


Video Analytics and Security

Using video data to improve
both safety and ROI

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I. Executive Summary

Most companies are gathering trillions of bytes of data, day after day, at no small cost, and then doing very little with it. Worse still, the data often is not serving its primary function very cost-effectively.

The “culprit,” so to speak, is video surveillance data, the information captured by the video cameras that are used throughout most modern facilities.

But the situation is changing rapidly, thanks to an application called Video Analytics. This white paper looks at the new software technology, and how it can be used to leverage video data for better security and business performance.

II. Captured on Video. Now What?

In the past decade, video surveillance cameras have become ubiquitous. Most companies of any size wouldn't think of running a facility without cameras in place. For large operations, video surveillance is a significant investment involving technology, guard stations, video storage and maintenance.

All of this attention to video is justified, because security cameras help protect people as well as property, both physical and intellectual.

But some executives have begun to ask a simple question: What value can a company derive from all this video technology? What can be done with the massive amounts of video data accumulating on expensive servers?

The answer is a rapidly growing technology called Video Analytics.

A typical surveillance scenario...

It's late at night. One guard is on duty, tracking a dozen video monitors. As he leans away to stir his coffee, a figure in one of the parking lots approaches a company car, slips around to the other side, and disappears from view.

The next day, when the crime is discovered...

A Video Analytics scenario...

It's late at night. One guard is on duty, tracking a dozen video monitors. As he leans away to stir his coffee, an alarm sounds. The guard looks up. The Video Analytics software has detected unusual activity in one of the camera fields. That monitor's light is blinking.

The guard sees a person who shouldn't be there, slipping behind a car. The guard calls the police.

The intruder is apprehended on the scene.



Video Analytics software tracks people and objects, and can send alarms when suspicious activities occur.

What is video analytics?

The website videoanalytics.org defines Video Analytics as “the emerging technology where computer vision is used to filter and manage real time CCTV video for security and intelligent traffic monitoring.”

Simply put, Video Analytics is an automated approach to managing and analyzing video, without the cost or man-hours previously required. There are many different brands and technology platforms for Video Analytics, but they all work on the same basic principles, using pattern recognition and other Algorithms technology to provide two critical capabilities:

- Recognize unusual activities as they happen and notify the security system in real-time.
- Convert video files into a data asset that can be searched, managed and analyzed to improve security and business performance.

Today's Video Analytics software is easy to use and offers growing functionality. For example, it can be programmed to look for specifically defined anomalies. It can even be programmed to give special attention to specific elements in a video frame—such as a computer, door, or filing cabinet.

Furthermore, Video Analytics can be integrated with other security and information systems to create new possibilities for using and managing video data.

III. Start Where the Payback is Biggest

The first step for most companies is to use Video Analytics to support and enhance guard performance. In this application, Video Analytics software continuously monitors everything that happens in the field of vision of every surveillance camera, every second of every day. When it sees suspicious or unusual patterns and activities, it sends an alert to the security system so guards can look at the monitors, see first-hand what is happening, and take any needed immediate action. It can also trigger other security events, such as coordinating the motion of several cameras to track the movement of a suspect through a facility. In some programs this is called “guard service.”

Guard service should make every guard more effective, so companies find they can actually improve security and reduce staff at the same time. According to a recent webinar hosted by securitymagazine.com, it's common for guard service applications to generate savings of 75% or more in total guard costs.

Enhancing the value of video data

After guard enhancements pay for themselves, which is capable of happening quickly based on guard usage, companies start looking for other ways to add value to video.

For example, Video Analytics can be linked to card access systems to improve security. A card being used in an unauthorized or suspicious way can trigger cameras to zero in on the event and record the time and other information in a searchable video log.

The real power of Video Analytics may be the fact that it turns analog video into useable data that can be analyzed, searched and managed. This opens up endless possibilities for improving decision-making.

One example is building use and work pattern analysis. With Video Analytics, it's now possible

...guard service applications typically generate savings of 75% or more in total guard costs.

to capture and analyze all kinds of data about facilities and people, such as who uses what areas, walkways and doors. This information can help guide decisions on facility use, energy consumption, personnel safety, and many other issues.

Video Analytics may even provide a direct savings in insurance costs, as many insurance companies offer discounts for using security-enhancing technology.

Less measurable, but vitally important, is the improved response time. You can simply find information and act on it more quickly with Video Analytics, whether the problem is a break-in happening right now, or a building use problem that pops up every day.

A few things to consider

Video Analytics software can probably be layered onto your existing surveillance system, so adding the capability is an incremental enhancement, not a new installation. Packaged applications are available for reporting, alerting, and other “dashboard” capabilities.

The real value comes from integrating Video Analytics with other security and information systems, so most companies will want a platform that is standards-based and has experienced support behind it.

Experts also advise starting with applications that have fast and measurable ROI, such as perimeter detection, protection of outdoor assets, and guard enhancement.

IV. Conclusion

After collecting and storing petabytes of video data, organizations now want more value out of their investment. Video Analytics provides an answer, helping most companies improve security and lower costs.

By starting with applications that deliver rapid ROI, like guard enhancement, companies can implement the technology in a way that pays for itself. The value can then be extended to other security and information systems, leveraging many technology investments to improve security and building management. It is reasonable to think that Video Analytics will soon take its place with other business intelligence tools as a key ROI enabler.

The bottom line is, executives have invested in video data. Now it's time to use it.

Schneider Electric

One High Street,
North Andover, MA 01845 USA
Telephone: +1 978 975 9600
Fax: +1 978 975 9674
www.schneider-electric.com/buildings

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