



Video Content Analytics



Technical Specifications

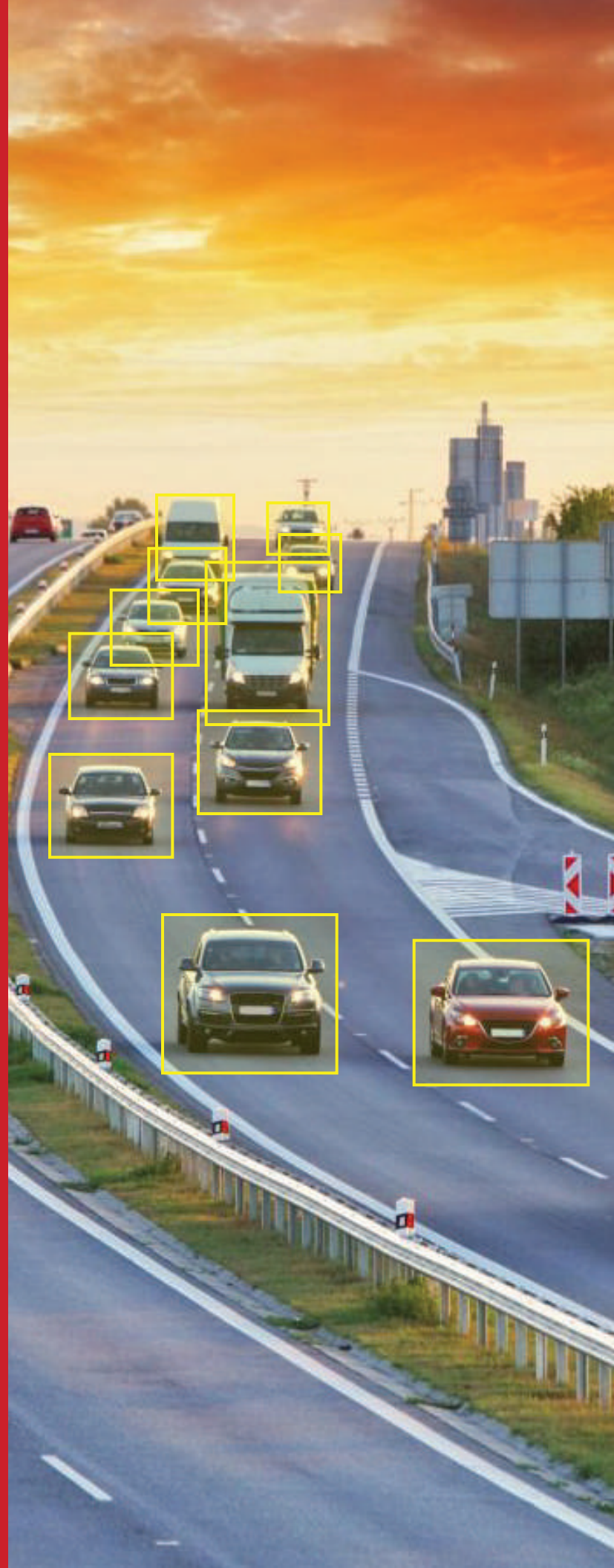
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OVERVIEW

Digifort VCA is able to accurately capture data to help a diverse range of businesses and organisations achieve a greater understanding of the behaviour of people who work or visit their premises. The software can detect movement within very small areas of a video image and can therefore provide operators with a powerful 'exception' reporting tool to help them identify suspicious activity and when appropriate, to despatch security guards or quickly report the incident to one of the emergency services. The ability to do this is significant in that it is widely acknowledged that operators can miss important events after monitoring video for more than 30 minutes or so, and the possibility of this happening is increased when individual operators are tasked to view multiple screens.

