



# **Operating Instructions**

## **i-PRO Active Guard Plug-in for WV-ASM300**



# CONTENTS

1. Introduction .....	2
1.1. Features .....	2
1.2. Preface .....	4
1.3. System overview .....	4
2. i-PRO Active Guard Plug-in .....	5
2.1. Startup and terminate Plug-in .....	5
2.2. i-PRO Active Guard Search .....	7
2.3. i-PRO Active Guard Event .....	36
2.4. Playback video control .....	50
2.5. Setup watchlists .....	52
2.6. Preferences .....	107
2.7. Attribute Settings .....	111
2.8. Software updates .....	112
3. Troubleshooting .....	113
4. Appendices .....	114
4.1. Specifications .....	114
5. Open-source software .....	115

# **1. Introduction**

## **1.1. Features**

### **1.1.A. Terms in use**

THIS PUBLICATION IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF THE THIRD PARTY'S RIGHT.

THIS PUBLICATION COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE ADDED TO THE INFORMATION HEREIN, AT ANY TIME, FOR THE IMPROVEMENTS OF THIS PUBLICATION AND/OR THE CORRESPONDING PRODUCT (S).

### **1.1.B. Trademarks and registered trademarks**

- Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Other name of companies and products contained in these operating instructions may be trademarks or registered trademarks of their respective owners.

### **1.1.C. Copyright**

Distributing, copying, disassembling, reverse compiling and reverse engineering of the software provided with this product are all expressly prohibited. In addition, exporting any software provided with this product violating export laws is prohibited.

### **1.1.D. Abbreviations**

These are descriptions of the basic terms used in these operating instructions. Microsoft® Windows® are described as Windows.

## **1.1.E. Disclaimer of warranty**

This product is designed to search/verify a specified face from database that stores face information and thumbnail images created based on faces captured by network cameras and display statistical information by operation using a client terminal or system compatible with this product. This product by itself is not designed for crime prevention. This product must not be used for any purpose that is unlawful or prohibited by any law or regulation. We are not responsible for such unlawful or infringing use of our products. In addition, our company accepts no responsibility for the following under any circumstances.

- (1) ANY DAMAGE AND LOSS, INCLUDING WITHOUT LIMITATION, DIRECT OR INDIRECT, SPECIAL, CONSEQUENTIAL OR EXEMPLARY, ARISING OUT OF OR RELATING TO THE PRODUCT.
- (2) ANY INCONVENIENCE, LOSS, OR DAMAGE CAUSED BY INAPPROPRIATE USE OR NEGLIGENT OPERATION OF THE USER.
- (3) UNAUTHORIZED DISASSEMBLE, REPAIR OR MODIFICATION OF THE PRODUCT BY THE USER.
- (4) ANY PROBLEM, CONSEQUENTIAL INCONVENIENCE, OR LOSS OR DAMAGE, ARISING OUT OF THE SYSTEM COMBINED BY THE DEVICES OF THIRD PARTY.
- (5) ANY CLAIM OR ACTION FOR DAMAGES BROUGHT BY ANY PERSON OR ORGANIZATION AS A PHOTOGRAPHED SUBJECT DUE TO VIOLATION OF PRIVACY CONCERNING A SURVEILLANCE CAMERA'S PICTURE OR SAVED DATA, FOR SOME REASON (INCLUDING USE WHEN USER AUTHENTICATION ON THE AUTHENTICATION SETTING SCREEN IS SET TO OFF), BECOMING PUBLIC OR BEING USED FOR ANY PURPOSE.
- (6) LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE (INCLUDING INITIALIZATION OF THE PRODUCT DUE TO FORGOTTEN AUTHENTICATION INFORMATION SUCH AS A USERNAME AND PASSWORD).
- (7) ANY PROBLEM, DAMAGE OR COMPLAINT CAUSED BY THE OPERATION BY A MALICIOUS THIRD PARTY.

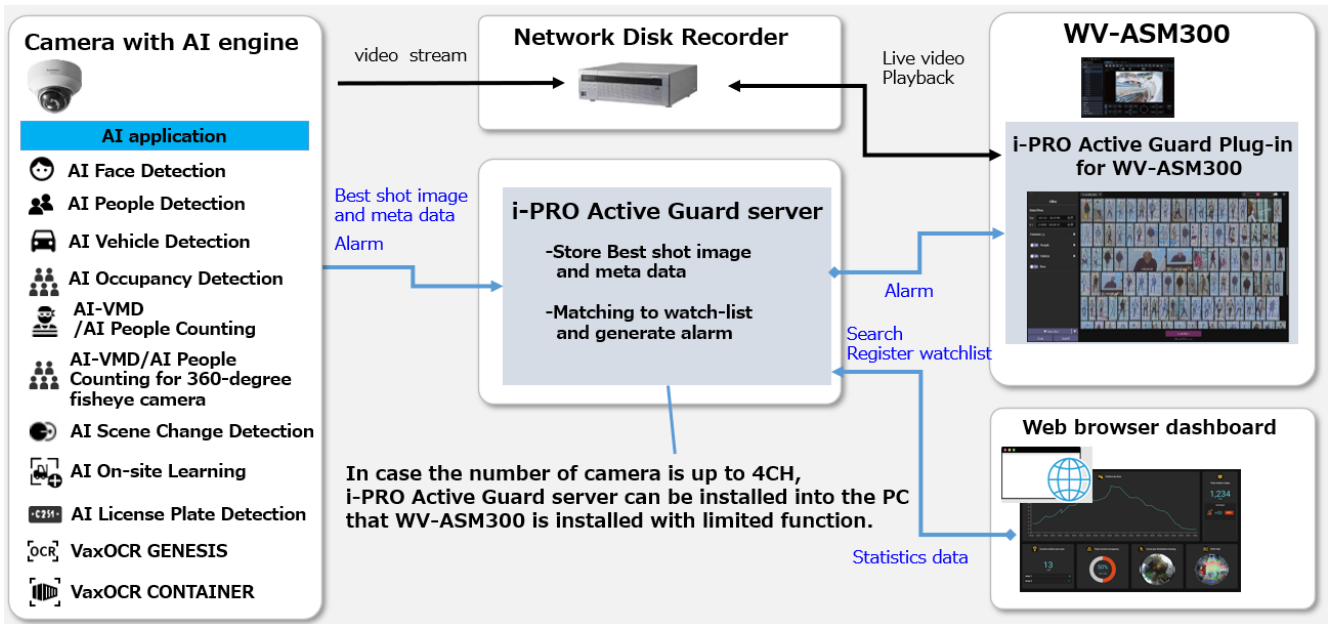
## 1.2. Preface

Setup is required before using the plug-in. Please refer to i-PRO Active Guard Setup Instructions for ASM300.

This operating manual is for dashboard function of i-PRO Active Guard Plug-in.

Regarding the operation of dashboard of i-PRO Active Guard server, please refer to i-PRO Active Guard server dashboard Operating Instructions.

## 1.3. System overview



AI application or AI function on cameras transmit video stream to Network disk recorder and transmit Best shot images and meta data to i-PRO Active Guard server.

i-PRO Active Guard server stores those data and also generate alarm when face, people, vehicle, license plate, code or container code is matched to watchlist.

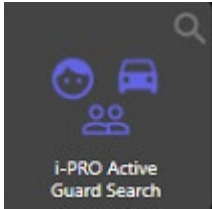
i-PRO Active Guard Plug-in for WV-ASM300 (hereinafter referred to as “Plug-in”) which is the plug-in software for WV-ASM300 can search best shot images, register watchlist, show live video, recorded video, and alarm.

By visualizing statistical data from AI application on the web browser, it can also be used for business intelligence.

# 2. i-PRO Active Guard Plug-in

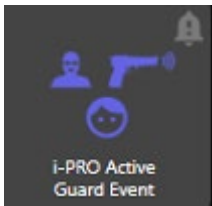
## 2.1. Startup and terminate Plug-in

Plug-in has two functions as below.



### i-PRO Active Guard Search

By using various features, enables to search best shots of objects such as people, face and vehicle that AI camera recognize.



### i-PRO Active Guard Event

Enable to monitor live events that AI cameras recognize. Detected past events can be searched.

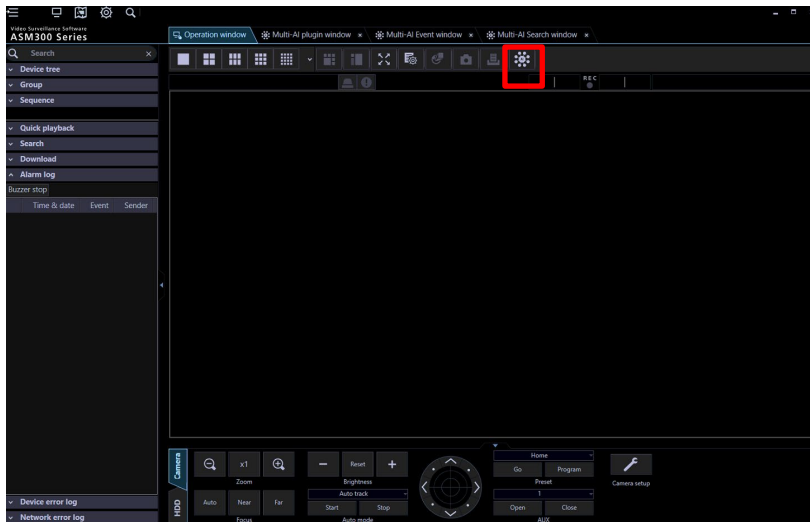
### 2.1.1. Start-up plug-in

Installation and license registration of Plug-in need to be completed in advance.

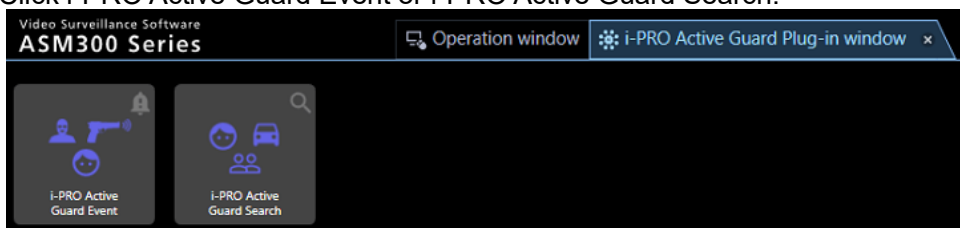
To open plug-in, start-up WV-ASM300 and log in first.



Click from Operation window.

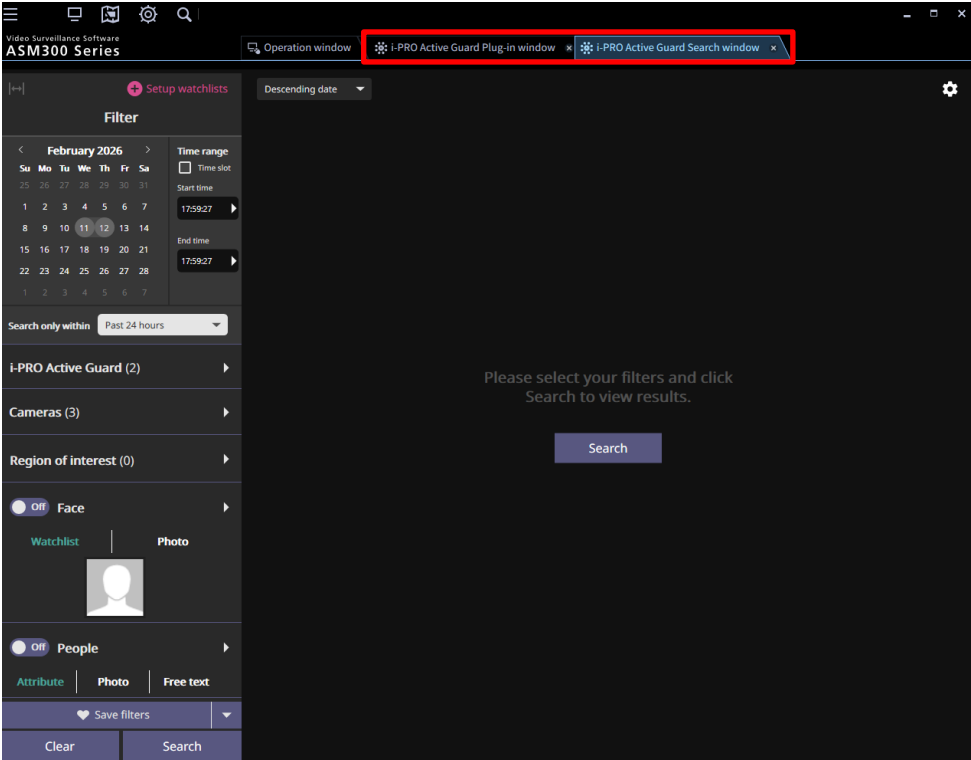


Click i-PRO Active Guard Event or i-PRO Active Guard Search.



# 2.1.2. Terminate plug-in

To terminate i-PRO Active Guard Search or i-PRO Active Guard Event, just close the tab.



## 2.2. i-PRO Active Guard Search

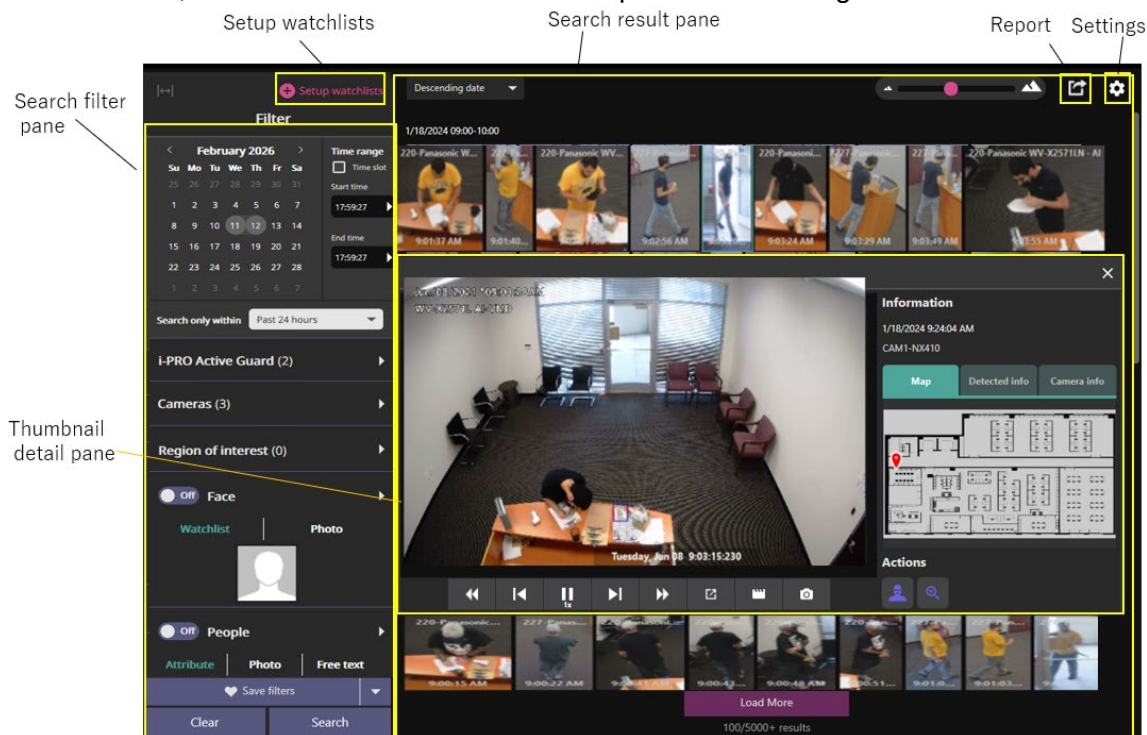
Using i-PRO Active Guard search, you can quickly find thumbnails of AI Camera detected objects including person, vehicle, and face.

### 2.2.1. UI Component

i-PRO Active Guard Search has three main parts such as search filter pane, search result pane and thumbnail detail pane, also has watchlists menu and other settings.

#### 2.2.1.1. Overview

In this section, it describes the elements that compose the recording search.



Search filter pane

Date/Time filter

Start time and end time for search objects.

If Time slot is checked, only the time slot from Start time to End time is searched.

Ex) date 3/10 – 3/14

Start time : 8:00 AM

End time : 8:00 PM

-Time slot is not checked: 3/10 8:00 AM – 3/14 8:00 PM

-Time slot is checked : 3/10 8:00 AM – 3/10 8:00 PM

3/11 8:00 AM – 3/11 8:00 PM

3/12 8:00 AM – 3/12 8:00 PM

3/13 8:00 AM – 3/13 8:00 PM

3/14 8:00 AM – 3/14 8:00 PM

	Search only within	Select from Past 24 hours/Past week/Past month/None. - When selecting other than None, Date/Time filter are ignored. - When specify Date/Time filter, this setting will automatically become None.
	i-PRO Active Guard filter	Specify i-PRO Active Guard Server for search objects. *This setting will display when multiple i-PRO Active Guard servers are registered in Plug-in.
	Cameras filter	Specify AI Cameras for search objects.
	Region of interest	Specify areas for search object. * Only Faces, People, and Vehicles support combined searches.
	People filter	Specify personal features using one of the following: - Attributes (e.g., gender, age, hair color, etc.) - Photo - Free text
	Vehicle filter	Specify vehicle features using one of the following: - Attributes (e.g., type, color etc.) - Free text
	Face filter	Specify face image from watchlist or upload photo.
	LPR filter	Specify license plate features such as type, color, and license plate, etc.
	OCR filter	Specify OCR Code.
	Container filter	Specify Container features such as Size code, Owner country, and Container code, etc.
	Save filters	Save filter settings with name up to 12.
	Clear	Clear filter settings.
	Search	Start thumbnail search.
Search result pane	Sort	Search results are sorted as follows. - Descending date - Ascending date - Only high relevance
	Display mode	List or Timeline can be changed for search result. * Timelines are supported only if there is one type of search filter.
	Zoom in/out	Zoom in and out thumbnail results area.
	Detected thumbnail	Click and open thumbnail detail pane. Right click to perform the following operations. - Save the image - Save the whole image - Export video clip - Same operation as Action buttons. For Action buttons, see 2.2.1.3. * Up to 10 images and videos can be saved simultaneously by selecting multiple thumbnails using the “Ctrl” or “Shift” keys. Action button operation is only possible when only one thumbnail is selected.
	Results count	Show the thumbnail search results count.
Thumbnail detail pane	Thumbnail detail pane	Video control, information such as camera location, analysis score and camera information. Refer to “2.2.1.3” for detail.
Set up	Faces	Setup Faces watchlist.

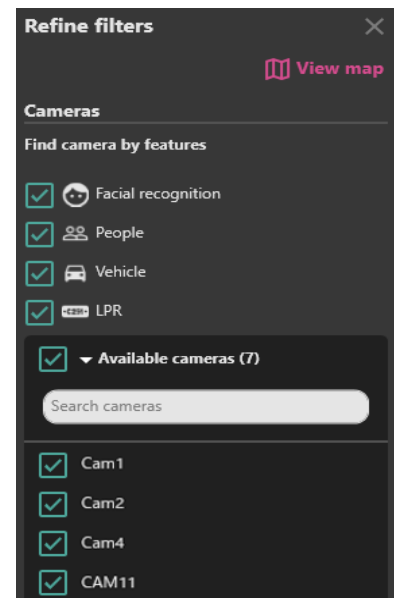
watchlists	watchlist	
	People watchlist	Setup People watchlist.
	Vehicles watchlist	Setup Vehicles watchlist.
	LPR watchlist	Setup LPR watchlist.
	OCR watchlist	Setup OCR watchlist.
	Container watchlist	Setup Container watchlist.
Report	Export HTML	Export search result as HTML.
Settings	Preferences	Setup some environments for playback, event monitor etc.
	Software update	Displays the current version of i-PRO Active Guard server and Plug-in. And a notification will appear when the i-PRO Active Guard Server or plug-in are available for updates. *This setting will not appear in environments without an Internet connection.
	Attribute Settings	Setup visibility of attributes in filter and watchlist.

## 2.2.1.2. About search filters

In this section, it describes search filters that can narrow the search results down.

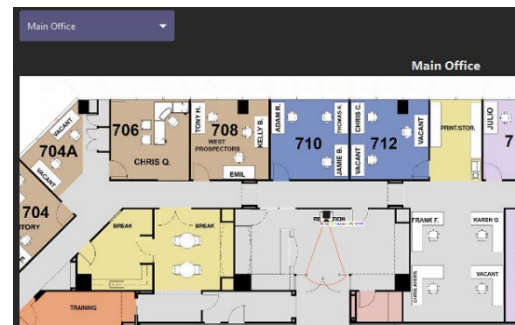
### A. Camera filter

Select the cameras to be searched from the available camera list. Using Find camera by features, you can select only cameras which have specific AI capabilities.



Cameras also can be selected from map. Select target maps then select camera icons or encircle cameras by dragging your mouse. The map is optional, setup on WV-ASM300 setting is required on prior to using this function.

When you register or change the map on WV-ASM300, terminate plug-in and start again.



## B. Region of interest filter

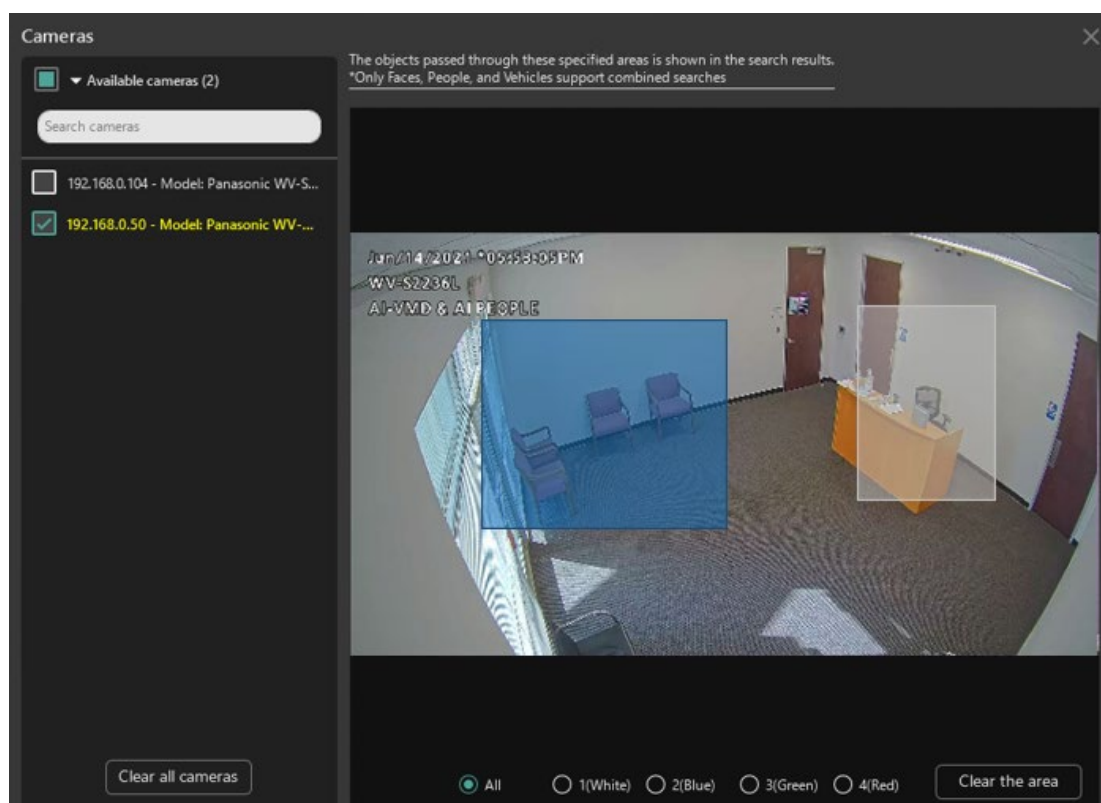
With the Region of interest filter enabled, only thumbnails of the specified area will be displayed.

\* Only Faces, People, and Vehicles support combined searches.

Select the camera to search from the list of available cameras and specify the area by mouse drag on the displayed image.

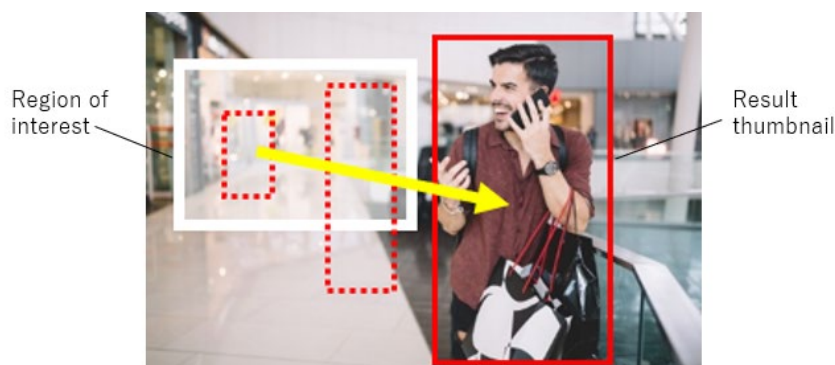
Up to 4 areas can be specified for each camera.

To delete the area, press the "Clear the area" button.



### Note:

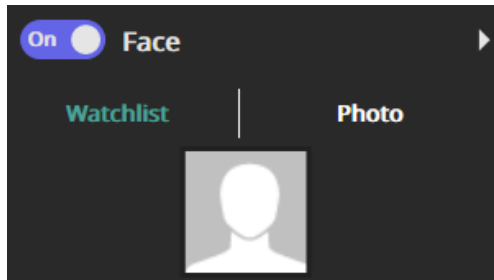
- The thumbnail of the search result is the clearest image of the detection target while he is moving in the view angle. They may not be images within the area specified in this setting.



- If you change resolution of the camera used in this filter, re-set the region of interest.

### C. Face filter

With the Face filter enabled, only the thumbnails are shown which AI Camera with face detection app detected.



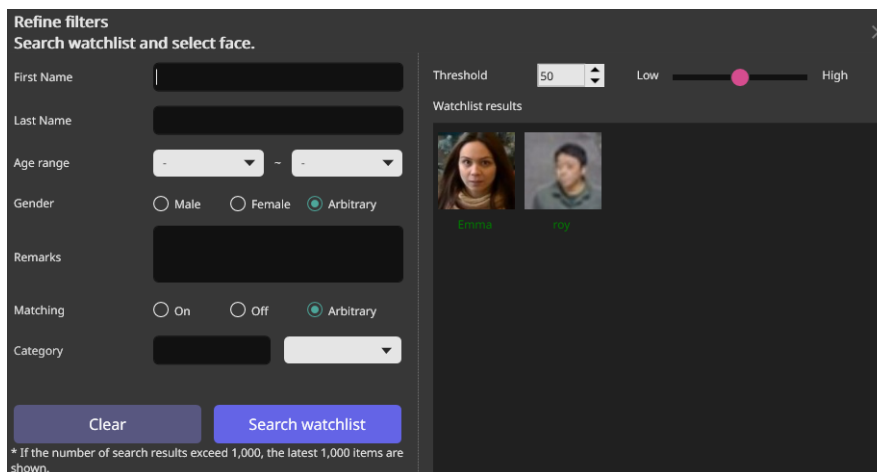
Also using filter panel, you can apply the search condition.

### **Watchlist**

Select face from watchlist and search for similar face.

Click [Search watchlist] with search conditions.

Select face from Watchlist result.



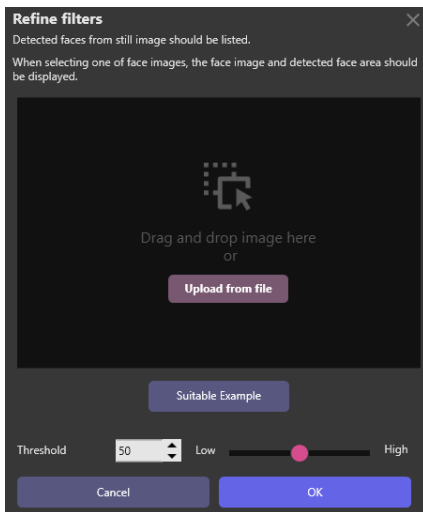
### **Note:**

- Up to 1,000 watchlists can be shown at the same time.  
If your search results exceed 1000 results, please set the search filter so that the search results are less than 1000 results.

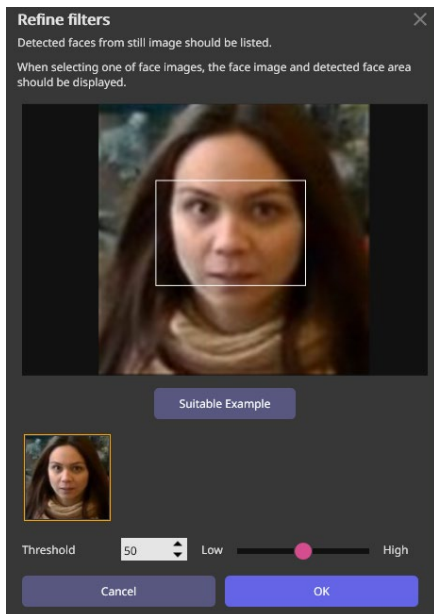
## Face picture

Upload image file that includes face and search similar faces.

Click icon and select image file.

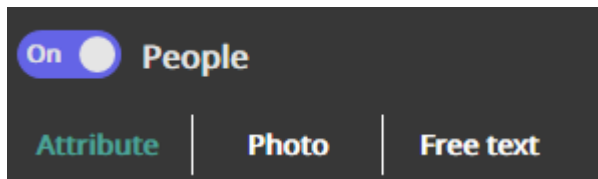


When face is detected from the image, selecte face and click OK.



## D. People filter

With the People filter enabled, only the thumbnails are shown which AI Camera with people detection app detected.

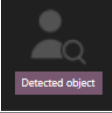


Also using Attributes, Photo, or Free text, you can apply the search condition.

### Attribute

Using filter panel's attributes, you can apply the search condition.



Features and controls	Description
	Uploading people picture If picture is uploaded, features are automatically detected.
<b>Gender</b>	Male, Female
<b>Age</b>	Child (0~10), Young Adult (11~20), Adult (21~60), Senior (61+)
<b>Hair type</b>	Long-hair, Short-hair, Hat
<b>Hair color</b>	Black, Gray, White, Brown, Gold
<b>Hat / Helmet</b>	Hat / Helmet, No hat / No helmet
<b>Top type</b>	Short-sleeves, Long-sleeves
<b>Top color</b>	Black, Gray, White, Brown, Orange, Yellow, Green, Blue, Purple, Pink, Red
<b>Bottom type</b>	Long, Short
<b>Bottom color</b>	Black, Gray, White, Brown, Orange, Yellow, Green, Blue, Purple, Pink, Red
<b>Sunglasses</b>	Sunglasses, No Glasses
<b>Beard</b>	Beard, No Beard
<b>Mask</b>	Mask, No Mask
<b>Bag</b>	Bag, No Bag
<b>Bag color</b>	Black, White, Brown, Orange, Yellow, Green, Blue, Purple, Pink, Red
<b>Shoes color</b>	Black, White, Brown, Yellow, Green, Blue, Red
<b>Moving Direction</b>	Up, Up right, Right, Down right, Down, Down left, Left, Up left
<b>Additional filters</b>	Recognizable face can only show person thumbnails with clarify face. Color image only
	<b>Note:</b> <ul style="list-style-type: none"> <li>Black &amp; white images may show in the search results even if only Color image only is specified.</li> </ul>
<b>Threshold</b>	There are Low, Average and High.
<b>Exclude searched color</b>	If this is selected, the color will exclude from search results.
<b>Include similar color</b>	If this selected, the color similar to the specified color will be automatically selected.

**Note:**

- If the specified color does not appear in the search results, it may be displayed in the search results by selecting and searching for the following similar colors together.

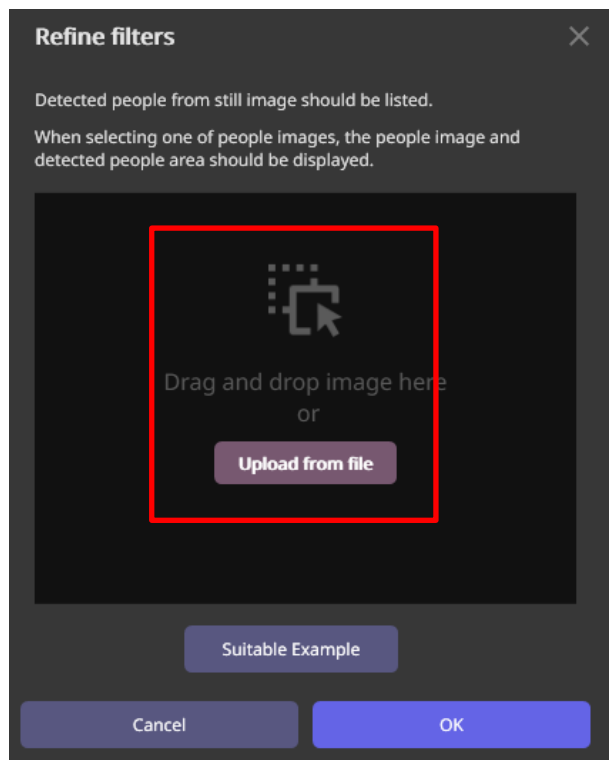
Color to be searched	Similar color (The order is similar from the left)
<b>Black</b>	Gray
<b>Brown</b>	Gray, White
<b>White</b>	Gray, Blue, Brown, Yellow
<b>Gray</b>	Black, White, Blue
<b>Green</b>	Blue, Black, Yellow
<b>Red</b>	Pink
<b>Blue</b>	Green, Black, Purple
<b>Yellow</b>	Green, White, Brown
<b>Purple</b>	Pink, Blue, Black
<b>Pink</b>	Red, Purple

## Photo

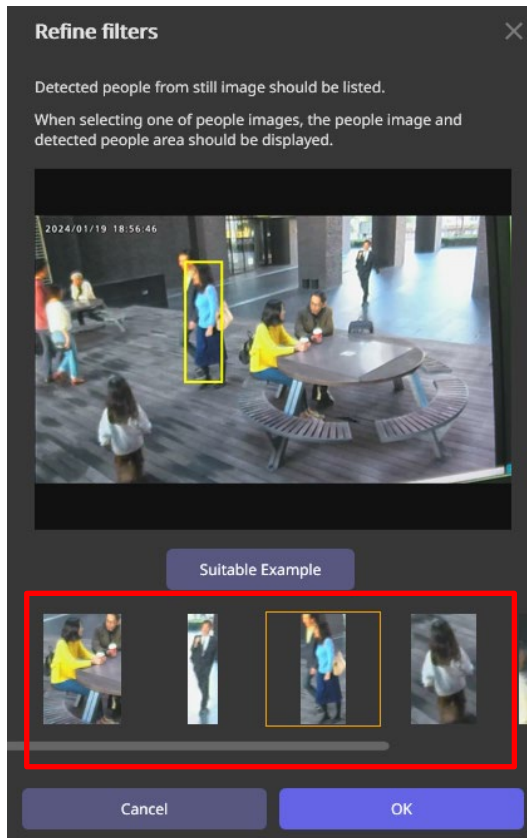
Upload image file that includes person and search for similar people.



