



AGIL<sup>®</sup>

# VIDEO ANALYTICS SUITE

 ST Engineering

# AGIL® Video Analytics Suite

Massive video content is generated daily through various surveillance operations. How can such video data be processed quickly and effectively for swift response to dynamically changing environments?

## Actionable Insights for Quick Response

AGIL Video Analytics Suite consists of an advanced **Video Analytics Platform** that empowers security and transport operators to realise greater value of their video surveillance content processed by an AI-powered **Video Analytics Engine**. As the video data are easily searchable and quantifiable, hours of video footage are

processed within minutes for immediate response to critical situational changes. The solution suite quantitatively analyses video to derive actionable insights for operational decision making, while effectively optimising the need for sensitivity, accuracy and efficiency.

### Applications

#### Smart Security Automation

Accelerates OODA (observe-orient-decide-act) to enhance response against security threats and breaches



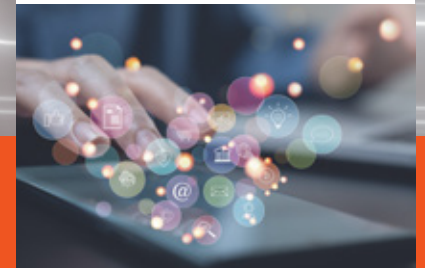
#### Mobility/ Transportation

Increases response time against traffic-related incidents, such as abnormal traffic flow, detection of blacklisted vehicles, etc.



#### Digital Facility System

Automates personnel and equipment registration and tracking



Increases speed of detection



Improves accuracy

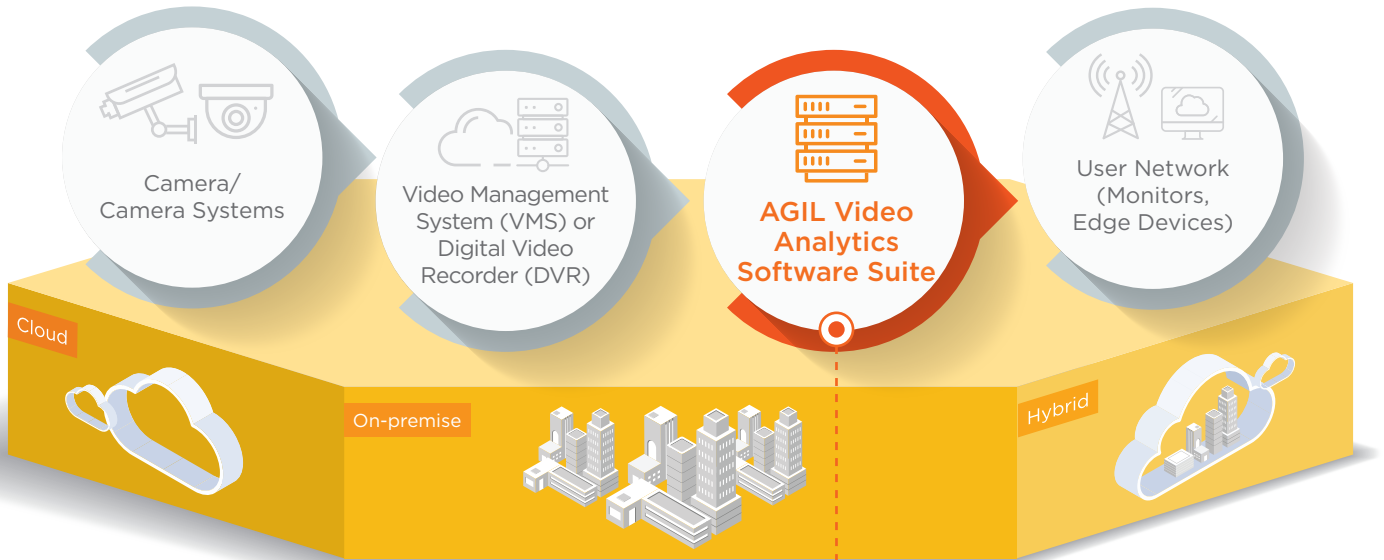


Enhances responsiveness

# Key Features and Benefits

AGIL Video Analytics Suite offers a comprehensive solution that fulfils the needs of various business use cases ranging from public safety and security, mobility and transportation, to estate management. It offers solutions across 3 stages of the video analytics value

chain - from data processing, video analytics apps and models, to video management, visualisation and interfacing. It can be implemented with any video surveillance systems to meet various deployment architectures.



