



By Aicuda Technology

VAIDIO CORE 8.0.0
CORE FUNCTIONS USER GUIDE

OVERVIEW

- ❑ Three key functions of Vaidio Core Platform Software: Search, Alert, and Statistics
- ❑ Search, Alert, and Statistics functions are applicable to all uploaded videos and connected video streams
 - ❑ Video Search: Search for events or objects (e.g, Person, Wild Animal, Truck) in all selected video footage and live streams
 - ❑ Alerts: Configure alert rules, set trigger actions, and receive real-time alerts accordingly on the device of choice
 - ❑ Statistics: Obtain business intelligence based on large-scale data from multiple video sources over time

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VIDEO SEARCH

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OVERVIEW

- ❑ In Vaidio Core, Video Search is available with all analytic engines.
- ❑ After a video source (camera, video file) has been connected to Vaidio Core, video processing will begin to detect objects (refer to the [Vaidio Core Setup Guide](#) to configure the camera(s) and manage the object detection profile(s)).
- ❑ When objects are detected, metadata are stored, and the user can perform video search for the objects of interest.
- ❑ Video Search is enabled automatically when cameras are activated in Vaidio.
- ❑ For more information on Video Search, refer to the [Video Search User Guide](#).

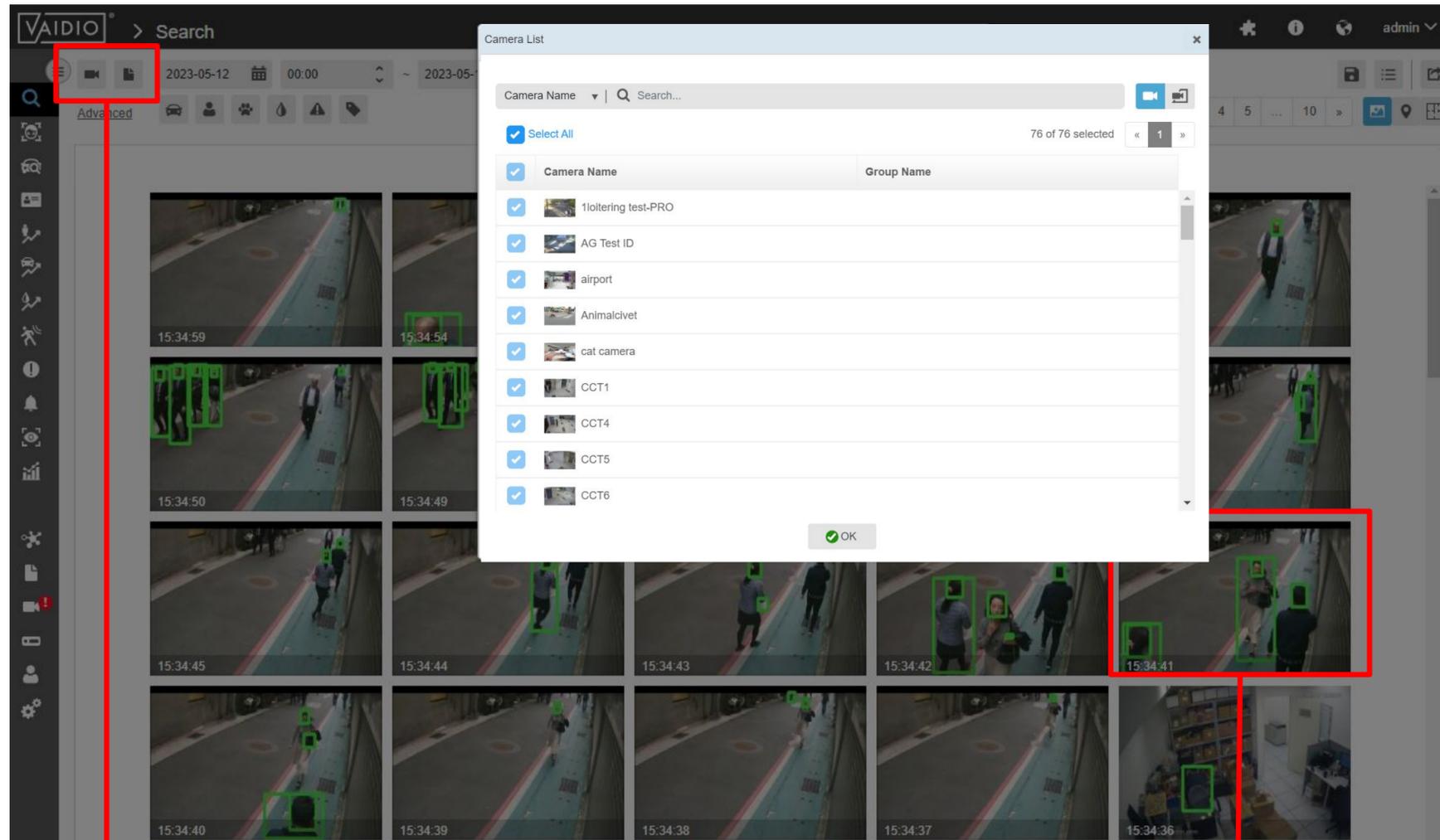
DASHBOARD

The screenshot shows the Vaidio Search dashboard. At the top left, there is a navigation bar with the Vaidio logo and a breadcrumb trail '> Search'. Below this is a search control bar containing a hamburger menu icon, a search icon, a video camera icon, a document icon, and two date-time filters: '2023-09-22 00:00' and '2023-09-23 00:00', both with calendar and time selection icons. To the right of these filters is a search input field with a magnifying glass icon and a search button. Below the search bar is a row of filter icons: a car, a person, a paw print, a water drop, a warning triangle, and a tag. The word 'Advanced' is written below these icons. On the left side of the dashboard is a vertical sidebar with various icons for navigation. The main content area is mostly empty, with the text '0 results in 0.0 second.' displayed in the upper right. A text box is overlaid on the dashboard with the following text:

Video Search page is the first page displayed upon user login.

All search functions and filters can be found in the top of the Search dashboard.

SEARCH FILTERS: SOURCE AND TIME



Adjust the time period to search.

- ❑ To search from files, the uploaded day/time of the selected file should be within the selected time period
- ❑ Make sure that the correct time zone has been set in System > Time and synced with the camera/NVR (if connected)



Click on the camera button to upload an image from the local drive and conduct Video Search from the detected object(s) in the photo.
Note: This type of search works best with photos that include 1 or 2 clearly identifiable object(s): e.g., 1 Person wearing red.

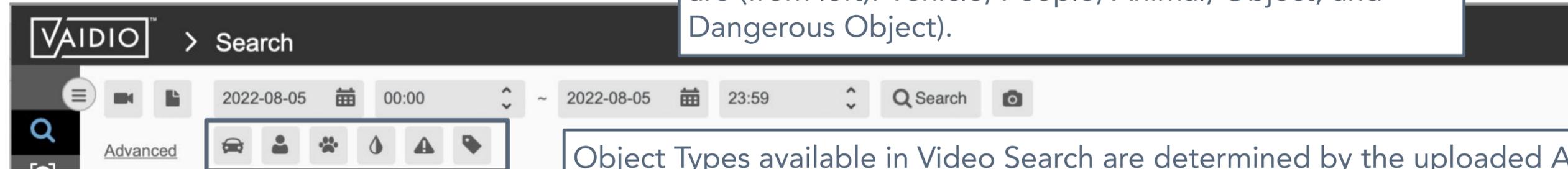
Click on the Camera icon to select/deselect cameras on which to perform Video Search;
 Click on the File icon to perform Video Search on uploaded files

- ❑ Default: Search through all cameras (live streams)

Click on the thumbnail to view the Detail Page of the detected event

SEARCH FILTERS: OBJECT TYPE

Click on the icons in each object category to search for certain object types & their attributes. The categories are (from left): Vehicle, People, Animal, Object, and Dangerous Object).



Object Types available in Video Search are determined by the uploaded AI Model(s). Below are the object types available in our default PowerModel.

