Milestone Certified Solution

veer

Certified Solution for

milestone

ZenLPR / VEER Platform

Date certified (2018-11-26) :

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About VEER

VEERTec LTD (Ireland) and **VEERTec s.a.l.** (OFFSHORE) constitute **VEER** company, owned by a group of Investors and engineers with 20 years of expertise, specialized in Video Analytics software development.

Following to many success stories in Milestone MIPSDK development and integrations since more than 3 years, VEER is looking forward to go next to Milestone, aiming to be one of the Video Analytics arm where Milestone integrators can rely on. Customized Video Analytics for any special industrial and security requirement is a pleasure for VEER to make it since a machine learning GPU based is (HW/SW) is fully ready.

About Milestone Systems

Milestone Systems is a global leader in providing open platform IP video surveillance software. Milestone has provided easy-to-use, powerful video management software in more than 200,000 installations, worldwide.

Milestone XProtect® provides open architecture products that are compatible with more IP cameras, encoders, and digital video recorders than any other manufacturer. Because Milestone provides an open platform, you can integrate today's best business solutions and expand what's possible with future innovations. Visit www.milestonesys.com for more.
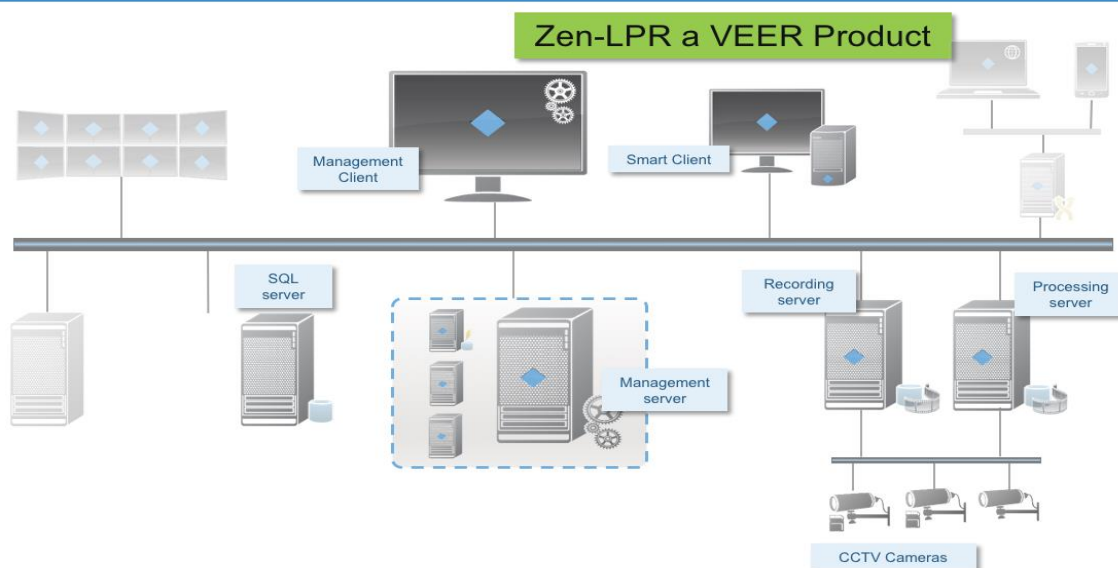
Executive Summary

Full Video Analytics platform, GPU assisted, with the below features in addition to ZenLPR:

VEER Modules and Features
LPR
ACCR
Gauge digitization
Human Behavior
Tripwire on any moving object
People counting
Vehicle counting and categorization
Gun alert
Mobile phone alert
Helmet Detection and alert
Money detection and alert
Perimeter Security
Smart Privacy blur
Empty Parking
Authorized parking
Wrong parking
Wrong way
Red light violation
Pedestrian detection
Sudden Stop
Speed Calculation
Motion heatmap
Loitering
People Cloth Color analysis
Vehicle Color analysis
Index Search (Smart Search)
Object Classifier
Custom classifier (on demand)
MMR (Alpha)

