

# 10 strategies to maximize store productivity with real-time video intelligence



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## 1. Introduction

When it comes to in-store business intelligence, retailers can now literally remove the blindfold that has been holding them back. With the use of real-time, affordable visual intelligence, today's retailers can clearly see the path to understanding daily activity in the store and maximizing the use of every square foot.

New data from network-based video, combined with data from existing sources, presented in easy-to-use reports, will drive more targeted decisions about merchandising and promoting products, directing traffic more effectively through the store and maintaining best-in-class customer service at all touch points. Customers will enter the store with a clear purpose and leave happy with purchases in hand.

As retailers and brand manufacturers become more willing to collaborate, real-time video intelligence will provide the means for information sharing that will benefit both partners. Suppliers can test different promotions, packaging and product placements that will bring the most bang for the buck, creating significant upticks in sales that inevitably benefit the retailer and the supplier.

"This can be a valuable investment for both small and large retailers," notes Bart Butzer, former executive vice president of stores for Target Corporation and president of Mervyn's. "Larger chains most likely already have the resources, processes and mechanisms in place to use video intelligence internally to improve in-store marketing, and also will be able to leverage the data across the supply chain, improving collaboration with suppliers. For smaller stores I believe this system can offer great value if retailers invest the time and resources to use the information to their advantage."

With real-time visual data, store management can be empowered to make operational decisions in a timelier manner, improving operations, sales and customer satisfaction based on daily information rather than weekly, monthly or annually.

Today's best-in-class video intelligence solutions are based on IP video or network video and will be fully integratable with current in-store systems, including traffic counting systems and cameras. Built on open standards for future growth, the best system will be affordable, easily installed and user friendly.

This whitepaper will help bring retailers up to speed with the latest innovations in real-time video intelligence, providing the top 10 strategies needed to effectively compete in today's increasingly challenging retail arena.

### 10 strategies to real-time retail enlightenment

The following 10 strategies will guide retailers down the road of retail enlightenment:

1. Embrace real-time retailing
2. Empower store managers
3. Monitor store touch points
4. Direct traffic more effectively through better merchandising
5. Reduce shrink with on-shelf tracking analysis
6. Enhance multichannel marketing
7. Create better retailer-supplier collaboration
8. Leverage existing infrastructure and integrate in-store systems
9. Install best-in-class equipment
10. Plan for future growth

## 2. Embrace real-time retailing

To successfully implement real-time video intelligence, retailers must first embrace the concept of real-time retailing. Instead of only viewing sales as a product of days, months or seasons, as they have in the past, retailers must narrow their view to get closer to real time.

"The Internet and the widespread adoption of broadband connectivity have introduced the notion of 'real-time' or 'near real-time' information to retailers' operational processes," according to the Retail Systems Research (RSR) report *Improving Retailer Responsiveness with Real-Time Business Intelligence*. "Many retailers want to enable their operations with near real-time alerting, reporting and performance management capabilities." This real-time actionable information can be referred to as "operationalized real-time business intelligence," notes RSR, which is "critical to improving retailer responsiveness."

With access to real-time data, retailers can respond more effectively to changes in consumer demand. Simultaneously, retailers are able to "maximize their operational efficiency, by focusing more of their labor spend on activities that build consumer loyalty, and to lower the amount of paid-for inventory while at the same time improving (lowering) out-of-stocks on the selling floor," according to the RSR report.

The most effective way to monitor all store activity, from warehouse dock to POS transaction, is with an integrated platform that delivers daily reports and provides a user-friendly mineable dashboard. "Combining real-time signals from the store on a consistent platform can help the retailer better understand consumer and store activity," says Hung LeHong, Gartner analyst, in an August 2009 report titled *The Real-Time Store Monitoring Platform*.