Vehicle

- Vehicle >
- Bicycle >
- Bus >
- Car >
- Forklift >
- Jeepney >
- Motorcycle >
- Tricycle >
- Truck >
- Tuktuk >

Person

- Head >
- Person >

Animal

- Bird >
- Cat >
- Cow >
- Dog >
- Horse >
- wild animal >

Object

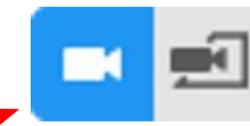
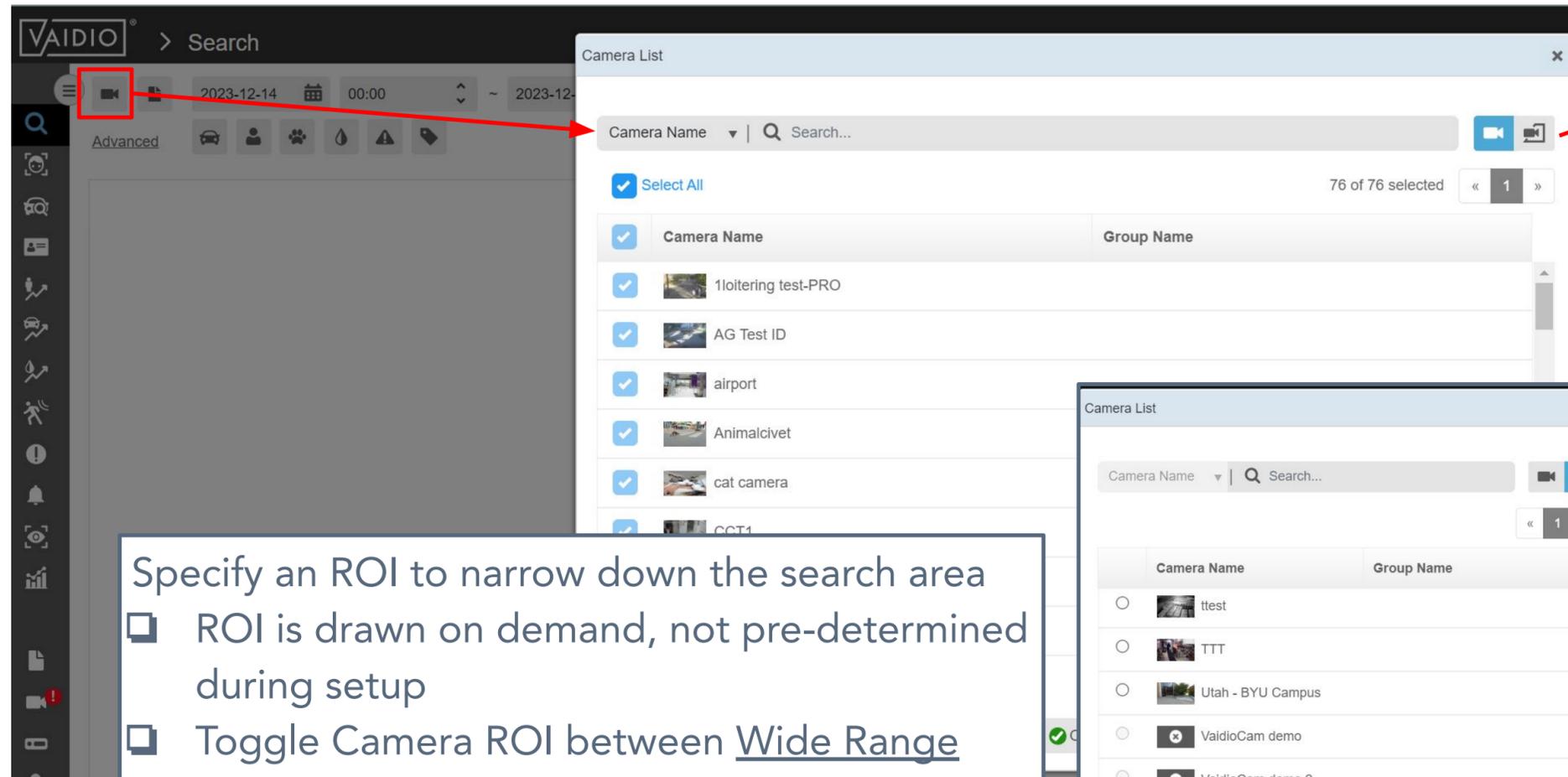
- Backpack >
- Bag >
- Cell_phone >
- Luggage >
- Major Scene Change >
- Minor Scene Change >
- Stroller >
- Umbrella >
- Wheelchair >

Dangerous Object

- Fire >
- Handgun >
- Knife >
- Rifle >
- Smoke >

For more information on uploading additional AI Models, please refer to the [Core Setup User Guide](#).

SEARCH FILTERS: CAMERA ROI

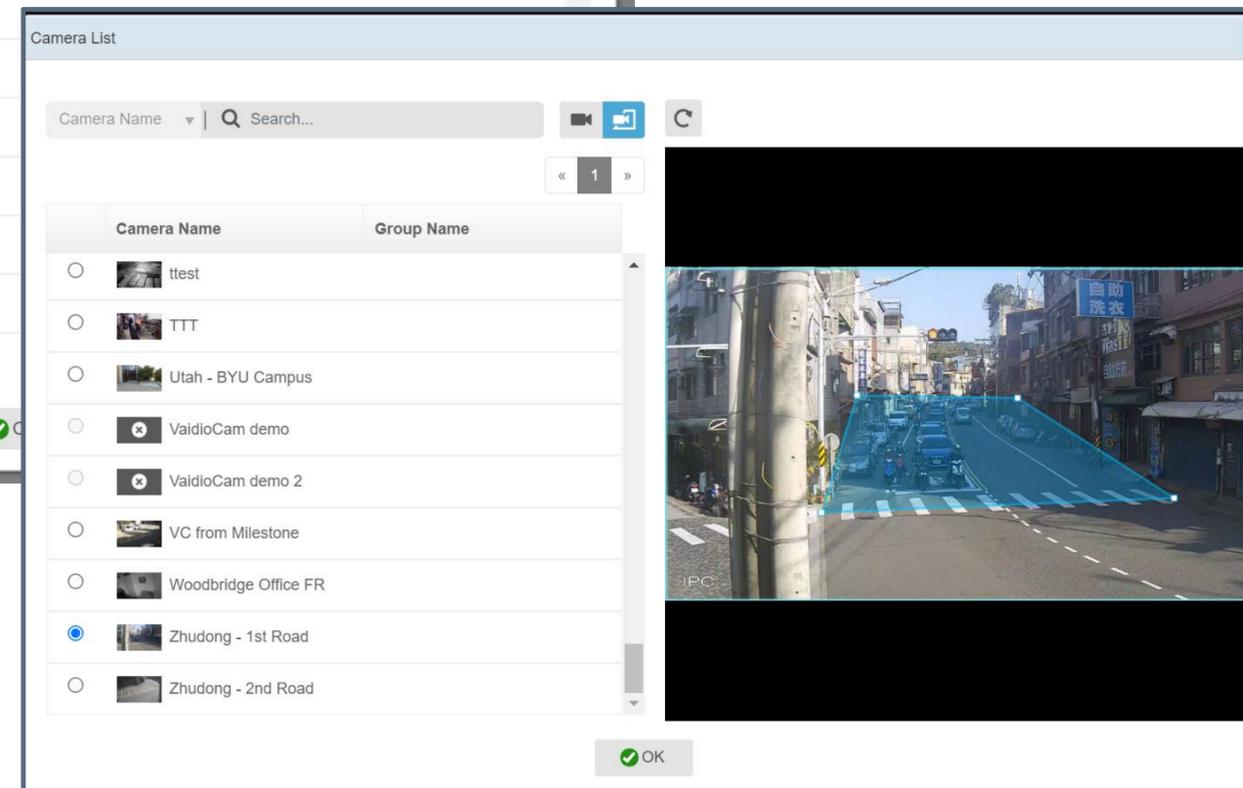


Wide Range (multi-camera): Regular video search to get more results



Precise (single-camera): Define an ROI in the camera FOV to get fewer but more precise results

- Specify an ROI to narrow down the search area
- ROI is drawn on demand, not pre-determined during setup
- Toggle Camera ROI between Wide Range and Precise modes at the top right of the Camera List window



ALERTS

- ❏ [Overview](#)
- ❏ [Add Alert Rule](#)
- ❏ [Trigger Actions](#)
- ❏ [Copy Existing Alert Trigger Action](#)
- ❏ [Alert Dashboard](#)
- ❏ [Alert History](#)

OVERVIEW

- ❑ Vaidio Core supports the creation of multiple real-time alerts via Alert Rules.
- ❑ The Alert page displays real-time alerts on the Dashboard tab and allows users to search through past alerts in the History tab.
- ❑ Alert Rules can be created for any AI Engines that are configured on cameras in the Vaidio server
- ❑ Alert Rules can be pushed to email, via http/https, Vaidio Mobile App, and 3rd-party VMS/NVR via Alert Triggers.
- ❑ AI Engines must be enabled on the camera before adding a new alert.
 - ❑ If an analytic is added after creating an Alert Rule, then the alert must be updated with the new analytic and/or camera.

