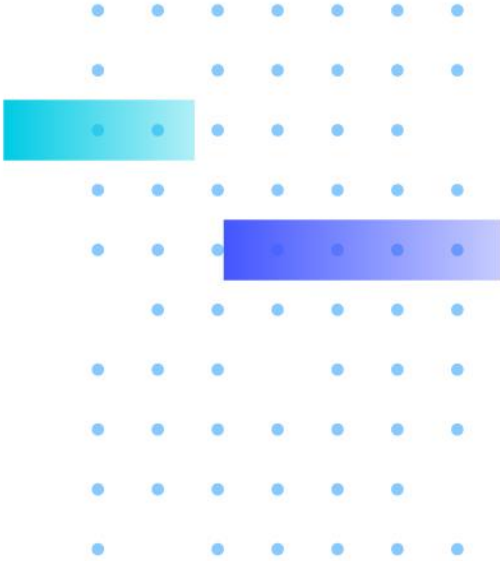




A Delta Group Company

**VIVOTEK**  
**DEEP SEARCH PLUGIN**  
**USER MANUAL**

Version 2.0  
2023/11/30<sup>th</sup>



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**Revision History**

Version	Comment
V.0	<ul style="list-style-type: none"> <li>● Initial draft</li> </ul>
V1.1	<ul style="list-style-type: none"> <li>● Add vehicle filter</li> </ul>
V1.2	<ul style="list-style-type: none"> <li>● Update images</li> </ul>
V1.3	<ul style="list-style-type: none"> <li>● Update prerequisites for cameras</li> </ul>
V2.0	<ul style="list-style-type: none"> <li>● File rename (from VIVOTEK Edge AI-Powered VCA Solution User Manual to VIVOTEK Deep Search Plugin User Manual)</li> <li>● Wording correction</li> <li>● Add Deep Search Plugin Section</li> </ul>

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# 1. For Genetec® Security Center Users

A proprietary plug-in is available for users who install VIVOTEK cameras with video content analysis (VCA) suite in a deployment managed by Genetec Security Center. With this plug-in, users can search video by object metadata in the Genetec Security Center. It allows users to search metadata by VCA rules such as line crossing detection, loitering detection, and intrusion detection. It also allows users to draw a custom zone to focus on any critical area.

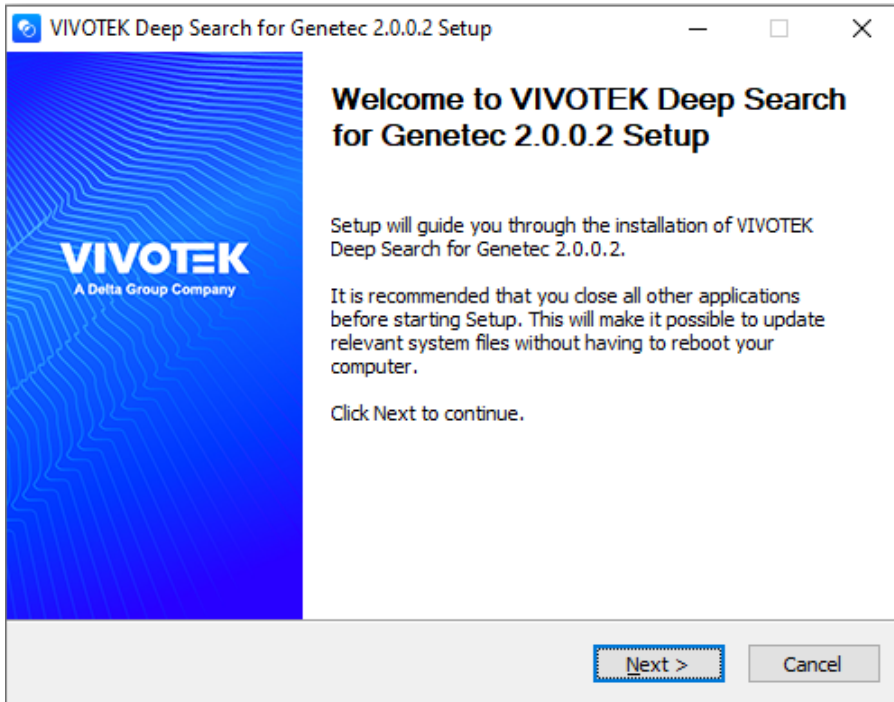
## 2. Getting Started

Complete the following procedure as the prerequisites for installing the plug-in:

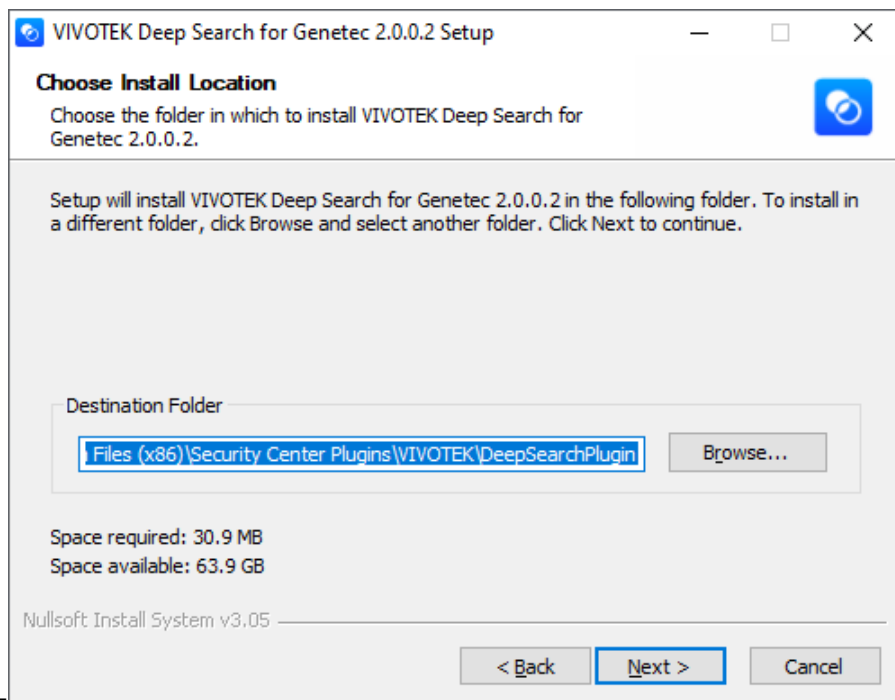
- (1) Install the Genetec Security Center 5.10.0.0 or above.
- (2) Download VIVOTEK’s VCA plug-in from VIVOTEK’s Camera’s download page.
- (3) Execute the VIVOTEK Deep Search Plug-in installer file:
  - a. By default, a sub-folder named “**Security Center Plugins**” is available after the Genetec Security Center is installed.

The default file path should look like the following:

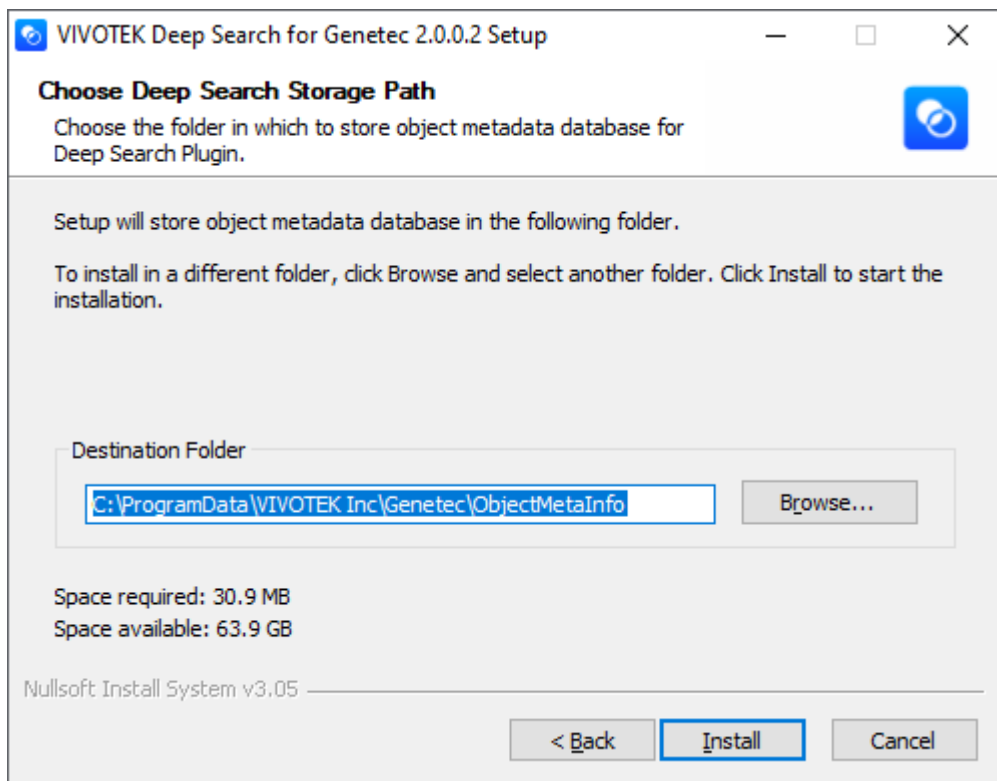
**C:\Program Files (x86)\Security Center Plugins\VIVOTEK\DeepSearchPlugin**



- b. Click Install to proceed with installation.

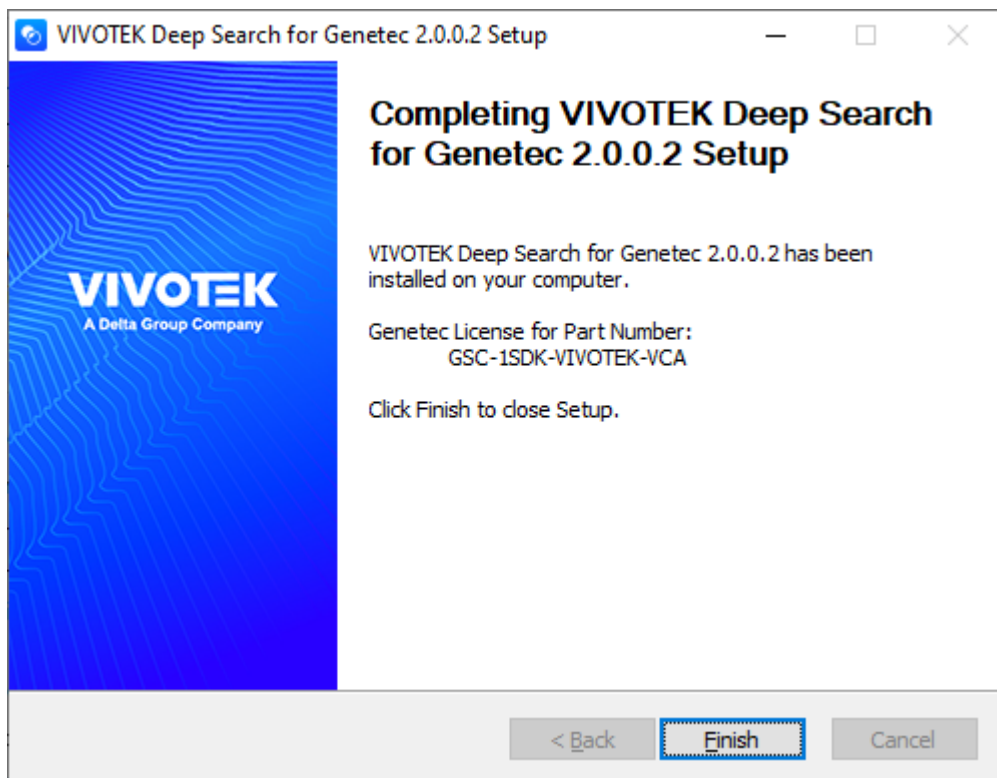


- c. Choose the storage path for deep search metadata. The default file path should be as the following: **C:\ProgramData\VIVOTEK Inc\Genetec\ObjectMetaInfo**



For storage capacity concerns, it is recommended to store Object Metadata in a separate location with a larger disk capacity, ensuring that it does not affect server operations.

