Industrial IoT with Triton 3D Sensors Monitoring using HTTP

Integration guide

Unification Group
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Contents

Integration guide for Triton Sensors system with Industrial IoT plug-in

Introduction

The Triton Sensors can be integrated into Genetec Security Center Video Management Software. This integration requires the Genetec Industrial IoT plugin to be installed and licensed. See Genetec Industrial IoT Plugin Guide 5.0.2 for installation and setup instructions.

The Industrial IoT plugin allows data transmission to Security Center through different transmission protocols. In this guide, data is sent from the Triton Sensors system to Security Center through Hypertext Transfer Protocol (HTTP).

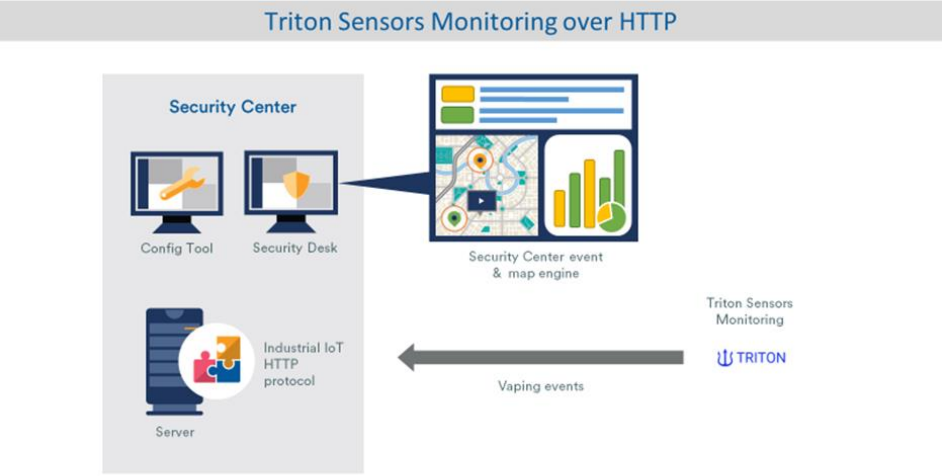

Triton Sensors Monitoring over HTTP
Security Center
Config Tool
Security Desk
Security Center event & map engine
Industrial IoT HTTP protocol
Server
Triton Sensors Monitoring
TRITON
Vaping events

Figure 1

Note: This integration was tested using version 5.11.1 of Genetec Security Center and IIoT 5.0.2.

Triton Sensor monitoring – Vaping Detection

This document describes using Triton sensors to detect vaping and report to Genetec. A camera can be attached to each sensor providing visual verification of the area. This integration will allow display “Live” and “Playback” video related to each vaping detection. We can display live status of sensor on map, provide report and dashboard with graphical representation of events over time.

IT Requirements

- Open IP port 56789 and forward to IIoT server
- Make sure Triton Sensors system can reach IIoT server (Public/Private IP address)

Instructions

1. GENETEC CONFIG TOOL – Industrial IoT plugin configuration

1.1 Create an Industrial IoT plugin instance

a) Log on Config Tool using your administrator credentials.

b) In the **Tasks** tab, in the **Administration** section, click on the **Plugins** icon.

