



# Wisenet X series AI camera Introduction

X-core / plus lineups



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**WISeNET**





# X series meet AI

- Reducing False alarm based on AI
- X-core & X-plus Key features
- Models
- Accessories

1. This webinar is being recorded and will be available for replay and in pdf format. Please visit <https://www.hanwhasecurity.com/trainings/webinars/> to view past webinars & sign up for future ones.

2. All participants have been put into listen only mode.

3. We will take Q&A time permitting and if time runs out to answer all of the questions, we will reply to you individually afterwards. Please use the Chat or Q&A section.

# Manufacturing and Compliance

- Hanwha Techwin is a Global Fortune 500 company based in South Korea, with over 30 years of manufacturing experience in video surveillance. Our Supply Chain of Trust is critical to our cybersecurity.
- All IP cameras, analog cameras, NVRs, DVRs and encoders sold and distributed in North America are manufactured in Hanwha's facilities in **South Korea** and **Vietnam**.
- Hanwha Techwin manufactures a full suite of products compliant with **NDAA** and **TAA** provisions making them eligible for GSA Schedule Contracts and other government opportunities.



# Proprietary Wisenet7 SoC equipped

Wisenet has undergone numerous innovations so far. New Wisenet7 chipset also evolved one more step. Embedded the Wisenet7 on X AI camera, while maintaining clear image and image quality has reduced noise and motion blur. X-core and X-plus cameras are equipped with Wisenet7 SoC, which is our latest SoC, and it's product line-up that Hanwha Techwin's technology's concentrated.

2010	Wisenet	<ul style="list-style-type: none"> <li>• 720p 30fps</li> </ul>
2011	WisenetS	<ul style="list-style-type: none"> <li>• VGA 30fps</li> </ul>
2011	WisenetII	<ul style="list-style-type: none"> <li>• 2MP 30fps</li> <li>• WDR 2MP 30fps</li> <li>• Simple Focus</li> </ul>
2013	WisenetIII	<ul style="list-style-type: none"> <li>• 2MP 60fps</li> <li>• WDR 2MP 30fps(120dB)</li> <li>• Defog</li> </ul>
2016	Wisenet5	<ul style="list-style-type: none"> <li>• 5MP 30fps, 2M 60fps</li> <li>• WDR 2MP 30fps(150dB), HLC</li> <li>• Min. Illumination 2MP 0.01Lux</li> </ul>
2020	Wisenet7	<ul style="list-style-type: none"> <li>• 4K 30fps, 2MP 120fps</li> <li>• Extreme WDR 2MP 60fps(Up to 150dB)</li> <li>• Advanced LDC</li> <li>• Reinforced Cyber security(HTPM)</li> </ul>
2021	Wisenet 7 AI	<ul style="list-style-type: none"> <li>• <b>Deep Learning AI for False Alarm reduction analytics</b></li> </ul>



# X-core & X-plus

## X-plus

- 4K / 6MP / 2MP Motorized-VF
- 120fps@2MP, 30fps@6MP, 30fps@8MP (4K)
- wiseIR : 50m
- The dome support wide tilt angle : 85°

- **Next level cybersecurity**
  - TPM 2.0 (FIPS 140-2 certified) ※ (not UL-CAP certified)
- **Micro SD/SDHC/SDXC 2 slot** : Max. 1TB (512GB x 2ea)
- **Reinforced durability**
  - Power redundancy failover, IP6K9K, IK10+ (Vandal)

- **Easy installation**
  - Modular design with magnet
  - Support legacy CVBS for installation
  - Support DC 12V 50mA output (except for box)
  - Easy connection with camera via Wi-Fi dongle

## X-core

- 4K / 6MP / 4MP / 2MP Motorized-VF
- **AI technology**
  - Object detection (Person/Vehicle/Face/License plate)
  - \* Vehicle (Car/Truck/Bus/Bike/Bicycle)
  - IVA based on classified object (Person/Vehicle)
  - Business Intelligence
- **Improved image quality**
  - extreme WDR (4K@30fps) or higher based on resolution by Scene Analysis, Local contrast enhancement
  - WiseNR II, prefer shutter control based on AI
  - 100% LDC
- **WiseStream III based on AI**

- **Next level cybersecurity**
  - Device Certificate (Hanwha Techwin Root CA, pre-installed)
  - UL CAP, Secure OS/boot/storage, Verified FW forgery
- **wiseIR : 40m**
- **The dome support wide tilt angle : 75°**
- **Configurable Alarm In/Out**
- **Micro SD/SDHC/SDXC 1 slot** : Max. 512GB
- **Reinforced durability**
  - Metal shielded RJ-45
  - Hard-coated dome bubble
  - Humidity control with GORE vent
- **Easy installation – Semi Modular design**
  - Easy connection with camera via Wi-Fi dongle
  - Adjust pan / tilt / rotate with 1 screw (bullet)



# Reducing False alarms with AI

The new X AI cameras detect and classify people, vehicles, faces and license plates and more in real time, greatly enhancing the accuracy of video analytics. While conventional cameras detect motion based on its pixels and generate events even if users want to ignore. AI algorithms can discern person as distinct objects separate from their surroundings such as waving trees, shadows, or animals. X AI cameras are able to help improve operator efficiency.

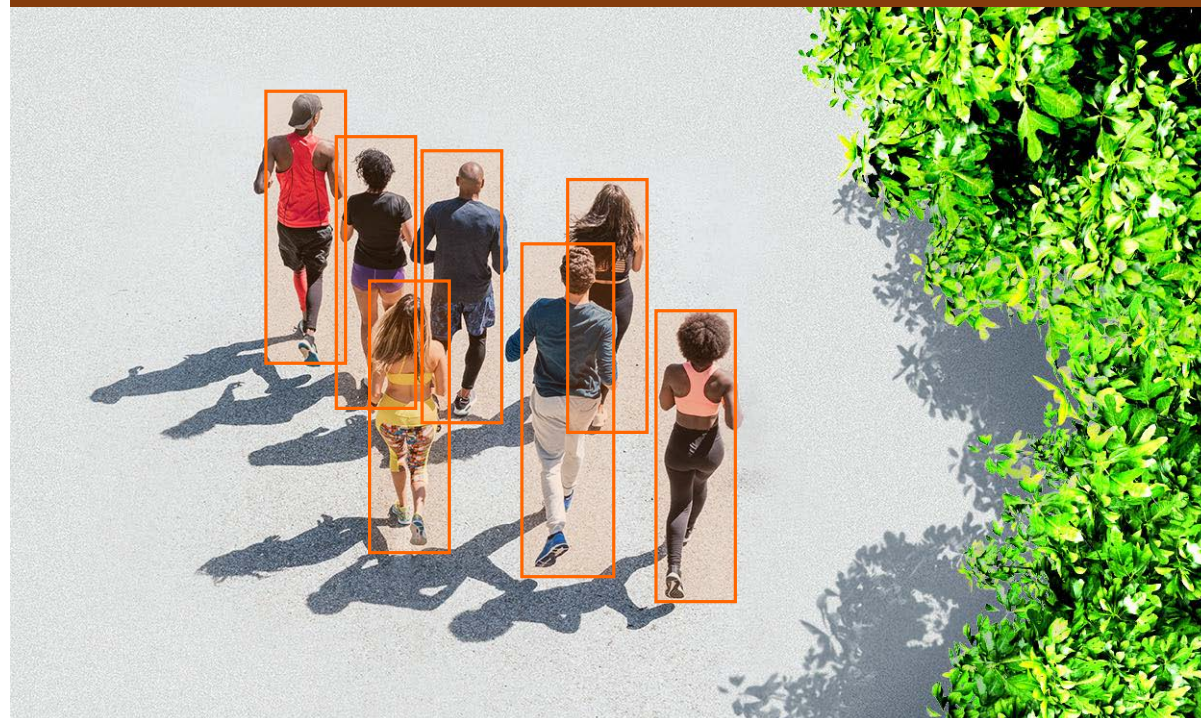
## Conventional

Pixel-based Motion Detection



## X AI Camera

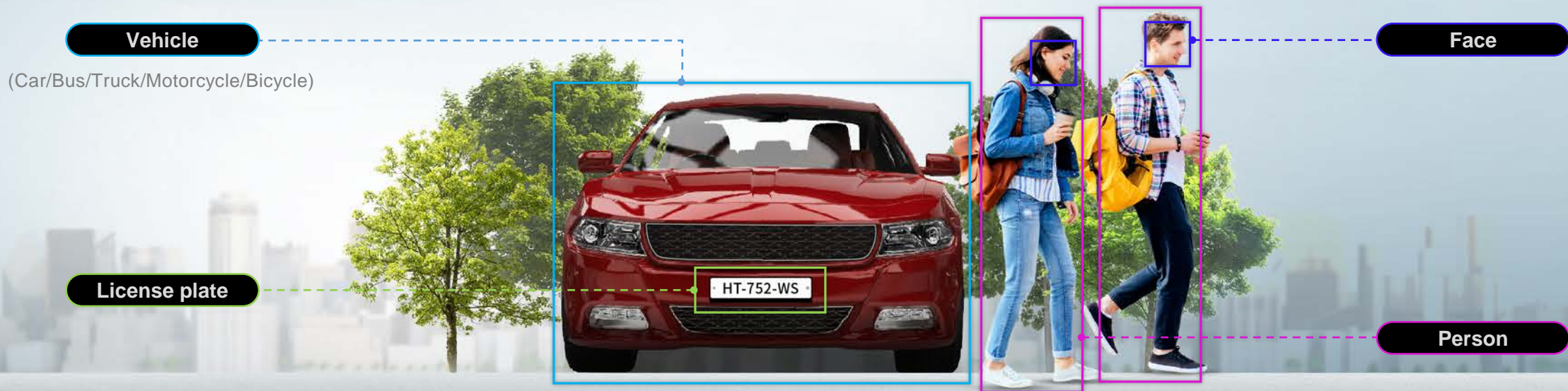
AI-based Object Detection & Classification



# AI-based Deep-learning technology

**Object detection**

Metadata including information (person, face, vehicle, license plate) is sent to the backend server and used to extract information on specific events. Operators are able to search AI events on the backend server. This greatly enhances search efficiency and reduces time spent on searching events. Also it can be reducing false alarm when operators were monitoring scene.



# AI based on Deep-learning technology

Classified objects can generate events in combination with conditions such as virtual line, area.