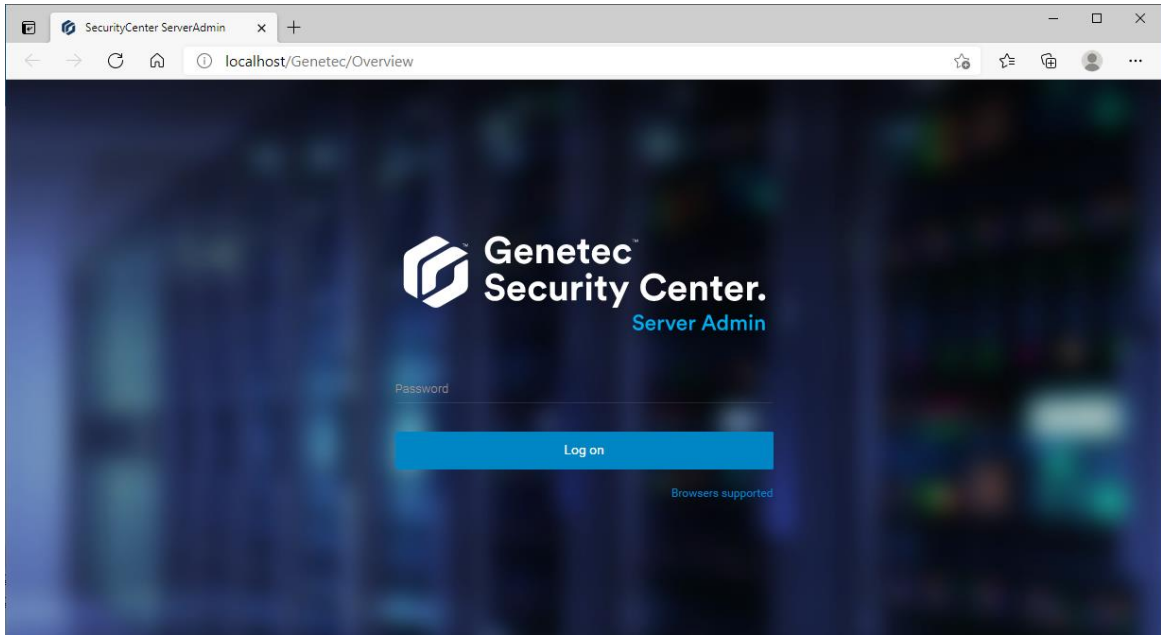
- d. Click Install to proceed with the installation.
- e. Click Finish to close the setup.



(4) Restart Genetec Security Center

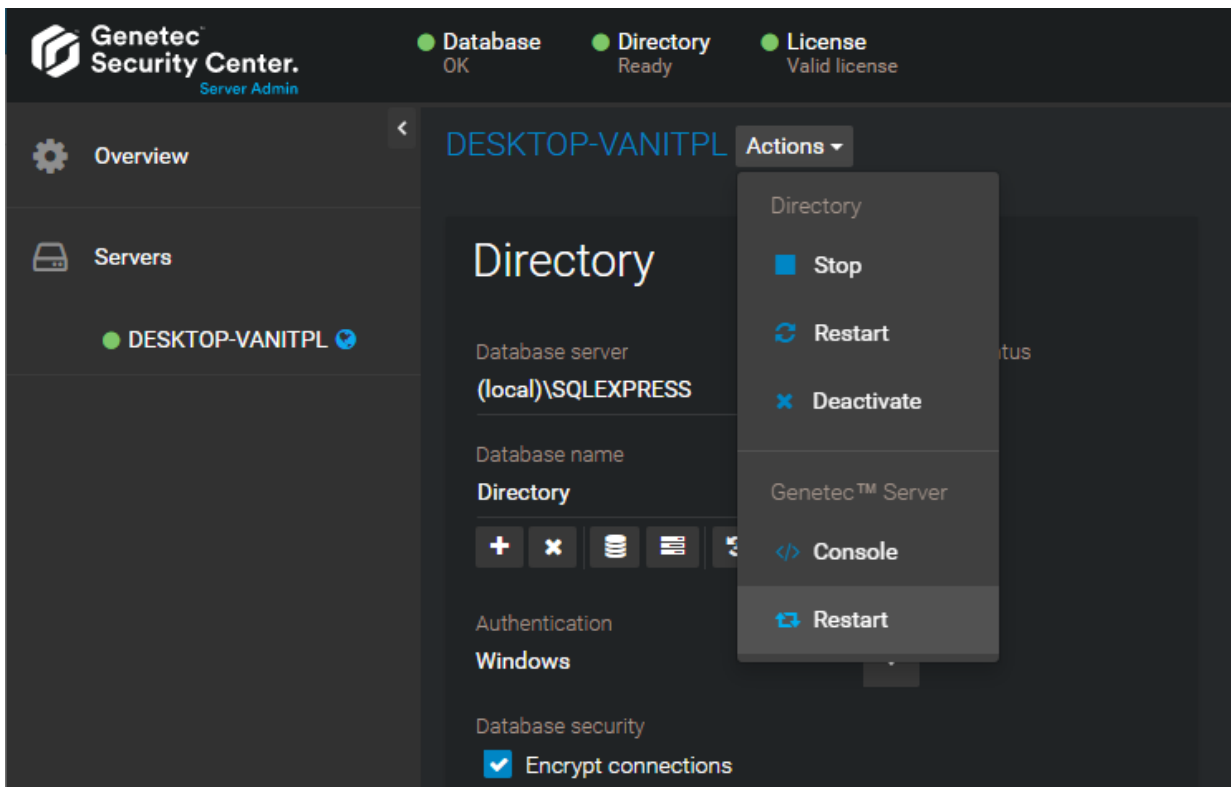
- a. Open Genetec Security Center – **Server Admin**

If connecting to Server Admin from the local host, double-click **Genetec™ Server Admin** in the Genetec Security Center folder in the Windows Start menu.



Note: If you are not on the main server, type **https://computer:port/Genetec** in your web browser, where computer is the hostname or the IP address of your server and port is the web server port specified during the Security Center expansion server installation.

- b. Enter the server password that you set during the server installation, and click **Log on**.
- c. Select **“Server”** and click on **“Actions”** to open the menu. Click **“Restart”** to restart Genetec Server.



### 3. Prerequisites for Cameras

(1) For the **Smart Search Plugin**, please install the Deep Learning VCA Package with version 6.17.0.0 or above.

The screenshot shows the Vivotek Security Center web interface. The top navigation bar includes 'Home', 'Client settings', 'Configuration', and 'Language'. The left sidebar lists various system components, with 'Applications' expanded to show 'Motion detection', 'Smart VCA', 'DI and DO', 'Tampering detection', 'Audio detection', 'Shock detection', and 'Package management'. The main content area is titled 'Applications > Package management' and contains the following sections:

- Package** / **License** tabs
- Upload package**: A section with a 'Select file' input, a 'Browse...' button, and an 'Upload' button.
- Resource status**: A section showing system metrics:
  - CPU loading: 70 %
  - Internal storage total size: 1951.828 MB, Free size: 1799.468 MB
  - Memory total size: 974.742 MB, Free size: 99.195 MB
- Clean internal storage**: A section with a yellow warning box stating 'Notice! It will erase system temporary files and the files upload from FTP.' and a 'Cleanup' button.
- Package list**: A table listing installed and available packages.

	Name	Version	Status	License	Size		
<input type="radio"/>	<a href="#">Trend Micro IoT Security</a>	1.3d.a1.8.4	Installed	N/A	6.292 MB		
<input type="radio"/>	<a href="#">Deep Learning VCA</a>	6.17.0.0-3d	ON	Pass	19.718 MB		
<input type="radio"/>	<a href="#">Stratocast</a>	1.3e.a1.5.3	ON	N/A	3.085 MB		
<input type="radio"/>	<a href="#">Bookme</a>	1.1.1.d69c	ON	N/A	0.894 MB		
<input type="radio"/>	<a href="#">Calibration</a>	1.3.5.f958	ON	N/A	0.238 MB		

At the bottom of the 'Package list' section, there are three buttons: 'Start', 'Stop', and 'Schedule'.

Version: 1.2102.33.01f



(2) For the VIVOTEK **Deep Search Plugin**, please Install the Deep Learning VCA Package with version 7.2.3.6 or above with a valid license, and Firmware version n.2nnn.3n.nnx. (n= numbers, x = letters). The attribute extraction is not supported for the models of FD/IB9x65-A, FD/IB9x87-A, FD/IB9x67-v2, FD/IB/IT9x89-v2, which firmware version is n.2nnn.3n.nnx. (n=number, x = letter).

**Applications**

- Motion detection
- Smart VCA
- DI and DO
- Tampering detection
- Audio detection
- Shock detection
- Package management

**Recording**

[Clean internal storage](#)

Notice! It will erase system temporary files and the files upload from FTP.

[Package list](#)

	Name	Version	Status	License	Size		
<input type="radio"/>	<a href="#">Trend Micro IoT Security</a>	1.3e.a1.9.1	Installed	2025-10-11	6.277 MB		
<input type="radio"/>	<a href="#">Deep Learning VCA</a>	7.2.3.6-3e	ON	Pass	54.96 MB		
<input type="radio"/>	<a href="#">Stratocast</a>	1.3e.a1.6.0	ON	N/A	3.113 MB		

(3) Synchronize camera system time to the Genetec server or a NTP server is recommended. The time synchronization to the server can help metadata match video more closely.

Home **Configuration** Language

System > General settings

**System**

- General settings
- Homepage layout
- Logs
- Audit Log
- Parameters
- Maintenance

**Media**

**Network**

**Security**

**PTZ**

**Event**

**Applications**

**Recording**

**Storage**

Version: 1.2302.37.01f

**System**

Host name:

Turn off the LED indicator

---

**System time**

Time zone:

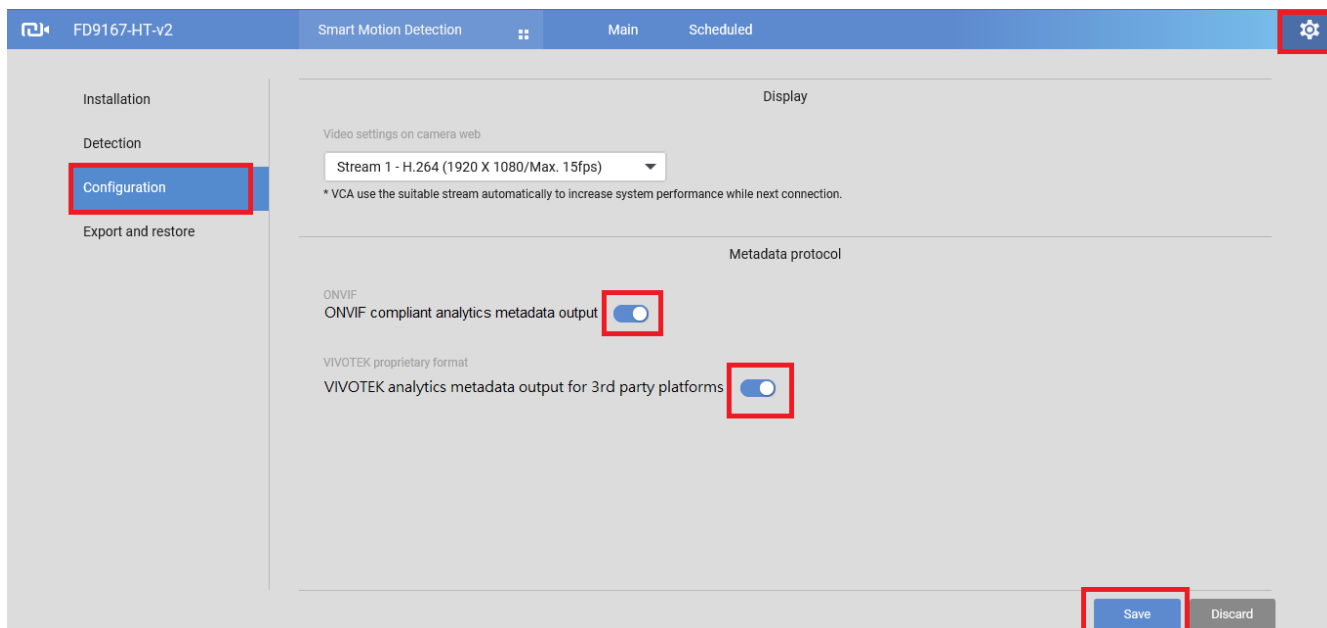
Keep current date and time  
 Synchronize with computer time  
 Manual  
 Synchronize with NTP Server

NTP Server Address

Server 1	<input style="border: 2px solid red;" type="text" value="Genetec Server IP"/>
Server 2	<input type="text" value="time2.google.com"/>
Server 3	<input type="text" value="time3.google.com"/>
Server 4	<input type="text" value="0.pool.ntp.org"/>
Server 5	<input type="text" value="1.pool.ntp.org"/>

Updating interval:

- (4) Enable “**ONVIF compliant Analytics metadata output**” and “**VIVOTEK analytics metadata output for 3<sup>rd</sup> party platforms**” on Settings > Configuration. The camera will send analytics metadata to Genetec server.



- The “ONVIF compliant analytics metadata output” provides the default bounding box (red frame) that can display “live & playback” views for human or vehicle objects.
- The “VCA analytics metadata output for 3<sup>rd</sup> party platforms” delivers the human/vehicle information for the **Smart Search Plugin**. This may require higher storage capacity for “Archiver”. For the Smart Search plugin, this feature may require keeping its search function. For the Deep Search feature itself, the object metadata may require 20MB per day without this feature enabled.