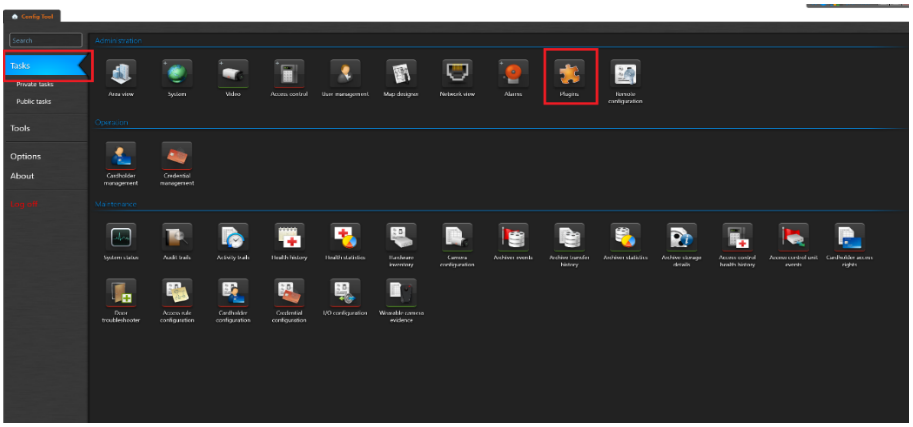
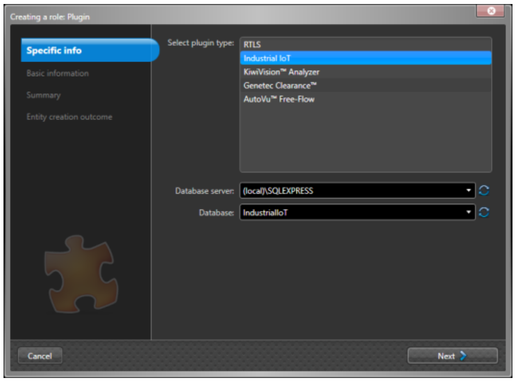


Figure 2

c) In the plugins tab, click on the **green plus (+) button** at the bottom left of the screen and from the drop-down menu select the **Plugin** option.

d) In the pop-up window, select the **Industrial IoT** plugin type. The Database server field and database field should be filled in by default. You can rename the plugin in the **Basic Information** tab if needed. Otherwise just click **Next** and finish creating the role.



Select plugin type: RTLS, Industrial IoT, KiwiVision™ Analyzer, Genetec Clearance™, AutoVu™ Free-Flow

Database server: (local)\SQLEXPRESS

Database: IndustrialIoT

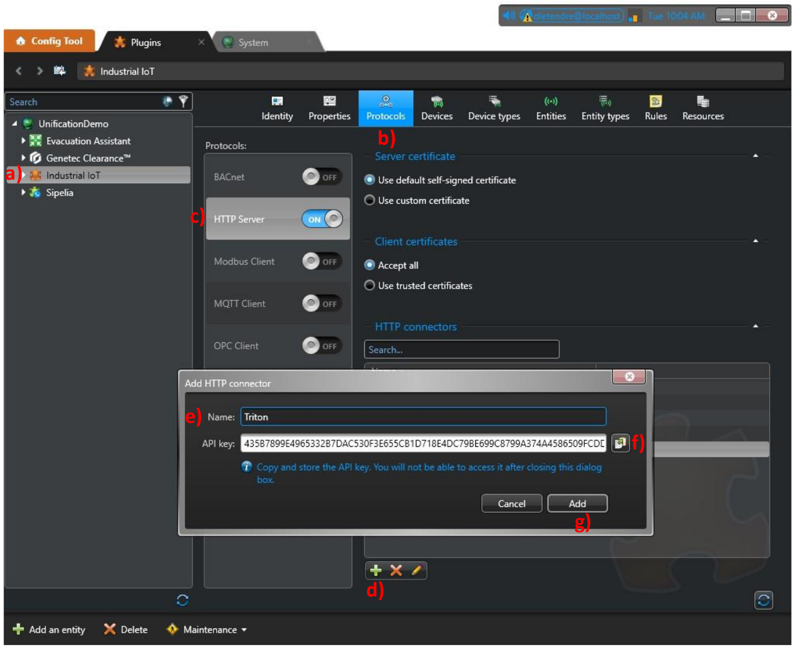
Figure 3

1.2 Create and configure an HTTP connector

a) Select your plugin instance in the tab on the left-hand side of the screen.
b) Select the **Protocols** tab.
c) Select **HTTP Server**
d) Click on the **green plus (+) button** at the bottom of the **HTTP connectors box** to add an HTTP connector.
e) In the **Name** text field, enter a name for the connector (In this example, it is Triton).
f) Click the **Copy to clipboard** to copy the API key.

Note: The **API key** cannot be recovered afterward and will need to be provided to Triton.

g) Click the **Add** button.
h) Click on the **Apply** button at the bottom right of the screen.



● Use default self-signed certificate
○ Use custom certificate

● Accept all
○ Use trusted certificates

Name: Triton
API key: 435B7899E4965332B7DAC530F3E655CB1D718E4DC79BE699C8799A374A4586509FCDE

Copy and store the API key. You will not be able to access it after closing this dialog box.