Click icon or drag and drop the image file.



When person is detected from the image, select person and click OK.



**Note:**

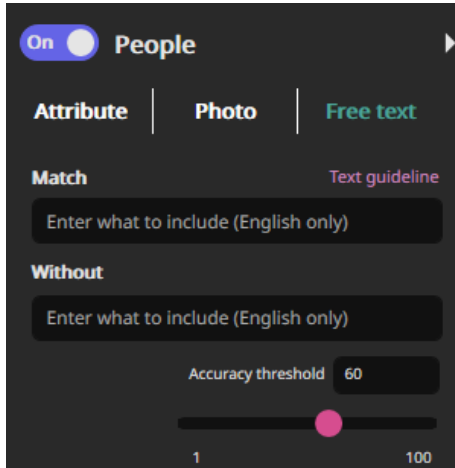
- Recommended width of people for registration is more than 100 pixels.
- Please refer to the “Suitable examples” below and select an appropriate image.

Registered Image	Example		
Suitable		<ul style="list-style-type: none"> <li>The whole body is in focus</li> <li>The subject is in focus</li> <li>The subject is not blurred</li> <li>The subject is bright enough to identify details</li> <li>Color image</li> </ul>	
Not Suitable			
	Out of focus	Too bright image	Too dark image
	Part of the body is hidden	Black and White Image	No part of the body is shown

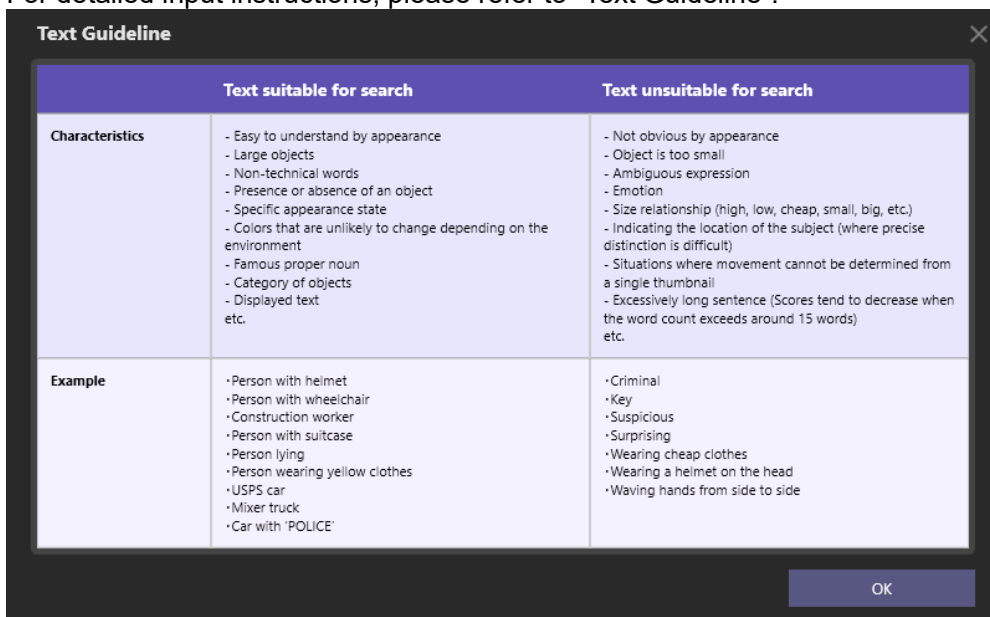
## Free text

Enter a free text description of a person's attributes to search for similar people.

- Match (required): Enter what to include (English only)
- Without (optional): Enter what to exclude (English only)

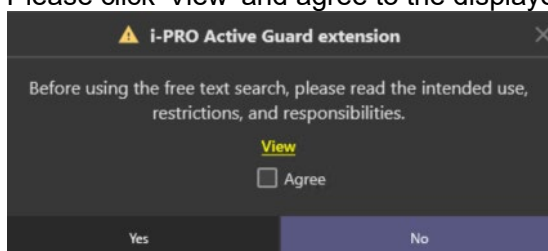


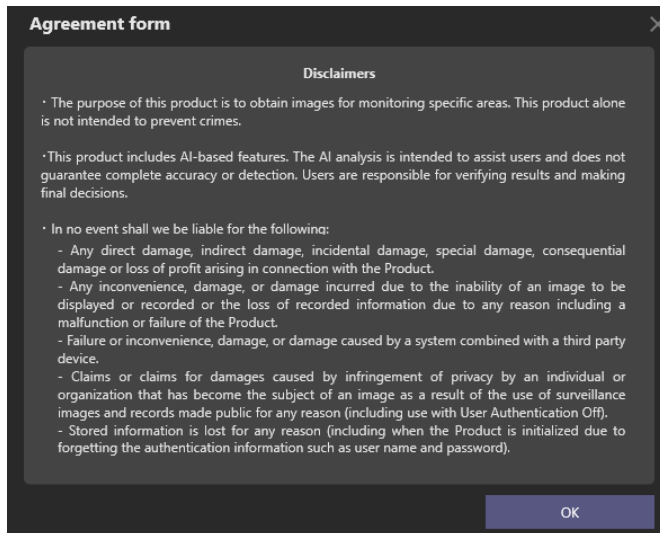
For detailed input instructions, please refer to “Text Guideline”.



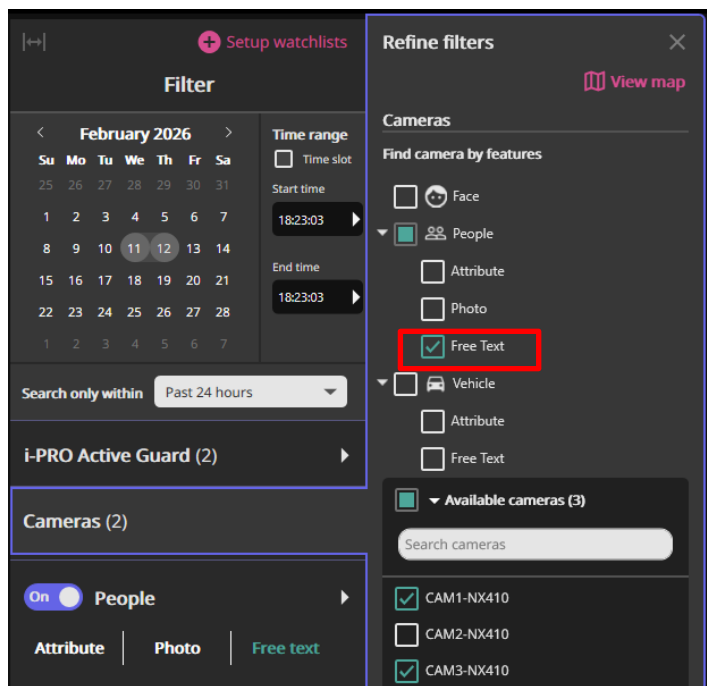
### Note:

- When launching “Free text” for the first time, a message will be displayed. Please click 'View' and agree to the displayed terms in order to use this feature.





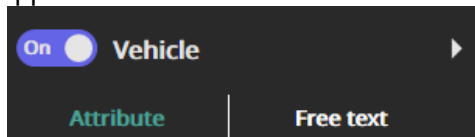
- To use free text search feature, you must configure it in addition to registering cameras on the i-PRO Active Guard server. For details, refer to “i-PRO Active Guard Setup Instructions”. You can use the camera filter to check which cameras are already configured.



- “Match” and “Without” inputs are limited to 128 characters. If the input contains more than 74 tokens within that limit, only the first 74 tokens will be used for the search; the rest will be discarded.
- Do not enter the same attribute in both Match and Without fields.

## E. Vehicle filter

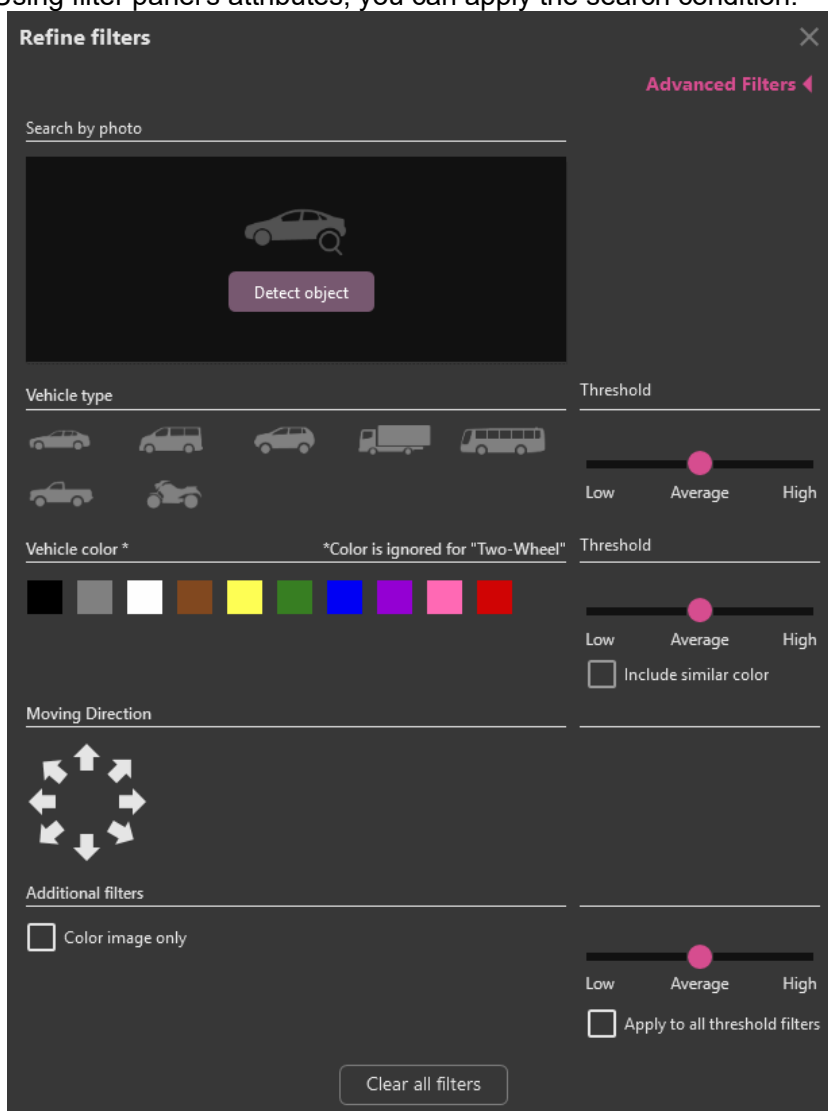
With the Vehicle filter enabled, only the thumbnails are shown which AI Camera with vehicle detection app detected.

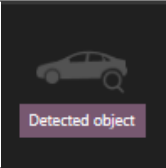


Also using Attributes, or Free text, you can apply the search condition.

### Attribute

Using filter panel's attributes, you can apply the search condition.



Features and controls	Description
	Uploading vehicle picture If picture is uploaded, features are automatically detected.
<b>Type</b>	Truck, Bus, SUV, Van, Sedan, Pickup Truck, Two-Wheel
<b>Color</b>	Black, Brown, White, Gray, Red, Blue, Yellow, Green, Purple, Pink
<b>Moving Direction</b>	Up, Up right, Right, Down right, Down, Down left, Left, Up left
<b>Additional filters</b>	Color image only
<b>Note:</b>	
<ul style="list-style-type: none"> <li>Black &amp; white images may show in the search results even if only Color image only is specified.</li> </ul>	
<b>Threshold</b>	There are Low, Average and High.
<b>Include similar color</b>	If this selected, the color similar to the specified color will be automatically selected.

**Note:**

- If the specified color does not appear in the search results, it may be displayed in the search results by selecting and searching for the following similar colors together.

Color to be searched	Similar color (The order is similar from the left)
<b>Black</b>	Gray
<b>Brown</b>	Gray, White
<b>White</b>	Gray, Blue, Brown, Yellow
<b>Gray</b>	Black, White, Blue
<b>Green</b>	Blue, Black, Yellow
<b>Red</b>	Pink
<b>Blue</b>	Green, Black, Purple
<b>Yellow</b>	Green, White, Brown
<b>Purple</b>	Pink, Blue, Black
<b>Pink</b>	Red, Purple

## Free text

Enter a free text description of a vehicle's attributes to search for similar vehicles.

- Match (required): Enter attributes to include (English only)
- Without (optional): Enter attributes to exclude (English only)

The screenshot shows a dark-themed interface for a vehicle search. At the top, there is a toggle switch labeled 'On' and the word 'Vehicle'. Below this are two tabs: 'Attribute' and 'Free text'. Under the 'Free text' tab, there are two input fields: 'Match' with the placeholder 'Enter what to include (English only)' and 'Without' with the placeholder 'Enter what to exclude (English only)'. At the bottom, there is a slider for 'Accuracy threshold' set to 60, with markers at 1 and 100.

For detailed input instructions, please refer to “Text Guideline”.

	Text suitable for search	Text unsuitable for search
<b>Characteristics</b>	<ul style="list-style-type: none"><li>- Easy to understand by appearance</li><li>- Large objects</li><li>- Non-technical words</li><li>- Presence or absence of an object</li><li>- Specific appearance state</li><li>- Colors that are unlikely to change depending on the environment</li><li>- Famous proper noun</li><li>- Category of objects</li><li>- Displayed text etc.</li></ul>	<ul style="list-style-type: none"><li>- Not obvious by appearance</li><li>- Object is too small</li><li>- Ambiguous expression</li><li>- Emotion</li><li>- Size relationship (high, low, cheap, small, big, etc.)</li><li>- Indicating the location of the subject (where precise distinction is difficult)</li><li>- Situations where movement cannot be determined from a single thumbnail</li><li>- Excessively long sentence (Scores tend to decrease when the word count exceeds around 15 words) etc.</li></ul>
<b>Example</b>	<ul style="list-style-type: none"><li>• Person with helmet</li><li>• Person with wheelchair</li><li>• Construction worker</li><li>• Person with suitcase</li><li>• Person lying</li><li>• Person wearing yellow clothes</li><li>• USPS car</li><li>• Mixer track</li><li>• Car with 'POLICE'</li></ul>	<ul style="list-style-type: none"><li>• Criminal</li><li>• Key</li><li>• Suspicious</li><li>• Surprising</li><li>• Wearing cheap clothes</li><li>• Wearing a helmet on the head</li><li>• Waving hands from side to side</li></ul>

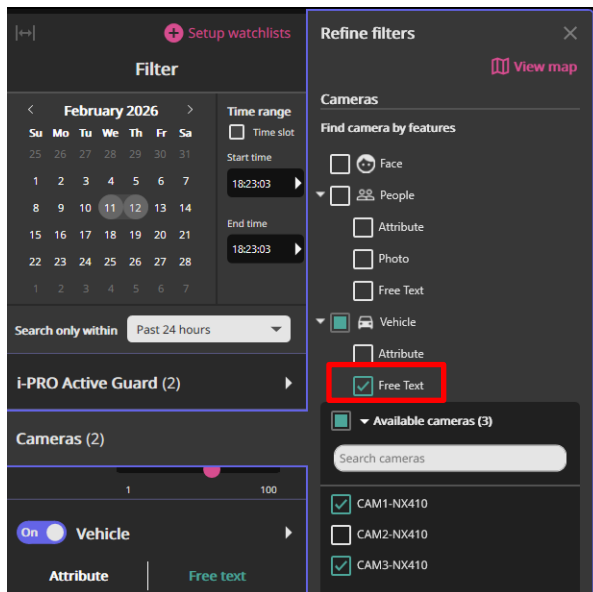
OK

### Note:

- When launching “Free text” for the first time, a message will be displayed. Please click 'View' and agree to the displayed terms in order to use this feature.

The screenshot shows a warning dialog box with a yellow triangle icon and the title 'i-PRO Active Guard extension'. The text inside reads: 'Before using the free text search, please read the intended use, restrictions, and responsibilities.' Below this text is a yellow 'View' link, a checkbox labeled 'Agree', and two buttons at the bottom: 'Yes' and 'No'.

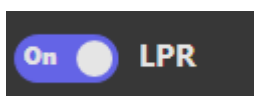
- To use free text search feature, you must configure it in addition to registering cameras on the i-PRO Active Guard server. For details, refer to “i-PRO Active Guard Setup Instructions”. You can use the camera filter to check which cameras are already configured.



- “Match” and “Without” inputs are limited to 128 characters. If the input contains more than 74 tokens within that limit, only the first 74 tokens will be used for the search; the rest will be discarded.
- Do not enter the same attribute in both Match and Without fields.

## F. LPR Filter

With the LPR filter enabled, only the thumbnails are shown which license plate detection app detected.



Also using filter panel, you can apply the search condition.



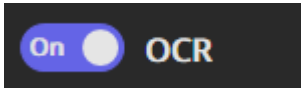
Features and controls	Description
<b>License plate</b>	Specify a License plate number. <hr/> <b>Note:</b> <ul style="list-style-type: none"><li>Use '%' for wild card search (example: for plates starting with 'A,' enter 'A%.').</li></ul>
<b>Country</b>	Specify the country or ADR.
<b>State *1</b>	Specify the state
<b>Moving Direction</b>	Towards/in, Away/out, Stopped
<b>Vehicle Type</b>	Car, Van, Mini-Van, SUV, Truck, Bus, Pickup Truck, Motorcycle.
<b>Vehicle Color</b>	Black, Gray, White, Beige, Brown, Orange, Golden, Yellow, Green, Blue, Purple, Red
<b>Vehicle Brand</b>	Specify the Brand
<b>Vehicle Model *2</b>	Specify the model
<b>Additional filters</b>	Color image only <hr/> <b>Note:</b> <ul style="list-style-type: none"><li>Black &amp; white images may show in the search results even if only Color image only is specified.</li></ul>

\*1 : State is displayed when Country is set to "United States", "Australia", "Thailand", "Germany", "Egypt", "Kazakhstan", or "UAE".

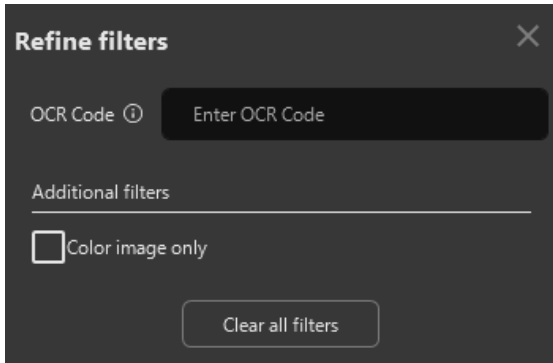
\*2 : Model is displayed after setting Brand.

## G. OCR Filter

With the OCR filter enabled, only the thumbnails are shown which VaxOCR GENESIS app detected.



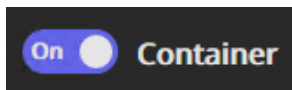
Also using filter panel, you can apply the search condition.



Features and controls	Description
<b>OCR Code</b>	Specify OCR Code.  <b>Note:</b> <ul style="list-style-type: none"><li>• Use '%' for wild card search (example: for OCR Code starting with 'A,' enter 'A%.').</li></ul>
<b>Additional filters</b>	Color image only  <b>Note:</b> <ul style="list-style-type: none"><li>• Black &amp; white images may show in the search results even if only Color image only is specified.</li></ul>

## H. Container Filter

With the Container filter enabled, only the thumbnails are shown which VaxOCR CONTAINER app detected.

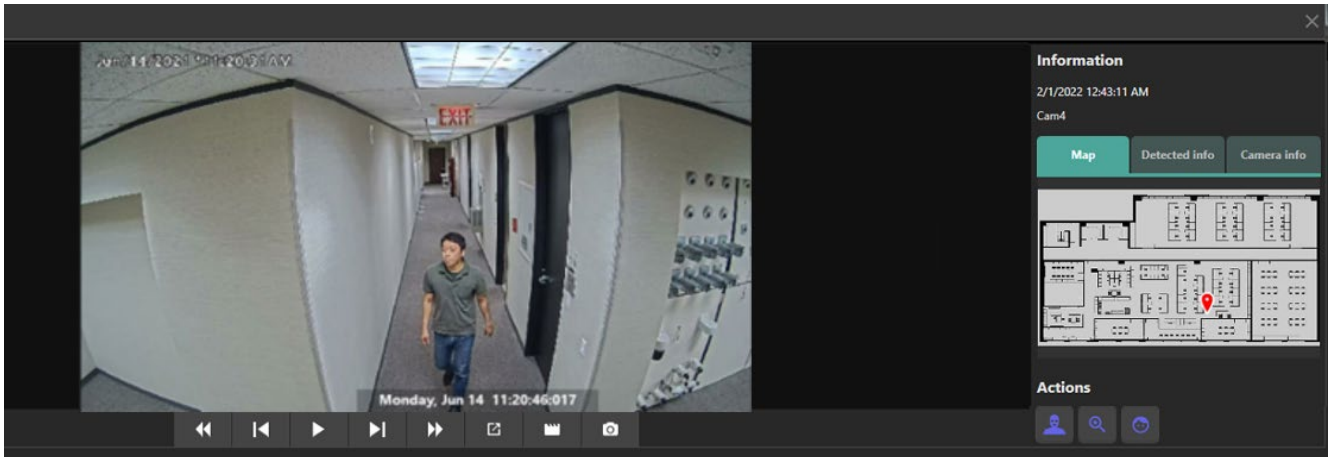


Also using filter panel, you can apply the search condition.

Features and controls	Description
<b>Container code</b>	Specify Container code.  <b>Note:</b> <ul style="list-style-type: none"><li>• Use '%' for wild card search (example: for Container code starting with 'A,' enter 'A%.').</li></ul>
<b>Size code</b>	Specify the size code.  <b>Note:</b> <ul style="list-style-type: none"><li>• Use '%' for wild card search (example: for size code starting with 'A,' enter 'A%.').</li></ul>
<b>Owner country</b>	Specify the owner country.
<b>Owner city</b>	Specify the owner city.
<b>Owner company</b>	Specify the owner company.
<b>Additional filters</b>	Color image only  <b>Note:</b> <ul style="list-style-type: none"><li>• Black &amp; white images may show in the search results even if only Color image only is specified.</li></ul>

## 2.2.1.3. About thumbnail detail pane

Selecting one of thumbnail search results, you can take various actions such as playback video, check analysis result and register the thumbnail to watchlist and so on. The additional information about playback controls, please refer to 2.4 PLAYBACK VIDEO CONTROL.



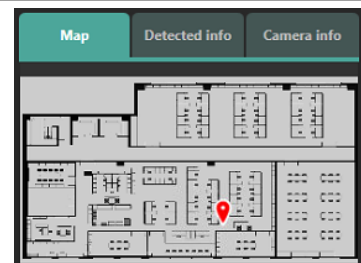
- **Information**

You can see more detailed information such as detected place, the analysis information, and camera information.

A. **Map**

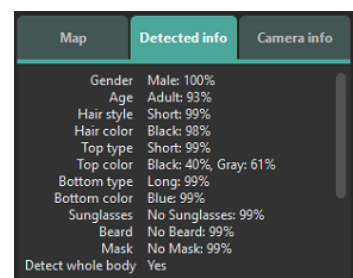
The camera which sent the thumbnail is displayed with map. You can see the camera location on map.

When you register or change the map on WV-ASM300, terminate plug-in and start again.



B. **Detected info**

Analysis score information for each feature is displayed.



### C. Camera info

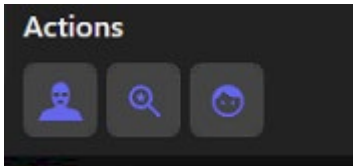
---


Camera information is displayed.

Map	Detected info	Camera info
		Model WV-S2136 IPAddress 192.168.0.73 Camera name Cam4 WebAccess <a href="http://192.168.0.73">192.168.0.73</a>

- Action buttons

This allows user quick operation such as search for similar characteristics by one click, register watchlists, and sharing other devices.



A.  Search for similar characteristics

---

Quick search is provided to allow for an instant search to detect high score features, which is available for person or vehicle thumbnails.

### **Person thumbnails**

#### **- Search for similar persons precisely (less false result)**

Selectable when the whole body in people's image is recognized.

People Photo Search by the following conditions.

- Cameras: Camera in which AI People detection is installed.
- Threshold: 55

#### **- Search for similar persons broadly (less missing result)**

Selectable when the whole body in people's image is recognized.

People Photo Search by the following conditions.

- Cameras: Camera in which AI People detection is installed.
- Threshold: 44

#### **- Search for persons with similar characteristics**

##### **(for search using AI People Detection V2.11 or earlier)**

Selectable when the upper body in people's image is recognized.

People Attribute Search by the following conditions.

- Cameras: Camera in which AI People detection is installed.
- Features: Only the features with the high score in "Detected info" of the image are used among the target features.

Target features: Gender, Age, Hair type, Hair color, Hat/Helmet,  
Top type, Top color, Bottom type, Bottom color,  
Sunglasses, Beard, Mask, Bag, Bag color, Shoes color

- Threshold: Average.

#### **- Search for similar face**

Selectable when face in people images is recognized.

Face Photo Search by the following conditions.

- Cameras: Camera in which AI Face detection is installed.
- Threshold: 50

## **Vehicle thumbnails**

### **- Search for similar characteristics**

Vehicle Attribute Search by the following conditions.

- Cameras: Camera in which AI Vehicle detection is installed.
- Features: Only the features with the high score in “Detected info” of the image are used among the target features.  
Target features: Type, Color
- Threshold: Middle.

## **Face thumbnails**

### **- Search for similar face**

Face Photo Search by the following conditions.

- Cameras: Camera in which AI Face detection is installed.
- Threshold: 50

## **LPR thumbnails**

### **- Search for license plate number**

Selectable when license plate number in LPR image is recognized.

Search for similar images by searching for cameras that AI License plate detection is installed.

## **OCR Code thumbnails**

### **- Search for OCR code**

Selectable when OCR code in OCR detection image is recognized.

Search for similar images by searching for cameras that OCR detection is installed.

## **Container Code thumbnails**

### **- Search for Container code**

Selectable when Container code in Container detection image is recognized.

Search for similar images by searching for cameras that Container detection is installed.

If you want to go back to previous search results, use Latest search condition in Saved filters.

---

### **Note:**

- Similar Search is not applied the Latest search condition in Saved filters.
  - In the case of live events monitor and past events search, Similar Search is performed based on the detected Watchlist conditions. Therefore, the results may differ from those of thumbnail search.
-

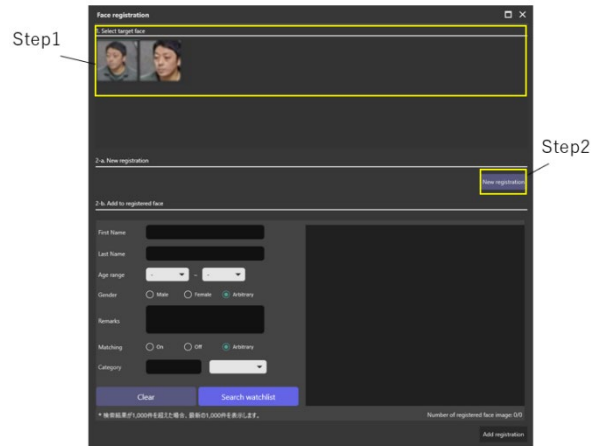


## B. Save facial features to face watchlist

Register face image to watchlist. There are options either register detected face newly or add detected face to existing registered face.

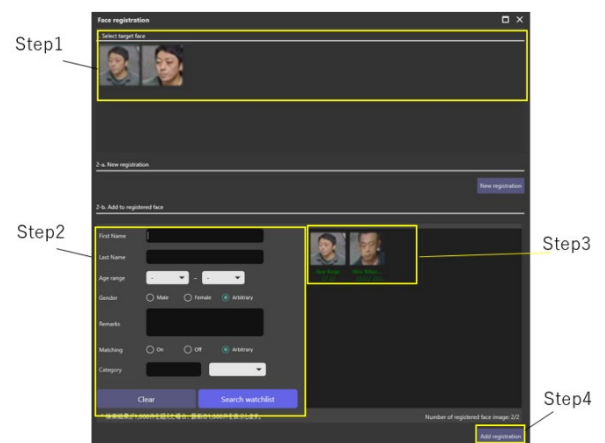
### In case of register as new face:

- Step1. Select one of detected faces.
- Step2. Click [New registration] button.
- Step3. Please follow to 2.5.1. *Face Watchlist (Step2)*



### In case of adding to existing registered face:

- Step 1. Select one of detected faces.
- Step 2. Search existing registered faces by using filters. If not specify any filters, all registered faces are displayed.
- Step 3. Select one of searched faces.
- Step 4. Click Add registration button.
- Step 5. Please follow to 2.5.1. *Face Watchlist (Step2)*



### Note:

- Face can be registered up to 30,000.  
Up to 1,000 faces can be shown at the same time.  
If your search results exceed 1000 results, please set the search filter so that the search results are less than 1000 results.
- Recommended width of face for registration is more than 75 pixels. When the selected face is under the value, message is shown.



C. Save people's characteristics to Registered Person detection

Register personal features to watchlist. High score items are registered.  
Some basic information can be entered from here.

**New Registration for watchlist**

Gender: male  
Age: 21-60  
Hair: short-hair  
Top: short-sleeves  
Bottom: long  
Sunglasses: none

Name: Suspicious people 01

Validity period:

Remarks:

Matching:  On  Off

Register



D. Save vehicle's characteristics to Registered Vehicle detection

Register vehicle features to watchlist. High score items are registered.  
Some basic information can be entered from here.

**New Registration for watchlist**

Vehicle: SUV

Name: Suspicious vehicle 03

Validity period:

Remarks:

Matching:  On  Off

Register



E. Save license plate number to LPR detection

Register license plate features to watchlist.  
License plate, country, state are registered.  
Some basic information can be entered from here.

**New Registration for License Plate**

Owner photo:

License plate: text

Owner's first name:

Owner's last name:

Group: Select group...

Country: Belgium

Validity period:

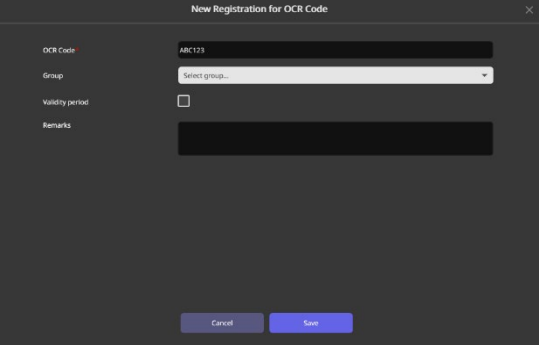
Remarks:

Clear photo


Cancel Save

F.  Save OCR Code to OCR detection

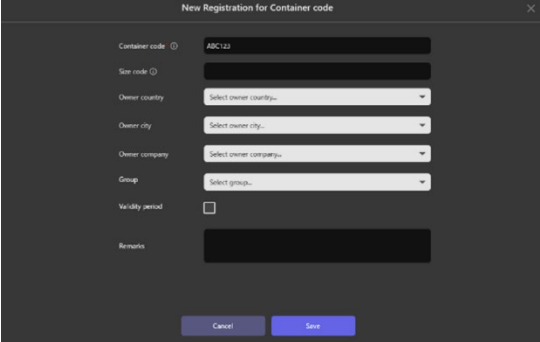
Register OCR Code to watchlist.  
Some basic information can be entered from here.



The screenshot shows a dark-themed dialog box titled "New Registration for OCR Code". It contains the following fields: "OCR Code" with the value "ABC123", "Group" with a dropdown menu showing "Select group...", "Validity period" with an unchecked checkbox, and "Remarks" with a text area. At the bottom, there are "Cancel" and "Save" buttons.





G.  Save container code to Container detection




Register Container features to watchlist.  
Container code, Size code, Owner country, Owner city,  
Owner company are registered.  
Some basic information can be entered from here.



The screenshot shows a dark-themed dialog box titled "New Registration for Container code". It contains the following fields: "Container code" with the value "ABC123", "Size code" with a text input field, "Owner country" with a dropdown menu showing "Select owner country...", "Owner city" with a dropdown menu showing "Select owner city...", "Owner company" with a dropdown menu showing "Select owner company...", "Group" with a dropdown menu showing "Select group...", "Validity period" with an unchecked checkbox, and "Remarks" with a text area. At the bottom, there are "Cancel" and "Save" buttons.

Action buttons can be utilized depending on type of objects.