VEER Platform get the stream from Milestone, process it, and insert the result in the Database from a side, and publish the necessaries to the XProtect Smart Client. Fully integrated with Events, Alarms, and any possible feature provided by the MIP SDK.
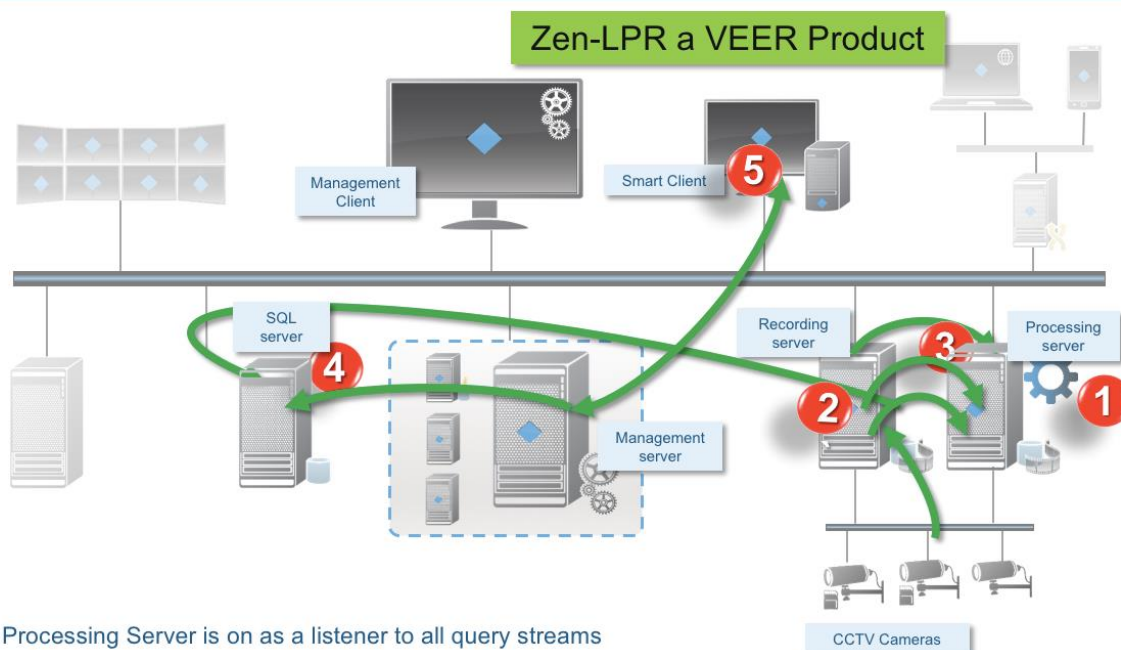
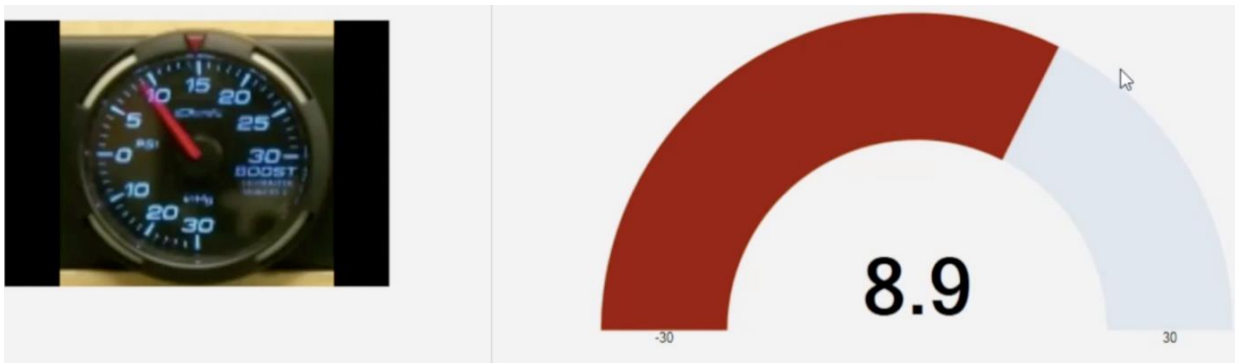# System communication

