



# New World Solutions

## Technical Webinar



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# Agenda & Notes

- Webinar Introductions
- Occupancy Monitoring Solution
- Face Mask Detection
  - P AI series
  - X series
- PVM with Slideshow function
- Coming Soon...
  - Estimated Body Temperature Detection Camera Preview
  - Social Distancing analytic software

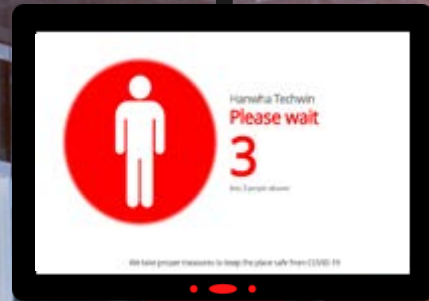


1. This webinar is being recorded and will be available for replay and in pdf format. Please visit <https://www.hanwhasecurity.com/trainings/webinars/> to view past webinars & sign up for future ones.

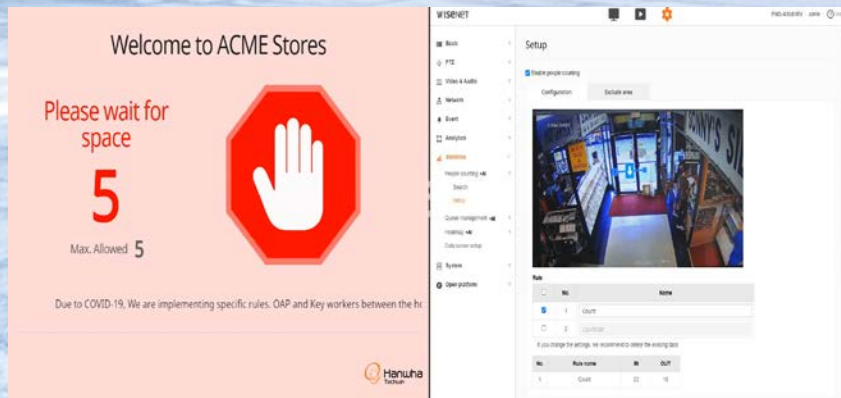
2. All participants have been put into listen only mode.

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.

# Occupancy Monitoring Application



- Easy to configure
- Connect up to 8 AI cameras
- Customized messaging
- Manual correction feature
- Alarm output to trigger lights, audio, door, etc..
- Combine with decoder, VMS, etc.
- Local reporting available



# Requirements:

Wisenet P series AI Camera

People Counting analytic configured

Method to Display the Occupancy Status

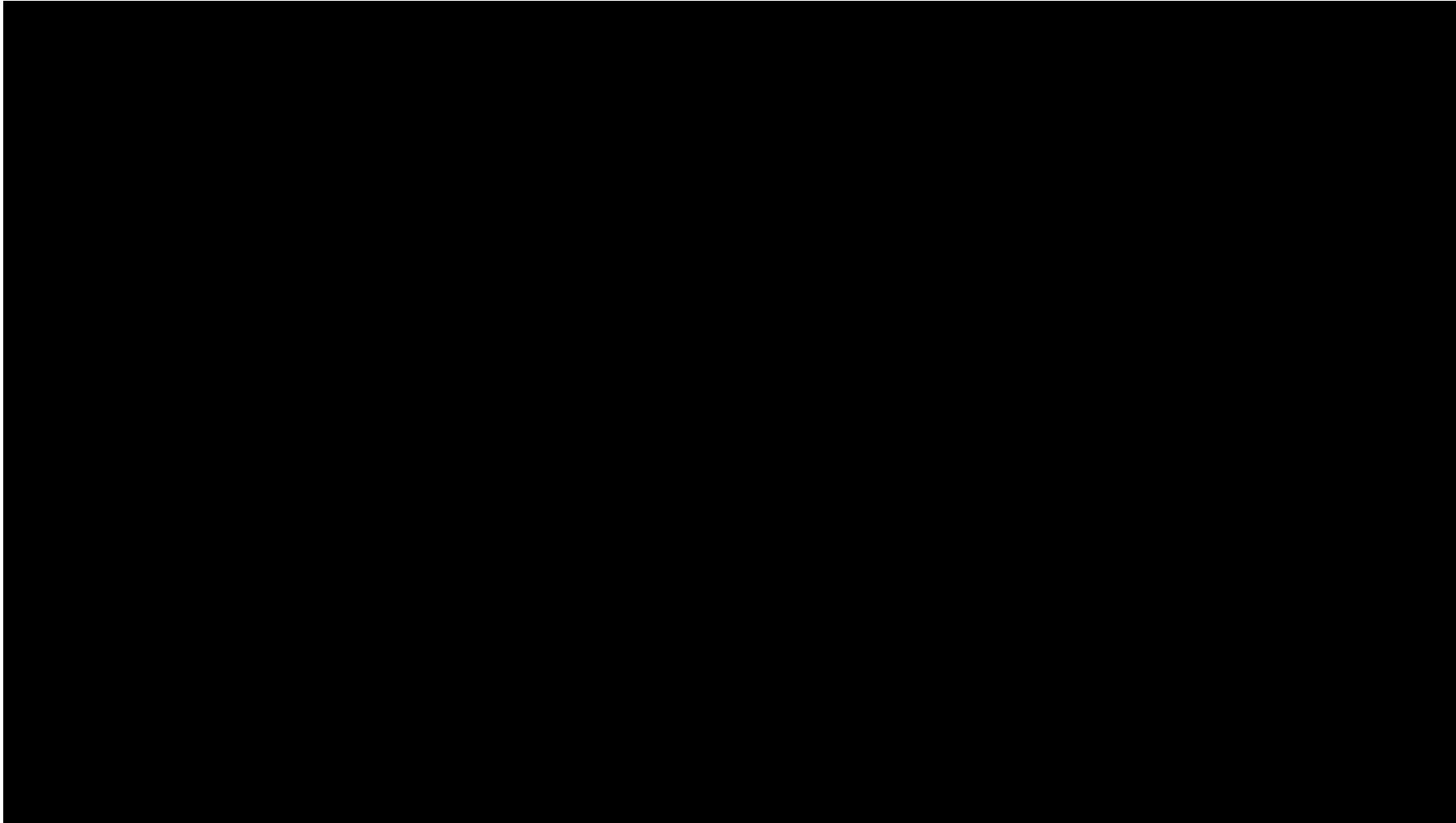
- WAVE Client
- Monitor w/ Decoder
- Monitor w/ NVR
- PC w/ web browser
- RTSP stream to Smart Device

Occupancy Monitoring App .CAP File

- Download from website > Products > Software > Wisenet Open Platform Applications > Occupancy App



# 1. Configure People Counting Analytic



## 2. Install Open Platform App

The screenshot shows the Wisenet WEBVIEWER interface. The browser address bar displays the URL `10.0.0.115/wmf/index.html#/setup/openplatform_opensdk`. The interface includes a sidebar menu on the left with the following items: Basic, PTZ, Video & Audio, Network, Event, Analytics, Statistics, and System. The 'System' menu is expanded, and 'Open platform' is highlighted with a red box and a blue circle containing the number 1. The main content area is titled 'Open platform' and features a table of installed applications. The table has columns for 'No.', 'Application name', 'Status', and 'Setup'. The first application is 'occupancy\_monitoring', which is 'Running...'. The second application is 'Touchless\_Intercom', which is 'Stopped'. The 'Setup' column for each application includes options for 'Priority' (Low, High, Medium) and 'Auto start' (Enable, Apply). A blue circle with the number 2 highlights the browse button [...] in the application header, and a blue circle with the number 3 highlights the 'Install' button in the application header.

No.	Application name	Status	Setup
1	occupancy_monitoring Installed date : 2020-09-14 T 09:10:35 Version : 1.0 Uninstall Go App	Running... Stop Health	Priority <input checked="" type="radio"/> Low <input type="radio"/> High <input type="radio"/> Medium Auto start <input type="checkbox"/> Enable Apply
-	Touchless_Intercom Installed date : 2020-09-05 T 19:01:08	Stopped	Priority <input checked="" type="radio"/> Low <input type="radio"/> High <input type="radio"/> Medium

- 1- Go to open platform menu
- 2- Click on the browse button [...] to locate .CAP file
- 3- Click on the Install button

## 2. Install Open Platform App

The screenshot shows the Wisenet WEBVIEWER interface. The browser address bar displays the URL: 10.0.0.115/wmf/index.html#/setup/openplatform\_opensdk. The page title is "Open platform".

On the left sidebar, the "Open platform" menu item is selected. The main content area shows a table of installed applications:

No.	Application name	Status	Setup
1	occupancy_monitoring Installed date : 2020-09-14 T 09:14:19 Version : 1.1 Buttons: Uninstall, Go App	Installed Buttons: Start, Health	Priority <input checked="" type="radio"/> Low <input type="radio"/> Medium <input type="radio"/> High Auto start <input type="checkbox"/> Enable

An "Information" dialog box is overlaid on the table, displaying the message: "Application has been installed." with an "OK" button.

# 3. Monitor Screen Customization

## Monitor screen overview

You can check the monitor screen to see how the settings in the application is displayed on the monitor. Visitors can view the information of the current number of occupants on a monitoring device. The [Monitor screen] page opens when you click [Apply] on the Occupancy Monitoring Application setup page.

## Editing monitor screen

You can edit the information shown on the monitor screen. To go to the monitor screen editing page click [Go edit] on the Setup page.



# 3. Monitor Screen Customization

Camera    HTTP device

Add     Delete     Apply ID/PW of Master Camera 1 to all

<input type="checkbox"/>	No	IP address	HTTP Port	ID	Password	Rules	Status
<input checked="" type="checkbox"/>	1	10.0.0.116	80	admin	*****	<input checked="" type="checkbox"/> Rule1 <input checked="" type="checkbox"/> Rule2	Connecting test
<input type="checkbox"/>	2					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
<input type="checkbox"/>	3					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
<input type="checkbox"/>	4					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
<input type="checkbox"/>	5					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test

Update interval    5 s

**Event action settings for Master Camera**

Enable alarm input

Enable alarm output    Over/Under    3s

Enable E-mail    Over/Under

Title    Description

## Basic

Occupancy limit    9999    people

Reset time     Enable    H : M    6 : 0

Reset count    0    people

Edit display   

Open source licenses

### 3. Monitor Screen Customization – Under / Over Screen View Mode - Landscape ((1920x1080). )/ Portrait orientation (1080x1920).

The screenshot displays the Hanwha Techwin monitor customization interface. At the top left, there is a toolbar with a font size of 20 and options for bold (B), italic (I), and text color. Below the toolbar are two tabs: 'Under' (selected and highlighted with a red box) and 'Over'. The main preview area shows a green circular icon of a person, the text 'Hanwha Techwin America Please come in 0000', and a message 'We take proper measures to keep the place safe from COVID-19'. The right sidebar contains configuration options for 'Common' and 'Under' sections. The 'Under' section is highlighted with a red box. At the bottom right, there are 'Preview' and 'Save' buttons.

**Common**

- Title
- Show count
  - Remaining Occupancy
  - Current Occupancy
- Occupancy limitation message
- Warning message
  - Animated message (only PC)
- Logo image
  - PNG, Max File Size : 300 KB

**Under**

- Entry allowed message
- Entry allowed image
  - PNG, Max File Size : 300 KB
- BG image for entry allowed
  - PNG, Max File Size : 300 KB

Buttons: Preview, Save

### 3. Monitor Screen Customization – Under / Over Screen - Landscape / Portrait orientation

The image shows a software interface for customizing a monitor screen. On the left is a preview of a sign with the following content:

- Header: Hanwha Techwin America
- Text: Please come in
- Image: A green circular icon with a white silhouette of a person walking.
- Text: 0000
- Text: max number allowed is \$count
- Text: We take proper measures to keep the place safe from
- Logo: Hanwha Techwin

On the right is a configuration panel with the following sections:

- Portrait mode** (dropdown menu)
- Common**
  - Title
  - Show count
    - Remaining Occupancy
    - Current Occupancy
  - Occupancy limitation message
  - Warning message
    - Animated message (only PC)
  - Logo image
    - PNG, Max File Size : 300 KB
- Under**
  - Entry allowed message
  - Entry allowed image
    - PNG, Max File Size : 300 KB
  - BG image for entry allowed
    - PNG, Max File Size : 300 KB

At the bottom right are **Preview** and **Save** buttons.

A red box highlights the **Portrait mode** dropdown menu.

A red box highlights a dialog box with the following text:

10.0.0.116 says  
If you change orientation, components positions will initialized to changed mode!  
OK Cancel

A red box highlights the **Under** section in the configuration panel.

### 3. Monitor Screen Customization - Under / Over Screen - Landscape / Portrait orientation

The screenshot shows a web-based customization interface for a monitor screen. At the top, there is a toolbar with a font size dropdown set to 20, and buttons for Bold (B), Italic (I), and image insertion. Below the toolbar are two tabs: 'Under' and 'Over', with 'Over' selected and highlighted by a red box. The main content area displays a preview of the screen layout. On the left is a large red circular icon with a white human figure. To its right, the text 'Hanwha Techwin America' is displayed above 'Please wait' in red, followed by a large red digital counter showing '0000'. Below the counter is a placeholder 'max number allowed is \$count'. At the bottom of the preview area, the text 'We take proper measures to keep the place safe from COVID-19' is visible. On the right side, a settings panel is open, showing a dropdown menu for 'Landscape mode' with 'Landscape mode' selected and 'Portrait mode' as an option. Below this are sections for 'Common' and 'Over' settings. The 'Common' section includes options for 'Title', 'Show count', 'Remaining Occupancy', 'Current Occupancy' (selected), 'Occupancy limitation message', 'Warning message' (with an 'Animated message (only PC)' checkbox), and 'Logo image' (PNG, Max File Size: 300 KB). The 'Over' section includes 'Entry blocked message', 'Entry blocked image' (PNG, Max File Size: 300 KB), and 'BG image for entry blocked' (PNG, Max File Size: 300 KB). At the bottom right of the settings panel are 'Preview' and 'Save' buttons.



### 3. Monitor Screen Customization - Under / Over Screen - Landscape / Portrait orientation

The screenshot shows a web-based interface for customizing a monitor screen. The main preview area displays a screen with the following content:

- Header: Hanwha Techwin America
- Text: Please wait
- Image: A red circle containing a white silhouette of a person.
- Text: 0000
- Text: max number allowed is \$count
- Text: We take proper measures to keep the place safe from
- Logo: Hanwha Techwin

At the top of the preview area, there are two tabs: "Under" and "Over". The "Over" tab is selected and highlighted with a red box. Above the "Over" tab, there is a red box containing a refresh icon. To the right of the preview area, there is a settings panel with a "Portrait mode" dropdown menu, also highlighted with a red box. A blue arrow points from the text "Click to go back to Landscape" to the refresh icon. The settings panel includes sections for "Common" and "Over" with various options and file upload fields.

Click to go back to Landscape

Portrait mode

Common

- Title
- Show count
  - Remaining Occupancy
  - Current Occupancy
- Occupancy limitation message
- Warning message
  - Animated message (only PC)
- Logo image
  - PNG, Max File Size : 300 KB

Over

- Entry blocked message
- Entry blocked image
  - PNG, Max File Size : 300 KB
- BG image for entry blocked
  - PNG, Max File Size : 300 KB

Preview Save

### 3. Monitor Screen Customization - Under / Over Screen – Page Components Positioning and editing

The screenshot shows the 'Open platform' management interface in a web browser. The browser address bar shows the URL: 10.0.0.116/wmf/index.html#/setup/openplatform\_opensdk. The page title is 'Open platform'. There is an 'Install' button and a version indicator 'Version : 3.60\_191204'. Below this is a table with the following data:

No.	Application name	Status	Setup
1	Touchless_Intercom Installed date : 2020-09-05 T 19:01:08 Version : 0.1	Stopped Start Health	Priority <input checked="" type="radio"/> Low <input type="radio"/> High Auto start <input type="checkbox"/> Enable Apply
2	APP1 Installed date : 2020-09-05 T 23:56:18 Version : 1.0	Stopped Start Health	Priority <input checked="" type="radio"/> Low <input type="radio"/> High Auto start <input type="checkbox"/> Enable Apply
3	occupancy_monitoring Installed date : 2020-09-14 T 09:27:45 Version : 1.1	Running... Stop Health	Priority <input checked="" type="radio"/> Low <input type="radio"/> High Auto start <input type="checkbox"/> Enable Apply

Total: 3

### 3. Monitor Screen Customization – Occupancy Limitation Message - \$count

The message contains the Placeholder \$ count , which will be replaced by the occupancy limit value

WISENET OccupancyMonitoring Application

Help

Camera HTTP device

Add  Delete  Apply ID/PW of Master Camera 1 to all

No.	IP address	HTTP Port	ID	Password	Rules	Status
Master	10.0.0.110	80	admin	*****	<input checked="" type="checkbox"/> Rule1 <input checked="" type="checkbox"/> Rule2	Connecting test
2					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
3					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
4					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
5					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
6					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
7					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
8					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test

Update Interval: 5 s

Event action settings for Master Camera

Enable alarm input

Basic

Occupancy limit: 9999 people

Reset time:  Enable H: M : S

Reset count: 0 people

Edit display: Go edit

Open source licenses: View

Under Over



Hanwha Techwin America  
Please come in  
0000  
Allowed number of people: \$count

We take proper measures to keep the place safe from COVID-19

Hanwha Techwin

Preview Save

Landscape mode

Common

- Title
- Show count
  - Remaining Occupancy
  - Current Occupancy
- Occupancy limitation message
- Warning message
- Animated message (only PC)
- Logo image  
PNG, Max File Size: 300 KB

Under

- Entry allowed message
- Entry allowed image  
PNG, Max File Size: 300 KB
- BG image for entry allowed  
PNG, Max File Size: 300 KB

### 3. Monitor Screen Customization – Occupancy Limitation Message - \$count

WISENET Occupancy Monitoring Application

Camera HTTP device

Add  Delete  Apply ID/PW of Master Camera 1 to all

<input type="checkbox"/>	No	IP address	HTTP Port	ID	Password	Rules	Status
<input type="checkbox"/>	Master	10.0.0.116	80			<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
<input type="checkbox"/>	2					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
<input type="checkbox"/>	3					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
<input type="checkbox"/>	4					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
<input type="checkbox"/>	5					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
<input type="checkbox"/>	6					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
<input type="checkbox"/>	7					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test
<input type="checkbox"/>	8					<input type="checkbox"/> Rule1 <input type="checkbox"/> Rule2	Connecting test

Update interval: 5 s

Event action settings for Master Camera

Enable alarm input

Basic

Occupancy limit: 300 people

Reset time:  Enable H:M 6:00

Reset count: 0 people

Edit display:

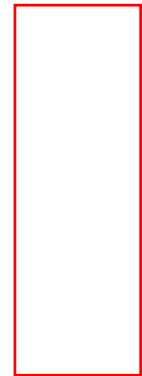
Open source licenses:



## 4. Setting up application– Alarm Output / Trigger source - Duration

Alarm output: Selecting [Enable alarm output] activates the alarm output feature already set when an event is triggered in the Occupancy Monitoring Application. The details of alarm output can be set under [Event]>[Alarm output] of the master camera.