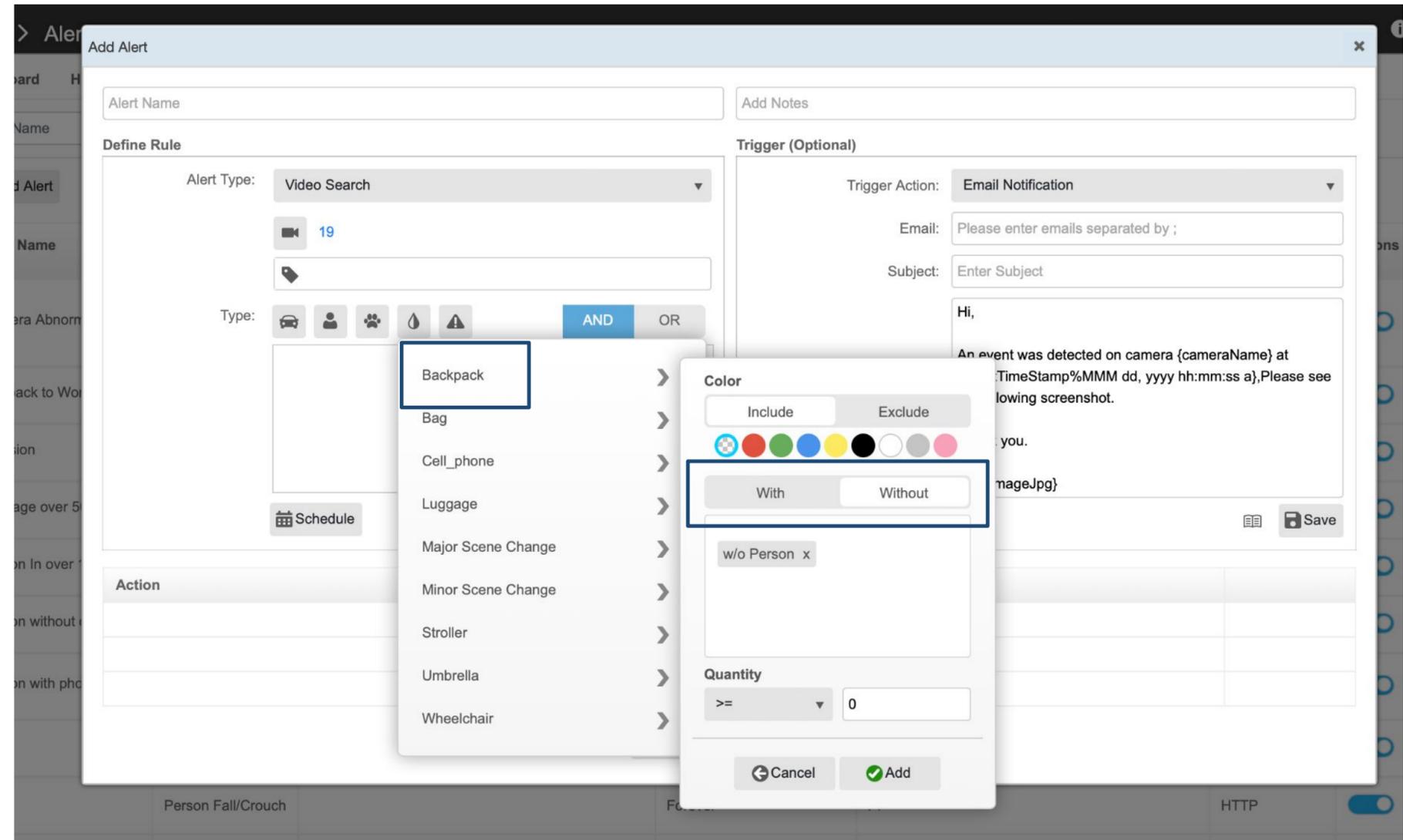
OVERVIEW (CONT.): ALERT TYPES

Alerts can be created for the following analytics (in alphabetical order):

1. Camera Abnormal: Disconnected, Blurry/Blocked/Repositioned; Camera Resolution Change
2. Crowd Detection
3. Dwell
4. Face Recognition: alert for a person in an existing list and/or not in any list (unidentified person)
5. Intrusion Detection
6. License Plate Recognition: alert for a vehicle in an existing list and/or not in any list (unidentified vehicle)
7. Object Counting: alert when the number of a specified object type exceeds or is less than a specified value
8. Object Left Behind
9. Object Wrong Direction
10. Person Fall
11. Scene Change: alert for an anomaly in the field of view
12. Video Search: allow all combinations of object types + attribute (color, quantity, etc.). The entire FOV is the region of interest (ROI).
 - a. Can set alert for object [with/without another object](#) (e.g., forklift without person)

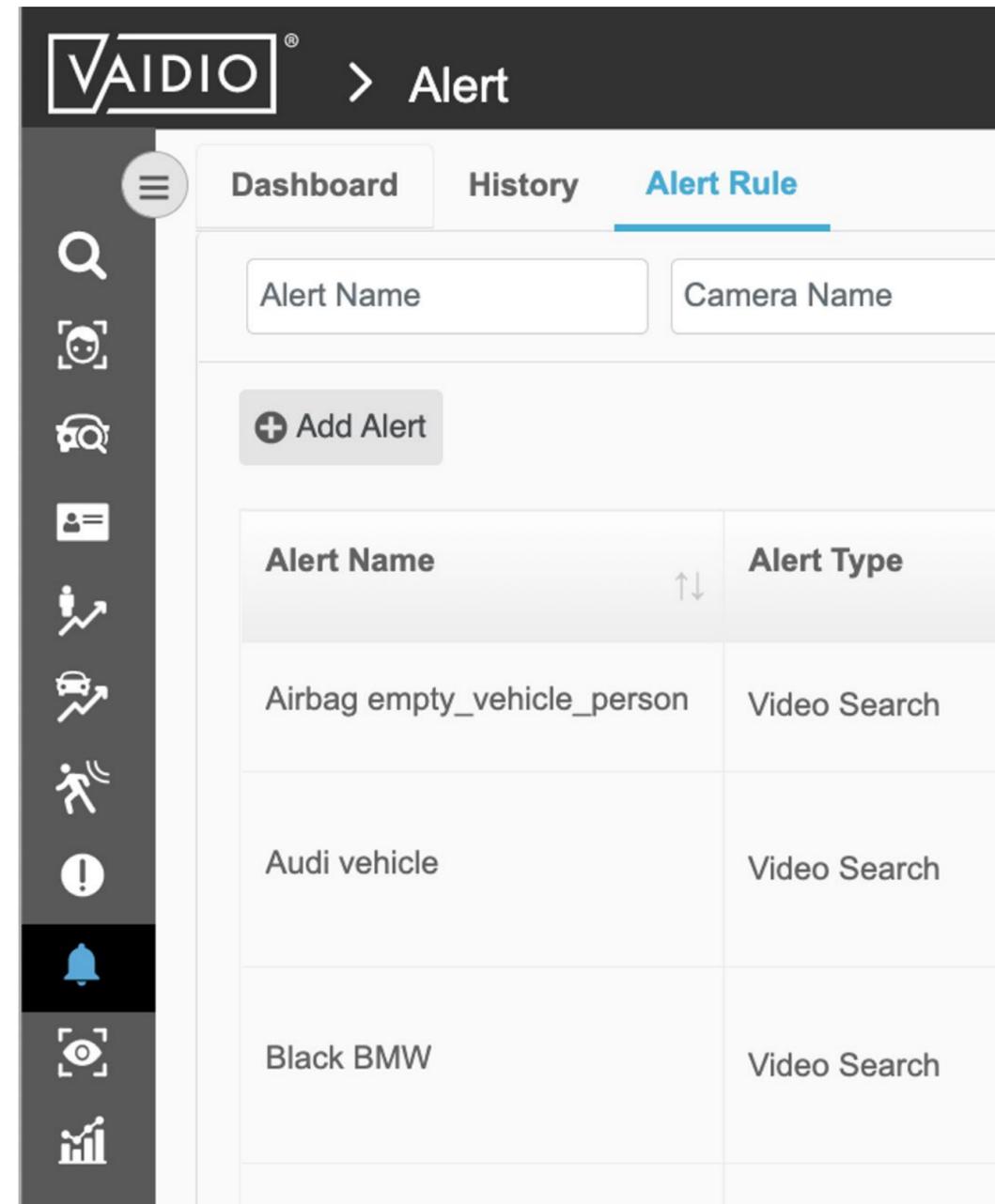
OVERVIEW (CONT.): WITH/WITHOUT OBJECT PARAMETER

- When setting up a Video Search alert and selecting an object type, the user can specify whether it should appear with / without another object type when creating an Alert Rule (e.g., an alert for Person without Backpack will be triggered when a person not wearing a backpack enters the ROI)
- WITH = The main object of interest appears with the selected object
- WITHOUT = The main object does not appear to wear/carry/ride the selected object



ADD ALERT RULE

- 
 Configure the analytics of interest in Camera > Edit > Advanced (please refer to the [Vaidio Core Setup Guide](#) and the corresponding analytic guide(s))
- 
 Navigate to the Alert tab on the left menu bar > Alert Rule



The screenshot shows the Vaidio web interface for configuring an alert rule. The top navigation bar includes the Vaidio logo and a breadcrumb path: > Alert. Below this, there are three tabs: Dashboard, History, and Alert Rule (which is currently selected). The main content area contains two input fields: 'Alert Name' and 'Camera Name'. Below these fields is a '+ Add Alert' button. A table lists existing alert rules with columns for 'Alert Name' and 'Alert Type'. The table contains three entries: 'Airbag empty_vehicle_person', 'Audi vehicle', and 'Black BMW', all with the type 'Video Search'. A left sidebar contains various navigation icons, with the 'Alert' icon (a bell) highlighted in blue.

