



FF Group LPR Integration

App-note

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1. Introduction

This document details the integration of FF Group software with CathesisVision LPR interface. The FF Group is the camera-based video analytics module which provides LPR identification information. The information captured by the FF Group app is then sent to the CathesisVision system through the CathesisVision LPR interface.

Note:

1. For information regarding the regular operation of FF Group services, please consult the relevant documentation.
2. The FF Group system posts LPR identification data to the configured port on the CathesisVision NVR.
3. Cameras are configured in CathesisVision as standard and are recognised as an LPR camera.

1.1 CathesisVision Requirements

1.1.1 Software

- CathesisVision 2021.1 and later. (**Note:** The FF Group make/model/colour feature is supported in CathesisVision 2023.1 and later, with supported integrated cameras, but it is advisable to use CathesisVision 2023.2 and later for the latest FF Group firmware changes.)
- Windows 10: 64-bit and later; Windows Server 2016 and later.
- Minimum of 4GB of RAM required.

Note: If the user plans on installing this integration on a Linux unit, contact support@cathesisvideo.com.

1.1.2 License Requirements

License Name	License Description
CLPR-2000	LPR Device
CLPR-1001	LPR Lane

Note: In this integration, individual devices will require a license for each device. A standard IP camera package license per camera will also be required, in addition to the above integration licenses.

A NOTE ON CAMERA CHANNELS

The CathesisVision software packages have **limits on camera channels**. A multi-sensor camera is physically a single device (camera) but it **requires a camera channel for each one of the internal cameras**. The same applies to an encoder: a 16-channel encoder will account for 16 camera channels on the CathesisVision software, even though it is a single device. Even when a camera or device only uses a single IP license, the camera channel limit will still apply.

1.2 Integration Components

All CathesisVision integrations have two component levels: **Device** and **Object**.

Device	The device is CathesisVision software's interface, which handles all the interaction between CathesisVision and the integrated hardware. When an integration is added to the CathesisVision system, a device is added. The messages received from the device are called Device Events.
Objects	Objects are the individual pieces of hardware that comprise the integration. There may be multiple "object types" under the objects group. For example, the main controller and door nodes, of an access control system, are both objects. There are different types of objects.

USEFUL LINKS

To view **tutorial videos** on CathesisVision setup, visit <https://cathesisvideo.com/resources/videos>

Find answers to Cathesis **Frequently Asked Questions**: <https://cathesis.crisp.help/en/?1557129162258>

2. FF Group Setup

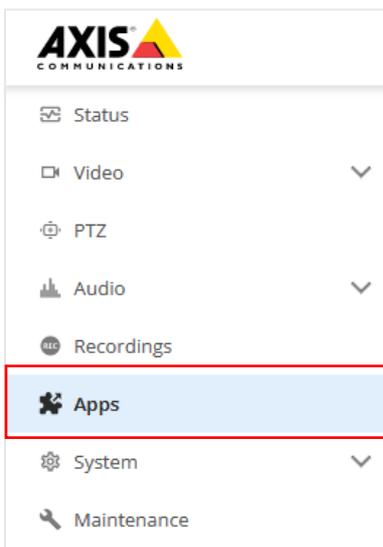
Each camera's web interface will vary.

The steps for setting up [Axis](#), [Mobotix](#) or [Hanwha Wisenet](#) cameras are listed below.

2.1 Axis Cameras

Note: The app recognises plates from Caucasus, CIS, Europe, Israel, Palestine, Turkey, Taiwan, Vietnam, Indonesia, Hong Kong, Australia, South Africa, New Zealand, USA, and Canada.

1.

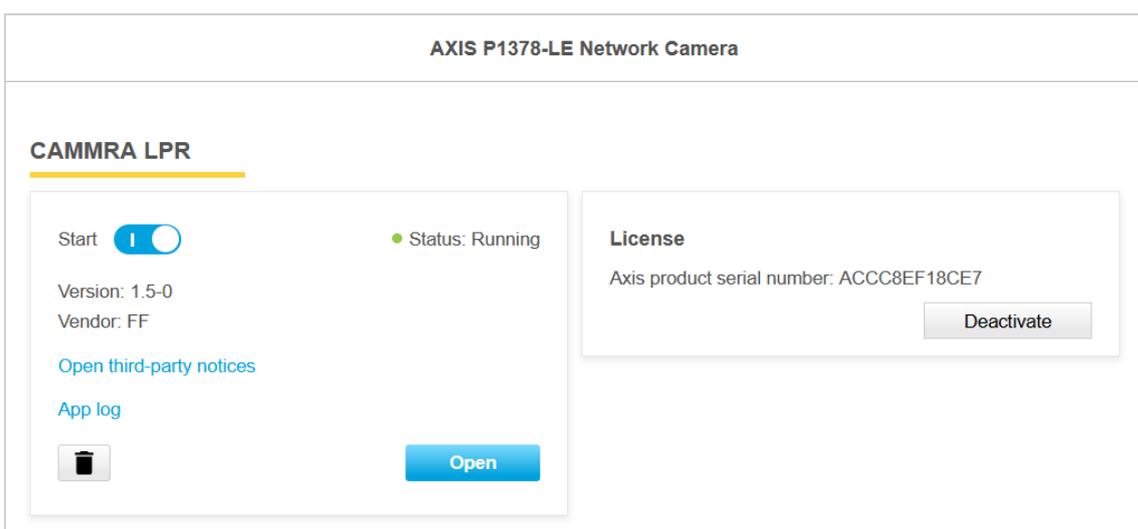


Select the Apps tab from the camera's web interface.

