

# Video Analytics



## Wavestore Video Analytics

Wavestore's Deep Learning Video Analytics capability is a powerful extension to our core VMS software, adding the ability to detect and search for a wide range of behaviours and events, system-wide, to provide a truly intelligent Video Management System.

Utilising virtually any IP camera, Wavestore Video Analytics can easily be deployed as part of a new project or retro-fitted to existing systems. Wavestore Video Analytics servers can provide up to 40 channels of Deep Learning Object and People Tracking. These include people and vehicle counting with speed and direction filters, intrusion detection and loitering.

Image stabilisation to improve image quality and tamper detection to alert operators of unauthorised camera obstruction or movement, are included as standard.

Video channels are re-streamed to Wavestore Video Management Software (VMS) storage/ recording servers together with metadata which can be used to trigger a host of actions using Wavestore's 'Cause and Effect' event rules engine. Streams with bounding box overlays are also available to ensure operators are instantly aware of detected persons or objects of interest within Wavestore's WaveView client software.

To improve detection accuracy across the entire scene, as well as minimise false alarms and speed up deployment, a built-in 3D calibration tool is used on set-up to define the height, angle and perspective of subjects over various distances within the field of view. The Metadata from the Video Analytics Appliance can also be collected, via an API, for reporting purposes.

## Deep Learning

Because humans and vehicles are usually the only things of interest, deep learning has been deployed within Wavestore Video Analytics to filter out environmental and other unwanted activity from giving false-positive alerts.

As such, activity from things like moving trees, clouds, car headlight reflections and animals etc., which can all cause false positive readings, are identified through deep learning and ignored by the analytic algorithms.

This ensures the highest possible levels of accuracy from the system and greatly reduces the opportunity for false alerts.

Wavestore's applied intelligence through Machine Learning contains three well developed and essential elements:

- A Deep Learning Filter
- A Deep Learning Object Tracker
- A Deep Learning People Tracker



## At a glance

Up to 40 Channels of Deep Learning Object-Tracking and People-Tracking Analytics per Server

Deep-Learning Filter for Improved Detection and False Alarm Rejection

Up to 40 Zones and Rules per Channel

Rack-Mount Form Factor

## Analytics include:

- Intrusion detection
- Vehicle and People Counting
- Suspicious Activity
- Loitering and Crowding
- Personal Activity
- Occupancy and Queue Counting
- Retail Analytics
- Tailgating
- Abandoned and Removed Objects
- Vehicles and People in Prohibited Areas

## Ordering information:

### WA-VADLOT-40

Wavestore DL Video Analytics Server for up to 40 Deep Learning Object-Tracking and People-Tracking Analytics Channels