Retailers should aim to collect all available real-time signals into an integrated platform, including:

- > Point of sale transaction log (POS TL)
- > Customer traffic
- > Video over IP (network video)
- > Radio frequency identification (RFID)
- > Location-aware applications
- > Remote monitoring of appliances, including heating, ventilation and air conditioning (HVAC)

Taking the lead from the online channel, brick-and-mortar retailers are becoming more attuned to the benefits of real-time data. Although until now many of the technology offerings that facilitate real-time retailers have been cost prohibitive, recent additions to the marketplace are making them affordable and cost-effective for retail stores.

"In the past, real-time in-store data has been collected through expensive processes," says Alexei Agratchev, founder and CEO of BVI Networks. "Now improvements in cameras and video analytics have made it possible for retailers to track the data, design better store layouts and maximize in-store real estate with better-placed fixtures and signage. Then retailers can test these new strategies to determine how well they perform, completely transforming the way retail business is done."

"Combining real-time signals from the store on a consistent platform can help the retailer better understand consumer and store activity." — Hung LeHong, Gartner analyst

### 3. Empower store managers

The most forward-thinking retailers will now take a fresh look at the role of the individual store managers and begin to arm them with real-time data, empowering them to make actionable decisions in a timelier manner. Successful retail executives will work with store management to execute strategies that deliver immediate results from the store floor.

"CIOs and their team should work with their business counterparts in store operations, merchandising and marketing to determine what business processes can take advantage of real-time signals," says LeHong.

A system that enables information flow to multiple levels of the organization at the same time can facilitate the cross departmental collaboration that creates a high performing retail business. American Apparel has taken this concept even further, by charging store associates with store success. "Access to real-time video intelligence is helping us track associates on their levels of customer service," says Stacey Shulman, Director IT – Retail, for American Apparel. "In our test store we are reporting better customer service and our conversion rates are up pretty drastically from when [video intelligence] was first implemented." American Apparel, both a retailer and supplier, began a single store pilot of the integrated video intelligence solution in June of 2009 and rolled out 25 additional stores in October.

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#### 4. Monitor store Touch Points

The key to optimizing customer service inside a store is to attend to every square foot in the store. With video intelligence technology, retailers can get valuable data and insights on every part of the store, from entrances and aisles to customer service, dressing rooms and even bathrooms. And, while creating a better customer environment retailers also can save time and money by improving labor scheduling throughout the store.

"We are monitoring and better managing wait time in customer service areas, for example the service deli and checkout," says Gary Hawkins, CEO of Green Hills Supermarket and President of Hawkins Strategic in Syracuse, New York. "We then leverage that information, received in regular reports, to improve wait time for customers. We also can link this information to labor scheduling to improve labor efficiencies throughout the store."

Video intelligence also provides valuable information on customers' movement throughout the store – including where they stop for a significant amount of time. Called dwell analysis, this lets retailers know which aisles and products are attracting consumers. American Apparel is planning to use dwell analysis to evaluate employee productivity. "We will look at how much time managers spend in their office versus on the store floor, and the effectiveness of customer interaction with new staff members," says Shulman. "This is valuable feedback we could not get without a system like this."

Beyond the store floor, video monitoring can improve customer satisfaction in other vital areas, such as the bathroom and fitting room areas. "If the fitting room or bathroom is not clean it definitely affects customer satisfaction," says Michael Anderson, vice president of field services at Lifetouch (former SVP of store operations at Macy's and former regional operations director at Target). This is particularly useful for retailers who have unattended fitting rooms.

"We see significant value with this system," says Hawkins. "We are able to monitor traffic flow across our two entrances and review customized reports by hour or by day, to understand when the optimum times are to open and close each entrance. We now have benchmarks that we can work against."

Access to real-time video intelligence is helping us track associates on their levels of customer service." —Stacey Shulman, Director IT – Retail, for American Apparel

#### 5. Direct traffic more effectively through better merchandising

Marrying the art of retail with the science of retail is an ongoing struggle. Acknowledging the experience and expertise of retail managers and buyers, it can be valuable to give them some leeway when it comes to inventory selection, merchandising and promotion. But the value of factual information about

customers' movement through the store, dwell analysis and overall in-store behavior cannot be minimized. Putting that data in the hands of these talented individuals is where the real improvements can be created.