## WISENET X series The New X AI Camera

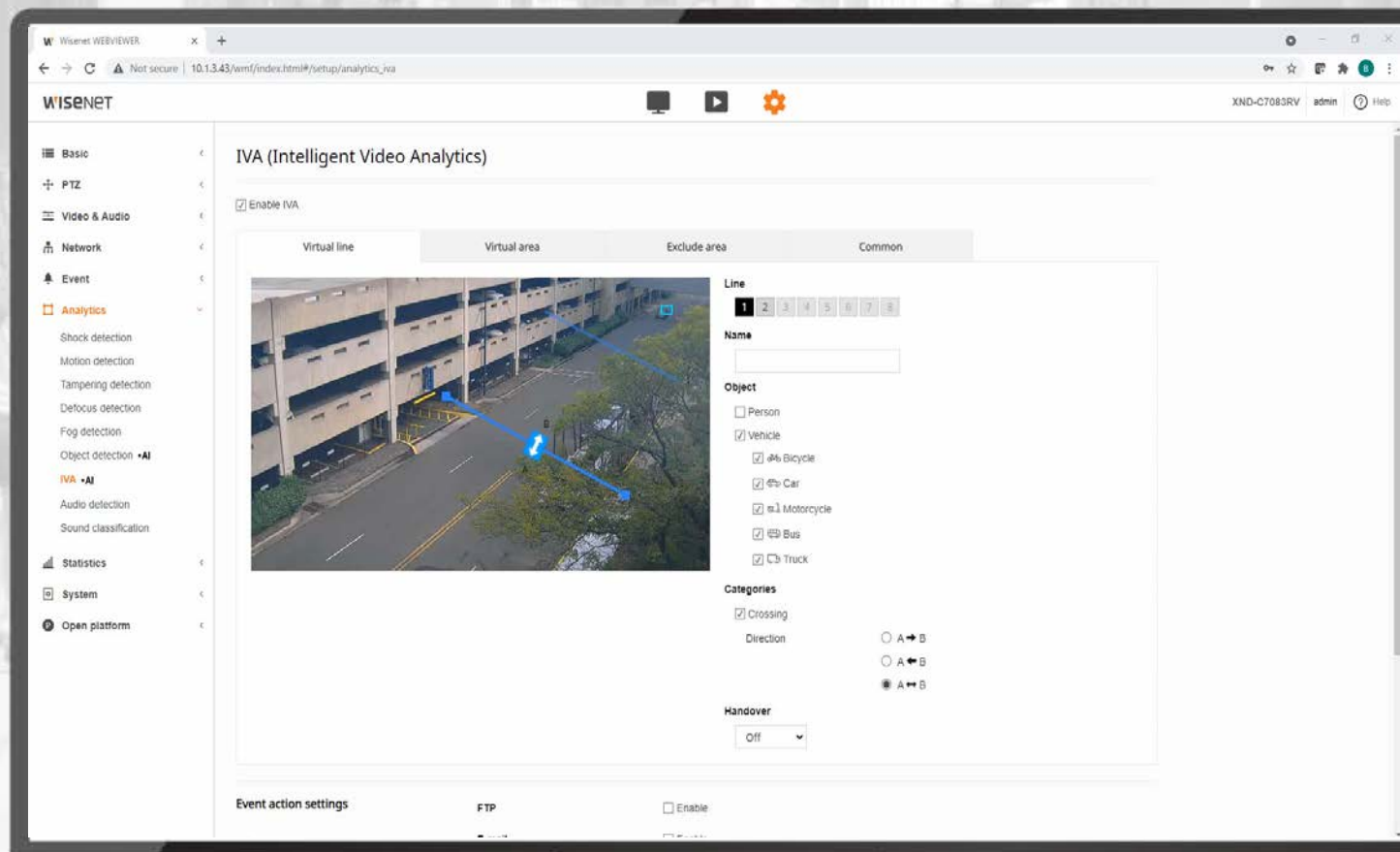
AI based object classification – virtual area





# AI based on Deep-learning technology

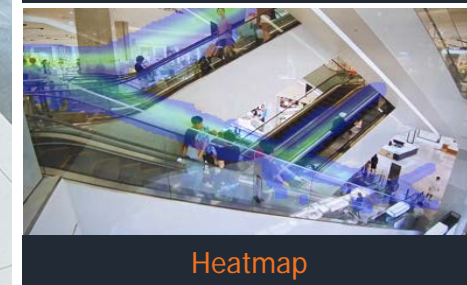
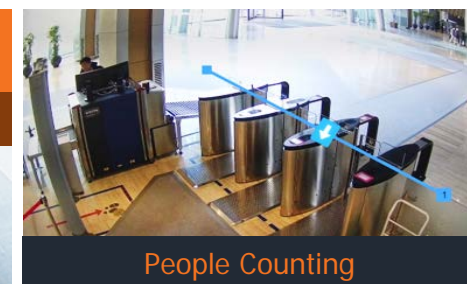
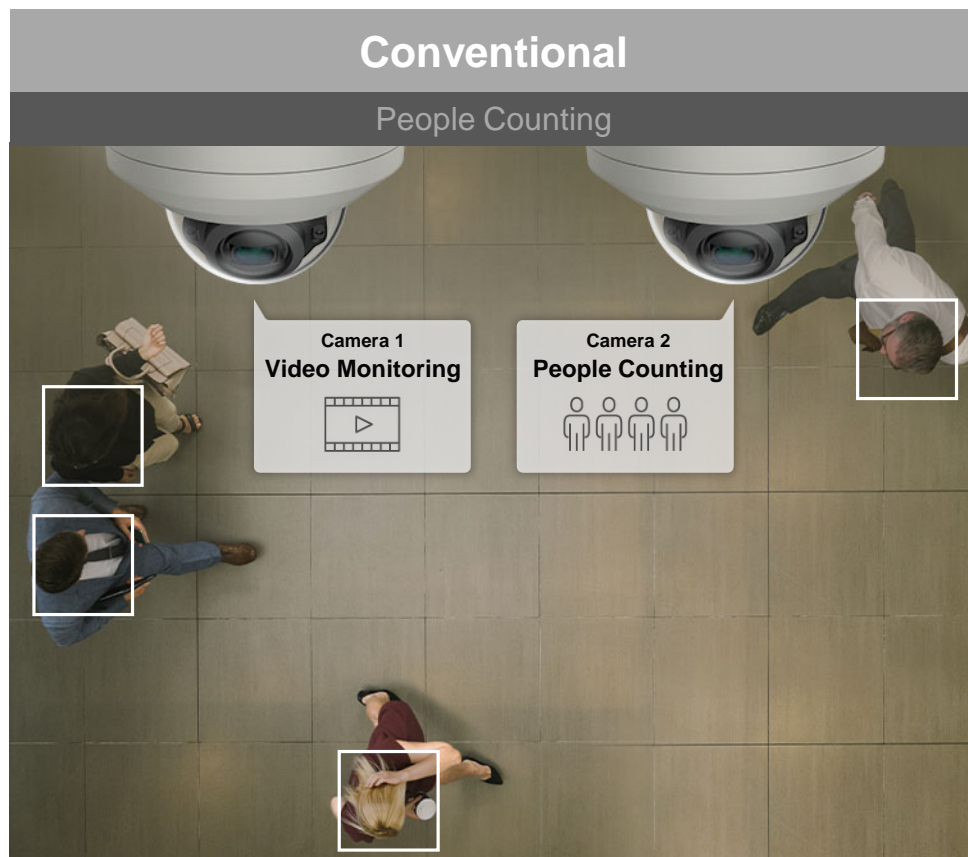
Classified objects can generate events in combination with conditions such as virtual line, area.



# AI based on Deep-learning technology

Edge-based business intelligence

The new X AI cameras overcome the inconvenience from the conventional and save the installation expense. Users had to install additional cameras for Business Intelligence(People counting and Heatmap). But X AI cameras can detect and classify people at any angle without additional cameras installation.



# AI based on Deep-learning technology – Object tracking

Classified objects can generate events in combination with conditions such as virtual line, area.



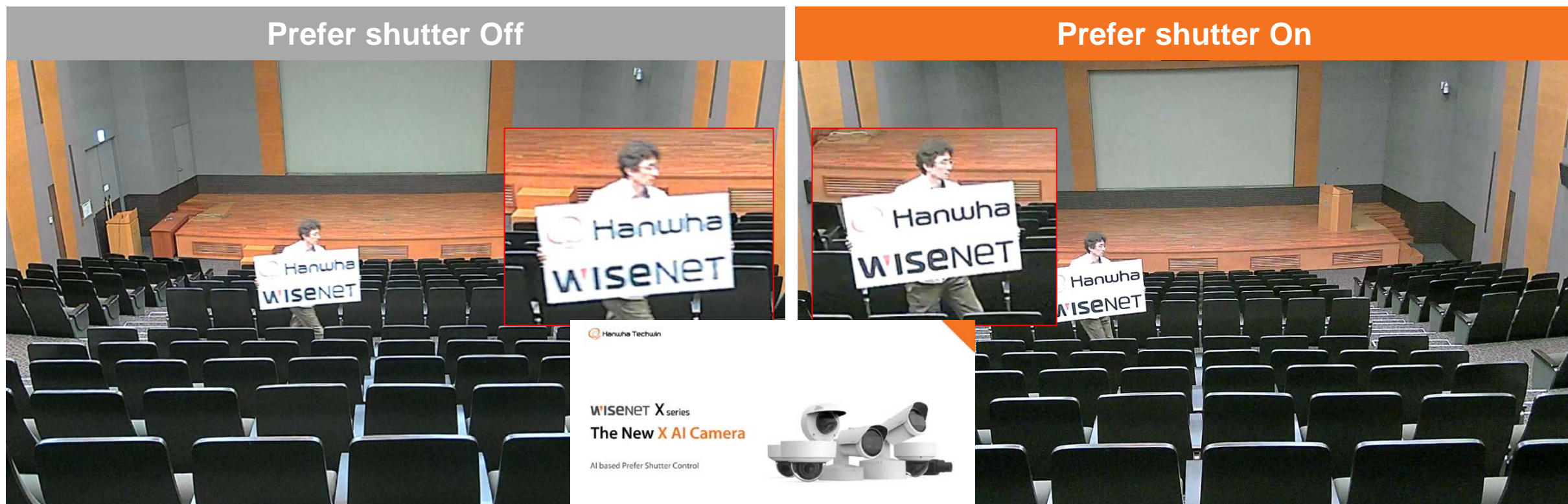
# WiseNR II

The newly applied AI-based noise reduction technology WiseNR II function based on object detection allow AI cameras to optimize image noise and motion blur depending movement of objects (person, vehicle). This effectively resolves the issue of image blur and ghosts effect caused by excessive noise reduction.



# Prefer shutter control

AI based Prefer Shutter technology utilizes the latest AI technology to identify appearance and movement of objects and readjusts the Prefer Shutter value to an optimal level to effectively improve noise and reduce motion blur. In a scene without objects, shutters are automatically adjusted to low speed to maintain low levels of noise as well as bright and clear images. In a scene with lots of object appearance and movements, shutters are adjusted to high speed to reduce motion blur and deliver clear images.



# WiseStreamIII

A new cutting edge video compression technology WiseStreamIII operates based on the object detection accomplished by AI algorithms. When combined with the H.265 compression technology, bandwidth can be reduced by up to 80% without compromising the video quality, enabling efficient video management.