- (5) For more VCA event rule settings, please follow the Smart VCA manual to setup VCA rules and events:

[http://download.vivotek.com/downloadfile/solutions/vadp/smart-vca-manual\\_en.pdf](http://download.vivotek.com/downloadfile/solutions/vadp/smart-vca-manual_en.pdf)

# 4. To Enable the Plug-in & Operation

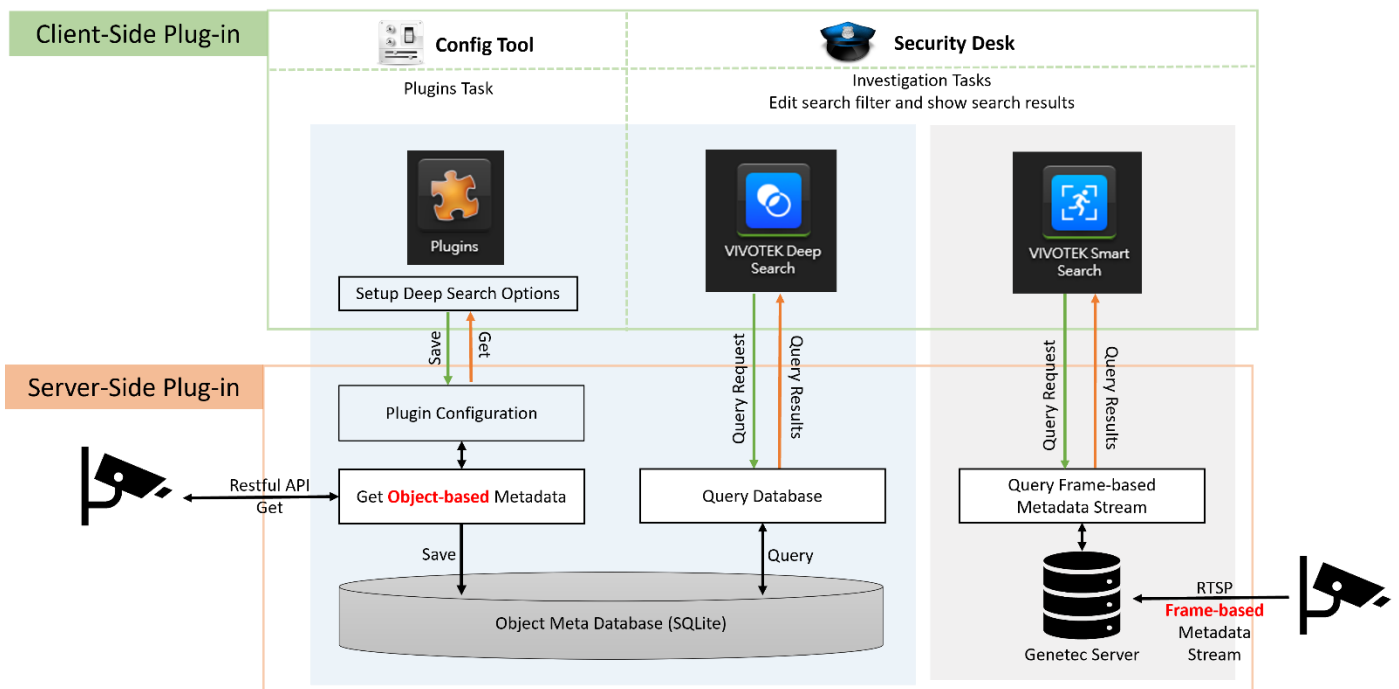
## Architecture Overview

VIVOTEK DeepSearch Plug-in is integrated on both the server and client sides.

For Deep Search, the server-side plug-in records object-based metadata from Deep Learning VCA cameras, while the Genetec Server captures frame-based metadata streams for Smart Search. Users can leverage this plug-in to search videos using either object-based or frame-based metadata.

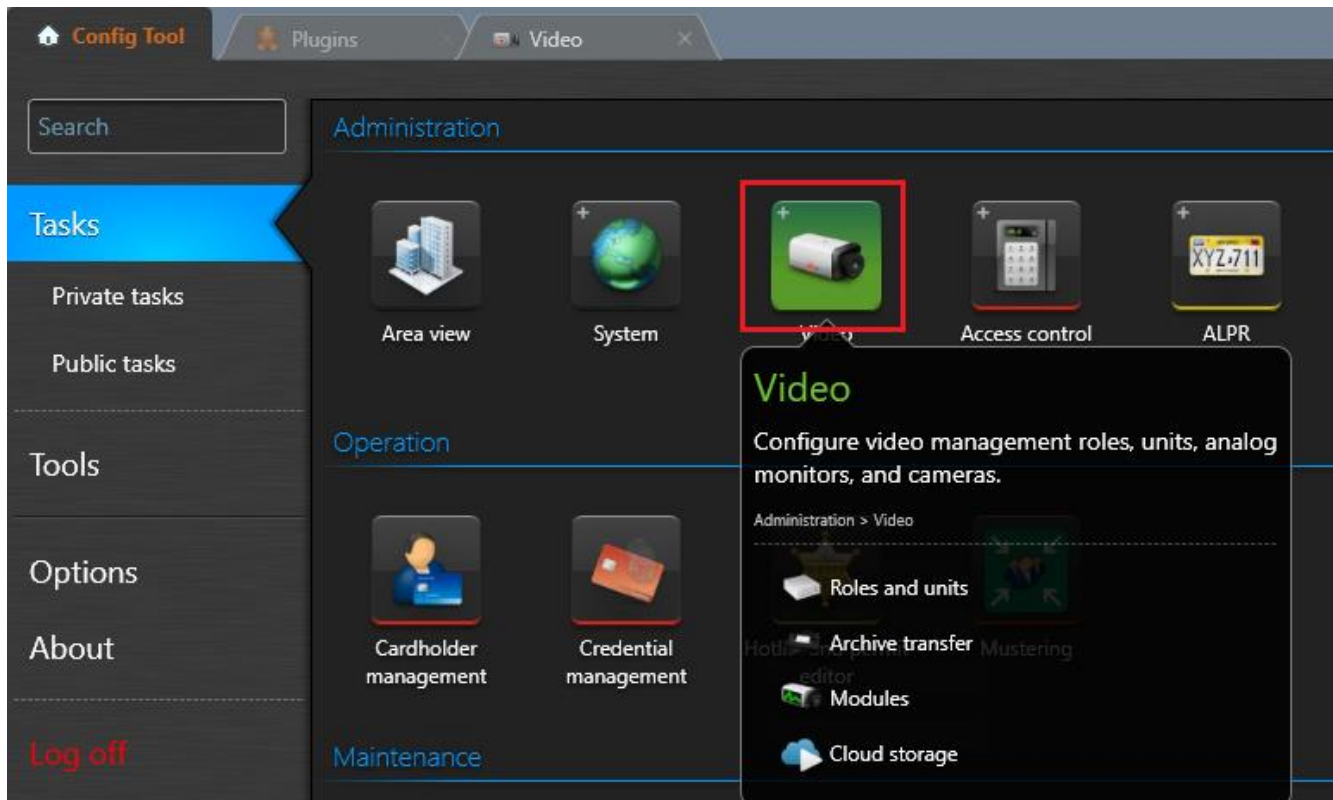
Users can modify the search filter within the client-side plug-in, which is integrated into the Genetec Security Desk.

When initiating the search process, the server-side plug-in retrieves metadata from the database, checking for any data that matches the search criteria. The plug-in then sends the filtered content to the client-side plug-in for display.

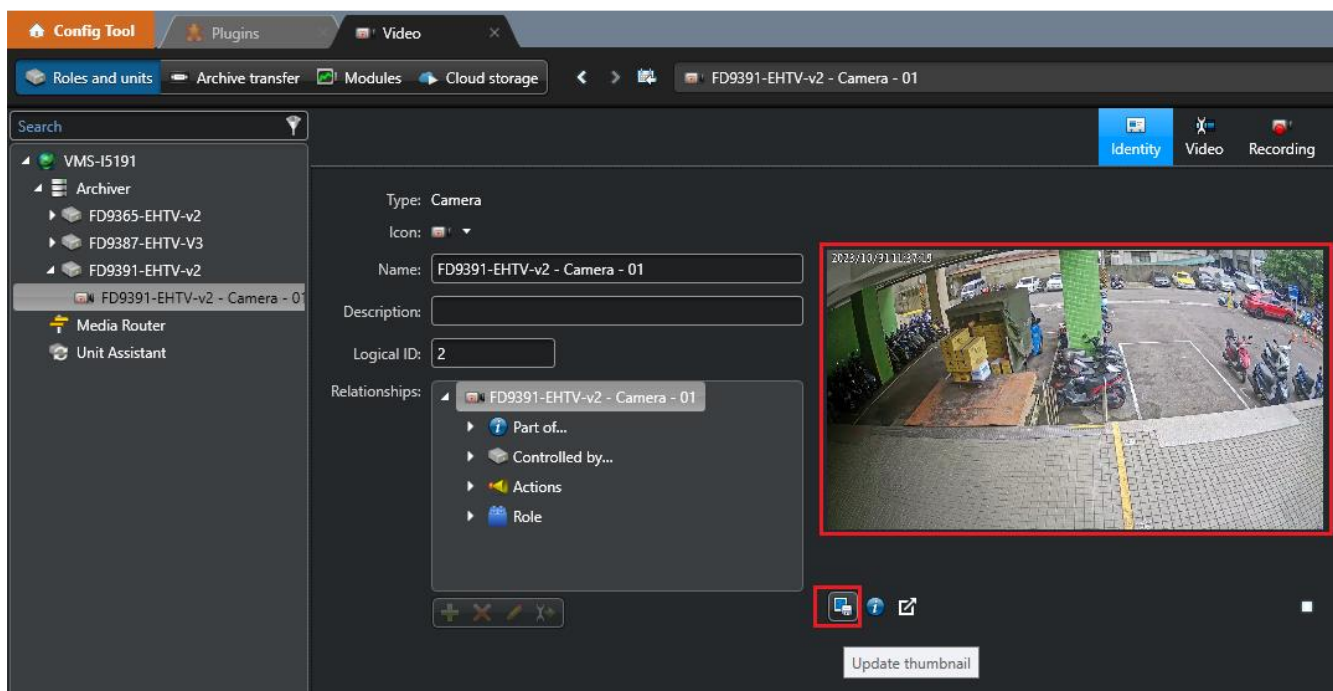


# Enable Server-Side Plug-in

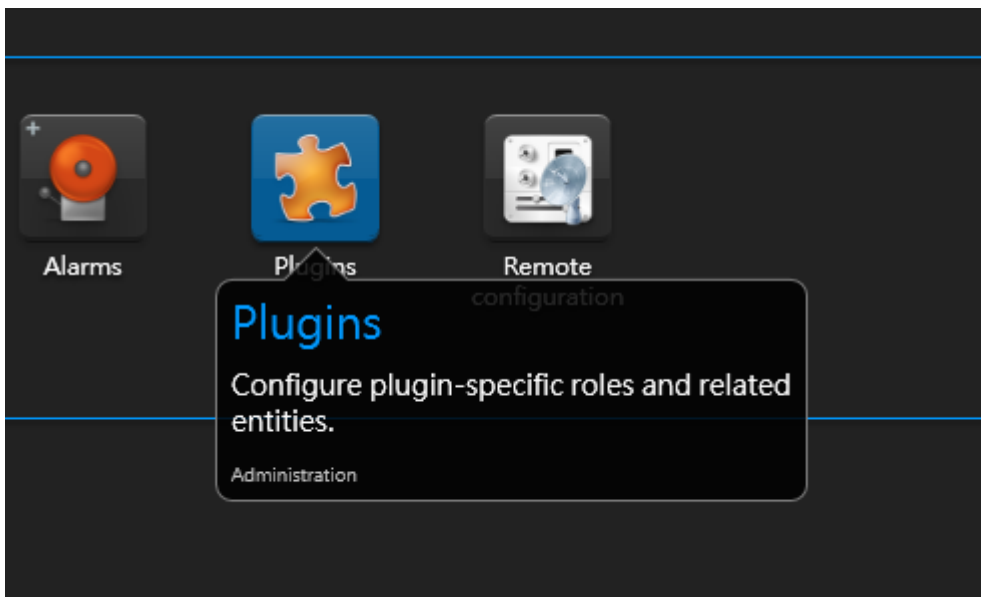
- (1) Open Genetec Security Center – **Config Tool**
- (2) Select “**Video**” task.