Figure 4

2. GENETEC CONFIG TOOL – Configuration devices from device type

Version 5.0.2 of the Industrial IoT plugin comes with predefined type that can be easily imported. It is possible to import and export configuration pre-sets for a device type through JSON files. These settings can include data point, event, custom state configurations and rules configured with that device type.

Note: When a device type is imported, its rules will create a warning on the Industrial IoT plugin. The reason this happens is because the **alarm** and **event** fields of each rule will be empty. The rules therefore need to be linked to the alarms and events of your choice for the warning to disappear.

2.1 Import the preconfigured device type

a) Open the Config Tool app and login with administrator credentials.
b) Click on the **Plugins** task.
c) Select the **Industrial IoT** plugin instance on the left-hand side of the screen.
d) Click on the **Device types** tab.
e) Click on **import**, select **HTTP_Triton_Device_Type_V5_0_2.json** file, and click **Open.**

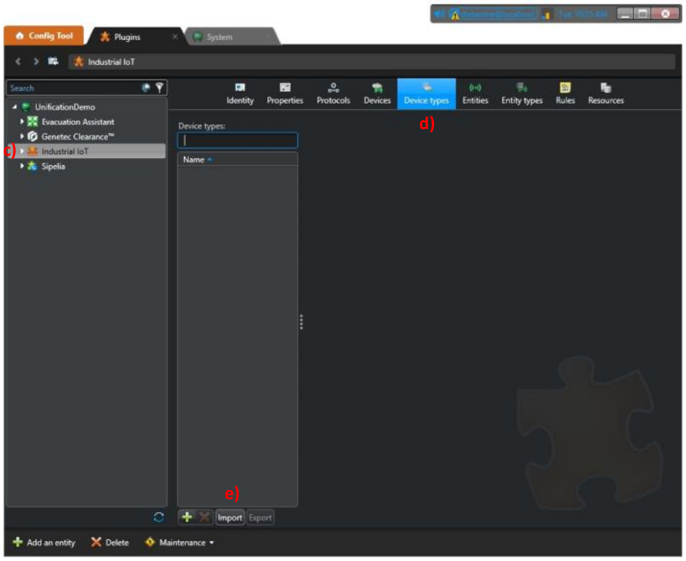
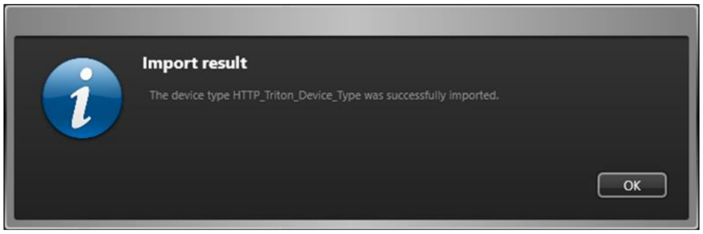


Figure 5

g) Click **OK.**



Import result

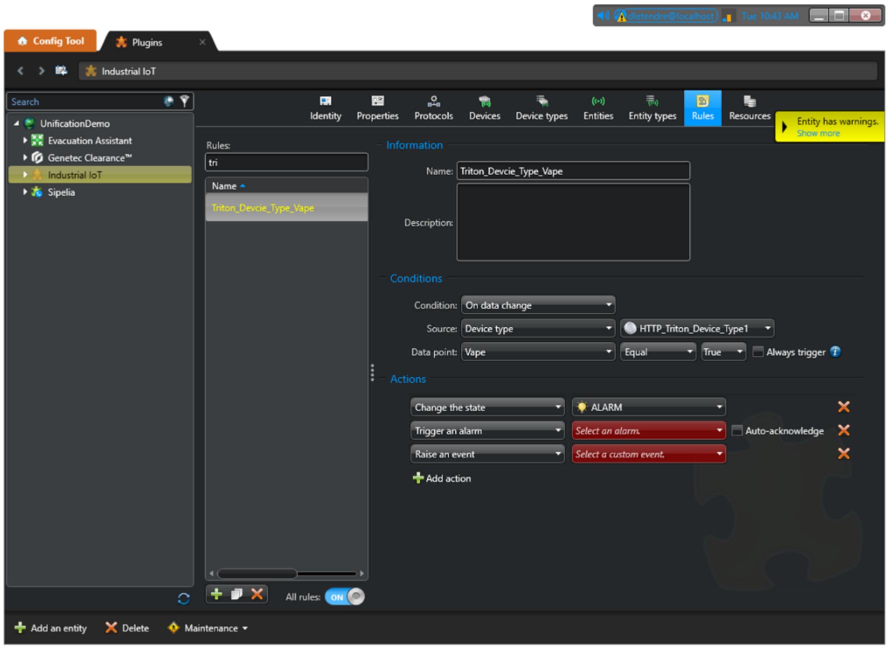
The device type HTTP_Triton_Device_Type was successfully imported.