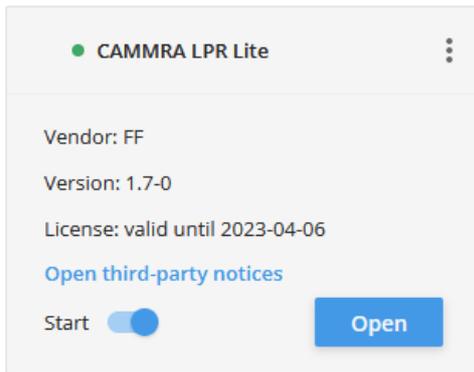
Ensure that the FFGroup App has been installed and licensed as required.

Select the **FFGroup Setup**.

2. Enter the **FFGroup** Application:

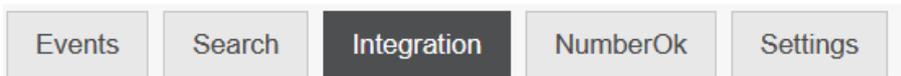


3. Make sure that the version is 1.6-3 or higher.

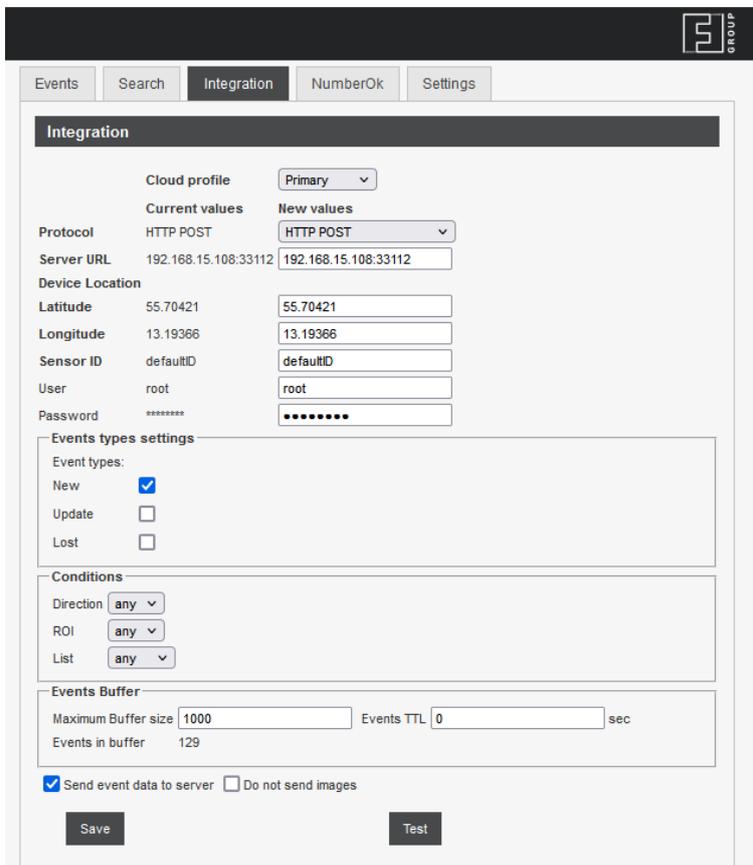


Click **Open**.

4. Navigate to Integration:



5.



Protocol must be set to: HTTP POST.

Server URL needs to be the IP of the NVR and set the port 33112.

Select to send at least new events.

Conditions:

Direction

- To get the correct direction of car movement, point the arrow in the driving direction. The detected direction shows up in the Direction column in Events log.

ROI

- Keep the region of interest (ROI) as small as possible. Never place the ROI to the top image edge.

List

- Add license plates to configured black and white lists as desired.

Check "Send event data to server".

2.2 Mobotix Cameras

Note: The user will need to set up and confirm that LPR is working within the M73 **before** connecting it to CathesisVision. If the user connects the camera to CathesisVision and then sets up the LPR, they will need to disable and re-enable it in CathesisVision to make the LPR function available.

1. Select the **Setup Menu** on the main screen.



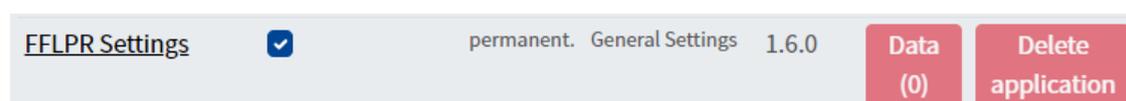
2. Open **Certified App Settings**.