Digifort VCA is a real-time video analytics engine that utilizes advanced image processing algorithms to turn video into actionable intelligence. At the core of the product is an advanced object tracking engine that continually tracks moving and stationary targets. The tracking engine features built-in robustness to environmental nuisance conditions such as changing illumination, moving foliage, rippling water, etc.



FEATURES



INTRUSION DETECTION

Detects when an object, person or vehicle is inside or crossing a zone or a line.



DWELL DETECTION

Objects that dwell inside a zone for longer than pre-defined amount of time will trigger the rule and raise an alarm.



DIRECTIONAL DETECTION

Objects that travel in the configured direction (within the limits of the acceptance angle) through a zone or over a line trigger the rule and raise alarm.



REMOVED OBJECT DETECTION

Significant objects are detected when carried into the zone, trigger the rule and raise an alarm. E.g. a missing marked object such as picture in a museum.



ABANDONED OBJECT DETECTION

This detects the abandoning of an object in a predefined zone e.g. a bag or suitcase left on the street.



OBJECT COUNTING

Up to 40 on-screen counters linked to the detection rules, provide on-screen counting of all detection objects.



APPEAR & DISAPPEAR FILTERS

Detects objects on the basis of a pre-defined intensity of colours, e.g. clothes for medical staff at hospitals.





OBJECT CLASSIFICATION

Digifort VCA can perform object classification once the camera has been calibrated. Object classification is based on properties extracted from the object including object area and speed.



STOPPING DETECTION

Objects that are stopped inside a zone for longer than the defined amount of time will trigger the rule and raise an alarm.



3D CALIBRATION CONFIGURATION

The mimic remains steady alongside objects in the video image so that matching their height is easy as no further adjustment of the mimic's position is necessary.



TAMPER DETECTION

Digifort VCA can automatically detect if a camera is moved, de-focused, covered or tampered with in any way, inform the operator via an alarm within seconds of the detection.



PEOPLE TRACKER

highly accurate people tracking, counting, and queue management combining state-of-the art 3D imaging technology.



ENTER & EXIT DETECTION

An "object entered" alarm is raised when object crosses from the outside to the inside of a detection zone.



TAILGATING DETECTION

Object tailgating is defined as two objects crossing a virtual line or zone within in a pre-defined time frame. For example, a second unauthorized vehicle enters a parking lot close to a first vehicle that has access permission, or two people enter a security zone with a single access card.



SHAKE CANCELLATION

Tracker works even if the camera is on a swing pole.

iLIDS CLASSIFICATION

The Image Library for Intelligent Detection Systems (i-LIDS) is the government's benchmark for Video Analytics systems. It has been developed by the Centre for Applied Science and Technology in partnership with

the Centre for the Protection of National Infrastructure.

i-LIDS comprises a library of CCTV video footage based around 'scenarios' central to the government's requirements. The footage accurately represents real operating conditions and potential threats.

VCA Technology Video Analytics has been independently tested against the UK Home Office i-LIDS image library for sterile zone environments.

MAJOR BENEFITS

The web browser interface included in each Digifort VCA IP devices complete access to all the features of the analytics package. Real-time on-screen annotation of the object tracking and segmentation bitmap (blobs) gives information about the operation of the Digifort VCA. All configuration and control is done by HTTP API which provides comprehensive integration capabilities. An event can trigger digital output contact, email or API messages, detailing the bounding box, trail, rule, zone, time, and event ID of alarm. Metadata is provided as an XML data stream.

- Can be applied to any camera (with License) and can trigger events according to camera field of view with no distance limitation.
- Simultaneous tracking of up to 100 targets.
- Unique, easy to use, patented 3D calibration suitable for overhead and side-viewing cameras, calibration in metric or imperial units.
- On-screen display of object classification, speed, area and height.
- Speed filter with upper and lower speed thresholds that can detect a car running or stopped, a person running, stopped or crawling towards a detection zone.
- Filter on object class. For example people, group of people, vehicle, clutter, etc.
- Filter out small animals, birds, and blowing trash by excluding object in the clutter category.
- Object classes can be changed by the user.
- Combined filter using object class and one other filter.
- Includes full forensic metadata stream in XML format for customer use.
- Abandon object and removed object detection.
- Up to 40 polygonal detection zones or segmented lines including sterile zone virtual fence, climbing fence, buffer zone, internal and external perimeter and direction of motion.