**WiseStream III OFF**

**WiseStream III HIGH**

**WiseStream III HIGH**

Bitrate: 1568 kbps      Reference Line:  Set

Profile access      Update Time: 16:14:19

Profile	Bitrate(kbps)	Framerate	ATC(%)	User
1	0/0	0/0		0
2	2765/3072	30/30		3
3	0/0	0/0		0
4	480/512	15/15		1
10	0/0	0/0		0

Bitrate: 161 kbps      Reference Line:  Set

Profile access      Update Time: 16:14:18

Profile	Bitrate(kbps)	Framerate	ATC(%)	User
1	0/0	0/0		0
2	483/3072	30/30		3
3	0/0	0/0		0
4	231/512	15/15		1
10	0/0	0/0		0

# Reducing Bandwidth based on AI

WiseStream III uses the classified objects “humans or vehicles” to dynamically change the compression on the image, where the area based on the classified object will be low compression, and the rest of the scene will be in high compression.

When compared to Wisestream II, **any motion is considered important** and streamed in low compression.

The below is a night vision shot of WiseStream II vs. WiseStream III with an identical setting, and the savings was about 60%.

The image displays two side-by-side screenshots of the 'Live Viewer' interface, comparing the performance of WiseStream II (left) and WiseStream III (right) in a night vision scenario. Both screens show a camera feed of a road with trees and a car, with a '30 fps' indicator in the top right corner of the video area.

**Left Screenshot (WiseStream II):**

- Device Information: XNV-6081, MAC: 00:09:18:5E:94:A8, IP Address: 192.168.1.103, HTTP Port: 80, Device Port: -, Resolution: 1920x1080 (H264).
- Camera: 1, Profile: 2, Disconnect button.
- IV View:  Display original size:  Keep aspect ratio:  Save graph data: Off.
- Focus Setup: Focus (-100, -10, -1, 1, 10), Zoom (-100, -10, -1, 1, 10).
- Bitrate: **1310 kbps** (highlighted in red).
- Reference Line: [ ] Set.
- Framerate: 30 fps, I/P Frame: .
- Profile access table (Update Time: 21:39:39):

Profile	Bitrate(kbps)	Framerate	ATC(%)	User
2	0/0	0/0	0	0
3	1371/3072	30/30	100	1
4	0/0	0/0	0	0
5	0/0	0/0	0	0
6	0/0	0/0	0	0

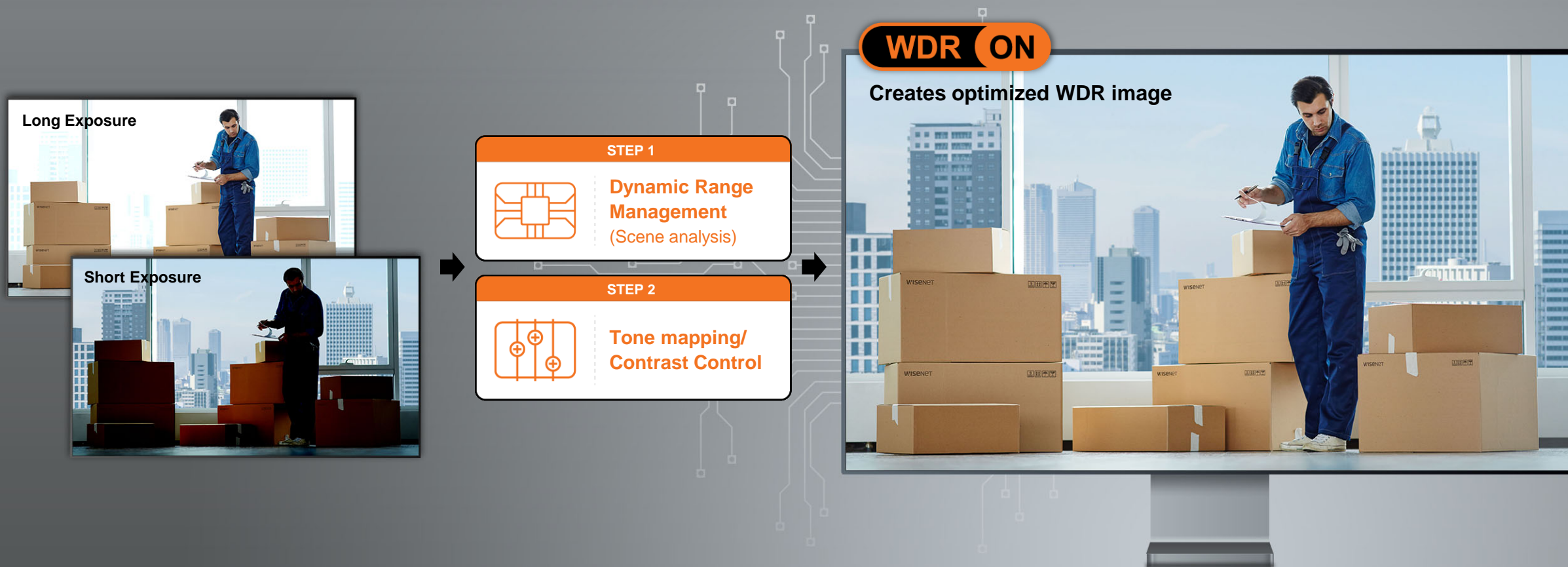
**Right Screenshot (WiseStream III):**

- Device Information: XND-6083RV, MAC: 00:09:18:6A:BC:82, IP Address: 192.168.1.100, HTTP Port: 80, Device Port: -, Resolution: 1920x1080 (H264).
- Camera: 1, Profile: 2, Disconnect button.
- IV View:  Display original size:  Keep aspect ratio:  Save graph data: Off.
- Focus Setup: Focus (-100, -10, -1, 1, 10), Zoom (-100, -10, -1, 1, 10).
- Bitrate: **534 kbps** (highlighted in red).
- Reference Line: [ ] Set.
- Framerate: 30 fps, I/P Frame: .
- Profile access table (Update Time: 21:39:39):

Profile	Bitrate(kbps)	Framerate	ATC(%)	User
1	0/0	0/0	0	0
2	534/3072	30/30	0	1
3	0/0	0/0	0	0
10	0/0	0/0	0	0

# ExtremeWDR

extremeWDR that using scene analysis technology by optimizing differences such as tone and contrast when occur during frame synthesis minimize motion artifact. In addition, local contrast enhancement technology, which emphasizes hazy (or blurred) areas step by step, improves the detail and clarity of images.





# wiselR

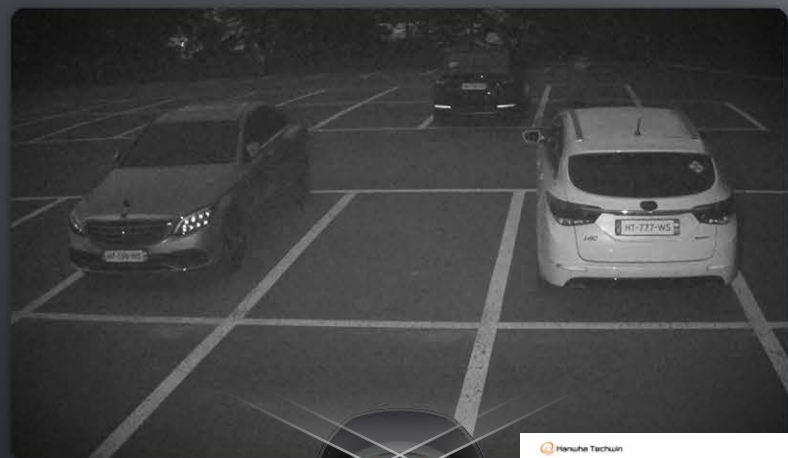
wiselR is a technology that adjusts the output of the IR LEDs according to zoom magnification. When “wide” condition, it minimizes dark areas on the outside of the image using IR Led uniformly. When “tele” conditions, it can see further using wide angle IR LEDs.

(X-core : up to 40m, X-plus up to 50m)