3. Make sure that **Arming** is activated.



4. The App Settings menu will open. Find and select the option below:



5. Navigate to **Integration Interfaces** and set the information as shown below.

Integration Interfaces		
Enable	<input checked="" type="checkbox"/>	Enable the integration interface to send IP notifications to a defined external receiver (e.g. 3rd party access control systems, video management system, etc.)
Destination Address	<input type="text" value="http://172.30.0.1:33112"/>	Receiver / Server IP address and port. Separate IP address and port using a colon (e.g. 10.0.0.1:80)
Transfer Protocol	<input type="text" value="HTTP(s) POST"/>	Transfer notification data using these protocol headers
Device ID	<input type="text" value="M73"/>	Device ID is used as unique identifier for the device sending the IP notification (e.g. camera's serial number / factory IP address)
Attach Image	<input checked="" type="checkbox"/>	Enable to attach an event image to the IP notification
Image Selection	<input type="text" value="Full frame"/>	Selection of the event image to be attached to the IP notification
Event Type: New	<input checked="" type="checkbox"/>	Send the IP notification for event type 'new'. Condition 'new' becomes true, if the license plate appears for the first time in 5 seconds
Event Type: Update	<input type="checkbox"/>	Send the IP notification for event type 'update'. Condition 'update' becomes true, if the license plate was already detected in the last 5 seconds
Event Type: Lost	<input type="checkbox"/>	Send the IP notification for event type 'lost'. Condition 'lost' becomes true, if plate was not seen in the last 5 seconds since previous detection
self-signed certificates	<input type="checkbox"/>	Allow self-signed certificates for HTTPS

Note:

- The **IP address** portion of the destination address must be changed to the IP of the NVR connected to the M73.
- The user can choose the **Device ID**.
- **Event Type: New / Update** can be enabled if desired.

6. To save the settings, press **Set** and then **Close**.



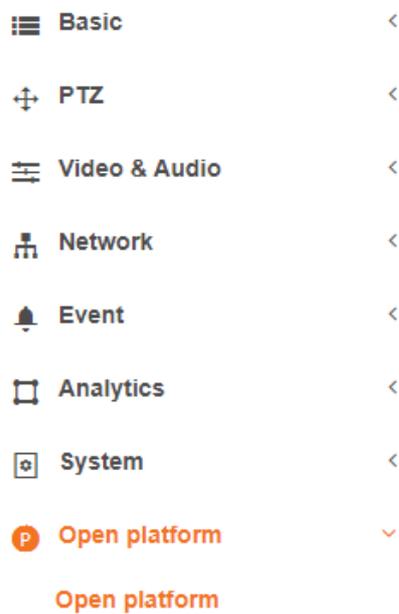
7. The camera will be detected automatically as an LPR camera when added to CathexisVision, if setup is correct.

2.3 Hanwha Wisenet Cameras

Important notes and recommendations

- Wisenet recommends that the operator uses the Firefox web browser.
- Use the latest version of the Wisenet driver.
- For the latest Wisenet firmware updates, it is recommended that CathesisVision 2023.2 onwards is used for the Wisenet LPR integration with CathesisVision.

1. On the Wisenet web interface, navigate to **Setup / Open platform**.



2. Make sure the NumberOkEdgeHanwha (FFGroup LPR App) is installed, licenced, and running.

Note: Currently, the best combination of camera firmware and app version are 1.40.02 / 5.1.25 respectively.

Open platform

Version : 3.52_190724

Application manager

No.	Application name	Status	Setup
1	NumberOkEdgeHanwha Installed date : 2021-08-10 T 10:19:04 Version : 5.1.25 Uninstall Go App	Running... Stop Health	Priority <input type="radio"/> Low <input checked="" type="radio"/> High <input type="radio"/> Medium Auto start <input checked="" type="checkbox"/> Enable Apply

Total: 1

Make sure it is set to **high priority** with **auto start** enabled.

Click **Go App** to access the FFGroup LPR APP's web interface.

- On the FFGroup LPR App settings page, enable JSON via HTTP(s) integration.

Enter the **IP and port of CathesisVision NVR**.

Make sure to tick **Enable Wisenet SSM**.

Use port **33112** for this integration.

The screenshot shows the 'JSON via HTTP(s) integration' settings page. At the top, there is a checked checkbox for 'JSON via HTTP(s) integration'. Below this, there are four input fields: 'Geo Latitude' (52.92683), 'Geo Longitude' (-1.28698), 'Destination URL' (http://10.1.1.154:33112), and 'Camera ID' (E4:30:22:18:EB:25). There are two buttons for 'Send frame to cloud': 'Full frame' and 'Crop frame', with 'Crop frame' selected. There are two buttons for 'Send mode': 'On Detect' and 'On Lost', with 'On Detect' selected. Below this, there is a section for 'NumberOk Meta integration' with an unchecked checkbox and a 'Connection key' input field. At the bottom, there is a checked checkbox for 'Enable Wisenet SSM'.

Note:

- The **IP address** portion of the **Destination URL** must be changed to the IP of the NVR connected to the Wisenet camera.
- The user can choose the **Device ID**.
- Geo Latitude**, and **Geo Longitude** need to be filled in, even if it is not used, or the app will give invalid JSON data.