Alert Name	Alert Type
Airbag empty_vehicle_person	Video Search
Audi vehicle	Video Search
Black BMW	Video Search

[Return to Alerts](#)

ADD ALERT RULE (CONT.)

Select the Alert Type and corresponding rules with the specific object type(s) and scenarios to be detected. Include:

- Camera Abnormal Type for Camera Abnormal
- List for FR/LPR
- ROIs for ID, Dwell, etc.
- Occupancy for OC

Schedule Alert to define the days and time periods for when the alert should be triggered.

TRIGGER ACTIONS

Select the Trigger Action (optional). The alert can be shown in Vaidio alert dashboard, Vaidio app notification, 3rd party VMS system, or in email. The alert can also be sent via HTTP push notification to other devices; e.g., I/O device for access control.

The screenshot displays the Vaidio interface with a 'Trigger (Optional)' configuration window open. The window has a 'Type' section with icons for different alert types and 'AND'/'OR' logic options. The 'Trigger Action' dropdown is set to 'Email Notification', and a list of other actions is visible, including 'Open Existing Trigger', 'HTTP', 'APP Notification', and various VMS systems like Avigilon, Axis, and Genetec. Below the dropdown are input fields for 'Email' and 'Subject'. A separate window shows a preview of an email notification with a subject line and a body containing a greeting, event details, and a placeholder for an alert image.

TRIGGER ACTIONS (CONT.)

Types of Trigger Actions

1. Email Notification:

- ❑ Can add up to 10 emails separated by ;
- ❑ Add SMTP server in System > Mail to receive notifications (e.g., for Gmail server use smtp.gmail.com, port 465, secure connection SSL)
 - ❑ Refer to the [Vaidio Core Setup User Guide](#) for more information

2. HTTP: to connect to VMS and other I/O systems (e.g., sensor to open/close entry gate)

3. Alerts in VMS: Avigilon, Axis, BTX Bridge to Milestone XProtect, Digifort, Digital Watchdog DW Spectrum IPVMS, Genetec, Hanwha Wisenet Wave VMS, Immix, Luxriot, Network Optix, Qognify Ocularis, Salient

4. App Notification:

- ❑ Download Vaidio App (available on iPhone and Android)
- ❑ Add IP address of Vaidio unit in Server Address
- ❑ Connection Type: HTTP
- ❑ Refer to the [Mobile Apps User Guide](#) for more information

Trigger (Optional)

Trigger Action: Email Notification

Email:

Subject:

Hi,

An event was detected on camera {cameraName} at {eventTimeStamp}, Please see the following screenshot.

Thank you.

{alertImageJpg}

📄 Save

Click to view metadata tags available to add to email notification or send in HTTP URL or HTTP content.

Available parameters:
 For HTTP URL, Params, E

- {alertId}
- {alertImage}
- {alertImageMetadataUrl}
- {alertImageUrl}
- {alertRuleName}
- {cameraId}
- {cameraName}
- {crowdNumber}
- {eventTimeStamp}
- {faceDetectedAge}
- {faceDetectedAgeGroup}
- {faceDetectedEmotion}
- {faceDetectedGender}
- {faceFile}
- {faceKeyId}
- {faceSimilarity}
- {faceTarget}
- {faceTargetCategory}
- {faceTargetDescription}
- {faceTargetId}
- {faceTemperature}
- {gpsLatitude}
- {gpsLongitude}
- {hashtag}
- {hostHttpPort}
- {hostHttpsPort}
- {hostIP}
- {hostSerialNumber}
- {licensePlate}
- {licensePlateAddress}
- {licensePlateDescription}

[Return to Alerts](#)

COPY EXISTING ALERT TRIGGER ACTION

Step 1: Navigate to [Alert](#) > [Alert Rule](#) > [Add Alert](#) > [Trigger](#) > [Trigger Action](#) > [Open Existing Trigger](#)

Step 2: View the trigger action options available for selection. Search by last modified date, alert name, or trigger type, and apply the alert trigger to the new alert.

The screenshot shows the 'Add Alert' interface. In the 'Define Rule' section, 'Alert Type' is 'Video Search'. In the 'Trigger (Optional)' section, 'Trigger Action' is 'Email Notification', and the dropdown menu is open, showing 'Open Existing Trigger' selected. A modal window titled 'Existing Trigger' is open, displaying a table of existing triggers. The table has the following data:

Last Modified	Alert Name	Trigger Type	Receiver
2023-07-06	TrainingTest	HTTP	http://172.16.15.100:234
2023-07-10	SO gun	HTTP	http://61.218.65.85:7001/api/solomon
2023-07-07	Person with bag	HTTP	https://notify-api.line.me/api/notify
2023-07-07	Person with bag	HTTP	http://61.218.65.85:7001/api/solomon
2023-07-10	IY office employee	Digital Watchdog DW Spectrum IPVMS	172.16.25.117:888
2023-07-20	Cellphone	Email	lynn@ironyun.com;sandy@ironyun.com

The user can apply a previously setup alert trigger action (e.g., email notification or HTTP trigger) to a newly created alert.

ALERT DASHBOARD

Click on Alert on the left menu to access the Alert Dashboard.

The screenshot shows the Vaidio Alert Dashboard interface. On the left, there is a navigation menu with a bell icon highlighted in red. The main area is divided into three sections: an 'Alert List' on the left, a map in the center, and a list of video feeds on the right. The 'Alert List' contains a table of alerts with columns for 'Alert Name' and 'Alert Type'. The map shows a geographical area with various districts and roads. The video feeds show real-time camera footage with green bounding boxes around detected objects.

Alert Name	Alert Type
10 person alert (1)	Video Search
Above Speed - JK (48)	Video Search
Audi vehicle (4)	Video Search
Black BMW (25)	Video Search
Camera Abnormal (48)	Camera Abnormal
CD2 (1)	Crowd
CD Alert occupancy (4)	Crowd
CD retail (1)	Crowd
CHM test (55)	Camera Abnormal
Cloud (23)	Video Search

Exact location of the detected event on GPS or indoor map will show. Refer to the [Vaidio Core Setup Guide](#) for how to add GPS and/or indoor map locations to cameras.

Select specific or multiple alert rules to show on the Dashboard.

Results on the indoor map

This screenshot shows the Vaidio Alert Dashboard with an indoor map view. The map displays a floor plan with various rooms labeled, including 'Restroom' and 'Elevator'. A red location pin is placed on the map. To the right of the map, there is a list of alerts, each with a timestamp and a thumbnail image showing a person in a hallway.

[Return to Alerts](#)

ALERT HISTORY

Click on Alert on the left menu > History to access the Alert History.

The screenshot displays the Vaidio Alert History interface. On the left is a sidebar with navigation icons. The main area is divided into a map on the left and a list of alert events on the right. The map shows a geographical area with a red pin indicating an alert location. The alert list on the right contains several entries, each with a video thumbnail, a timestamp, an alert title, and a location. A red pin icon is visible on the right side of each event's thumbnail. A search bar at the top allows filtering by date and time. A 'Map Pin All' button is located above the map. A '52' badge is visible on the map.

Select the alert rule and adjust the time period to search for an alert.

Click the Pin to display on the map .

Check to delete the history event.

STATISTICS

- ❏ [Overview](#)
- ❏ [Heatmap](#)
- ❏ [Demographics](#)

