Taking The Next Step Into Intelligent Security
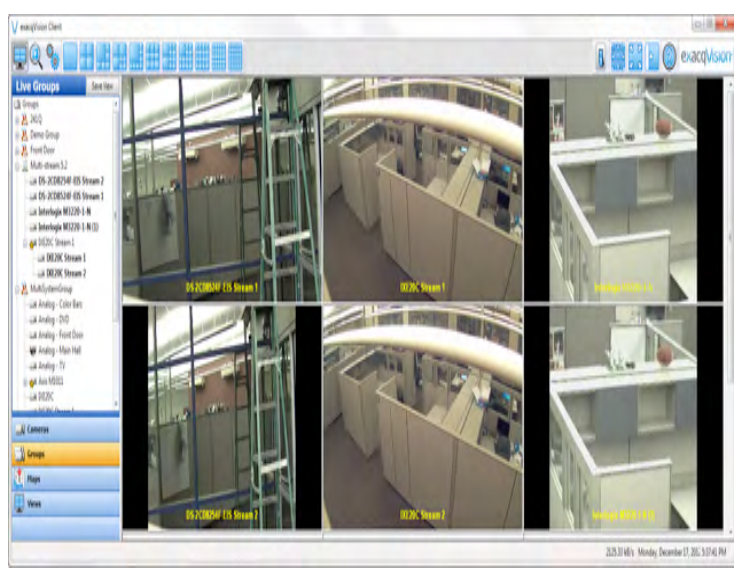

With Video Analytics

By: The Setronics Technology Group

Is it finally time to consider adding video analytics to your Loss Prevention arsenal? Pulling the trigger prematurely in this conflict between unfulfilled hype and technological promise has proved costly in the past for some businesses when return on investment has not met expected results. But others should fear not - as many recent successes have been achieved when armed with reliable information, realistic goals and a well-executed integration plan that capitalizes on the strengths of video analytics appropriate for each unique business environment.

As defined, video analytics is "the automated analysis of video content for user-defined events of interest". Its capabilities can range from simple motion detection to very sophisticated algorithms, all of which detect the interactions of people and objects. Algorithms examine each pixel of video, then process the changes in pixels over a set period of time. If the changes trigger a predetermined notification, such as motion or the removal of an object, either an audible or visible message will alert the user. In the more modern sophisticated systems, analytics can activate a PTZ motion-tracking camera that will actually follow the perpetrator.

By the mid-2000s while still in its infancy, the video analytic industry promised a number of analytic capabilities that were somewhat futuristic. Bag-left-behind and facial recognition functions were highly touted as near ready. Unfortunately those and other breakthroughs never materialized with much success until recent. Since those early years, key technology manufacturers have successfully partnered in many other advancements including license plate recognition, motion detection, removed object detection, perimeter detection and congestion detection. All of these achievements, of course, mean better and smarter tools are available to be added to the asset protection war chests of businesses.

License Plate Recognition (LPR) is a highly effective security measure used along highways, toll booths, parking lots, garages and passenger pick-up/drop-off areas. For those tasked with apprehending traffic violators and criminal offenders, the ability to provide license plate detail of perpetrators using motion detection or object removal capabilities has been highly successful. Most modern-day DVRs and NVRs are already equipped with motion-detection capabilities that most users are familiar with. Primarily used to minimize storage requirements by alerting the recorder to activate solely when there is motion in a pre-determined field of view, it can also be configured to send notification whenever motion is detected outside of a given area.

Historically used mostly in the airline industry, Facial Recognition has become

setronics
security integrators

requirements otherwise needed in an analog environment. Live monitoring cost savings are also realized as fewer security personnel are required to review event-only footage, whether live or recorded.

The many benefits of video analytics are obvious, but its measure of success, especially with emerging technology, is largely dependent on understanding the potential limitations as well. Camera positioning, lens selection and lighting are critical elements to attaining desired results. Likewise, precise mapping of areas of detection and non-interest and consideration of normal scene changes like tree foliage movement, rain, snow or normal traffic patterns are but a few very important factors when setting parameters to a solution.

a popular tool in retail applications. Real-time notification that an unwelcome suspect has entered a location can help prevent shrink caused by shoplifting. Many security offices have a "rogues gallery", still photos of individuals that are uploaded to a database and shared throughout the department. If an individual enters a networked location and key recognition criteria are met, an "unwelcome guest" alarm is sent to the proper authorities.

Removed Object Detection can be useful to the Retail Loss Prevention professional, particularly in cases when a static object has been removed from a predefined store display shelf or counter area. Retail-based analytical systems can provide key operational efficiencies, too, like "Congestion Detection" that is often used to alert store managers to open more registers when a point of sale kiosk or register becomes over crowded. A popular safety analytic, Perimeter Detection, or "Virtual Tripwire", adds

a key physical safety deterrent to any system, particularly when "no go zones" are pre-established to prevent potential intruders.

Lastly, Post Analytics is critical to a comprehensive analytics-based system. Rather than fast-forwarding through hours of recorded footage in less sophisticated systems, post analytics capabilities provide ready access to scenarios based on predetermined parameters. Analytics software scans the recorded footage, pinpoints events of interest and signals the user to verify those events. Clearly this innovation is significant to effective time management and video storage management.

The ideal platform for video analytics is IP-based video. Currently there are a number of IP cameras that offer in-camera or "live" analytics. Best used to reduce network traffic, live analytics sends only event triggered data to the server, thereby reducing storage

Clearly, since those early years, the industry has come a long way to bridge the gap between hype and promise. As this technology continues to progress, more advanced capabilities will become available, recent breakthroughs will be refined and more user-friendly options will become standard in many affordable solutions and business applications. Knowing how to incorporate these advancements into your asset protection model and having realistic expectations are critical to your business success. ▪

The Setronics Technology Group is an industry-leading team of Engineers whose combined collective security experience exceeds more than 60 years for regional, national and international clients. The Group has designed thousands of integrated access control and video solutions spanning markets that include retail, healthcare, and education among others.

"Our **commitment** to the **security** of your business does not end with **implementation.** It begins there."