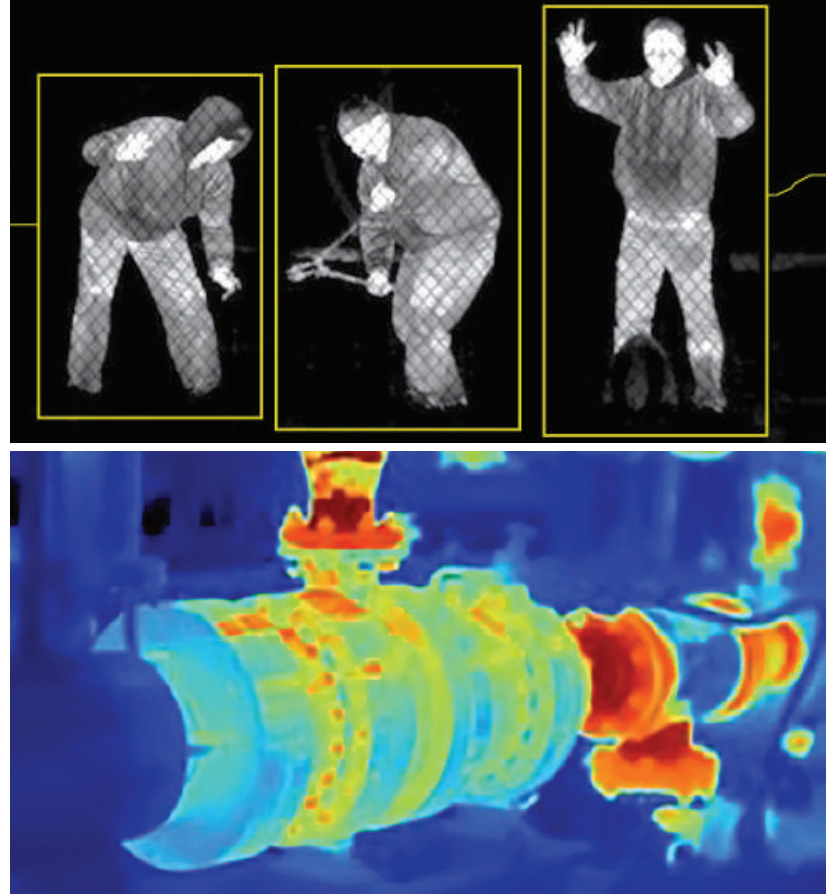
- Multiple overlapping detection lines and zones can be designated to ensure that only specific activity is recorded. Direction of movement is defined so that the software only triggers when individuals or objects move in a particular direction across a zone, or when they move into a zone but not when they leave it.



THERMAL IMAGING CAMERA

Digifort VCA works on Thermal imaging cameras for security, fire prevention and temperature monitoring applications. A high proportion of incidents happen in low light conditions. It is therefore important that a detection system is capable of operating equally well both during the day and what could be total darkness.

Intelligent Thermal IP bullet cameras are equipped with the VCA video analytics engine and as such, offer a single device solution providing intrusion detection and alarm verification day or night, whatever the lighting conditions. Designed to detect objects and people that might otherwise be impossible with traditional video surveillance cameras in environmental conditions such as through smoke, snow, heavy rain and fog,



they are also ideal for projects where it is not possible to install supplementary lighting, or where there are concerns about light pollution.

Digifort VCA also supports temperature monitoring application. It can be configured to detect potential faults in, for example, cold stores and freezers, as well as detect the danger of fire due to plant or machinery overheating.