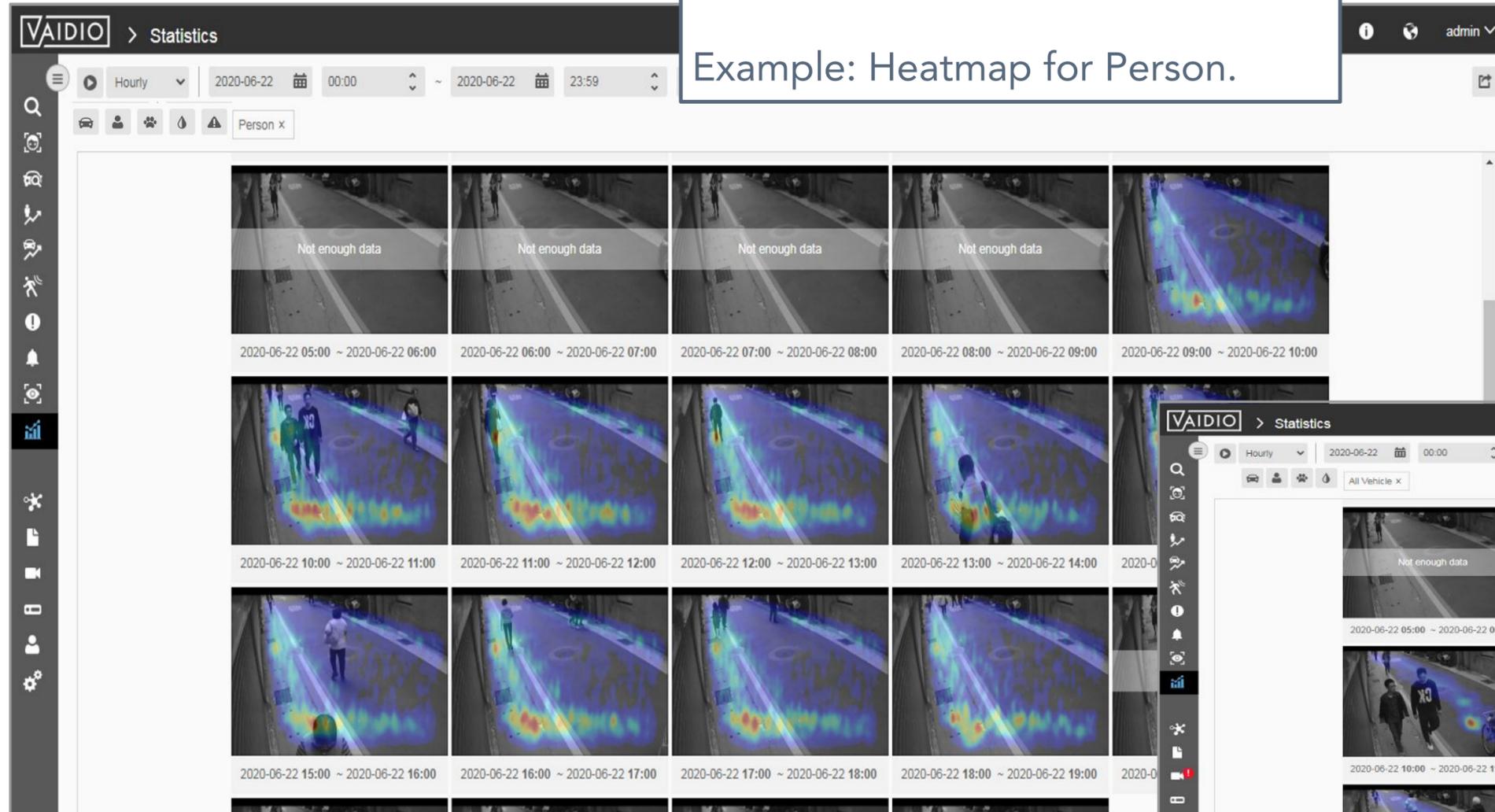
OVERVIEW

- ❑ Vaidio Core supports heatmap and statistics display of detection results.
- ❑ Heatmap displays data from any number of object type(s) in the activated AI Model on a single video source over a max period of 24 hours displayed in hourly or aggregate heatmap(s).
- ❑ For demographic statistics displays (age & gender), the user must purchase Age & Gender license (available with or without Face Recognition AI Engine).

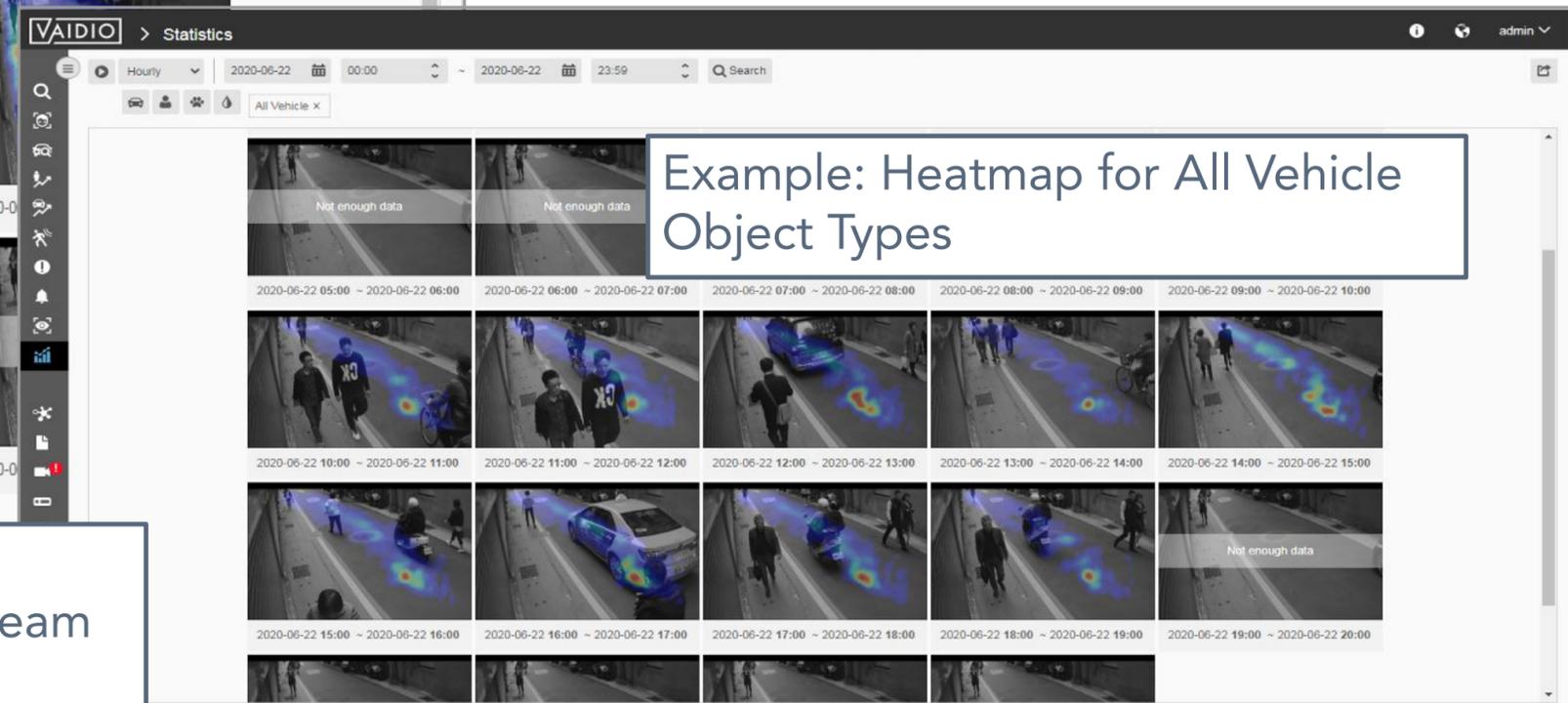
HEATMAP

Navigate to Statistics in the left menu bar to access Heatmap page.

Example: Heatmap for Person.



The Heatmap function can generate heatmaps for any combination of object types in a 24-hour period. The results are displayed in the Hourly or Aggregated (one image of the entire 24-hour period) mode.



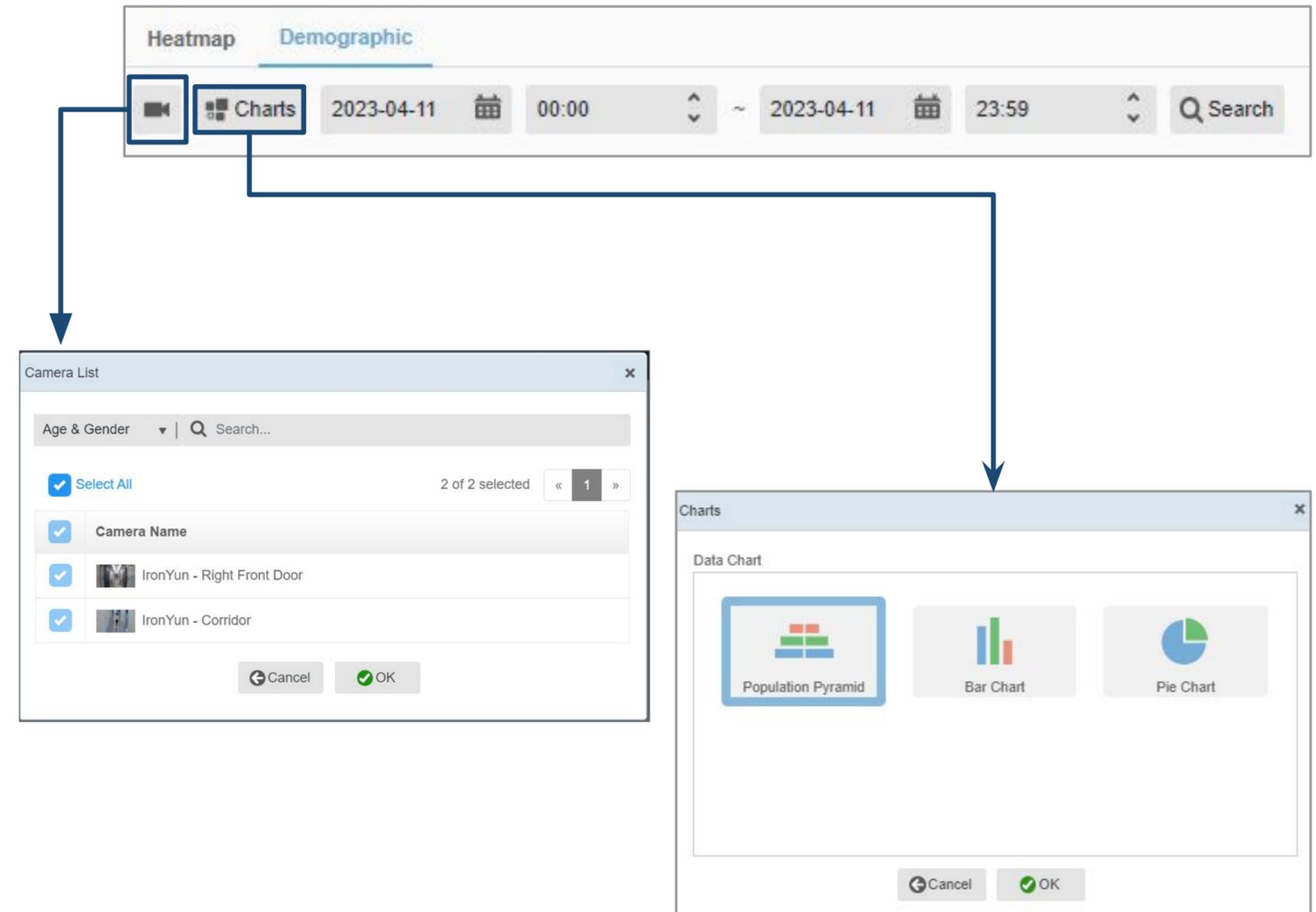
Example: Heatmap for All Vehicle Object Types