Figure 6

2.2 Adjust imported rule

As mentioned previously, Industrial IoT will generate “Warnings” as imported rules will need to be re-attached to events and alarms present in your system. First you need to define the required custom event and alarms. In this example, 1 event and 1 alarm are used.

a) Access the **Rules** tab. Rules with a “Warning” condition will appear in yellow color.



Rules: tri

Name: Triton_Devcie_Type_Vape

Information

Name: Triton_Devcie_Type_Vape

Description:

Conditions

Condition: On data change

Source: Device type | HTTP_Triton_Device_Type1

Data point: Vape | Equal | True | □ Always trigger

Actions

Change the state | ALARM

Trigger an alarm | Select an alarm. | □ Auto-acknowledge

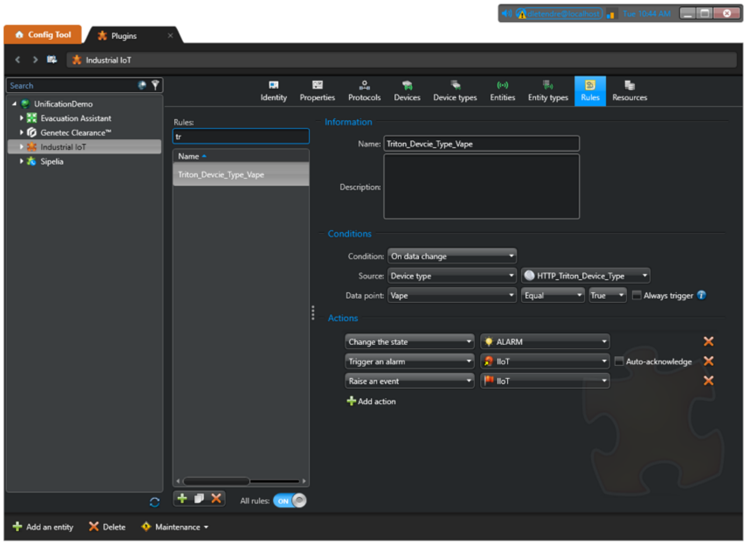
Raise an event | Select a custom event.

Figure 7

b) Select the rule and assign the appropriate alarm and event.

c) Click **Apply.**

d) Once completed, the adjusted rule will turn white. When all rules have been adjusted, the “Warning” will disappear.



Rules: tr

Name: Triton_Devcie_Type_Vape

Information

Name: Triton_Devcie_Type_Vape

Description:

Conditions

Condition: On data change

Source: Device type | HTTP_Triton_Device_Type

Data point: Vape | Equal | True | □ Always trigger

Actions

Change the state | ALARM

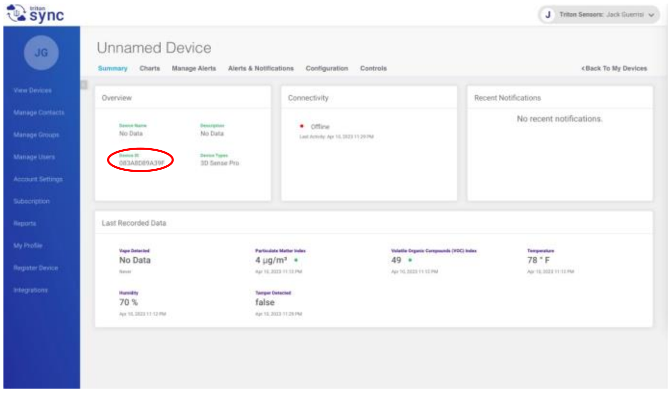
Trigger an alarm | IIoT | □ Auto-acknowledge