If you want to output alarm when the maximum occupancy limit you set is exceeded, select [Over]. If you want to output alarm when the current occupancy is less than the maximum occupancy limit you set, select [Under]. If you want to send alarm in both cases, then select [Under/Over]. The maximum occupancy limit can be changed in [Occupancy limit]. Enter alarm output time in seconds.



## 4. Setting up application– Email Notification / Trigger source - Duration

E-mail: Selecting [Enable E-mail] activates the set e-mail when an event is triggered in Occupancy Monitoring Application. If you want to send an e-mail when the maximum occupancy limit you set is exceeded, select [Over]. If you want to send an e-mail when the current occupancy is less than the maximum occupancy limit you set, select [Under]. If you want to send alarm in both cases, then select [Under/Over].

Enter the e-mail subject in the [Title] field. Only alphabetic characters, numbers, blanks, and , . ( ) ! : ; ~ ` / can be entered up to 60 characters.

Enter the e-mail body text in the [Description] field. Only alphabetic characters, numbers, blanks, and , . ( ) ! : ; ~ ` / can be entered up to 255 characters.

Enable E-mail

Over/Under ▼

Title

Description

### Note

To enable sending of e-mail, you have to go to the setup menu of the master camera, select [Event]>[App event], and then set [App event] and [E-mail] options to [Enable]. E-mail can be set up under [Event]>[FTP/E-mail]>[E-mail configuration] of the master camera.

## 4. Setting up application– Scheduled Reset and Reset Count Value

Reset time:

Can be Enabled or Disabled ( This was not possible with Version 1) This will allow the Occupancy Monitor App to work in 24/7 environment

Enter the time to reset the number of occupants in [HH:MM] format. For example, if you enter [23:00], the number of occupants resets to the Reset Count Value at 11:00 PM.

Reset count:

Sets the reset value that is defaulted to when the reset is applied. This includes Scheduled and Manual reset

Reset time	<input type="checkbox"/> Enable	H : M	6	:	0
Reset count	<input type="text" value="0"/> people				

## 4. Setting up application– Background Image for Under/Over view

Generate new share link · Hanwha | Wisenet WEBVIEWER | Occupancy monitoring | Shared Files - Hanwha Techwin A |

Not secure | 10.0.0.116/home/setup/opensdk/html/occupancy\_monitoring/edit.html

20 | B | I | | |

Under | Over

Max Number of People allowed is \$count

Hanwha Techwin  
Please come in  
0000

We take proper measures to keep the place safe from COVID-19

Hanwha Techwin

Landscape mode

Common

- Title
- Show count
  - Remaining Occupancy
  - Current Occupancy
- Occupancy limitation message
- Warning message
  - Animated message (only PC)
- Logo image
  - PNG, Max File Size : 300 KB

Under

- Entry allowed message
- Entry allowed image
  - PNG, Max File Size : 300 KB
- BG image for entry allowed**
  - PNG, Max File Size : 300 KB

Save

8:31 PM  
9/16/2020

## 4. Setting up application– HTTP Device Setup

Camera **HTTP device**

Apply ID/PW of Device 1 to all

**Command based on Over condition**

<input type="checkbox"/>	No	Control HTTP device command	ID	Password	Status
<input type="checkbox"/>	No				
<input type="checkbox"/>	1	Exceeds the occupancy limit			<input type="button" value="Connecting test"/>
<input type="checkbox"/>		Below the occupancy limit			<input type="button" value="Connecting test"/>

**Command based on Under condition**

ID/Pass are needed/ if the command doesn't need authorization , insert dummy valuables

## 4. Setting up application– HTTP Device / Advanced

Camera HTTP device

Add Delete  Apply ID/PW of Device 1 to all **Advanced**

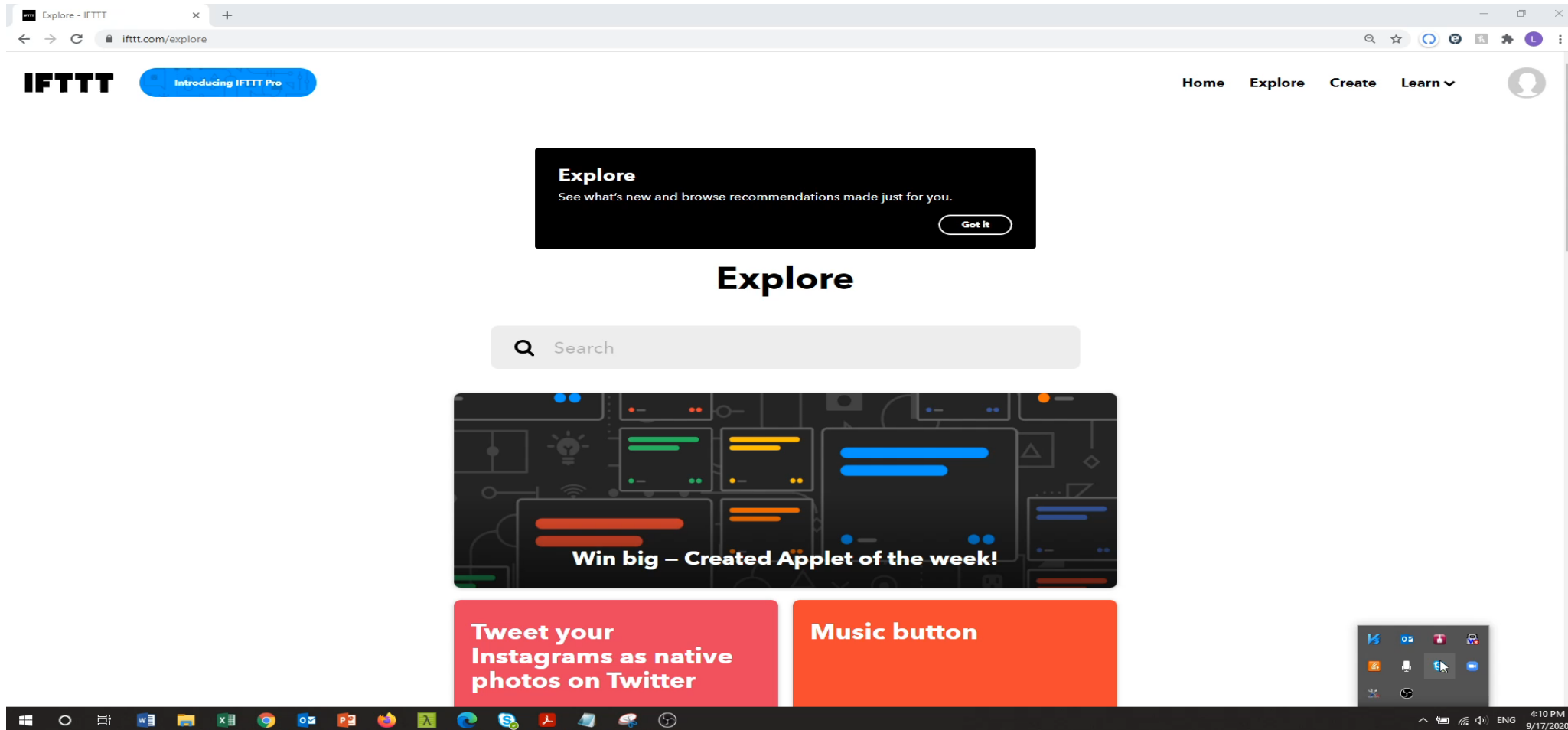
<input type="checkbox"/>	No	Control HTTP device command	ID	Password	Status
<input type="checkbox"/>	1	<input type="text" value="Exceeds the occupancy limit"/> <input type="text" value="Below the occupancy limit"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Connecting test"/> <input type="button" value="Connecting test"/>

Visitors limit  People

	No	Control HTTP device command	ID	Password	Status
	1	<input type="text" value="Exceeds the visitors limit"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Connecting test"/>

An HTTP event can be triggered at every interval based on the specific number of visitors. Every time the number of visitors equivalent to the value set in [Visitors limit] is reached, the device communicating over HTTP is activated periodically.

## 4. Setting up application– HTTP device Demo / IFTTT (If This Then That)



## 4. Setting up application– Logo image upload

Wisenet WEBVIEWER x Occupancy monitoring x +

Not secure | 10.0.0.116/home/setup/opensdk/html/occupancy\_monitoring/edit.html

20 B I

Under Over

Max Number of People allowed is \$count

Hanwha Techwin  
Please come in  
0000

We take proper measures to keep the place safe from COVID-19

Hanwha Techwin

Landscape mode

Common

- Title
- Show count
  - Remaining Occupancy
  - Current Occupancy
- Occupancy limitation message
- Warning message
  - Animated message (only PC)
- Logo image**  
PNG, Max File Size : 300 KB

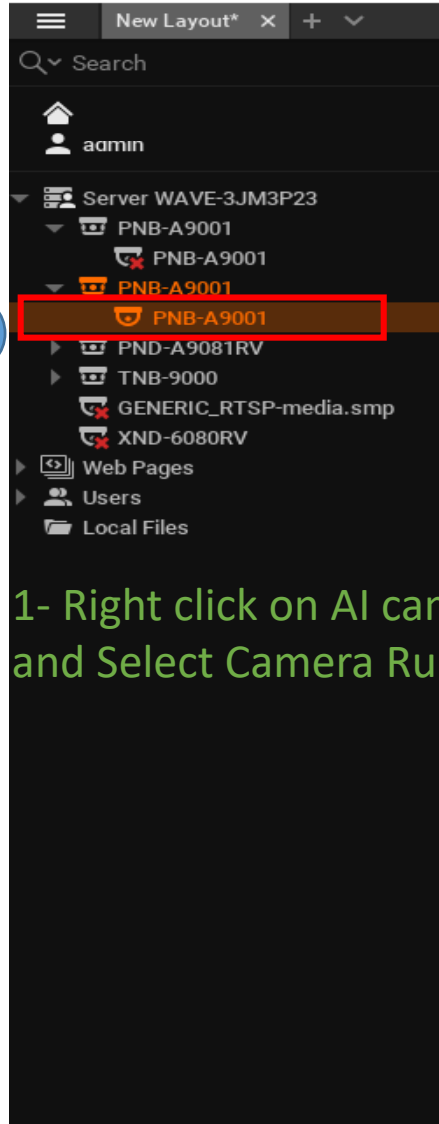
Under

- Entry allowed message
- Entry allowed image  
PNG, Max File Size : 300 KB
- BG image for entry allowed  
PNG, Max File Size : 300 KB

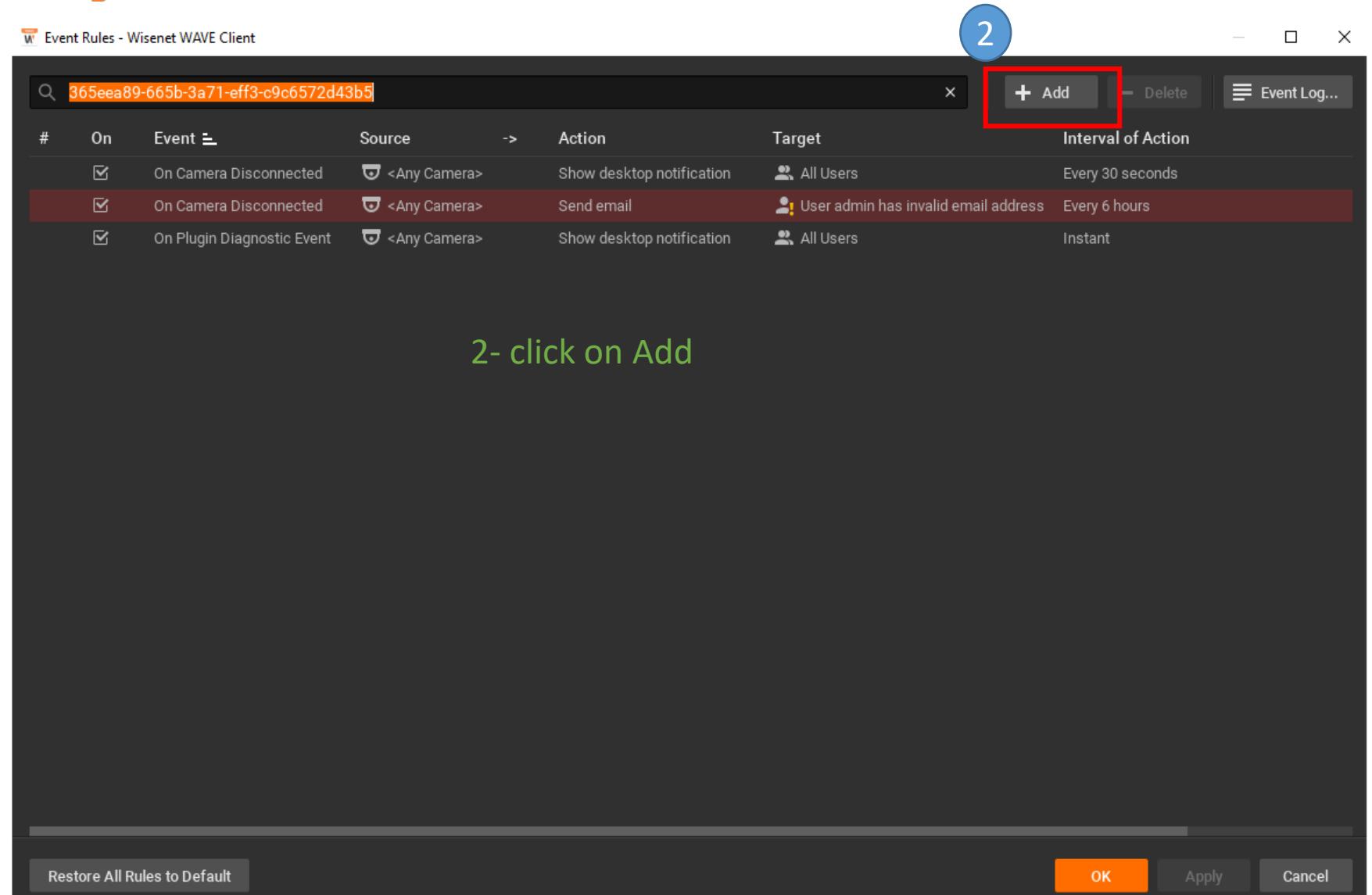
10:09 AM 9/18/2020



# Setting up application– WAVE Integration



1- Right click on AI camera ch1 and Select Camera Rules



# Setting up application– WAVE Integration – Over ( Occupancy limit is exceeded)

Event Rules - Wisenet WAVE Client

#	On	Event	Source	->	Action	Target	Interval of Action
	<input checked="" type="checkbox"/>	On Camera Disconnected	<Any Camera>		Show desktop notification	All Users	Every 30 seconds
	<input checked="" type="checkbox"/>	On Camera Disconnected	<Any Camera>		Send email	User admin has invalid email address	Every 6 hours
	<input checked="" type="checkbox"/>	On Plugin Diagnostic Event	<Any Camera>		Show desktop notification	All Users	Instant
*	<input checked="" type="checkbox"/>	On Generic Event	<System>		Show desktop notification	All Administrators	Every 1 minute

4- Select the Action required

Event

When: Generic Event (dropdown) Occurs (dropdown)

Source contains: Keywords separated by space

Caption contains: **Occu\_Over** (highlighted with red box and circled 3)

Description contains: Keywords separated by space

Omit Logging

To generate Generic Event, please refer to [Server API](#).

Schedule... (calendar icon)

Action

Do: **Show desktop notification** (highlighted with red box and circled 4)

Interval of action: No more than once per 1 min

to: All Administrators

Force Acknowledgment

3- Provide Caption ( for example : Occu\_Over)

5

OK (highlighted with red box)

## Setting up application– WAVE Integration – Under (Count goes back below Occupancy limit )

Event Rules - Wisenet WAVE Client

365eea89-665b-3a71-eff3-c9c6572d43b5

+ Add - Delete Event Log...

#	On	Event	Source	Action	Target	Interval of Action
	<input checked="" type="checkbox"/>	On Plugin Diagnostic Event	<Any Camera>	Show desktop notification	All Users	Instant
	<input checked="" type="checkbox"/>	On Camera Disconnected	<Any Camera>	Show desktop notification	All Users	Every 30 seconds
	<input checked="" type="checkbox"/>	On Camera Disconnected	<Any Camera>	Send email	User admin has invalid email address	Every 6 hours
	<input checked="" type="checkbox"/>	On Generic Event	<System>	Show desktop notification	All Administrators	Every 1 minute
	<input checked="" type="checkbox"/>	Generic Event	<System>	Show desktop notification	All Administrators	Every 1 minute

7- Select the Action required

Event

When: Generic Event Occurs

Source contains: Keywords separated by space

6 Caption contains: Occu\_Under

Description contains: Keywords separated by space

Omit Logging

To generate Generic Event, please refer to [Server API](#).

Schedule...