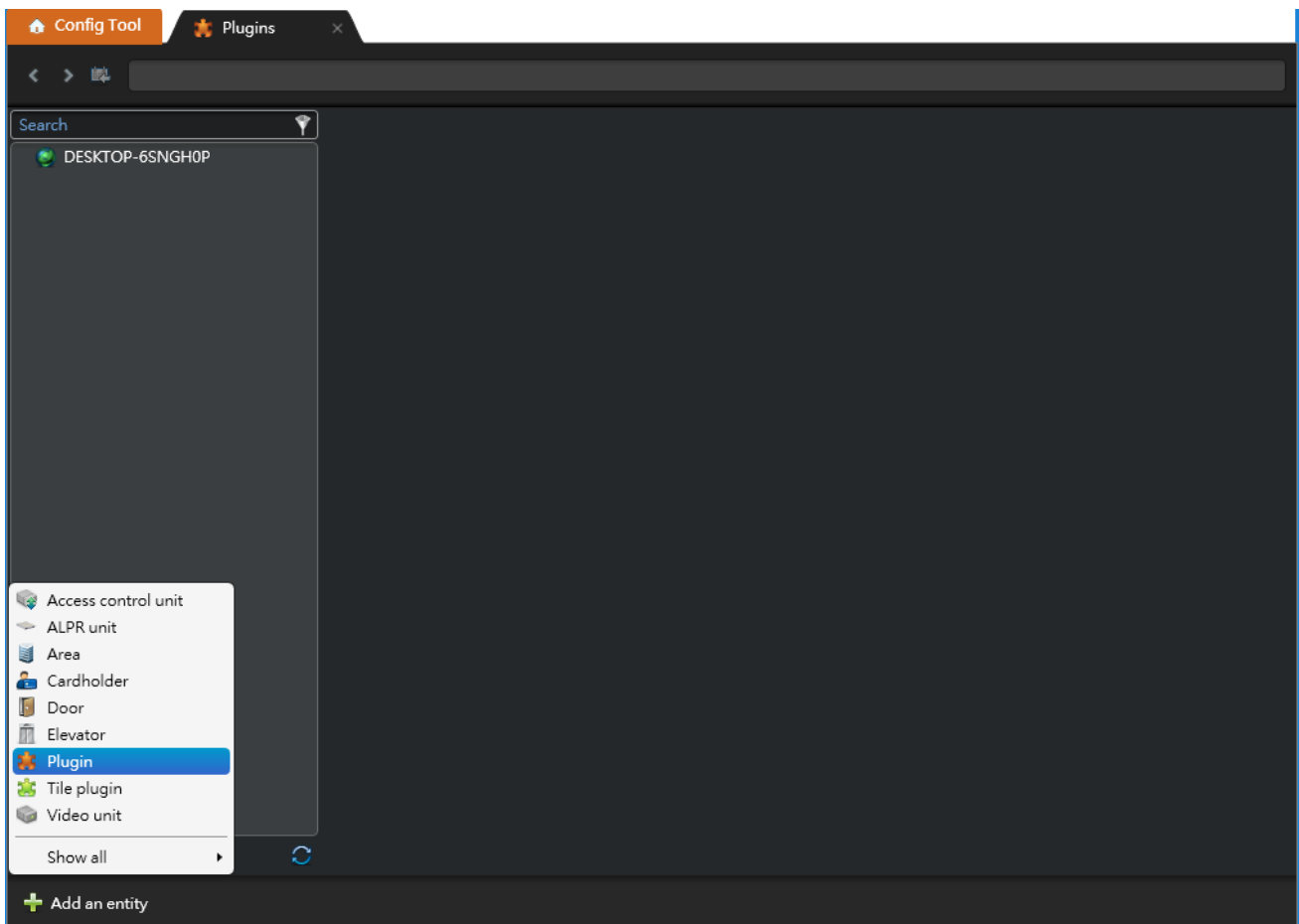
After added cameras into the Archiver, enable “**Continuous recording**” on “**Recording**” section, and enable “**Thumbnail**” and click “**Update thumbnail**” of the camera to get the “Scenes (full screen view for Deep Search Plugin)” for scene search.



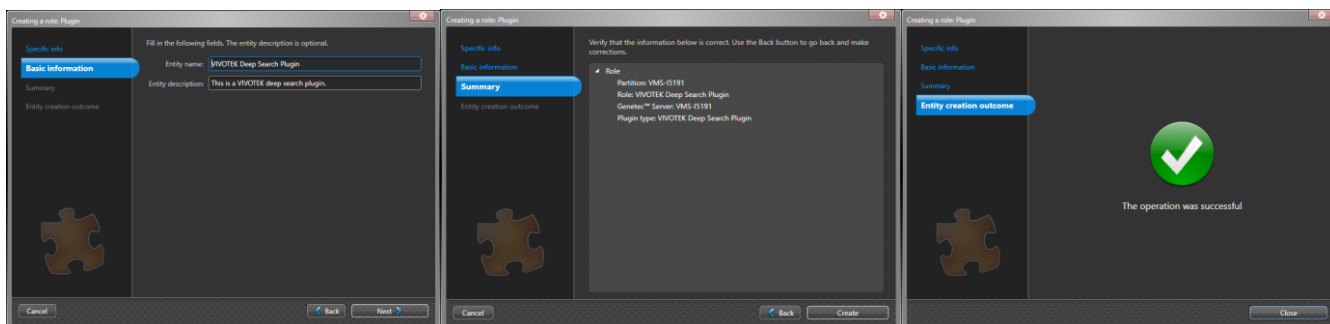
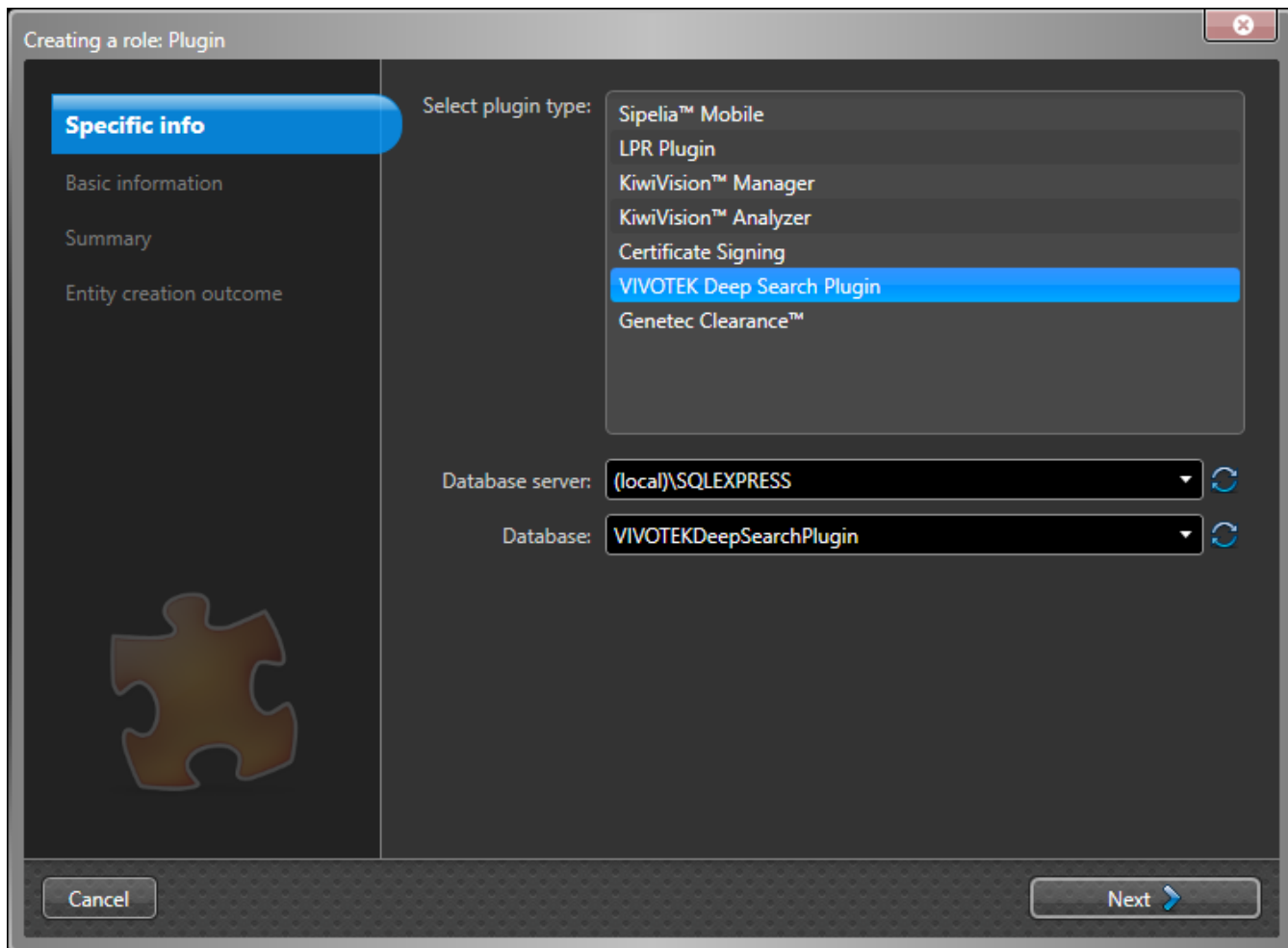
(3) Select the “**Plugins**” task from the Configure Tool.



(4) Click “**Add an entity**” to add a plugin entity.



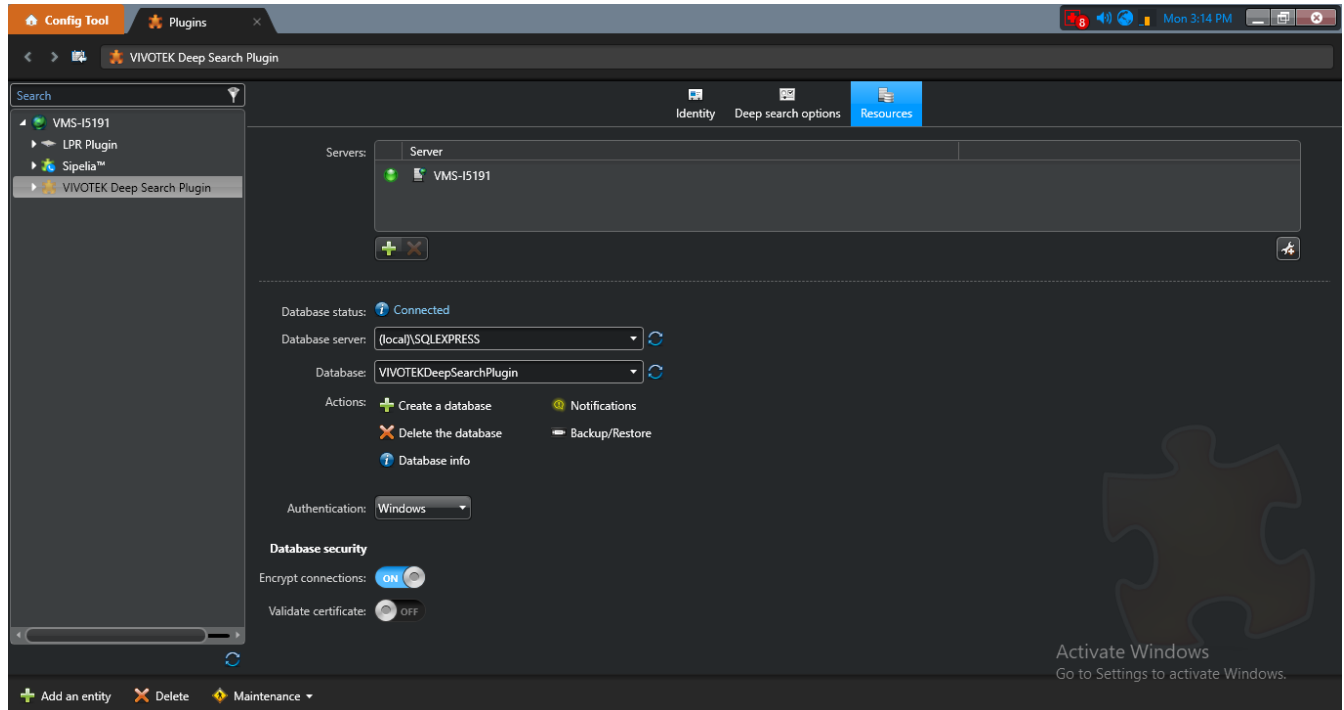
(5) Create a role: "VIVOTEK Deep Search Plugin". Select "VIVOTEK Deep Search Plugin" and go next steps with the default value.