## Video Analytics Platform

### Higher Order Analytics

- Operational workflow and business logic based on best practices
- Business intelligence with video analytics correlation with other data sources
- Geospatial track and trace

### Actionable Insights and Alerts

- Dedicated alert module to manage and configure alerts, to prevent alert fatigue
- Graphical alert and analytics dashboard for ease of management

### Web-based UI/UX and Multi-tenancy

- Easy to use
- Intuitive design for non-digital natives
- Multi-tenancy with different role access

## Video Analytics Engine

### High Accuracy

- Unlock high accuracy state-of-the-art AI-powered computer vision models by leveraging our pre-trained models that are fine-tuned for your business use cases

### Continuous Improvement and Machine Learning Training

- Well-established MLOps (Machine Learning Ops) process to continuously improve the pre-trained models for higher accuracy based on use case datasets

### High Performance

- High FPS (frame per second) and stream density per GPU
- Efficient model resource and latency

High scalability and reusability by leveraging microservices

### Flexible Deployments

- Standalone and/or multi-site
- All-in-one or distributed large-scale
- On-premise or public/private cloud
- Multi-access Edge Computing (MEC), hybrid cloud



# Business / Enterprise Use Cases



Automated personnel enrollment through facial recognition and person re-identification (ReID)



Advanced object recognition (e.g. vehicle make and model, any number plate recognition)



Real time and/or Post-event geospatial track and trace of moving object of interest (person, vehicle)



Object abandonment with people association



Advanced crowd and/or traffic analytics with user-defined region of interest (ROI), flow monitoring (counting, direction, loitering), incident detection



Comprehensive post-event forensic attributes search for object of interest (face, person, vehicle, etc.)

**Dashboard**

Provides an overview of all alerts and incidents round the clock

The dashboard displays a top navigation bar with 'Filter dashboard data' and 'Display the time period that got most detections'. Below this, there are several data points: 'PERSON COUNT' (32), 'NUMBER OF VEHICLE DETECTIONS' (2015), 'NUMBER OF VEHICLE DETECTIONS' (0), and 'MOST DETECTIONS THAT WEEK' (6PM-7PM). The main area contains three charts: 'Display crowd count', 'Display number of detections', and 'Display most recent alerts/detections'. A sidebar on the left lists various system components.

**Live Alert**

Generates alerts based on detections that are captured in real time

The interface shows a grid of video feeds from different camera angles. On the right, there are alert notifications with details such as 'New alert: 11/11/2015 10:15:00 AM' and 'Alert: 11/11/2015 10:15:00 AM'. The bottom row features silhouette icons representing detected objects.

**Vehicle-of-Interest (VOI)**

Filters / Searches traffic violations

The interface displays a grid of vehicle icons, each with associated data such as 'Vehicle ID', 'Color', and 'Status'. A sidebar on the left provides navigation options.

**Trace Map**

Tracks vehicle-of-interest with live alerts

The map shows a street network with a highlighted path in yellow and orange, indicating the movement of a vehicle of interest. A sidebar on the left contains navigation and filter options.

# Key Capabilities

FEATURE	DESCRIPTION
Type of Sources	Any digital ONVIF cameras or MP4 video files
Supported Classes	<ul style="list-style-type: none"><li>• People</li><li>• Vehicles (type, make, model and colour)</li></ul>
Person Attributes	Bag presence, bottom colour, upper length, upper colour, bottom type, gender, hat and shirt pattern
Face Attributes	Age, gender, moustache, beard and scar
Colours	Based on any combination of object colour, including brown, red, orange, yellow, green, lime, cyan, blue, purple, pink, white, grey and black
Appearance Similarity	Identify people with similar attributes based on fine-grained person-ReID
Face Recognition	Based on CCTV images extracted from existing videos or data uploads, conduct “in the wild” face matching for persons included on watchlists
Licence Plate Recognition	For “in the wild” surveillance scenarios, recognise licence plates based on watchlists
Line Crossing	Detect redline crossings in a pre-defined direction
People Counting	Count the number of people in a pre-defined region of interest (ROI), or in certain direction, track queues and crowd formations
Dwell	Based on object of interest dwelling for pre-set time periods within a region of interest (ROI)
Job Management	Creation of job tasks based on user-defined requirements to detect object of interest (e.g. face, person, vehicle, etc.) and its attributes (e.g. watchlist, number plate, etc.)
Video Wall	Display one or more camera feeds (up to 16 at a time) that are onboarded on the VMS

# Technical Specifications

Supported Browsers	Google Chrome, Mozilla Firefox and Microsoft Edge
Supported Languages	English (other languages are customisable upon request)
Object Resolution	Face recognition - minimum face size: 24x24 pixels Object - minimum size: 30x30 pixels
Supported Camera Types	Fixed cameras
Supported VMS Platforms	Dahua*, Hikvision*, Milestone and others (on case-by-case basis) * Plugins created by the VMS partner
File-Based Ingestion	Multi-file videos or single file videos
Supported Codecs	H.264, H.265/HEVC, MPEG-4, H.263 (H.265 is supported for selected VMSs and cameras)
Supported Video File Formats	.AVI, .MKV, .MPEG4, .MOV, .WMV, .MP4, .FLV
Recommended Frame Rate	8-30 frames per second (fps)
Recommended Resolution	Minimum 4CIF (704x480), Maximum 4K (3840x2160)

Images used in the brochure cover are for illustrative purpose and may differ from the actual solution. Specifications are subject to change without prior notice.

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