System communication

1. Processing Server is on as a listener to all query streams
2. Cameras send streams normally to Recording Servers
3. Multi streaming between Recording servers and Processing Servers for LPR and other licensed cameras
4. Store results in SQL or any other Database non relational, and trigger alarms if any
5. Send results and display on smart client
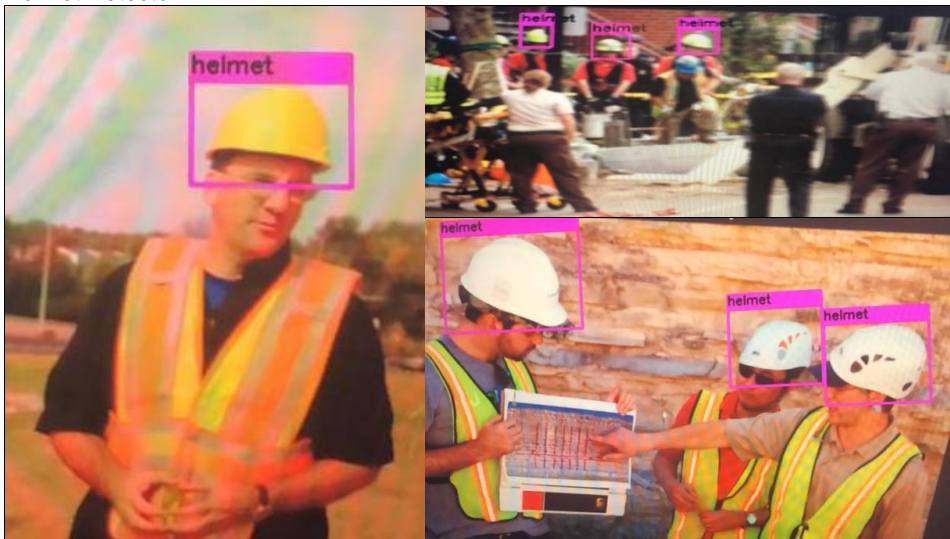
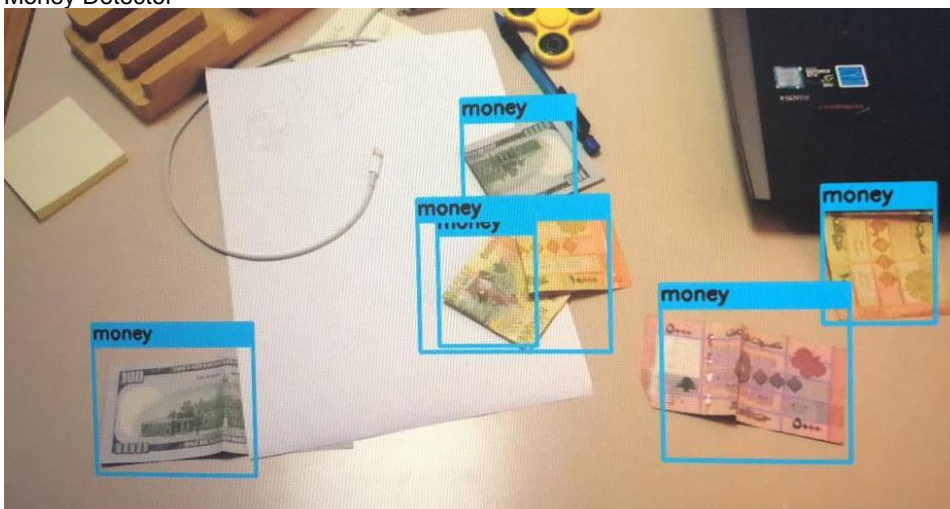**Other Analytics Features' pictures – GPU based**
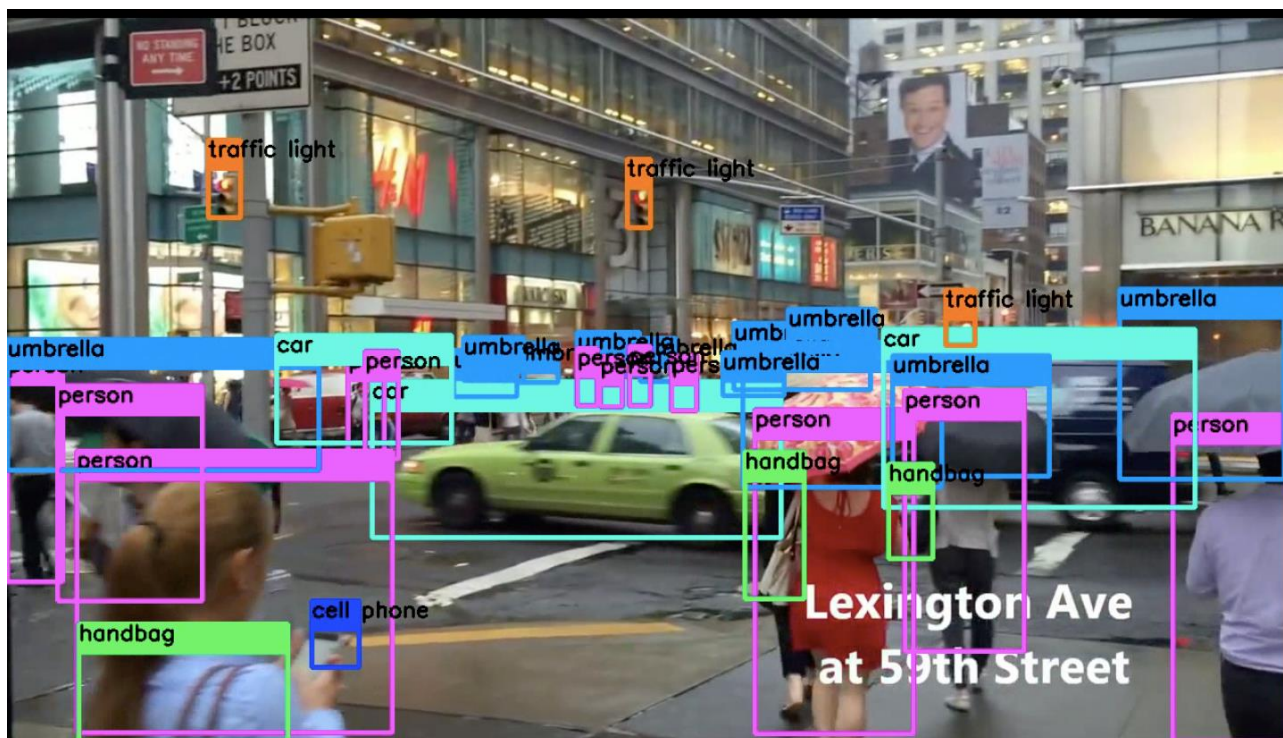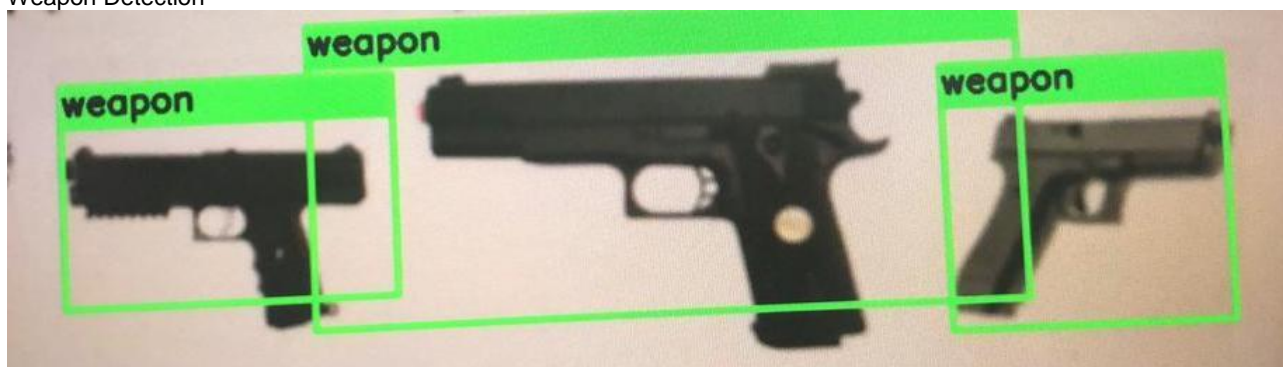
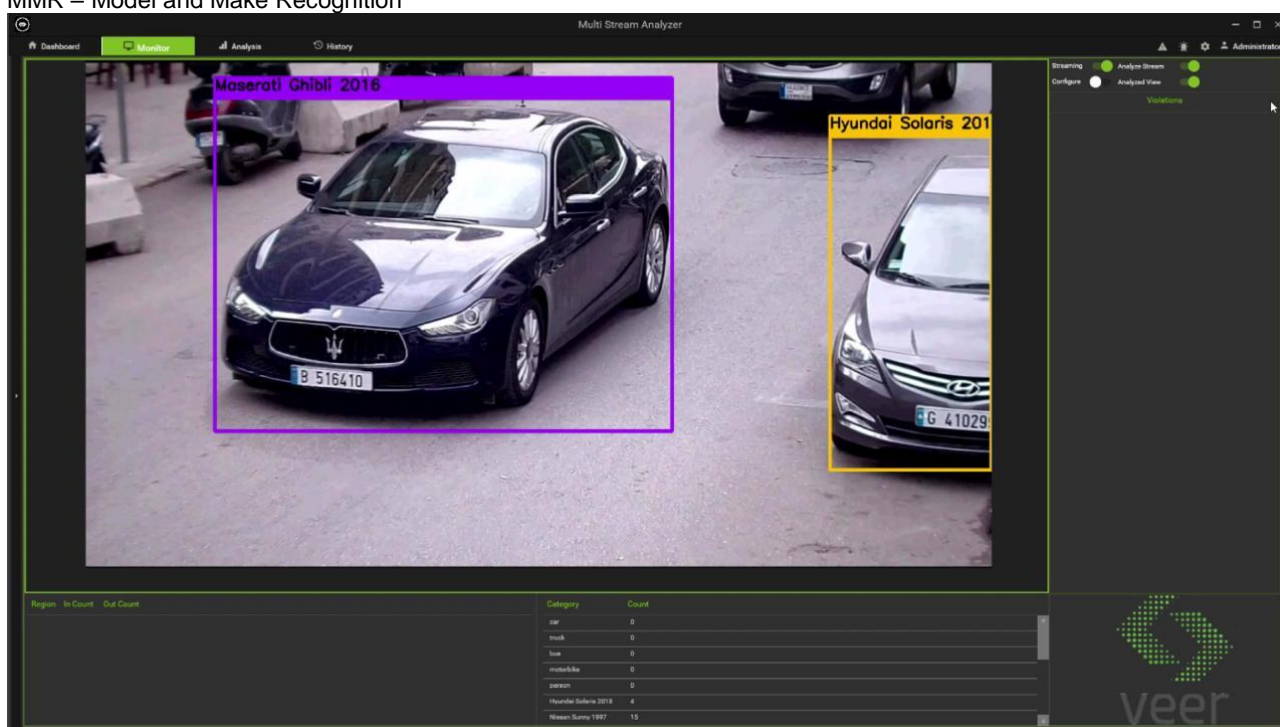Gauge Digitization