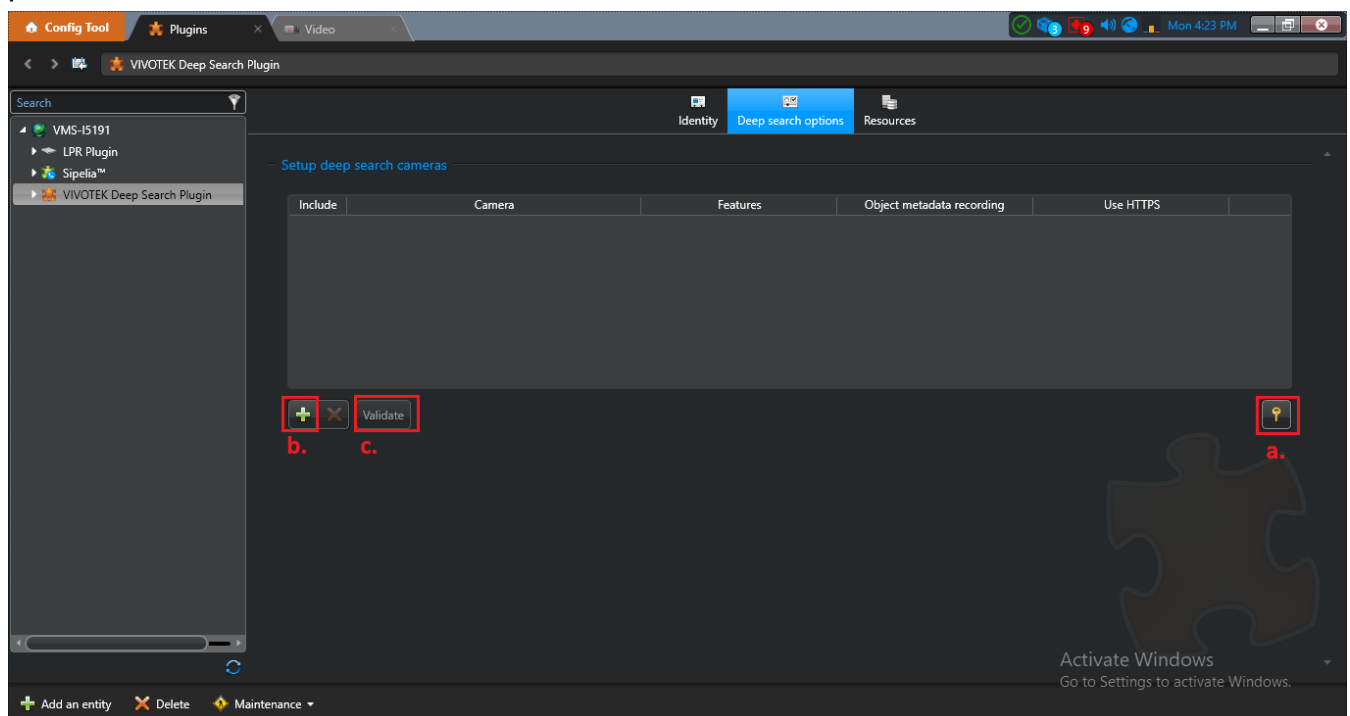
- (6) Click "**VIVOTEK Deep Search Plugin**" and check that "**Database status**" is "**Connected**" in the "**Resources**" section.

This database is only related to the Smart Search Plugin and its database on the Genetec Security Center server.

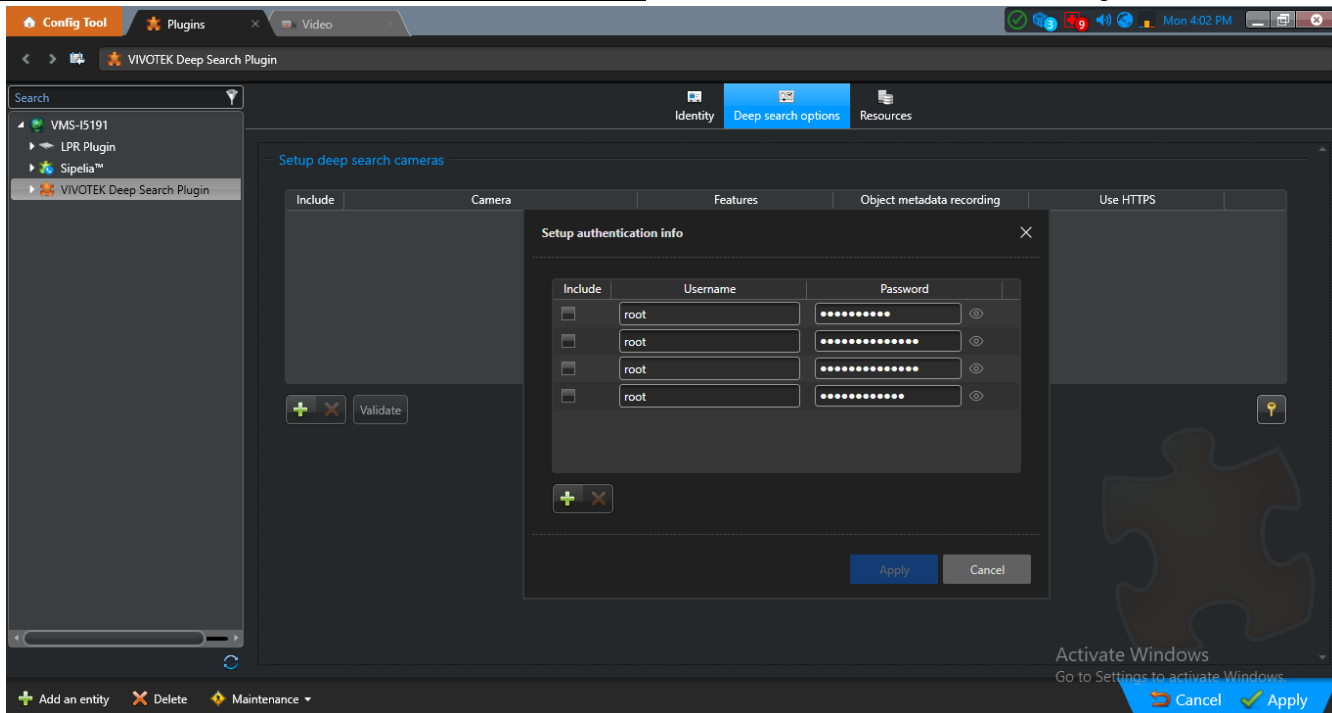
There is another database for the Deep Search Plugin, which is indicated in the above installation process.



- (7) Click "**Deep search options**", where you can manage the deep search cameras from the camera pool from the Archiver.

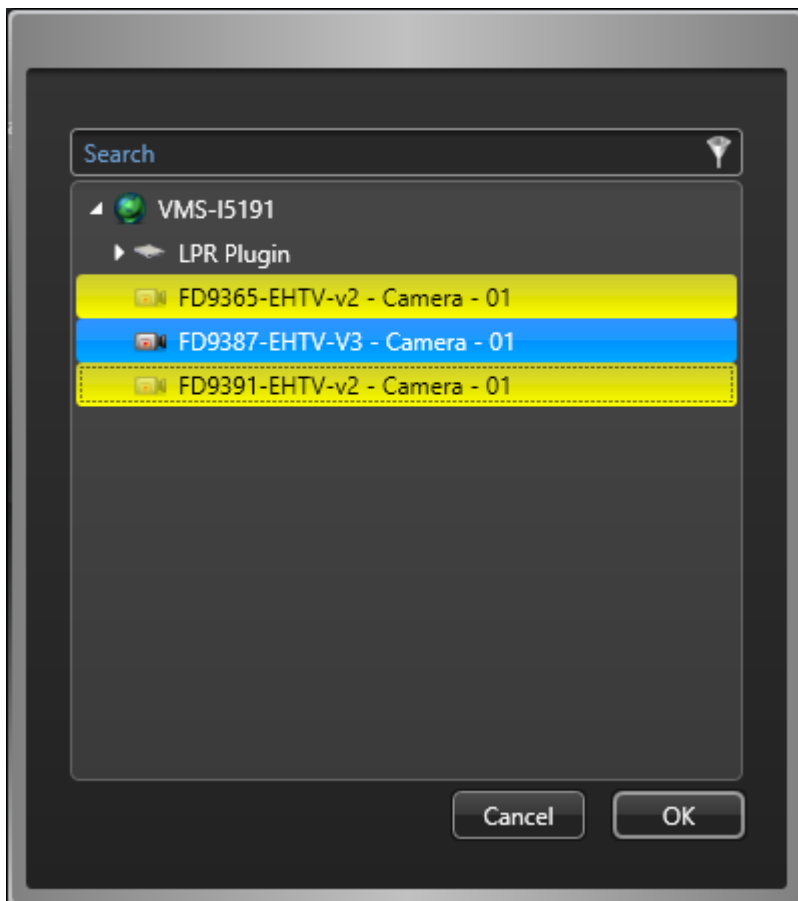


- a. Click the "Key" icon, and the "+" to add the IDs and Passwords of the cameras that are supported by the VIVOTEK attribute search, and click "Apply" to keep those settings.



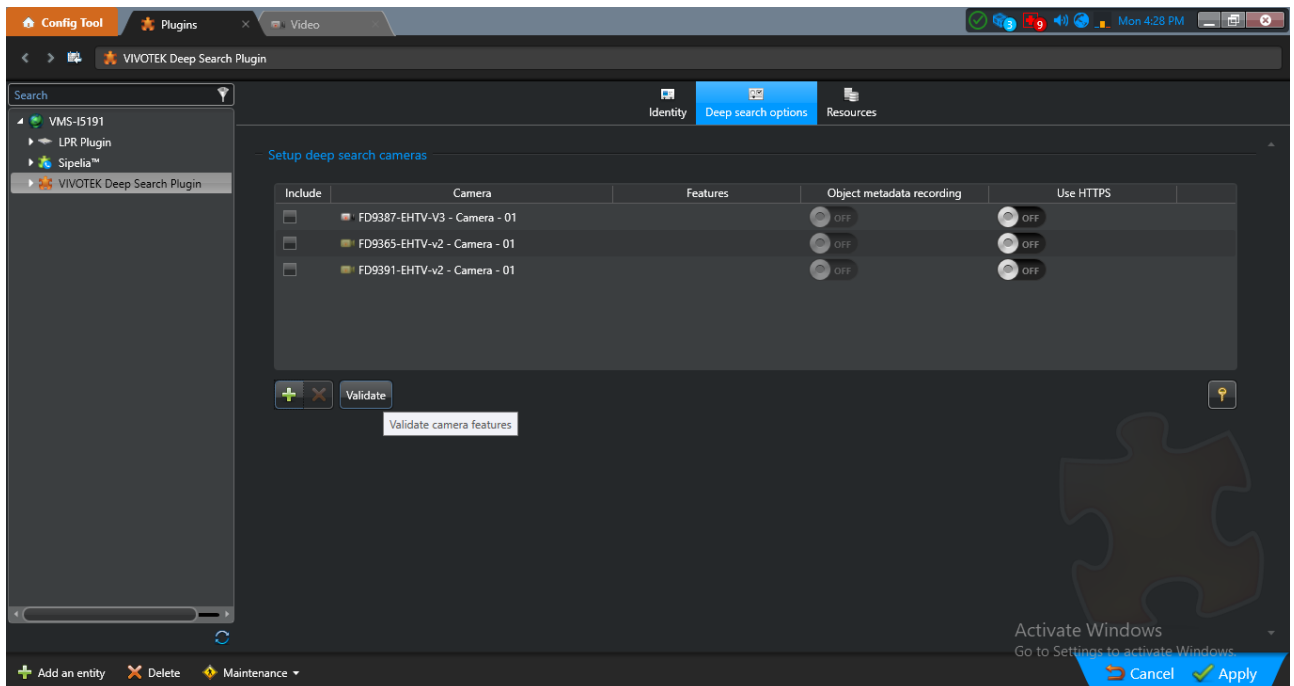
**Note**, if the “Unit password changed” is scheduled by system generated, we would recommend creating a unique ID and password on the camera side for the object metadata transmission without affected by the password changes.

- b. Click “+” to add camera into the deep search camera pool. Choose those cameras that supported by VIVOTEK attribute search with valid license, and then click “OK” to keep those selected cameras.



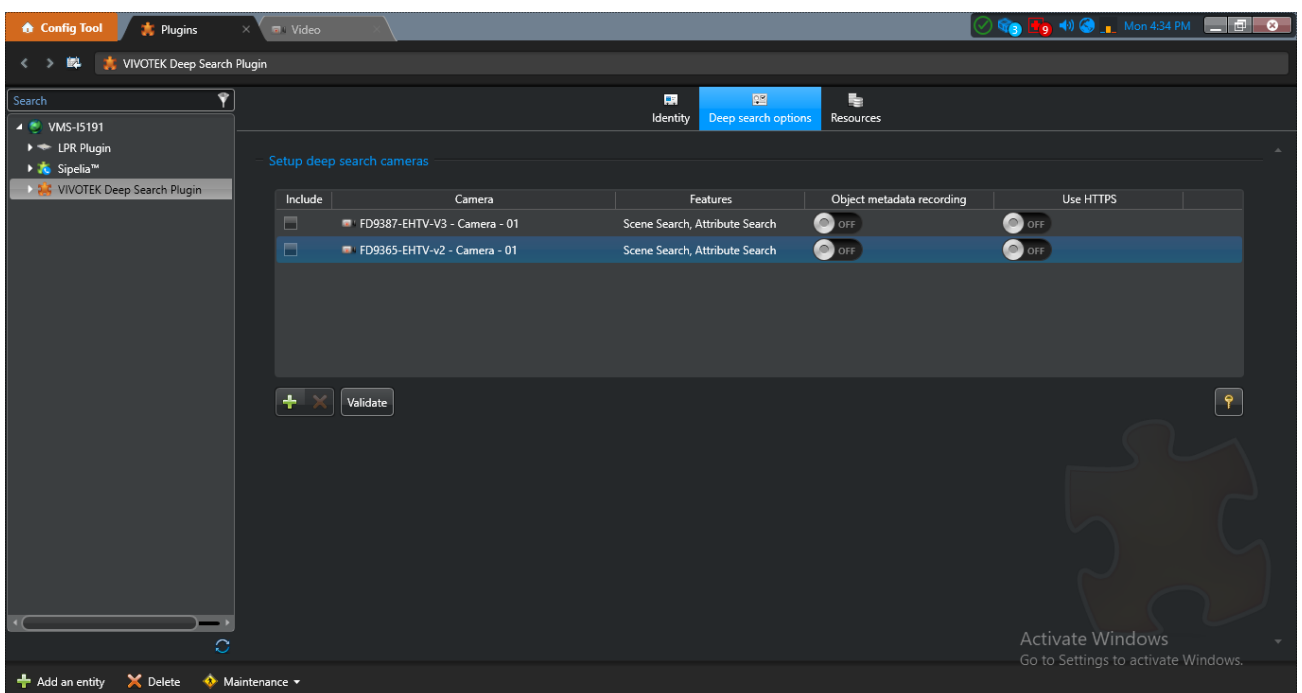
- c. Click “Validate” to verify the camera features