- Note:**
- ❑ One video source per heatmap search; e.g., the real-time stream from a camera or an uploaded video.
 - ❑ Video source should be longer than one hour to receive meaningful results when comparing activity across multiple hours.

[Return to Statistics](#)

DEMOGRAPHICS: AGE & GENDER

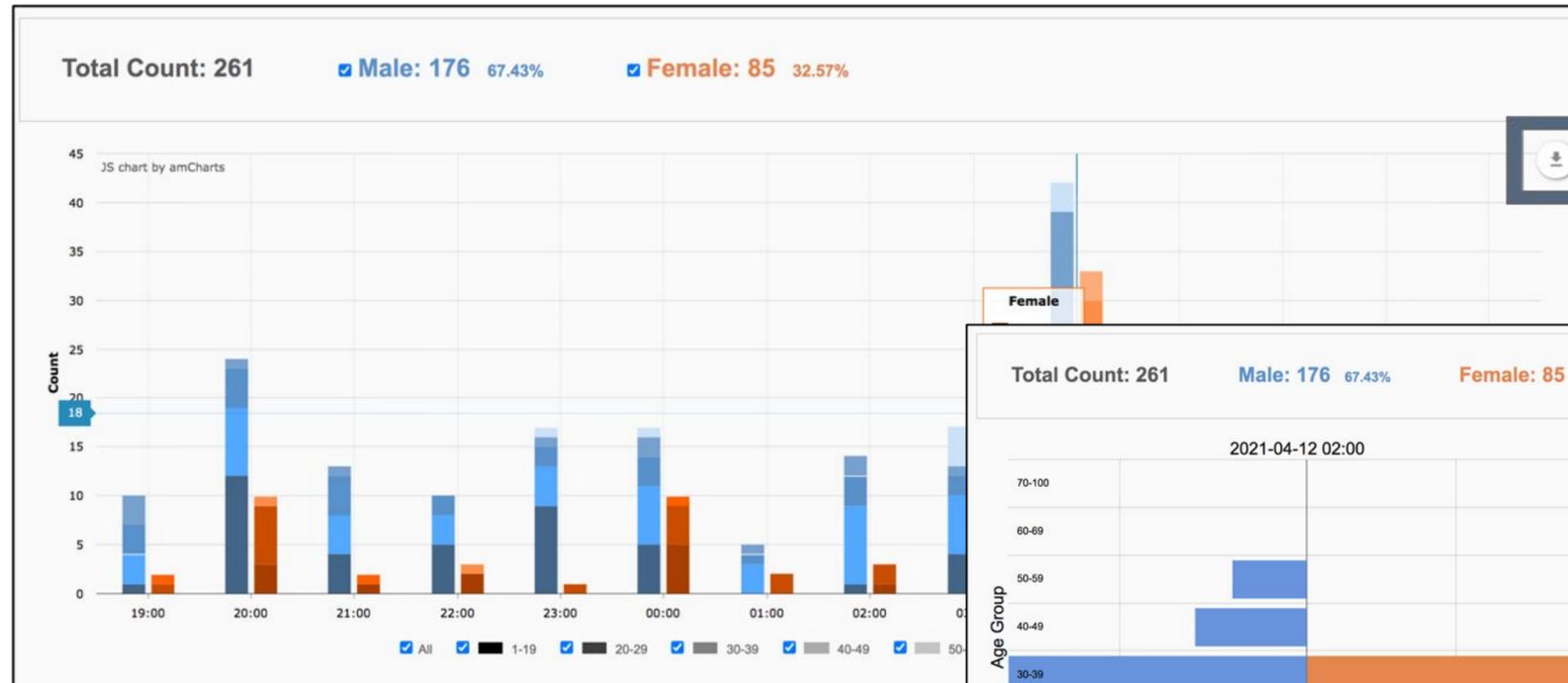
- ❑ In Statistics > Demographic, select the Camera icon to select the video source(s)
 - ❑ Cluster: select the Vaidio server(s) in the network
Default: all Vaidio Servers
 - ❑ Age & Gender: display all cameras with Age & Gender activated
 - ❑ FR Age & Gender: display only cameras with both Face Recognition and Age & Gender
- ❑ Age & Gender Statistics without FR: more duplicates; i.e., the same person that appears in several frames will be counted several times
- ❑ Age & Gender Statistics with FR: fewer duplicates



Note: NO demographic statistics are free from duplicates unless the deployment is at a choke point (e.g., check-in kiosk) and integrated with a customized check-in software.

[Return to Statistics](#)

DEMOGRAPHICS - CHART TYPES



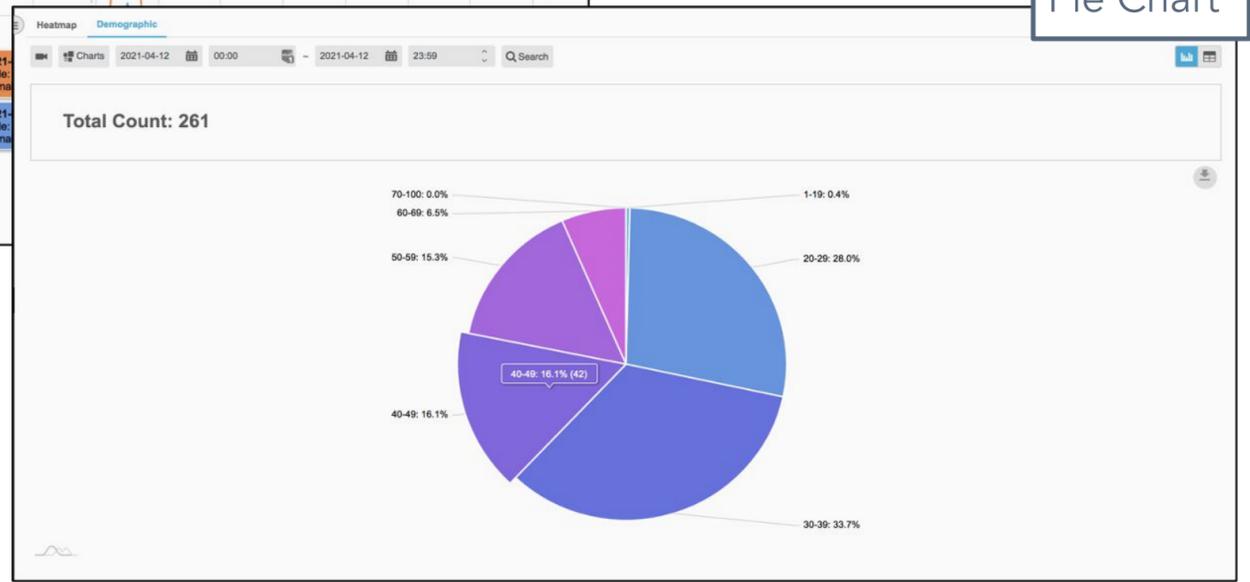
Click to download in .jpg or .pdf format



Pyramid Chart



Pie Chart



VAIDIO > Statistics

Heatmap Demographic

Charts 2023-10-03 00:00 ~ 2023-10-04 00:00

Age & Gender Statistics can be displayed with different chart types. Select the desired visualization with the Charts button.