Helmet Detector

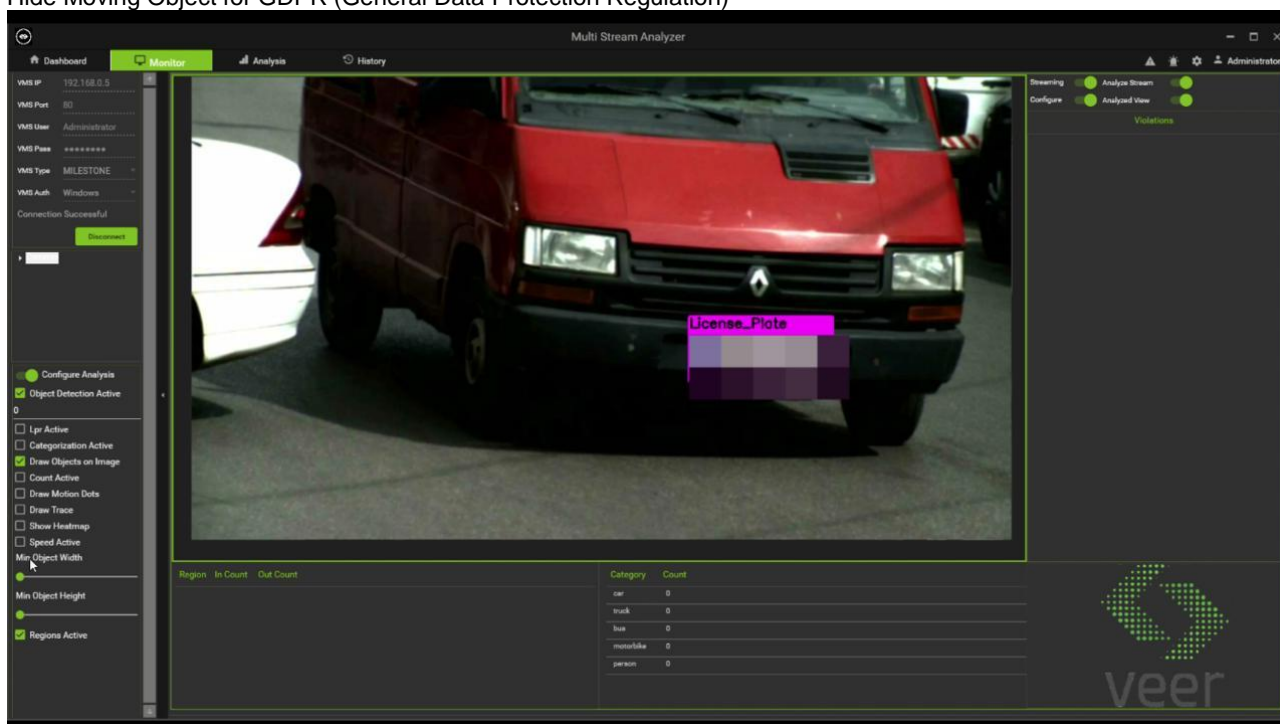

Money Detector

Object Classifier

Weapon Detection

MMR – Model and Make Recognition

Hide Moving Object for GDPR (General Data Protection Regulation)

Certified Products

- VEER 5.0
- ZenLPR 5.0
- Milestone XProtect 2016 and above (any XProtect product with SDK)
- Milestone XProtect Corporate 2018 R3 (specify tested XProtect versions)
- Milestone XProtect Smart Client 2018 R3

Performance of the solution may vary if different XProtect products and/or system components not listed in the tests details are included.
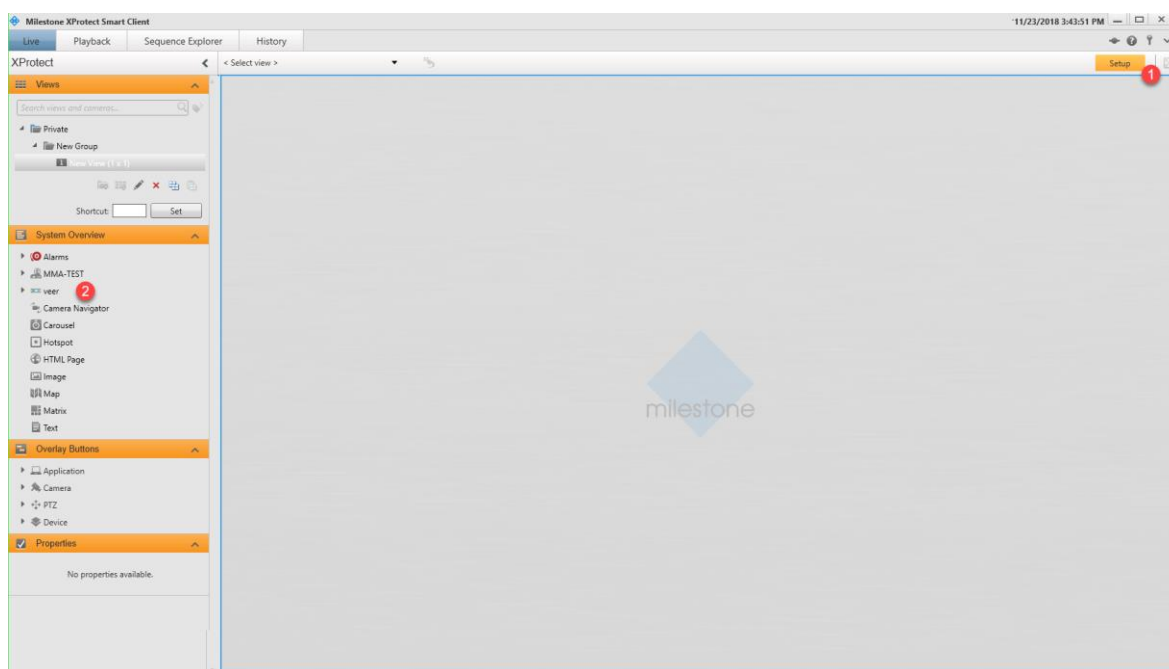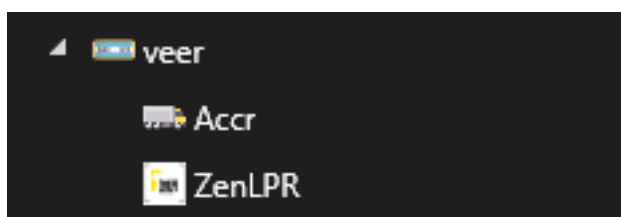
Test Setup