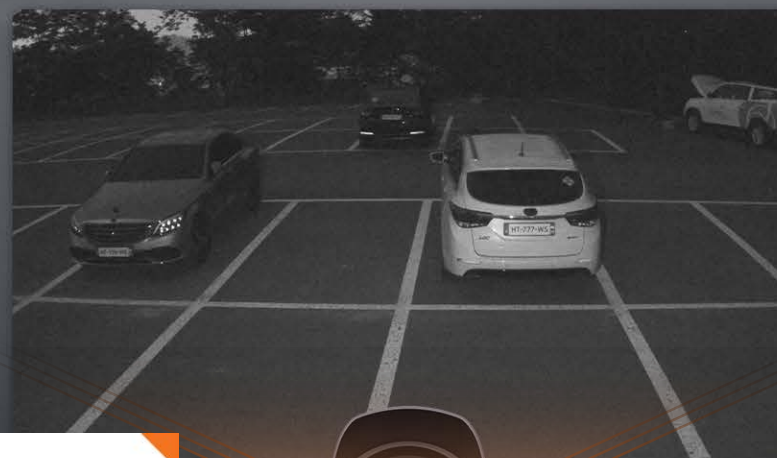
Conventional

80°



Wide

120°



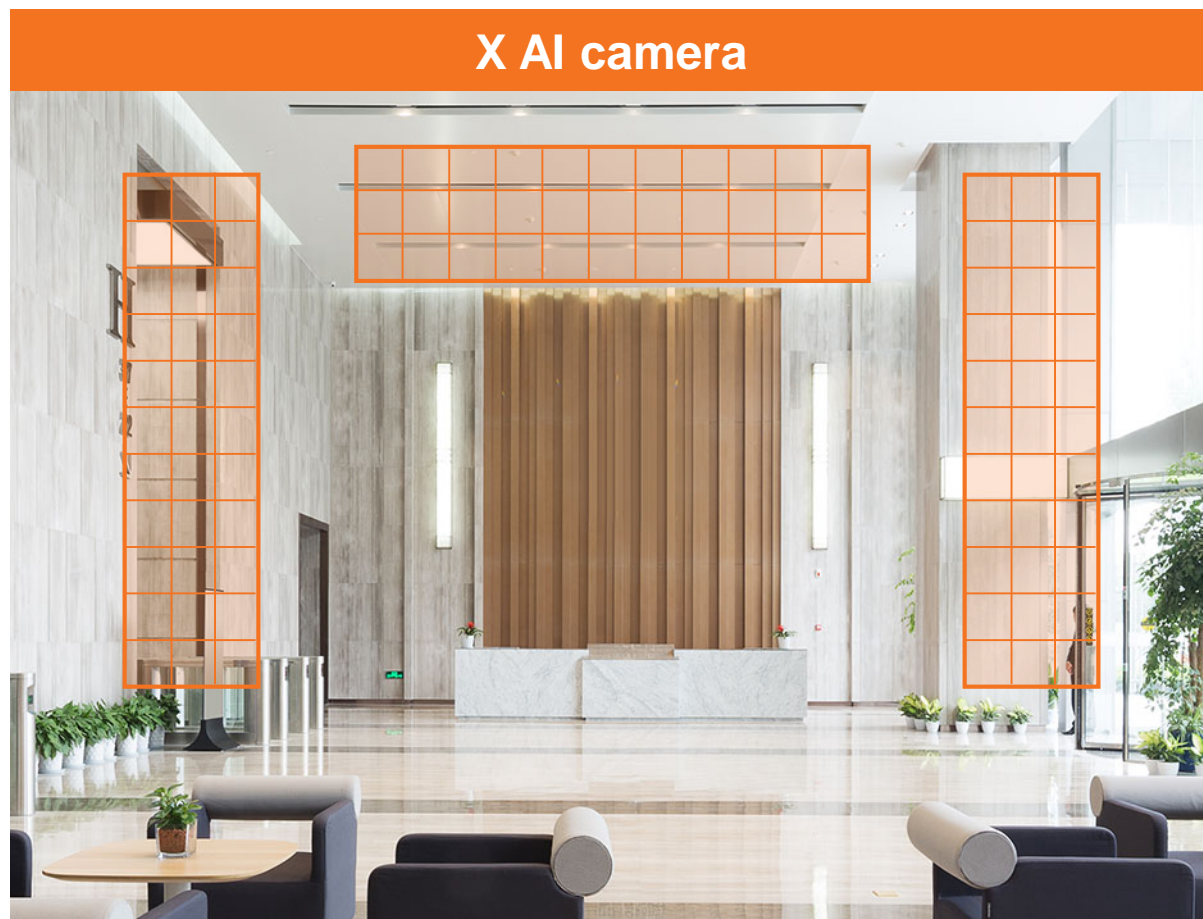
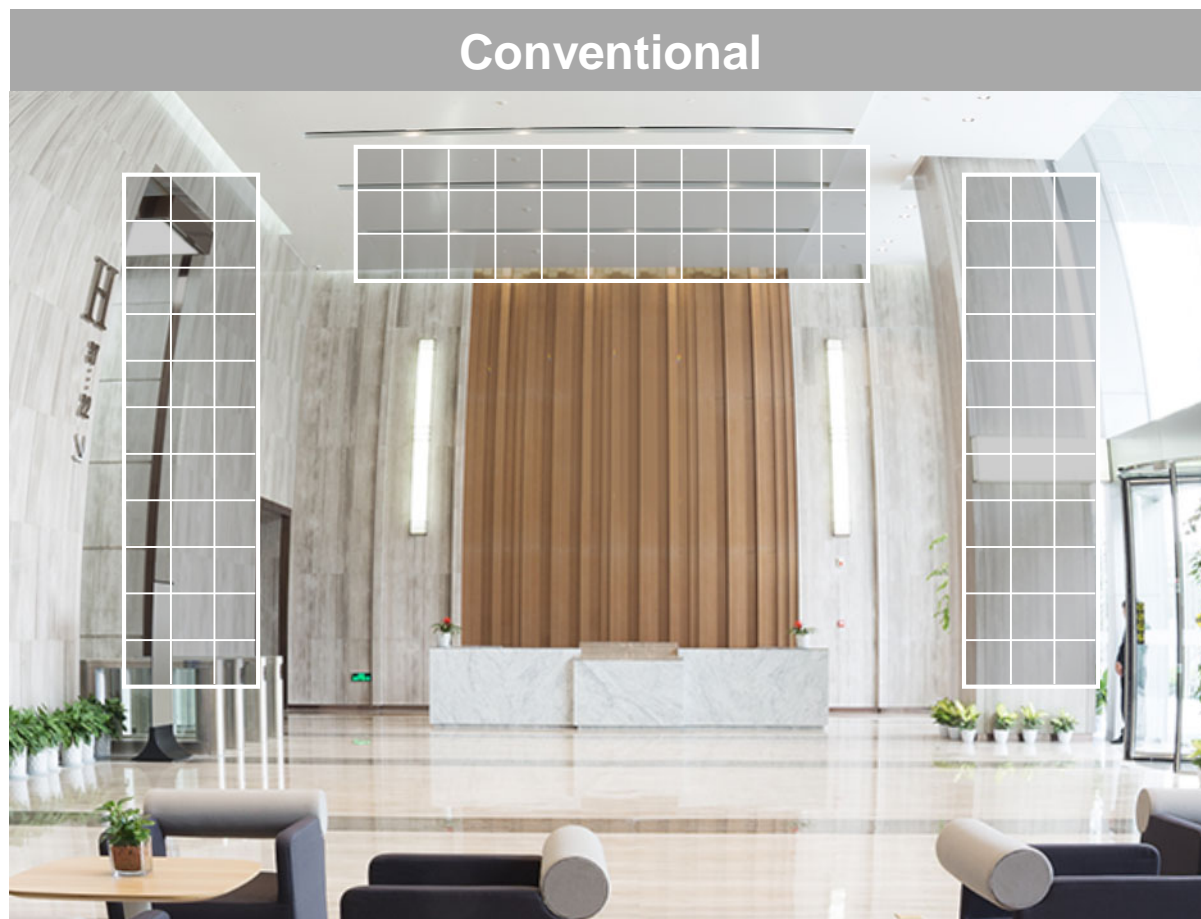
Tele

40°



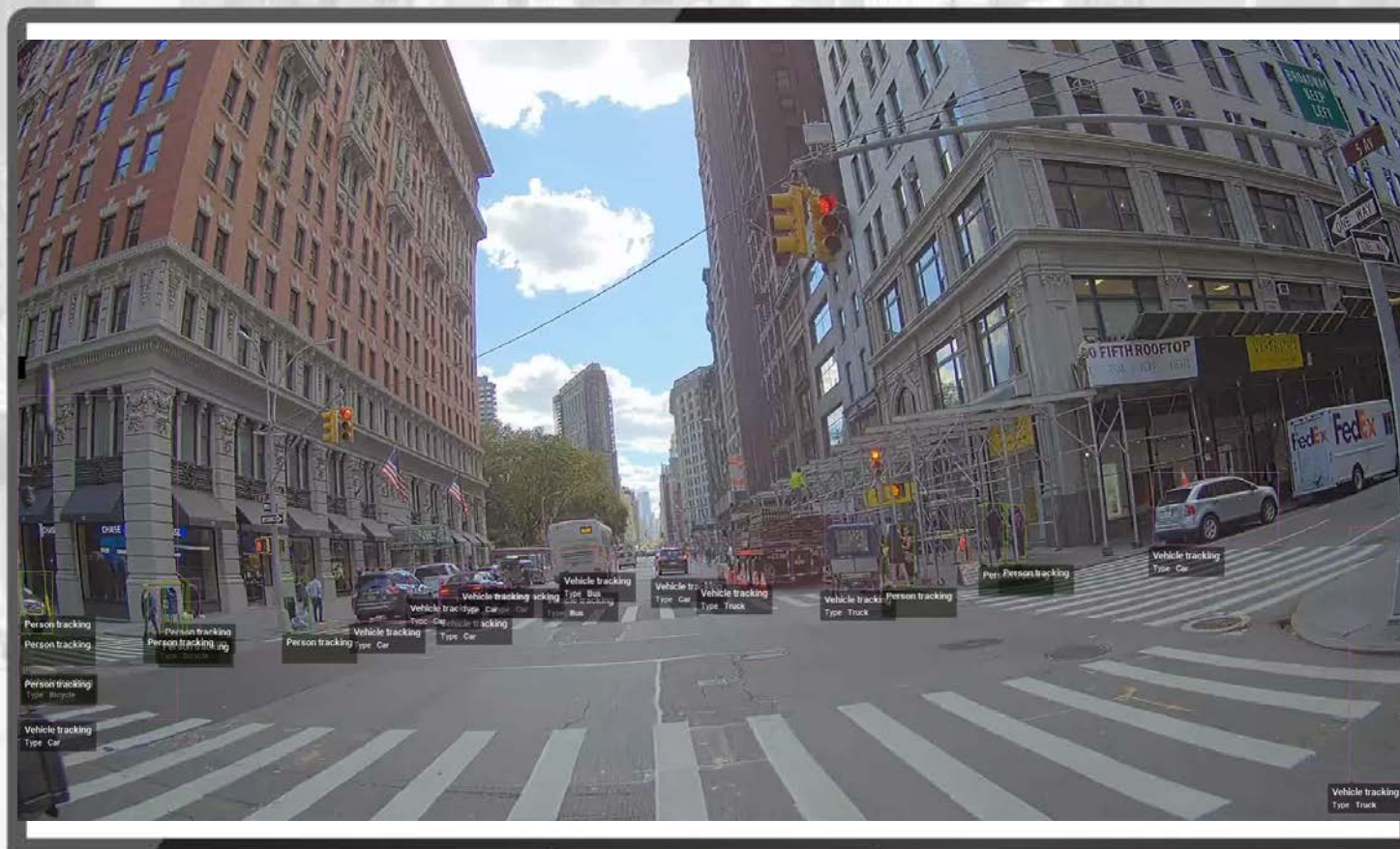
# Lens distortion correction (LDC)

The LDC function supports Fill/stretch mode to correct distorted images. The operator can select mode depending on the monitoring environment.



# Lens distortion correction (LDC)

The LDC function supports Fill/stretch - test



# Support for up to 120fps

X-plus 2MP product supports 120fps for smoother video monitoring

X-core 2MP product supports 60fps for smoother video monitoring

60fps



120fps



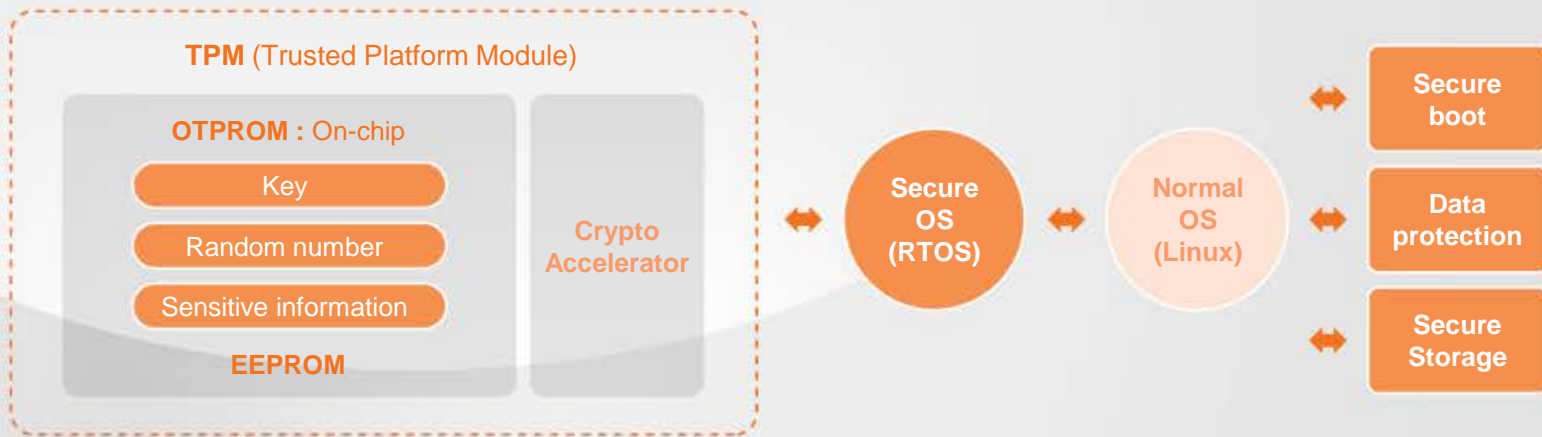
# Next level cybersecurity

The cybersecurity of the new X AI camera validates the boot process, securely stores key information, and preempts hacking risk with unauthorized access blocking. Our cameras also has been certified UL-CAP, Secure by default certification and including device certificate Root CA. We can provide industry-leading end-to-end cybersecurity to the customer.

