AiDANT Spark User Guide

1. Overview

The AiDANT Spark application developed by AiDANT.ai is an AXIS ACAP application that can be used to monitor an area and notify the user if a vehicle stays in an area of interest for too long. This application can be installed into any AXIS camera with a DLPU (a.k.a TPU) processor, eg: the Q1615 Mark3 and P3255.

2. Glossary

Area of Interest	Spark functionality module that the detects presence of vehicles in a determined area. The Area of Interest module allows for three exclusion areas.
AI Threshold	A value which controls how selective we want to be in identifying a person.

3. Requirements

In order to run the AiDANT Spark application, you will need:

1. An AXIS camera with a DLPU chip and a non-fisheye lens.
2. Update the AXIS camera firmware to the latest version.
3. Purchase a license from AiDANT.

4. Download and extract (unzip) the eap application file through the link .

5. **Important!** Camera positioning: The camera needs to be positioned in such a way that it can see as much of the vehicle as possible.

4. Installation

Once all the requirements are satisfied, please do the following:

1. Access the camera through any web browser.

2. Go to *Settings->Apps* .

3. Click on *Add* and install the .eap application file.

4. Click on *AiDANT Spark* and install the license key file provided to you.

5. Main Controls
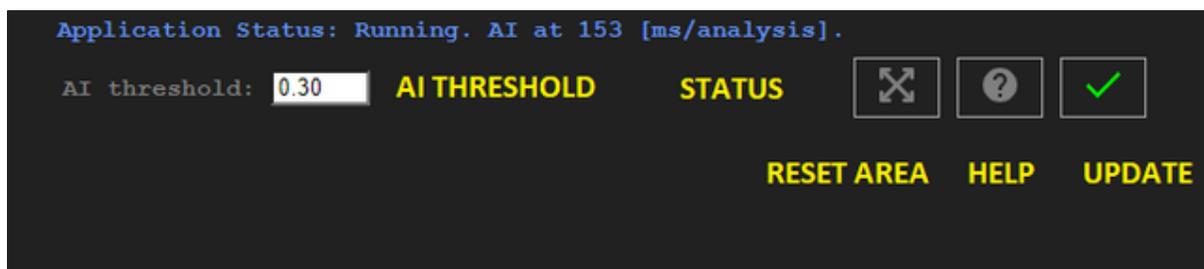
- The '*AI Threshold*' field can be modified to indicate how selective we want to be in identifying a vehicle (i.e. the higher the number, the more discriminate it becomes to determine if an object on the screen is the desired object and the less positives that we will have). A value of 0.40 is the default as it minimizes false positives and increases true positives for detection.
- Press the '*Reset Area*' button to restore all areas to their default positions.
- Press the 'Help' button to open the user guide.
- Press the '*Update'* button to save your configuration changes.

6. Area of Interest

- To configure the '*Area of Interest*' functionality, select an area to monitor by dragging the control points until the polygon shape covers the area of interest. You may add up to three exclusion areas. The exclusion areas are denoted by a dashed (-----) line in the user interface. The Areas of Interest can have 4, 6 or 8 control points.
- Indicate the minimum number of vehicles in the area of interest needed to trigger the alarm by using the '*Notify only when count is at least*' field. The user can also indicate the minimum amount of time needed for a vehicle to linger in an area of interest by using the *Alert Time* field. There are three possible alerts, named 'First', 'Second' and 'Third' accordingly. Each alert will trigger a separate Axis Event.
- The '*Maximum seconds a lost vehicle is still tracked*' value enables the user to configure what happens to the tracking mechanism once a vehicle is not detected anymore. For example, if a vehicle goes behind a pillar in the field of view.
- Remember to save your changes by pressing the '*Update and Save*' button (the green checkmark).

Warning: If the value of '*Maximum seconds a lost vehicle is still tracked*' is too high, then a vehicle exiting the camera field of view might 'transfer' the tracker to a different vehicle entering the field of view within a few seconds, affecting accuracy. It is recommended to keep this value below three seconds.

When a target is detected, a bounding box will be shown on the stream in the application. The default color for the markers is green. If a target enters the area of interest, then the marker color changes from green to yellow and a timer displays just below the marker. If the timer surpasses the time set in the *Alert Time* field, then the marker changes to red.