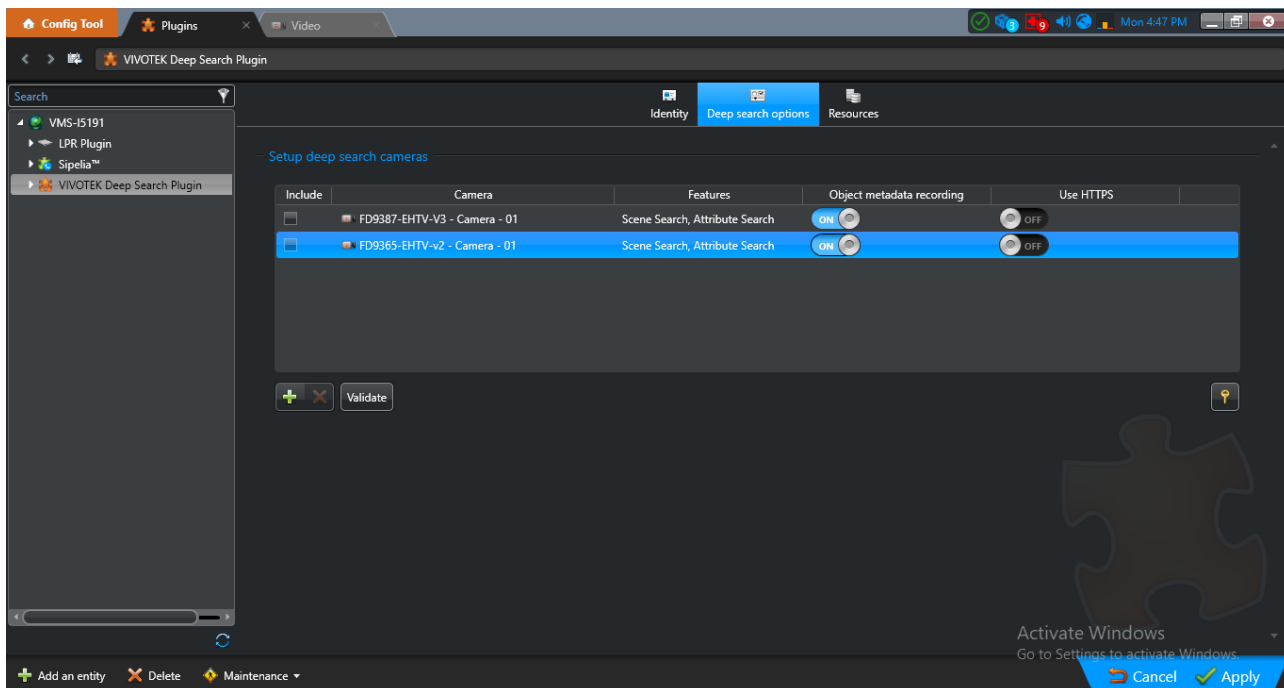


### Features:

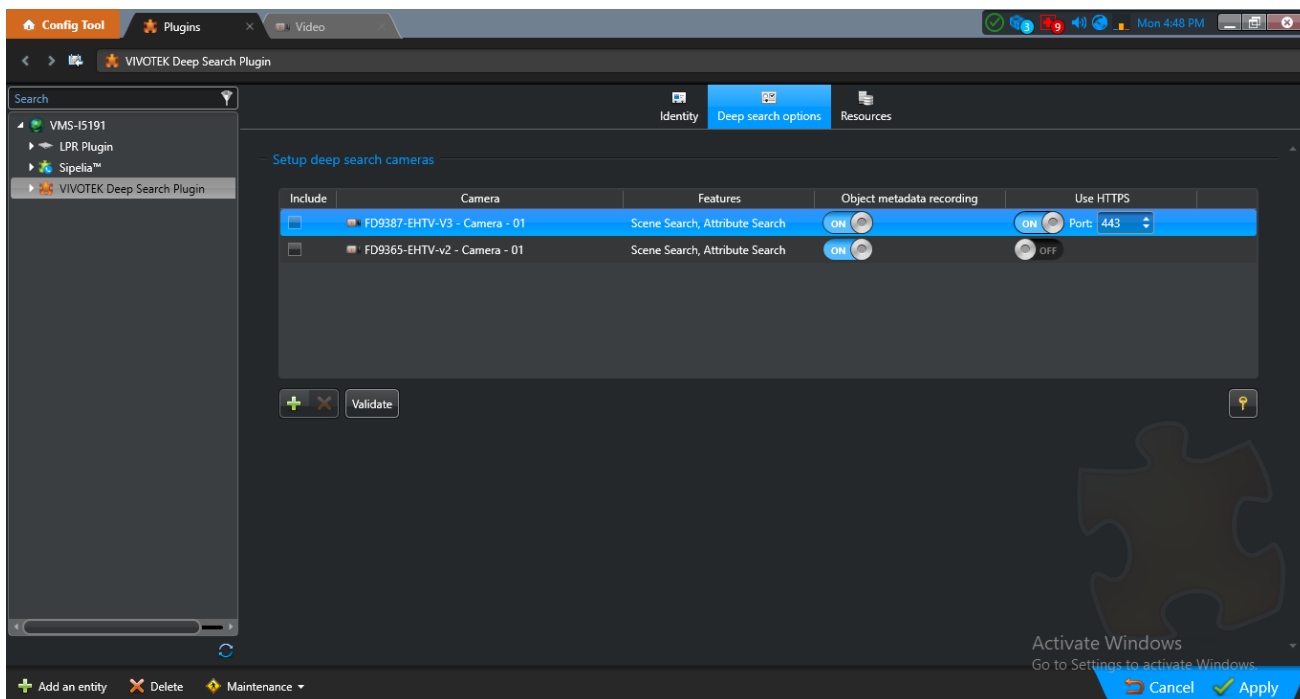
- Invalid: Non-VIVOTEK brand cameras or cameras that cannot connect.
- Not Support: Cameras that do not support the deep search functionality.
- Scene Search: Cameras that support Scene Search.
- Attribute Search: Cameras that support Attribute Search.



- d. Choose the camera that would like to use the Deep Search Plugin, enable the “Object metadata recording”, and then click “Apply”.  
The system will request data from the camera and save it to the database.

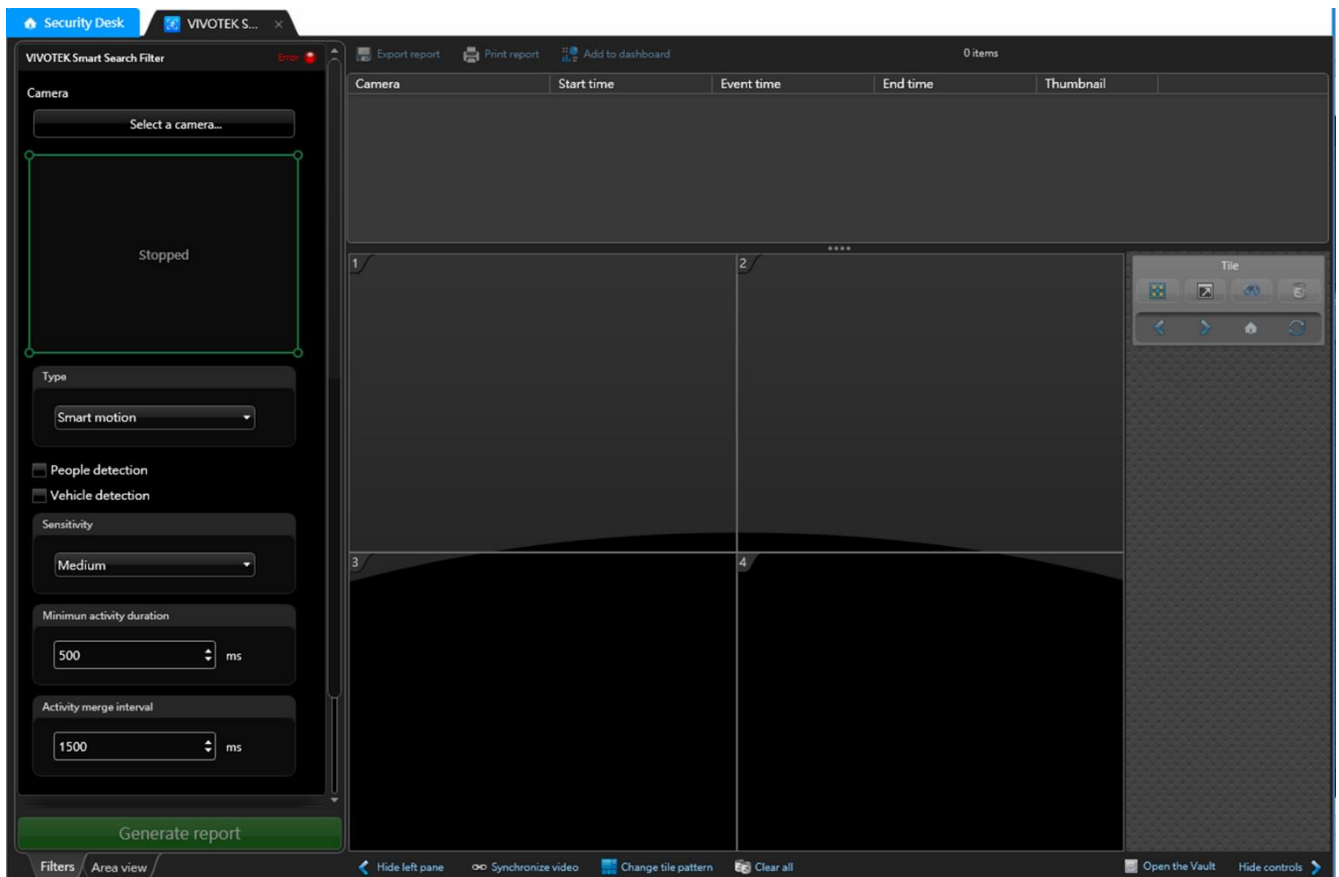


- e. If the cameras are connected to the Genetec Security Center Server by “HTTPS” protocol, please enable “Use HTTPS”, indicate the Port number, and click “Apply”.



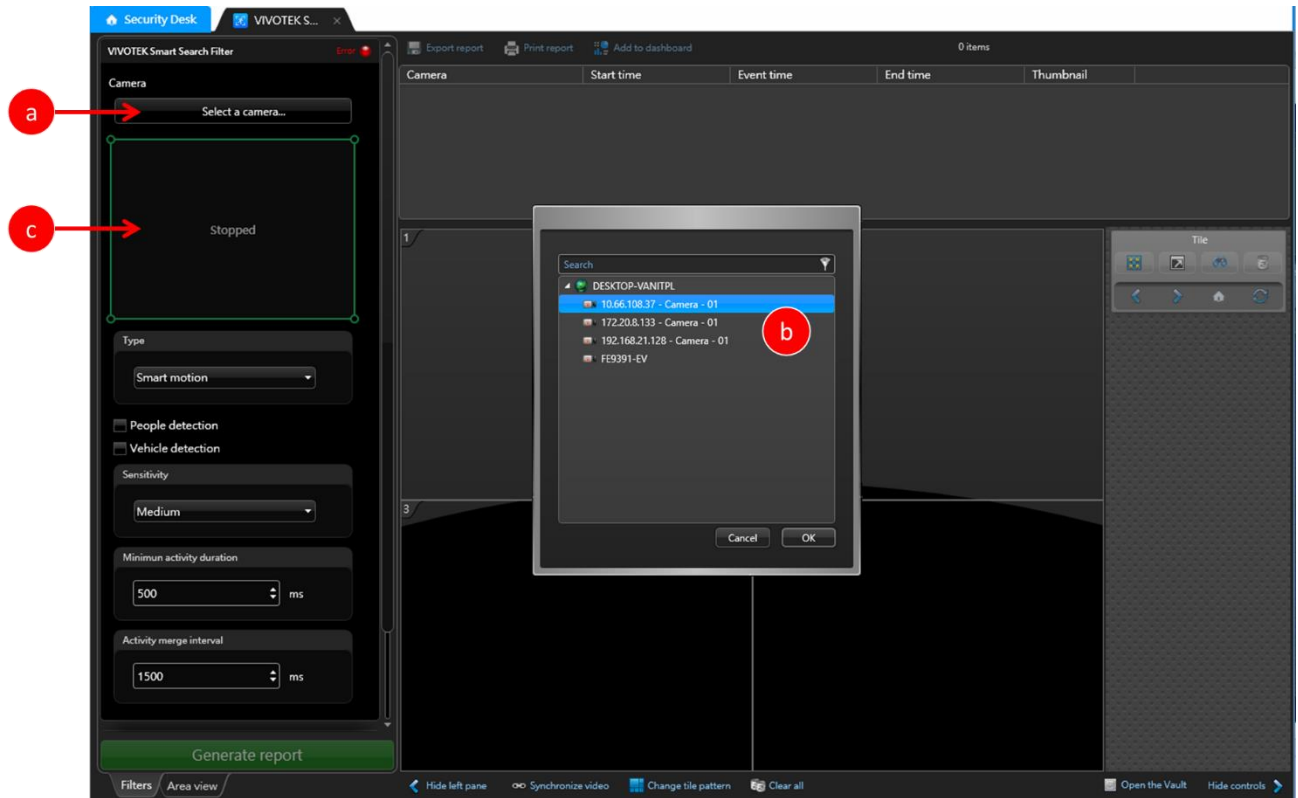
# Search Operation with Client-Side **Smart Search Plug-in**

- (1) Open Genetec Security Center – **Security Desk**
- (2) Select “**VIVOTEK Smart Search**” task in “**Investigation**” group.