Action

7 Do: Show desktop notification

Interval of action: No more than once per 1 min

to: All Administrators

Force Acknowledgment

8 OK Apply Cancel

# Setting up application– WAVE Integration – HTTP Device Config

No	Control HTTP device command	ID	Password	Status
<input checked="" type="checkbox"/>	http://10.0.0.45:7001/api/createEvent?caption=Occu_Over http://10.0.0.45:7001/api/createEvent?caption=Occu_Under	10	admin *****	Connecting test Connecting test
<input type="checkbox"/>				Connecting test Connecting test
<input type="checkbox"/>				Connecting test Connecting test
<input type="checkbox"/>				Connecting test Connecting test
<input type="checkbox"/>				Connecting test Connecting test
<input type="checkbox"/>				Connecting test Connecting test
<input type="checkbox"/>				Connecting test Connecting test
<input type="checkbox"/>				Connecting test Connecting test

9- Provide Generic Events URL as Follows:  
-Over –  
http://<WaveIP>:7001/api/createEvent?caption=Occu\_Over  
  
-Under-  
http://<WaveIP>:7001/api/createEvent?caption=Occu\_Under

10- Provide WAVE Username and password  
\*\* this doesn't have to be admin credentials

Basic

Occupancy limit:  people

Reset time:  Enable H : M  :

Reset count:  people

Edit display:

Open source licenses:

11

## Setting up application– WAVE Integration



Hanwha Techwin  
**Please wait**  
**9999**

Max 300 people allowed

We take proper measures to keep the place safe from COVID-19



WISENET

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WAVE



## Setting up application– WAVE Integration



Hanwha Techwin  
Please come in  
**50**

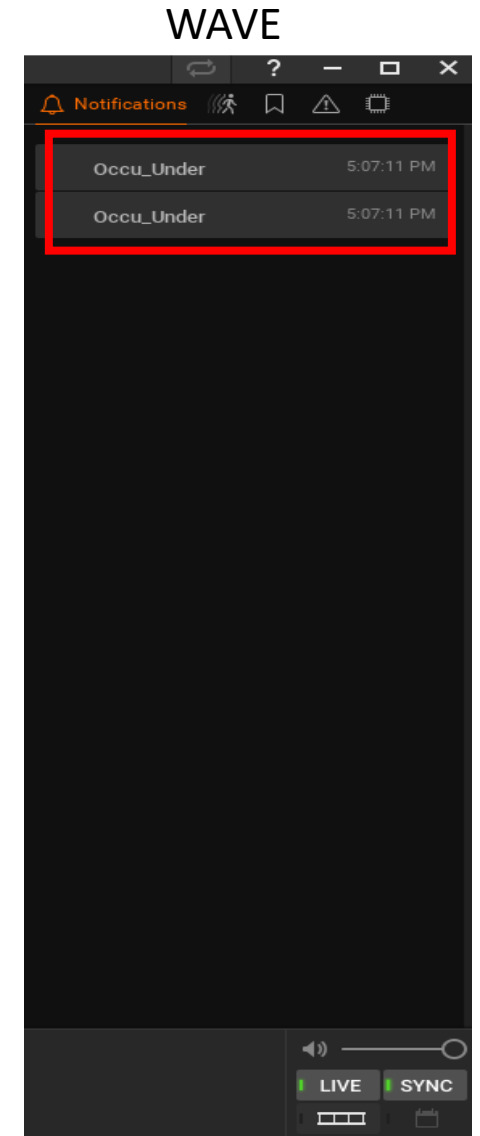
Max 300 people allowed

We take proper measures to keep the place safe from COVID-19

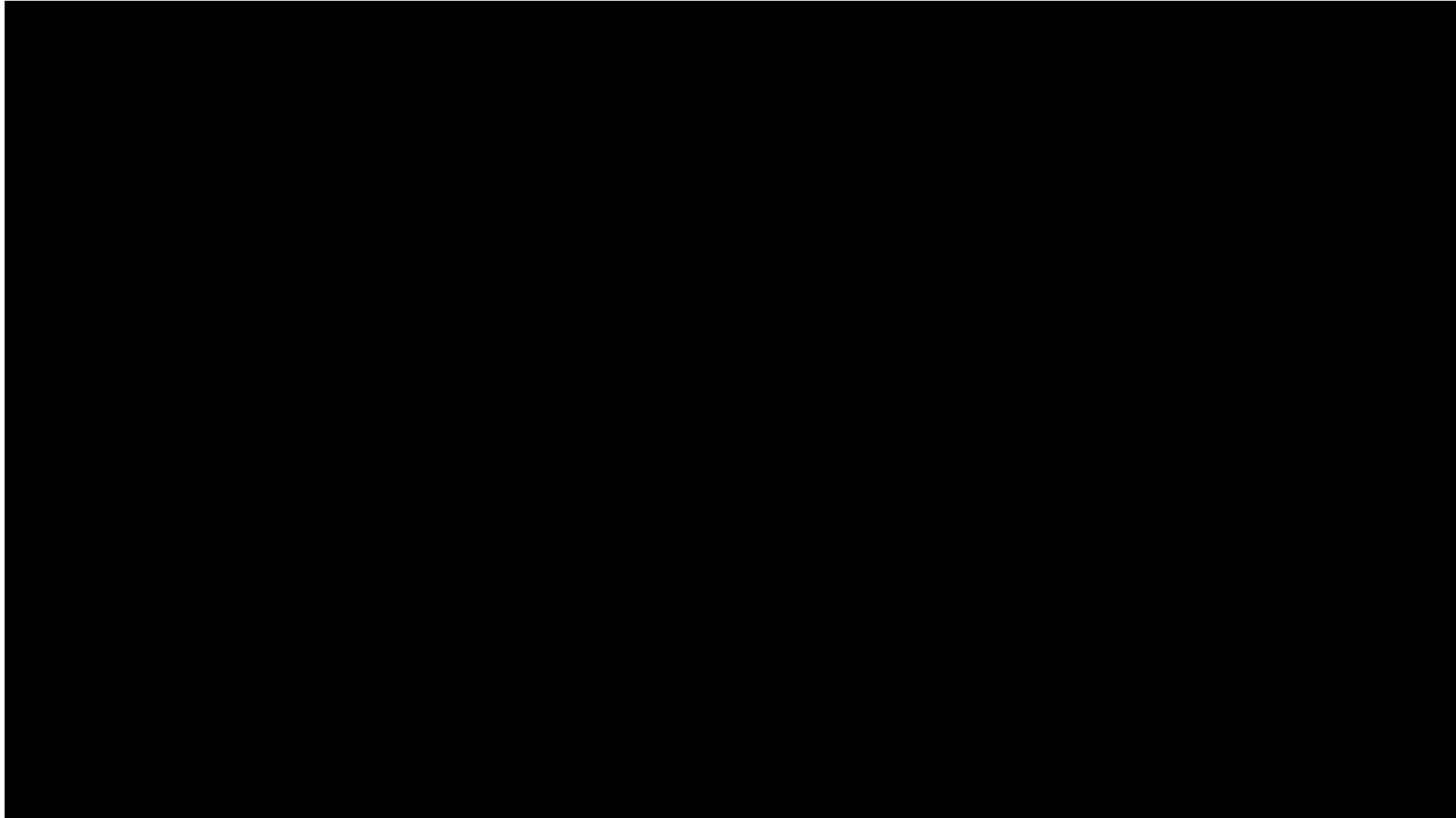


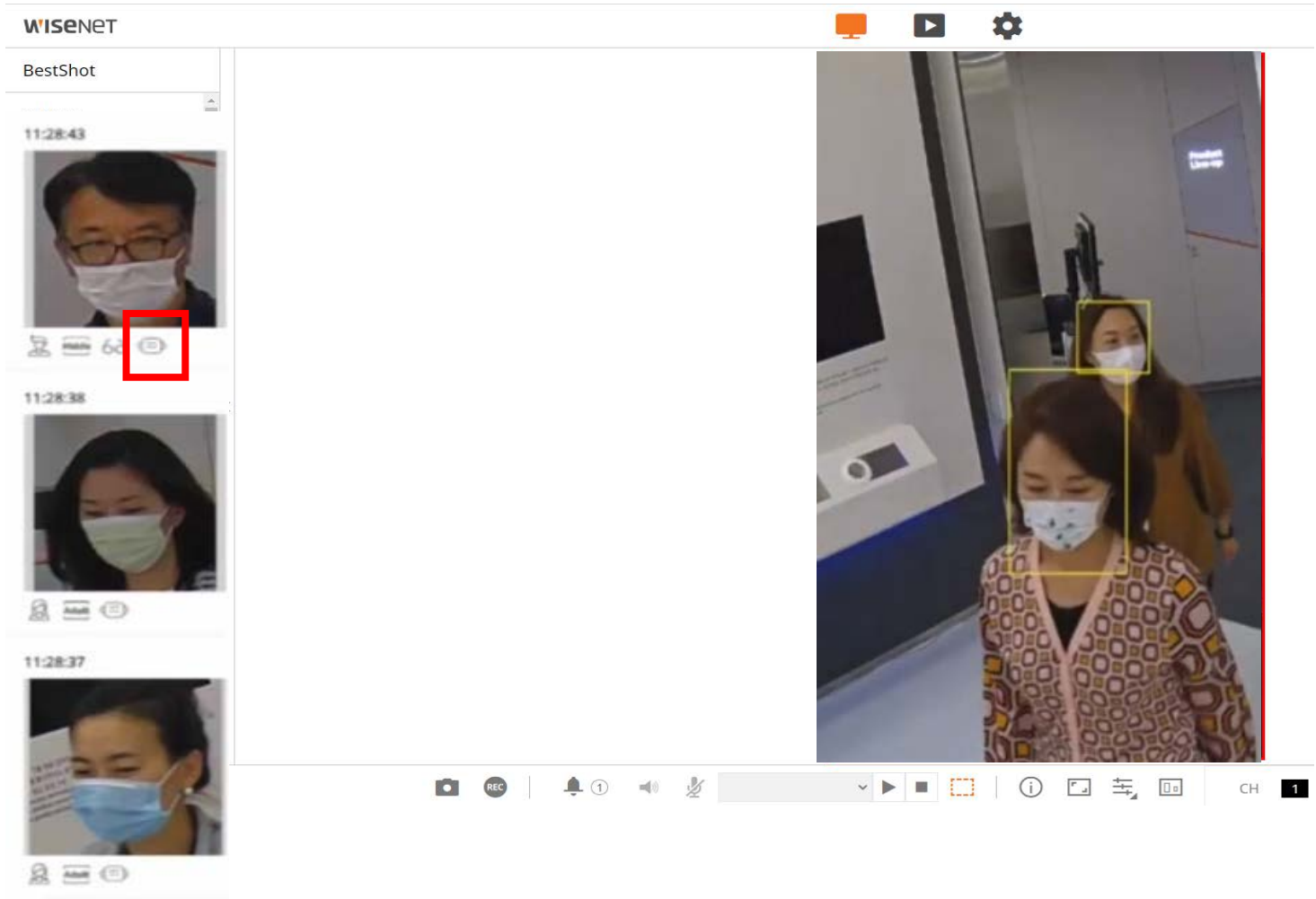
WISENET

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## Viewing Occupancy Monitoring on a Decoder, NVR, or WAVE via RTSP





# Face Mask Detection

Wisenet P AI Cameras

- Edge-based analytic
- Detect people wearing or not wearing a face mask
- Full WAVE integration



# 1. Solution Overview

## - Wisenet7 SoC

Face Mask Detection is one of the AI-based video analysis functions of the Wisenet AI camera.

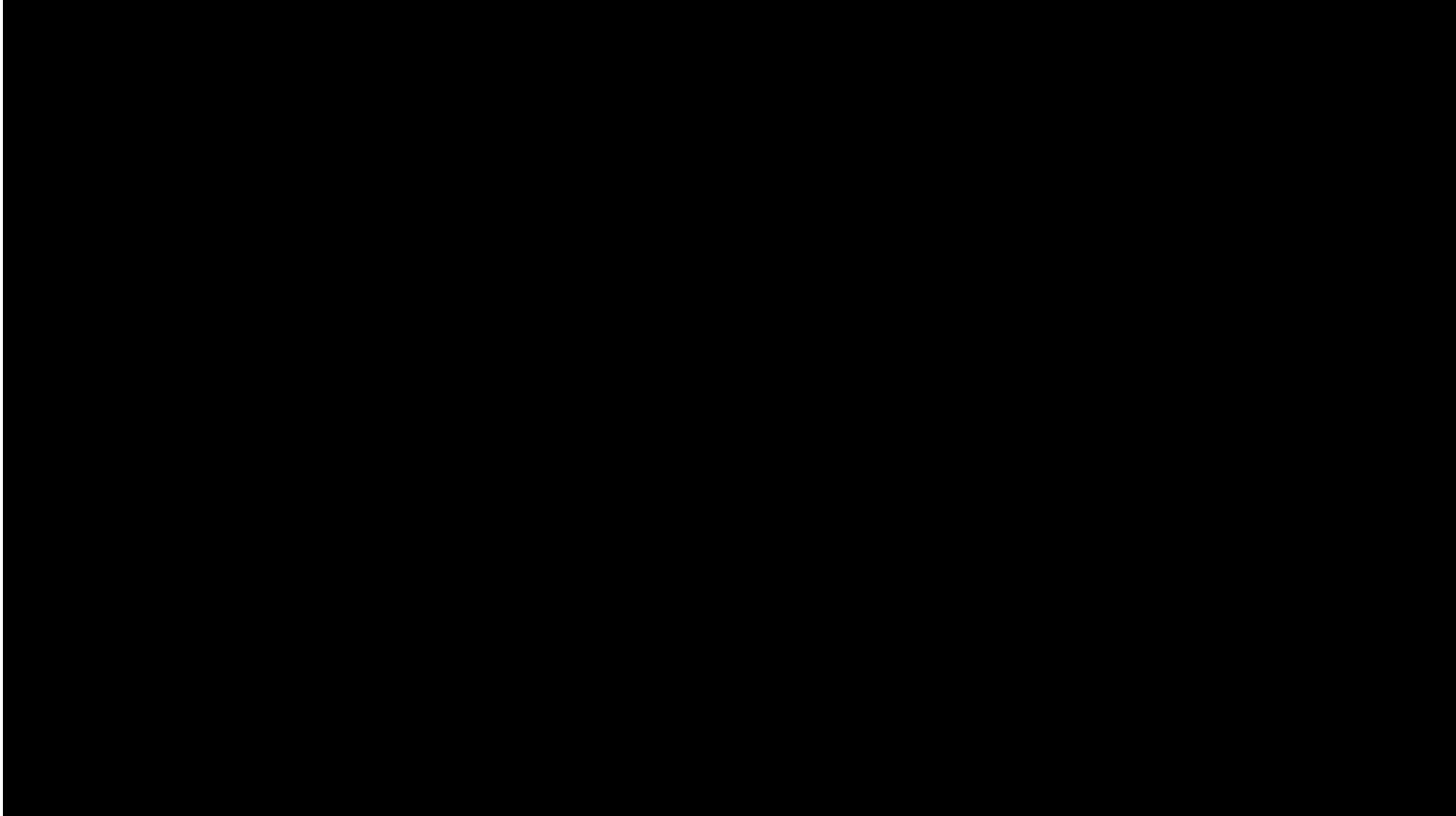
This function detects in real time whether people in the video wear a mask.

\*\* Masks: Medical masks (including body masks, masks, etc.)

This function is provided free of charge - at no cost for P series AI Cameras by Firmware update (version 1.41.03)

- Install the camera using a ceiling/wall mount, tripod, etc.
- It can be used for access systems, retail solutions, etc.
- When a mask is worn (not worn), the user is immediately notified.

## 2. Demo ( Video)



# 3.0. AI Camera Installation/detection specifications

We recommend that you install the camera in a direction where a person's face can be easily seen head-on.

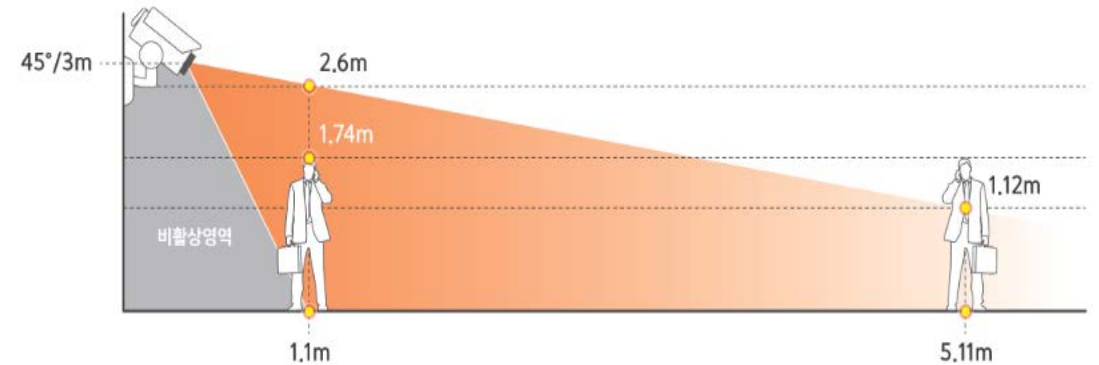
Depending on how it is installed on the ceiling/wall, the performance may deteriorate if the front of a person is not clearly visible.