- In the Advanced settings of the CathesisVision camera setup, make sure to turn the **FFGROUP ANPR** setting to **On**.

The screenshot shows the 'Settings' page for a CathesisVision camera. The 'Video feeds' tab is selected. A table lists 10 video feeds with columns for Format, Res., Live, Rec. channel, Video analytics, and Fps. A dialog box titled 'Advanced' is open over the table, showing the 'FFGROUP ANPR' setting set to 'On'. The dialog box has 'OK' and 'Cancel' buttons. Below the table, there are three summary items: 'Live' (enabled on 3 of the feeds), 'Recording' (enabled on 1 of the feeds), and 'Video analytics' (A video analytics feed has been enabled). At the bottom, there are 'Edit', 'Clear', and 'Advanced' buttons.

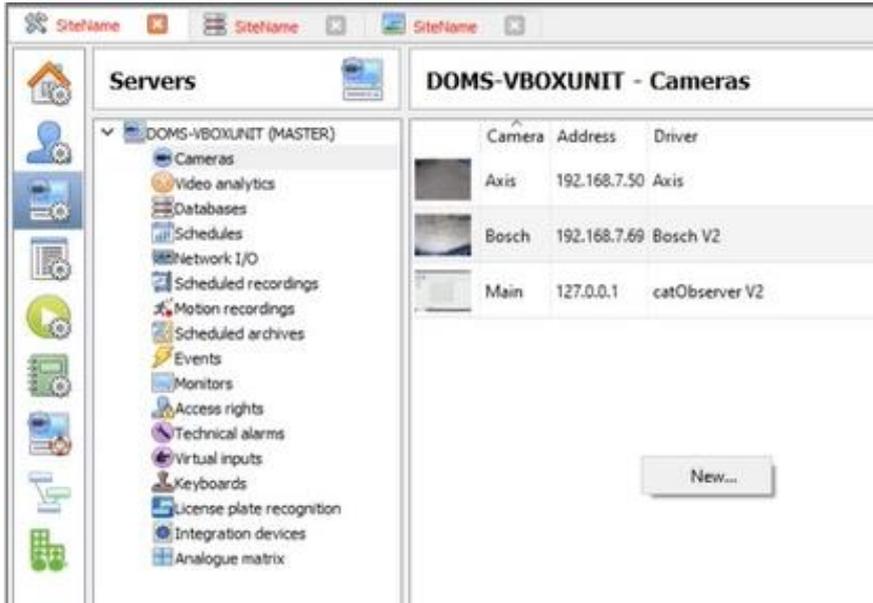
Format	Res.	Live	Rec. channel	Video analytics	Fps
1 Unused (unicast)					
2 Unused (unicast/multicast)					
3 H265	640x360 (16:9)	Yes		Yes	5.0
4 H265	1920x1080 (16:9)	Yes	#1 (default)		
5 H265	1280x720 (16:9)	Yes			
6 Unused (unicast/multicast)					
7 Unused (unicast/multicast)					
8 Unused (unicast/multicast)					
9 Unused (unicast/multicast)					
10 Unused (unicast/multicast)					

3. Device Addition and Configuration

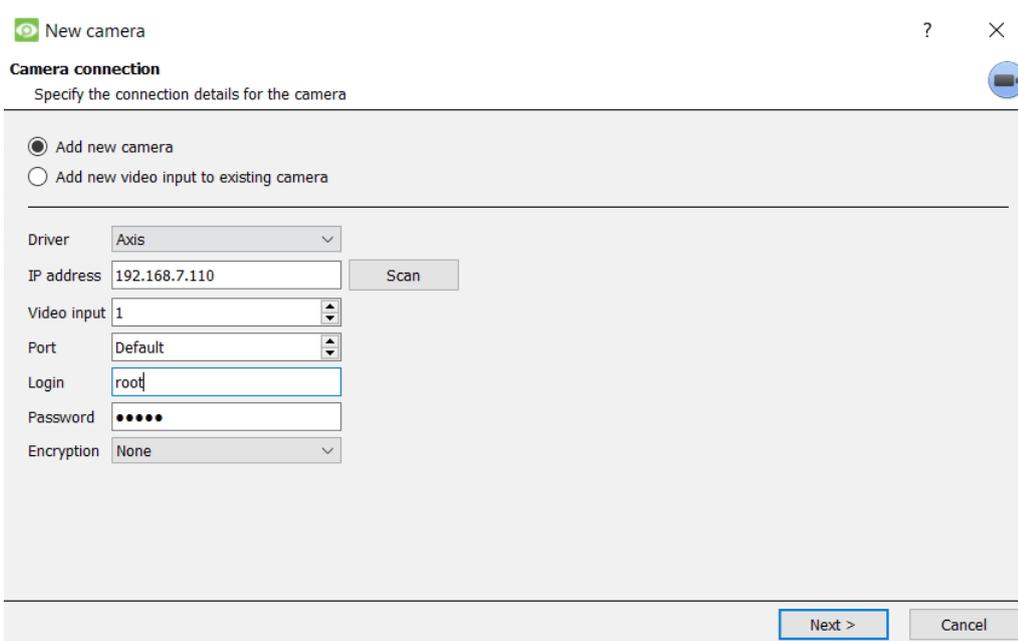
This section will detail the procedure for setting up CathesisVision LPR integration and FF Group App to communicate with each other.