Raise an event | IIoT

Figure 8

2.3 Create a device using the device type

a) Select your plugin instance in the tab on the left-hand side of the screen.
b) Select the **Devices** tab.
c) Click on the **green plus (+) button** at the bottom of the screen to add a device.
d) In the **Name** text field, enter a name for the device (In this example, it is “Triton1”). We recommend using the same name as in **Triton sync** for easier referencing.
e) The **Type** field should be set **HTTP_Triton_Device_Type.**
f) In the **Protocol** field, select **HTTP Server.**
g) The **HTTP connector** field should appear. Select the connector that was previously created (in this example, it is “Triton”).
h) The **Device ID** field should appear. The **Device ID** will be used as the unique identifier for this integration. It will be the MAC address of the Triton sensor. Enter your device MAC address as it appears under **Device ID** in **Triton sync**.



Unnamed Device

Overview

Device Name: No Data
Description: No Data
Device ID: 083A8D89A39F
Device Type: 3D Sense Pro

Connectivity

Offline

Recent Notifications

No recent notifications.

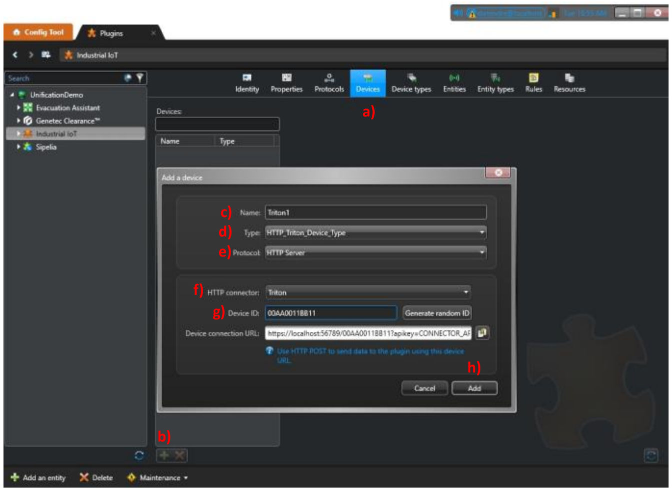
Last Recorded Data

Vape Detected: No Data
Particulate Matter Index: 4 µg/m³
Volatile Organic Compounds (VOC) Index: 49
Temperature: 78 ° F
Humidity: 70 %
Tamper Detected: false

Figure 9

i) Click on the **Add** button.
j) Click on the **Apply** button at the bottom right of the screen.

The device is now created and can be selected under the instance of Industrial IoT on the left-hand side of the screen.



Add a device

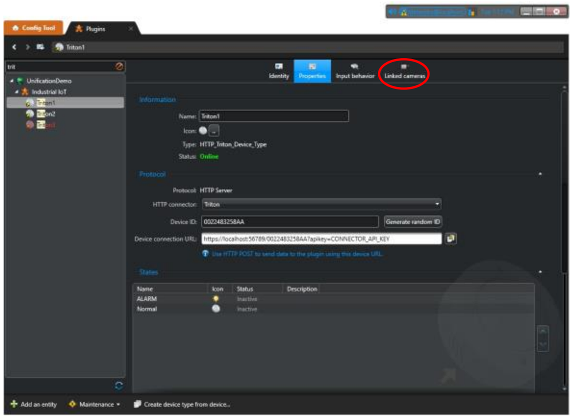
Name: Triton1
Type: HTTP_Triton_Device_Type
Protocol: HTTP Server
HTTP connector: Triton
Device ID: 00AA0011BB11
Device connection URL: https://localhost:56789/00AA0011BB11?apikey=CONNECTOR_AF

Figure 10

3. GENETEC CONFIG TOOL – Assigning Camera

3.1 Adding a camera to the Triton Device (Detector)

a) Select the appropriate device in the tree view in the left section.