UL-CAP is X-CORE ONLY



+ Development Process



✓ Data Protection

- Secure Storage / OS

✓ Improved security

- UL CAP, Secure by Default Certified
- Hanwha Techwin private device certificate Root CA

✓ Integrity

- Secure Boot
- Secure Open Platform App
- Verify Firmware Forgery

✓ Secured Hardware

- Secure JTAG

## Next level cybersecurity

TPM 2.0 (FIPS 140-2 certification)

X-PLUS  
ONLY



TPM is a hardware that creates hard to predict 'actual random numbers' and provides enhanced security compared to software producing similar random numbers. Also, encryption keys can be saved within TPM for dual protection.

So, TPM can serve as a secure storage.

**X-plus cameras has applied FIPS 140-2 certified TPM.**

FIPS(The United states 'Federal Information Process Standards) is a security standard for cryptographic modules the federal governments in the US, UK, Canada used to approve whether TPM is securely designed and implemented.

With this certified TPM, users are using cameras more securely.

## Reinforced durability



### Metal shielded RJ-45

**BETTER  
RELIABILITY**

Metal-shielded RJ-45 terminal and enhanced grounding earth frame structures can protect the camera from transient voltage(lightning, static electricity).

※ Using STP(shielded twisted pair) cables is recommended.



### Hard-coated dome bubble

**MORE  
CLEAR &  
HARDEN**

Hard-coated dome bubble provides better resistance to scratches from external stimuli (sand, worker's hand, etc.). Also, the degradation of resolution due to scratches can be minimized.

## Reinforced durability

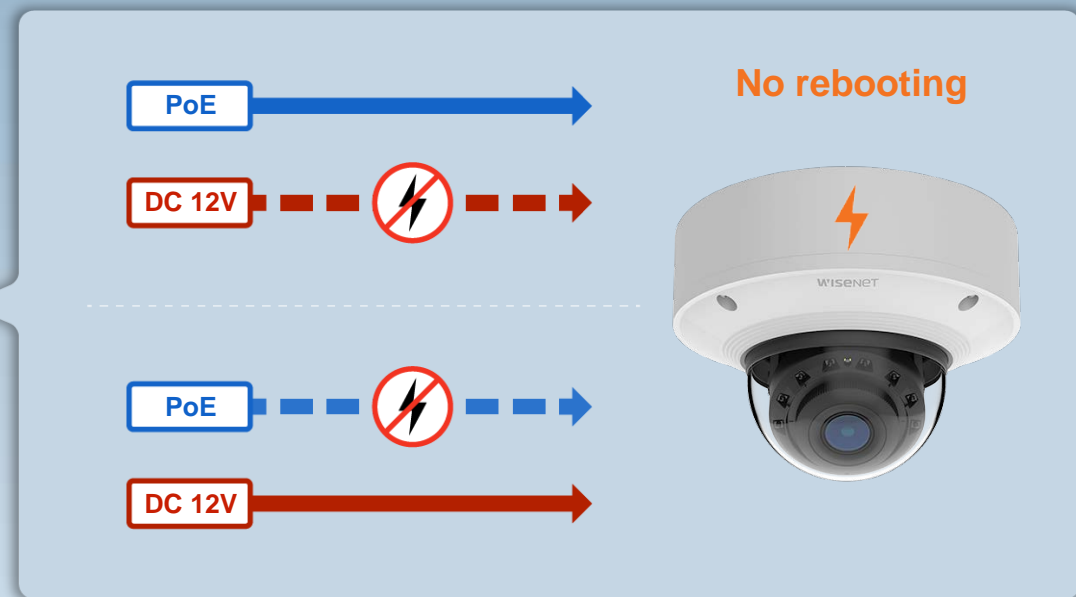


### Humidity control with GORE vent

GORE vent removes condensation and maintain performance of long-term storage through water vapor control. Also, it can prevent sealing damage through pressure equilibrium in the product.



# Reinforced durability



## Power Redundancy Failover (PRF)

PRF function supplies DC & PoE power at the same time,  
So continuous image monitoring is possible without reboot even if one of power is lost. (Not supported on Box cameras)

# User convenience

## Intuitive camera installation

X Core AI camera has a semi-modular design which applies a flush mounted plate to provide an intuitive installation guide and screw hole for corresponding gang boxes. After the camera is mounted to the plate, the cover is attached.

Components: Plate, Camera body, Dome Cover, Skin Cover.



# User convenience

**X-PLUS ONLY**



## Intuitive camera installation

X-plus cameras use a magnet to attached the camera module with its' modular design. Special packaging allows for easy and fast staging for the installer. All of these features save installation time and reduce cost.

※ Weather cap is included with the outdoor vandal dome for wall installation.

# User convenience



## Easy connection with camera via Wi-Fi direct

Wisenet installation app by Hanwha Techwin and Wi-Fi dongle can connect camera directly.

Installer can check the monitoring position along and configure the zoom in/out, simple focus, screen capture, flip/mirror/hallway view.

※ Wisenet installation app can be downloaded from the app store (Wi-Fi dongle and OTG USB-B cable not included)

## User convenience

X-PLUS  
ONLY



### Additional video output and microSD slots

X-plus cameras offers two microSD slots and supports up to 1TB (512GB x 2ea).  
Also, the compatibility with legacy equipment was considered by providing CVBS analog output for installation.

# User convenience



Record



Play  
Audio clip



Alarm out



Image

FTP



Notification/  
Image

E-mail



When event  
occurred



Notification

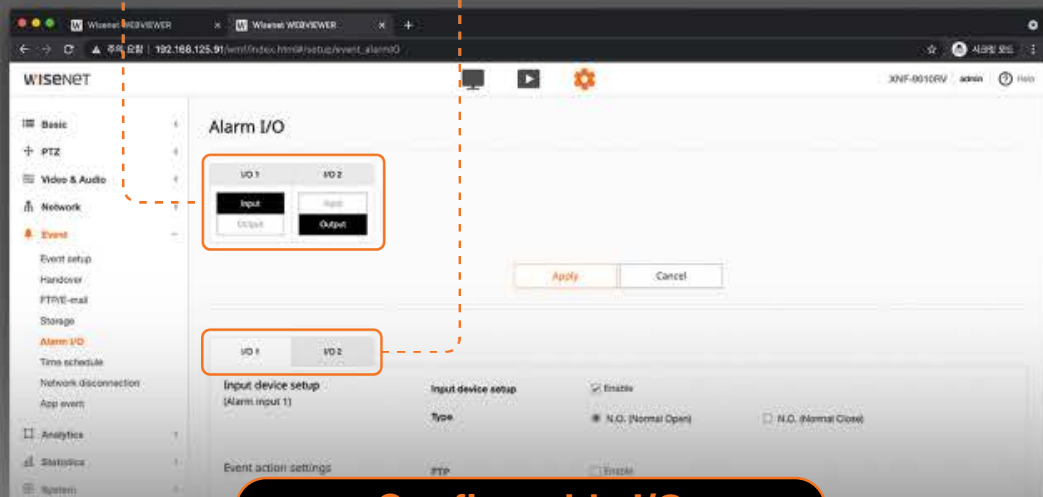
- HTTP
- HTTPS
- TCP

## Variety event action

An event action has been added that can use HTTP/HTTPS/TCP to give notifications to other devices when an event occurs.

# User convenience

Configuration alarm through toggle button



## Configurable I/O

Alarm Input and output can be set according to the install environment by applying toggle button. (ex. input 2 or output 2)

※ Can supply DC 12V 50mA (X-plus only, except for box type)



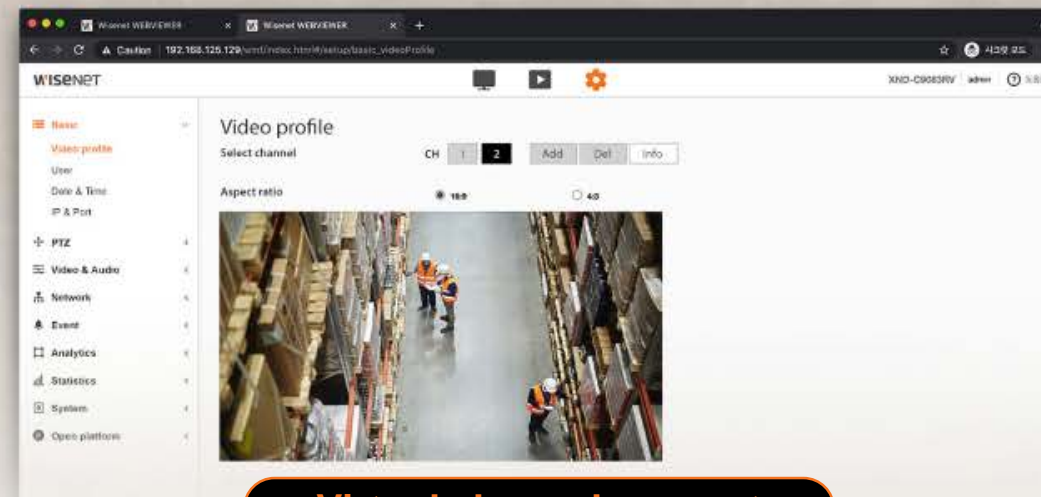
Virtual Channel 1



Virtual Channel 2



Virtual Channel 3



## Virtual channel support

Operator can create up to 3 virtual channels with a different cropped view with one camera. Which means it can be monitored simultaneously to a separate channel on the backend equipment.

# User convenience



Tilt 85°

Tilt 75°

Tilt 67°



Conventional



X-core



X-plus



**Extended tilting angle**

The wider tilt angle allows you to monitor areas that have not seen on conventional cameras.