3.1 Add a Camera

Add the camera by selecting **Servers / Cameras / Right-click / New**.

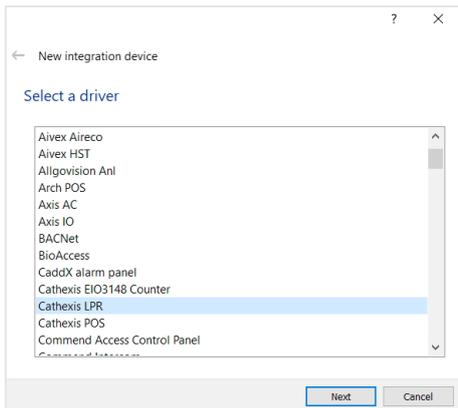
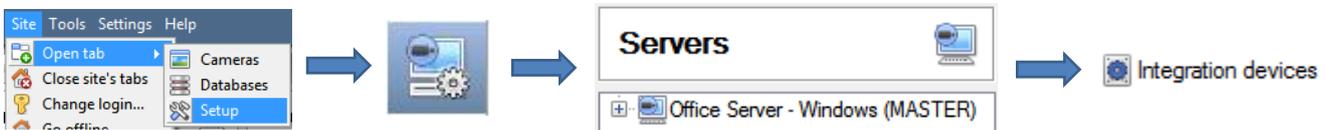


The camera's driver and IP address are shown below:



3.2 Devices Section (Add a New Device in CathesisVision)

Integrations are added on a server-by-server basis. They are managed in the Integration Devices panel, under the **Setup Tab** of the servers to which they are added. To get to the Integration Panel, follow this path:



Select the **Cathexis LPR Driver**.

There are two sections in the Integration Panel:

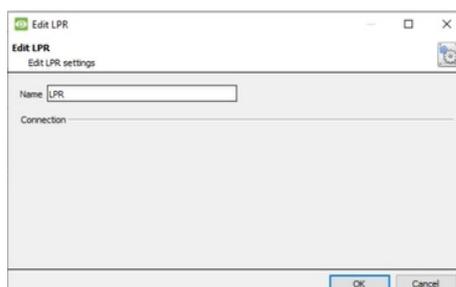
The **Devices** list will list the integration devices that are attached to the server.



The **Configuration** section enables editing/reviewing, the device selected in the **Devices** section.

3.2.1 Device Addition

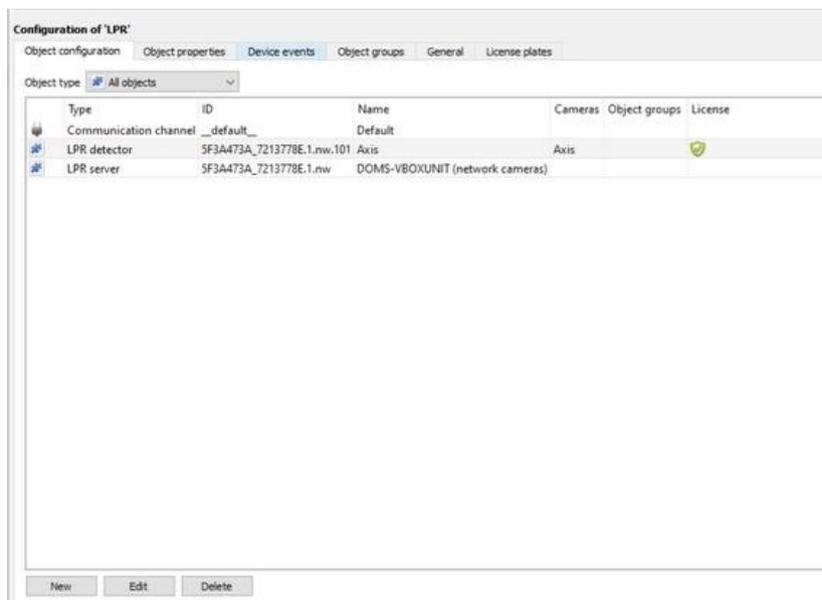
1.  Once in the Integration Panel, click on **New Device** in the Devices section. This will open the addition dialogue.
2. Select **Cathexis LPR** driver from the list.
3. Give the device a descriptive name.



3.3 Configuration Section (Tab)

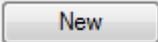
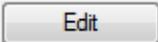
The configuration section is divided up into a number of tabs. These tabs are: **Object configuration**, **Object properties**, **Device Events**, **Object Groups**, and **General**.

3.3.1 Object Configuration Tab

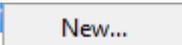
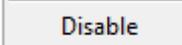
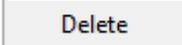


The object configuration tab is the tab where all the individual objects that comprise the integration may be viewed.