## Recommended camera installation specifications

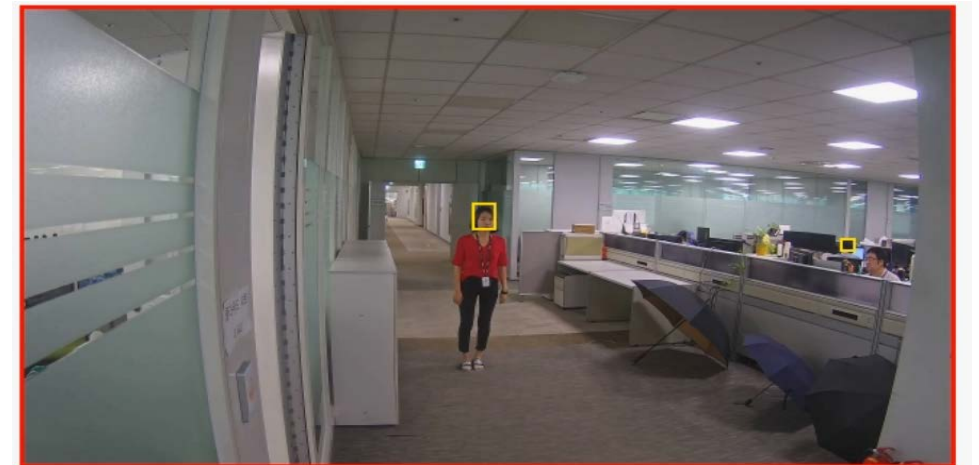
- **Ceiling/wall mount:** recommended installation height 6.5~10 feet or higher, camera angle 45° or higher
- **Use of tripod:** recommended installation height 5~6.5 feet, camera distance 3 feet or more

## Face detection specifications

- **Maximum distance 16~20 feet (Not including box camera)**
- **Minimum size 120 pixels x 120 pixels**
- **Up to 12 effective faces can be monitored simultaneously**
- **Face detection must occur continuously in the FoV for at least 2 seconds**

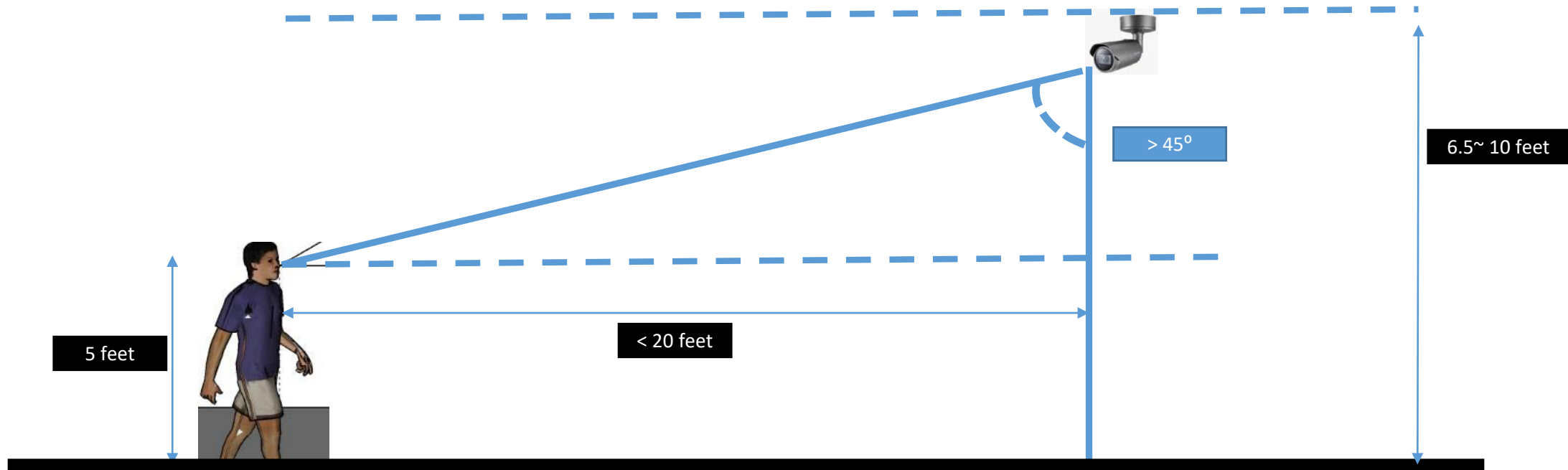


[Figure 1] Example of ceiling/wall mount installation



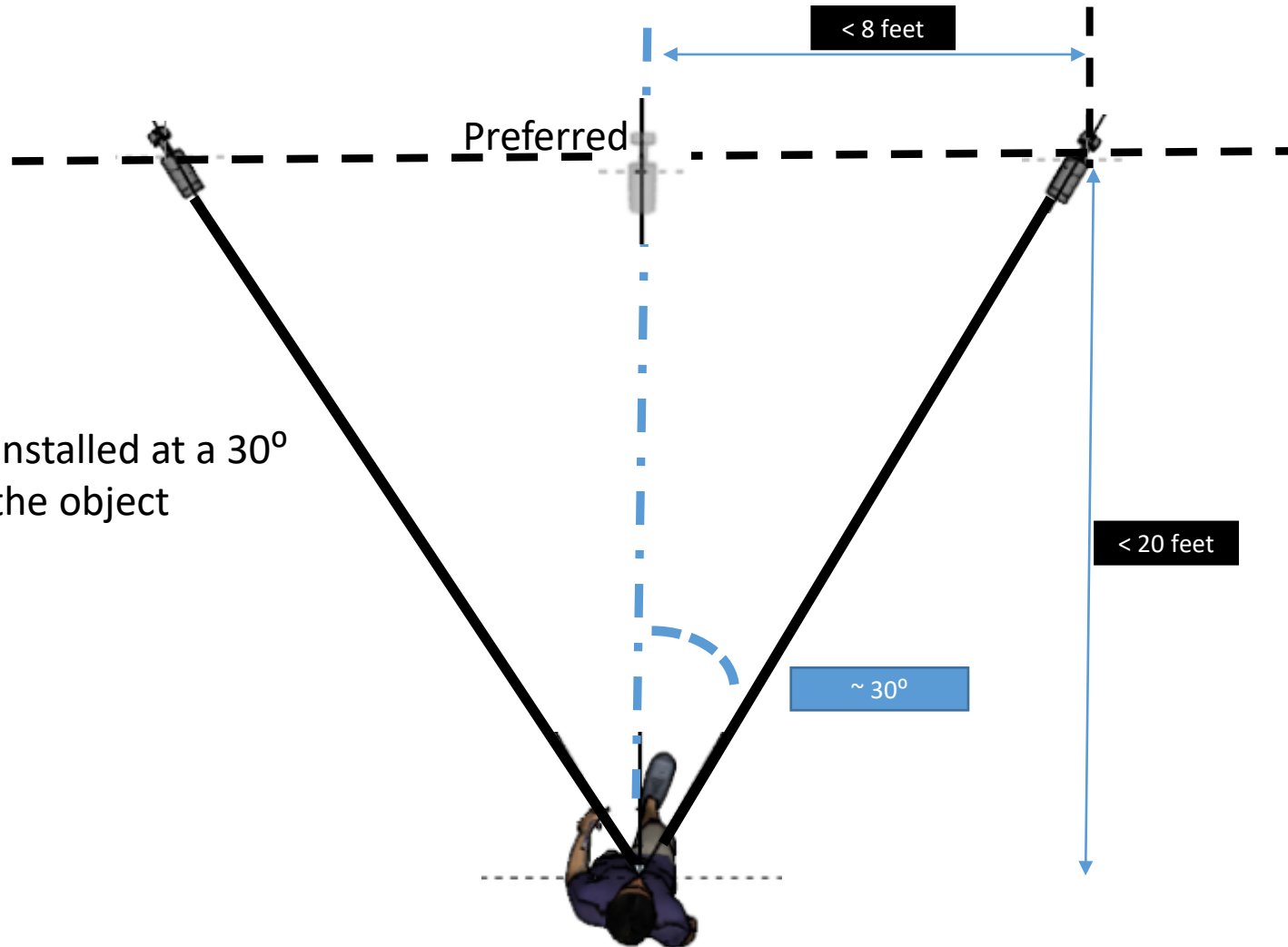
[Picture 1] Example of maximum detection distance (6 meters)

## 3.1. Camera Install – Vertical Mounting



Ceiling/wall mount: recommended installation height 6.5~10 feet or higher, camera angle 45 ° or higher

## 3.2. Camera Install – Horizontal Mounting



The camera can be installed at a  $30^\circ$  horizontal angle to the object

# 3.3. Camera Install – Use Pixel Counter to confirm Minimum Pixel Density requirements

WISeNET

PND-A9081RV admin ? Help

BestShot

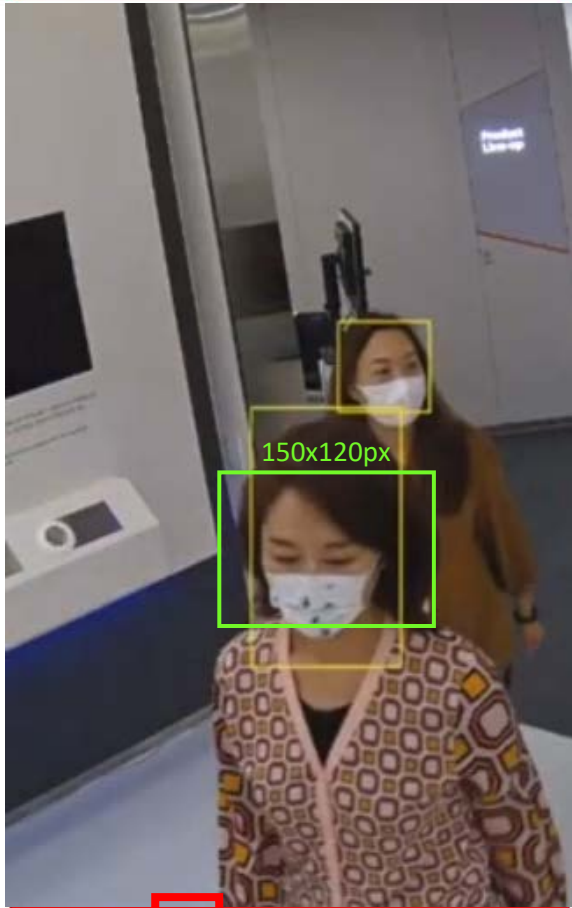
11:28:43



11:28:38



11:28:37



The camera web viewer Pixel Counter tool can be used to determine if the minimum requirement of 120x120 pixel density is met



Pixel Counter

# 3.4. Camera Install – Use Zoom in/out and Simple focus to fine tune the FoV

**WISeNET** PND-A9081RV admin ? Help


**Basic** < | **PTZ** < | **Video & Audio** > | **Focus setup** < | **WiseStream** < | **Network** < | **Event** < | **Analytics** < | **Statistics** < | **System** < | **Open platform** <

### Focus setup

Select channel CH **1** 2

**Quick Focus mode**  
 Enable

**Simple Focus**



# 4.1. Camera Firmware (1.41.03)

**WISENET** 🖥️ ▶️ ⚙️ PND-A9081RV admin 🔍 Help

- Basic <
- PTZ <
- Video & Audio <
- Network <
- Event <
- Analytics <
- Statistics <
- System** ▾
  - Product information
  - Upgrade / Restart**
  - Log
- Open platform <

## Upgrade / Restart

<b>Upgrade</b>	<b>Software</b>	1.41.03	Info
	<b>Software upgrade</b>	...	Upgrade

---

**Factory default**  Except network parameter & open platform

Reset

---

**Configuration backup & restore**

Backup Restore

---

**Restart**

Restart



# 4.2. Camera Setup – Date and Time setup / Very Important

Check that the clock is correct. It is recommended to use NTP to keep the clock synced. Also check the Time Zone & DST.

The screenshot displays the WISENET web interface for camera configuration. The top navigation bar includes the WISENET logo, a monitor icon, a play button, a gear icon, and the text 'PND-A9081RV admin Help'. The left sidebar lists various configuration categories: Basic (expanded), Video profile, User, Date & Time (highlighted), IP & Port, PTZ, Video & Audio, Network, Event, Analytics, Statistics, System, and Open platform. The main content area is titled 'Date & Time' and is divided into two sections: 'Current system time' and 'System time setup'. The 'Current system time' section shows the current date and time as '2020-09-15 18:56:36'. The 'System time setup' section offers two options: 'Manual' and 'Synchronize with NTP server'. The 'Manual' option is currently selected, showing a date of '2020 - 09 - 15' and a time of '18 : 56 : 32'. There is an unchecked checkbox for 'Synchronize with PC viewer'. The 'Synchronize with NTP server' option is also present, with five address fields: 'Address 1' (pool.ntp.org), 'Address 2' (asia.pool.ntp.org), 'Address 3' (europe.pool.ntp.org), 'Address 4' (north-america.pool.ntp.org), and 'Address 5' (time.nist.gov). Both sections include 'Apply' and 'Cancel' buttons.

# 4.3. Face Mask Detection Setup

WISENET

Basic

PTZ

Video & Audio

Network

Event

Analytics

Shock detection

Motion detection

Tampering detection

Defocus detection

Object detection •AI

1 Face mask detection •AI

IVA •AI

Audio detection

Sound classification

Statistics

System

Open platform

## Face mask detection

Select channel

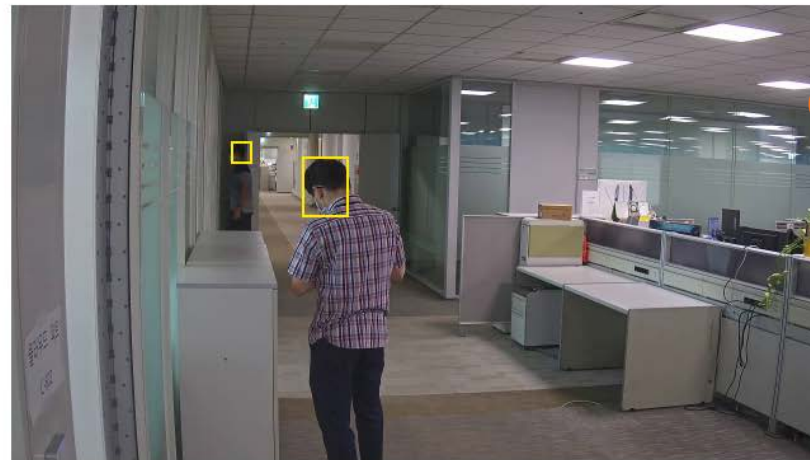
CH 1 2

2  Enable face mask detection

3 Face mask

Exclude area

Common



4 type

Face mask

No face mask

5 Minimum duration(s)

- 2 +

### Face Mask Detection Function settings

Setup > Analytics > Face mask detection

1. Enable/Disable
2. 'Face mask' tab
3. Type: face mask/no face mask (default)
4. Minimum duration (2 second default)

## 4.3. Face Mask Detection Setup

Configuring sensitivity or minimum size  
the accuracy of Face Mask Detection and Event alarm  
can be enhanced.

- Setting lower level of sensitivity will generate correct but smaller number of alarms. It can also cause missed detection.
- Setting smaller minimum size can detect faces from farther distances. It can also reduce the performance of Face Mask Detection.

Face mask Exclude area Common

Sensitivity

80

Size

Minimum 80 X 80

Maximum 1944 X 1944

Exclude area

Enable object data from the excluded area

Synced with values in Object detection.

# 4.4. Checking Operations

The screenshot displays the WISENET software interface. At the top left, the 'WISENET' logo is visible. The top right corner shows the camera ID 'PND-A9081RV', the user 'admin', and a 'Help' link. On the left side, there is a 'BestShot' sidebar containing three thumbnail images of people wearing face masks, each with a timestamp: '11:28:43', '11:28:38', and '11:28:37'. The main area is a live video feed showing two women in a hallway, both wearing face masks. Yellow bounding boxes are drawn around their faces. A red dashed box is overlaid on the video feed, indicating a detected event. At the bottom of the interface is a control bar with various icons, including a red dashed box icon that is highlighted with a red solid box.

Once people & faces are detected, check the BestShot data. A face mask attribute should be displayed or not displayed. You should see a red frame around the video to indicate an event on the live page or Face Mask Detection setup page.

## 4.5. Camera Setup Demo



### Fask Mask Detection Analytic Setup Wisenet P Series AI Cameras

## 6.1.0. Upgrade WAVE Build Version

WAVE must be upgraded to version 4.1.0.31767 (Sept. 10<sup>th</sup>, 2020) to support Face Mask detection events.

This build also improves AI attribute metadata.

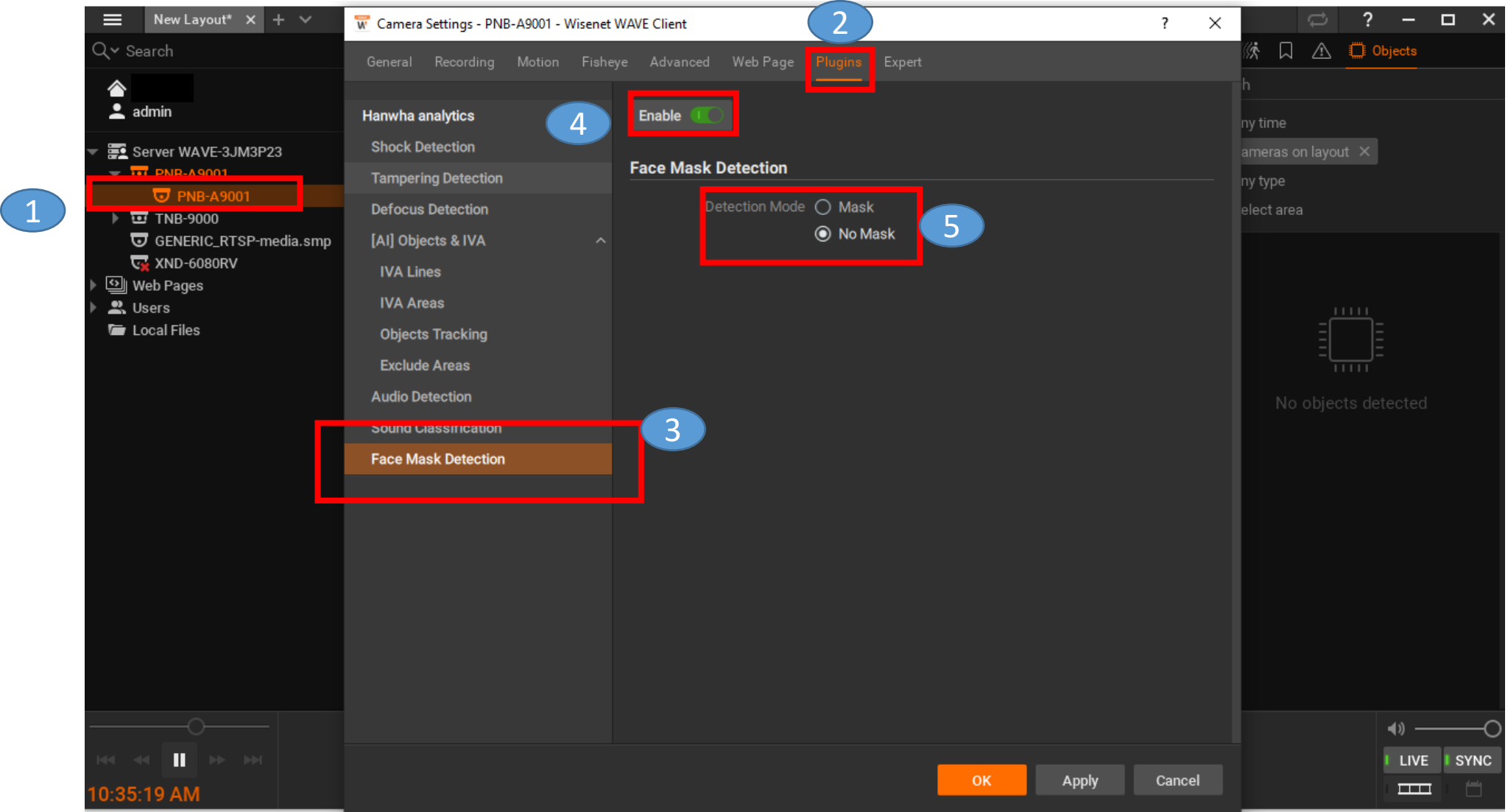
Note: If an AI camera is upgraded to v.1.40.03, this WAVE build **MUST** be used, otherwise AI attributes will no longer be displayed.