### WA-VADLOPT-1

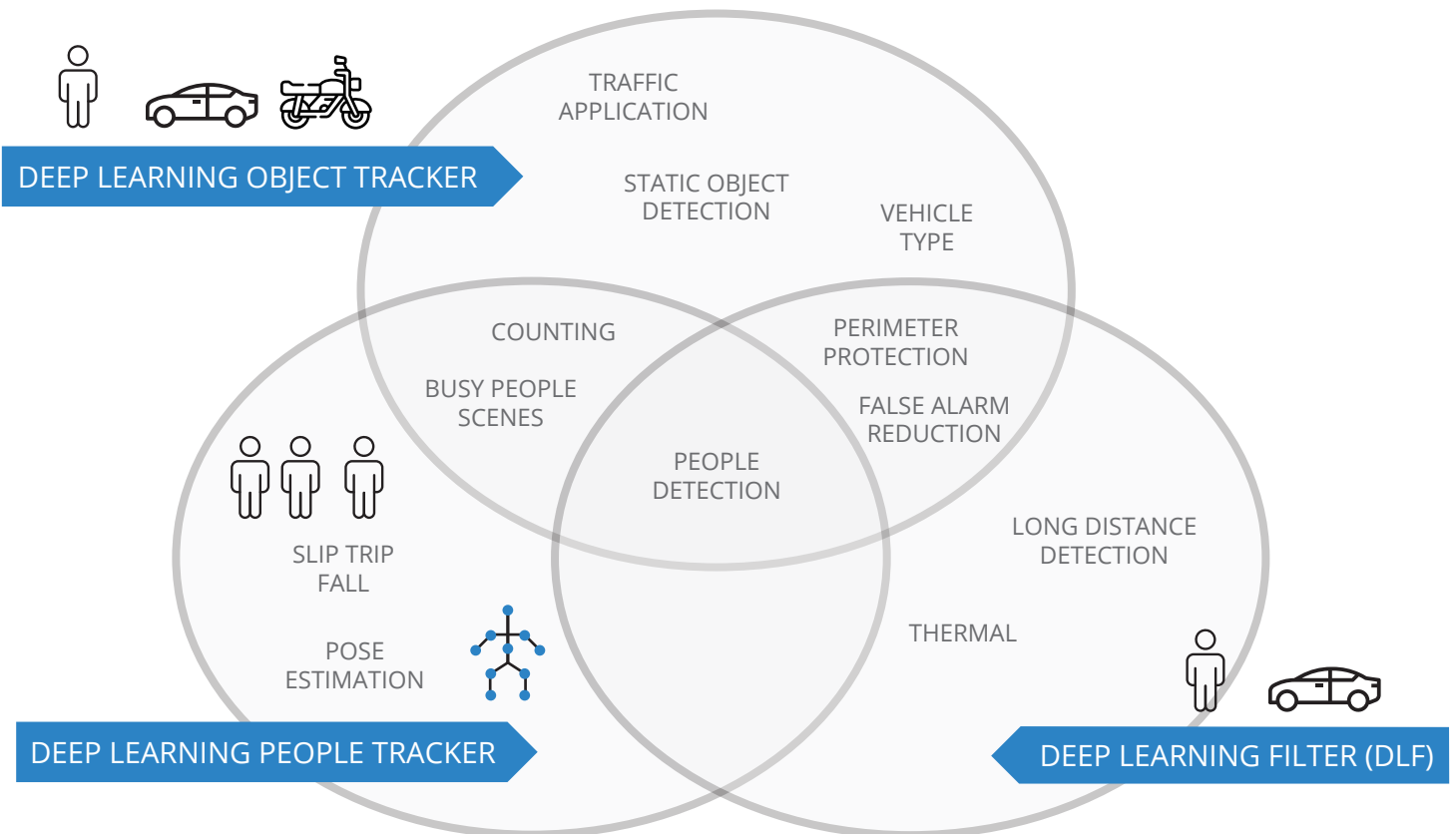
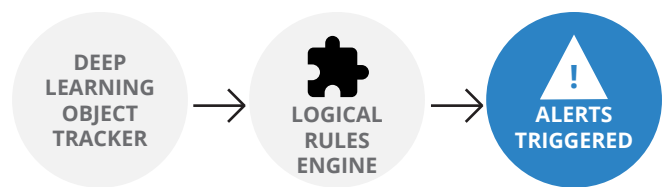
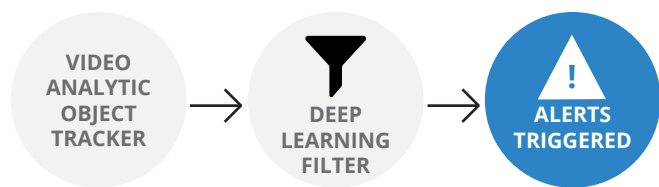
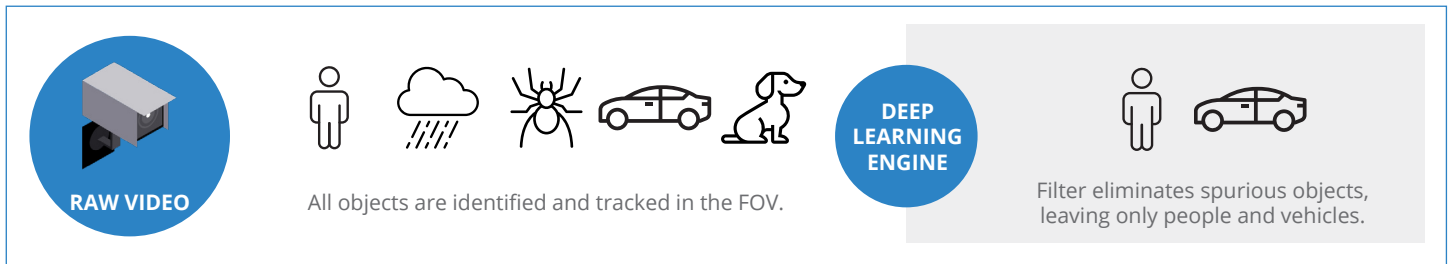
Wavestore Deep Learning Object-Tracking and People-Tracking Analytics Single Channel Licence