3.3.1.1 Object Configuration Buttons

-  Add a new object by clicking on **New**.
-  Click on Edit to open up an existing object for edition.
-  Click on Delete to delete an existing object from the CathesisVision configuration.

3.3.1.2 Object Configuration Right-click Options

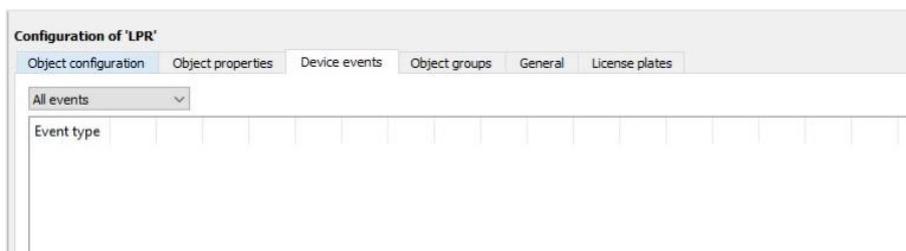
-  **New** will open up the dialogue box to add a new object.
-  **Disable/Enable** allows manually enabling/disabling individual objects.
-  **Delete** will permanently remove this object from the list.
-  **Properties** will open up the object properties. Edit the object from here, specifically, assign cameras to this object, as well as define user access levels for it.

3.3.2 Object Properties Tab

The Object Properties tab is where all object properties may be viewed.



3.3.3 Device Events Tab

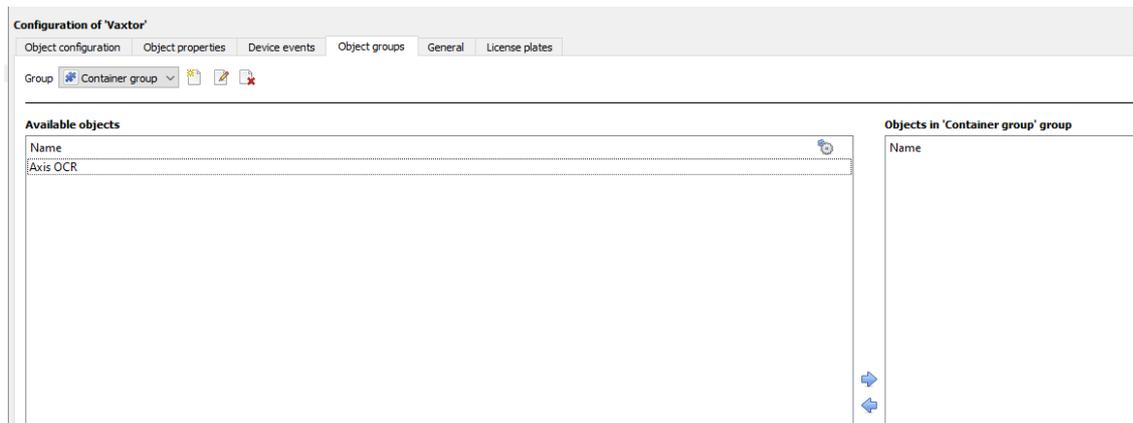


This lists all Events sent from the device.

Installers can check that the integration is functioning, and monitor the Events happening on site.

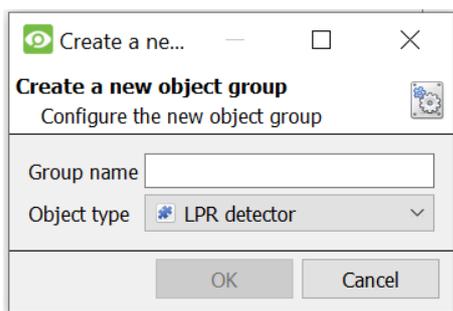
3.3.4 Object Groups Tab

Create groups of the same type of object.



Tip: This is useful when setting up Events, because Events can be triggered by an object group. (For example, a group will trigger if any of the devices in that group are triggered.)

3.3.4.1 Create a Group



Click to create an object group.

Click to edit an object group.

Note: Once a group has been created, the object type of the group may not be edited.

Give the group a descriptive **Group name**.

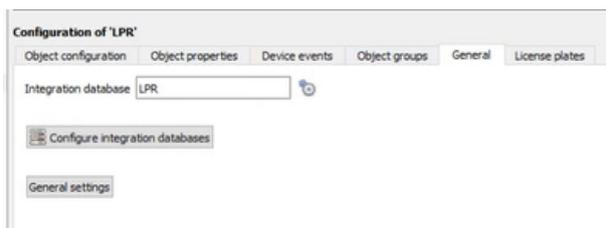
Click on the drop-down menu to select the **Object type** to group.

A list of available objects will appear. Multiple objects may be selected at a time.

To add these objects to the group, select them and click the arrow.

To remove these objects from the group, select them and click the arrow.

3.3.5 General Tab

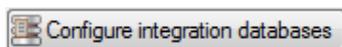


The general tab deals with the **Integration database**.

Here, select an existing database, or configure a new database for the integration.