In-Client Upgrade:

Build Number: 31767

Password: l2eyxl

# 6.1.1. WAVE Integration – Enable Face Mask Detection



You can enable Face Mask Detection with the WAVE Plugin instead of navigating to the camera's webpage.

# 6.1.2. WAVE Integration – Event Rule

The screenshot shows the 'Event Rules - Wisenet WAVE Client' window. On the left, a sidebar contains a tree view with 'PNB-A9001' selected and highlighted by a red box and callout 1. The main area features a table of event rules. The second rule is highlighted in brown and includes callouts 2 (the window title), 3 (the '+ Add' button), and 4 (the 'When' dropdown). The 'Event Type' dropdown for this rule is highlighted in red and labeled with callout 5. The 'Action' configuration panel on the right is highlighted in red and labeled with callout 6, showing 'Do Show desktop notification'.

#	On	Event	Source	Action	Target	Interval of Action
	<input type="checkbox"/>	On Analytics Event	Select at least one camera	Show desktop notification	All Administrators	Instant
	<input checked="" type="checkbox"/>	Analytics Event	PNB-A9001	Show desktop notification	All Administrators	Every 1 minute
	<input checked="" type="checkbox"/>	On Camera Disconnected	<Any Camera>	Show desktop notification	All Users	Every 30 seconds
	<input checked="" type="checkbox"/>	On Camera Disconnected	<Any Camera>	Send email	User admin has invalid email address	Every 6 hours
	<input checked="" type="checkbox"/>	On Plugin Diagnostic Event	<Any Camera>	Show desktop notification	All Users	Instant

**Event Configuration:**  
When: Analytics Event  
At: PNB-A9001  
Event Type: Face Mask Detection  
Caption contains: Keywords separated by space  
Description contains: Keywords separated by space

**Action Configuration:**  
Do: Show desktop notification  
Interval of action: No more than once per 1 min  
to: All Administrators  
Force Acknowledgment:



## 6.1.3. WAVE Integration – Demo



Fask Mask Detection Events in Wisenet WAVE  
with Wisenet P Series AI Cameras

# 6.2.1. Milestone Integration – Forensic Search

The screenshot displays the Milestone XProtect Smart Client interface. At the top, there are navigation tabs for Live, Playback, Search (selected), Alarm Manager, and System Monitor. The search filters section includes a date range from 2020-08-25 12:31 to 2020-08-25 14:31, a duration of 2 hours, and two selected cameras. A 'Search for...' button is visible. Below this, a 'Face' filter panel is highlighted with a red box, containing options for Gender (Male, Female), Age (Young, Adult, Middle age, Senior), Glasses (Glasses, No glasses), and Mask (Mask, No mask). The main search results area shows '0 results' and a message: 'Currently, there is nothing to preview.'

## 6.2.2. Milestone Integration – Forensic Search

### AI- Plugin Version 1.02

The system requirements for AI Camera Plug-in are as follows:

- Client PC Operating System
  - Microsoft Windows 10 (64-bit) or higher
- Recommended PC Specifications
  - CPU: Intel Core i7-7700 @ 3.40 GHz
  - RAM: 16 GB
  - HDD: 60 GB or more, SDD recommended
- Milestone System Version
  - Milestone 2019 R3 or higher
- Milestone System License Level
  - Expert, Corporate

**NOTE: Milestone 2019 R3 or higher and the Expert, Corporate level license are required.**

# 6.2.3. Milestone VMS Integration – Forensic Search

## Camera Settings

Object detection

Select channel CH 1 2

Enable object detection

Object Exclude area Common BestShot

Type	Enable
Person	<input type="checkbox"/>
Vehicle	<input type="checkbox"/>
Face	<input checked="" type="checkbox"/>
License plate	<input type="checkbox"/>

Minimum duration (s) 2

Object detection

Select channel CH 1 2

Enable object detection

Object Exclude area Common BestShot

Type	Enable
Person	<input type="checkbox"/>
Vehicle	<input type="checkbox"/>
Face	<input checked="" type="checkbox"/>
License plate	<input type="checkbox"/>

\* You can check BestShot on the Live view screen.

**\*\*For Forensic Search ,  
You don't need to enable  
Face Mask Detection  
analytic.  
You need ONLY to enable  
Object detection and  
BestShot for FACE**

# VMS Integration

Genetec & Milestone have plugins for forensic search including Face Mask attributes. Please visit our webpage for more information.

# 6.4.1 Face Mask Detection - Camera Event Notifications

For VMS that have not been updated yet to support Face Mask Detection Analytic Events, use the Alarm Output > Alarm Input trick.

The screenshot shows the Wisenet VMS configuration interface for Face Mask Detection. The left sidebar contains navigation menus for Basic, PTZ, Video & Audio, Network, Event, Analytics, Statistics, System, and Open platform. The main content area is titled 'Face mask detection' and includes a 'Select channel' dropdown set to 'CH 1'. Below this, there are tabs for 'Face mask', 'Exclude area', and 'Common'. The 'Face mask' tab is active, showing a video feed with a person wearing a face mask. The 'Type' section has radio buttons for 'Face mask' (selected) and 'No face mask'. The 'Minimum duration(s)' is set to 2. The 'Event action settings' section is highlighted with a red box and includes the following options:

Event action settings	Value
FTP	<input type="checkbox"/> Enable
E-mail	<input type="checkbox"/> Enable
Record	<input type="checkbox"/> Enable
Alarm output 1	Off
Audio clip	Off

At the bottom, the 'Event activation time' is set to 'Always' (radio button selected). The 'Apply' and 'Cancel' buttons are visible at the bottom of the configuration area.

# a2 Face Mask Detection:

## Non-Masked Person detection for X series cameras

Artificial Intelligence-based Video Analytics solution used to instantly detect and intervene for people who do not wear masks in open or closed areas where people come together

### Key Features:

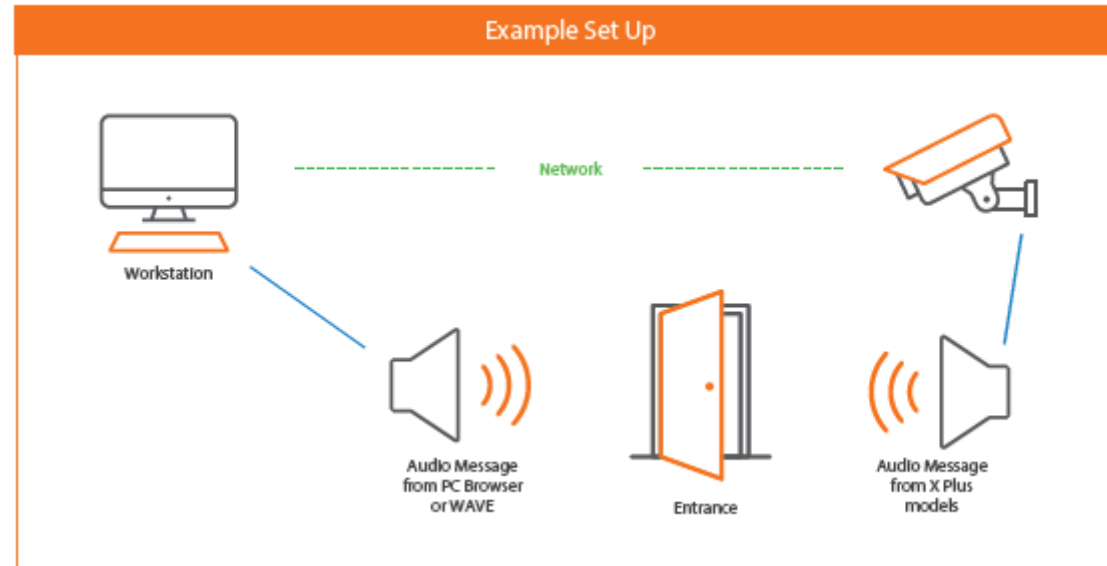
- Detection up to 16.4 feet (5 meters)
- Detect up to up to 4 people at the same time
- Detect non-masked people or incorrectly used Mask face masks
- Not Affected By Hat, Glasses or Head Scarf

### System Features:

- Plug and Play System | No server required
- Instant Alert via app Interface
- Web-Based Admin Interface
- WAVE Integration
- Designed to run 24/7 with High Availability
- High accuracy analytics thanks to Artificial Intelligence and Deep Learning algorithms
- Audio Notifications



# a2 Face Mask Detection: Solution Overview



Face Mask Detection cameras are located @ doorways.

- Tripod / Wall or Ceiling mount
- Runs internally on Hanwha camera.
- Analyzes the live stream of the camera.
- Detects the people who do not wear mask.
- Captures pictures and video for evidence.
- Generates alarm including metadata, pictures and videos.

Application web interface  
- Displays instant alarms and plays alarm message

App Admin Interface / Hanwha Wisenet WAVEVMS  
- Displays instant alarms and plays alarm message  
- Displays live stream and recent alarms  
- Reports all alarm events  
- Easy analytic configuration via web interface.





## Face Mask Detection Integration with Wisenet WAVE

# a2 Face Mask Detection:

## Supported Cameras

Note : Varifocal cameras with Simple Focus are recommended for ease of adjustment and camera placement.

### Compatible with the following Wisenet X series Camera Models

Indoor Dome Camera : XND-6010, XND-6011F, XND-6020R, XND-6080, XND-6080R, XND-6080RV, XND-6080V, XND-6081RV, XND-6085V, XND-8020F, XND-L6080V, XND-6081RV.

Outdoor Vandal Dome Camera : XNV-6010, XNV-6011, XNV-6020R, XNV-6080, XNV-6080R, XNV-6081R, XNV-6081RE, XNV-6120, XNV-6120R

Bullet Camera : XNO-6010R, XNO-6080R, XNO-6120R, XNO-L6080R

Box Camera : XNB-6000

Other Wisenet X series models may be supported. Please contact support for more details and verify the installation environment to ensure a correct design. The use of other lenses on the XNB-6000 camera or models with long-range lenses may allow installation at longer distances. Varifocal models are recommended. 2.8mm fixed lens cameras have a limited installation distance.

\*\* Firmware should be at v1.40 or above.  
Additional models may be added.

# a2 Face Mask Detection:

## Installation:

Since the a2 Face Mask Detection System works on the camera, the installation process consists basically of camera mounting and software installation processes

### Camera Mounting:

The distances listed below are for cameras with built-in lenses. The use of other lenses on the XNB-6000 camera or models with long-range lenses may allow installation at longer distances.

Distance Camera-Person	Vertical Angle	Camera Height Floor-Camera	Horizontal Angle	Horizontal Distance Camera-Person
6.5ft	±30°	5.9 ~ 7.2ft	±30°	±3.6ft
8.2ft	±30°	5.9 ~ 8.2ft	±30°	±4.26ft
11.5ft	±30°	5.9 ~ 10.8ft	±30°	±5.9ft
16.4ft	±30°	5.9 ~ 13ft	±30°	±8.2ft
Tripod installation 6.5-8.2ft	-	5.9ft	±30°	±3.6 ~ 4.26ft

### Instructions:

- The width of the face area should be minimum 120 pixels and a maximum of 160 pixels for a FullHD Image
- The installation angle of the camera should see people's faces at a maximum angle of 30° vertically.
- The installation angle of the camera should see people's faces at a maximum angle of ±30° horizontally.
- Tripod mounting is possible. Minimum camera mounting height should be 5.58 feet (1.70 meter)

# a2 Face Mask Detection:

## Installation: Sample FoV

Face Width Dimensions:  
Minimum 120 pixels  
Maximum 160 pixel

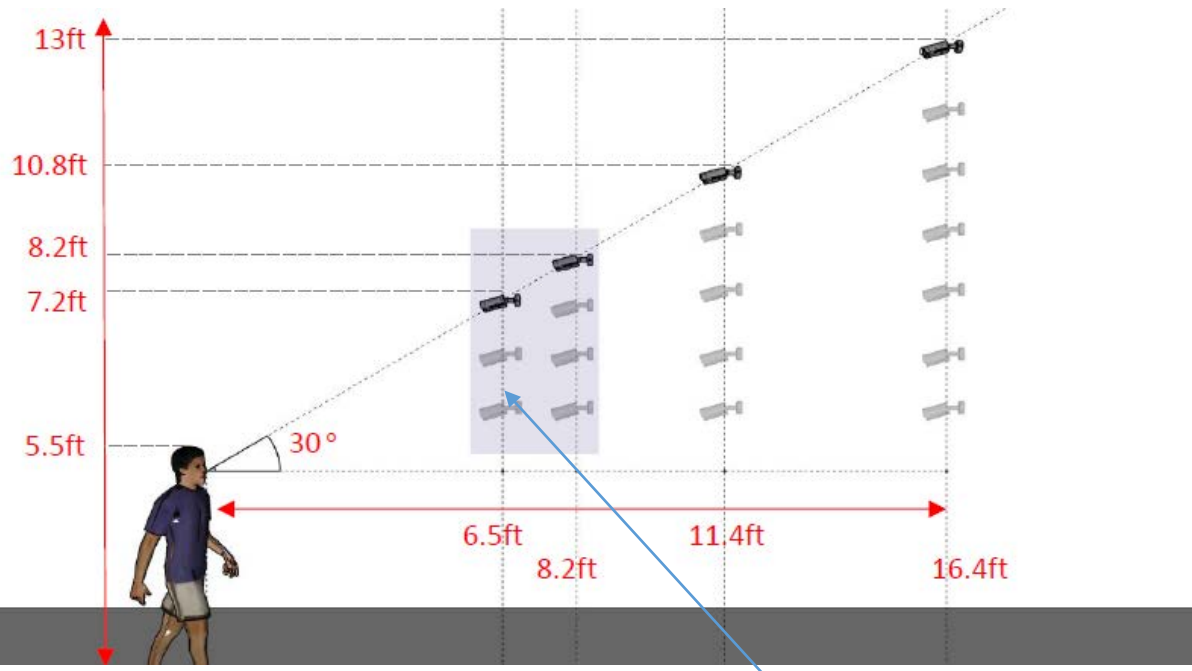
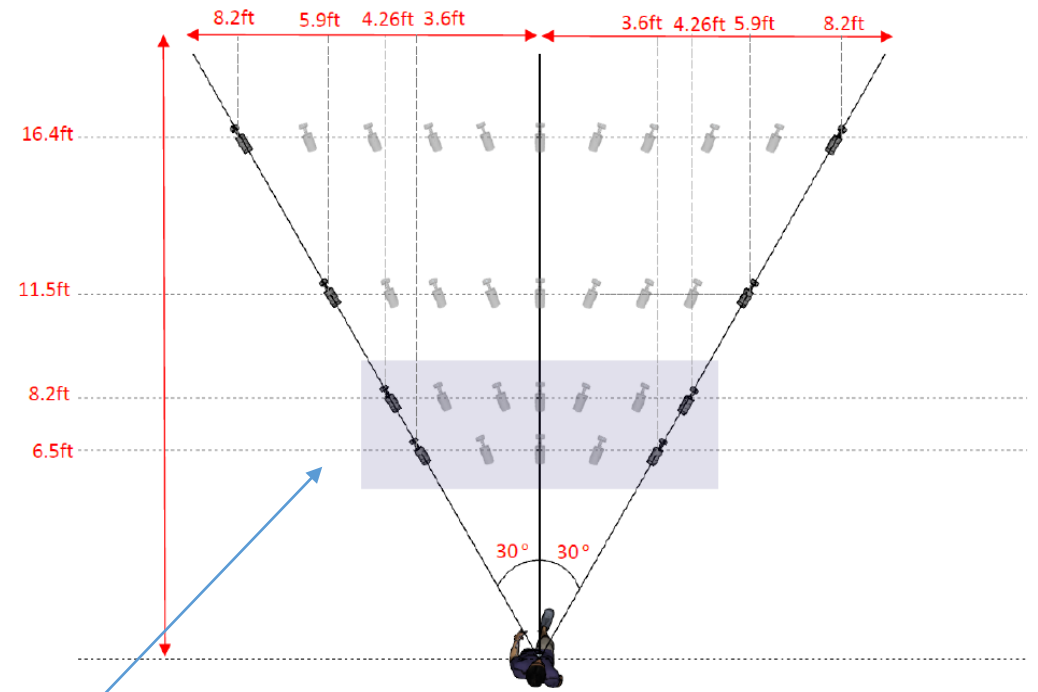
@2 Megapixel cameras



