analysis

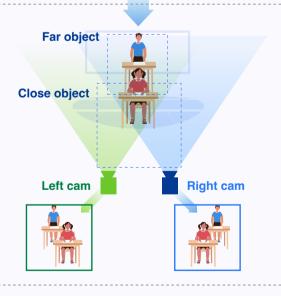
# Advanced Technology

#### **Smart Eyes Detection**

#### **Stereoscopic Vision Analysis**

It is a technique that simulates human stereoscopic vision by calculating the disparity of objects in the images captured by two or more cameras. It can provide three-dimensional position and shape information of objects in the scene.

- Increases the accuracy of behavior detection.
- · Detects multiple targets simultaneously.





#### **Body Behavior Analysis**

It is an advanced surveillance method that models and deeply analyzes the behavioral patterns of target objects, enabling it to detect subtle changes in behavior.

It is capable of identifying standard patterns of normal behavior and intelligently determining the presence of deviations from the norm by comparing real-time behavioral data with these standard patterns.

#### Class Mode & Exam Mode **For Class** For Exam Attendance Turning around Reading and writing Writing Management Phone usage Hand-raising Leaning on the desk Phone usage Passing objects Standing up Hand-raising Active listening Picking up objects Cheating Turning around Standing up \*Warning: When the attendance management function is activated, other behavior analysis functions cannot be turned on at the same time.

# | Application Scenario

#### Classroom



# **Background**

In the education sector, abnormal behaviors of students such as not paying attention in class, absences, and cheating in exams become more frequent as they grow older.

# **□** Key Value

- Attendance Management: Enables back-end devices to remind teachers and parents regarding the student's class attendance.
- Classroom Behavior Analysis: Analyzes the state of each student in the class, and helps adjust the teacher's teaching strategy accordingly.
- · Examination Behavior Analysis: Detects abnormal behavior in time to ensure fairness during examinations.

#### **ENABLING A SMARTER SOCIETY AND BETTER LIVING**

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