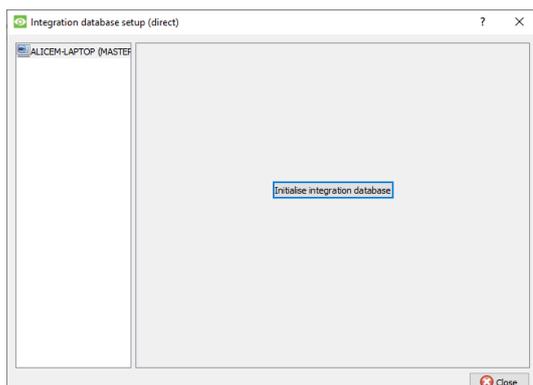
Note: Each integrated device needs to be attached to an Integration database. Without setting up/adding a database here, the integration will not function properly within the CathesisVision system.

3.3.5.1 Configure a New Database



If a database is not yet created, clicking on this button will navigate to the integration database setup.

Initialise the Integration Database



The first time an integration database is added, initialise this feature on the unit.

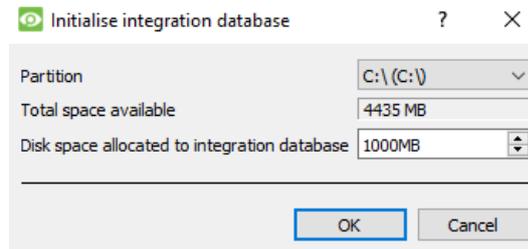
This will add a broad database, within which all of the integrated device's databases will be added.

From the list on the left, select the unit to which to add the database.

Initialise integration database

Click on **Initialise integration database**.

Choose which partition the database will be formed on, and select how much space it will take up.

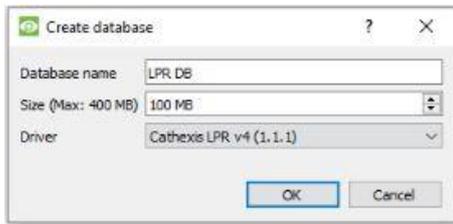


Add a New Devices Database

After initialisation, add the database for the integration being worked with.

New

Click on the **New** button, at the bottom of the **Create database** window.



Give the Integration database a descriptive **Database Name**.

Allocate a **Size** to the new device database.

Choose the device **Driver** that the device will be using. Click on OK to create the database.

3.3.5.2 Select the Integration Database

Note: Be sure to select the **Cathesis LPR v3 (1.1.2)**.

Integration database

Driver

Once a database has been created, the user may select it by clicking on the **gear icon**. Select the database in the dialogue that appears.

Only databases which relate to the device being added should appear.

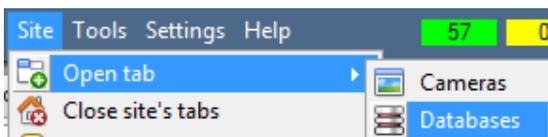
4. Database

The database tab allows one to navigate to the databased entries, for each individual database. In the database tab, each database is presented as a table. It has built-in filters, and the ability to navigate by timestamp. If a database entry has an associated recording, it is possible to launch this recording, from within the database tab.

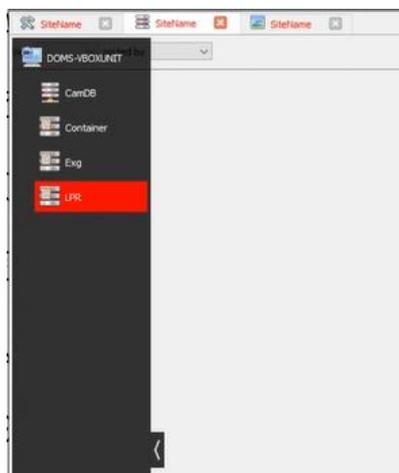
Time	LPR Detector	License plate	Group	Confidence	Place of issue
2020-08-17 12:45:58	Axis	WHLU0291165			98 Taiwan, China
2020-08-17 12:46:03	Axis	WHLU0291165			99 Taiwan, China

Most integrations will have a different database presentation, and unique filters, due to the different parameters sent to CathesisVision by the integrated device.

4.1 Navigate to the database



View the information stored in the Integration database, by following the path seen to the left. This navigates to the Database Tab.

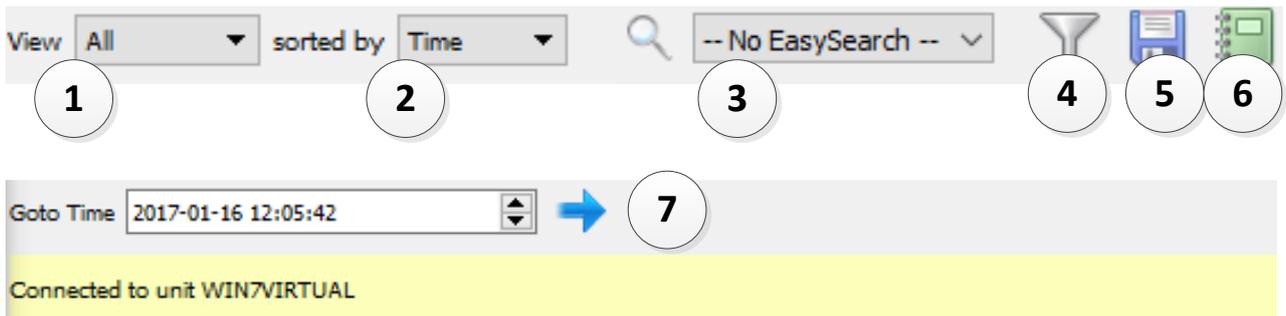


When the database tab opens, select the relevant integration database from the database panel that opens on the left-hand side. The databases are ordered under the NVRs that they are attached to.