1920px

# a2 Face Mask Detection: Installation:

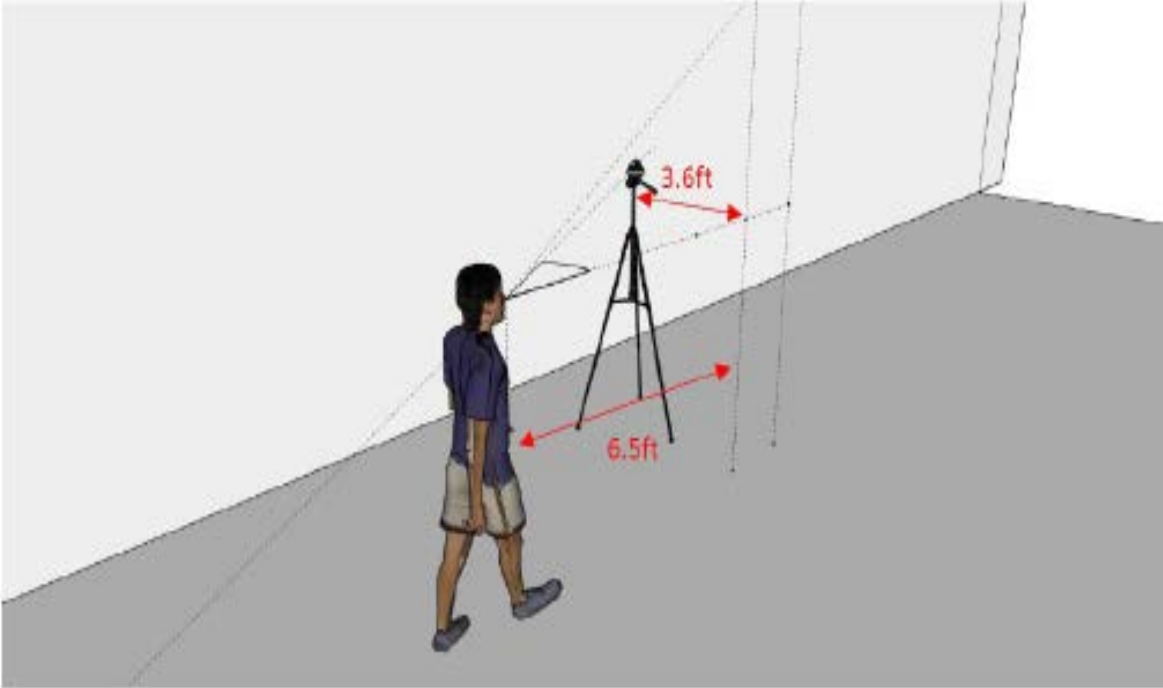
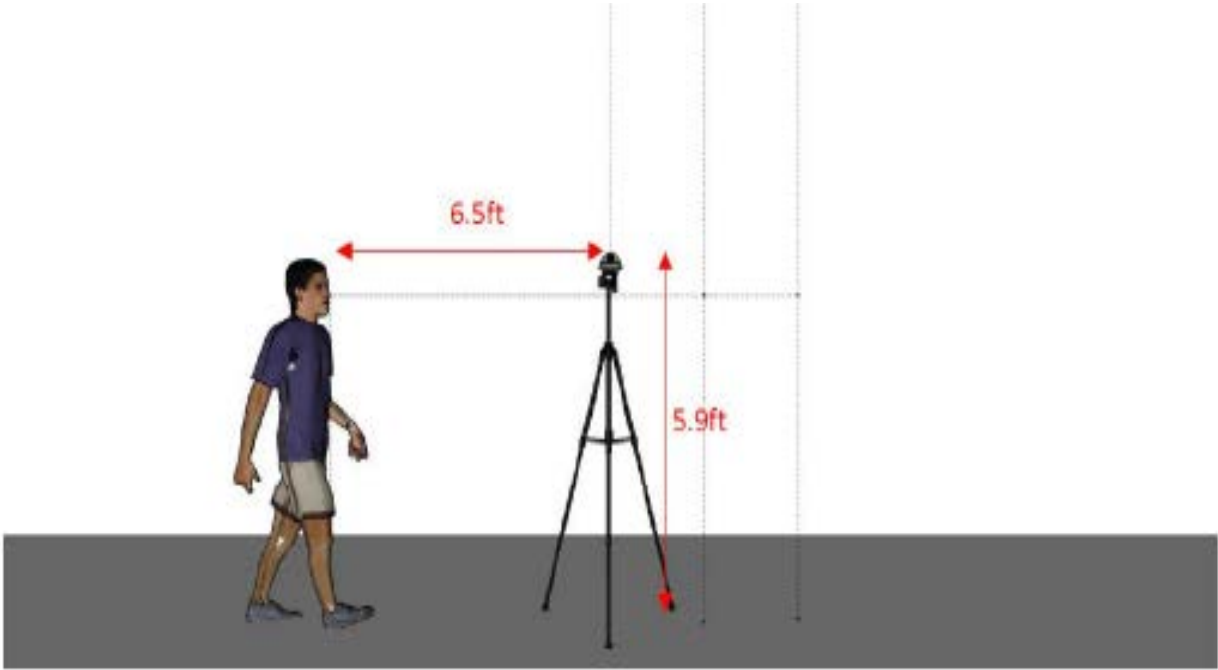
Horizontal Mounting Options:



2.8mm fixed lens cameras can be used only in Highlighted area. Varifocal motorized lens cameras are recommended for ease of installation and configuration

# a2 Face Mask Detection:

## Tripod Installation:



# a2 Face Mask Detection: Where to download app & assets?

Hanwha  
Techwin America

PRODUCTS ▼ CYBERSECURITY TRAINING ▼ SUPPORT ▼ TOOLS PARTNER PORTAL RESOURCES

HOME - PRODUCTS - SOFTWARE - WISENET OPEN PLATFORM APPLICATIONS

## WISENET OPEN PLATFORM APPLICATIONS

COMPARE +

Occupancy Monitoring Application ▶

COMPARE +

Face Mask Detection Application OP-A2FMD-01 ▶

## RESOURCE DOWNLOAD

BROCHURES SOFTWARE MANUAL

Face Mask Detection Brochure



# a2 Face Mask Detection:

## a2 Interface:

- Live View
- Alarm Display with time/date stamp, red face box, and alarm icon
- Audible alarm message

Hanwha Techwin & a2 Face Mask Detection Mainpage

Mask Alarm

Running

00-16-6C-C3-2C-DF

Settings

Rule

Camera Name

Language

Zoom

Alarm Out

Audio Out

SD-1 Record

WAVE Server Address

WAVE Username

WAVE User Password

WAVE Event

WAVE Bookmark

Apply

Licence

Live View

ALARM

6/25/2020, 4:13:16 PM

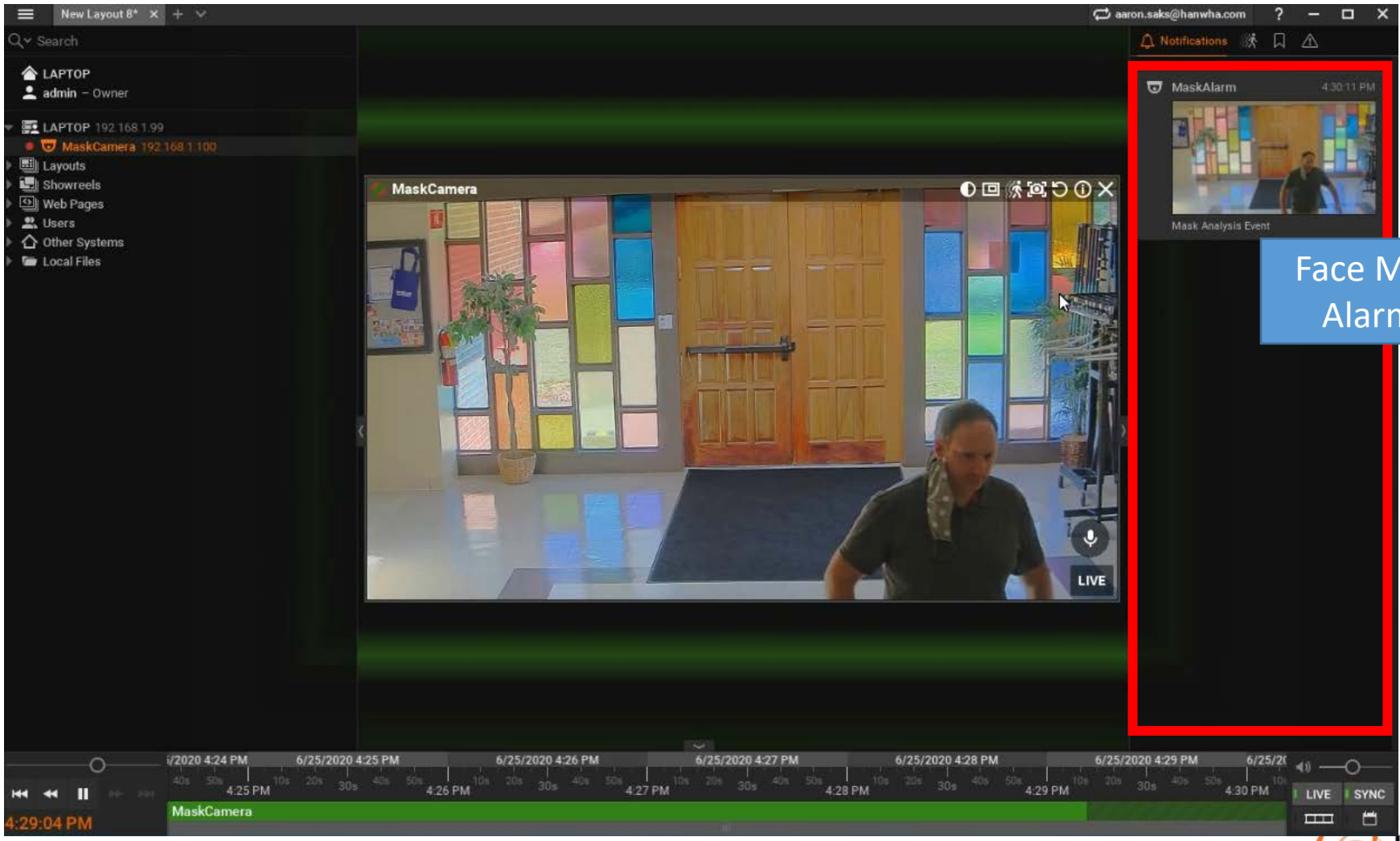
Alarms



# a2 Face Mask Detection:

## Wisenet WAVE Interface:

- Live View
- Alarm Events
- Bookmarks
- Other event actions

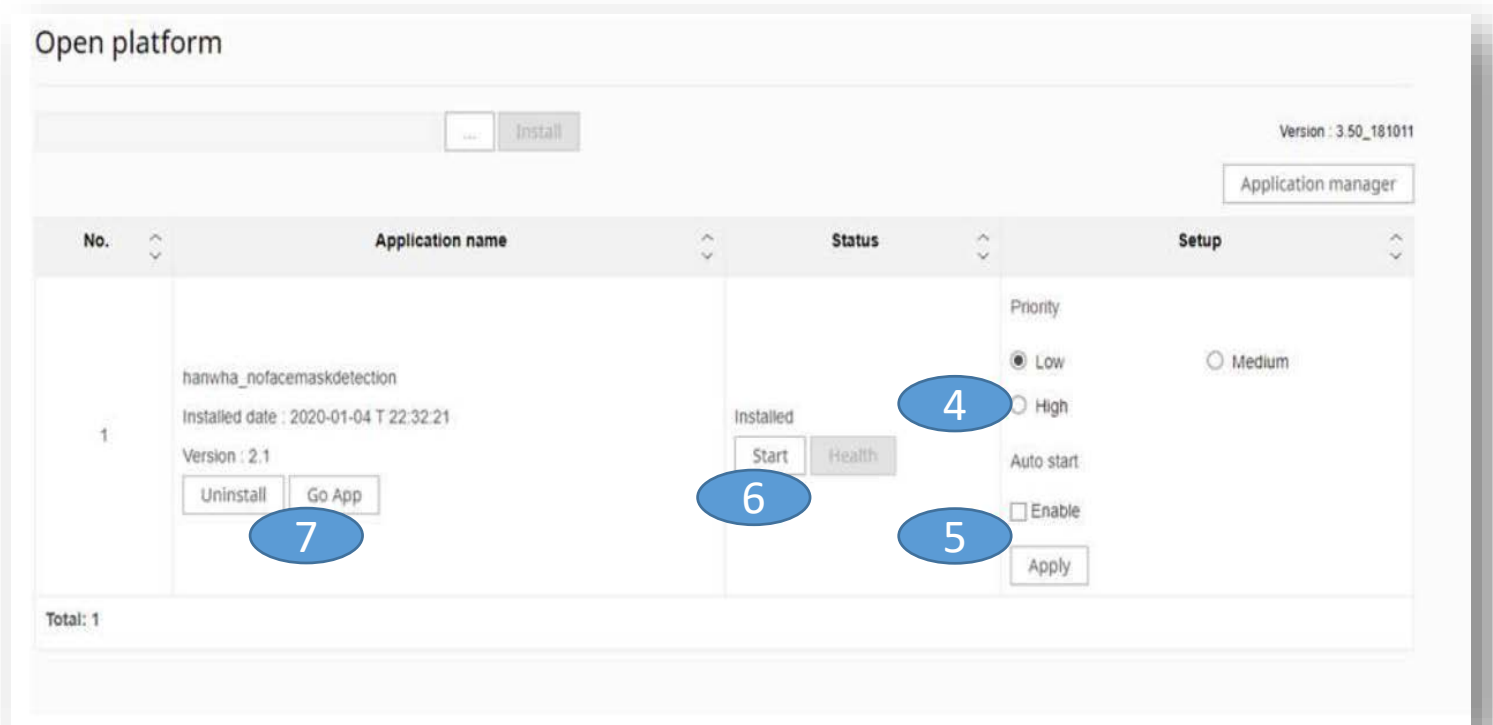


Face Mask Alarms

# a2 Face Mask Detection:

## Application Installation procedures:

1. Open the camera interface and pass to Open Platform page.
2. Click to “...” button and select the Downloaded a2 Application Installation Cap file
3. Click the “Install” button, follow prompts.
4. Select “High” for Priority.
5. Check “Enable” for Auto Start and click to “Apply” button.
6. Click to “Start” button to activate the app.
7. Click to “Go App” button to access to interface of the application.



# a2 Face Mask Detection: License Activation Process:

- a) Click “How?” button to see the e-mail format.
- b) Click “Copy” button to copy the Subject field.
- Click “Copy” button to copy the Mail Body and Paste it to your e-mail field
- a) Enter your purchase order number to mentioned area.
- b) Send the email to fcm.license@hanwha.com
- c) Wait up to 1 business day to receive License Key
- d) Paste the License Key and click apply

The screenshot shows the web interface for the a2 Face Mask Detection application. The browser address bar indicates the URL: `192.168.3.100/home/setup/opensdk/html/hanwha_nofacemaskdetection/index.html?AppName=hanwha_nofacemaskdetection`. The main page displays a sidebar with navigation options: Live, Video Wall, Running, Settings, Licence, and State. A modal window is open, showing an email template for license requests. The modal contains a 'Mail Subject' field with the text 'Enter your purchase order number here' - a2 FaceMaskDetection App, and a 'Mail Body' field with the text 'a2 FaceMaskDetection App Licence Request' and 'Purchase Order Number - 'Enter your purchase order number here''. Two 'Copy' buttons are visible in the modal, one for the subject and one for the body. A 'How?' button is highlighted in the sidebar, and a 'License Request Info' box is shown below it. A 'How Button' label points to the 'How?' button. A 'Copy Buttons' label points to the 'Copy' buttons in the modal window.

# a2 Face Mask Detection: License Activation Process:

Hanwha Techwin & a2 Face Mask Detection Mainpage

Live

Video Wall

00-09-18-4F-3C-1B

Settings

Licence

State  
No Licence.

Licence Request

17455586207ABAB  
518FB908860A812  
B8B89E08BC4129

Copy How?

Licence Key

Apply

The License Key created by a2 and sent by e-mail is pasted and click apply.

tmi?AppName=hanwha\_nofacemaskdetection

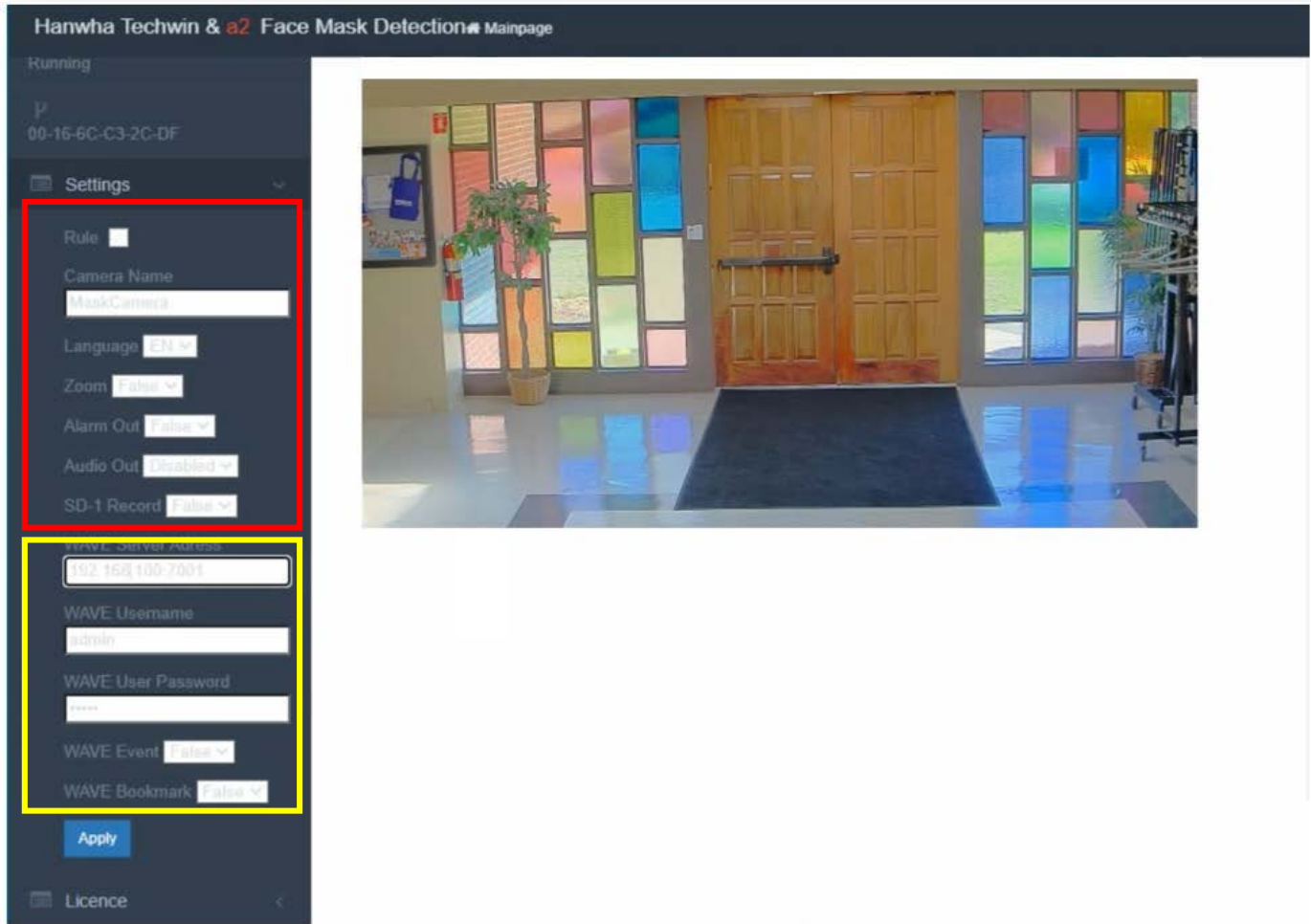
192.168.3.100 web sitesinin mesaji  
Licence is accepted