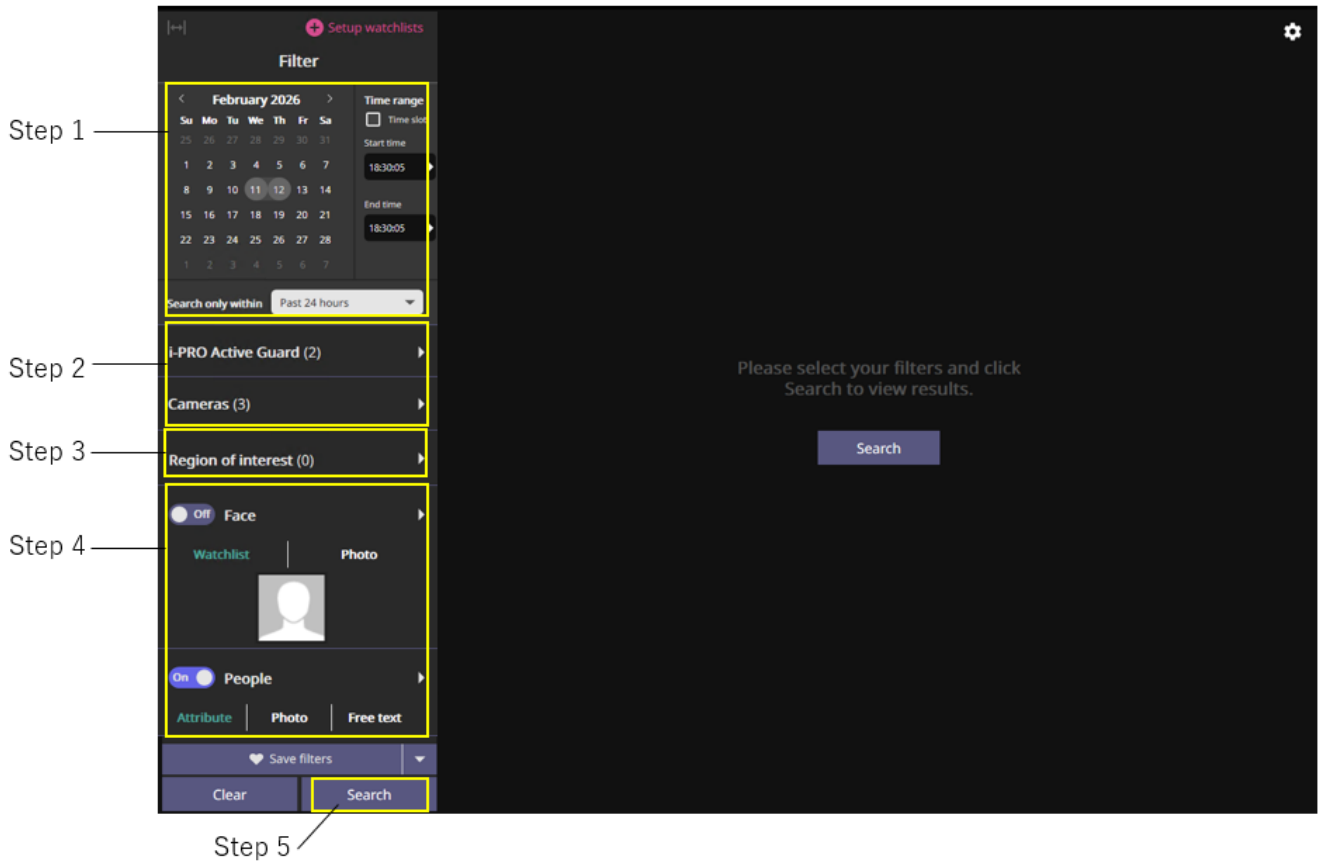
	Search for similar characteristics 	Save facial features to Registered facial detection 	Save person's characteristics to Registered Person detection 	Save vehicle's characteristics to Registered vehicle detection 
Face filter	No	Yes	No	No
People filter	Yes	Yes	Yes	No
Vehicle filter	Yes	No	No	Yes
LPR filter	Yes	No	No	No
OCR filter	Yes	No	No	No
Container filter	Yes	No	No	No

	Save license plate number to LPR detection *1 	Save OCR Code to OCR detection 	Save Container code to Container detection 
Face filter	No	No	No
People filter	No	No	No
Vehicle filter	No	No	No
LPR filter	Yes	No	No
OCR filter	No	Yes	No
Container filter	No	No	Yes

\*1 In case of the thumbnail doesn't have license plate number information, button icon does not display.  
Ex) In i-PRO Active Guard Sever settings, [Configure System] - [Database] – [Storing data] “License plate number” is unchecked case.

## 2.2.2. Thumbnail search

The following steps provide basic operation for using the thumbnail search. The search filter can find objects that you want to find out from a lot of recorded thumbnails. Then you can take next action such as playback the video, save the picture, and register to watchlist, etc.



### Step 1

Specify the start time and end time or select [Search only within] for search objects.

### Step 2

Select i-Pro Active Guard and AI Cameras. Select the Available Cameras option to search for a specific camera by name.

### Step 3

Set up the location you want to search. (for Face, People, Vehicle filter)  
If not set, all areas will be searched.

### Step 4

Set up search filters. If no filters are selected, all objects detected by AI Cameras will be displayed.

### Step 5

Click "Search".

## 2.3. i-PRO Active Guard Event

Using i-PRO Active Guard Event, you can watch what events occurred in the real time and also can find past events whatever you want to search.

### 2.3.1. UI Component

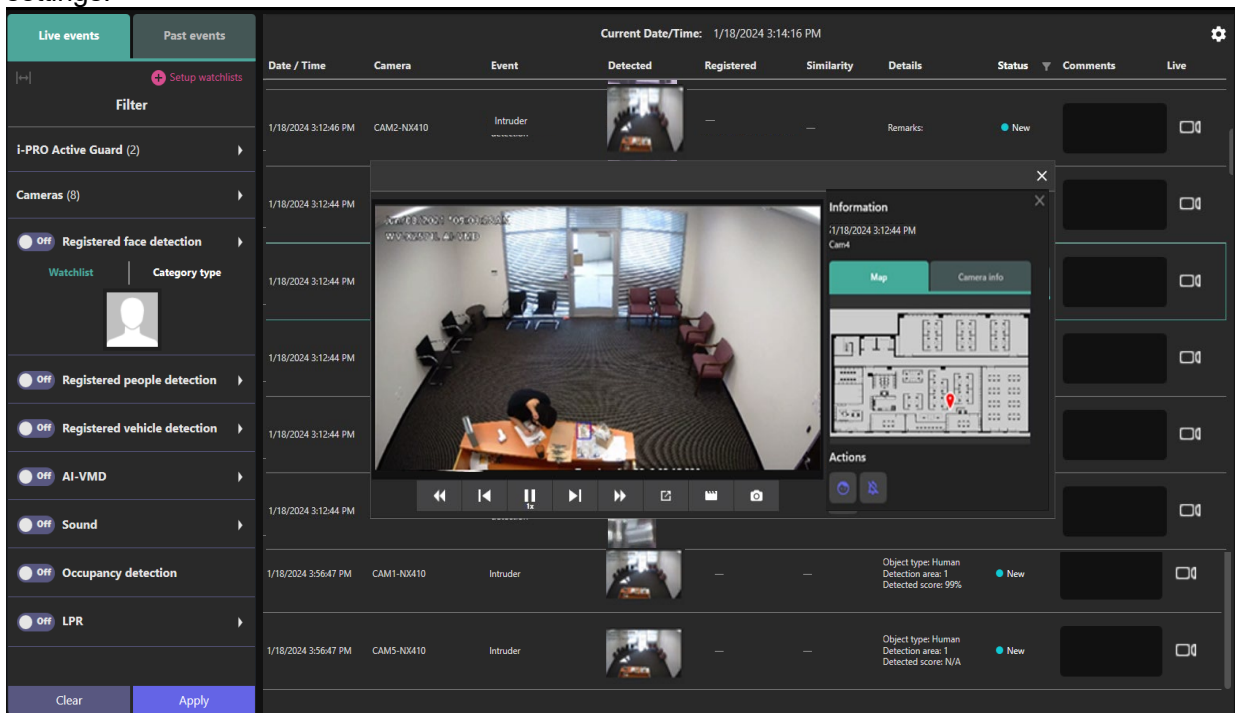
i-PRO Active Guard Event has two tabs that are Live events tab and Past events tab.

#### 2.3.1.1. Overview

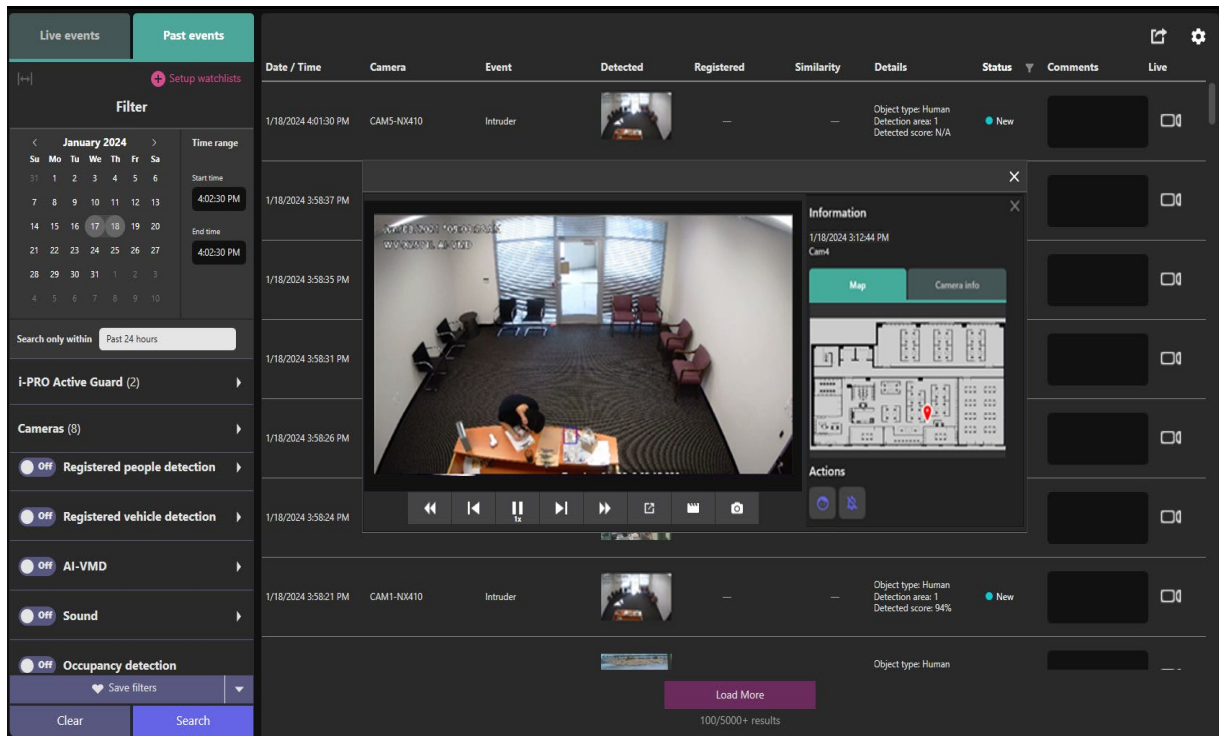
Live events tab and Past events tab are made from almost same UI components.

In this section, it describes the elements that compose the Live events tab and Past events tab.

Each tab is composed of 4 main parts such as event filter pane, event list pane, event detail pane and settings.



Live events tab



Past events tab

Event filter pane	Switch tab (Live/Past events tab)	Switch views between monitoring events mode or search events in the past mode.
	Date/Time (Past events tab)	Start time and end time for search objects. This is used for only Past events tab.
	Search only within (Past events tab)	Select from Past 24 hours/Past week/Past month/None. - When select other than None, Date/Time filter are ignored. - When specify Date/Time filter, this setting will automatically become None.
	i-PRO Active Guard filter (Live/Past events tab)	Specify i-PRO Active Guard Server for search objects. *This setting will display when multiple i-PRO Active Guard servers are registered in Plug-in.
	Camera (Live/Past events tab)	Specify AI Cameras displaying events.
	Registered Face detection (Live/Past events tab)	Show face matching events.
	Registered People detection (Live/Past events tab)	Show people features matching events.
	Registered Vehicle detection (Live/Past events tab)	Show vehicle features matching events.
	AI-VMD (Live/Past events tab)	Show AI VMD detection events.
	Sound (Live/Past events tab)	Show sound detection events.
Occupancy detection	Show Occupancy detection events.	

(Live/Past events tab)	AI Scene change detection	Show Scene change detection events.
(Live/Past events tab)	LPR	Show below events. *1 - License plate detection events. - Registered license plate detection events. - Unregistered license plate detection events. - Registered advanced vehicle detection events.
(Live/Past events tab)	OCR	Show below events. *2 - Code detection events. - Registered code detection events. - Unregistered code detection events.
(Live/Past events tab)	Container	Show below events. *3 - Container detection events. - Registered container detection events. - Unregistered container detection events. - Registered advanced container detection events.
(Past events tab)	Save filters	Save filter settings with name up to 12.
	Clear	Clear filter settings.
	Apply	Activate filter settings.

Events list pane

**Note:**

- In Live events tab, while opening this view, the list is automatically updated if any event happens.
- In Past events tab, the results of search from recorded events are listed.

(Live events tab)	Current Date/Time	Current date and time which is setting on PC.
(Live/Past events tab)	Date/Time column	Detected date and time which is setup at camera.
(Live/Past events tab)	Camera column	Camera name.
(Live/Past events tab)	Event column	Event type.
(Live/Past events tab)	Detected column	Detected thumbnail which is captured by camera.
(Live/Past events tab)	Registered column	Registered images or names in watchlist. Registered column is only for matching event.
	Similarity column	Detected score.
(Live/Past events tab)	Details column	Object type, detected area, etc. Displayed information depends on event type.
(Live/Past events tab)	Status column	Status for each event. New (Default)/Viewed/Dismissed Status can be changed by right click.
(Live/Past events tab)	Comments column	Any comment up to 64 characters can be input.
(Live/Past events tab)	Live column	Open live camera window.
	Detected thumbnail	Click and open event detail pane.

	(Live/Past events tab)	Right click to perform the following operations. - Save the image - Export video clip - Same operation as Action buttons. For Action buttons, see 2.3.1.3.
	Result count (Past events tab)	Show the events search results count.
	Load More (Past events tab)	Load next 100 events.
Event detail pane	Thumbnail detail pane (Live/Past events tab)	Video control pane, information such as camera location, analysis score and camera information.
Set up watchlists	Faces watchlist (Live/Past events tab)	Setup Faces watchlist.
	People watchlist (Live/Past events tab)	Setup People watchlist.
	Vehicles watchlist (Live/Past events tab)	Setup Vehicles watchlist.
	LPR watchlist (Live/Past events tab)	Setup LPR watchlist.
	OCR watchlist (Live/Past events tab)	Setup OCR watchlist.
	Container watchlist (Live/Past events tab)	Setup Container watchlist.
Display mode	Display mode (Past events tab)	List or Timeline can be changed for search result. * Timelines are supported only if there is one type of search filter.
Export result	Export result (Past events tab)	Export search result as HTML or CSV.
Settings	Preferences	Setup some environments about playback, event monitor etc.
	Software update	Displays the current version of i-PRO Active Guard server and Plug-in. And a notification will appear when the i-PRO Active Guard Server or plug-in are available for updates. *This setting will not appear in environments without an Internet connection.
	Attribute Settings	Setup visibility of attributes in filter and watchlist.

\*1 LPR events summary

- License plate detection  
Notifies all detected license plates received by the i-PRO Active Guard server.  
Set "Notify all detected objects - License plates" on the screen of "Alarm notification" is required.
- Registered license plate detection  
Notification when the license plate number registered in the lpr watch list matches.  
The following settings are required on "LPR watchlist setup."  
•Set "Detect by vehicle appearance only" to "Off."  
•Set "Trigger" to "When license plates in the selected group was detected".
- Unregistered license plate detection  
Notification when the license plate number unregistered in the lpr watch list detected.  
The following settings are required on "LPR watchlist setup."  
•Set "Detect by vehicle appearance only" to "Off."  
•Set "Trigger" is set to "When other than license plates in the selected group was detected".

- Registered advanced vehicle detection  
Notification when the vehicle appearance in the lpr watch list matches.  
The following settings are required on "LPR watchlist setup."
  - Set "Detect by vehicle appearance only" to "On."

#### \*2 OCR events summary

- Code detection  
Notifies all detected code received by the i-PRO Active Guard server.  
Set "Notify all detected objects - Code" on "Alarm notification" in WEB setting is required.
- Registered code detection  
You will be notified when you set OCR watchlist to below settings on i-PRO Active Guard plug-in.  
Set "Trigger" to "When OCR Code in the selected group was detected."
- Unregistered code detection  
You will be notified when you set OCR watchlist to below settings on i-PRO Active Guard plug-in.  
Set "Trigger" to "When other OCR Code which is not in the selected group was detected."

#### \*3 Container events summary

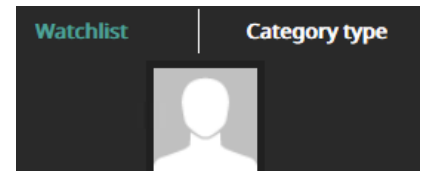
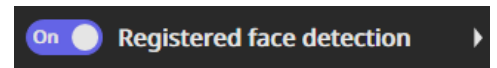
- Container detection  
Notifies all detected container received by the i-PRO Active Guard server.  
Set "Notify all detected objects - Container" on "Alarm notification" in WEB setting is required.
- Registered container detection  
Notification when the container registered in the Container watchlist matches.  
The following settings are required on "Container watchlist setup."
  - Set "Detect by container details" to "Off."
  - Set "Trigger" to "When Container in the selected group was detected".
- Unregistered container detection  
Notification when the container unregistered in the Container watchlist detected.  
The following settings are required on "Container watchlist setup."
  - Set "Detect by container details" to "Off."
  - Set "Trigger" is set to "When other container which is not in the selected group was detected".
- Registered advanced container detection  
Notification when the container details in the Container watchlist matches.  
The following settings are required on "Container watchlist setup."
  - Set "Detect by container details" to "On."

## 2.3.1.2. About Event filter

In this section, it describes each events filter. For more information about the Camera filter, please refer to 2.2.1.2.

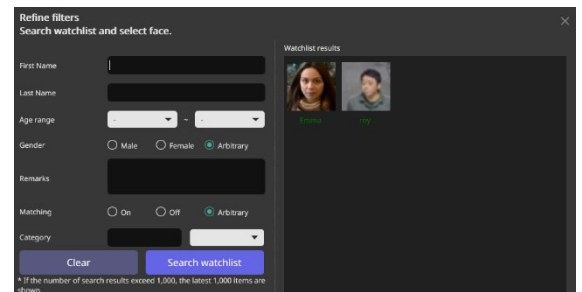
### A. Registered Face detection

Being this filter enabled, the matching faces with Face watchlist are shown.

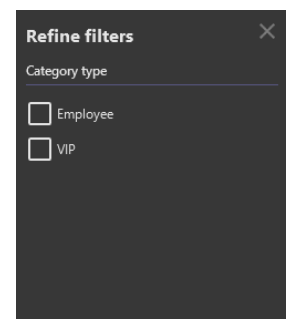


If you want to display a specific face, you can use Watchlist filter. Search registered faces by specifying search conditions then select one of results.

If you want to clear after setting, right click on the face image in the left panel then select Clear.

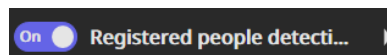


It is also possible to display by category registered in Watchlist.

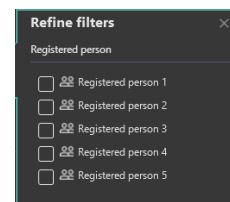


## B. Registered People detection

With this filter enabled, all the matching people with People watchlist are shown.

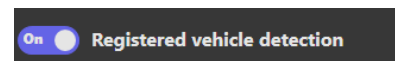


Also using filter panel, you can select specific registered items from people watchlist.

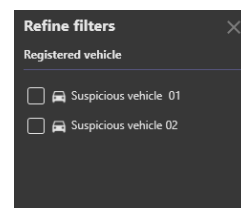


## C. Registered vehicle detection

With this filter enabled, all the matching vehicle with vehicle watchlist are shown.

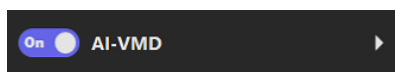


Also using filter panel, you can select specific registered items from vehicle watchlist



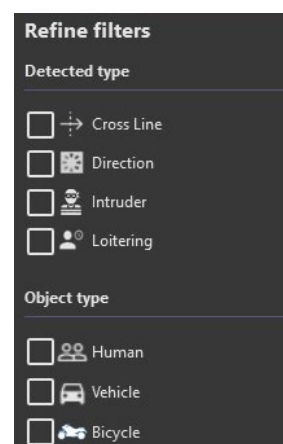
## D. AI-VMD

With this filter enabled, all the detected AI-VMD events are shown.



Also using filter panel, you can select specific AI-VMD events to show.

By using On-site Learning application, you can increase any Object type. Please refer to the manual for details about On-site Learning application.

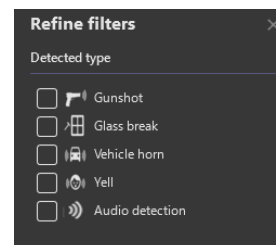


## E. Sound

With this filter enabled, all the detected sound events are shown.

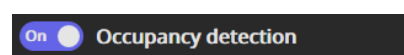


Also using filter panel, you can select specific sound events to show.



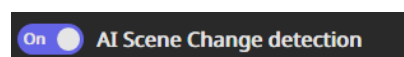
## F. Occupancy detection

With this filter enabled, all the detected occupancy detection events are shown.



## G. AI Scene change detection

With this filter enabled, all the detected scene change detection events are shown.



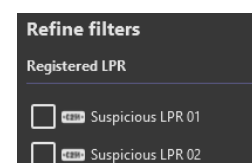
## H. LPR

With this filter enabled, all the matching License plate with LPR watchlist and all detected license plates are shown.



i-PRO Active Guard Server configuration is required to display all detected license plates.  
see "i-PRO Active Guard Setup Instructions"  
- 4.1.6 Alarm Notification configuration (optional)

Also using filter panel, you can select specific registered items from LPR watchlist



## I. OCR

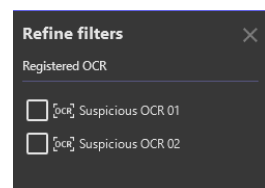
With this filter enabled, all the matching code with OCR watchlist and all detected code are shown.



i-PRO Active Guard Server configuration is required to display all detected codes see "i-PRO Active Guard Setup Instructions"

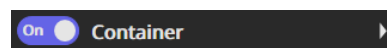
- 4.1.6 Alarm Notification configuration (optional)

Also using filter panel, you can select specific registered items from OCR watchlist



## J. Container

With this filter enabled, all the matching container code with Container watchlist and all detected containers are shown.



i-PRO Active Guard Server configuration is required to display all detected containers. see "i-PRO Active Guard Setup Instructions"

- 4.1.6 Alarm Notification configuration (optional)

Also using filter panel, you can select specific registered items from Container watchlist








### 2.3.1.3. About event detail pane

By selecting one of the events from the list, you can take various actions such as playback video, open live camera, and register the thumbnail to watchlist and so on. Please refer to the section of 2.2.1.3. About thumbnail detail pane regarding of each function.


Details for playback control, please refer to 2.4. Playback video control.

Action buttons can be utilized depending on type of events.

	Save facial features to Registered facial detection	Save license plate number to LPR detection *1	Save OCR Code to OCR detection	Save container code to Container detection	Change alarm status
					
Registered face detection filter	Yes	No	No	No	Yes
LPR filter	No	Yes	No	No	Yes
OCR filter	No	No	Yes	No	Yes
Container filter	No	No	No	Yes	Yes
Other than the above	No	No	No	No	Yes


\*1 In case of the thumbnail doesn't have license plate number information, button does not display.

Ex) In i-PRO Active Guard Sever settings, [Configure System] - [Database] – [Storing data] “License plate number” is unchecked case.

- A.  Save facial features to Faces watchlist

---

Refer to 2.2.1.3.

- B.  Save license plate to LPR watchlist


---

Refer to 2.2.1.3.


- C.  Save OCR Code to OCR watchlist

---

Refer to 2.2.1.3.

- D.  Save Container code to Container watchlist
- 

Refer to 2.2.1.3.

- E.  Change alarm status
- 

**Change status to dismissed**

change alarm status to dismissed. Alarm status can be used for filter.

**AUX close**

**AUX open**

sends AUX control command to camera that detects the event.

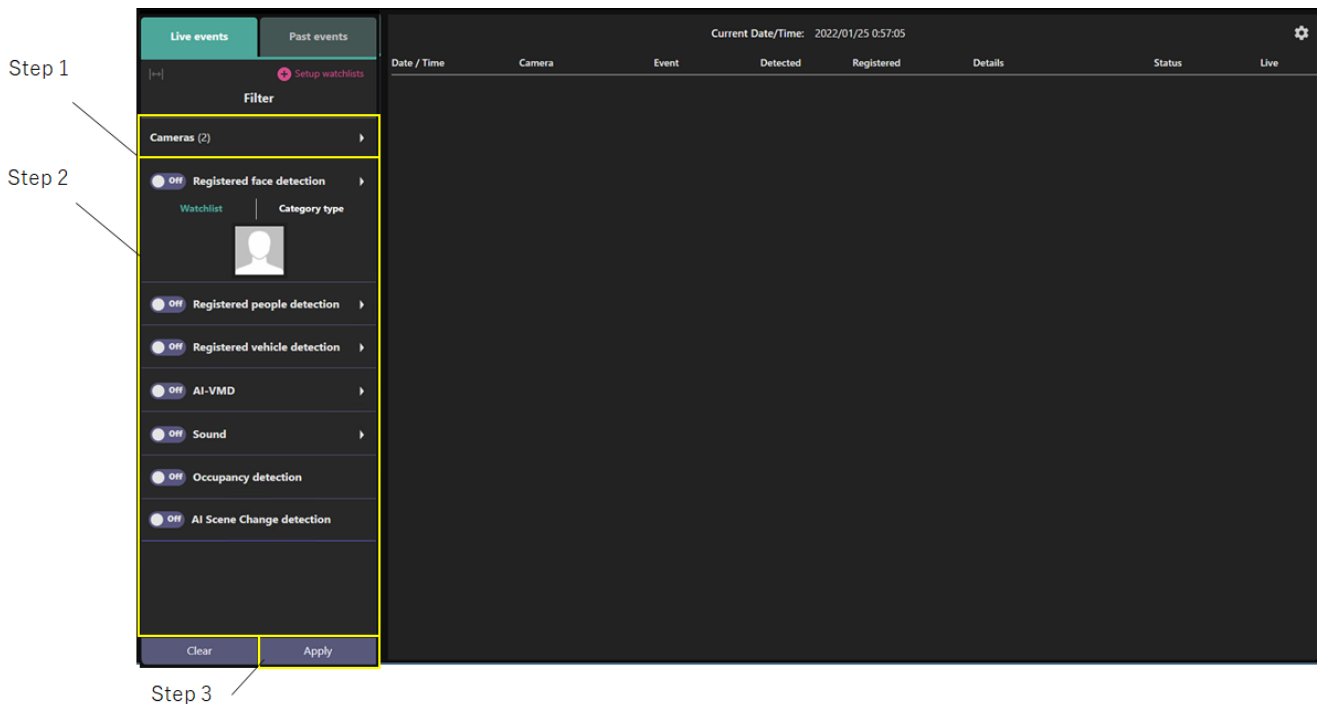
It needs to configure [AUX output] for [Terminal 3] on camera setting.

**Suspend camera's alarm status**

sends alarm suspend command to camera that detects the event.

## 2.3.2. Monitor live events

The following steps provide basic operations for monitoring events basic operations for monitor events.



When multiple i-PRO Active Guard servers are registered in Plug-in, Show events for only one selected server. If you want to display events from all servers, set [Show alarms from all i-PRO Active Guard on Live events] in Preferences. See 2.6 for Preferences

### Step 1

All cameras are selected as default. If you want to specify cameras, you can use camera filter.

### Step 2

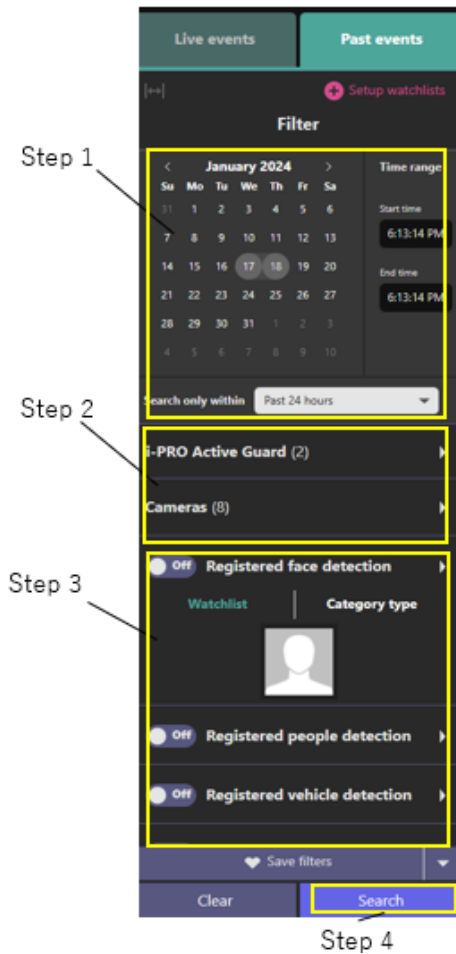
Set up event filters. You can specify type of event by using event filters.  
Not using any filters displays all detected events.

### Step 3

Click Apply.

## 2.3.3. Search past events

The following steps provide basic operations for searching past events.



### Step 1

Specify the start time and end time or select [Search only within] for search objects.

### Step 2

Select AI Cameras. All AI Cameras are selected as default.

### Step 3

Set up search filters. If no filters are selected, all objects detected by AI Cameras will be displayed. Available search filters include:

- Registered face detection
- Registered people detection
- Registered vehicle detection
- AI-VMD
- Sound
- Occupancy detection
- AI Scene Change detection
- LPR
- OCR
- Container

### Step 4

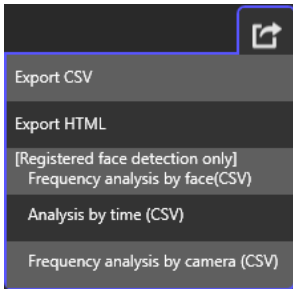
Click Search. Results are displayed as shown below.

	Date / Time	Camera	Event	Detected	Registered	Similarity	Details	Status	Comments	Live
	1/18/2024 4:07:31 PM	CAM1-NX410	Intruder		—	—	Object type: Vehicle Detection area: 1 Detected score: 72%	New		
	1/18/2024 4:07:26 PM	CAM1-NX410	Intruder		—	—	Object type: Vehicle Detection area: 1 Detected score: 98%	New		
	1/18/2024 4:07:20 PM	CAM1-NX410	Intruder		—	—	Object type: Vehicle Detection area: 1 Detected score: 88%	New		
	1/18/2024 4:07:15 PM	CAM1-NX410	Intruder		—	—	Object type: Vehicle Detection area: 1 Detected score: 99%	New		
	1/18/2024 4:07:10 PM	CAM1-NX410	Intruder		—	—	Object type: Vehicle Detection area: 1 Detected score: 100%	New		
	1/18/2024 4:07:05 PM	CAM1-NX410	Intruder		—	—	Object type: Vehicle Detection area: 1 Detected score: 99%	New		
	1/18/2024 4:07:00 PM	CAM1-NX410	Intruder		—	—	Object type: Vehicle Detection area: 1 Detected score: 99%	New		
	1/18/2024 4:06:54 PM	CAM1-NX410	Intruder		—	—	Object type: Vehicle Detection area: 1 Detected score: 73%	New		

Load More  
200 of 2531 results

## 2.3.4. Export search result of past events

Search results can be exported as HTML or CSV format



### **Export CSV**

output as CSV file.

### **Export HTML**

output as HTML file.

Following option can be used only when “Registered face detection” filter is selected.

### **Frequency analysis by face (CSV)**

Based on the alarm search results, the number of alarm occurrences and the total number of alarm occurrences per day for registered faces are output. Information about faces with 0 occurrences is not output.

### **Analysis by time (CSV)**

Based on the alarm search results, the number of alarm occurrences and the total number of alarm occurrences per hour for the registered face are output. Information about faces with 0 occurrences is not output

### **Frequency analysis by camera (CSV)**

Based on the alarm search results, the number of alarm occurrences and the total number of alarm occurrences for the camera per hour are output. Information about cameras with 0 occurrences is not output.










## 2.4. Playback video control

### 2.4.1. Playback operation

When viewing video on a thumbnail/event detail pane, the following a set of video controls appear. In order to play, the video must be recorded on the network disk recorder.



The video operation controls are described below.

		Play or pause the video recording.
		Fast playback or fast rewind the video recording.
		In pause mode, forward and backward navigation through each frame on the timeline.
		Open new window to playback video.
		Export video as MP4 or n3r format from selected the thumbnail.
		Take a snapshot and save as file or clipboard.

Digital zoom is possible by moving the mouse wheel on the image.