Activating Stream View

- Live Mode

  Below are the steps to enable live monitoring inside the MSC
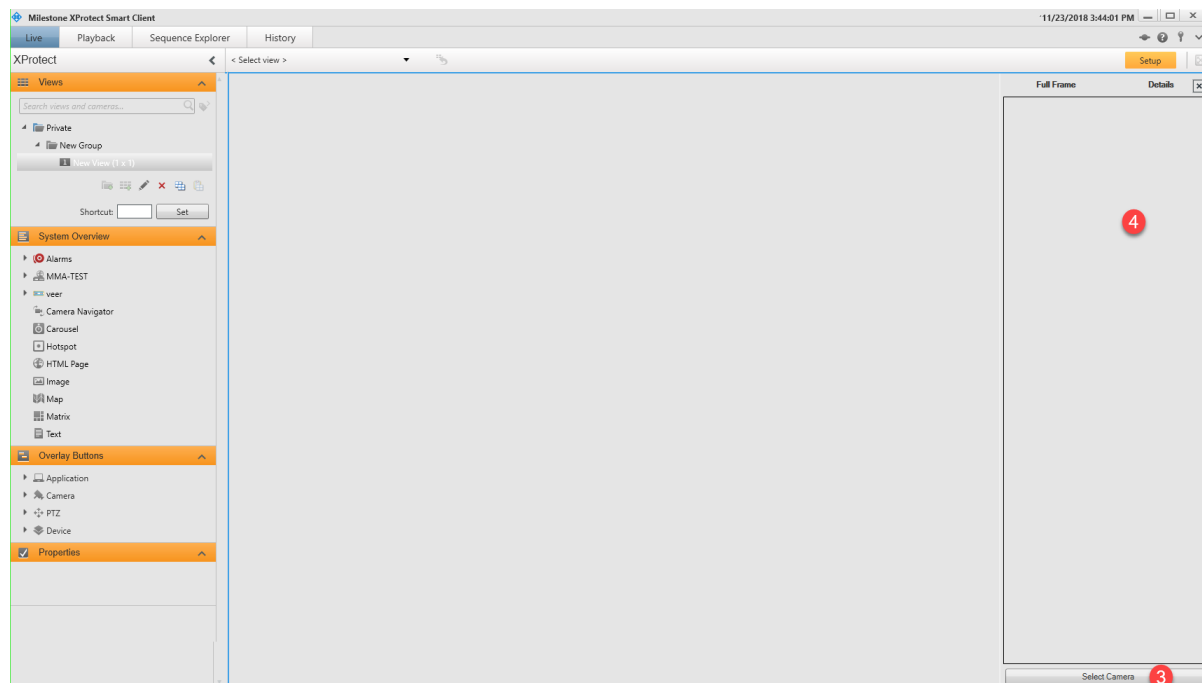 1. Click **Setup**