## 2. Sales point

# 2-6. User convenience



with Hanwha's Plugin

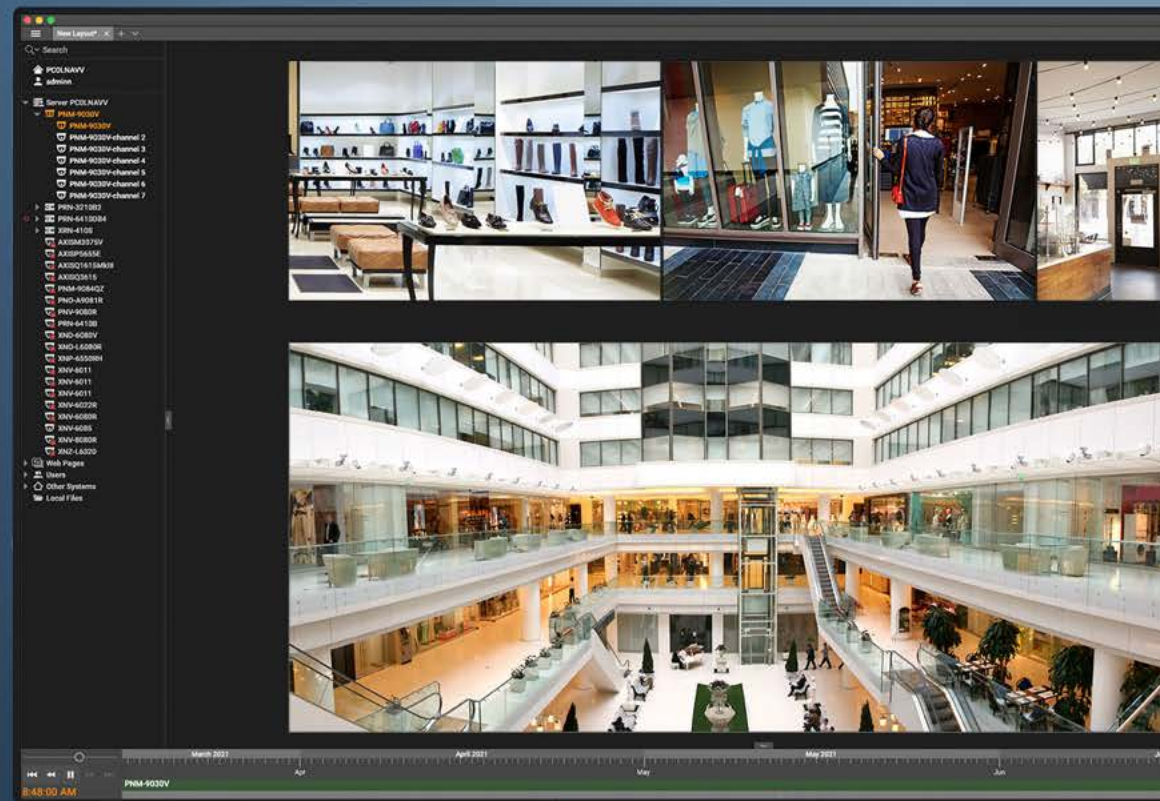


with Hanwha's Plugin

WISENET SSM

WISENET WAVE

NVR



### Compatible software

Wisenet7 AI cameras offers seamless integration with VMS(Video Management Software) from Milestone(with Hanwha's Plugin), Genetec(with Hanwha's Plugin), Wisenet SSM and Wisenet Wave. Operators can search AI events.

# 3. Specification and Accessory

3-1. Model introduce

3-2. Accessory compatible map



### 3. Specification & Accessory

## 3-1. Model introduction

### XND-C9083RV / C8083RV / C7083RV / C6083RV



# X-core AI Dome Camera

Category	Specification
Resolution	4K / 6MP / 4MP / 2MP
Lens	2.8~12mm Motorized-VF lens 4.4~9.3mm (4K/6MP/2MP), 2.8~10mm (4MP)
Wide Dynamic Range	extremeWDR 150dB, 120dB (4K/6MP/4MP)
IR distance	wiseIR 40m
Analytics	<p>Improve image quality based on AI (WiseStreamIII, WiseNR II, prefer shutter control)</p> <p>Object detection and classification based on AI (Person, Face, Vehicle (Car/Bus/Truck/Bike/Bicycle), License Plate)</p>
Easy Installation	Wi-Fi video by USB dongle
I/O	Configurable Alarm I/O
Power Consumption	PoE/12V DC
Certification	IP52, IK08
Security	UL-CAP, Device certificate (Hanwha TechwinRoot CA), Secure OS/boot/storage, Verify firmware forgery

### 3. Specification & Accessory

## 3-1. Model introduction

### XNV-C9083R / C8083R / C7083R / C6083R



# X-core

## AI Vandal Dome Camera

Category	Specification
Resolution	4K / 6MP / 4MP / 2MP
Lens	2.8~12mm Motorized-VF lens (4.4~9.3mm 4K/6MP/2MP), 2.8~10mm (4MP)
Wide Dynamic Range	extremeWDR 150dB, 120dB (4K/6MP/4MP)
IR distance	wiseIR 40m
Analytics	<p>Improve image quality based on AI (WiseStreamIII, WiseNR II, prefer shutter control)</p> <p>Object detection and classification based on AI (Person, Face, Vehicle (Car/Bus/Truck/Bike/Bicycle), License Plate)</p>
Easy Installation	Wi-Fi video by USB dongle
I/O	Configurable Alarm I/O
Power Consumption	PoE/12V DC
Certification	IP66/IP67, NEMA4X, IK10
Security	UL-CAP, Device certificate (Hanwha TechwinRoot CA), Secure OS/boot/storage, Verify firmware forgery

### 3. Specification & Accessory

## 3-1. Model introduction

### XNO-C9083R / C8083R / C7083R / C6083R

Category	Specification
Resolution	4K / 6MP / 4MP / 2MP
Lens	2.8~12mm Motorized-VF lens 4.4~9.3mm (4K/6MP/2MP), 2.8~10mm (4MP)
Wide Dynamic Range	extremeWDR 150dB, 120dB (4K/6MP/4MP)
IR distance	wiseIR 40m
Analytics	<p>Improve image quality based on AI (WiseStreamIII, WiseNR II, prefer shutter control)</p> <p>Object detection and classification based on AI (Person, Face, Vehicle (Car/Bus/Truck/Bike/Bicycle), License Plate)</p>
Easy Installation	Wi-Fi video by USB dongle
I/O	Configurable Alarm I/O
Power Consumption	PoE/12V DC
Certification	IP66/IP67, NEMA4X, IK10
Security	UL-CAP, Device certificate (Hanwha Techwin Root CA), Secure OS/boot/storage, Verify firmware forgery

# X-core AI Bullet Camera

### 3. Specification & Accessory

## 3-1. Model introduction

### XND-9083RV / 8093RV / 8083RV / 6083RV



# X-plus AI Dome Camera

Category	Specification
Resolution	4K / 6MP / 2MP
Lens	2.8~12mm Motorized-VF lens 4.4~9.3mm (4K/6MP/2MP), 10.9~29mm (8093RV)
Framerate	2MP@120fps, 4K/6MP@30fps
Wide Dynamic Range	extremeWDR 150dB, 120dB (4K/6MP)
IR distance	wiseIR 50m / 70m (8093RV)
Analytics	<p>Improve image quality based on AI (WiseStreamIII, WiseNR II, prefer shutter control)</p> <p>Object detection and classification based on AI (Person, Face, Vehicle (Car/Bus/Truck/Bike/Bicycle), License Plate)</p>
Easy Installation	Wi-Fi video by USB dongle, CVBS video output
I/O	2 Configurable Alarm I/O (support DC 12V 50ma output) 2 microSD slot (Max. 1TB (512GB x 2ea))
Power Consumption	PoE+/12V DC
Certification	IP52, IK10
Security	TPM 2.0 (FIPS 140-2 certified), Device certificate (Hanwha Techwin Root CA) Secure OS/boot/storage, Verify firmware forgery

### 3. Specification & Accessory

## 3-1. Model introduction



# X-plus

## AI Vandal Dome Camera

### XNV-9083R / 8093R / 8083R / 6083R

Category	Specification
Resolution	4K / 6MP / 2MP
Lens	2.8~12mm Motorized-VF lens 4.4~9.3mm (4K/6MP/2MP), 10.9~29mm (8093R)
Framerate	2MP@120fps, 4K/6MP@30fps
Wide Dynamic Range	extremeWDR 150dB, 120dB (4K/6MP)
IR distance	wiseIR 50m / 70m (8093R)
Analytics	<p>Improve image quality based on AI (WiseStreamIII, WiseNR II, prefer shutter control)</p> <p>Object detection and classification based on AI (Person, Face, Vehicle (Car/Bus/Truck/Bike/Bicycle), License Plate)</p>
Easy Installation	Wi-Fi video by USB dongle, CVBS video output
I/O	2 Configurable Alarm I/O (support DC 12V 50ma output) 2 microSD slot (Max. 1TB (512GB x 2ea))
Power Consumption	PoE+/12V DC
Certification	IP66/IP67/IP6K9K, NEMA4X, IK10+
Security	TPM 2.0 (FIPS 140-2 certified), Device certificate (Hanwha Techwin Root CA) Secure OS/boot/storage, Verify firmware forgery

# 3-1. Model introduction

## XNO-9083R / 8083R / 6083R

Category	Specification
Resolution	4K / 6MP / 2MP
Lens	2.8~12mm Motorized-VF lens 4.4~9.3mm
Framerate	2MP@120fps, 4K/6MP@30fps
Wide Dynamic Range	extremeWDR 150dB, 120dB (4K/6MP)
IR distance	wiseIR 50m
Analytics	Improve image quality based on AI (WiseStreamIII, WiseNRII, prefer shutter control)  Object detection and classification based on AI (Person, Face, Vehicle (Car/Bus/Truck/Bike/Bicycle), License Plate)
Easy Installation	Wi-Fi video by USB dongle, CVBS video output
I/O	Configurable Alarm I/O(DC 12V 50ma output) 2 microSD slot (Max. 1TB (512GB x 2ea))
Power Consumption	PoE+/12V DC
Certification	IP66/IP67 NEMA4X, IK10
Security	TPM 2.0 (FIPS 140-2 certified), Device certificate (Hanwha Techwin Root CA) Secure OS/boot/storage, Verify firmware forgery

# X-plus AI Bullet Camera



### 3. Specification & Accessory

## 3-1. Model introduction

### XNB-9003 / 8003 / 6003



# X-plus AI Box Camera

Category	Specification
Resolution	4K / 6MP / 2MP
Framerate	2MP@120fps, 4K/6MP@30fps
Wide Dynamic Range	extremeWDR 150dB, 120dB (4K/6MP)
Analytics	<p>Improve image quality based on AI (WiseStreamIII, WiseNRII, prefer shutter control)</p> <p>Object detection and classification based on AI (Person, Face, Vehicle (Car/Bus/Truck/Bike/Bicycle), License Plate)</p>
Easy Installation	Wi-Fi video by USB dongle, CVBS video output
I/O	Configurable Alarm I/O, 2 microSD slot (Max. 1TB (512GB x 2ea))
Power Consumption	PoE/12V DC
Security	TPM 2.0(FIPS 140-2 certified), Device certificate (Hanwha Techwin Root CA) Secure OS/boot/storage, Verify firmware forgery