Tamam

If the license is successfully applied, "License is accepted" message is displayed

# a2 Face Mask Detection:

## Application Settings:



### Basic System Settings (Red Box)

Rule : Displays Minimum/Maximum Face Size box on stream  
Camera Name : Designated name for VMS Software  
Zoom : Digital Zoom-In function (True/False)  
Alarm Out : Camera output signal on alarm moment (True/False)  
SD-1 Record : Recording the Alarm Pictures into SD Card (True/False)

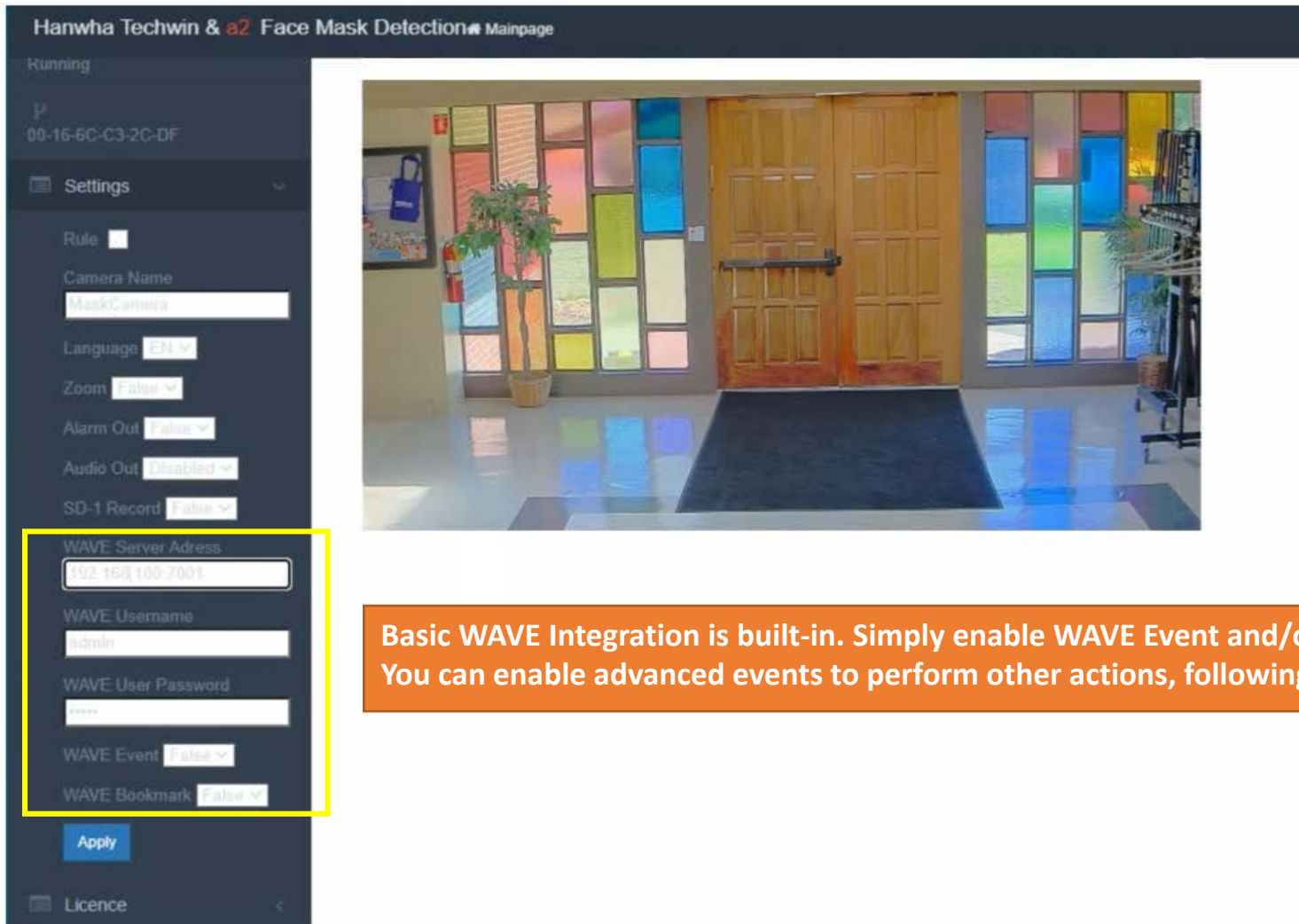
### Wisenet WAVE Settings (Yellow Box)

WAVE Server IP Address, Username, Password  
WAVE Event : Event message (Enable/disable)  
WAVE Bookmark : Bookmark (Enable/disable)



# a2 Face Mask Detection:

## WAVE Settings:



The screenshot displays the 'Settings' page for the 'a2 Face Mask Detection' camera application. The interface is dark-themed. On the left, a sidebar contains a 'Settings' menu. The main content area shows various configuration options. A yellow box highlights the 'WAVE' integration settings, which include:

- WAVE Server Address: 192.168.100.7001
- WAVE Username: admin
- WAVE User Password: [Redacted]
- WAVE Event: False
- WAVE Bookmark: False

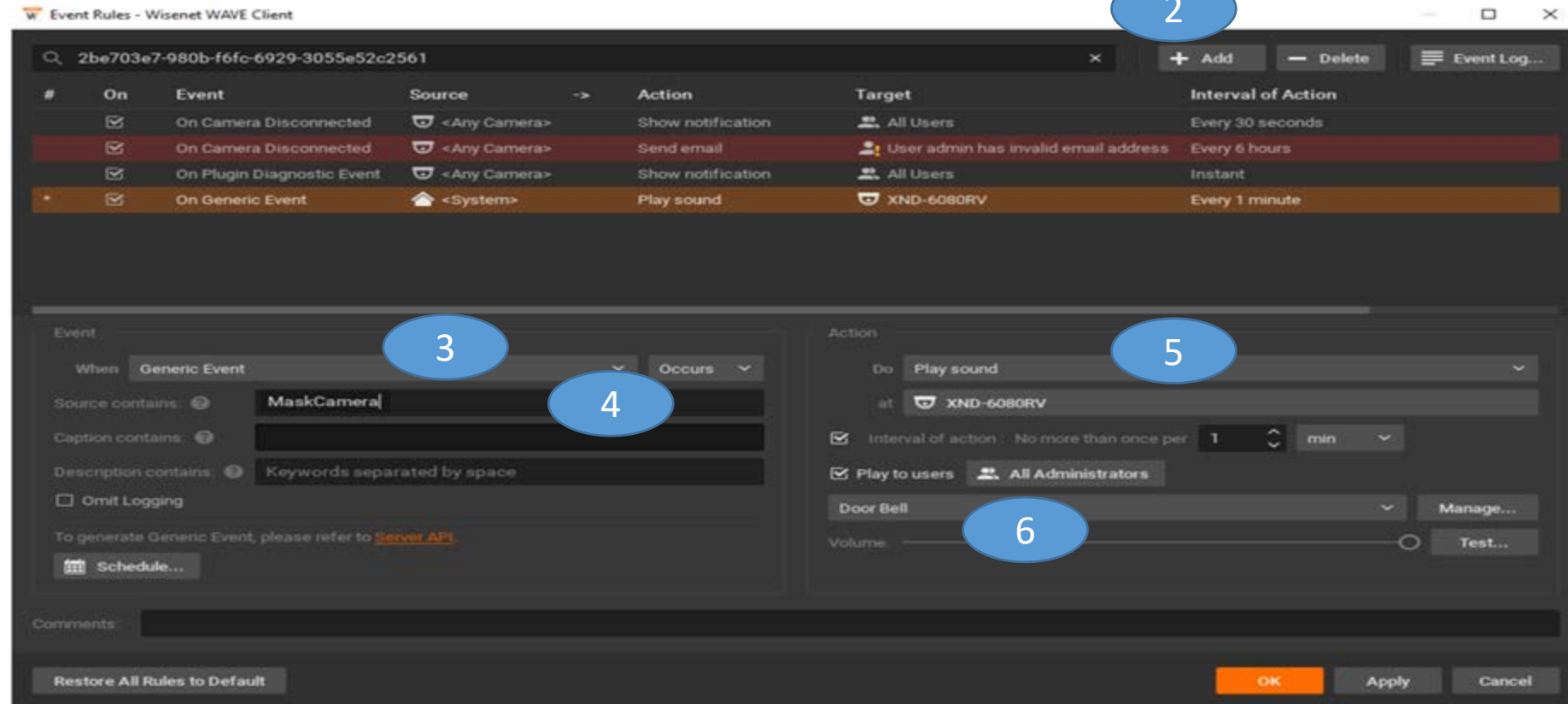
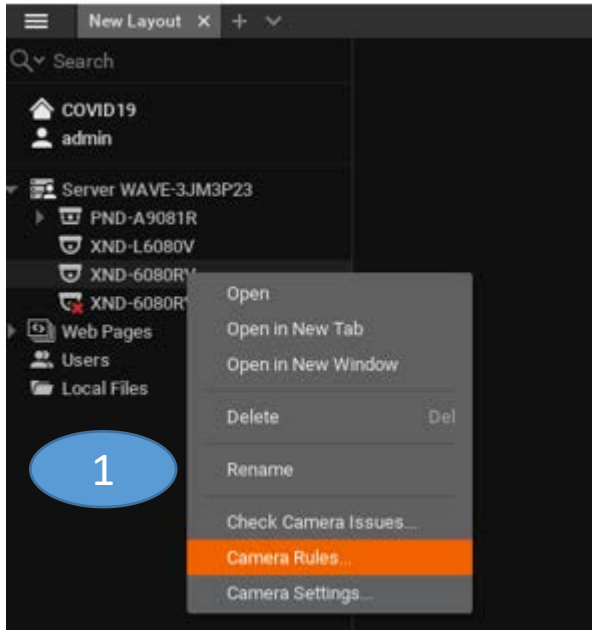
Below these settings is an 'Apply' button. The top of the interface shows the camera name 'MaskCamera' and the status 'Running'. The background image shows a brightly lit hallway with a wooden door and colorful glass panels.

Basic WAVE Integration is built-in. Simply enable WAVE Event and/or bookmark in the camera application interface. You can enable advanced events to perform other actions, following the steps on the next slide.

# a2 Face Mask Detection:

## Advanced

## WAVE Settings:



1. Right-click on the camera and select Camera Rules
2. Click the + Add button
3. For the Event > When field, select Generic Event
4. For the Source Contains field, enter the name from the application settings menu Camera Name field. The default is MaskCamera.
5. For the Action field, select Do: Play Sound. Other/additional actions can be configured as necessary, following these steps.
6. Select the desired audio file to be played @ Camera connected Speaker

# Public View Monitors

## Slide Show Function for COVID Messaging

- 10", 27", 32" or Retrofit models
- 2MP covert IP camera
- Recording In Progress customizable OSD text
- Face detection for deterrent
- Slide show function to display COVID messaging w/ VMD
- PIP options with decoder
- PoE or DC Power





# Flexible configuration

The OSD text can be customized to include Blinking text such “RECORDING IN PROGRESS” or “PLEASE WEAR A FACE MASK”.



# Slide Show Function Description

The images are displayed sequentially for the dwell time set.



IMAGE1.BMP



Dwell Time

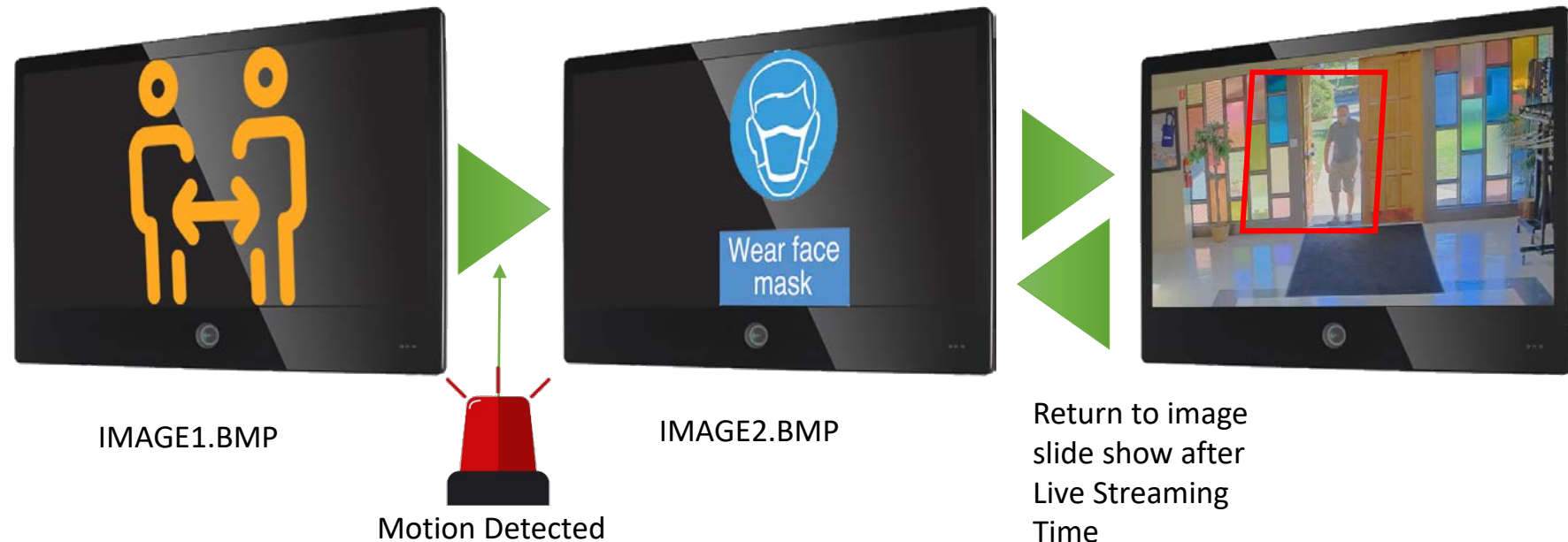


IMAGE2.BMP

# Slide Show Function Description

The images are displayed sequentially for the dwell time set.

When motion is detected, the live video stream is shown. After a set time, the slide show restarts.



# Requirements

To use the slideshow function, you need:

- TNB-6030 camera (may be included inside a PVM)
- TNB-6030 firmware 1.40.03 downloadable from website
- 16Gb or larger microSD card installed in the camera
- Image file(s) in BMP format
  - 1920x1080 resolution
  - 24-bit RGB
  - File name must use English characters and not include any spaces.

# Upgrade firmware

The firmware in the camera must be upgraded to version 1.41.03 or later.

The firmware can be upgraded using the Web Browser Interface or with the Wisenet Device Manager Tool.

The screenshot displays the Wisenet Web Browser Interface. The top navigation bar includes the Wisenet logo, a monitor icon, a play button icon, a gear icon, and the text 'TNB-6030 admin Help'. The left sidebar menu is expanded to show the 'System' section, which is highlighted in orange. The main content area is titled 'Upgrade / Restart' and contains several sections:

- Upgrade**:
  - Software**: A text input field containing '1.40.02' and an 'Info' button.
  - Software upgrade**: A text input field containing 'TNB-6030\_1.40.03\_20200831\_R415.img', an ellipsis button, and an 'Upgrade' button.
- Factory default**: A checkbox labeled 'Except network parameter & open platform' which is checked, and a 'Reset' button below it.
- Configuration backup & restore**: 'Backup' and 'Restore' buttons.
- Restart**: A 'Restart' button.

# Enable SD Card Function

First, insert the SD card into the camera with the power turned off, or while the Record function is turned off.

Then, select the SD card and set the Record function to On, and click apply to save. The Status will display Recording to indicate that the card has been successfully mounted. The status may display formatting briefly. If you receive an error, please click the format button and wait for the format to complete.

The screenshot shows the Wisenet Storage configuration interface. The left sidebar contains navigation options: Basic, PTZ, Video & Audio, Network, Event, Analytics, System, and Open platform. The main content area is titled 'Storage' and includes a 'Storage action setup' table. The table has columns for Device, Record, Free size, Total size, and Status. The 'SD Card' row is selected, with 'Record' set to 'On'. Below the table are sections for 'Overwrite', 'SD File System', and 'Slide show'. The 'Overwrite' section has 'Enable' checked and 'Auto delete' unchecked. The 'SD File System' section has 'Type' set to 'VFAT'. The 'Slide show' section has 'Enable' unchecked. Below the 'Slide show' section is an 'Image list' table with columns for 'No.' and 'File name'. A list of instructions is provided at the bottom of the page.