---

#### Note:

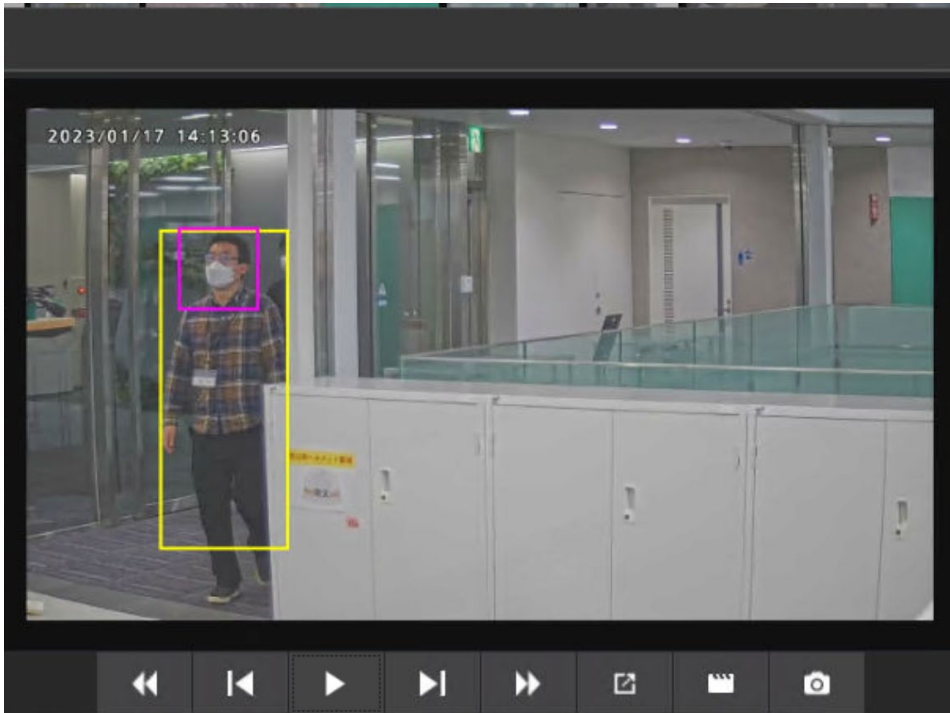
- If your PC supports hardware decoding, hardware decoding will be performed automatically. If hardware decoding is not supported and the resolution of the recorded video is larger than 9M (2992x2992), video display may be delayed or not displayed correctly. Please refer to the WV-ASM300 manual to how to check whether your PC supports hardware decoding.
  - When hard decoding is performed on H.264 recorded video, the phenomenon that the video turns green may occur. This phenomenon may occur due to the combination of PC hardware and driver software. If this occurs, close the playback screen and then try playback again.
-

## 2.4.2. Search and Registration from Playback video

It is possible to search for similar faces, people, and vehicles from playback video and to register them in the watchlists.

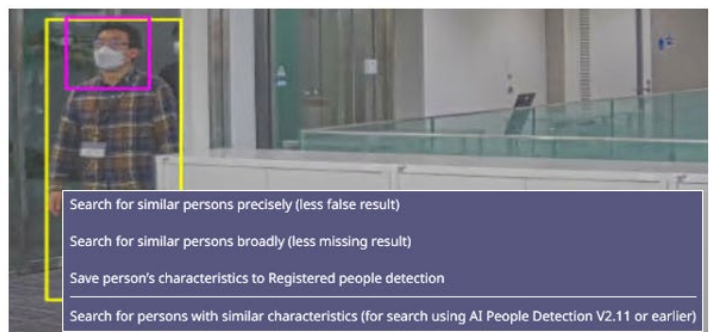
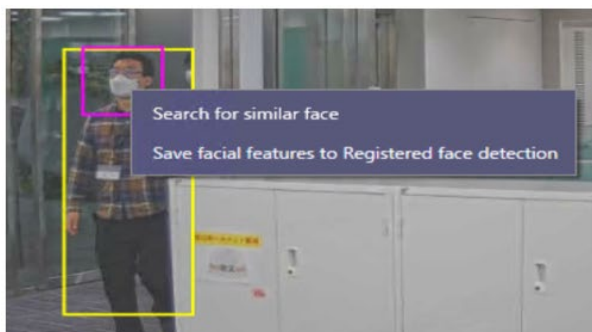
### Step 1

When you click pause/forward/reverse frame in the playing video, faces, people, and vehicles are detected.



### Step 2

With a right click in the frame, you can search for similar images or register them in the similarity search or watchlists.



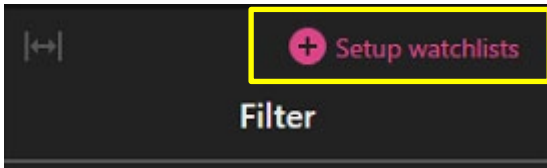
---

### Note:

- It may not be detected depending on the video image.
-

## 2.5. Setup watchlists

Click [Setup watchlists] button for Face watchlist, People watchlist, Vehicle watchlist, LPR watchlist.



### 2.5.1. Face Watchlist

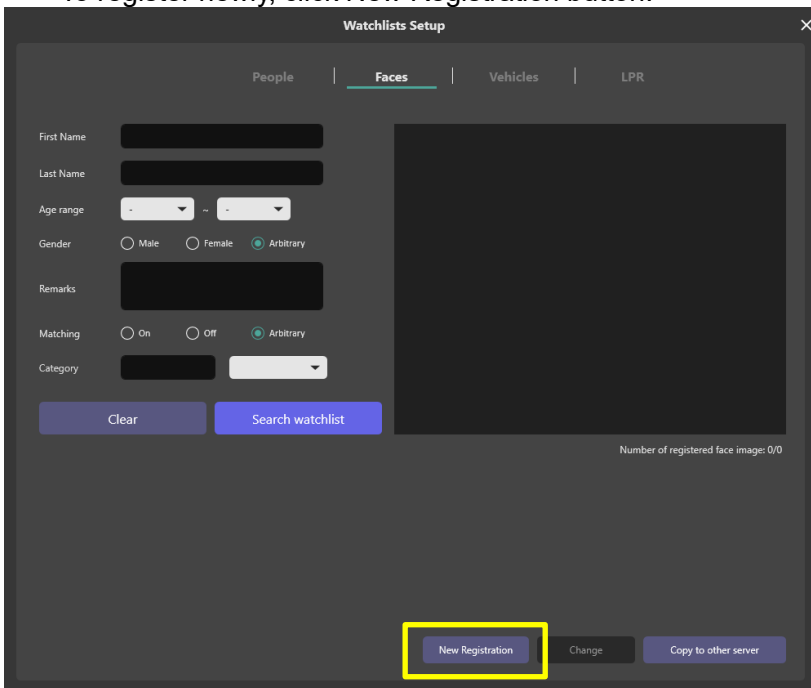
This section describes the operation of add, edit, and delete.

If you don't have permission to access the watchlist or your camera configuration has no AI-Camera which installed face detection application, then this function is not available.

#### 2.5.1.1. New registration

##### Step 1

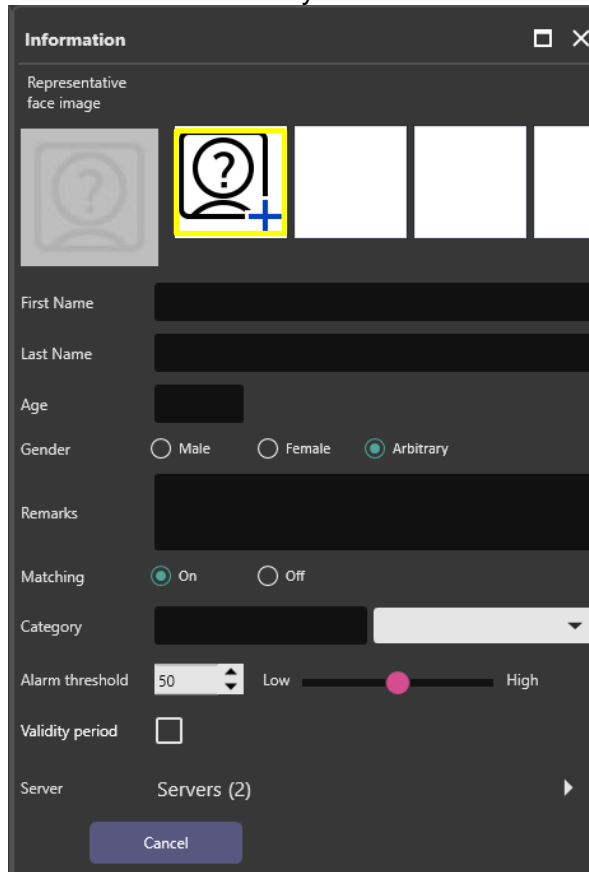
To register newly, click New Registration button.



## Step 2

One face image must be registered at least.

Click  icon then select the file you want to use.

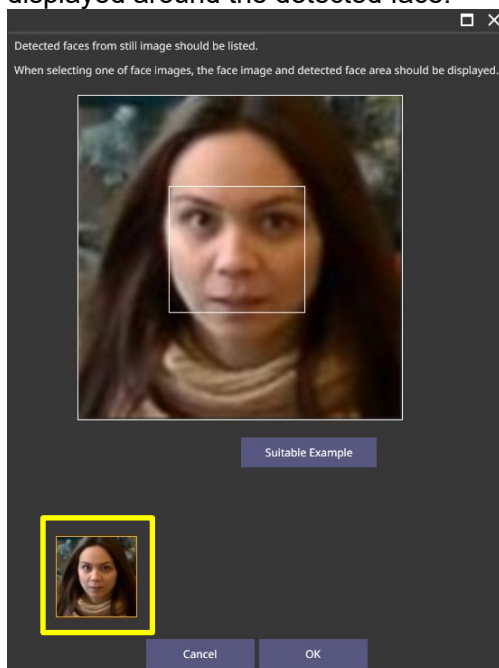


The 'Information' dialog box contains the following fields and controls:

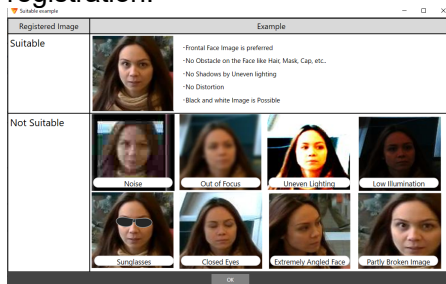
- Representative face image:** A row of five image slots. The first slot is a placeholder with a question mark. The second slot is highlighted with a yellow border and contains a question mark icon with a plus sign.
- First Name:** A text input field.
- Last Name:** A text input field.
- Age:** A text input field.
- Gender:** Radio buttons for Male, Female, and Arbitrary (selected).
- Remarks:** A text input field.
- Matching:** Radio buttons for On (selected) and Off.
- Category:** A dropdown menu.
- Alarm threshold:** A slider set to 50, with 'Low' and 'High' labels.
- Validity period:** A checkbox.
- Server:** A dropdown menu showing 'Servers (2)'.
- Cancel:** A button at the bottom.

## Step 3

Then analyzing will begin and the detected faces are displayed. If there are some people on the file, all detected faces are displayed. Select a face (yellow area in below) then white frame will be displayed around the detected face.



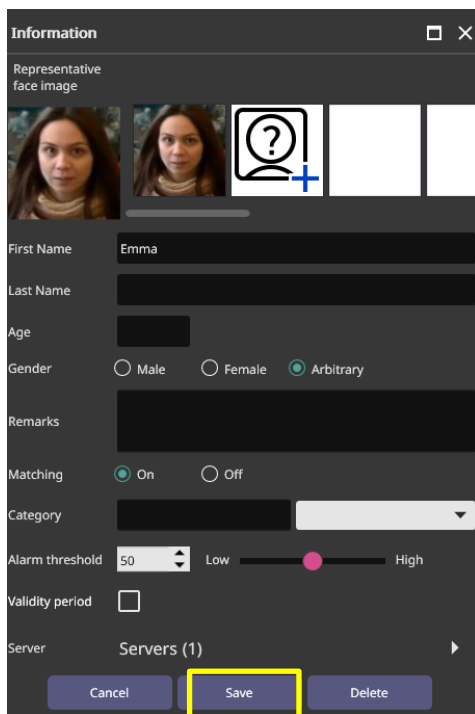
By pressing the “Suitable Example” button, you can see a sample of face image quality suitable for registration.



Recommended width of face for registration is more than 75 pixel. When the selected face is under the value, message is shown.

#### Step 4

Input other information then click Save. First Name or Last Name is required.



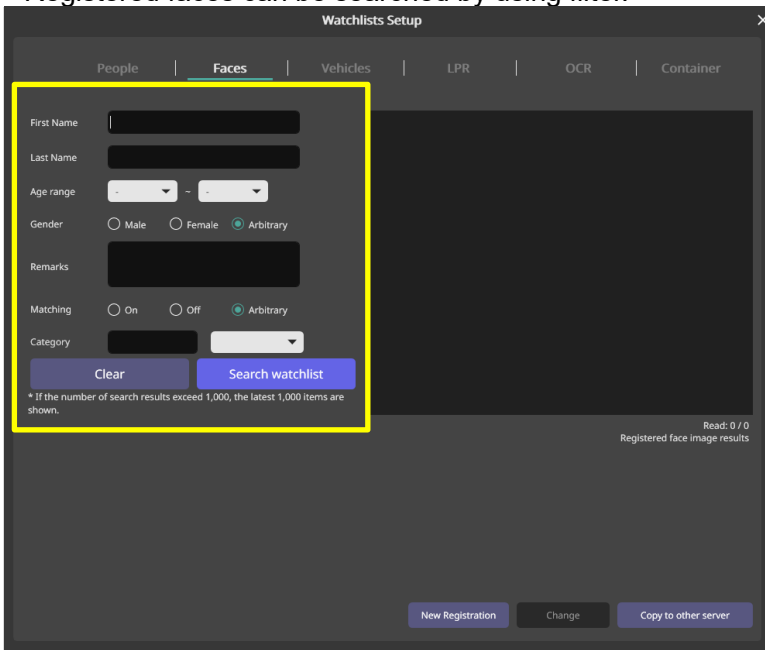
#### Note:

- Up to 30,000 faces can be registered in total.
- Up to 10 faces can be registered per watchlist.
- The Alarm threshold low means missing faces will be decreased but false alarm may increase. High means false alarm will be decreased but missing faces may be increased. It can be set for an individual person. Please adjust according to your environment and registered face image.
- In Validity Period, two expiration dates can be set.  
 Disable matching: After the expiration date, this person’s face will not be detected.  
 Delete registration: After the expiration date, we will delete the registration itself of this person.

## 2.5.1.2. Edit registration

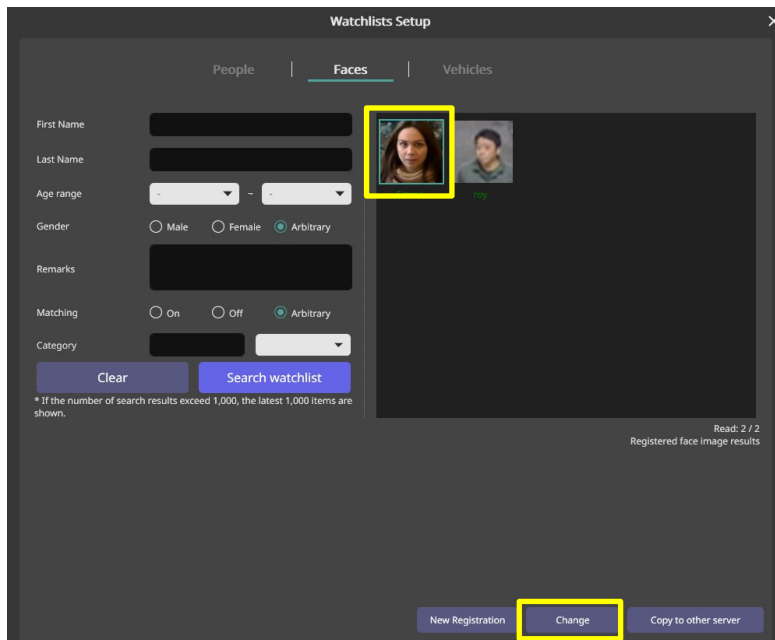
### Step 1

First, find registered face you want to edit the information.  
Registered faces can be searched by using filter.



### Step 2

Select one of the faces from search results, then click Change button.



### Step 3

Edit any information then click Save.

When multiple AI servers are registered to Plug-in, select server to register from [Server].

The screenshot shows a dark-themed 'Information' dialog box. At the top, it has a title bar with a close button. Below the title bar, there's a section for 'Representative face image' with three thumbnails: two showing a woman's face and one with a question mark and a plus sign. Below this are several input fields: 'First Name' with the value 'Emma', 'Last Name' (empty), 'Age' (empty), 'Gender' with radio buttons for 'Male', 'Female', and 'Arbitrary' (selected), 'Remarks' (empty), 'Matching' with radio buttons for 'On' (selected) and 'Off', 'Category' (empty), 'Alarm threshold' with a value of '50' and a slider between 'Low' and 'High', 'Validity period' (empty), and 'Server' with a dropdown menu showing 'Servers (1)'. At the bottom, there are three buttons: 'Cancel', 'Save' (highlighted with a yellow box), and 'Delete'.

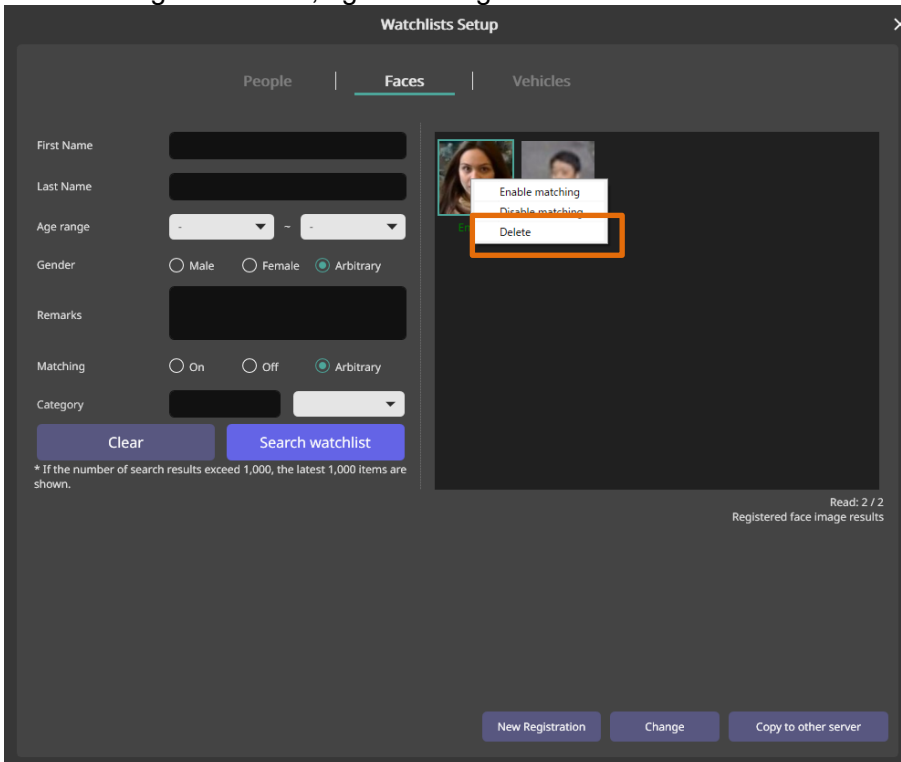
---

#### Note:

- Up to 30,000 faces can be registered in total.
  - Up to 10 faces can be registered per watchlist.
  - The Alarm threshold low means missing faces will be decreased but false alarm may increase. High means false alarm will be decreased but missing faces may be increased. It can be set for an individual person. Please adjust according to your environment and registered face image.
  - In Validity Period, two expiration dates can be set.  
Disable matching: After the expiration date, this person's face will not be detected.  
Delete registration: After the expiration date, we will delete the registration itself of this person.
-

## 2.5.1.3. Delete Registration

To delete registered face, right click registered face then click Delete.



---

### Note:

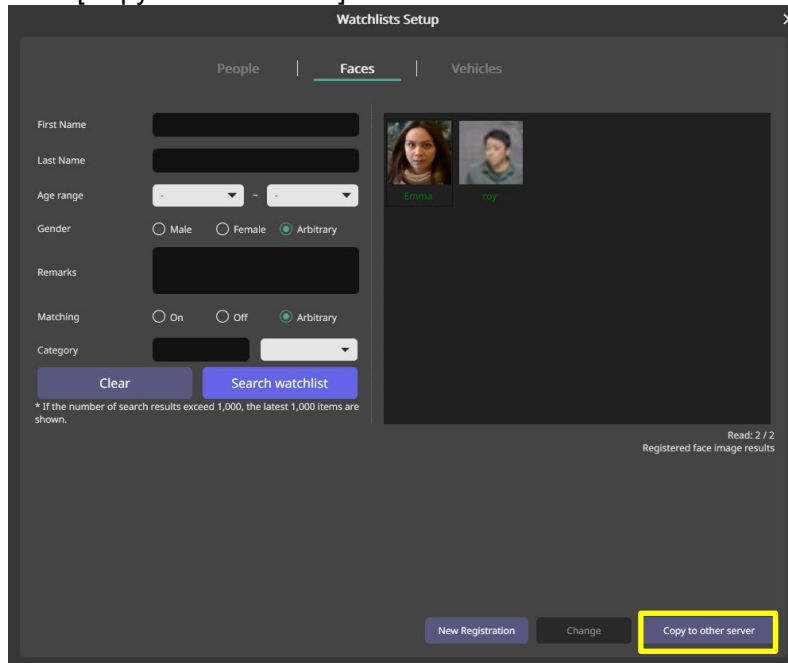
- To delete face watchlist from multiple i-PRO Active Guard server at the same time, select servers from Edit face registration (refer to 2.5.1.2) and click [Delete].
-

## 2.5.1.4. Copy watchlists to other server

All registered face watchlists in i-PRO Active Guard server can be copied to another server. The copy source server and the copy destination server must be registered in Plug-in in advance.

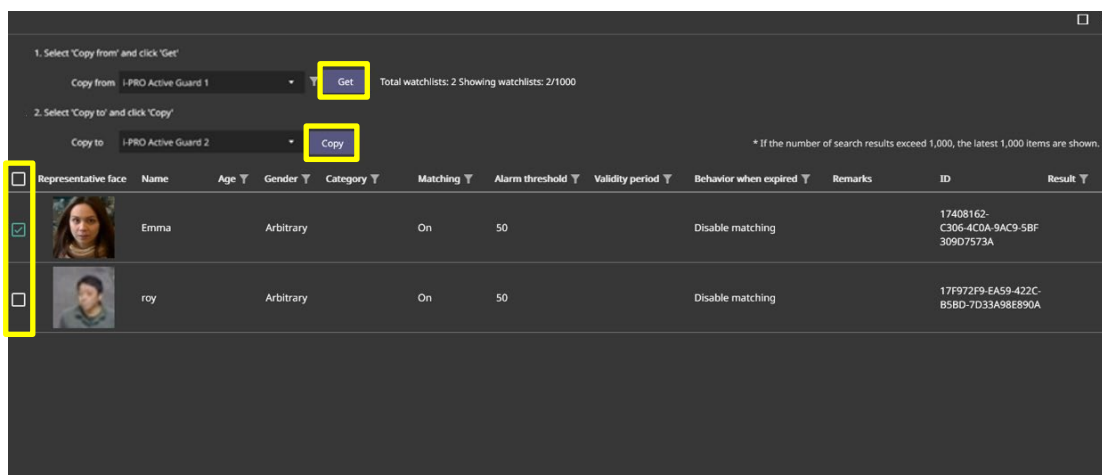
### Step 1

Click [Copy to other server]



### Step 2

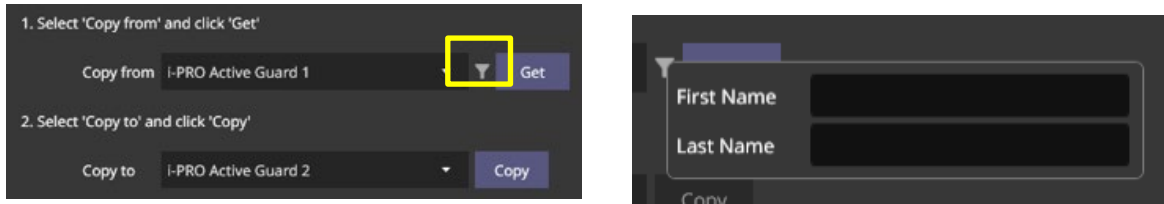
Select Copy from and click [Get] button, select the face image you want to copy from the registered face images, specify the copy destination server, and click the [Copy] button.



---

**Note:**

- You can set filters and click the [Get] button to narrow down getting results.
- The maximum number of face images that can be retrieved and copied at one time is 1000; if the number exceeds 1000, please use filters to narrow down your search.



---

**Step 3**

When the copy is completed, the face image will be registered in the copy destination server.

---

**Note:**

- If the upper limit of 30,000 is already registered for the face image in the copy destination, copying will not be performed.  
If the copy destination has the same ID, the face image will be skipped.
-

## 2.5.2. People Watchlist

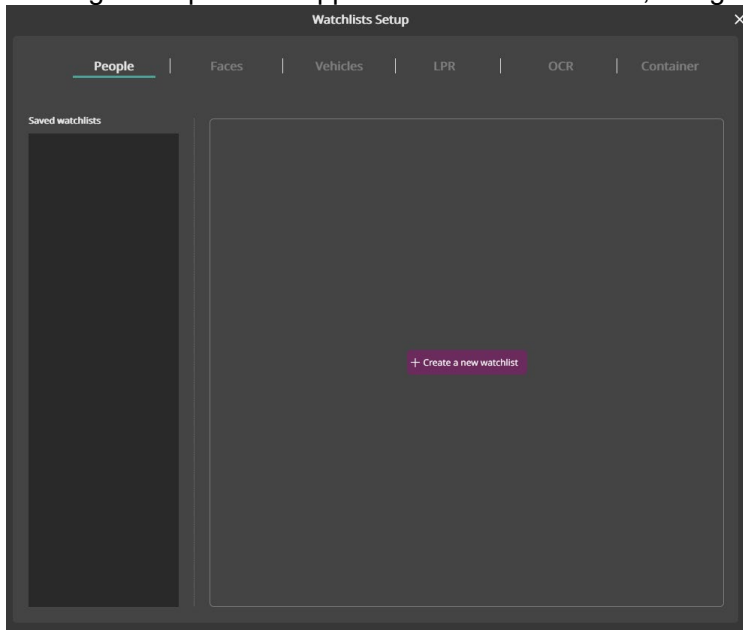
This section describes the operation of add, edit, and delete.

If you don't have permission to access the watchlist or your camera configuration has no AI-Camera which installed people detection application, then this function is not available.

### 2.5.2.1. New registration (To manually select attributes)

#### Step 1

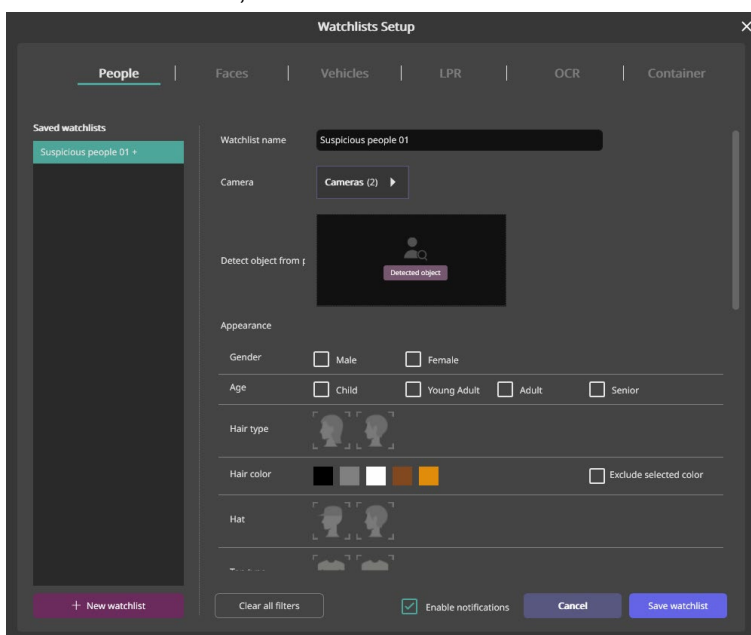
To register a person's appearance to the watchlist, navigate to Set up watchlists button > People tab.



#### Step 2

Registered items are listed on the left side, or it uploads the people picture.

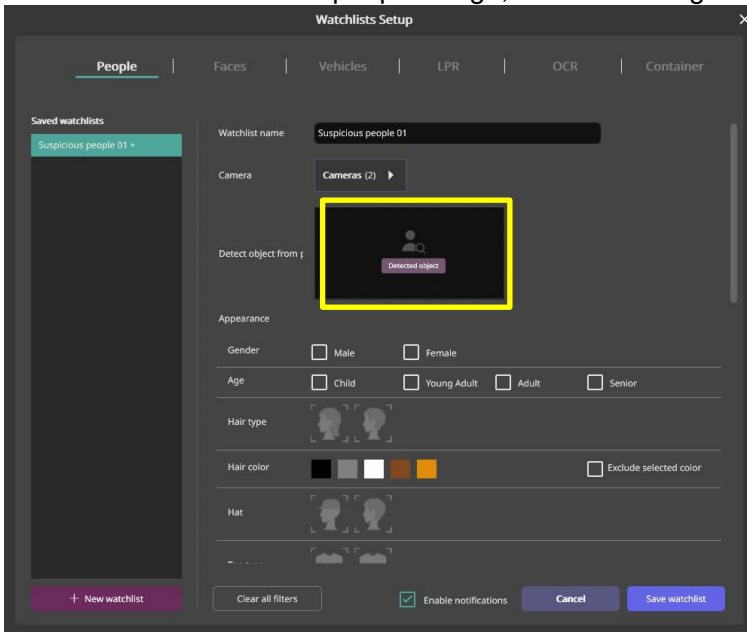
To add new item, click "+ Create a new watchlist" button then select appearance items.



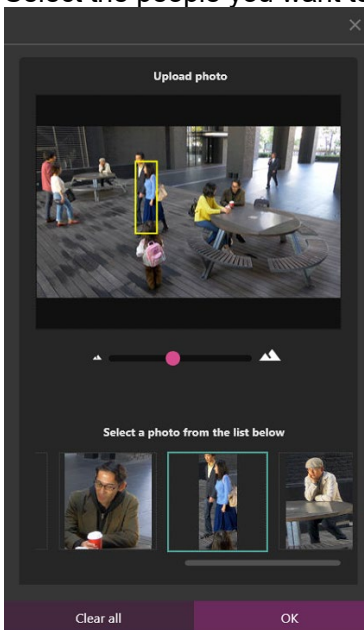
## 2.5.2.2. New registration (To select attributes from an image)

This procedure automatically selects and registers attributes from an image.

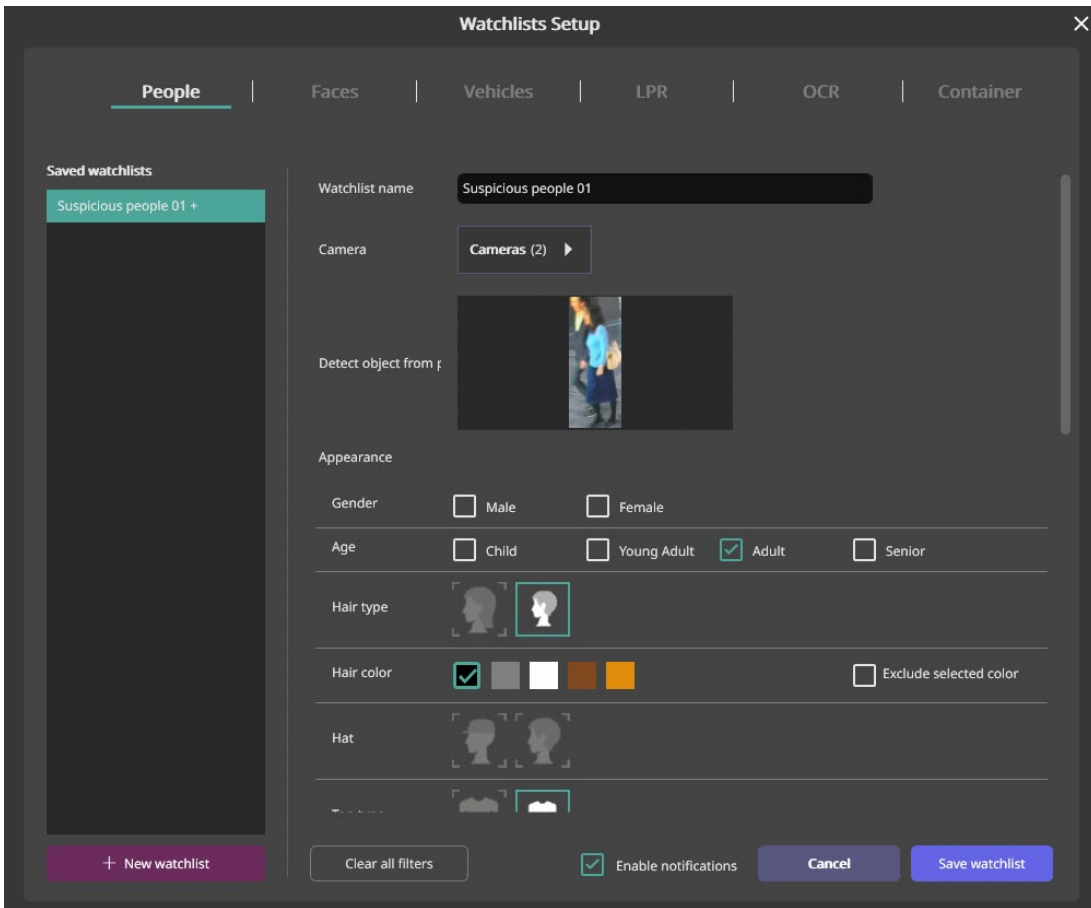
To select attributes from a people image, select the image to be registered from  icon.



Select the people you want to register from the detected list.



Make sure the attribute is automatically selected, and then click "Save".