# Specification and Accessory

Model introduction

Accessories


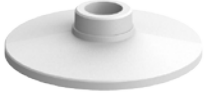


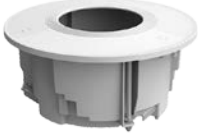










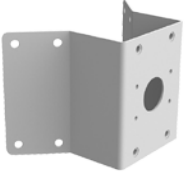





# Model introduction

X-core		
Type	Model name	Description
Dome	XND-C9083RV	4K, Max 30fps, 4.4~9.3mm, WDR(120dB), wiseIR 40m, 1 microSD slot, UL-CAP, Object detection/IVA/BI(Based on AI engine), IP52, IK08, PoE/12VDC
	XND-C8083RV	6MP, Max 30fps, 4.4~9.3mm, WDR(120dB), wiseIR 40m, 1 microSD slot, UL-CAP, Object detection/IVA/BI(Based on AI engine), IP52, IK08, PoE/12VDC
	XND-C7083RV	4MP, Max 60fps(WDR off), 2.8~10mm, WDR(120dB), wiseIR 40m, 1 microSD slot, UL-CAP, Object detection/IVA/BI(Based on AI engine), IP52, IK08, PoE/12VDC
	XND-C6083RV	2MP, Max 60fps, 2.8~12mm, WDR(150dB) , wiseIR 40m, 1 microSD slot, UL-CAP, Object detection/IVA/BI(Based on AI engine), IP66, IK08, PoE/12VDC
Bullet	XNO-C9083R	4K, Max 30fps, 4.4~9.3mm, WDR(120dB), wiseIR 40m, 1 microSD slot, UL-CAP, Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10, PoE/12VDC
	XNO-C8083R	6MP, Max 30fps, 4.4~9.3mm, WDR(120dB), wiseIR 40m, 1 microSD slot, UL-CAP, Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10, PoE/12VDC
	XNO-C7083R	4MP, Max 60fps(WDR off), 2.8~10mm, WDR(120dB), wiseIR 40m, 1 microSD slot, UL-CAP, Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10, PoE/12VDC
	XNO-C6083R	2MP, Max 60fps, 2.8~12mm, WDR(150dB) , wiseIR 40m, 1 microSD slot, UL-CAP, Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10, PoE/12VDC
Vandal	XNV-C9083R	4K, Max 30fps, 4.4~9.3mm, WDR(120dB), wiseIR 40m, 1 microSD slot, UL-CAP, Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10, PoE/12VDC
	XNV-C8083R	6MP, Max 30fps, 4.4~9.3mm, WDR(120dB), wiseIR 40m, 1 microSD slot, UL-CAP, Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10, PoE/12VDC
	XNV-C7083R	4MP, Max 60fps(WDR off), 2.8~10mm, WDR(120dB), wiseIR 40m, 1 microSD slot, UL-CAP, Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10, PoE/12VDC
	XNV-C6083R	2MP, Max 60fps, 2.8~12mm, WDR(150dB) , wiseIR 40m, 1 microSD slot, UL-CAP, Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10, PoE/12VDC

X-plus		
Type	Model name	Description
Dome	XND-9083RV	4K, Max 30fps, 4.4~9.3mm, WDR(120dB), wiseIR 50m, TPM 2.0(FIPS 140-2), 2 microSD slot, Object detection/IVA/BI(Based on AI engine), IP52, IK10, PoE+/12VDC
	XND-8093RV	6MP, Max 30fps, 10.9~29mm, WDR(120dB), wiseIR 70m, TPM 2.0(FIPS 140-2), 2 microSD slot, Object detection/IVA/BI(Based on AI engine), IP52, IK10, PoE+/12VDC
	XND-8083RV	6MP, Max 30fps, 4.4~9.3mm, WDR(120dB), wiseIR 50m, TPM 2.0(FIPS 140-2), 2 microSD slot, Object detection/IVA/BI(Based on AI engine), IP52, IK10, PoE+/12VDC
	XND-6083RV	2MP, Max 120fps(WDR off), 2.8~12mm, WDR(150dB), wiseIR 50m, 2 microSD slot, TPM 2.0(FIPS 140-2), Object detection/IVA/BI(Based on AI engine), IP52, IK10, PoE+/12VDC
Bullet	XNO-9083R	4K, Max 30fps, 4.4~9.3mm, WDR(120dB), wiseIR 50m, TPM 2.0(FIPS 140-2), 2 microSD slot, Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10, PoE+/12VDC
	XNO-8083R	6MP, Max 30fps, 4.4~9.3mm, WDR(120dB), wiseIR 50m, TPM 2.0(FIPS 140-2), 2 microSD slot, Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10, PoE+/12VDC
	XNO-6083R	2MP, Max 120fps(WDR off), 2.8~12mm, WDR(150dB), wiseIR 50m, 2 microSD slot, TPM 2.0(FIPS 140-2), Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10, PoE+/12VDC
Vandal	XNV-9083R	4K, Max 30fps, 4.4~9.3mm, WDR(120dB), wiseIR 50m, TPM 2.0(FIPS 140-2), 2 microSD slot, Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10+, PoE+/12VDC
	XNV-8093R	6MP, Max 30fps, 10.9~29mm, WDR(120dB), wiseIR 70m, TPM 2.0(FIPS 140-2), 2 microSD slot, Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10+, PoE+/12VDC
	XNV-8083R	6MP, Max 30fps, 4.4~9.3mm, WDR(120dB), wiseIR 50m, TPM 2.0(FIPS 140-2), 2 microSD slot, Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10+, PoE+/12VDC
	XNV-6083R	2MP, Max 120fps(WDR off), 2.8~12mm, WDR(150dB) , wiseIR 50m, 2 microSD slot, TPM 2.0(FIPS 140-2), Object detection/IVA/BI(Based on AI engine), IP66/IP67, NEMA 4X, IK10+, PoE+/12VDC
Box	XNB-9003	4K, Max 30fps,WDR(120dB), TPM 2.0(FIPS 140-2), 2 microSD slot, Object detection/IVA/BI(Based on AI engine), PoE/12VDC
	XNB-8003	6MP, Max 30fps,WDR(120dB), TPM 2.0(FIPS 140-2), 2 microSD slot Object detection/IVA/BI(Based on AI engine), PoE/12VDC
	XNB-6003	2MP, Max 120fps(WDR off), WDR(150dB), 2 microSD slot, TPM 2.0(FIPS 140-2), Object detection/IVA/BI(Based on AI engine), PoE/12VDC

# X-core Accessories


 <p>Jan/Feb 2022</p>					 <p>Jan/Feb 2022</p>	 <p>Jan/Feb 2022</p>
<p><b>Waterproof Backbox</b> SBV-180WW</p>	<p><b>Hanging Mount</b> SBP-167HMW</p>	<p><b>Ceiling Mount</b> SBP-300CMW</p>	<p><b>Ceiling Mount</b> SBP-156CMW</p>	<p><b>In-ceiling Housing</b> SHD-1600FPW</p>	<p><b>Smoked Dome (Indoor)</b> SPB-IND88W</p>	<p><b>Smoked Dome (Outdoor)</b> SPB-VAN88W</p>
 <p>TBD 2022</p>						
<p><b>Weather Cap</b> SBV-161WCW (For vandal dome)</p>	<p><b>Wall Mount</b> SBP-160MMW1</p>	<p><b>Wall Mount</b> SBP-300MMW1</p>	<p><b>Wall Mount</b> SBP-300MMW</p>	<p><b>Installation Box</b> SBP-300NBW</p>	<p><b>Wall Mount Base</b> SBP-300BW</p>	<p><b>Pole Mount</b> SBP-300PMW1</p>
		 <p>Jan/Feb 2022</p>				
<p><b>Pole Mount</b> SBP-300PMW</p>	<p><b>Corner Mount</b> SBP-300KMW1</p>	<p><b>Conduit Hole Adaptor</b> SBO-147BA</p>	<p><b>Parapet Mount</b> SBP-300LMW1</p>	<p><b>Parapet Mount</b> SBP-156LMW1 (Telescoping)</p>		

# Ceiling

(X-core: Dome/Vandal Dome)




**Waterproof Backbox**  
SBV-180WW



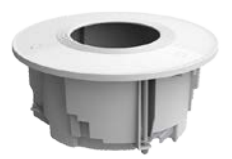
**Ceiling Mount**

SBP-300CMW or SBP-156CMW

**Hanging Mount**  
SBP-167HMW



**Indoor Only**



**In-ceiling Housing**  
SHD-1600FPW

# Wall

(X-core: Dome/Vandal Dome)



### Weather Cap



SBV-161WCW  
(For vandal dome)

### Option



Waterproof Backbox  
SBV-180WW



Wall Mount  
SBP-160WMW1



### Option



Installation Box  
SBP-300NBW

or



Wall Mount Base  
SBP-300BW

### Wall Mount



SBP-300WMW1

or



SBP-300WMW

### Hanging Mount



SBP-167HMW

# Pole

(X-core: Dome/Vandal Dome)