Device	Record	Free size	Total size	Status	
<input checked="" type="radio"/> SD Card	On	0 MB	0 MB	None	Format
<input type="radio"/> NAS	Off	0 MB	0 MB	None	Format

**Overwrite**

Enable

Auto delete 180 days (1 ~ 180)

**SD File System**

**Type** VFAT

**Slide show**

Enable

**Image dwell time** 5 seconds

**Live streaming time** 10 seconds



**Image file** ... Upload Delete all

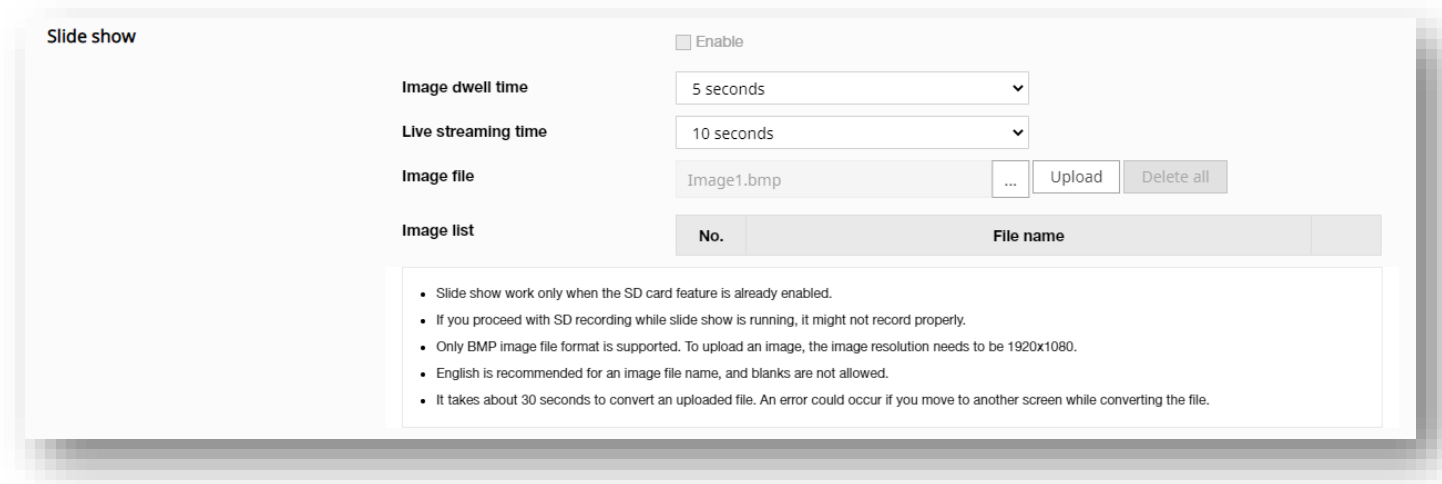
**Image list**

No.	File name
-----	-----------

- Slide show work only when the SD card feature is already enabled.
- If you proceed with SD recording while slide show is running, it might not record properly.
- Only BMP image file format is supported. To upload an image, the image resolution needs to be 1920x1080.
- English is recommended for an image file name, and blanks are not allowed.
- It takes about 30 seconds to convert an uploaded file. An error could occur if you move to another screen while converting the file.

# Upload Images

- An SD card must be inserted and configured to upload images to the camera.
- Images must be uncompressed 24-bit RGB true color BMP files at 1980x1080 resolution.
- Select a file to upload by clicking browse button, and then click the Upload button. 
- After a file is uploaded, the camera takes approximately 30 seconds for the file to be processed. Do not navigate away from the webpage while the processing indicator is displayed.  After processing, it will be displayed in the list.
- Continue uploading additional images as needed. Up to 10 image files can be uploaded to the camera.



Slide show  Enable

Image dwell time 5 seconds

Live streaming time 10 seconds

Image file Image1.bmp

Image list

No.	File name
-----	-----------

- Slide show work only when the SD card feature is already enabled.
- If you proceed with SD recording while slide show is running, it might not record properly.
- Only BMP image file format is supported. To upload an image, the image resolution needs to be 1920x1080.
- English is recommended for an image file name, and blanks are not allowed.
- It takes about 30 seconds to convert an uploaded file. An error could occur if you move to another screen while converting the file.

# Enable slide show function, configure options

Once image files have been uploaded to the camera, the Slide Show function can be enabled and options configured:

- Enable the Slide show function

- Image Dwell Time

Determines the duration time that each image is displayed before it cycles to the next image in the list

- Live Streaming Time

Determines the duration time that the live video will be displayed when motion is detected before returning to the slideshow function.

You can also delete individual images or all images.

Slide show

Enable

Image dwell time: 5 seconds

Live streaming time: 10 seconds

Image file: [Browse] [Upload] [Delete all]

No.	File name	
1	1.bmp	Delete
2	2.bmp	Delete
3	3.bmp	Delete
4	4.bmp	Delete
5	5.bmp	Delete
6	6.bmp	Delete
7	7.bmp	Delete
8	8.bmp	Delete
9	9.bmp	Delete
10	10.bmp	Delete

- Slide show work only when the SD card feature is already enabled.
- If you proceed with SD recording while slide show is running, it might not record properly.
- Only BMP image file format is supported. To upload an image, the image resolution needs to be 1920x1080.
- English is recommended for an image file name, and blanks are not allowed.
- It takes about 30 seconds to convert an uploaded file. An error could occur if you move to another screen while converting the file.



# Note

If the SD card is formatted, the Slide Show function will be disabled.

Click the Delete All Images option to clear the database after formatting an SD card before uploading new images and enabling the Slide Show function.

# Motion Detection Trigger

To have the motion detection trigger the camera image to be displayed immediately, enable the motion detection option. You can configure custom areas and settings as desired. A custom motion detection zone allows movement in a specific area to trigger the live video stream. This can be useful to prevent triggers from other aisles, windows, doors, etc. The Minimum duration allows the camera to ignore quick movements requiring motion to be present for a specific interval.

The screenshot displays the 'Motion detection' configuration page in a web interface. On the left is a navigation menu with categories: Basic, PTZ, Video & Audio, Network, Event, Analytics (expanded), System, and Open platform. Under 'Analytics', 'Motion detection' is selected. The main content area is titled 'Motion detection' and features a checkbox for 'Enable motion detection' which is checked. Below this are three tabs: 'Include area', 'Exclude area', and 'Common'. The 'Include area' tab is active, showing a live video feed of a hallway with a red rectangular detection zone overlaid on a doorway. The text 'Recording In Progress' is overlaid in red at the bottom of the video. To the right of the video are several settings: 'Area' with a grid of 8 numbered buttons (1 is selected); 'Level of detection' with a vertical slider set to 5; 'Sensitivity' with a horizontal slider set to 80; 'Minimum duration (s)' with a horizontal slider set to 0; and 'Handover' set to 'Off' in a dropdown menu.

# Face Detection (Optional)

Face detection is commonly used with a PVM as a deterrent to shoplifting or other places where you want to draw someone's attention to the monitor. The face detection analytic has an option to include an overlay over the person's face. You can select a color for the overlay. This allows you to capture a great face show, as well as display messaging. Simply enable the analytic, and adjust the sensitivity as needed. It is recommended to enable the Motion Based Dynamic area, so that the camera will look for faces wherever motion is present.

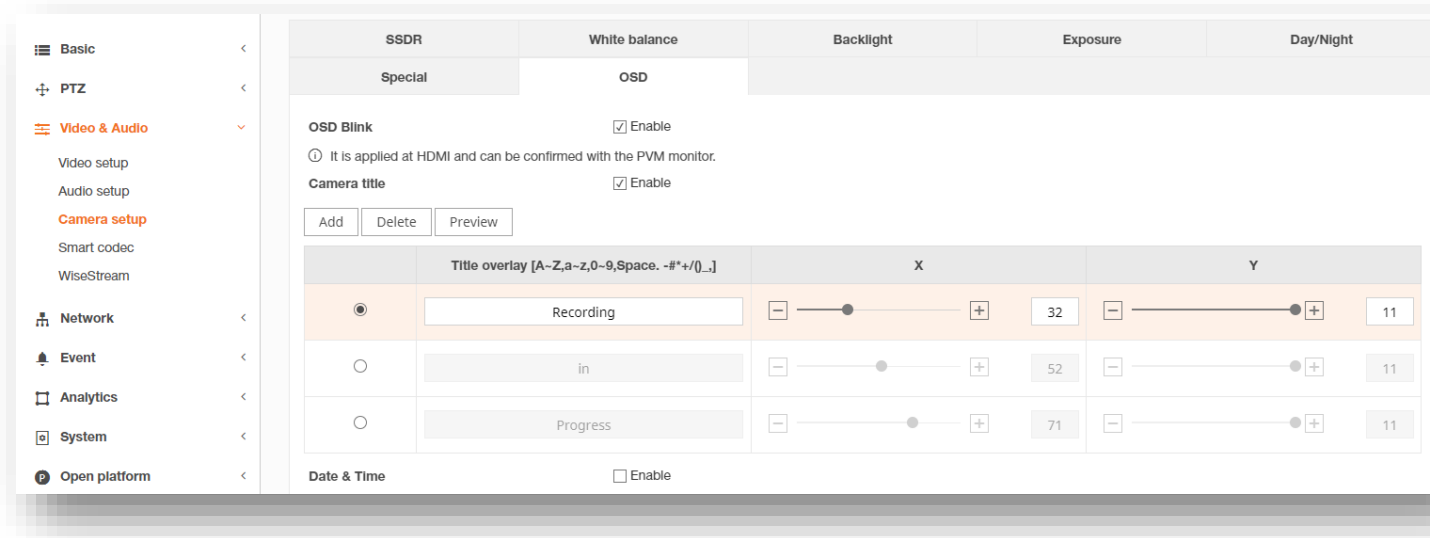
The screenshot displays the 'Face detection' configuration page in a web interface. On the left is a navigation menu with categories: Basic, PTZ, Video & Audio, Network, Event, Analytics (expanded), System, and Open platform. Under 'Analytics', 'Face detection' is highlighted. The main panel is titled 'Face detection' and contains the following settings:

- Enable face detection
- Buttons for 'Include area' and 'Exclude area' (the latter is active)
- A video preview window showing a hallway with the text 'Recording in Progress' overlaid at the bottom.
- Sensitivity**: A slider set to 5.
- Motion based dynamic area**:  Enable
- Detection Line Color**: A note states 'It is applied at HDMI and can be confirmed with the PVM monitor.' Below are color selection circles: black, white, red, orange, yellow, green, blue (selected), dark blue, and purple.
- Overlay**:  Enable

# Configure OSD (Optional)

Choose from blinking, 3 font sizes, 6 font colors, & 4 transparency options.

A maximum of 5 lines of text can be added. If longer text is needed, multiple entries can be added and the X axis adjusted, as shown.



The screenshot shows the OSD configuration interface. On the left is a navigation menu with categories: Basic, PTZ, Video & Audio (expanded), Network, Event, Analytics, System, and Open platform. The main panel is titled 'OSD' and includes sections for 'OSD Blink' (checked), 'Camera title' (checked), and 'Date & Time' (unchecked). Below these is a table for 'Title overlay' with columns for 'Title overlay [A-Z,a-z,0-9,Space, -#\*/()\_]', 'X', and 'Y'. The table contains three entries: 'Recording' (X: 32, Y: 11), 'in' (X: 52, Y: 11), and 'Progress' (X: 71, Y: 11). Each entry has a radio button and a preview button.

	Title overlay [A-Z,a-z,0-9,Space, -#*/()_]	X	Y
<input checked="" type="radio"/>	Recording	32	11
<input type="radio"/>	in	52	11
<input type="radio"/>	Progress	71	11



# Notes

It is recommended to NOT record to the SD card when the slideshow function is being used (Normal recording is disabled, and the record checkbox is not enabled for any analytic).

The SD Card Encryption function can not be used with the Slide Show Function.

It is recommended to disable the SD card when inserting or removing an SD card, OR power off the camera.



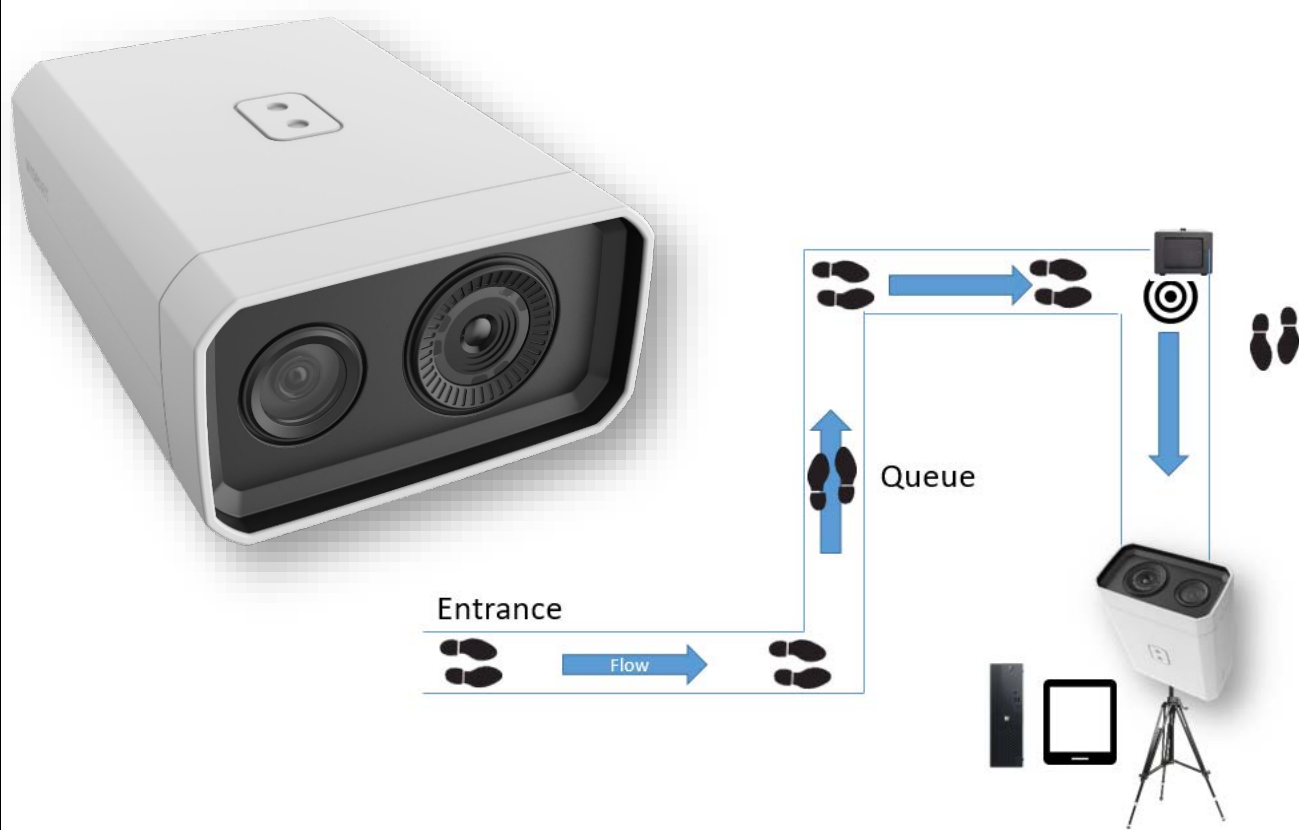
Coming Soon.....



# Elevated Body Temperature Detection

TNM-3620TDY

- Purpose built Bi-Spectral AI / Thermal
- Multi-person detection
- Accuracy within  $\pm 0.54^{\circ}\text{F}$  w/ Blackbody,  $.9^{\circ}\text{F}$  w/o Blackbody
- Verification & identification of subject with visible camera
- In progress: FDA 510K Class 1



CH1 : Visible

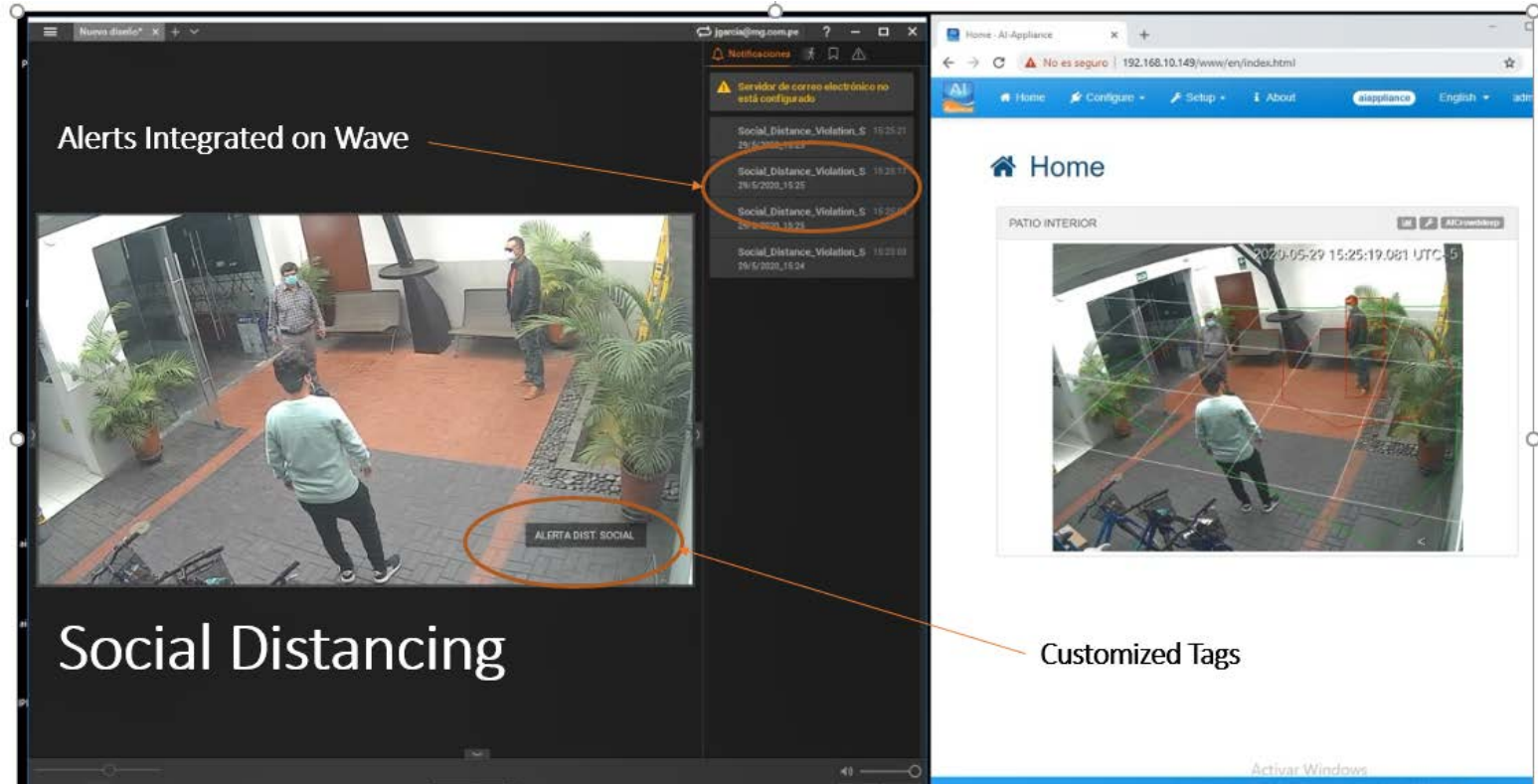


CH2 : Thermal



# Social Distancing Analytics Server Software

- Works with any Wisenet Camera
- Integration into Wisenet WAVE VMS
- Provides Social Distancing, Overcrowding, & Over Occupancy notification
- Deep learning allows camera placement flexibility
- Runs on your own server







**Questions??**

**Thanks!!**