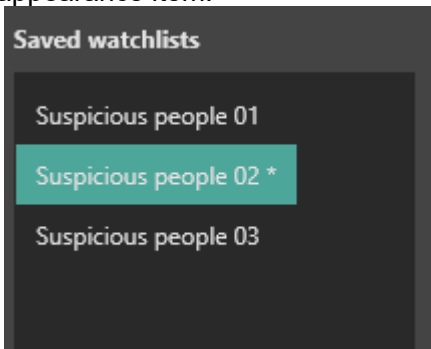


**Note:**

- Up to 12 people watchlist can be registered.
- Basically, only one item can be selected from each category. This is because many items register would affect false positives.  
Color specification except for bag color allows specifying multiple items.
- In Validity Period, two expiration dates can be set.  
Disable matching: After the expiration date, this person’s face will not be detected.  
Delete registration: After the expiration date, we will delete the registration itself of this person.
- It is impossible to register to multiple i-PRO Active Guard server at the same time.

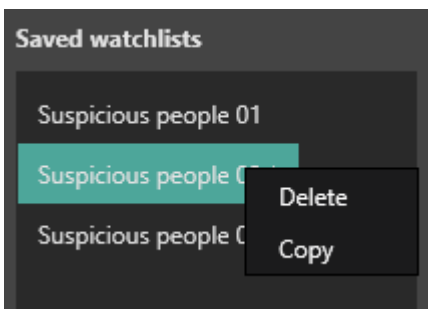
### 2.5.2.3. Edit registration

To edit a registered person's appearance, select one of the registered item then change selected appearance item.



### 2.5.2.4. Delete registration

To delete a registered person's appearance, right click one of the registered item.



## 2.5.3. Vehicle Watchlist

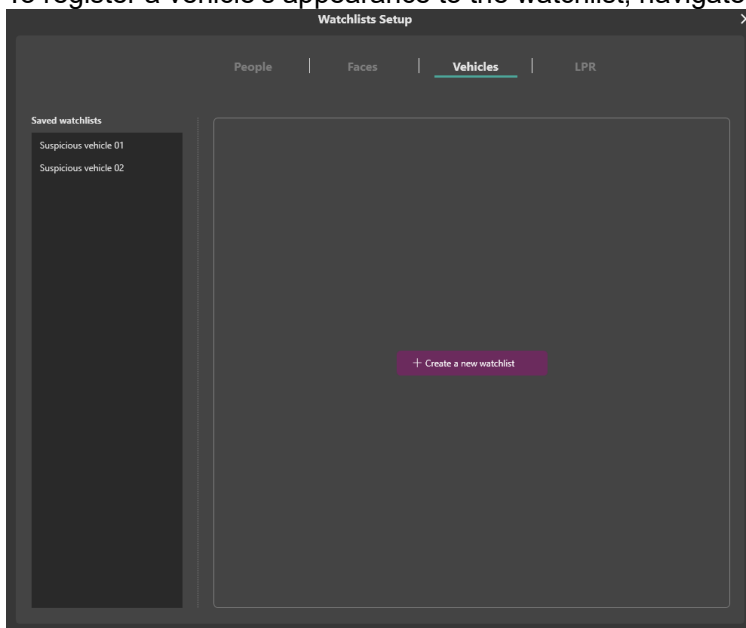
This section describes the operation of add, edit, and delete.

If you don't have permission to access the watchlist or your camera configuration has no AI-Camera which installed vehicle detection application, then this function is not available.

### 2.5.3.1. New registration (To manually select attributes)

#### Step 1

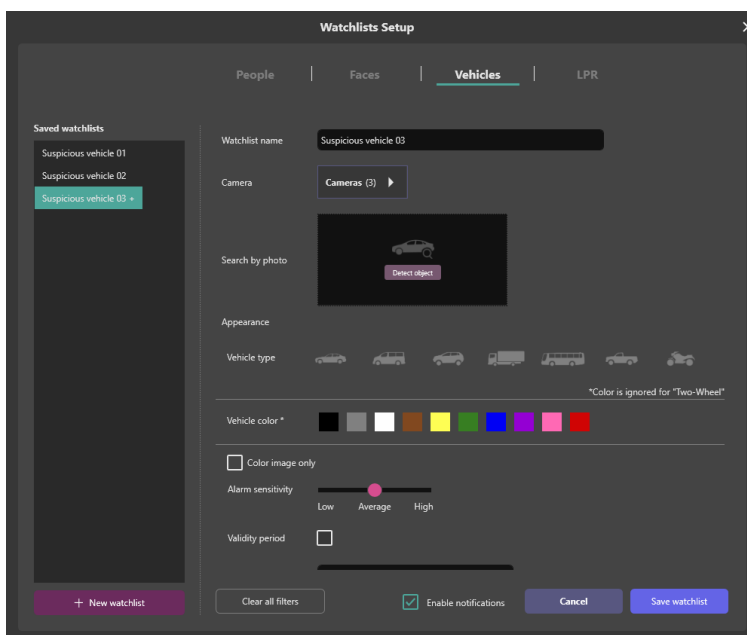
To register a vehicle's appearance to the watchlist, navigate to Set up watchlists button > vehicles tab.



#### Step 2

Registered items are listed on the left side, or it uploads the vehicle's picture.

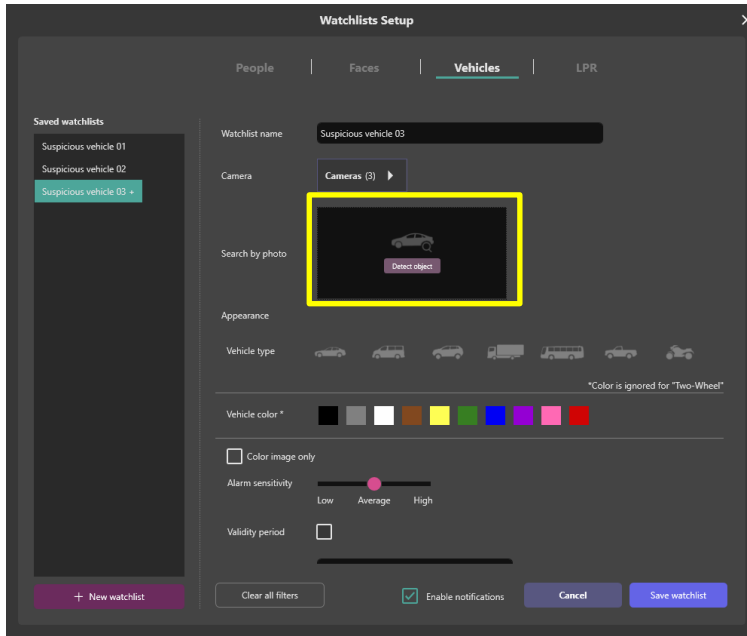
To add new item, click "+ Create a new watchlist" button then select appearance items.



## 2.5.3.2. New registration (To select attributes from an image)

This procedure automatically selects and registers attributes from an image.

To select attributes from a vehicle image, select the image to be registered from  icon.



The following procedure is the same as when registering people watchlists, see 2.5.2.2.

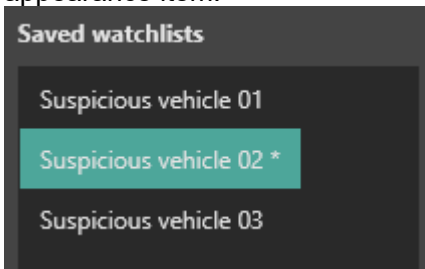
---

### Note:

- Up to 12 vehicle watchlist can be registered.
  - Only one item can be selected from each category. This is because many items register would affect false positives.
  - In Validity Period, two expiration dates can be set.  
Disable matching: After the expiration date, this vehicle will not be detected.  
Delete registration: After the expiration date, we will delete the registration itself of this vehicle.
  - It is impossible to register to multiple i-PRO Active Guard server at the same time.
-

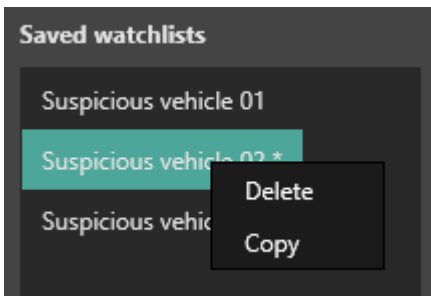
### 2.5.3.3. Edit registration

To edit a registered vehicle appearance, select one of the registered item then change selected appearance item.



### 2.5.3.4. Delete registration

To delete a registered vehicle appearance, right click one of the registered item.



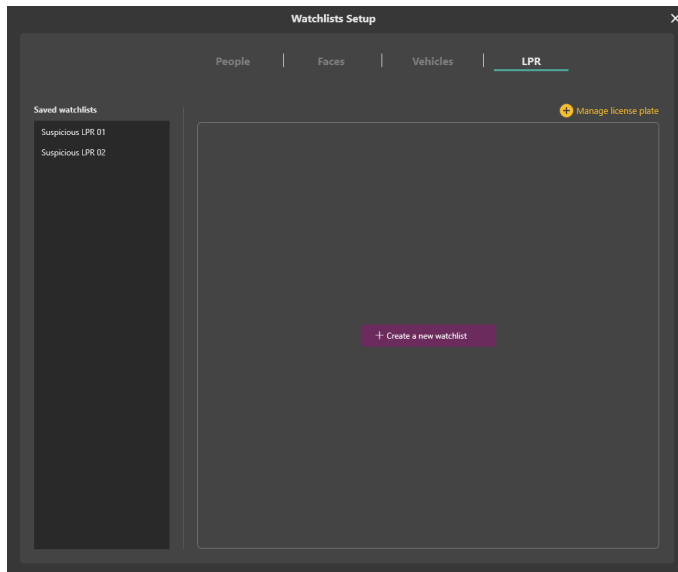
## 2.5.4. LPR Watchlist

This section describes the operation of add, edit, and delete.

If you don't have permission to access the watchlist or your camera configuration has no AI-Camera which installed license plate detect application, then this function is not available.

- **Add Registration**

To register a vehicle's appearance or License plate to the watchlist, navigate to Set up watchlists button > LPR tab.

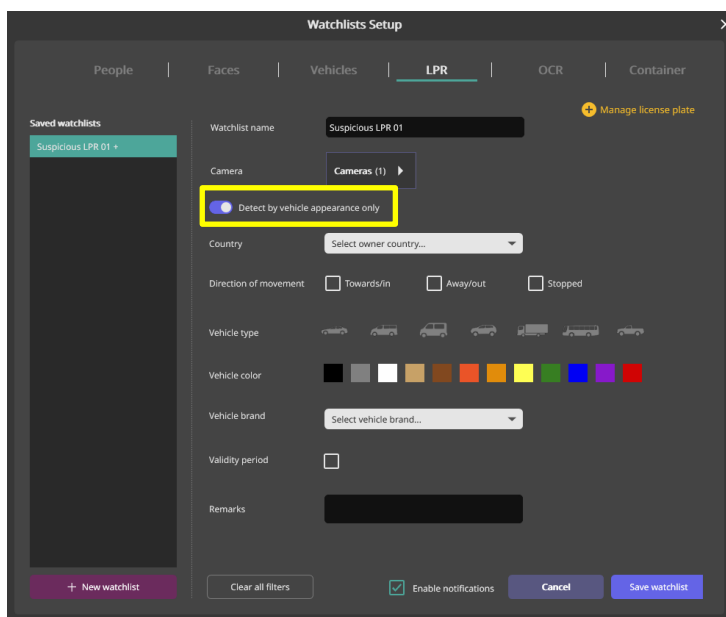


Registered items are listed on the left side.

To add new item, click "+ Create a new watchlist" button.

- **Add Registration (vehicle appearance)**

Set "Detect by vehicle appearance only" to "On," then select appearance items.



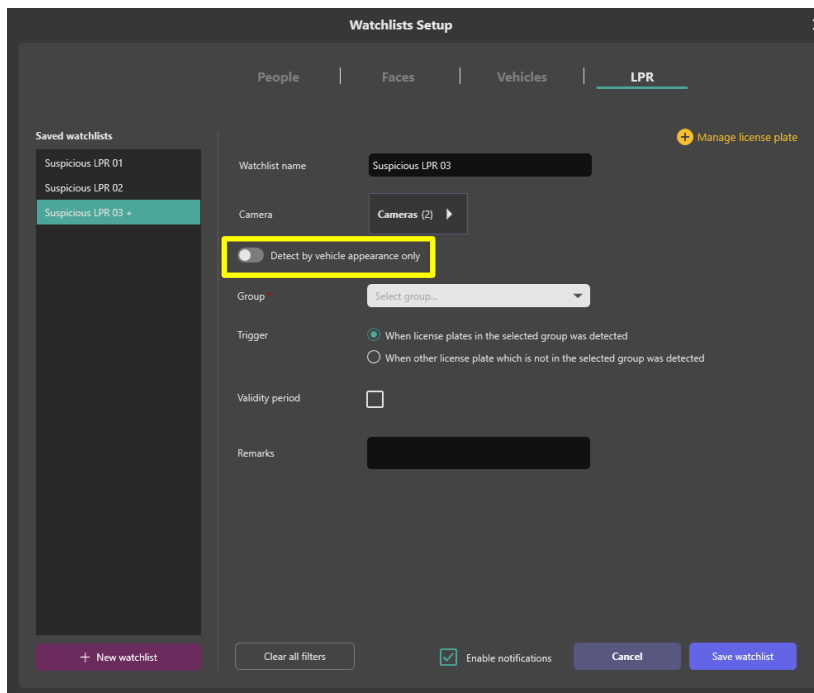
- **Add Registration (License Plate Group)**

Set "Detect by vehicle appearance only" to "Off," then select license plate group and Trigger.

---

**Note:**

- License plate numbers cannot be set directly in the watchlist. Please register the license plate to license plate group. About license plate group, please see 2.5.4.1. About license plate, please see 2.5.4.2.
- 



The following procedure is the same as when registering people watchlists, see 2.5.2.

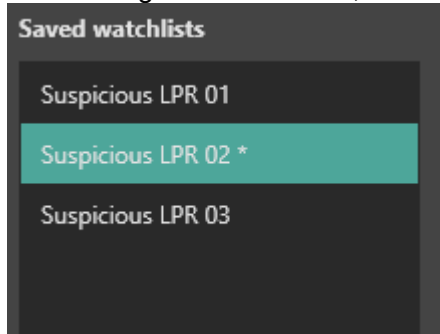
---

**Note:**

- There is no limitation to the number of license plates and license plate group (\*depending on the system design). Up to 12 LPR watchlist can be registered.
  - Only one item can be selected from each category. This is because many items register would affect false positives.
  - In Validity Period, two expiration dates can be set. Disable matching: After the expiration date, this LPR will not be detected. Delete registration: After the expiration date, we will delete the registration itself of this LPR.
  - It is impossible to register to multiple i-PRO Active Guard server at the same time.
-

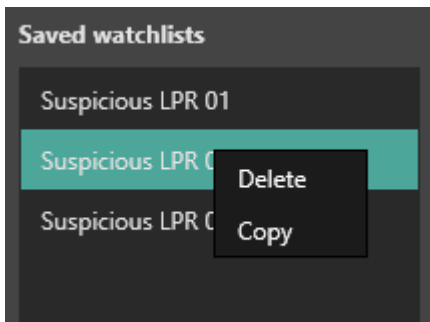
- **Edit Registration**

To edit a registered watchlist, select one of the registered item then change selected item.



- **Delete Registration**

To delete a registered vehicle appearance, right click one of the registered item.



## 2.5.4.1. Manage License plate group

- Add Registration

### Step 1

In LPR Watchlist Setup screen, click “+ Manage license plate.”

The screenshot shows the 'Watchlists Setup' window with the 'LPR' tab selected. On the left, there is a 'Saved watchlists' list containing 'Suspicious LPR 01', 'Suspicious LPR 02', and 'Suspicious LPR 03 +'. The main area shows configuration for 'Suspicious LPR 03'. A yellow box highlights the '+ Manage license plate' button in the top right corner. Other visible elements include a 'Camera' dropdown set to 'Cameras (2)', a 'Detect by vehicle appearance only' toggle, a 'Group' dropdown, a 'Trigger' section with two radio buttons, a 'Validity period' checkbox, and a 'Remarks' text area. At the bottom, there are buttons for '+ New watchlist', 'Clear all filters', 'Enable notifications' (checked), 'Cancel', and 'Save watchlist'.

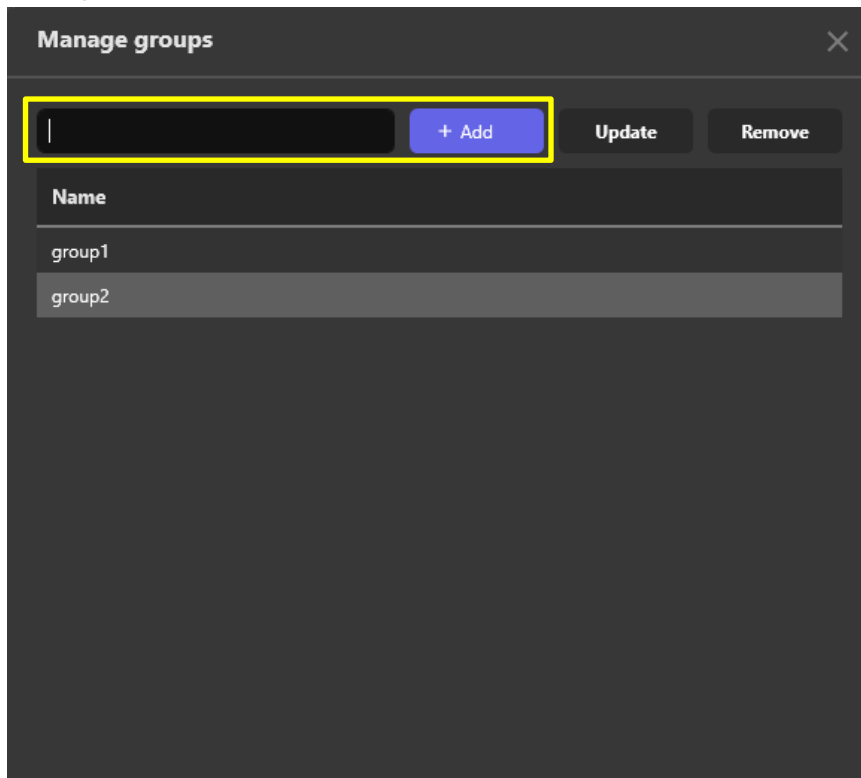
### Step 2

Click “Manage groups.”

The screenshot shows the 'Watchlists Setup' window with the 'LPR' tab selected. On the left, there is a 'Filter watchlists' section with input fields for 'License plate', 'Owner's first name', and 'Owner's last name', and dropdowns for 'Group' and 'Country'. Below these are checkboxes for 'Validity period' and a date field. The main area is titled 'Registered license plates' and features a table with columns: 'License plate', 'First Name', 'Last Name', 'Owner photo', 'Group', 'Country', 'State', and 'Validity period'. A yellow box highlights the 'Manage groups' button in the top right corner. Other visible elements include a '+ New license plate' button, a 'Delete selections' button, and a 'Search' button at the bottom. A footer note states: '\* If the number of search results exceed 1,000, the latest 1,000 items are shown.' and 'Registered license plate results'.

### Step 3

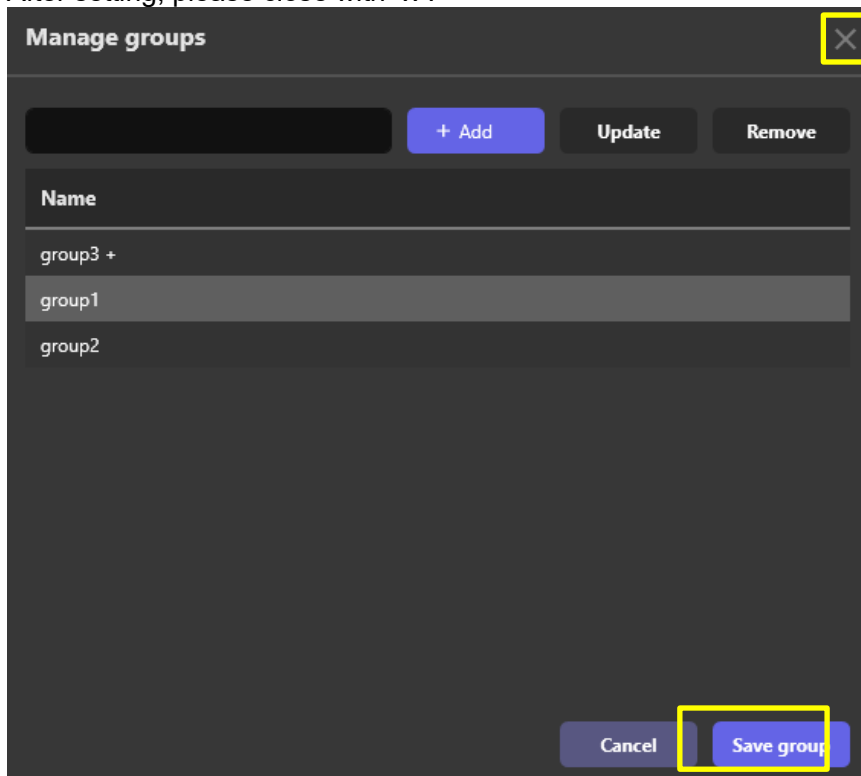
Input group name, and "+ Add" button.



### Step 4

Click "Save group" button.

After setting, please close with "x".



- **Edit Registration**

**Step 1**

Select one of the group name from list, then edit group name and click Update button.

**Step 2**

Click "Save group" button.

- **Delete Registration**

**Step 1**

Select one of group name from list, then click Remove button.

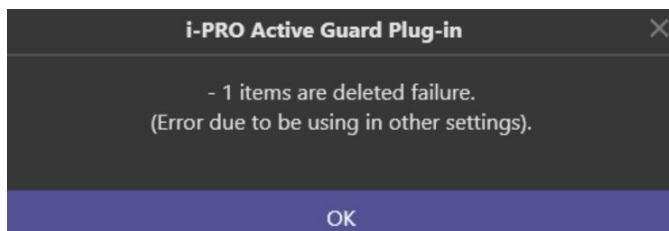
**Step 2**

Click "Save group" button.

---

**Note:**

- If delete or edit a group is fail, make sure the target group is not in your LPR watchlists.

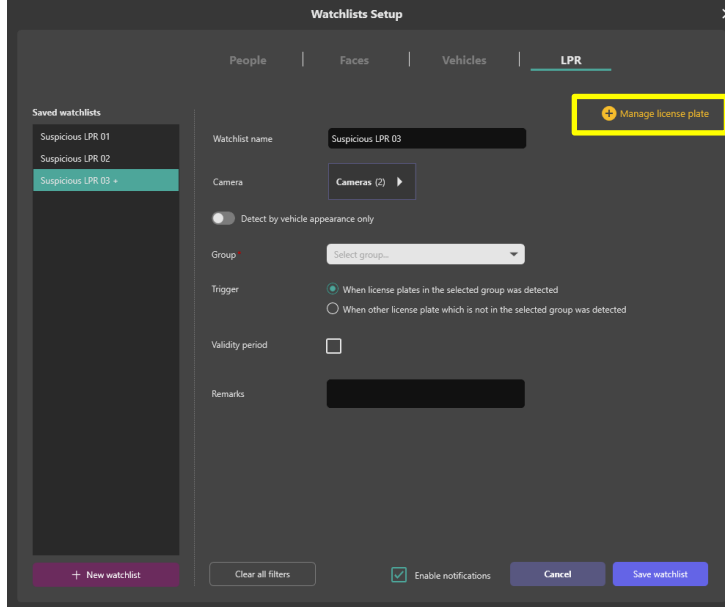


## 2.5.4.2. Manage License plate

- **Get registered list**

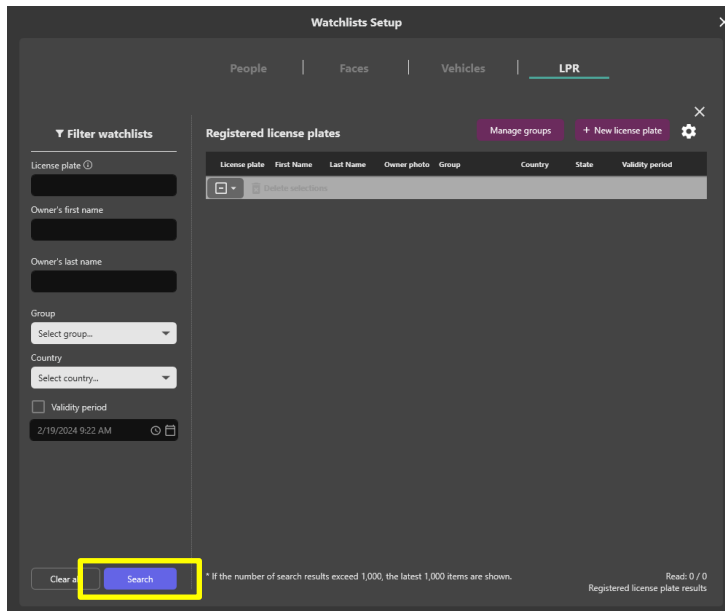
### Step 1

In LPR Watchlist Setup screen, click “+ Manage license plate”.



### Step 2

Click “Search” button by using filter.



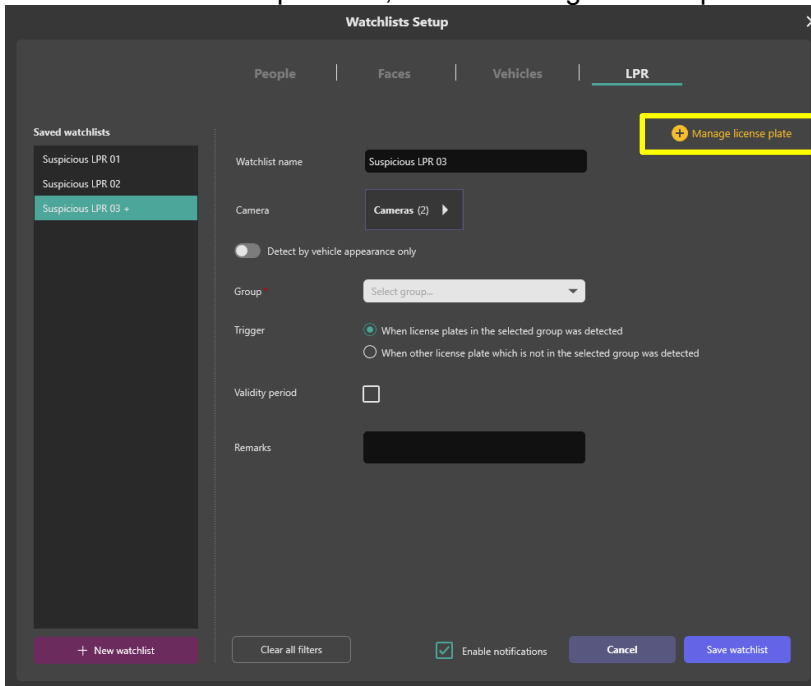
### Note:

- Up to 1,000 License plates can be shown at the same time.  
If your search results exceed 1000 results, please set the search filter so that the search results are less than 1000 results.

## ● Add Registration

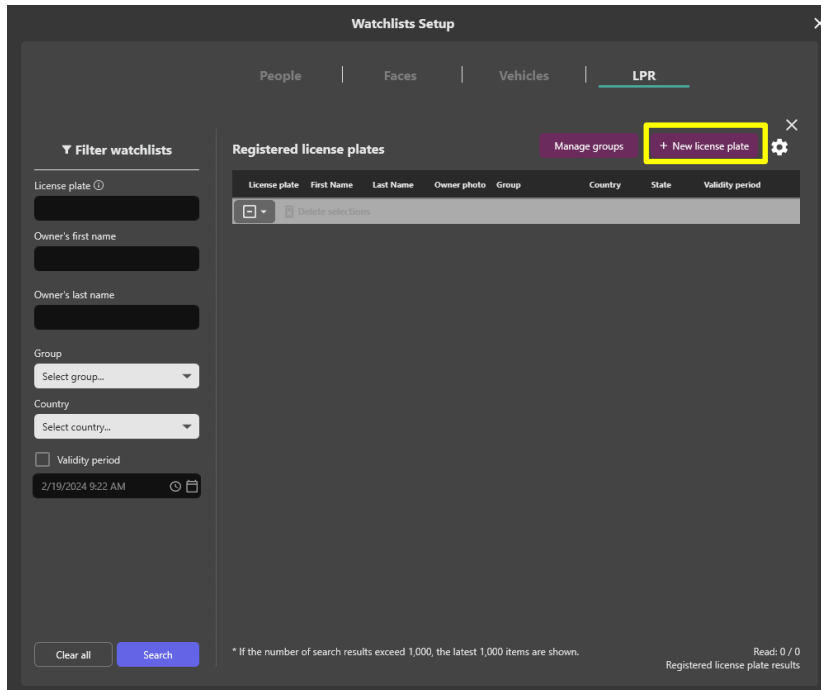
### Step 1

In LPR Watchlist Setup screen, click “+ Manage license plate.”



### Step 2

Click “+ New License plate.”

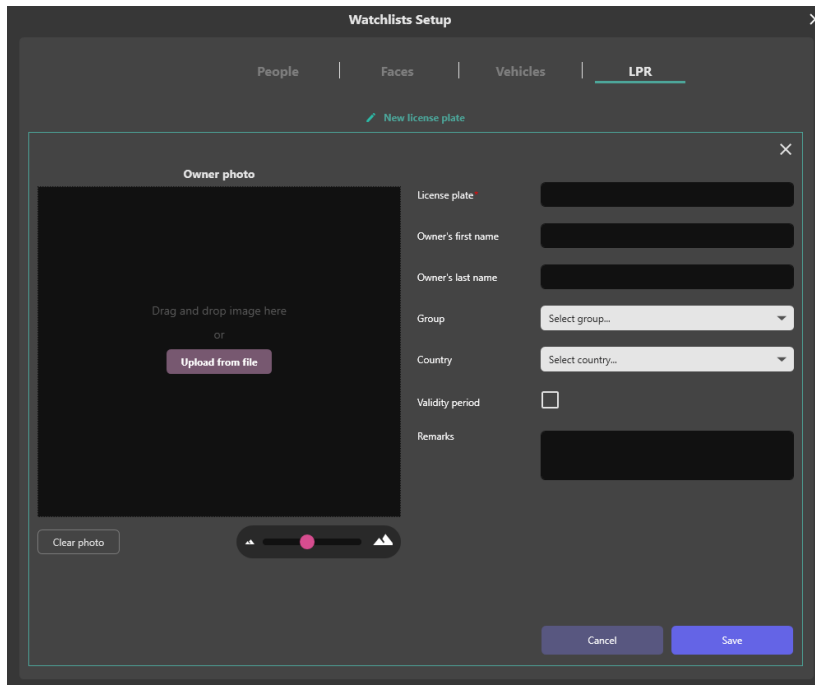


### Step 3

Click "+ New License plate."

### Step 4

Input information then click Save. "License plate" is required.



The screenshot shows the "Watchlists Setup" dialog box with the "LPR" tab selected. The dialog is titled "New license plate" and contains the following fields:

- Owner photo: A large black area with the text "Drag and drop image here or Upload from file" and a "Clear photo" button below it.
- License plate: A text input field.
- Owner's first name: A text input field.
- Owner's last name: A text input field.
- Group: A dropdown menu with "Select group..." as the placeholder.
- Country: A dropdown menu with "Select country..." as the placeholder.
- Validity period: A checkbox.
- Remarks: A text input field.

At the bottom of the dialog are "Cancel" and "Save" buttons.

---

### Note:

- In Validity Period, two expiration dates can be set.  
Disable matching: After the expiration date, this LPR will not be detected.  
Delete registration: After the expiration date, we will delete the registration itself of this LPR.
-

## ● Edit Registration


### Step 1

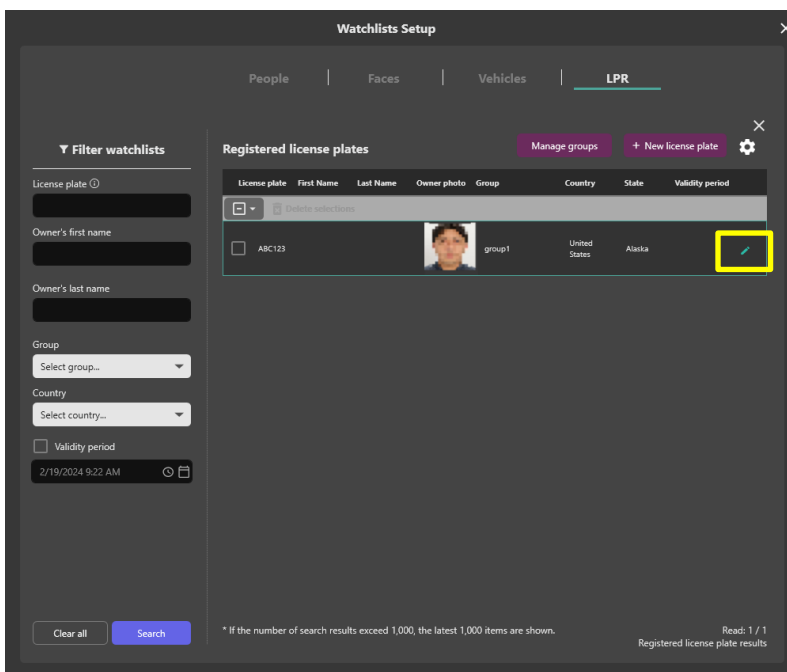
First, find the registered license plate you want to edit the information. Registered license plates can be searched by using filter.

#### Note:

- Up to 1,000 License plates can be shown at the same time. If your search results exceed 1000 results, please set the search filter so that the search results are less than 1000 results.

### Step 2

Select one of license plate from search results, then click  button.