1. Expand **Zen**, Drag **ZenLPR** and drop it on the empty view on the right
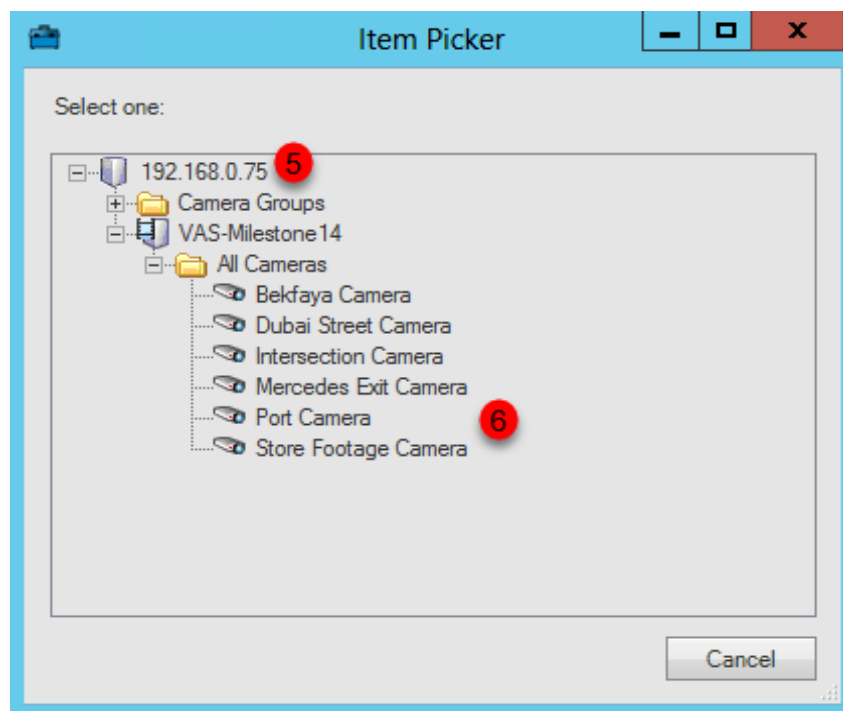
2. After obtaining the above screen, or a similar one depending on the number of live cameras you desire to view. Click on **Select Camera**

Note: The camera selection button is only visible in the Setup Mode(in case it wasn't visible immediately, try toggling the setup mode)
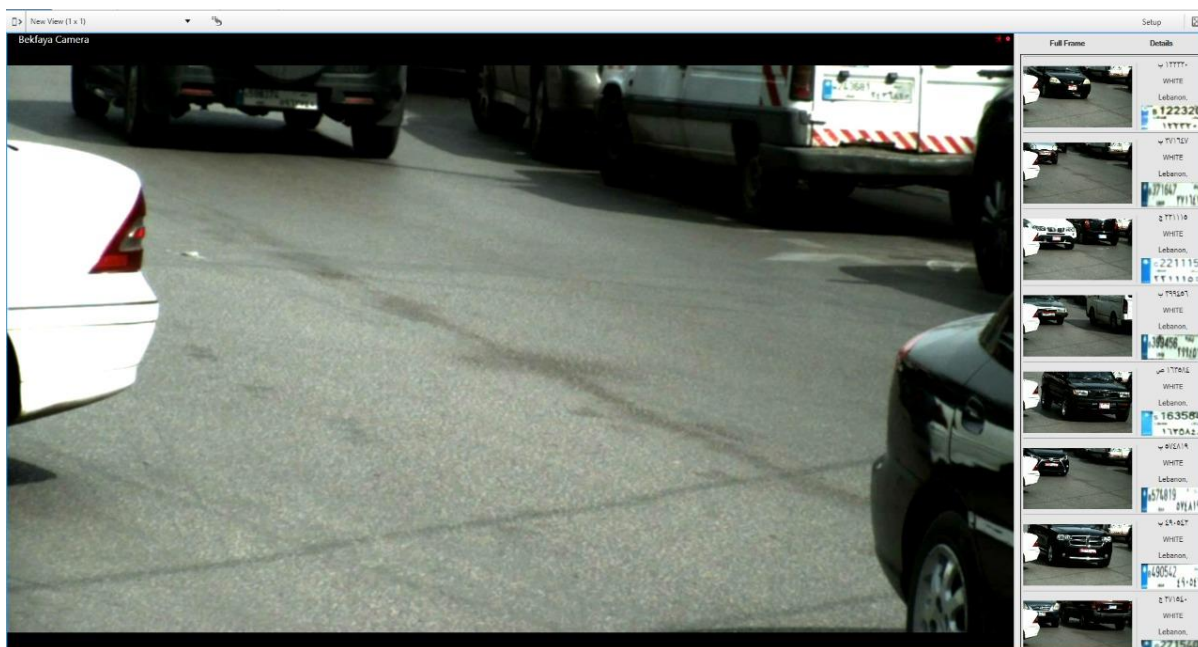

3. A screen with the available Milestone servers and cameras, expand to find the desired camera

4. Click on the camera name
5. The camera Live Streaming will start, and if the camera is activated the LPR the results will start to appear on the right