Information

Name: Triton1

Type: HTTP_Triton_Device_Type

Status: Online

Protocol

Protocol: HTTP Server

HTTP connector: Triton

Device ID: 0022483258AA Generate random ID

Device connection URL: https://localhost:56789/0022483258AA?apikey=CONNECTOR_API_KEY

Use HTTP POST to send data to the plugin using this device URL.

States

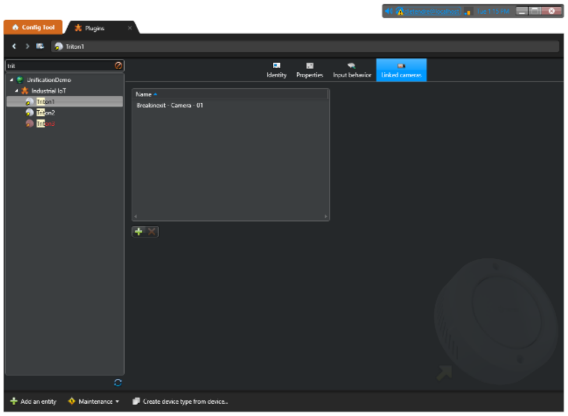
Name	Icon	Status	Description
ALARM		Inactive	
Normal		Inactive	

Figure 11

b) Click the **Linked cameras** icon.

c) Click on the **green plus button** at the bottom of the screen to add a camera.

d) Select the appropriate camera and click **OK.**



Name
Breakinexit - Camera - 01

Figure 12

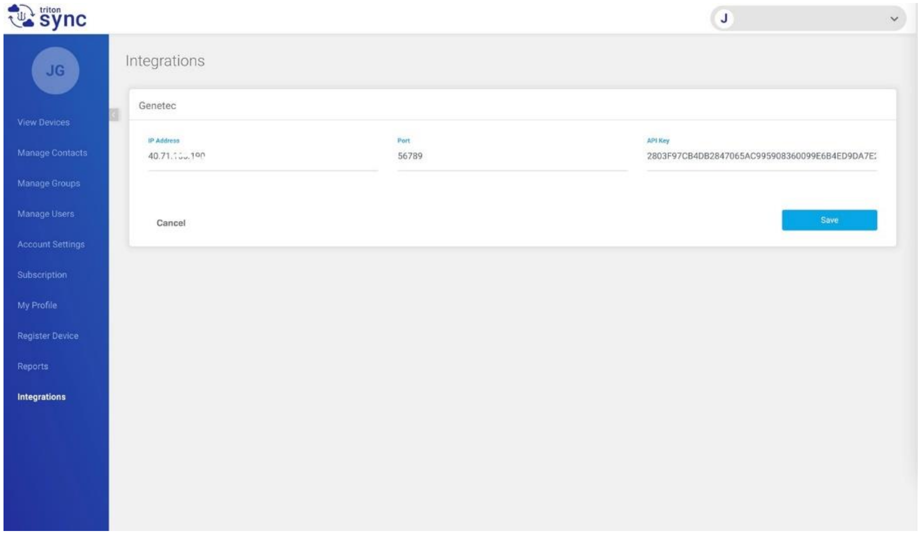
4. TRITON SYNC configuration

You will need to provide the IP to reach the Industrial IoT plugin server, the port, and the API key (noted in step 1.2).

a) Access your **Triton Sync** portal page.

Your account type must be **administrator** to be able to access the Integration tab.

b) Access the **Integrations** page.
c) Enter the IP address to reach the Industrial IoT server in the **IP Address** field.
d) Enter **56789** (or the appropriate port if required) in the **Port field**.
e) Enter the **API Key** in the **API Key** field.
f) Click **Save**