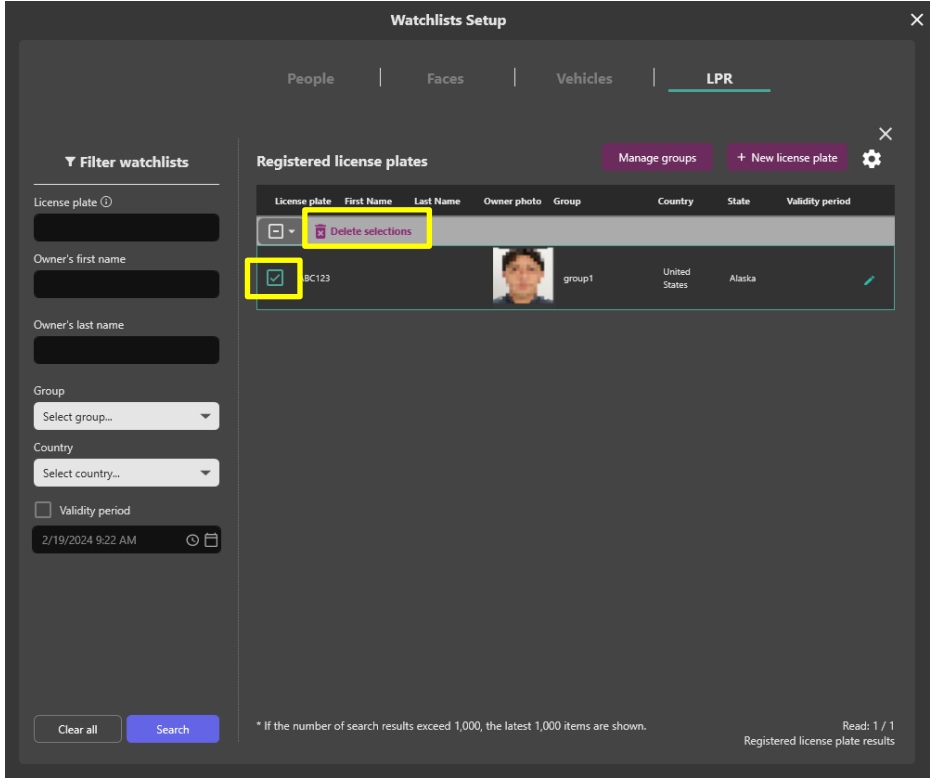
### Step 3

Edit any information then click Save.

- **Delete Registration**

**Step 1**

Select check box of license plate from list, then click Delete selections button.



## 2.5.4.3. Export CSV of License plate

Registered License plate can be exported to CSV.


Export the following items:

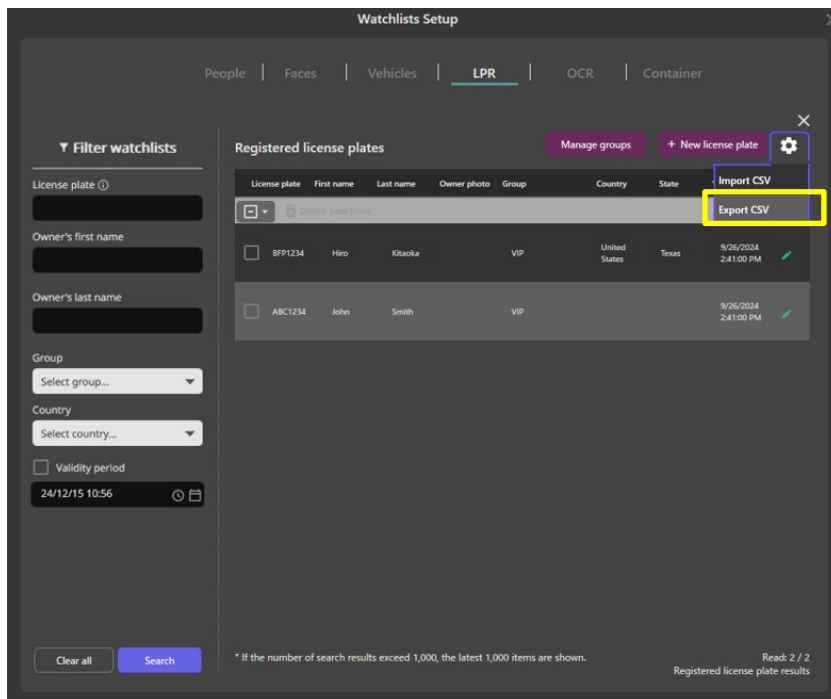
- License plate
- Country
- State
- First name
- Last name

### Step 1

Search “Registered license plate” you want to export by using Filter watchlists.

### Step 2

Click  , then click Export CSV.



---

### Note:

- Up to 1,000 items can be exported to a CSV file.  
If your search results exceed 1000 results, please set the search filter so that the search results are less than 1000 results.
  - Export all search results to CSV, regardless of the checkboxes for each item.
- 

### Step 3

Specify the output destination for the CSV file and save it.

## 2.5.4.4. Import CSV of License plate

Register using Import the CSV file export by this Plug-in or VI LPR plug-in.


For CSV exported by VI LPR plug-in,

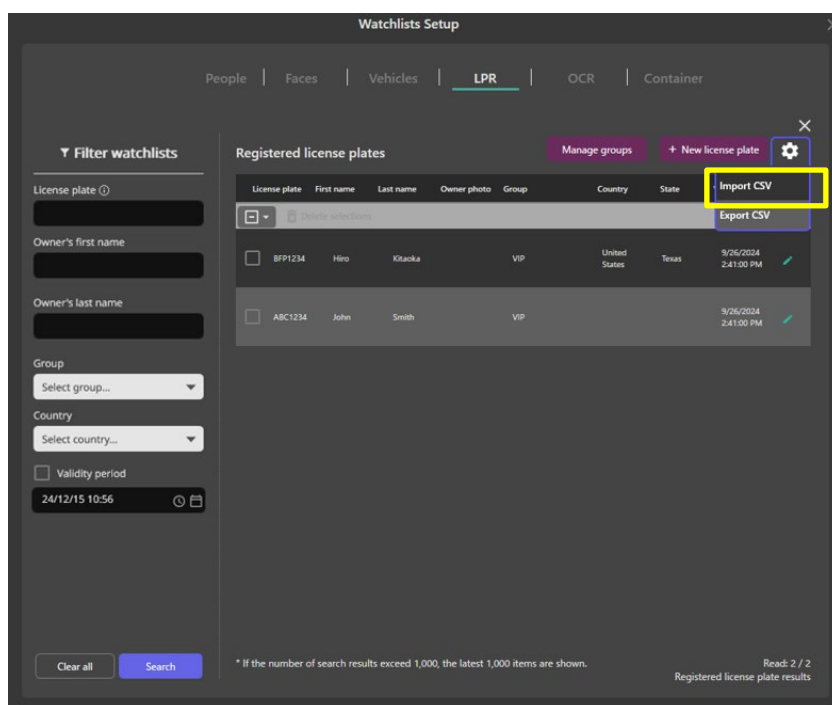
License Plate, First Name and Last Name are registered.

For CSV exported by this plugin,

License Plate, Country, State, First Name and Last Name are registered.

### Step 1

Click , then click Import CSV.



### Step 2

Select the CSV, then click Open.

#### Note:

- CSV format of i-PRO Active Guard Plug-in is as follows.

License_plate_number	country	issuing_entity	owner_first_name	owner_last_name
Max.32 characters	(ISO 3166 two-letter code (alpha-2)) *1	(Copy the string from plug-in's setting screen) *1 *2	Max.256 characters	Max.256 characters

\*1 : If the value is invalid, it will be registered as blank when imported.

\*2 : If the string contains commas, enclose it in double quotes.

- Up to 1,000 items can be imported from a CSV file.

---

**Note:**

- CSV format of VI LPR plug-in is as follows.

License Plate	Country /State	Year	Make	Model	Color	First Name	Last Name	Threat Level
Max.32 characters	-	-	-	-	-	Max.32 characters	Max.32 characters	-

\*When VI LPR plug-in, only License Plate, First Name and Last Name are registered for i-PRO Active Guard Server.

**Example)**

License Plate, Country/State, Year, Make, Model, Color, First Name, Last Name, Threat Level  
BFP8526, USA-TX, 2020, Honda, Accord, Blue, Hiro, Kitaoka, None123  
ABC1234, , , , , John, Smith,

- Up to 1,000 items can be imported from a CSV file.
-

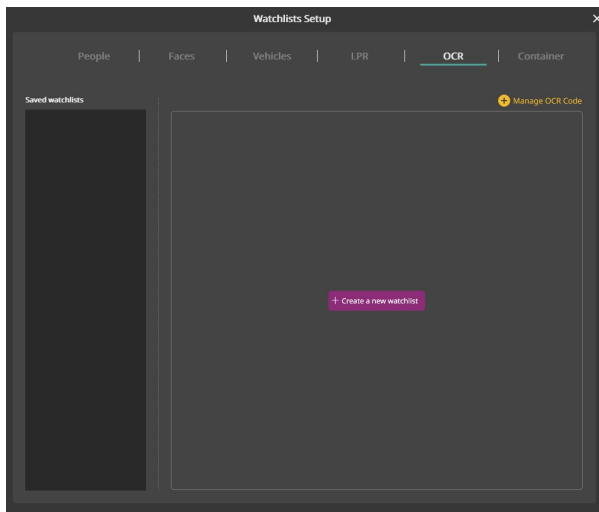
## 2.5.5. OCR Watchlist

This section describes the operation of add, edit, and delete.

If you don't have permission to access the watchlist or your camera configuration has no AI-Camera which installed VaxOCR GENESIS application, then this function is not available.

- **Add Registration**

To register OCR code to the watchlist, navigate to Set up watchlists button > OCR tab.



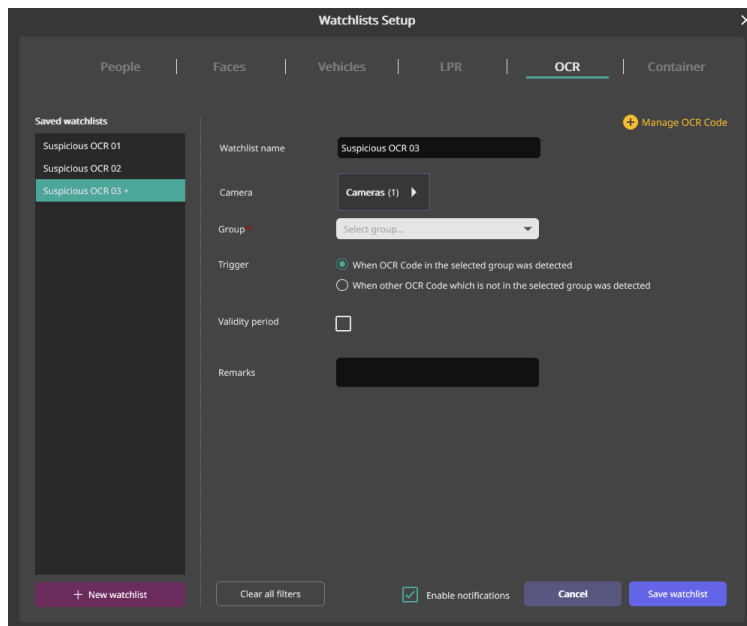
Registered items are listed on the left side.

To add new item, click "+ Create a new watchlist" button.

---

**Note:**

- OCR Code cannot be set directly in the watchlist.  
Please register the OCR Code to OCR Code group.  
About OCR Code group, please see 2.5.5.1.  
About OCR Code, please see 2.5.5.2.
-



The following procedure is the same as when registering people watchlists, see 2.5.2.

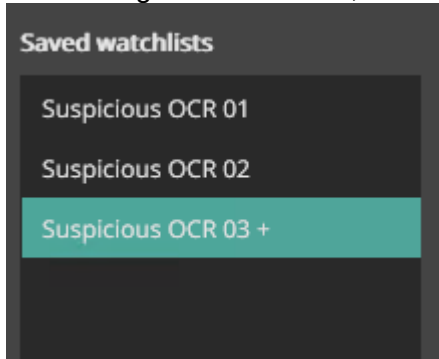
---

**Note:**

- There is no limitation to the number of OCR and group (\*depending on the system design). Up to 12 OCR watchlist can be registered.
  - Only one item can be selected from each category. This is because many items register would affect false positives.
  - In Validity Period, two expiration dates can be set.  
Disable matching: After the expiration date, this OCR watchlist will not be detected.  
Delete registration: After the expiration date, this OCR watchlist will be deleted.
  - It is impossible to register to multiple i-PRO Active Guard server at the same time.
-

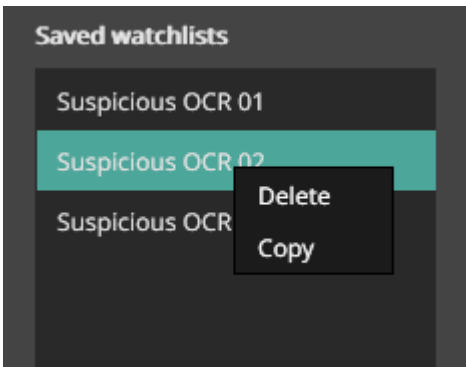
- **Edit Registration**

To edit a registered watchlist, select one of the registered item then change selected item.



- **Delete Registration**

To delete a registered watchlist, right click one of the registered item.

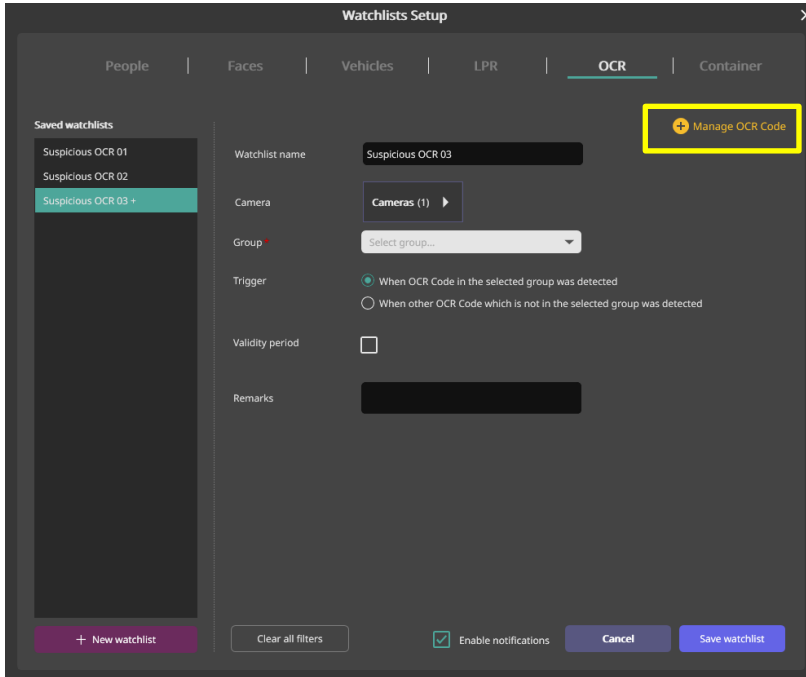


## 2.5.5.1. Manage OCR Code group

- **Add Registration**

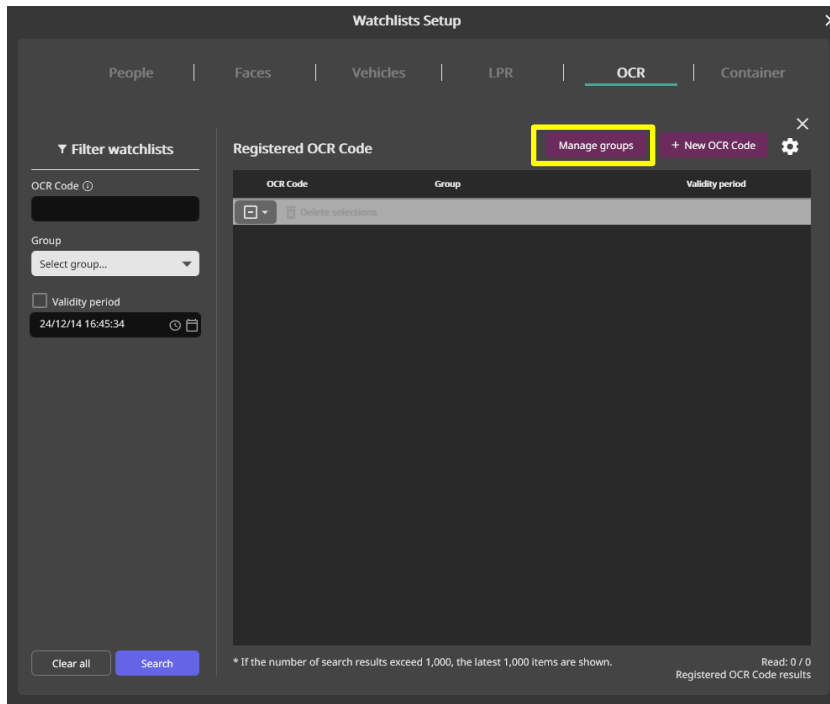
### Step 1

In OCR Watchlist Setup screen, click “+ Manage OCR Code”.



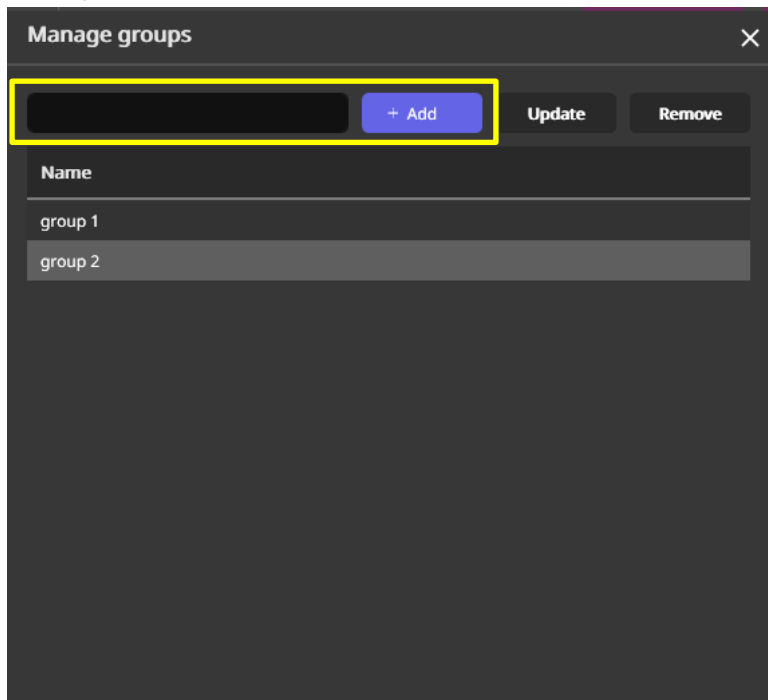
### Step 2

Click “Manage groups.”



### Step 3

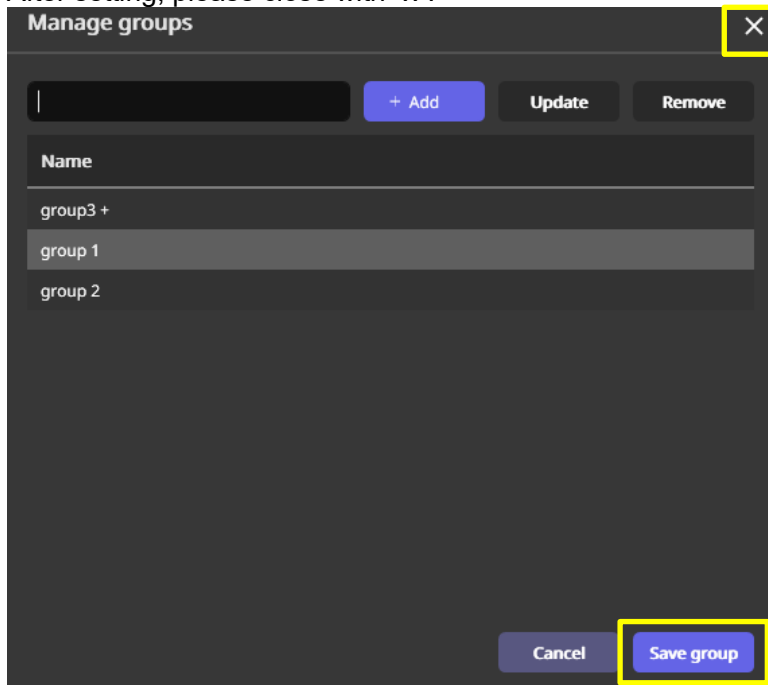
Input group name, and "+ Add" button.



### Step 4

Click "Save group" button.

After setting, please close with "x".



- **Edit Registration**

**Step 1**

Select one of the group name from list, then edit group name and click Update button.

**Step 2**

Click "Save group" button.

- **Delete Registration**

**Step 1**

Select one of the group name from list, then click Remove button.

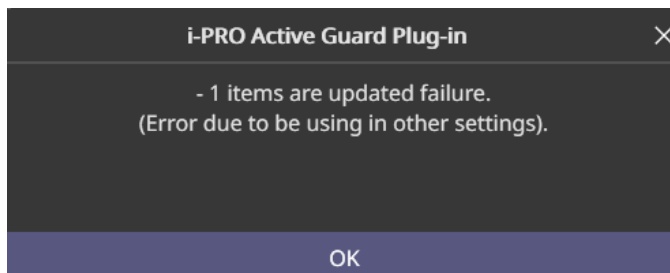
**Step 2**

Click "Save group" button.

---

**Note:**

- If delete or edit a group is fail, make sure the target group is not in your OCR watchlists.

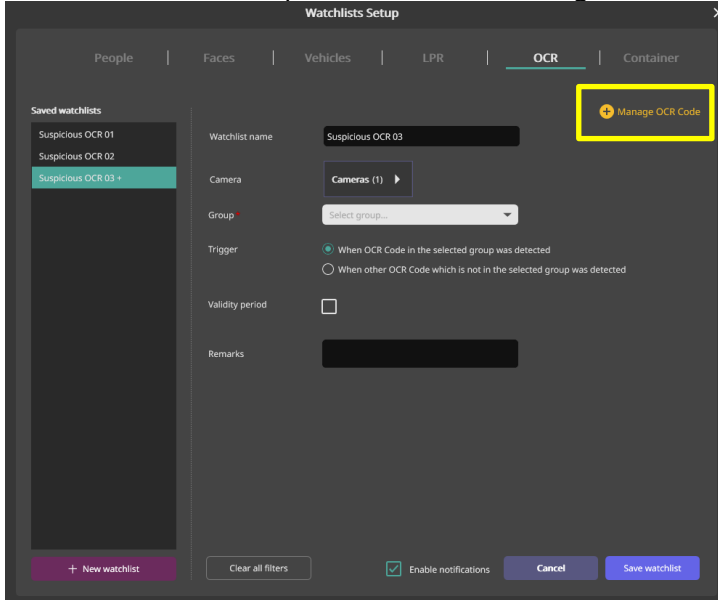


## 2.5.5.2. Manage OCR Code

- **Get registered list**

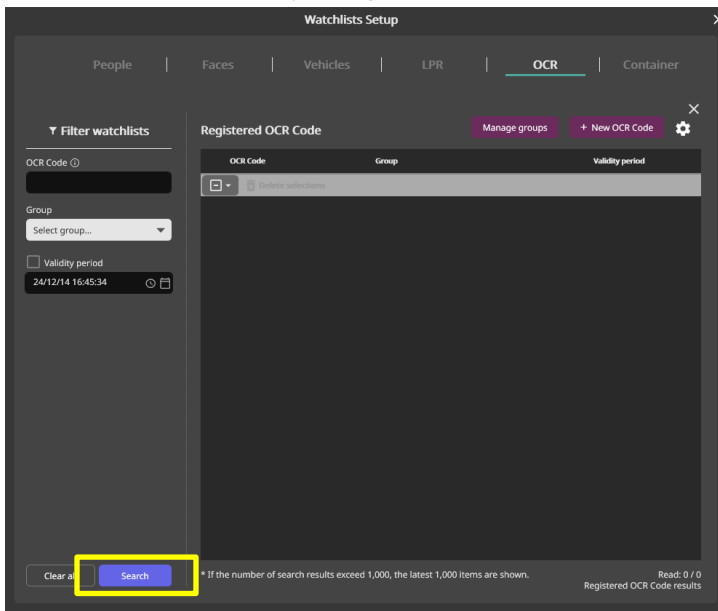
### Step 1

In OCR Watchlist Setup screen, click “+ Manage OCR Code”.



### Step 2

Click “Search” button by using filter.



### Note:

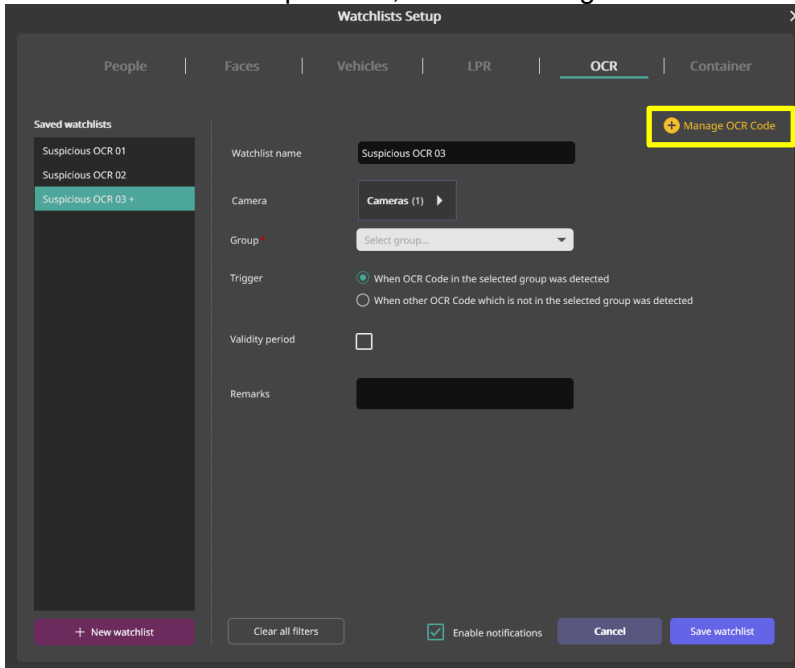
- Up to 1,000 OCR Code can be shown at the same time.  
If your search results exceed 1000 results, please set the search filter so that the search results are less than 1000 results.

- **Add Registration**

OCR code can be registered via the Action button or the Watchlist Setup screen. For Action button, see 2.2.1.3.

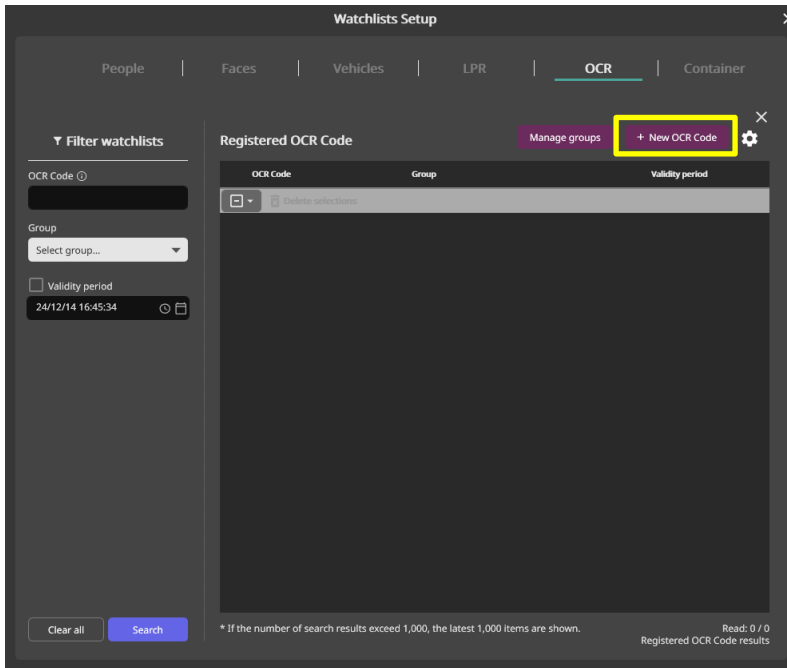
**Step 1**

In OCR Watchlist Setup screen, Click “+ Manage OCR Code”.



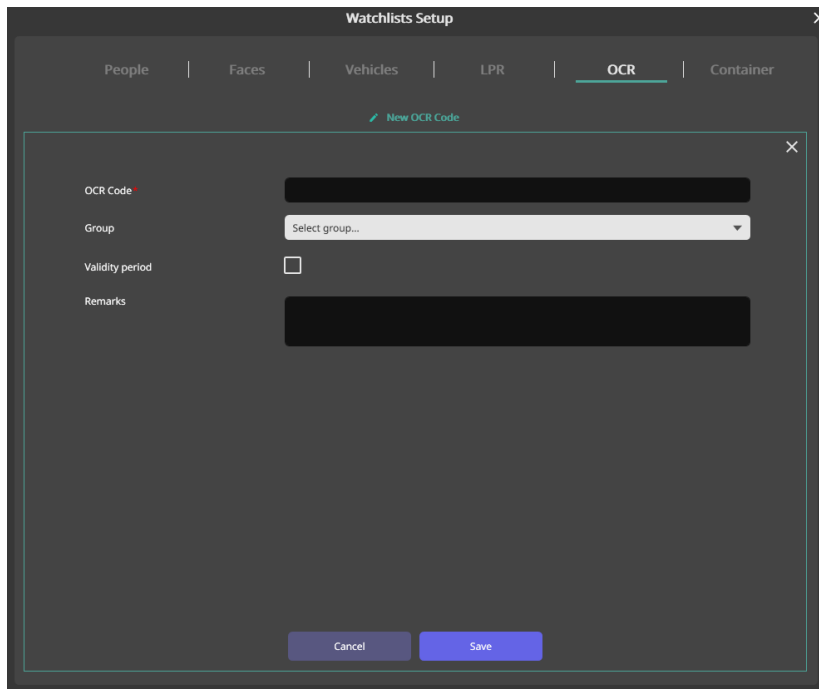
**Step 2**

Click “+ New OCR Code”.



### Step 3

Input information then click Save. "OCR Code" is required.



The screenshot shows a software interface titled "Watchlists Setup" with a dark theme. At the top, there are navigation tabs: "People", "Faces", "Vehicles", "LPR", "OCR" (which is selected and underlined), and "Container". Below the tabs, there is a green checkmark icon and the text "New OCR Code". The main area contains a form with the following fields:

- OCR Code**: A text input field with a red asterisk indicating it is required.
- Group**: A dropdown menu with the text "Select group..." and a downward arrow.
- Validity period**: A checkbox that is currently unchecked.
- Remarks**: A text input field.

At the bottom of the form, there are two buttons: "Cancel" and "Save".

---

#### Note:

- In Validity Period, two expiration dates can be set.  
Disable matching: After the expiration date, this OCR Code will not be detected.  
Delete registration: After the expiration date, this OCR Code will be deleted.
-

## ● Edit Registration


### Step 1

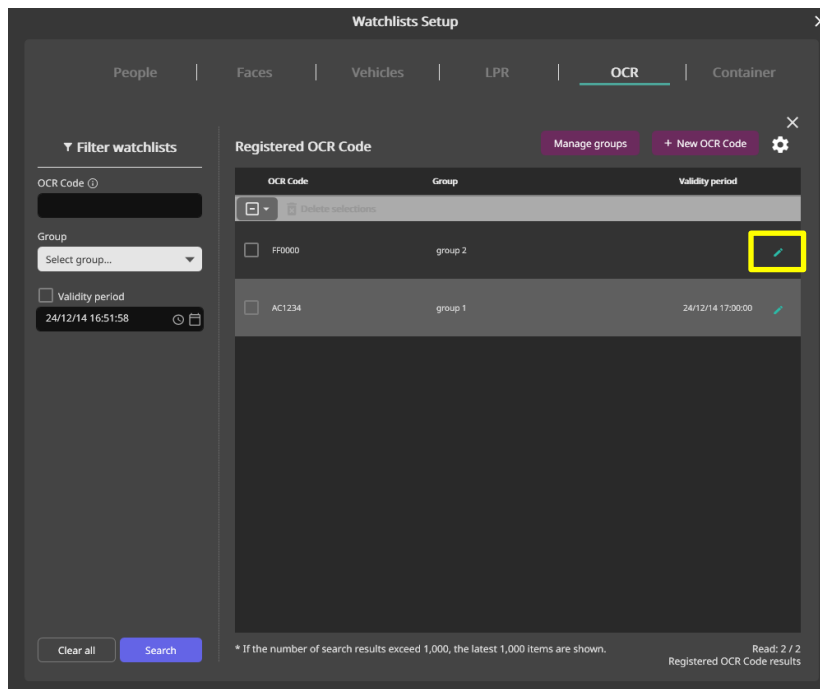
First, find registered OCR Code you want to edit the information.  
Registered OCR Code can be searched by using filter.

#### Note:

- Up to 1,000 OCR Code can be shown at the same time.  
If your search results exceed 1000 results, please set the search filter so that the search results are less than 1000 results.

### Step 2

Select one of OCR Code from search results, then click  button.