To open and close this list, click on the arrow in the centre of the list:



4.2 Database Interface



①	View	<p>View changes the way the database is presented.</p> 
②	Sorted By	Events may only be sorted by Time.
③	Easy Search	The easy search option quickly searches the database. The options are License plate, License Plate (Partial Match), Group, LPR Detector.
④	Filter 	<p>Filter offers a more advanced manner of sorting information in the Integration Database table.</p> <p>Once the filters dialogue is open, these are the options:</p> <p><input checked="" type="checkbox"/> Enable filters Check this box to enable filters.</p> <p> Click on this icon to add a new filter. The filter icon will change when filters are active. </p> <p> Click on this icon to delete an added filter.</p> <p>Note:</p> <ol style="list-style-type: none"> Multiple filters may be run simultaneously. The same parameter may be used more than once. To change a filter, click on the blue hyperlinked text. (For example, click on Timestamp to change the filter from Timestamp, to any of the other available options.)
⑤	Export	Generate metadatabase reports in PDF or CSV format. See below.
⑥	Manage Reports	Generate scheduled metadatabase reports. See below.
⑦	Go to Time	<p>This navigates to a specific point in time, down to the second.</p> <p>To navigate to a timestamp set the time using the time and date boxes, and then click on the  icon.</p>

4.2.1 Viewing an Entry's Associated Recording

This integration uses the new video option where the video player is embedded in the database view. This player uses the same timeline features as the CathesisVision cameras tab.

To view an associated recording, simply left-click on a database entry, which has the icon in the Links column. Then click play in the video player.

The screenshot displays the CathesisVision 2020 application window. The main area is divided into a table on the left and a video player on the right. The table lists license plate detections with columns for Time, LPR Detector, License plate, Group, Confidence, Place of issue, and Tags. The selected row is highlighted in blue.

Time	LPR Detector	License plate	Group	Confidence	Place of issue	Tags
2020-08-17 15:21:51	Axis	WH4J0291165	99	Taiwan, China		
2020-08-17 15:21:54	Axis	WH4J0291165	98	Taiwan, China		
2020-08-17 15:22:00	Axis	WH4J0291165	97	Taiwan, China		
2020-08-17 15:22:03	Axis	WH4J0291165	99	Taiwan, China		
2020-08-17 15:22:39	Axis	WH4J0291165	99	Taiwan, China		
2020-08-17 15:27:44	Axis	WH4J0291165	99	Taiwan, China		
2020-08-18 08:17:11	Axis	B5UJ22537882261	98	Ukraine		
2020-08-18 08:17:14	Axis	B5UJ2253788	99	Ukraine		
2020-08-18 09:07:18	Axis	B5UJ22537882261	99	Ukraine		
2020-08-18 09:07:53	Axis	B5UJ22537882261	97	Ukraine		

The video player on the right shows a blue screen, indicating that the recording is not yet started. The player includes a timeline at the bottom with a play button and other controls. The status bar at the bottom of the window shows the current date and time: Wed 2 Sep 08:50:56.

5. Events

A CathesisVision Event has a trigger, which causes an action. Integrated devices may be set to act as triggers, or as actions. This document will detail the Cathesis LPR / FF Group specific aspects of Events. There is a comprehensive guide to CathesisVision Events in the main setup manual.

Most of the data that CathesisVision receives from a device is presented in the **Events interface**. This is done in order to give the user a full range of options. As a result, some of the options presented in the interface may be impractical as event triggers, or actions.

5.1 Event Window

Events in CathesisVision are set up via the Event Window. This has 4 tabs: in the **General Tab** an event is given a name, description, schedule and priority; in the **Triggers Tab** the trigger/s for the event is/are defined; in the **Actions Tab** the action/s, which the event takes, is/are defined; in the **Resources Tab** the various site resources, which can be used as part of an event, are defined.

New Event

Window Broken

General	Triggers	Actions	Resources
Name	<input type="text" value="Window Broken"/>		
Description	<input type="text"/>		
Schedule	<input type="checkbox"/> Always 📅 ✎		
Priority	<input type="checkbox"/> Low ⚠️		

5.2 Creating an Event

To create an event using the Cathesis/Vaxtor device, enter the **Events management area**:



Once in the Events management area, click on **New**. This will open up the New Event window.

6. Conclusion

This app-note was designed to deal with the FF Group LPR integration. For further information about the CathesisVision software, consult the ***CathesisVision Setup Manual*** (<http://cathesisvideo.com>).

For technical support, email support@cathesisvideo.com