Integrations

Genetec

IP Address: 40.71.[illegible].190

Port: 56789

API Key: 2803F97CB4DB2847065AC995908360099E6B4ED9DA7E

Figure 13

Operations

Monitoring Maps

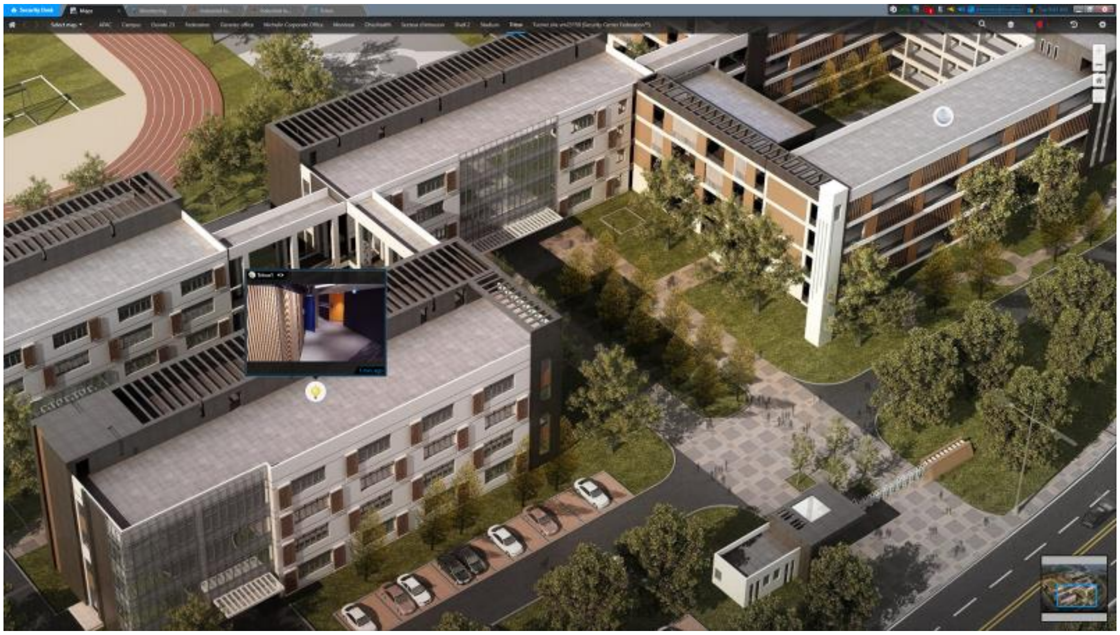
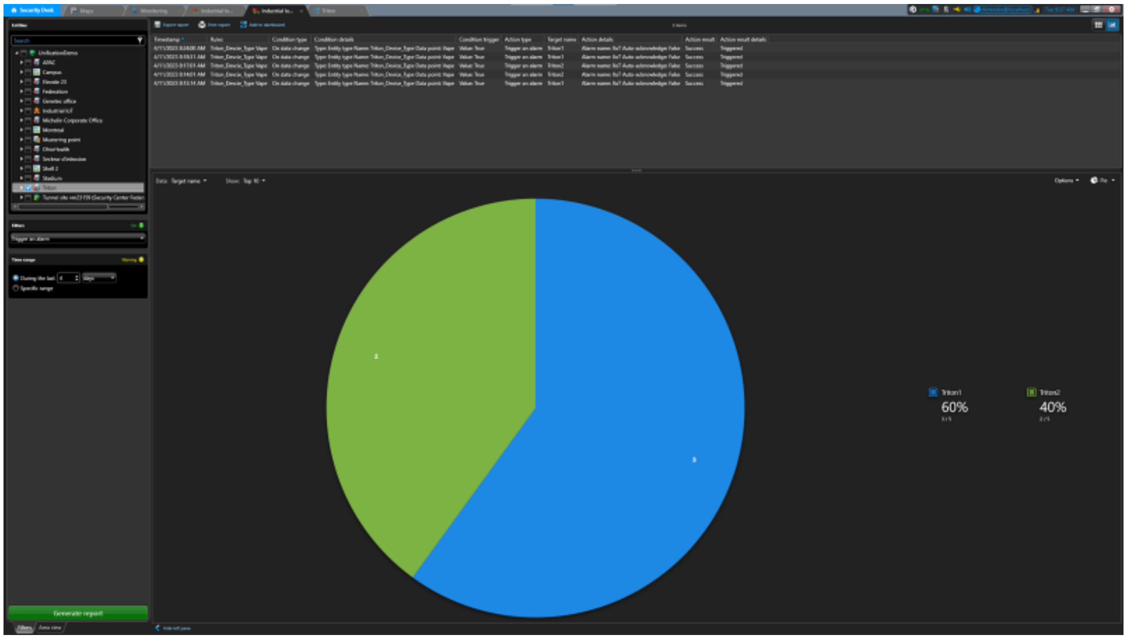


