

Synesis Video Analytics with ONVIF and Multiple Camera Tracking (MCT)

Introduction

Synesis Video Analytics (SVA) is a robust framework of edge analytics for rule-driven event detection and advanced tracking features such as multiple camera tracking, real-time map positing and PTZ camera targeting. SVA enables security solution providers to quickly create differentiating IP by implementing sophisticated scenarios on top of the object tracker for different verticals. SVA is based on the ONVIF standard and shipped with open-source management software.

DSP implementation for high definition

Synesis video analytics is optimized to run on DSP at high definition resolution and high frame rates to ensure maximum accuracy for long range targets. This concept of embedded analytics ensures scalability and avoids bottlenecks in large networks. For example, a local video analytics event may initiate a HD streaming session or apply digital zoom.

Stand-alone video analytics device

The embedded implementation is essential for critical applications. A stand-alone device may be configured to perform video processing and recording locally with no dependence on PC or network connectivity.

First ONVIF-compliant analytics

The native support of the ONVIF industry standard provides straightforward integration of video analytics to common video management systems as well as legacy systems via embedded protocol adapters.



Driving network video through global standardization

Embedded rule engine

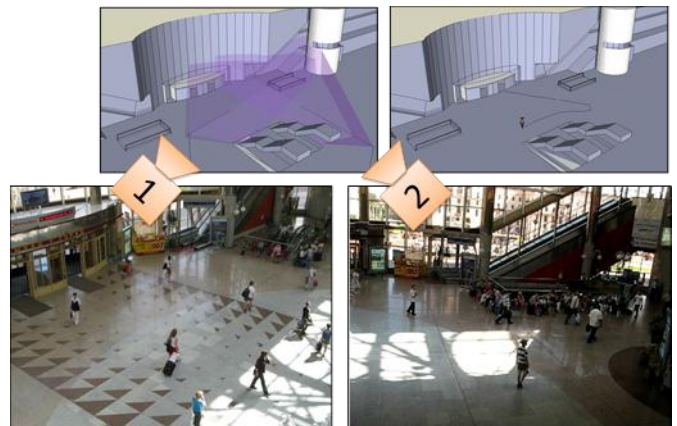
The service solution provider has the freedom to apply event detection rules either at the network video transmitter (IP-device) or network video client (VMS). The following rules can be defined using the embedded engine for each zone: entering, leaving, loitering, moving, abandoning item.

Metadata streaming

Synesis video analytics may be configured to stream metadata continuously, so real-time object position and speed can be processed by the VMS to build a video content search index or display live annotation.

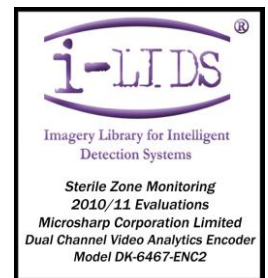
Multiple camera tracking library

Provided the SVA device is properly calibrated, the metadata stream contains the real-world coordinates of objects on the map. An open-source library and reference application in C# are available to implement the multiple-camera tracking functionality at the back-end. In particular, the MCT library combines multiple detections of one object and improves accuracy when the object moves in the field of view of multiple cameras. The library allows tracking the object from camera to camera while preserving its ID.



i-LIDS approval

The Image library for intelligent detection systems (i-LIDS®) is the UK government's benchmark for video analytics systems. Synesis' dual channel video analytics encoder is i-LIDS® approved primary detection system both for operational alert use and event recording in sterile zone monitoring applications. The encoder is listed in the UK Government's catalogue of approved security equipment.