**Pole Mount**  
SBP-300PMW1



**Wall Mount**  
SBP-160WMW1

**Pole Mount**



SBP-300PMW1

or



SBP-300PMW

**Option**



Installation Box  
SBP-300NBW

**Wall Mount**



SBP-300WMW1

or



SBP-300WMW

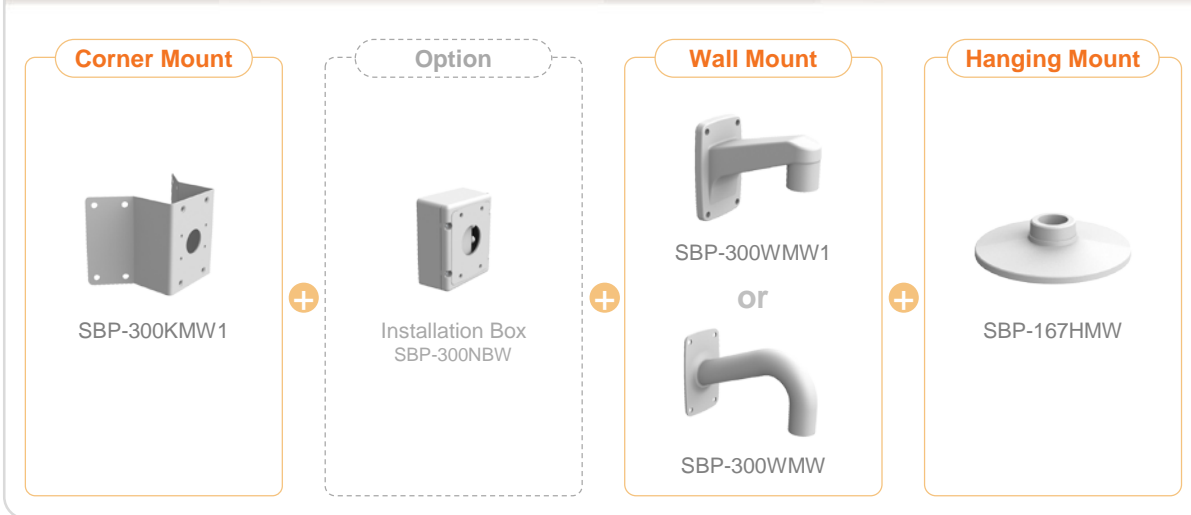
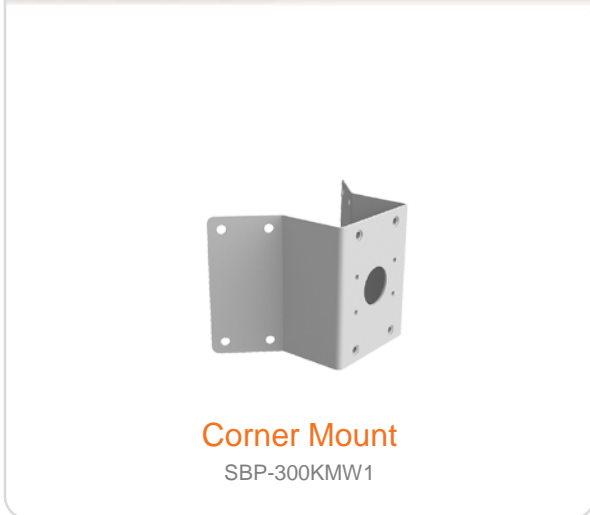
**Hanging Mount**



SBP-167HMW

# Corner & Smoked Dome

(X-core: Dome/Vandal Dome)





# Parapet

(X-core: Vandal Dome)



Parapet Mount  
SBP-300LMW1



Hanging Mount  
SBP-167HMW



Parapet Mount  
SBP-156LMW1



Hanging Mount  
SBP-167HMW

# Conduit Hole Adaptor & Pole & Corner (X-core: Bullet)



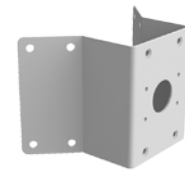
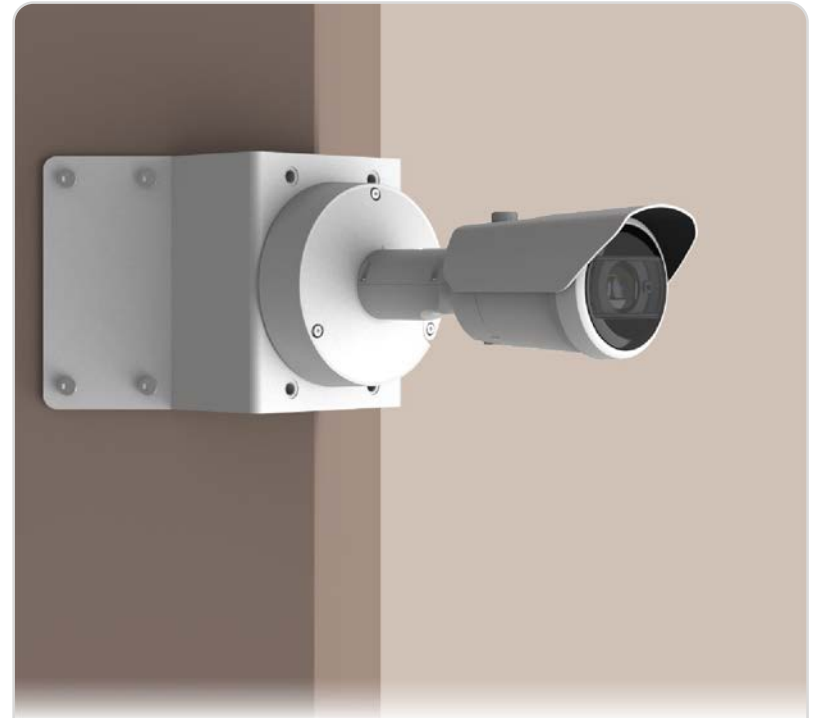
Conduit Hole Adaptor

SBO-147BA



Pole Mount




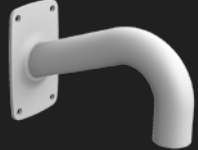






SBP-300PMW1



Corner Mount

SBP-300KMW1

# Installation Guide of X-plus

 <b>Jan/Feb 2022</b>					 <b>Jan/Feb 2022</b>	 <b>Jan/Feb 2022</b>
<b>Waterproof Backbox</b> SBV-180WW	<b>Hanging Mount</b> SBP-167HMW (For dome)	<b>Hanging Mount</b> SBP-187HMW (For vandal dome)	<b>Ceiling Mount</b> SBP-300CMW	<b>Ceiling Mount</b> SBP-156CMW	<b>In-ceiling Housing</b> SHD-1350FPW	<b>Smoked Dome</b> SPB-FCD85W (For in-ceiling)
		 <b>TBD 2022</b>				
<b>Smoked Dome</b> SPB-IND85W (For dome)	<b>Smoked Dome</b> SPB-VAN85W (For vandal dome)	<b>Weather Cap</b> SBV-181WCW (For vandal dome)	<b>Wall Mount</b> SBP-160WMW1	<b>Wall Mount</b> SBP-300WMW1	<b>Wall Mount</b> SBP-300WMW	<b>Installation Box</b> SBP-300NBW
						
<b>Wall Mount Base</b> SBP-300BW	<b>Pole Mount</b> SBP-300PMW1	<b>Pole Mount</b> SBP-300PMW	<b>Corner Mount</b> SBP-300KMW1	<b>Parapet Mount</b> SBP-300LMW1	<b>Parapet Mount</b> SBP-156LMW1 (Telescoping)	

# Ceiling

(X-plus: Dome/Vandal Dome)




**Waterproof Backbox**  
SBV-180WW


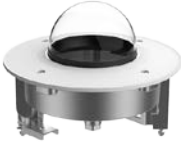


**Ceiling Mount**  
SBP-300CMW or SBP-156CMW

**Hanging Mount**  
SBP-167HMW (For dome) or SBP-187HMW (For vandal dome)



**Indoor Only**



**In-ceiling Housing**  
SHD-1350FPW

**Module**

# Wall

(X-plus: Dome/Vandal Dome)



**Weather Cap**



SBV-181WCW  
(For vandal dome)

**Option**



Waterproof Backbox  
SBV-180WW



Dome Only



**Wall Mount**  
SBP-160WMW1



**Option**



Installation Box  
SBP-300NBW

or



Wall Mount Base  
SBP-300BW

**Wall Mount**



SBP-300WMW1

or



SBP-300WMW

**Hanging Mount**



SBP-167HMW (For dome)

or



SBP-187HMW (For vandal dome)

# Pole

(X-plus: Dome/Vandal Dome)



**Pole Mount**  
SBP-300PMW1



**Wall Mount**  
SBP-160WMW1

**Pole Mount**



SBP-300PMW1

or



SBP-300PMW

**Option**



Installation Box  
SBP-300NBW

**Wall Mount**



SBP-300WMW1

or



SBP-300WMW

**Hanging Mount**



SBP-167HMW  
(For dome)

or



SBP-187HMW  
(For vandal dome)

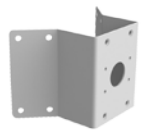
# Corner & Smoked Dome

(X-plus: Dome/Vandal Dome)



**Corner Mount**  
SBP-300KMW1

**Corner Mount**



SBP-300KMW1

**Option**



Installation Box  
SBP-300NBW

**Wall Mount**



SBP-300WMW1

or



SBP-300WMW

**Hanging Mount**



SBP-167HMW  
(For dome)

or



SBP-187HMW  
(For vandal dome)

**Smoked Dome**



SPB-IND85W  
(For dome)



SPB-VAN85W  
(For vandal dome)



SPB-FCD85W  
(For in-ceiling)

# Parapet

(X-plus: Vandal Dome)



Parapet Mount  
SBP-300LMW1



Hanging Mount  
SBP-187HMW



Parapet Mount  
SBP-156LMW1



Hanging Mount  
SBP-187HMW



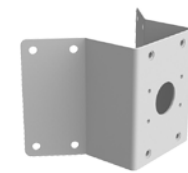
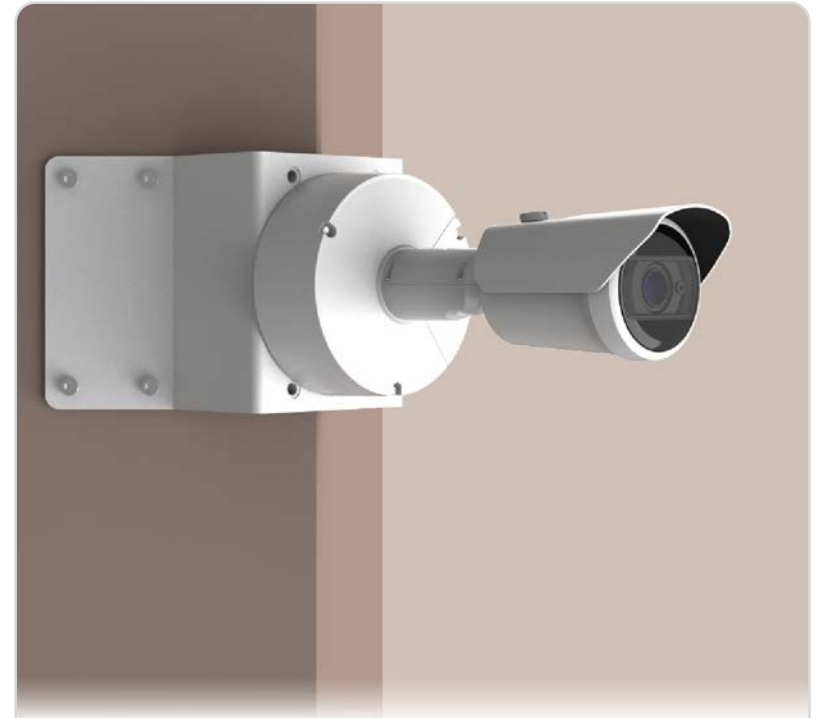
# Conduit Hole Adaptor & Pole & Corner (X-plus: Bullet)



\* Bullet camera of X-plus can be connected with conduit pipe directly.



**Pole Mount**  
SBP-300PMW1



**Corner Mount**  
SBP-300KMW1



**Availability:  
Standard Dome & Box – Available  
NOW**

**Bullet – Estimated January 2022  
Release**

**Long Range Domes – Estimated  
January 2022**



# Thank You!



## Questions?



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