Charts

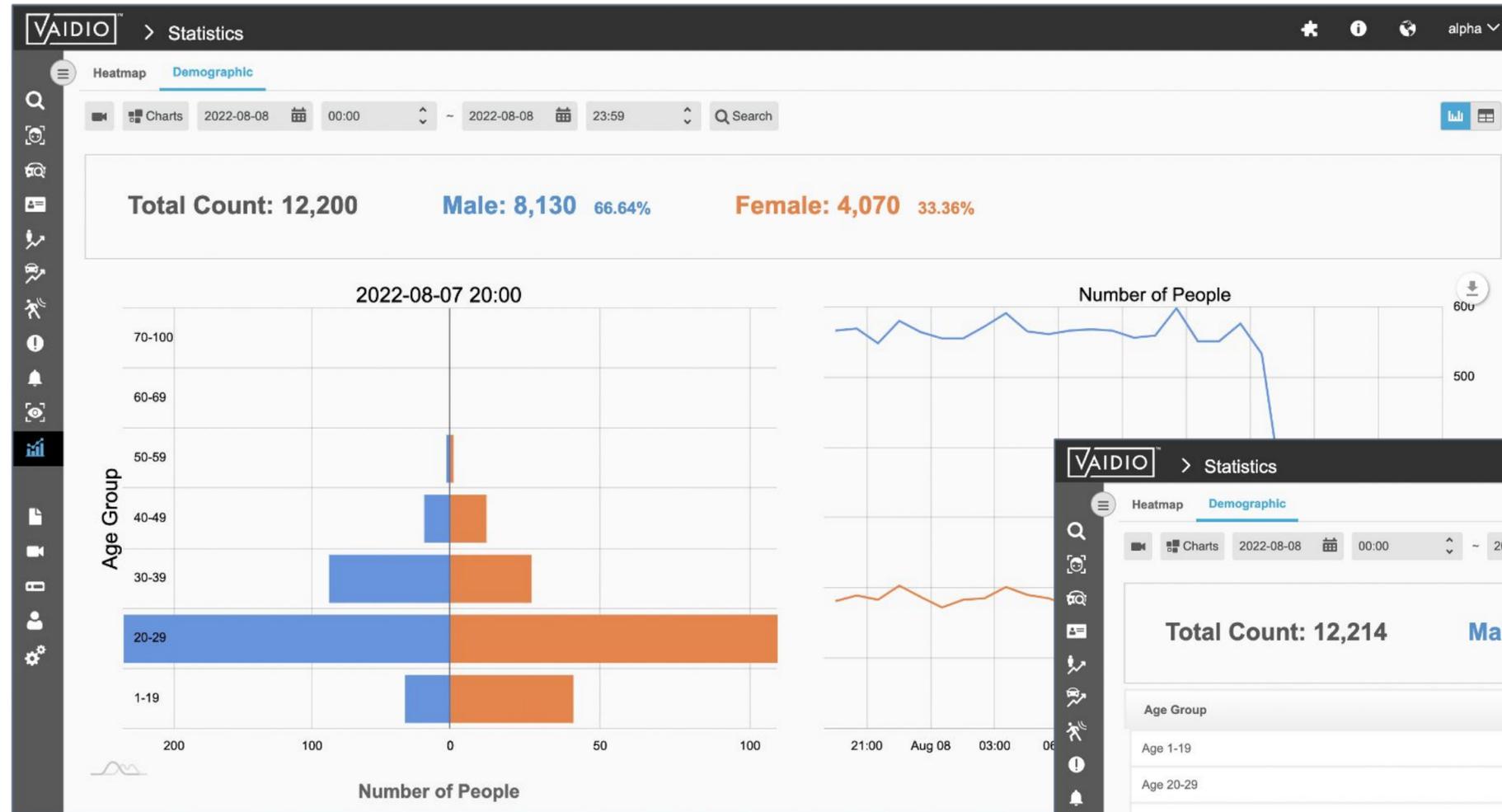
Data Chart

Population Pyramid Bar Chart Pie Chart

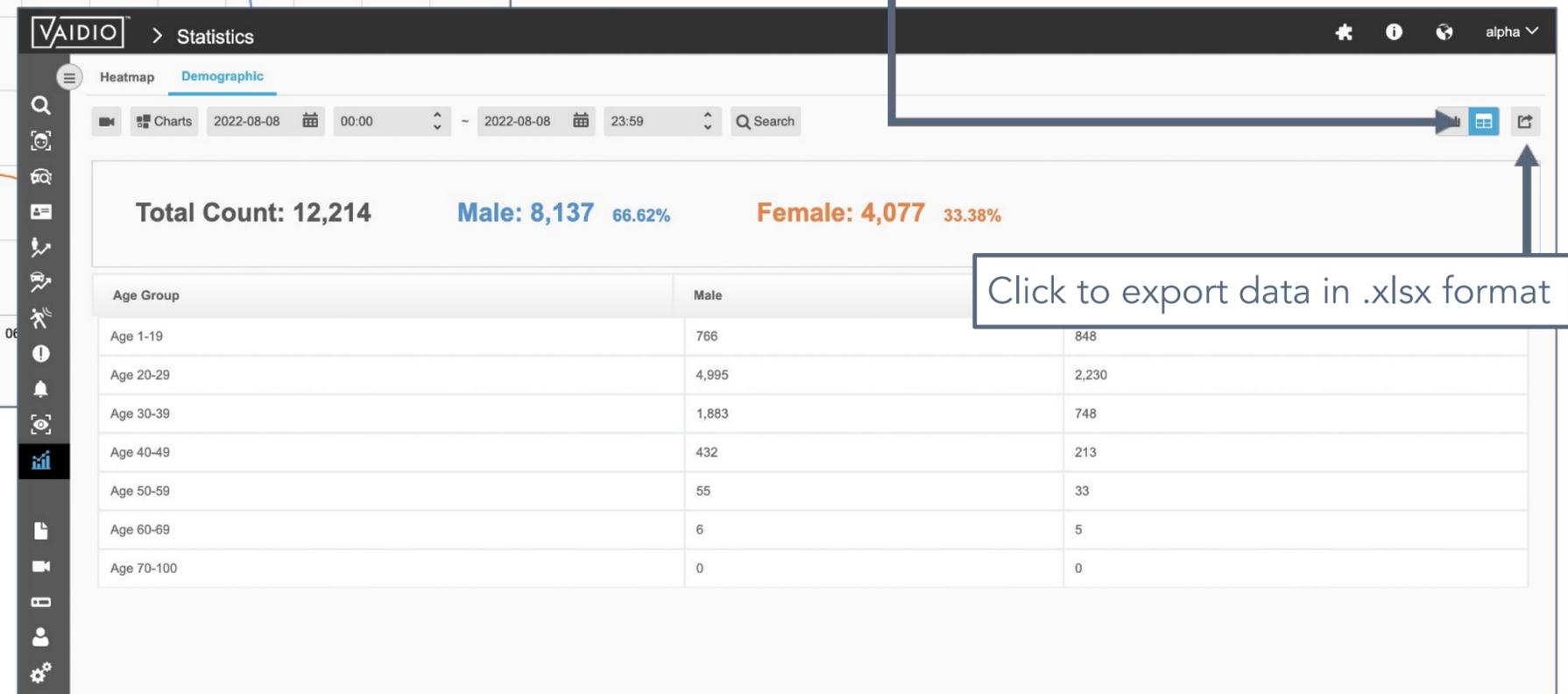
Cancel OK

[Return to Statistics](#)

DEMOGRAPHICS - CHART TYPES (CONT.)