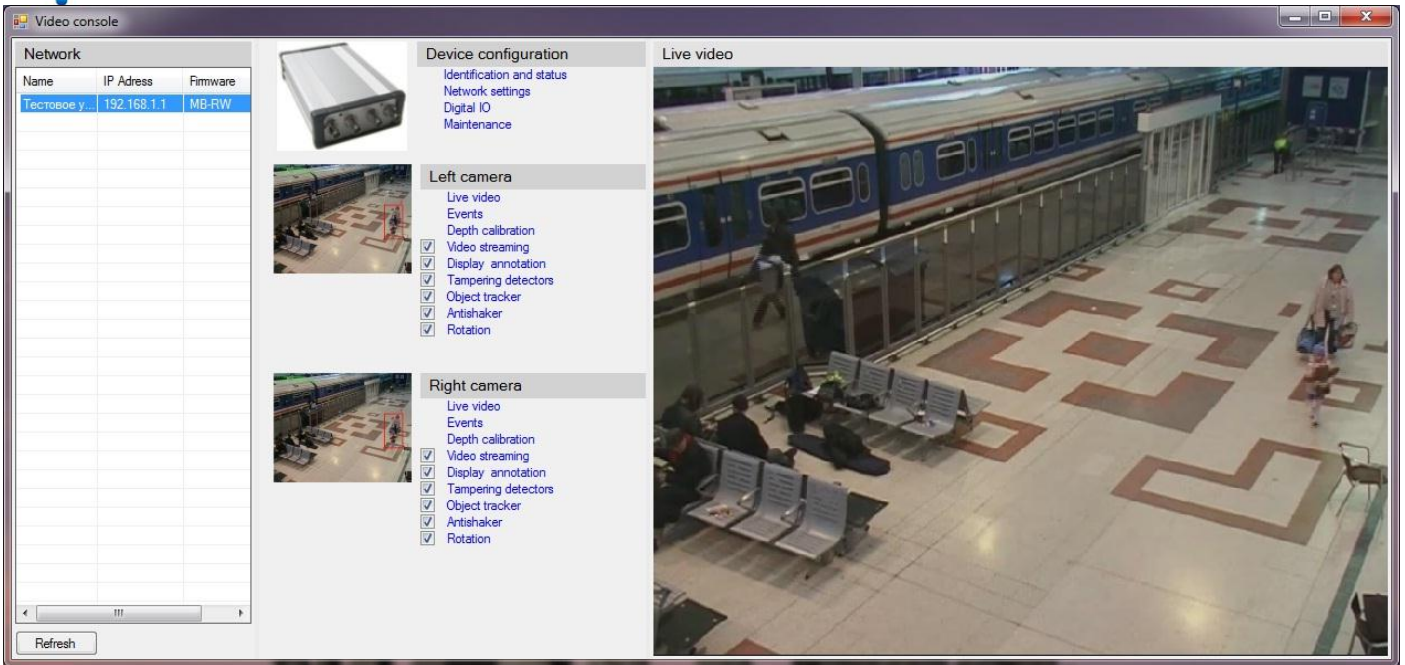


Tampering and malfunction detectors

SVA has a range of tampering and camera malfunction detectors including the following situations: scene changed, scene too dark, scene too bright, scene out of focus, field of view obstructed and camera displaced.

Embedded digital image stabilizer

SVA outputs digitally stabilised video with subpixel compensation. The antishaker is tolerant against the nature movements occurring on the scene and large objects crossing the camera field of view.



Free ONVIF Device Manager & NVC Library

ONVIF Network Video Client (NVC) Library implements the protocol to manage video analytics devices. It also supports all the standard ONVIF services. Based on the library, ONVIF Device Manager is a Windows application providing the graphic user interface (GUI). Both the application and library are developed by Synesis and released to the public domain under GNU GPL. This free software is written in C# are useful to implement video analytics GUI in third-party systems. <https://sourceforge.net/projects/onvifdm/>

Flexible video input

The SVA pipeline accepts a high definition video stream from CMOS and CCD sensors as well as a standard definition stream from normal and thermal cameras.

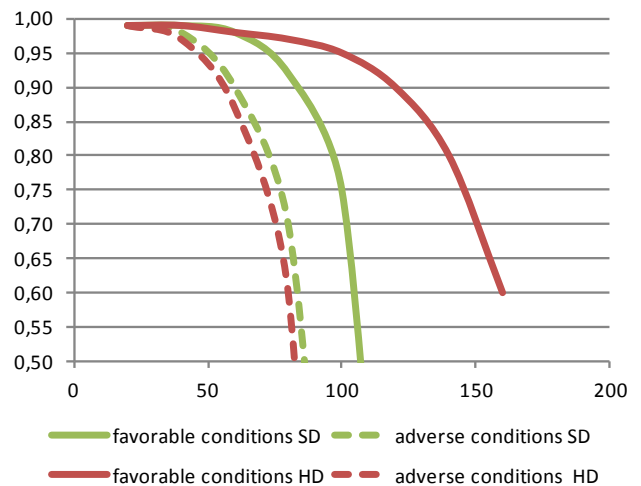
Turnkey solution

Commercial product designs with embedded video analytics ready for manufacturing are available directly from Synesis including hardware, ONVIF protocol stack, codecs and integration with third party VMS.

Integration and customization

Synesis provides design services to integrate video analytics with the end-user solution and to create differentiating IP for its customers.

Video analytics F_1 performance vs. range (meters): standard definition (SD), high definition (HD)



Ordering information

Part numbers:

SVA-SCT

Synesis video analytics - single camera tracking

SVA-MCT

Synesis video analytics - multiple camera tracking

To obtain further information or place order visit our web site at www.synesis.ru or send email to sales@synesis.ru.