When the breach has lasted more than then the set time and the number of persons/objects lingering in the areas of interest is greater than the minimum number of persons/objects, then a notification will be sent.

7. Overlays

- You can chose to display the bounding boxes as an overlay in a camera video stream by clicking "*Include detection overlays in this video stream*" and selecting the desired stream.
- You can chose to anonymize the bounding boxes as an overlay in a camera video stream by clicking "*Include anonymization overlays in this video stream*" and selecting the desired stream.

8. Vehicles/Objects

The application can detect the following objects:

Motorcycles, Cars, Trucks, Buses, Bicycles, Trains, Boats, Airplanes and Persons.

9. Event Triggering

To setup event triggering:

1. Go to *System->Events.*
2. Click on + under *Rules* and select *AiDANT Spark First Alert* under the *Condition* field.
3. Fill in the *Name* field and select an *Action.*

If you wish to set up email notification, click on the *Recipients* tab. Press the + button and fill in the fields.

Once done, you can go back to *Actions* under the *Rules* tab and select the appropriate action you want that requires a recipient.

Repeat for Second and Third Alerts accordingly.

10. Connecting the events to VMS

Milestone

To receive events from AiDANT applications in Milestone XProtect:

1. In Milestone XProtect Management Client 'Site Navigation' panel, expand 'Servers/Recording Servers'.
2. In the 'Recording Server' panel select the desired camera and channel to open the 'Properties' dialog.
3. In the 'Properties' dialog', press the button 'Events' (at the bottom).
4. Press the button 'Add' for events to open the 'Select Driver Event' dialog.
5. In the dialog 'Select Driver Event', select the required events associated with your AiDANT product.
6. Create Alarms by selecting 'Alarms/Alarm Definitions', and configuring the definitions accordingly. Remember to save!

As events are 'Stateful', an 'on' event sent by the AiDANT application will appear in Milestone as 'Rising', while an 'off' event sent by the AiDANT application will appear in Milestone as 'Falling'.

Tip: If you cannot see the events associated to the camera, you might need to update the remote site hardware.

1. On the central site, expand Servers and select Recording Servers.
2. In the Overview panel, expand the required recording server, select the relevant remote system.
3. Right-click it.

4. Select Update Hardware. This opens the Update hardware dialog box.

5. The dialog box lists all changes (devices removed, updated and added) in the remote system since your Milestone Interconnect setup was established or refreshed last.

6. Click Confirm to update your central site with these changes.

Genetec

1. In 'Security Center' open the configuration tool and select the desired unit to configure.

2. In the properties tab, enable the desired AiDANT events by selecting the AiDANT application from the applications list, and choosing the events from the 'Application Events' list.

3. Configure your alarms or bookmarks using 'Genetec Actions': In 'General Settings', select 'Actions'. Configure your event-to-action accordingly.

Tip: If you cannot see the events associated to the camera, refresh the camera connection.

AXIS Camera Station

1. Select 'Recording and events/Action Rules'.

2. Click 'New'.

3. Click 'Trigger/Device Event/OK'.

4. Select Device and Event.

5. Filter Active Yes for the ON state and vice versa.

6. Press 'Next' and select your desired action. Finish.

11. Appendix

Troubleshooting

- The application log can be accessed through the Apps/AiDANT Spark page.

- Please contact AiDANT Technical Support if you have any questions or comments.

Boat Detection Ranges

Approximate detection* ranges for boats:

Boat type and typical length	Kayak 3m (~9 feet)	Speedboat 6m (~18 feet)	Yacht 15m (~45 feet)	Tugboat 20m (~60 feet)	Ferry 150m (~450 feet)
Thermal (eg: Q1961 - 13mm)	60m (~180 feet)	120m (~360 feet)	500m (~1500 feet)	600m (~1800 feet)	1500m (~4500 feet)
No Zoom (eg: M5526 - 4.7 mm)	30m (~90 feet)	60m (~180 feet)	150m (~450 feet)	200m (~600 feet)	1000m (~3000 feet)
10x Zoom (eg: M5526 - 47 mm)	300m (~900 feet)	600m (1800 feet)	1500m (~4500 feet)	2000m (6000 feet)	5000m (~15000 feet)

*sideways detections tested.