Once the camera is active and the processing is active, you will have something similar to the below view
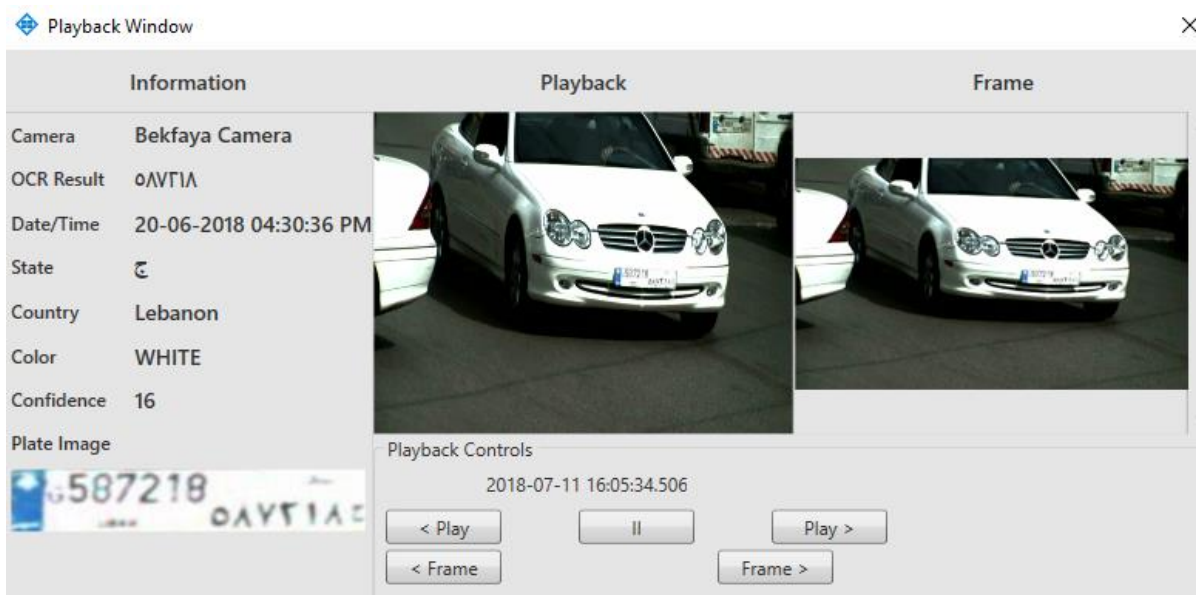

Where the information viewed are:
1. The full frame received when the plate was recognized
2. The plate recognized text, color, and country of origin
3. The cropped plate
4. The camera live stream view

Note: in this scenario the Duplicate filter isn't activated on the recognition server, this causes the system to have more than 1 result for the same plate.

The information is live streamed after being processed from the recognition server. Double clicking on any of the displayed results, opens a new window with the ability to view more detailed information along with the playback option as shown below.

1.1.1. Playback Mode

Playback viewing is the same as live mode viewing using Milestone default playback mode with the recording time selector. As the playback time changes the results displayed on the right are the Latest based on that selected time, in other words, if the playback is left running normally the displayed results will be displayed as if it is live processing.

History

All the recorded data, which is within the retention period will be available for the users at any time, with the abilities to filter through, export or even validate any result by checking its playback video when detected.


1.1.2. Filtering

In order to facilitate going through all the data, the user can use the below filtering criteria.

Where:

1. From, the minimum date/time for the results to be fetched
2. Till, the maximum date/time for the results to be fetched
3. Text, to filter the results based on the desired result text
4. Camera, to filter out results not fetched on cameras where camera name contains the inputted text.
5. Country, to filter out results not belonging to the selected country
6. State, to filter out results not belonging to the selected state
7. Color, to filter out results where plate color doesn't match the selected color
8. Type, to switch results between the LPR results and the ACCR, which is another Zen product used for Container Code Recognition.

Note: All displayed filters are dynamically populated, therefore no filter is generated that returns no data unless it is not in the selected Time Frame

1.1.3. Exporting

Data can be exported in 2 formats, either PDF or Excel. This can be achieved by clicking on the respective button as shown below

In case you wish to export specific records, either select the checkbox of each record on the left, or apply the filters mentioned in 3.2.1

1.1.4. Playback

In case you wish to check the video of the result stored, just double click on the record and a pop up window will display the detailed information of the plate along with the playback video stream*, along with the full frame* image that the plate was recognized from.

*: Milestone recording should be activated for this functionality to work
**: Save full frame should be enabled from the Zen recognition server for this feature to be available

Features Tested Described

- Fully integrated with All Milestone XProtect versions which has SDK
- Supports all cameras supported by Milestone VMS (approximately 7000 camera types)
- One-click data Export (PDF, Excel)
- Scheduled reports (Daily, Weekly, Monthly)
- Alarming capabilities (Email, SMS)

System Requirements

- Windows OS 7 or above
- Milestone Smart Client (2016 or above)
- ZenLPR and VEER Management (V5.1 or above)
- ARH Carmen FreeFlow (version 7.3.11 or above)

Conclusion

A Full video analytics product platform, with ability to be customized based on any needed new/old feature, fully integrated with Milestone, open to any additional plugin to be developed on top of Milestone.

<u>Resources</u>

www.veertec.com

www.we-tech.co (to be cancelled soon, once veertec.com is online, expected 31-12-2018).

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