### Deep Learning Object Tracker

Developed and optimised to detect and classify people, different types of vehicles and bags, with an exceptional level of accuracy. Extensive optimisation allows support up to 40 cameras with a single NVIDIA RTX graphics card, making the Wavestore analytics offering one of the most cost effective and accurate analytic solutions available for 3rd party camera applications.

### Deep Learning People Tracker

The deep learning people tracker and detector uses Pose Estimation (skeletal analytics) as the prime base. It's particularly useful to give accurate detection, direction and counting of people and is ideally suited to retail and security applications for behaviour and threat detection and business intelligence purposes.



TECHNICAL SPECIFICATION	WA-VADLOT-40
<b>General</b>	
Maximum No. of Channels	40 channels of Deep-Learning Object-Tracking and People-Tracking Video Analytics (4CIF/VGA at 15fps)
Supported Browsers for Setup	Ubuntu Linux 18.04
	IE, Safari, Chrome, Firefox (with HTML5 Support). No Plugins required.
<b>Hardware</b>	
CPU	Intel Core CPU
Graphics Adapter	NVidia RTX Series GPU
<b>AI Deep Learning</b>	
Deep Learning Filter	AI filter to the rule set to very accurately detect human or vehicle targets and their activity. Requires no calibration.
<b>Event Reporting</b>	
Logical Rules	Combine rules to create specific rules using AND, OR, CONTINUOUS (happened for at least 3 seconds) and PREVIOUSLY (happened within last 3 seconds).
Event Triggers	Events triggered by Analytics Rules directly or by combinations using Logical Rules are immediately available as Event Causes in Wavestore Event Rules Engine.
<b>System Setup and Diagnostics</b>	
3D Calibration	Tool to enable the scene to be calibrated to accurately establish the type of target; person, group, vehicle, animal etc., regardless of the depth of the scene.
Shake Cancellation	Stabilises image due to camera movement and vibration.
Camera Tamper	Detect changes in video including video-loss, camera covered, camera moved.
<b>Video Sources</b>	
Video Input Method	RTSP & ONVIF
Supported Video Formats	H.264, MJPEG
Frame Rates	15fps to 30fps
Minimum Resolution	320 x 240
<b>Physical</b>	
Form Factor	Rack Mount
Dimensions (D x W x H)	500mm x 483mm x 180mm
Weight	10.2 Kg.
Operating temperature range	5°C to 40°C 41°F to 104°F
Operating relative humidity	20% - 80% (non-condensing)
<b>Power</b>	
Power input	100-240v AC 50/60Hz
Power consumption	400W typical
<b>Warranty</b>	
Standard warranty	3-year return to base
Extended warranty	Up to 5-years

## About Wavestore Global Ltd.

Wavestore, the British developer of innovative open platform Video Management and Analytics Software, supports you every step of the way to help you effortlessly unlock the full potential of your client's security and retail solutions and maximise their return on investment, while providing you with a reliable and independent open platform VMS and Video Analytics partner who can make even the most complex integrations simple.