Figure 14

Reporting



Timestamp	Rules	Condition type	Condition details	Condition trigger	Action type	Target name	Action details	Action result	Action result details
4/11/2023 8:34:00 AM	Triton_Device_Type Vape	On data change	Type: Entity type Name: Triton_Device_Type Data point: Vape	Value: True	Trigger an alarm	Triton1	Alarm name: IIoT Auto-acknowledge: False	Success	Triggered
4/11/2023 8:18:31 AM	Triton_Device_Type Vape	On data change	Type: Entity type Name: Triton_Device_Type Data point: Vape	Value: True	Trigger an alarm	Triton1	Alarm name: IIoT Auto-acknowledge: False	Success	Triggered
4/11/2023 8:17:01 AM	Triton_Device_Type Vape	On data change	Type: Entity type Name: Triton_Device_Type Data point: Vape	Value: True	Trigger an alarm	Triton2	Alarm name: IIoT Auto-acknowledge: False	Success	Triggered
4/11/2023 8:14:01 AM	Triton_Device_Type Vape	On data change	Type: Entity type Name: Triton_Device_Type Data point: Vape	Value: True	Trigger an alarm	Triton2	Alarm name: IIoT Auto-acknowledge: False	Success	Triggered
4/11/2023 8:13:14 AM	Triton_Device_Type Vape	On data change	Type: Entity type Name: Triton_Device_Type Data point: Vape	Value: True	Trigger an alarm	Triton1	Alarm name: IIoT Auto-acknowledge: False	Success	Triggered

Figure 15

Dashboard

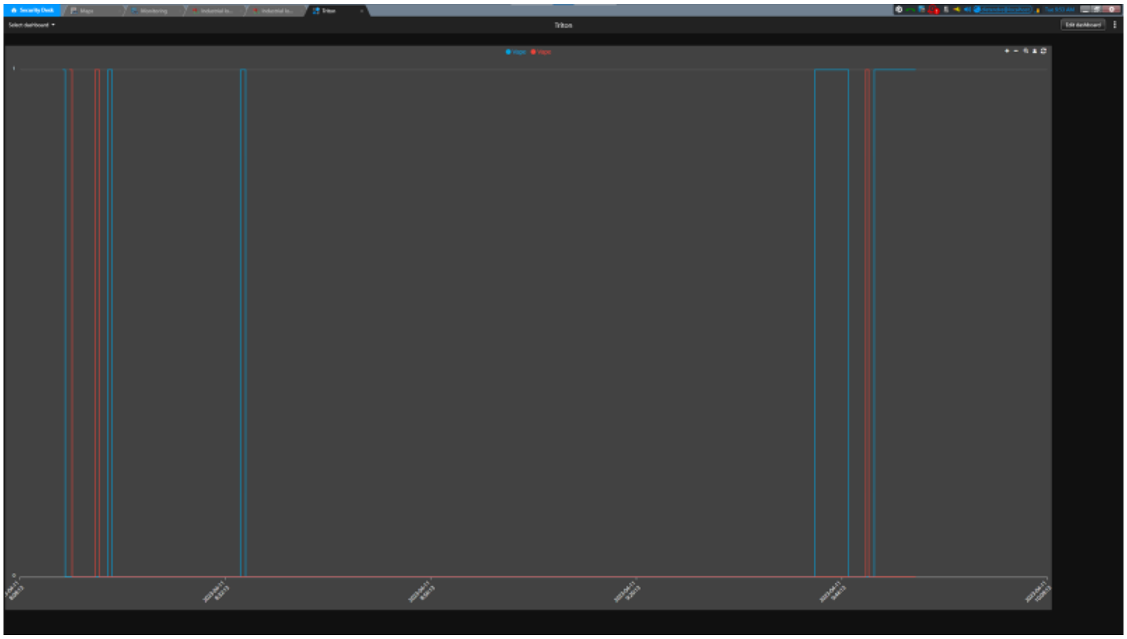


Figure 16