Click to display data as a list

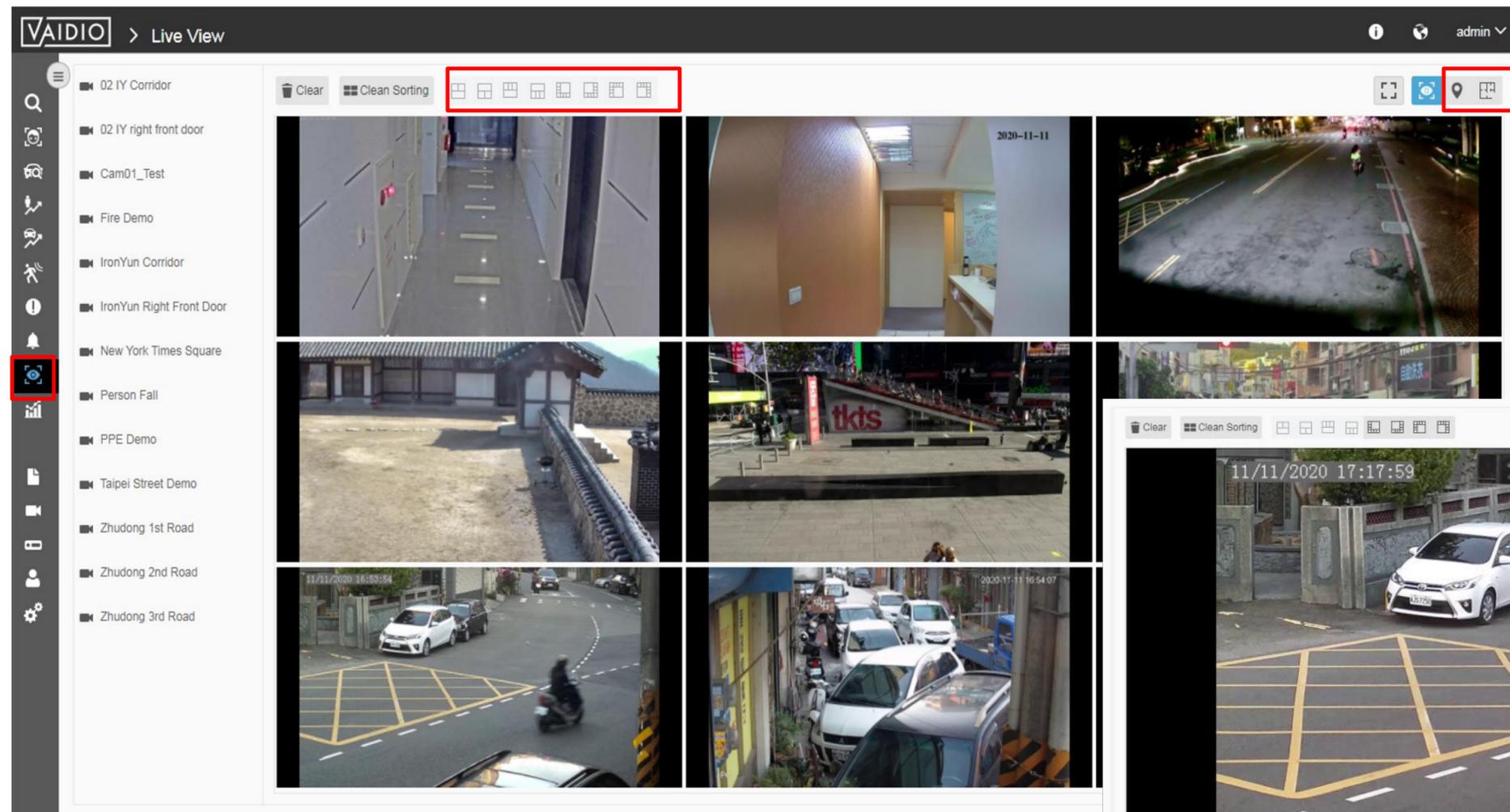


Click to export data in .xlsx format

LIVE VIEW

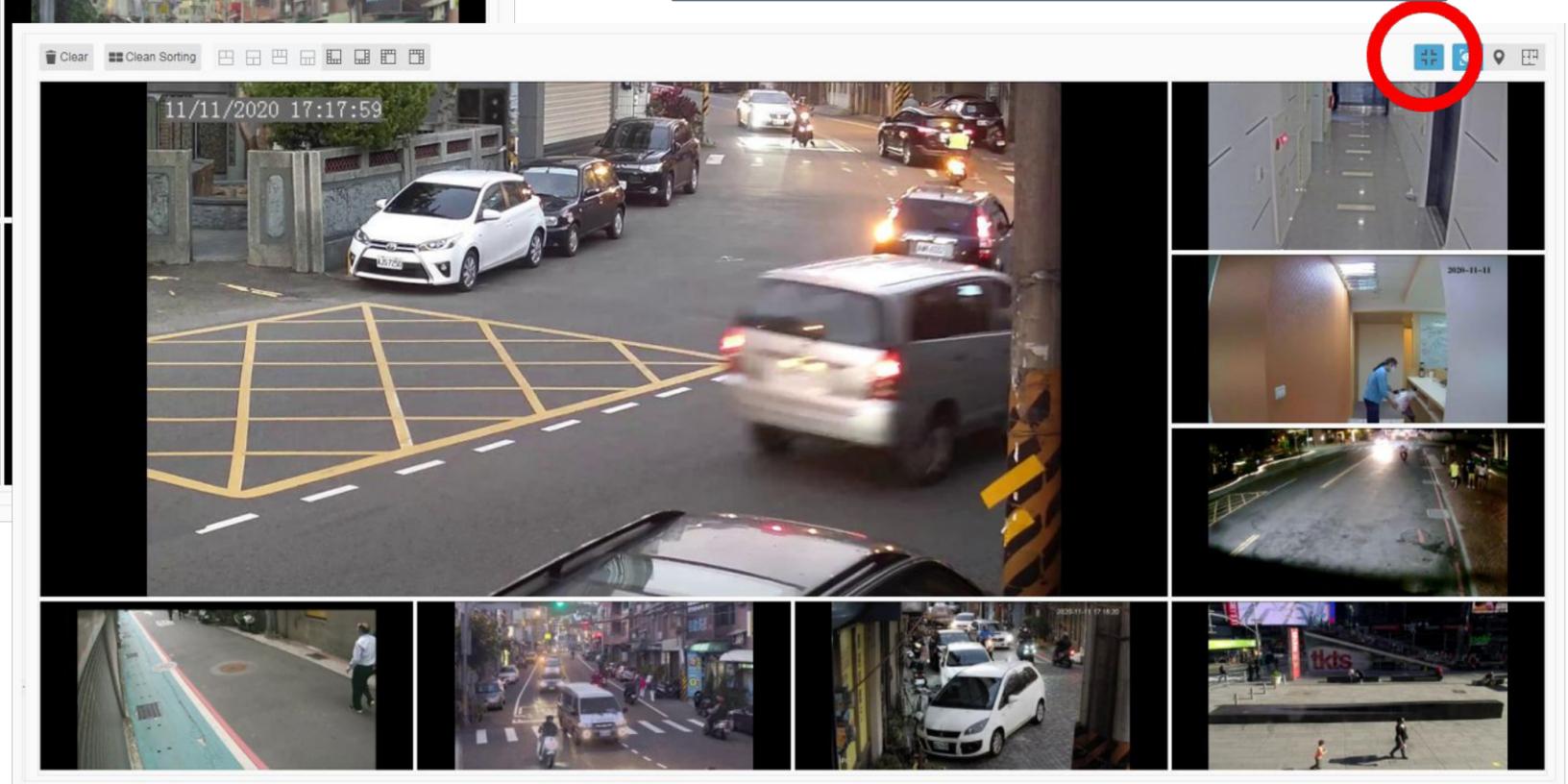
 [Live View Video Wall](#)

LIVE VIEW VIDEO WALL



Click the map buttons (GPS and indoor map) to view the locations of the selected cameras.

Click the Full Screen View icon to view live cameras in a video wall



In Live View on the left-hand menu tab, add multiple cameras and monitor the events live on the same screen. The user can adjust the size and location of the scenes to create the preferred viewing layout or apply pre-set formats for the live view.

[Return to Live View](#)

FALSE DETECTION REPORT

- ❏ [Overview](#)
- ❏ [Enable False Detection](#)
- ❏ [Report False Detection](#)

OVERVIEW

- ❑ False Detection report allows users to report any false or inaccurate detection results back to Aicuda Technology to strengthen the accuracy of future results
- ❑ False Detection report applies to all analytics
- ❑ The icon to send the false detection report is included in the Detail Page in every dashboard (Video Search, LPR, Alert, etc.)
- ❑ **Internet Connection is required to send the snapshot to Aicuda Technology**

ENABLE FALSE DETECTION

The screenshot shows the Vaidio System Settings interface. The 'Setting' tab is selected in the top navigation bar. Under the 'Advanced' section, the 'Report False Detection' toggle switch is highlighted with a blue box and an arrow. A text box on the right provides instructions: 'To report false detection results, the feature must be enabled in System > Setting > scroll down to Report False Detection and toggle ON.' Other settings visible include Theme Selection (Mystic), Privacy Protection, Camera Connection Retry Interval (10 seconds), Log Retention Time (7 days), Audit Trail Retention Time (7 days), Search Result Display (1,000), GPS Map (ON), API Basic Authentication (OFF), and Counting settings (People, Vehicle, Object Counting Reset Time and Object Counting Occupancy).

[Return to False Detection Report](#)

REPORT FALSE DETECTION

Original Snapshot | Scene ID : 9383493

2021-01-01 14:58:55
Drug Store

In any Detail Page snapshot window, click Report False Detection button.

Detail Page

Object Type: Truck Age:
Confidence: 0.9 Gender:
Color: Yellow, Black FR List:
Width : 325 Name:
Height: 856 Emotion:

False Detection Report

To help us improve our product, please send this report if you discovered false detection in the scene.

Scene ID:19473097
Scene Image Time:2022-08-05 04:12:06

Description (Optional)

Cancel Send Report

Fill in Description after clicking on False Detection icon.

Click Send Report to complete the process.

Note: Internet connection is **required** to file the false detection report to Aicuda Technology.

[Return to False Detection Report](#)

SUPPORT

For technical support, please go to the [Support Portal](#) to fill out a ticket.

For additional guides and training, please visit the [Aicuda Technology Download Center](#).

Request access at info@aicuda.world to register for an account.



By Aicuda Technology

THANK YOU

For more information, visit
[Aicuda Technology Support page](#) on the Partner Portal