

PureActiv™ Video Analytics



PRODUCTS: VIDEO ANALYTICS

[PureTech Systems](#) is a world leader in the development and deployment of advanced video analytics / intelligent video solutions for security and safety applications. All our analytics are internally developed and maintained by our technical staff. New algorithms and applications are constantly being developed. The following lists some of our more popular algorithms, each of which can be combined with the others to provide a powerful video security solution. Most images are hyperlinked to a web based video for further detail.

Objection Detection

The ability to detect objects and intrusions using various types of cameras and illuminants while ignoring normal environmental conditions



Object Classification

The identification of objects by type: human, car, truck, boat, unknown. The subsequent classification can then be used for alarming and display.



Slew To Cue

Not technically a video algorithm, but the capability to slew a camera or related device directly to an object's exact position or to precise geospatial coordinates, followed by the activation of various other video analytic functions. This includes steering the camera to targets detected by radars, access control systems, cameras with video analytics, fence and GPS sensors.



Image Stabilization

Camera movement is commonplace, annoying and places havoc on most motion detection products. The Stabilization algorithm removes this video shifting providing a stable video for 3rd party systems and operator viewing.



Automatic PTZ Following (Single Camera)

The most advanced, single camera, automatic PTZ following on the market. Designed specifically for outdoor use, this function tracks objects of interest at varying zoom levels. It has the ability to change object type mid follow (EX. A person entering a vehicle), continue to follow during obstructed views, changing aspects ratios (crawling, walking, etc.) and varied speeds (walking, stopping, running).



Wrong Direction / Speed Threshold

This algorithm can detect the real speed of the vehicle or object, regardless of its orientation to the camera (approaching, departing, moving across scene), as well as, the direction of movement with respect to an area of interest. Thresholds can then be set to trigger appropriate alarms.



Stopped Vehicle

Detection that a vehicle, or other object of interest has stopped within a defined region.



Dropped/Thrown/Removed Objects

The algorithm looks for objects that have been left in a location, have been thrown into the view of the camera or removed from the scene.



Background Modeling

Background modeling is crucial to every form of analytic behavior intended to be used in outdoor applications. It affords the capability to recognize traits of the background and remove those attributes from the scene. This then allows for analysis of the remaining objects.



Loitering / Crowd Detection

Often times it is important to not only detect the object, but understand how many objects are present and whether they are remaining in a defined area for a suspicious period of time. This behavior is covered by Loitering and Crowd Detection.



Detection within a Region

The use of video analytics becomes more powerful when allowing the ability to add additional requirements to the behavior. For example, the entrance or exit from a defined area, or a specific object type of action occurring in that area.



Camera Tampering

Video analytics can also be used to detect possible tampering with the camera. PureActiv includes a range of camera tampering detection algorithms including: Loss of Video, Blocked Lens, Bumped Camera, Illumination Level Too High/Too Low, Excessive Camera Motion, Video Processing Error, Low Frame Rate or Indeterminate.



Car Counting

The ability to count vehicles in low ceiling environments with directional accuracy, while ignoring pedestrians and environmental conditions.



Man Overboard

A specialized detection algorithm to detect jumping or falling targets in both land and water applications.



Shadow Removal

The ability ignore both attached (from a person, car or similar) and unattached shadows (birds, aircraft, clouds).



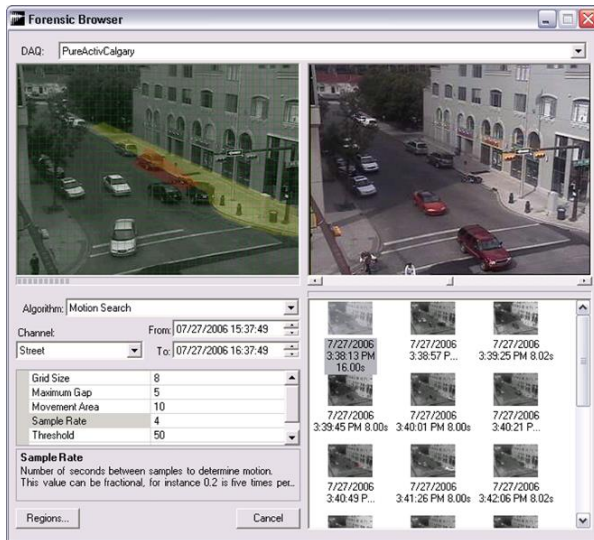
Real Size

The ability to determine "real" object size. This is in contrast to just determining pixel size. Although an object may encompass a very large number of pixels, this algorithm enables the software to compute the object's size in the real world regardless of how large it may appear in the camera view



Live or Recorded Video

Also referred to as a “forensic browser”, this is the ability to also apply analytic algorithms to recorded video. This is very valuable when reviewing video for other events associated with an alarm condition.



Scan-to-Target

A specialized camera control algorithm that can be enabled when the redirected camera gets to the scene but finds no intruder. The Scan to Target feature considers a variety of parameters and then commands the camera to scan in an appropriate pattern, the whole time keeping the intelligent video algorithms enabled and searching for the intruder. Once found the target can be followed using PTZ Auto Follow.



More detailed descriptions of PureActiv's Wide Area video analytic capabilities are available in the PureActiv Analytics A&E Specification.



About PureTech Systems

PureTech Systems Inc. is a manufacturer of wide-area perimeter surveillance software solutions including internally developed outdoor video analytics, PTZ Auto Follow, multi-sensor integration and a map-based (real object size) command and control. It is offered to fortune 1000 firms, petro-chemical, water and electric utilities, seaports, airports and federal, state and local governments. With headquarters in Phoenix Arizona, PureTech Systems serves national and international markets. To find out more about PureTech Systems Inc. visit our website at www.puretechsystems.com, follow us on [Twitter](#) or sign up for our [email list](#).

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