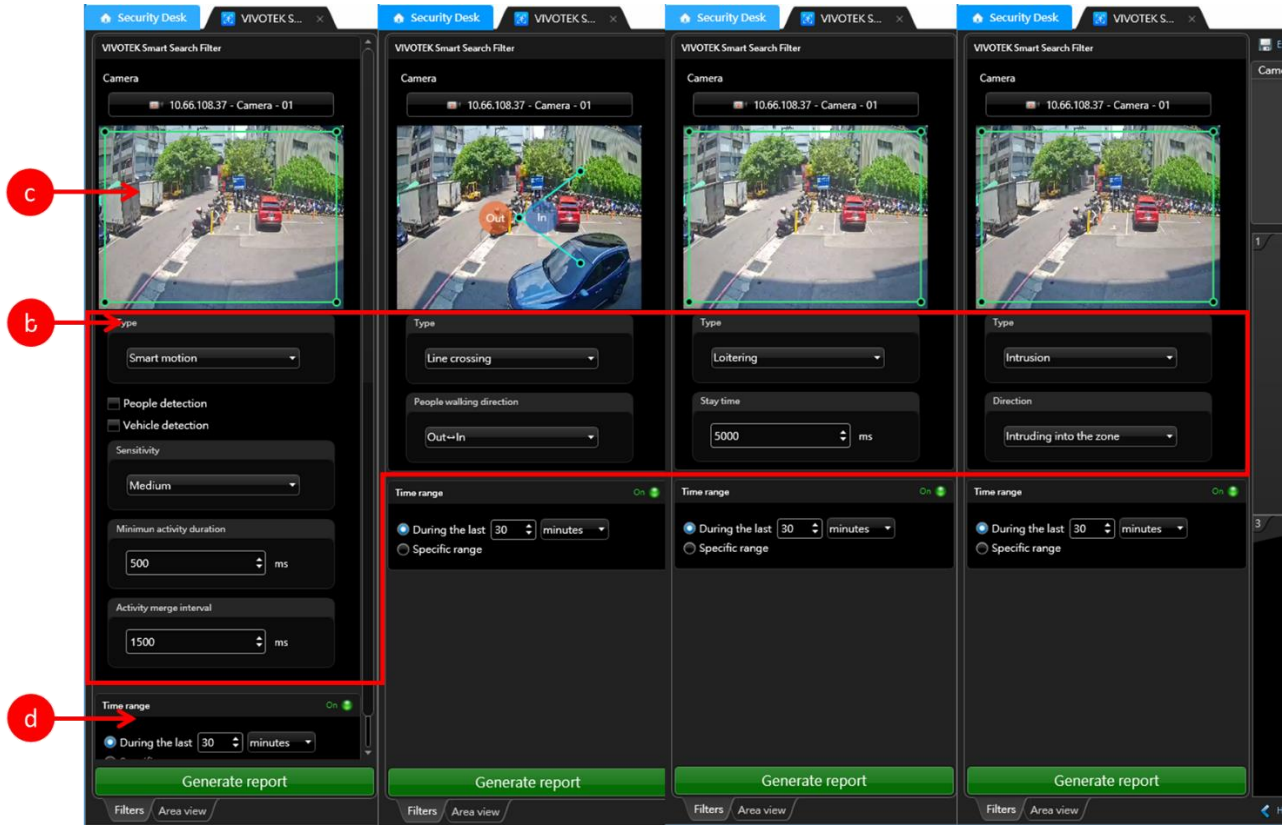
- (3) Select a camera to investigate.
  - a. Click "**Select a camera...**" button to open an entity selection window.
  - b. Select a camera in the entity selection window and click "**OK**".

- c. A live video preview is displayed below "Select a camera..." button when the camera is selected.



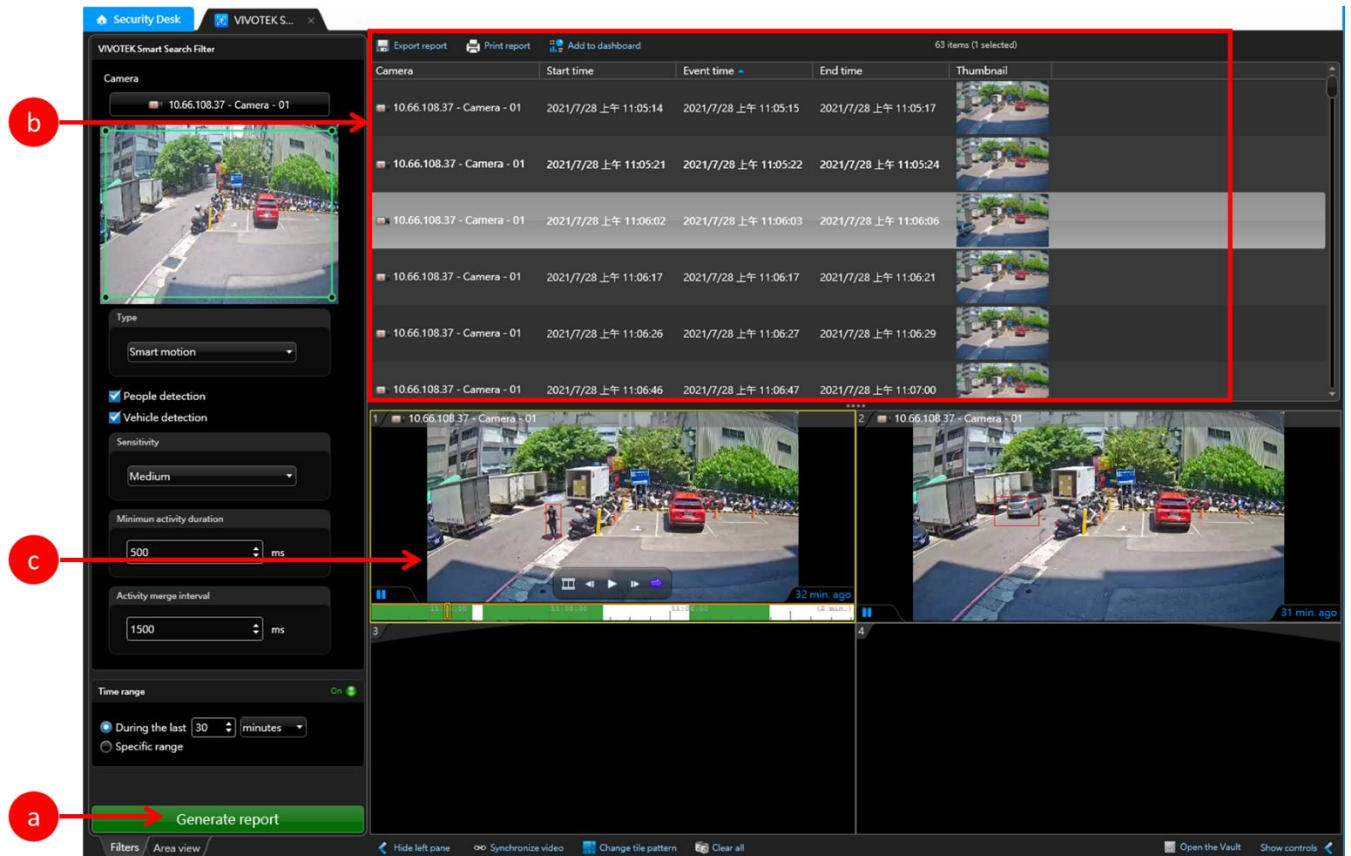
(4) Edit the search filter.

- There are four rule types: Smart motion, Line crossing, Loitering, and Intrusion.
- Select a rule in the "Type" area and configure its properties.
- Adjust the detection polygons or lines by mouse controlling on the preview. Users can click and drag the small circles to adjust the detection fields and right-click on the mouse to reset polygons or lines.
- Set the "Time range" to select a time range for the report.



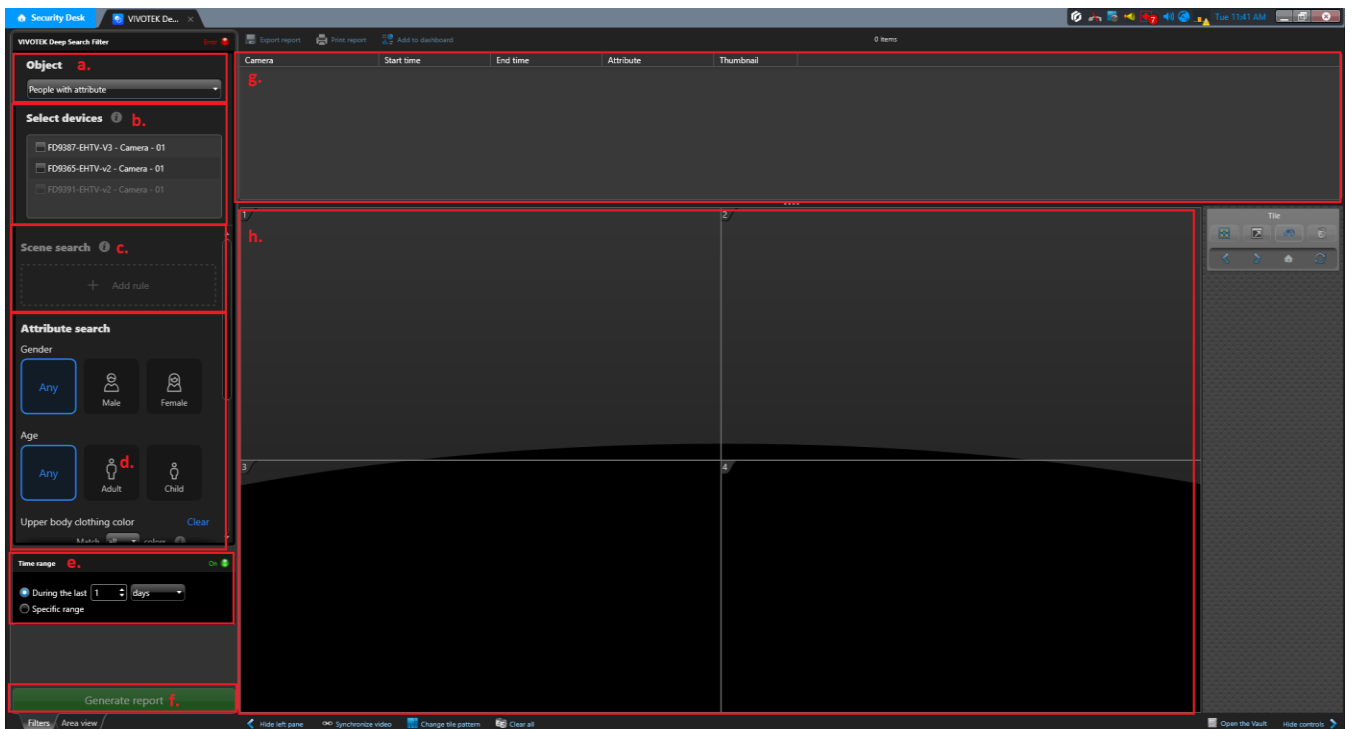
(5) Click **“Generate report”** button to start search.

- a. Click **“Generate report”** button.
- b. The search results are listed in the report pane after a few seconds.
- c. When double-clicking on a row of the report, the tile in the canvas will play the associated camera video from the start time.



# Search Operation with Client-Side **Deep Search Plug-in**

- (1) Open Genetec Security Center – **Security Desk**.
- (2) Select “**VIVOTEK Deep Search**” task in “**Investigation**” group.