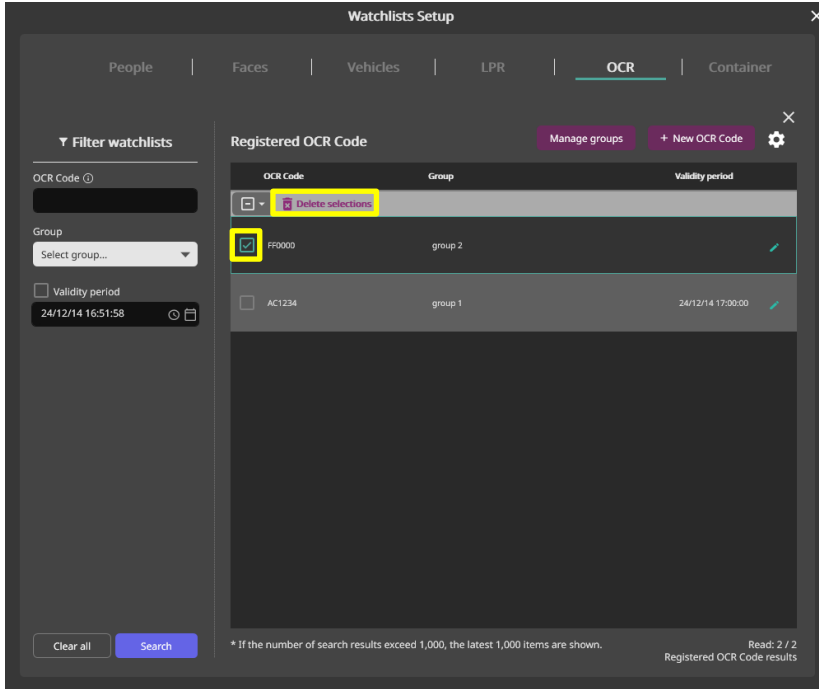
### Step 3

Edit any information then click Save.

- **Delete Registration**

**Step 1**

Select check box of OCR Code from list, then click Delete selections button.



## 2.5.5.3. Export CSV of OCR code

Registered OCR codes can be exported to CSV.


Export the following items:

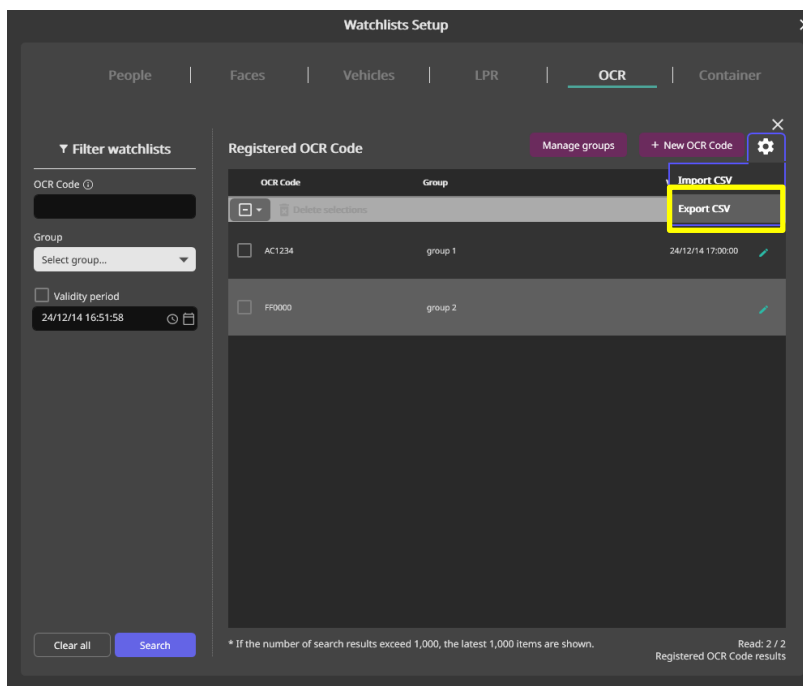
- OCR code

### Step 1

Search “Registered OCR Code” you want to export by using Filter watchlists.

### Step 2

Click  , then click Export CSV.



### Note:

- Up to 1,000 items can be exported to a CSV file.  
If your search results exceed 1000 results, please set the search filter so that the search results are less than 1000 results.
- Export all search results to CSV, regardless of the checkboxes for each item.


### Step 3

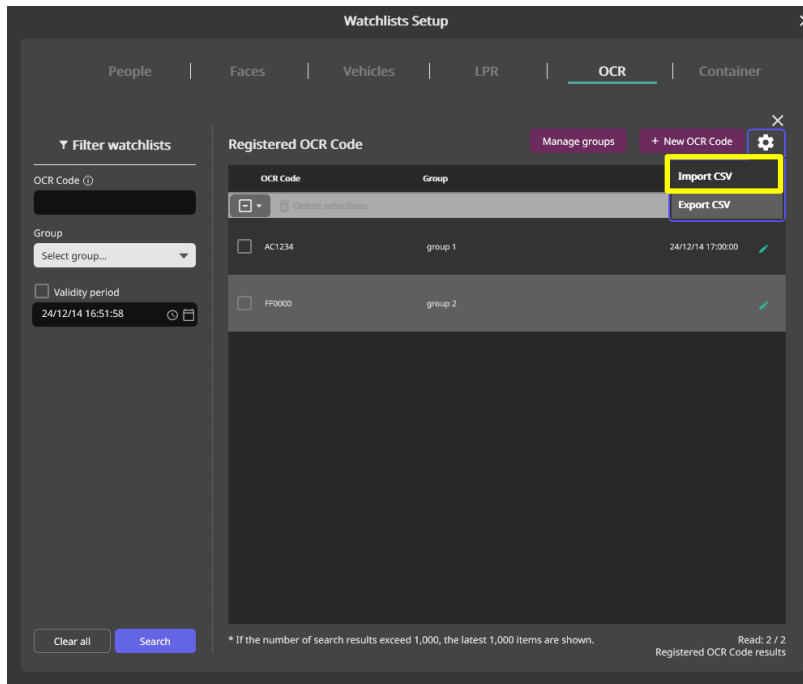
Specify the output destination for the CSV file and save it.

## 2.5.5.4. Import CSV of OCR code

Register OCR code using Import the CSV file export by this plug-in. OCR code of CSV information is registered.

### Step 1

Click  , then click Import CSV.



### Step 2

Select the CSV file, then click Open.

#### Note:

- The CSV format that can be imported is as follows.

ocr_code
Max.32 characters

- Up to 1,000 items can be imported from a CSV file.

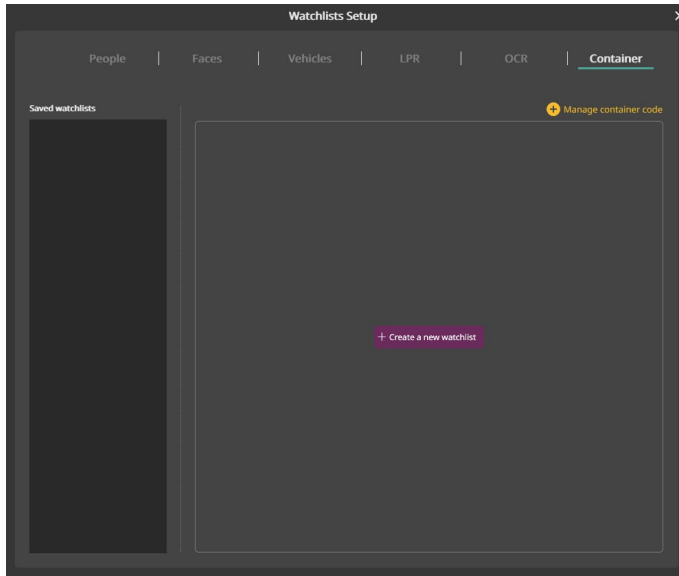
## 2.5.6. Container Watchlist

This section describes the operation of add, edit, and delete.

If you don't have permission to access the watchlist or your camera configuration has no AI-Camera which installed VaxOCR CONTAINER application, then this function is not available.

- **Add Registration**

To register a container's details or container code to the watchlist, navigate to set up watchlists button > Container tab.

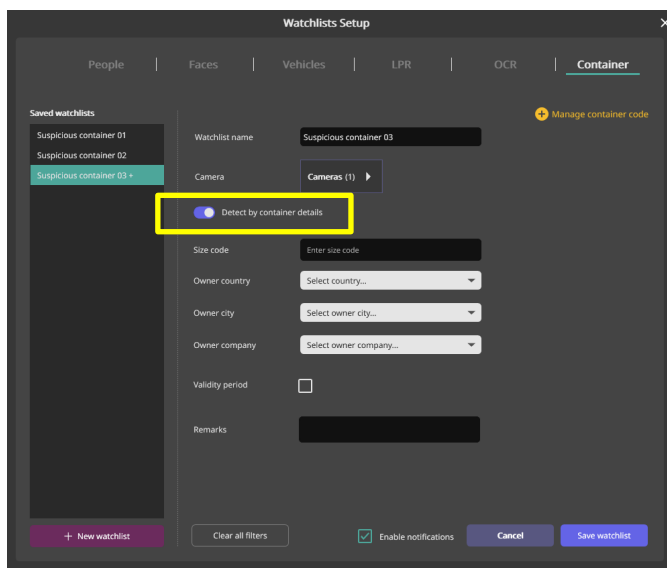


Registered items are listed on the left side.

To add new item, click "+ Create a new watchlist" button.

- **Add Registration (Detect by container details)**

Set "Detect by container details" to "On," then select items.



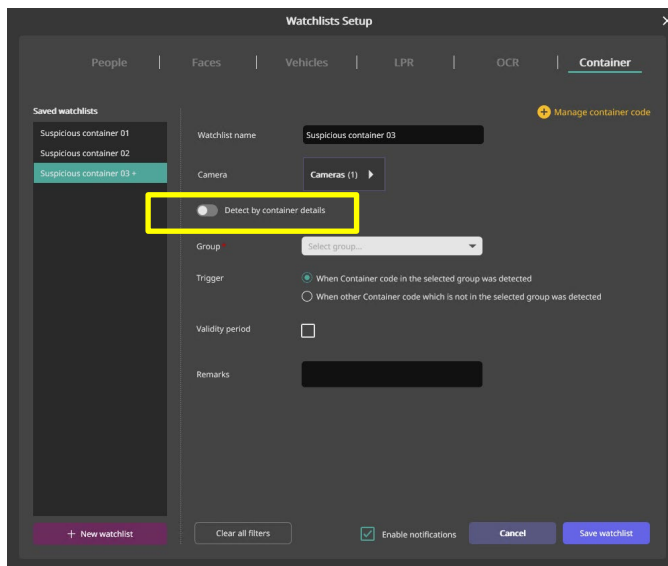
- **Add Registration (Container Group)**

Set "Detect by container details" to "Off," then select container group and Trigger.

---

**Note:**

- Container code cannot be set directly in the watchlist. Please register the container code to container group. About container group, please see 2.5.6.1. About container code, please see 2.5.6.2.
- 



The following procedure is the same as when registering people watchlists, see 2.5.2.

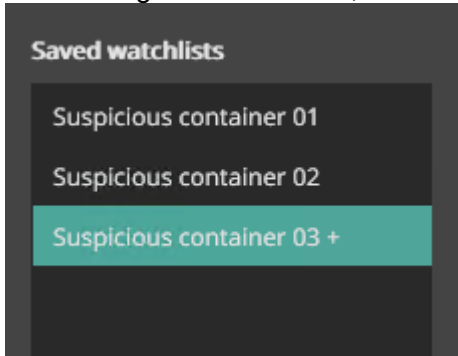
---

**Note:**

- There is no limitation to the number of container code and container group (\*depending on the system design). Up to 12 Container watchlist can be registered.
  - Only one item can be selected from each category. This is because many items register would affect false positives.
  - In Validity Period, two expiration dates can be set.  
Disable matching: After the expiration date, this container watchlist will not be detected.  
Delete registration: After the expiration date, this container watchlist will be deleted.
  - It is impossible to register to multiple i-PRO Active Guard server at the same time.
-

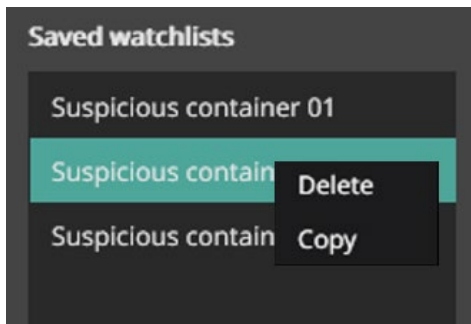
- **Edit Registration**

To edit a registered watchlist, select one of the registered item then change selected item.



- **Delete Registration**

To delete a registered vehicle appearance, right click one of the registered item.



## 2.5.6.1. Manage Container group

- **Add Registration**

### Step 1

In Container Watchlist Setup screen, click “+ Manage container code”.

The screenshot shows the 'Watchlists Setup' window with the 'Container' tab selected. On the left, there is a 'Saved watchlists' list with three items: 'Suspicious container 01', 'Suspicious container 02', and 'Suspicious container 03 +'. The main area contains form fields for 'Watchlist name' (Suspicious container 03), 'Camera' (Cameras (1)), a toggle for 'Detect by container details', 'Size code' (Enter size code), 'Owner country', 'Owner city', 'Owner company', 'Validity period', and 'Remarks'. A yellow box highlights the '+ Manage container code' button in the top right corner. At the bottom, there are buttons for '+ New watchlist', 'Clear all filters', 'Enable notifications' (checked), 'Cancel', and 'Save watchlist'.

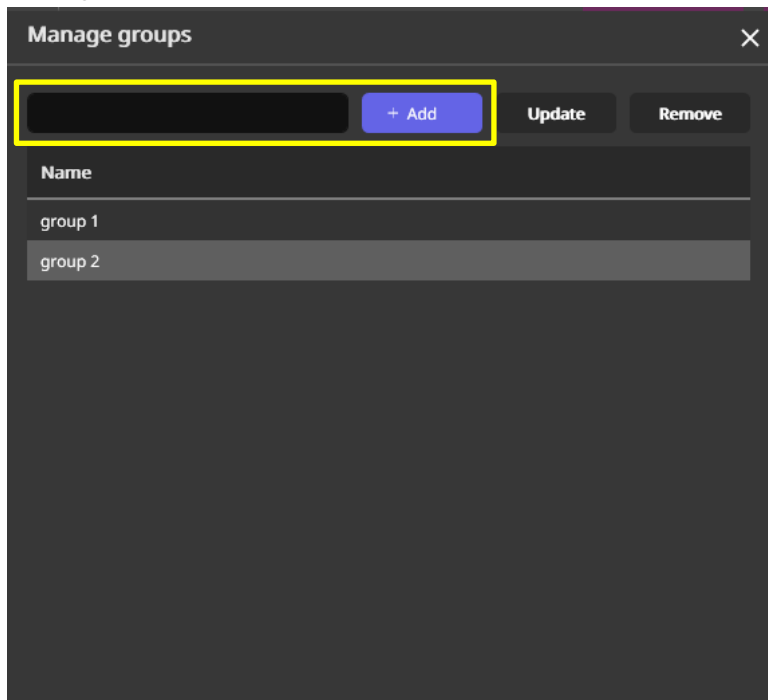
### Step 2

Click “Manage groups.”

The screenshot shows the 'Watchlists Setup' window with the 'Container' tab selected. On the left, there is a 'Filter watchlists' section with dropdowns for 'Container code', 'Size code', 'Owner country', 'Owner city', 'Owner company', 'Group', and a checkbox for 'Validity period'. The main area is titled 'Registered container code' and features a table with columns: 'Container code', 'Size code', 'Owner country', 'Owner city', 'Owner company', 'Group', and 'Validity period'. A yellow box highlights the 'Manage groups' button in the top right corner. To the right of the table is a '+ New container code' button and a settings gear icon. At the bottom, there are 'Clear all' and 'Search' buttons, and a footer note: '\* If the number of search results exceed 1,000, the latest 1,000 items are shown.' and 'Read: 0 / 0 Registered container code results'.

### Step 3

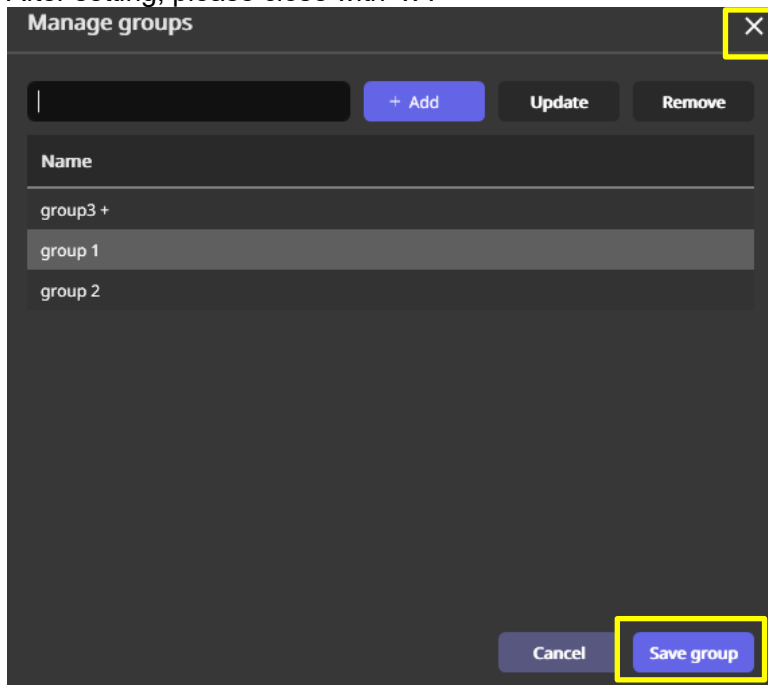
Input group name, and "+ Add" button.



### Step 4

Click "Save group" button.

After setting, please close with "x".



- **Edit Registration**

**Step 1**

Select one of the group name from list, then edit group name and click Update button.

**Step 2**

Click "Save group" button.

- **Delete Registration**

**Step 1**

Select one of group name from list, then click Remove button.

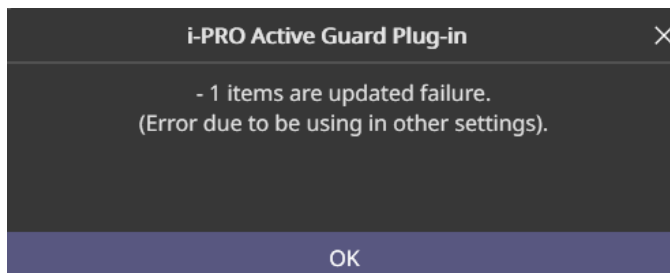
**Step 2**

Click "Save group" button.

---

**Note:**

- If delete or edit a group is fail, make sure the target group is not in your Container watchlists.

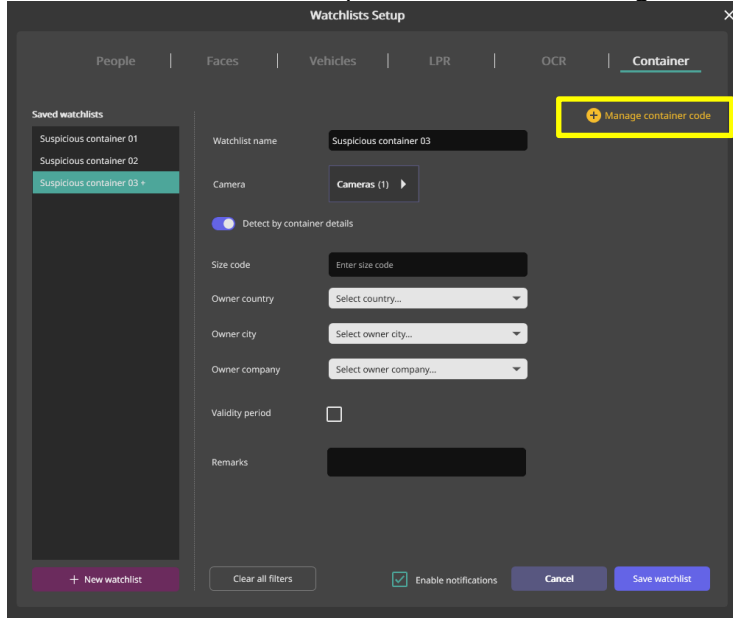


## 2.5.6.2. Manage Container code

- **Get registered list**

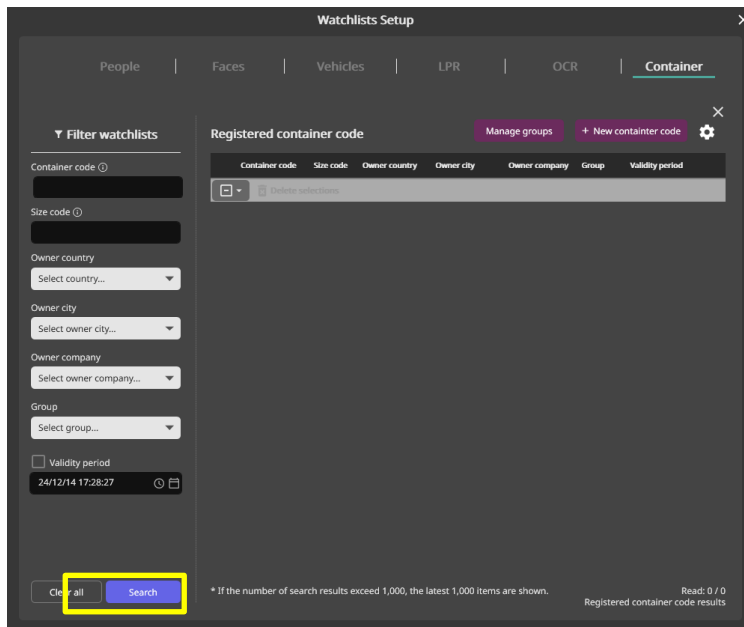
### Step 1

In Container Watchlist Setup screen, click “+ Manage container code”.



### Step 2

Click “Search”



### Note:

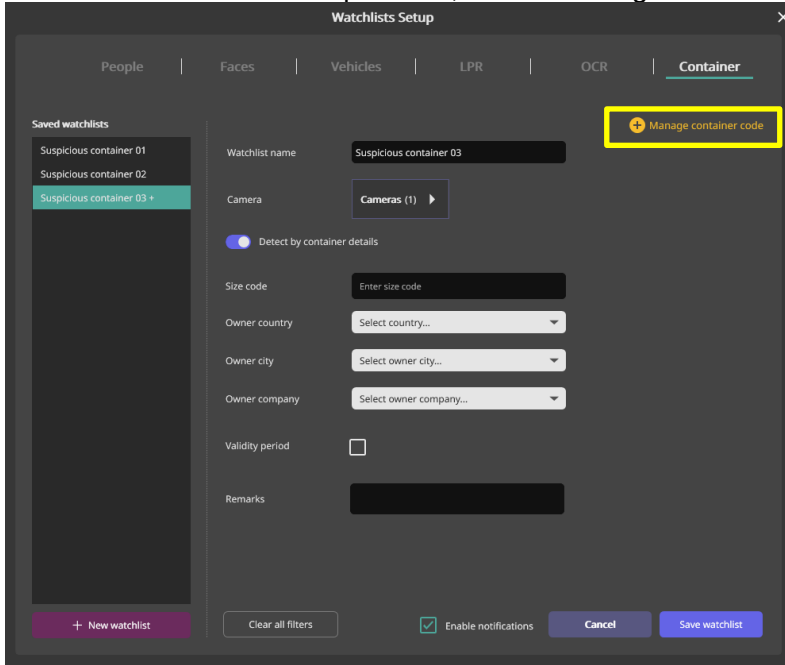
- Up to 1,000 container codes can be shown at the same time. If your search results exceed 1000 results, please set the search filter so that the search results are less than 1000 results.

- **Add Registration**

Container code can be registered via the Action button or the Watchlist Setup screen. For Action button, see 2.2.1.3.

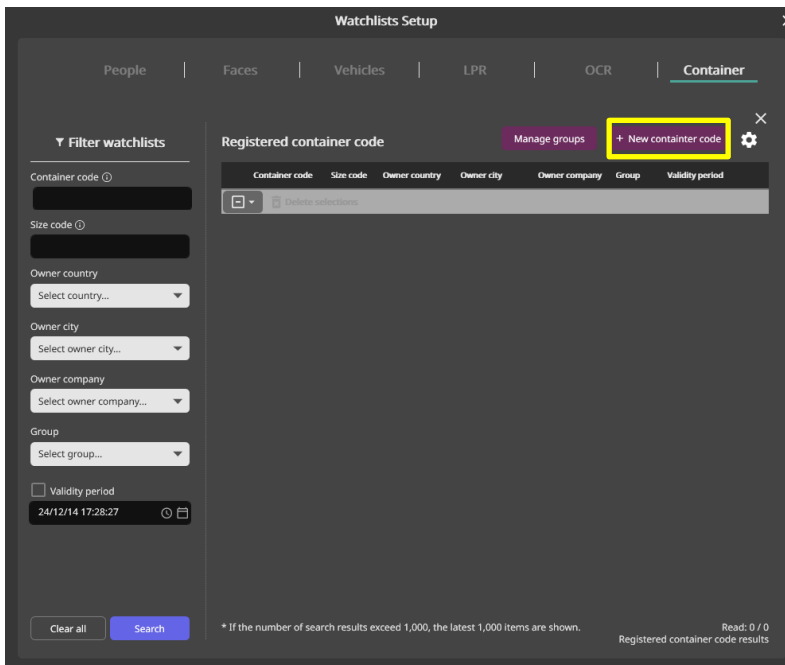
**Step 1**

In Container Watchlist Setup screen, click “+ Manage container code”.



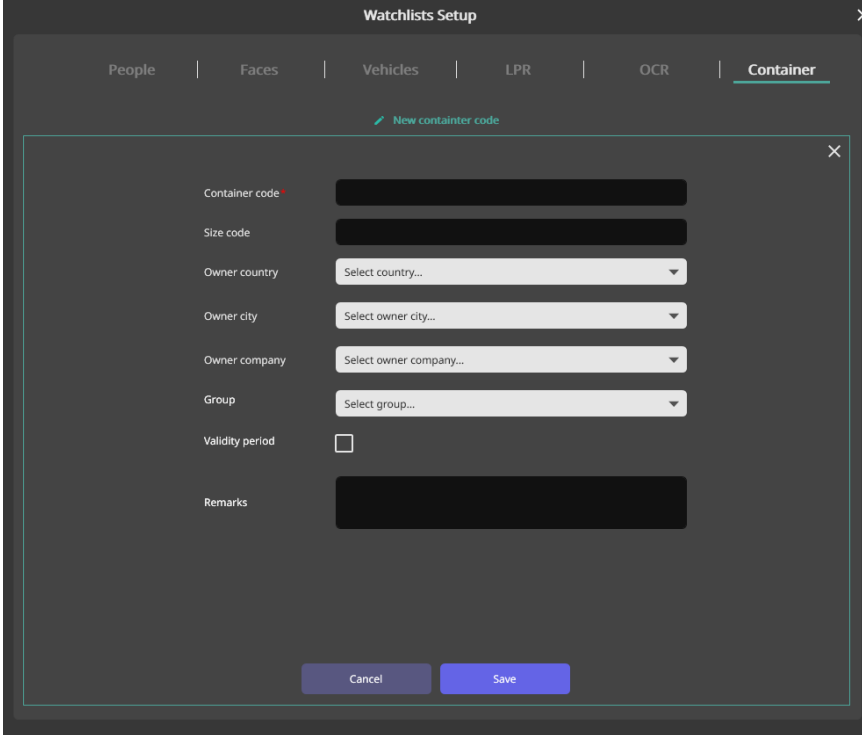
**Step 2**

Click “+ New container code.”



### Step 3

Input information then click Save. "Container code" is required.



The screenshot shows a software window titled "Watchlists Setup" with a close button (X) in the top right corner. The window has a navigation bar with tabs for "People", "Faces", "Vehicles", "LPR", "OCR", and "Container", with "Container" being the active tab. Below the navigation bar, there is a green checkmark icon and the text "New container code". The main area of the window contains a form with the following fields:

- Container code: A text input field.
- Size code: A text input field.
- Owner country: A dropdown menu with the text "Select country...".
- Owner city: A dropdown menu with the text "Select owner city...".
- Owner company: A dropdown menu with the text "Select owner company...".
- Group: A dropdown menu with the text "Select group...".
- Validity period: A checkbox.
- Remarks: A text input field.

At the bottom of the form, there are two buttons: "Cancel" and "Save".

---

#### Note:

- In Validity Period, two expiration dates can be set.  
Disable matching: After the expiration date, this container code will not be detected.
  - Delete registration: After the expiration date, this container code will be deleted.
-

## ● Edit Registration


### Step 1

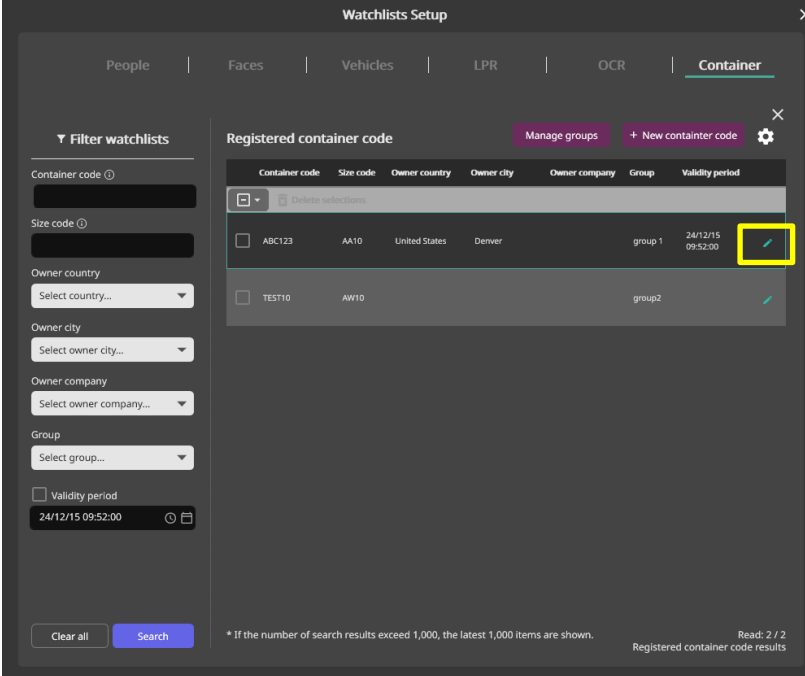
First, find the registered container code you want to edit the information.  
Registered container code can be searched by using filter.

#### Note:



- Up to 1,000 container codes can be shown at the same time.  
If your search results exceed 1000 results, please set the search filter so that the search results are less than 1000 results.

### Step 2

Select one of container code from search results, then click  button.



The screenshot shows the 'Watchlists Setup' window with the 'Container' tab selected. The left sidebar contains filters for Container code, Size code, Owner country, Owner city, Owner company, Group, and Validity period. The main area displays a table of registered container codes. The table has columns for Container code, Size code, Owner country, Owner city, Owner company, Group, and Validity period. Two rows are visible: one with container code ABC123 and another with TEST10. A yellow box highlights the edit icon (a pencil) in the rightmost column of the first row.

Container code	Size code	Owner country	Owner city	Owner company	Group	Validity period	
ABC123	AA10	United States	Denver		group 1	24/12/15 09:52:00	
TEST10	AW10				group2		

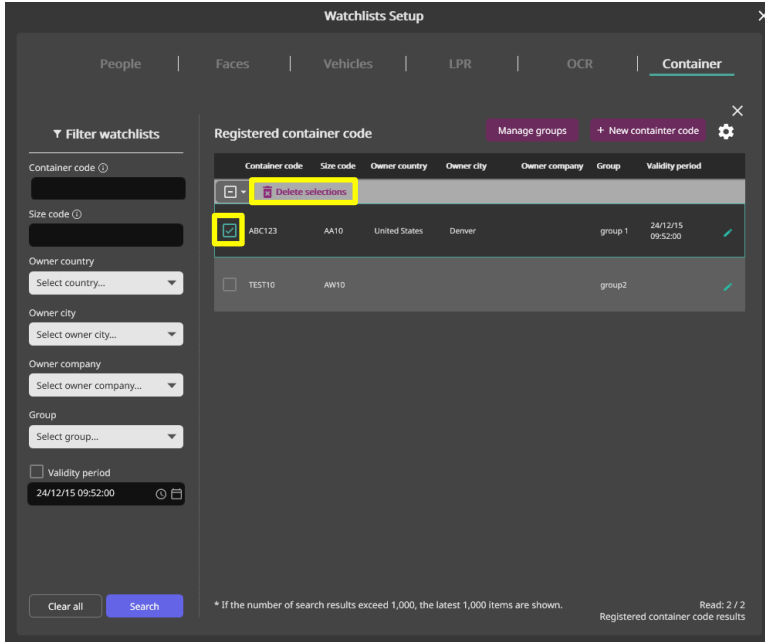
### Step 3

Edit any information then click Save.

- **Delete Registration**

**Step 1**

Select check box of container code from list, then click Delete selections button.



## 2.5.6.3. Export CSV of Container code

Registered container code can be exported to CSV.


Export the following items:

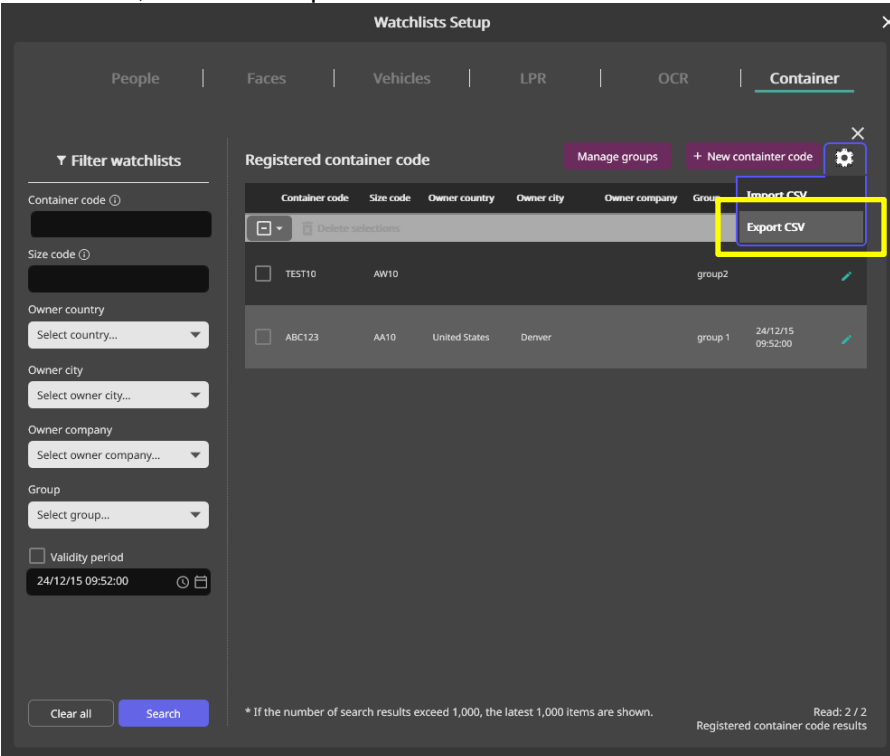
- Container code
- Size code
- Owner country
- Owner company

### Step 1

Search “Registered container code” you want to export by using Filter watchlists.