- a. Choose the “**Object**”: People with attribute, People, Vehicle with attribute, Vehicle.
- b. Choose the camera from “**Select devices**”.  
Only devices listed in the “Setup deep search cameras” within the “Config Tool” will be displayed in the “Select device list” list.  
The camera name in white text color is a supported item; otherwise, it is gray color.
- c. Add rule from the “**Scene Search**”.

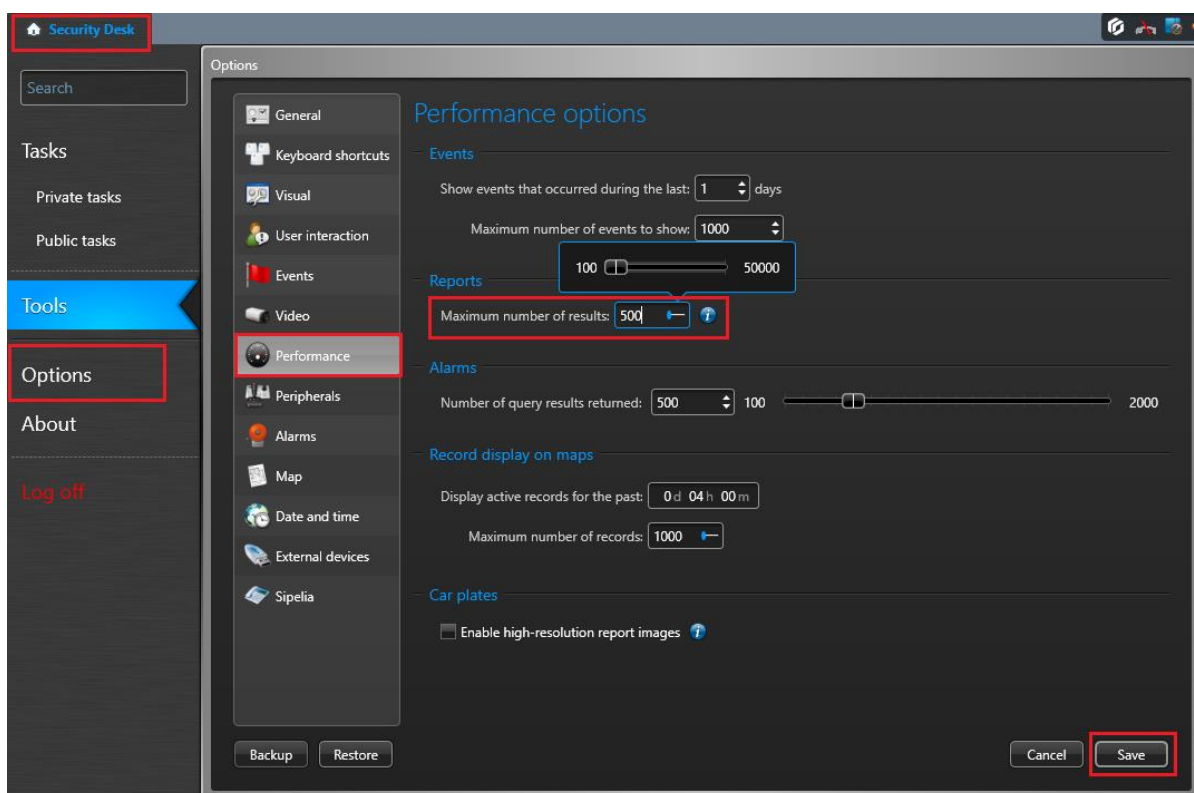
Filter by rule is supported only on a single camera.

- d. Select the search criteria from the “**Attribute search**”.
  - People attributes:
    - Gender: Any, Male, Female
    - Age: Any, Adult, Child
    - Upper body clothing color: Red, Orange, Yellow, Green, Blue, Purple, Pink, Gray, Brown, White, Black
    - Lower body clothing color: Red, Orange, Yellow, Green, Blue, Purple, Pink, Gray, Brown, White, Black
    - Accessories: Bag, Hat

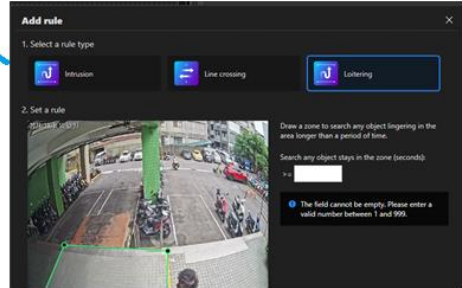
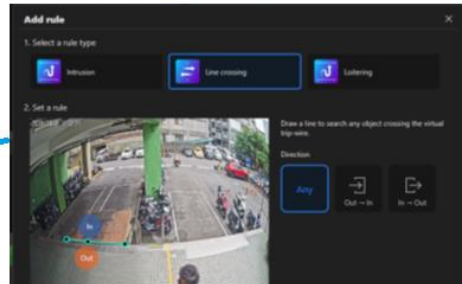
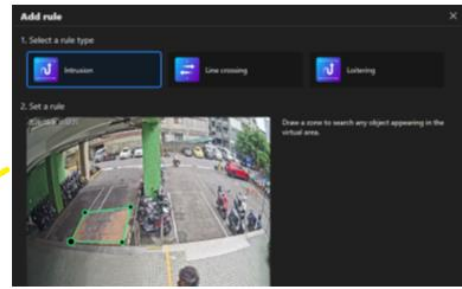
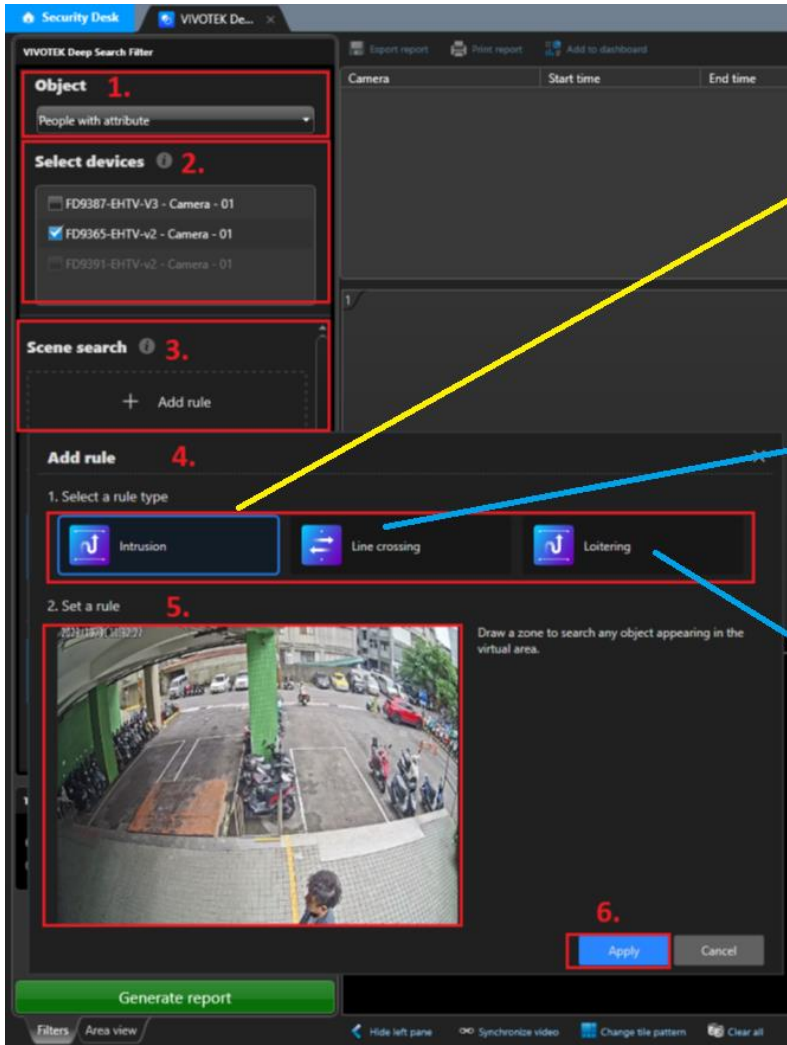
Color and Accessories with “All” / “Any” option, and limited the max. three (3) color options.
  - Vehicle attributes:
    - Vehicle type: Any, Car, Truck, Bus, Motorcycle, Bike
    - Color: Red, Orange, Yellow, Green, Blue, Gray, Brown, White, Black

Motorcycles and bikes do not support color attributes.  
Color with “All” / “Any” option, and limited the max. three (3) color options.
- e. Set the “**Time range**” to select a period for the report.
- f. Click the “**Generate report**” button to start research.
- g. The “**Search Results**” are listed in the report panel after a few seconds.  
If the objects with attribute data, it will also show the results with thumbnails (best shots).
- h. Doblue-clicking on a row of the report, the tile videos will play the associated camera video from the start time.

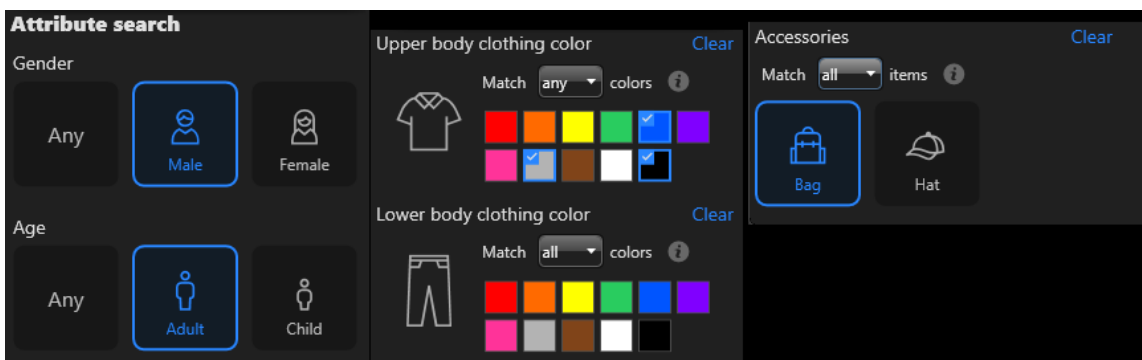
(3) **Report Setting:** The default max. number of results is 500 items (100 – 50,000). If the results are more than the max. number of (report) results, it will show a notice on the top: Number of query results exceeds the maximum configured. Not all results will be displayed. Refine your search and try again. You may adjust the max. number of the results from the Performance options or give more specific attribute filters to narrow down the results.



**Sample 1: Search “People with attribute” and “Scene search” in a camera.**



1. Choose “**Object**”: “**People with attribute**”
2. Select device.
3. Click the “**+ Add rule**” button.
4. Select a rule type: Intrusion Detection, Line Crossing Detection, and Loitering Detection.
5. Click on the camera snapshot to set up the rule points (detection area/position).  
Adjust the detection polygons or lines by mouse controlling the preview. Users can click and drag the small circles to adjust the detection fields and right-click on the mouse to reset polygons or lines.
6. Click “**Apply**”.
7. Edit people attributes: “**Gender**”, “**Age**”, “**Upper body clothing color**”, “**Lower body clothing color**”, and “**Accessories**”.





8. Click **“Generate Report”** to get the filtered results.

The screenshot shows the VIVOTEK Security Desk interface. On the left, there are filter panels for 'Lower body clothing color' and 'Accessories'. The main area displays a table of search results with columns for Camera, Start time, End time, Attribute, and Thumbnail. Below the table is a video player showing a scene with a truck and a person. The interface includes various controls like 'Generate report', 'Export report', and 'Print report'.

Camera	Start time	End time	Attribute	Thumbnail
FD9365-EHTV-v2 - Camera - 01	10/31/2023 1:04:34 PM	10/31/2023 1:04:48 PM	Age: Adult Gender: Male Accessories: Bag UpperColor: Gray LowerColor: Brown	
FD9365-EHTV-v2 - Camer...	10/31/2023 1:05:18 PM	10/31/2023 1:05:26 PM	Age: Adult Gender: Male Accessories: Bag UpperColor: Gray LowerColor: Blue, Black	

Sample 2: Search **“Vehicle in multiple cameras.”**

1. Choose **“Object”**: **“Vehicle with attribute”**
2. Select devices.
3. Edit vehicle attributes: **“Vehicle type”** and **“Color”**.
4. Click **“Generate Report”** to get the filtered results.

The screenshot shows the VIVOTEK Security Desk interface with search filters applied. The left sidebar includes 'VIVOTEK Deep Search Filter' with 'Object' set to 'Vehicle with attribute', 'Select devices' with two cameras selected, 'Vehicle type' set to 'Truck', and 'Color' set to 'Blue'. The main table shows two results for 'FD9365-EHTV-v2 - Camera - 01' with attributes like Color and Type. A video player shows a scene with a truck.

Camera	Start time	End time	Attribute	Thumbnail
FD9387-EHTV-V3 - Camera - ...	10/31/2023 12:25:53 PM	10/31/2023 12:25:58 PM	Color: Blue Type: Truck	
FD9365-EHTV-v2 - Camer...	10/31/2023 2:13:00 PM	10/31/2023 2:13:02 PM	Color: Blue Type: Truck	