### Step 2

Click , then click Export CSV.



The screenshot shows the 'Watchlists Setup' window with the 'Container' tab selected. On the left, there is a 'Filter watchlists' section with dropdown menus for Container code, Size code, Owner country, Owner city, Owner company, and Group, along with a 'Validity period' field. The main area displays a table titled 'Registered container code' with columns: Container code, Size code, Owner country, Owner city, Owner company, Group, and an action column. The table contains two rows: one with 'TEST10' and 'AW10' in the first two columns, and another with 'ABC123', 'AA10', 'United States', 'Denver', and 'group 1'. In the top right of the table area, there are buttons for 'Manage groups', '+ New container code', and a gear icon. Below the gear icon, there are two buttons: 'Import CSV' and 'Export CSV'. The 'Export CSV' button is highlighted with a yellow box.

Container code	Size code	Owner country	Owner city	Owner company	Group	
TEST10	AW10				group2	
ABC123	AA10	United States	Denver		group 1	24/12/15 09:52:00

---

### Note:

- Up to 1,000 items can be exported to a CSV file.  
If your search results exceed 1000 results, please set the search filter so that the search results are less than 1000 results.
  - Export all search results to CSV, regardless of the checkboxes for each item.
- 

### Step 3


Specify the output destination for the CSV file and save it.

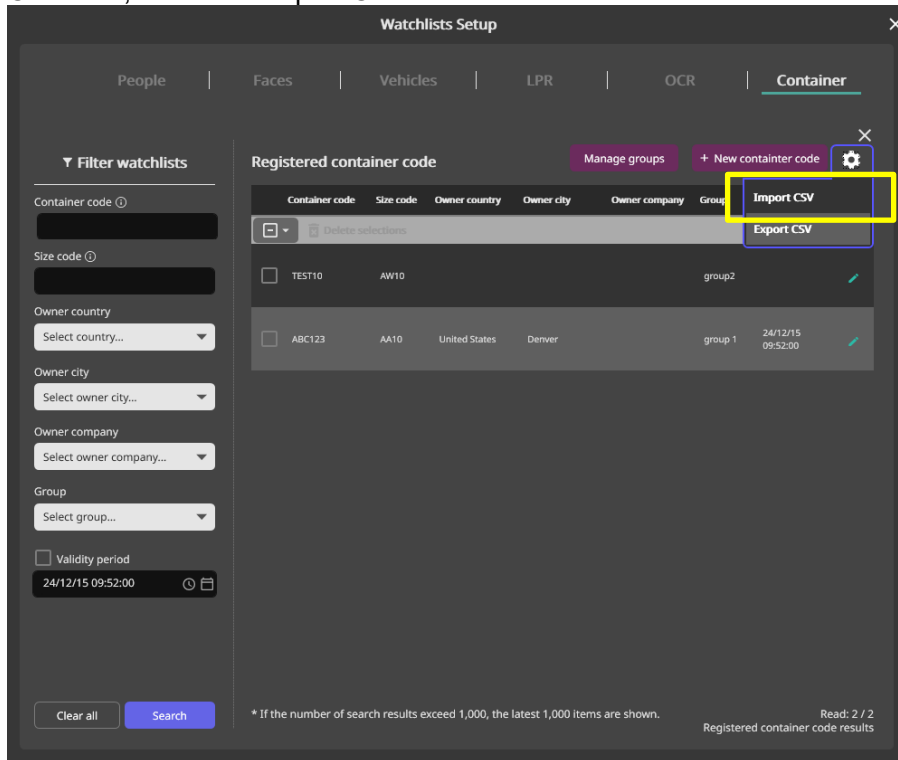
## 2.5.6.4. Import CSV of Container code

Register Container code using Import the CSV file export by this plug-in.

Container code, Size code, Owner country and Owner company of CSV information are registered.

### Step 1

Click , then click Import CSV.



### Step 2

Select the CSV file, then click Open.

#### Note:

- The CSV format that can be imported is as follows.

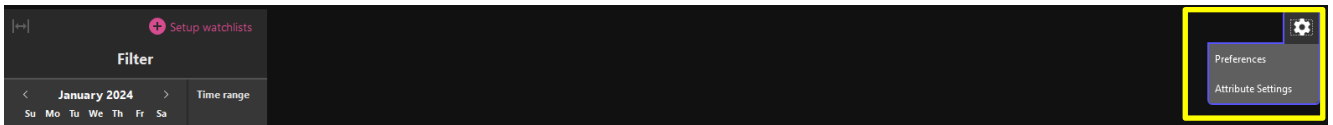
container_code	size_code	country	owner_city	owner_company
Max.11 characters	Max.4 characters	(ISO 3166 two-letter code (alpha-2)) *1	(Copy the string from plug-in's setting screen) *1 *2	(Copy the string from plug-in's setting screen) *1 *2

\*1 : If the value is invalid, it will be registered as blank when imported.

\*2 : If the string contains commas, enclose it in double quotes.

- Up to 1,000 items can be imported from a CSV file.

## 2.6. Preferences



Preferences provides some option settings such as playback video mode and so on.

A screenshot of the 'Preferences' dialog box. The dialog is titled 'Preferences' and has a close button (X) in the top right corner. It is divided into several sections:

- Playback**: Includes 'Playback mode' (a dropdown menu set to 'Continue to playback for the selected camera'), 'Start playback' (a spinner set to 5 seconds before event), and 'End playback' (a spinner set to 5 seconds after event).
- Search settings**: Includes 'Maximum number of searches' (a dropdown menu set to 1000) and 'Timeout interval for searches' (a spinner set to 60 seconds).
- Display settings on Search Monitor**: Includes 'Camera name/ Date time' (radio buttons for 'On' and 'Off', with 'On' selected) and 'Display position' (radio buttons for 'Top' and 'Bottom', with 'Top' selected).
- License Plate Recognition**: Includes 'Thumbnail display options' (radio buttons for 'Show entire image including vehicle body' and 'Show only license plate', with 'Show only license plate' selected).
- OCR Code Recognition**: Includes 'Filter name' (text input field with 'OCR'), 'Code name' (text input field with 'OCR Code'), and 'Thumbnail display options' (radio buttons for 'Show entire image' and 'Show only OCR Code', with 'Show entire image' selected).
- Container Code Recognition**: Includes 'Thumbnail display options' (radio buttons for 'Show entire image' and 'Show only Container Code', with 'Show entire image' selected).
- Event Monitor**: Includes four checkboxes: 'Show the latest alarm when starting event monitor' (checked), 'Open live monitor when receiving alarm' (unchecked), 'Popup display when receiving alarm' (checked), and 'Show alarms from all I-PRO Active Guard on Live event' (unchecked). Below these is 'Alarm receive port' (a spinner set to 1819).

## 2.6.1. Playback setting

### [Playback mode]

You can select continue to playback mode or repeat playback mode.

When using repeat playback mode, it needs to set up Start playback and End playback.

Default: Continue to playback for the selected camera. 5 seconds before event for Start playback.

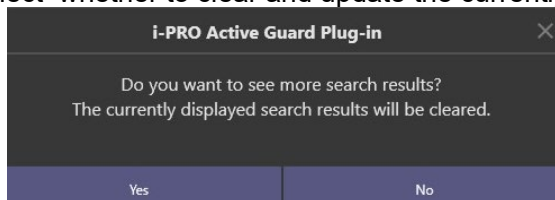
## 2.6.2. Search setting

### [Maximum number of searches]

You can select maximum number of searches from 1000 to 5000.

After the maximum number is reached, bellow message will be displayed.

Select whether to clear and update the currently displayed search results or keep current display.



Default: 5000

### [Timeout interval for searches]

You can select timeout interval for searches from 20 to 3600 seconds.

Default: 60

## 2.6.3. Display settings on Search Monitor

### [Camera name/ Date time]

You can set whether to show camera name/date time in the search results.

### [Display position]

You can set the display position of the camera name/date time.

---

#### Note:

- This setting also applies to the similarity scores.
    - Camera name/ Date time: Similarity score display is linked to this setting.
    - Display position: The similarity score appears on the opposite side of the specified position.
-

## 2.6.4. License Plate Recognition setting

### [Thumbnail display options]

You can set whether the thumbnail shows the entire vehicle including the license plate or only the license plate.

Default: Show entire image including vehicle body

## 2.6.5. OCR Code Recognition setting

### [Filter name]

You can change the display name of OCR filter.

### [Code name]

You can change the display name of OCR Code.

### [Thumbnail display options]

You can set whether the thumbnail shows the entire image or only OCR Code.

Default: Show entire image

## 2.6.6. Container Code Recognition setting

### [Thumbnail display options]

You can set whether to show the entire including the Container Code or only the Container Code .

Default: Show entire image

## 2.6.7. Event Monitor setting

### [Show the latest alarm when starting event monitor]

When you start-up i-PRO Active Guard Event, the latest detected events are loaded automatically to prevent from overlook important events.

Default: disable

### [Open live monitor when receiving alarm]

When enabled, the live video which detects alarm is automatically displayed on the pop-up screen when the alarm is received.

Default: disable

**[Popup display when receiving alarm]**

When enabled, alarm information is shown on the pop-up screen.

Default: enable

**[Show alarms from all i-PRO Active Guard on Live events]**

When enabled, alarms from all i-PRO Active Guard servers will be displayed in [Live] when multiple i-PRO Active Guard servers are registered in Plug-in. You can only display the received event and the pop-up notification when the alarm is received.

You cannot use the filtering conditions, playback the recorded video, or display the live video.

To use these functions, select the target i-PRO Active Guard server software from [Past event].

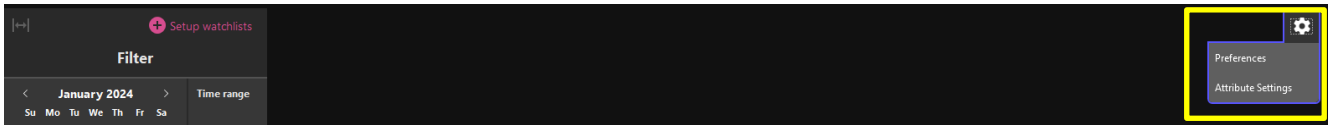
Default : disable

**[Alarm receive port]**

Configure port number that Plug-in receive alarm from i-PRO Active Guard server.

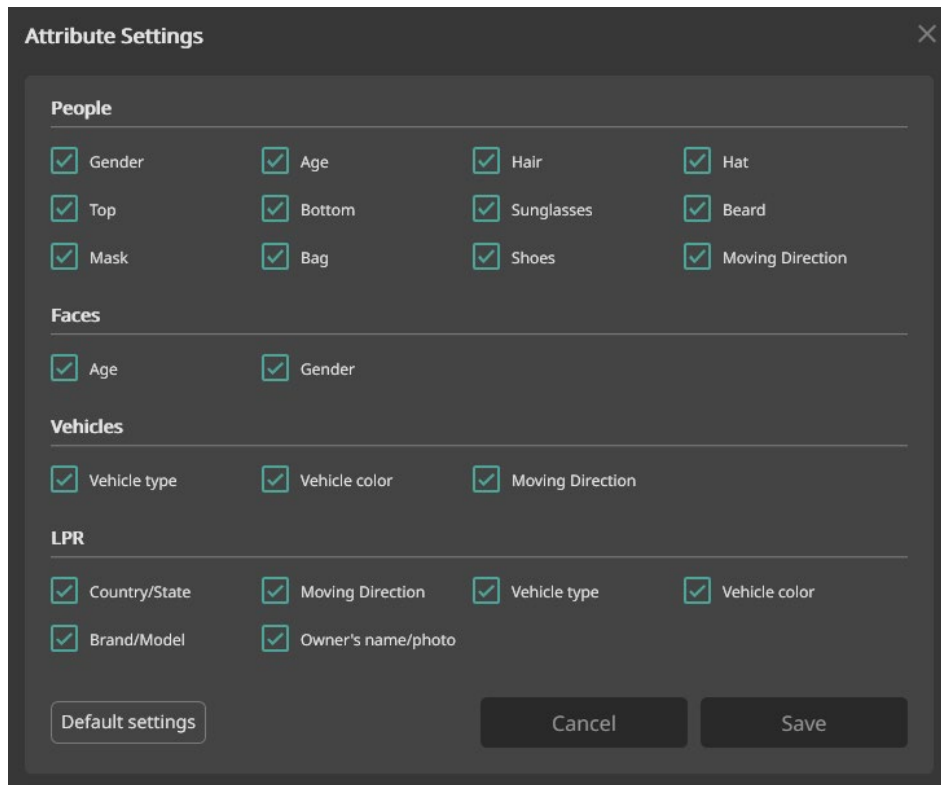
Default : 1819

## 2.7. Attribute Settings



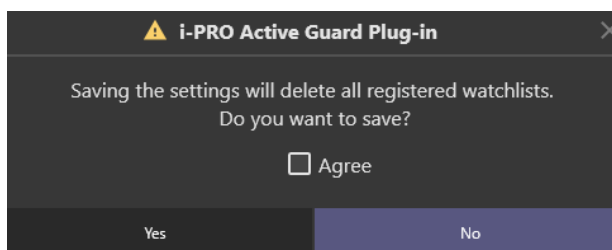
Attribute Settings provide settings to visibility of attributes.

Unchecked attributes will be hidden in filter and watchlist settings.



### Note:

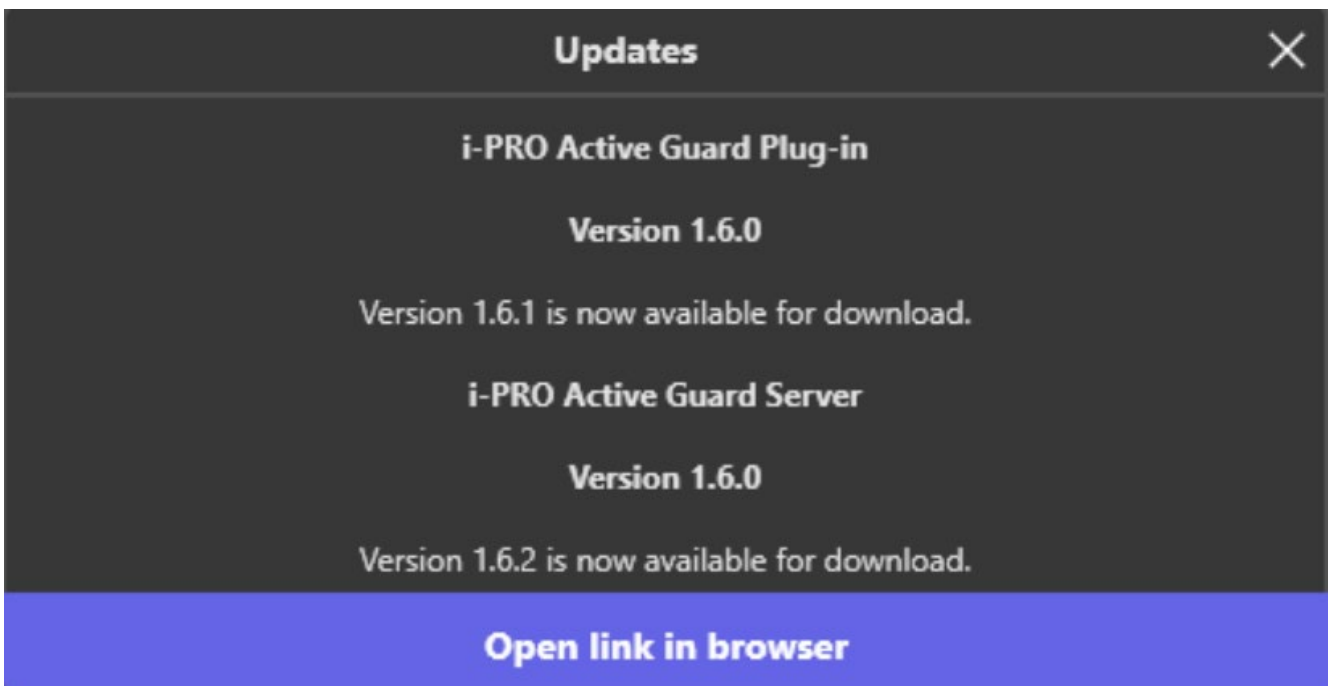
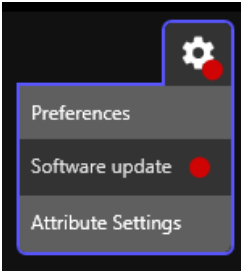
- Other than faces setting cannot be changed if watchlists are already registered. If you try to change settings, the following message.



When multiple i-PRO Active Guard servers are registered in Plug-in, watchlists will be deleted from all registered servers.

## 2.8. Software updates

A notification and pop-up will appear as follows when the currently used Sever or Plug-in is available for updating.



---

**Note:**

- [Software update] will not appear in environments without an Internet connection.
-

# 3. Troubleshooting

Before asking for repairs, check the symptoms with the following table.

Contact your dealer if a problem cannot be solved even after checking and trying the solution in the table or a problem is not described below.

Symptom	Cause/solution
Face, People or Vehicle images cannot be searched (the number of search result is 0).	Check if schedule setting on camera side for extension software is on.  Receiving status from each camera can be confirmed from i-PRO Active Guard configuration (see Setup instruction manual).
False detection (Not face, people or vehicle is searched)	To avoid false detection, configure mask area using iCT (i-PRO Configuration Tool).
Playback time is incorrect.	Check if PC time of i-PRO Active Guard server and VMS server are synchronized when i-PRO Active Guard server is installed to dedicated server. Also check if time zone setting of VMS server and VMS client are the same.
Detected thumbnail is not attached with alarm.	Detected image shows when 1920x1080 or smaller resolution is set for JPEG (2) on camera setting. When higher resolution is set or JPEG (2) is not available, detected image may not be shown.
Object type like human or vehicle is not shown on Details of Event monitor for AI-VMD alarm.	Check AI-VMD setting on camera side. "With detection object information (alarm frame information)" or "With detection object information (AI frame information)" should be configured for "Additional information type".
The camera name displayed in the camera information of the event detail pane is different from the name registered in the recorder.	If the same camera is registered in multiple recorders and both are registered in the i-PRO Active Guard server software, the same camera will be registered twice with another name. In that case, it may be displayed with the camera name registered in another recorder.
When access the Web setting page after a certain period of time, "A timeout has occurred." is displayed.	For security protection, if you do not operate for a while with the WEB setting page, a timeout will occur and you will not be able to change the settings. In such a case, close the web browser, access it again, and enter the authentication information.
"You do not have permission to download to xxx" is shown.	You cannot use the functions with the privileges of the current user logged in to WV-ASM300. For the authority setting of WV-ASM300 and the authority of Plug-in, refer to the setup instruction manual.
False alarm of face matching.	Please adjust "Alarm threshold" according to your environment and registered face image.
Saved filters don't work correctly after upgrade	Please reset your filters, After upgrading from V1.60 or earlier to V1.70 or later, "Color image only" of the saved filters may not work correctly.
Edit or delete license plate group is fail	Please make sure the target group is not in your LPR watchlists.
The display of Web setting page is misaligned.	Please try clearing the cache in your web browser, and close the web browser, access it again.

## 4. Appendices

### 4.1. Specifications

Please refer to the following URL for details on specifications.

[https://i-pro.com/products\\_and\\_solutions/en/surveillance/documentation-database/i-pro-ai-applications-spec-sheet-us](https://i-pro.com/products_and_solutions/en/surveillance/documentation-database/i-pro-ai-applications-spec-sheet-us)

## 5. Open-source software

Plug-in uses open-source software. The terms and conditions of open-source software have already applied to use this software. Our company is unable to answer any question about the following copyrights or the license information.

The content is based on information provided by the distributor.

Therefore, it may include cases where only a link to the license text is listed without the actual license text, or where copyright notices are missing or left blank.

If the distributor has not provided the license text, a commonly used standard version may be included.

=====  
Component  
=====

- Boost C++ Libraries - boost: Boost Software License 1.0
- ControlzEx/ControlzEx: MIT License
- Dragablz - Dragable and tearable tab control for WPF: MIT License
- golang/glog: Apache License 2.0
- JSON for Modern Cpp: MIT License
- Json.NET: MIT License
- learn-more/gflags: MIT License
- MahApps.Metro: (MIT License AND Microsoft Public License)
- MaterialDesignColors.Wpf: Microsoft Public License
- MaterialDesignInXamlToolkit: MIT License
- MaterialDesignThemes.MahApps: Microsoft Public License
- MessagePack: MIT License
- Microsoft.ML: MIT License
- Microsoft.ML.OnnxRuntime: MIT License
- Microsoft.ML.OnnxTransformer: MIT License
- Microsoft.ML.Tokenizers: MIT License
- Noto Sans: SIL Open Font License 1.1
- Noto Sans Japanese: SIL Open Font License 1.1
- OpenBLAS: BSD 3-clause "New" or "Revised" License
- Open Computer Vision Library (OpenCV): BSD 3-clause "New" or "Revised" License
- Open Computer Vision Library (OpenCV): Apache License 2.0
- OpenSSL: Apache License 2.0
- runhang/caffe-ssd-windows: BSD 2-clause "Simplified" License

=====  
License  
=====

Apache License 2.0  
(golang/glog, Open Computer Vision Library (OpenCV), OpenSSL)

Apache License

=====

<http://www.apache.org/licenses/>

## TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

### 1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the

Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

- a. You must give any other recipients of the Work or Derivative Works a copy of this License; and
- b. You must cause any modified files to carry prominent notices stating that You changed the files; and
- c. You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and
- d. If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least

one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or

rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

## END OF TERMS AND CONDITIONS

### APPENDIX: How to apply the Apache License to your work

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

```
Copyright [yyyy] [name of copyright owner] Licensed under the Apache License,
Version 2.0 (the "License"); you may not use this file except in compliance
with the License. You may obtain a copy of the License at
http://www.apache.org/licenses/LICENSE-2.0 Unless required by applicable law
or agreed to in writing, software distributed under the License is
distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY
KIND, either express or implied. See the License for the specific language
governing permissions and limitations under the License.
```

---

BSD 2-clause "Simplified" License  
(runhang/caffe-ssd-windows)

## COPYRIGHT

All contributions by the University of California:  
Copyright (c) 2014-2017 The Regents of the University of California (Regents)  
All rights reserved.

All other contributions:  
Copyright (c) 2014-2017, the respective contributors  
All rights reserved.

Caffe uses a shared copyright model: each contributor holds copyright over their contributions to Caffe. The project versioning records all such contribution and copyright details. If a contributor wants to further mark their specific copyright on a particular contribution, they should indicate their copyright solely in the commit message of the change when it is committed.

## LICENSE

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

#### CONTRIBUTION AGREEMENT

By contributing to the BVLC/caffe repository through pull-request, comment, or otherwise, the contributor releases their content to the license and copyright terms herein.

---

BSD 3-clause "New" or "Revised" License  
(Open Computer Vision Library (OpenCV))

By downloading, copying, installing or using the software you agree to this license. If you do not agree to this license, do not download, install, copy or use the software.

License Agreement  
For Open Source Computer Vision Library  
(3-clause BSD License)

Copyright (C) 2000-2015, Intel Corporation, all rights reserved.  
Copyright (C) 2009-2011, Willow Garage Inc., all rights reserved.  
Copyright (C) 2009-2015, NVIDIA Corporation, all rights reserved.  
Copyright (C) 2010-2013, Advanced Micro Devices, Inc., all rights reserved.  
Copyright (C) 2015, OpenCV Foundation, all rights reserved.  
Copyright (C) 2015, Itseez Inc., all rights reserved.  
Third party copyrights are property of their respective owners.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- \* Neither the names of the copyright holders nor the names of the contributors may be used to endorse or promote products derived from this software without specific prior written permission.

This software is provided by the copyright holders and contributors "as is" and any express or implied warranties, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed. In no event shall copyright holders or contributors be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) however caused and on any theory of liability, whether in contract, strict liability, or tort (including negligence or otherwise) arising in any way out of the use of this software, even if advised of the possibility of such damage.

---

BSD 3-clause "New" or "Revised" License  
(OpenBLAS)

Copyright (c) 2011-2014, The OpenBLAS Project  
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the OpenBLAS project nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE

IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---

Boost Software License 1.0  
(Boost C++ Libraries - boost)

Boost Software License - Version 1.0  
=====

August 17th, 2003  
-----

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS

FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES

OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF

OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

---

MIT License  
(MessagePack)

MessagePack for C#

## MIT License

Copyright (c) 2017 Yoshifumi Kawai and contributors

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

---

lz4net

BSD 2-Clause "Simplified" License

Copyright (c) 2013-2017, Milosz Krajewski

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING

IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---

MIT License  
(JSON for Modern Cpp)

MIT License

Copyright (c) 2013-2022 Niels Lohmann

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

---

MIT License  
(Microsoft.ML.OnnxRuntime)

MIT License

Copyright (c) Microsoft Corporation

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR

IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

---

MIT License  
(Json.NET)

The MIT License (MIT)

Copyright (c) 2007 James Newton-King

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

---

MIT License  
(learn-more/gflags)

The MIT License (MIT)

Copyright (c) 2015 Mark Jansen

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is

furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

---

MIT License  
(Dragablz - Dragable and tearable tab control for WPF)

The MIT License (MIT)

Copyright (c) James Willock, Mulholland Software and Contributors

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

---

MIT License  
(Microsoft.ML, Microsoft.ML.OnnxTransformer, Microsoft.ML.Tokenizers)

The MIT License (MIT)

Copyright (c) .NET Foundation and Contributors

All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

---

MIT License  
(ControlzEx/ControlzEx)

The MIT License (MIT)

Copyright (c) 2015 Jan Karger, Bastian Schmidt

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE

---

MIT License  
(MahApps.Metro)

MIT License (MIT)

Copyright (c) 2016 MahApps

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE

---

MIT License  
(MaterialDesignInXamlToolkit)

The MIT License (MIT)

Copyright (c) James Willock, Mulholland Software and Contributors

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN

## THE SOFTWARE

---

Microsoft Public License  
(MahApps.Metro)

Unless indicated otherwise on a per-file basis all source and documentation herein is licensed under the MIT license. Some included code is licensed under MS-PL which is compatible with the terms of MIT.

Original code from RangeSlider (AvalonControlsLibrary), ToggleSwitch (Microsoft's Silverlight "Cosmopolitan"), Callisto (@timheuer), WindowChrome (@Microsoft, @joecastros) and TransitioningContentControl from the Silverlight Toolkit 5 are licensed under MS-PL which is compatible with the terms of MIT.

-----

Microsoft Public License (MS-PL)

This license governs use of the accompanying software. If you use the software, you accept this license. If you do not accept the license, do not use the software.

### 1. Definitions

The terms "reproduce," "reproduction," "derivative works," and "distribution" have the same meaning here as under U.S. copyright law.

A "contribution" is the original software, or any additions or changes to the software.

A "contributor" is any person that distributes its contribution under this license.

"Licensed patents" are a contributor's patent claims that read directly on its contribution.

### 2. Grant of Rights

(A) Copyright Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free copyright license to reproduce its contribution, prepare derivative works of its contribution, and distribute its contribution or any derivative works that you create.

(B) Patent Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free license under its licensed patents to make, have made, use, sell, offer for sale, import, and/or otherwise dispose of its contribution in the software or derivative works of the contribution in the software.

### 3. Conditions and Limitations

(A) No Trademark License- This license does not grant you rights to use any contributors' name, logo, or trademarks.

(B) If you bring a patent claim against any contributor over patents that you claim are infringed by the software, your patent license from such contributor to the software ends automatically.

(C) If you distribute any portion of the software, you must retain all copyright, patent, trademark, and attribution notices that are present in the software.

(D) If you distribute any portion of the software in source code form, you may do so only under this license by including a complete copy of this license with your distribution. If you distribute any portion

of the software in compiled or object code form, you may only do so under a license that complies with this license.

(E) The software is licensed "as-is." You bear the risk of using it. The contributors give no express warranties, guarantees or conditions. You may have additional consumer rights under your local laws which this license cannot change. To the extent permitted under your local laws, the contributors exclude the implied warranties of merchantability, fitness for a particular purpose and non-infringement.

---

Microsoft Public License  
(MaterialDesignColors.Wpf, MaterialDesignThemes.MahApps)

Microsoft Public License (Ms-PL)  
=====

This license governs use of the accompanying software. If you use the software, you accept this license. If you do not accept the license, do not use the software.

#### 1. Definitions

The terms "reproduce," "reproduction," "derivative works," and "distribution" have the same meaning here as under U.S. copyright law.

A "contribution" is the original software, or any additions or changes to the software.

A "contributor" is any person that distributes its contribution under this license.

"Licensed patents" are a contributor's patent claims that read directly on its contribution.

#### 2. Grant of Rights

A. Copyright Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free copyright license to reproduce its contribution, prepare derivative works of its contribution, and distribute its contribution or any derivative works that you create.

B. Patent Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free license under its licensed patents to make, have made, use, sell, offer for sale, import, and/or otherwise dispose of its contribution in the software or derivative works of the contribution in the software.

#### 3. Conditions and Limitations

A. No Trademark License- This license does not grant you rights to use any contributors' name, logo, or trademarks.

B. If you bring a patent claim against any contributor over patents that

you claim are infringed by the software, your patent license from such contributor to the software ends automatically.

C. If you distribute any portion of the software, you must retain all copyright, patent, trademark, and attribution notices that are present in the software.

D. If you distribute any portion of the software in source code form, you may do so only under this license by including a complete copy of this license with your distribution. If you distribute any portion of the software in compiled or object code form, you may only do so under a license that complies with this license.

E. The software is licensed "as-is." You bear the risk of using it. The contributors give no express warranties, guarantees or conditions. You may have additional consumer rights under your local laws which this license cannot change. To the extent permitted under your local laws, the contributors exclude the implied warranties of merchantability, fitness for a particular purpose and non-infringement.

---

SIL Open Font License 1.1  
(Noto Sans, Noto Sans Japanese)

SIL OPEN FONT LICENSE  
=====

Version 1.1 - 26 February 2007

## PREAMBLE

The goals of the Open Font License (OFL) are to stimulate worldwide development of collaborative font projects, to support the font creation efforts of academic and linguistic communities, and to provide a free and open framework in which fonts may be shared and improved in partnership with others.

The OFL allows the licensed fonts to be used, studied, modified and redistributed freely as long as they are not sold by themselves. The fonts, including any derivative works, can be bundled, embedded, redistributed and/or sold with any software provided that any reserved names are not used by derivative works. The fonts and derivatives, however, cannot be released under any other type of license. The requirement for fonts to remain under this license does not apply to any document created using the fonts or their derivatives.

## DEFINITIONS

"Font Software" refers to the set of files released by the Copyright Holder(s) under this license and clearly marked as such. This may include source files,

build scripts and documentation.

"Reserved Font Name" refers to any names specified as such after the copyright statement(s).

"Original Version" refers to the collection of Font Software components as distributed by the Copyright Holder(s).

"Modified Version" refers to any derivative made by adding to, deleting, or substituting — in part or in whole — any of the components of the Original Version, by changing formats or by porting the Font Software to a new environment.

"Author" refers to any designer, engineer, programmer, technical writer or other person who contributed to the Font Software.

## PERMISSION & CONDITIONS

Permission is hereby granted, free of charge, to any person obtaining a copy of the Font Software, to use, study, copy, merge, embed, modify, redistribute, and sell modified and unmodified copies of the Font Software, subject to the following conditions:

- 1) Neither the Font Software nor any of its individual components, in Original or Modified Versions, may be sold by itself.
- 2) Original or Modified Versions of the Font Software may be bundled, redistributed and/or sold with any software, provided that each copy contains the above copyright notice and this license. These can be included either as stand-alone text files, human-readable headers or in the appropriate machine-readable metadata fields within text or binary files as long as those fields can be easily viewed by the user.
- 3) No Modified Version of the Font Software may use the Reserved Font Name(s) unless explicit written permission is granted by the corresponding Copyright Holder. This restriction only applies to the primary font name as presented to the users.
- 4) The name(s) of the Copyright Holder(s) or the Author(s) of the Font Software shall not be used to promote, endorse or advertise any Modified Version, except to acknowledge the contribution(s) of the Copyright Holder(s) and the Author(s) or with their explicit written permission.
- 5) The Font Software, modified or unmodified, in part or in whole, must be distributed entirely under this license, and must not be distributed under any other license. The requirement for fonts to remain under this license does not apply to any document created using the Font Software.

## TERMINATION

This license becomes null and void if any of the above conditions are not met.

#### DISCLAIMER

THE FONT SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF COPYRIGHT, PATENT, TRADEMARK, OR OTHER RIGHT. IN NO EVENT SHALL THE COPYRIGHT HOLDER BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, INCLUDING ANY GENERAL, SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF THE USE OR INABILITY TO USE THE FONT SOFTWARE OR FROM OTHER DEALINGS IN THE FONT SOFTWARE.

---

av0222-8036 PGQP3479RA