Using video intelligence, retailers can track shopper behavior using analytics that are integrated with in-store data sources such as point-of-sale. The result is ongoing traffic and conversion-rate analysis, not only for the store, but also by aisle, display and down to the SKU level. This data allows a retailer or manufacturer to optimize layout, shelving, displays and packaging based on real data, minimizing the guesswork that has long been an art form in the retail business.

"With the video intelligence system, we can find out how many customers go down the cereal aisle when entering the store, and how many actually spend some dwell time in front of Kellogg's or certain categories, then how many make a purchase," notes Hawkins. "That's the information that helps us understand traffic flow around the store and allows us to make better merchandising decisions."

In-store video intelligence is a competitive differentiator because it enables a much deeper understanding of how consumers respond to products, product placement, packaging and promotions," adds Leslie Hand, research director, Global Retail Insights. "For example, intelligence regarding a product promotion that seemed successful on the surface may reveal that 50 percent of customers that stopped to look at the promotion compared it to something else, or simply changed their minds after reading the ingredients."

"We are able to monitor traffic flow across our two entrances and review customized reports by hour or by day, to understand when the optimum times are to open and close each entrance. We now have benchmarks that we can work against." —Gary Hawkins, CEO of Green Hills Supermarket and President of Hawkins Strategic in Syracuse, NY

## 6. Reduce shrink with on-shelf tracking analysis

When integrated with on-shelf tracking systems, video intelligence can provide information on out-of-stocks and loss prevention analysis. For example, certain products are considered "high shrink" items which are pilfered more often than others, such as razors, high-end cosmetics and alcohol. With visual information on how and when the shrink is happening, retailers can make changes to minimize the problem.

"By integrating different data sources into one platform, our system can track products all the way through from the dock to the stockroom to the floor and the POS," says BVI's Agratchev. "With this information in hand, retailers and suppliers can make better decisions about what to stock and where to merchandise it."

For retailers who already have loss prevention systems and cameras in place, a best-in-class video intelligence system can be integrated with loss prevention and monitored independently by different groups in the organization. "Different groups in our organization can view data based on permissions programmed into the system," notes Shulman. And everyone is happy, she adds, because the video intelligence system provides better-quality images and is easy to maintain.

"In-store video intelligence does for in-store customer marketing what social media and Web analytics does for on-line commerce, leveling the playing field between channels to a certain degree." —Leslie Hand, research director, Global Retail Insights

## 7. Enhance multi-channel marketing

The multitude of information gleaned from online marketers has motivated brick-and-mortar marketers to meet the challenge and find ways to gather the same type of granular information at the store level. Integrated video intelligence answers that call. "In-store video intelligence does for in-store customer marketing what social media and Web analytics does for on-line commerce, leveling the playing field between channels to a certain degree," notes Hand.

As stores become able to gather more detailed information, the entire multichannel experience is enhanced. "Use of video intelligence in a brick-and-mortar environment designed to capture customer activities can be blended and compared with similar data available from the online channel through Web analytics to help formulate more effective multichannel retailing analysis," says Janet Sherlock, AMR Research analyst. "Retailers can expand learning from Web analytics such as time on site, shopping funnel, abandonment and product conversion by applying in-store analytics from video intelligence to optimize enterprise merchandising and customer experience. For example, a merchant that knows her in-season key item top converts 50 percent more in stores when displayed on a main aisle display table with a mannequin may choose different online merchandising tactics to achieve the same conversion rate."

"Ultimately, a multichannel retailer will build a platform that looks at real-time signals from many different customer touch points – such as combining signals from the Web, mobile devices and the store," notes LeHong. "This would allow retailers to monitor cross-channel processes, such as order-on-the-Web/pick-up-in-the-store."

## 8. Create better retailer–supplier collaboration

Video intelligence offers a significant opportunity for retailers and suppliers to work together, improving the bottom line for both partners. And often the supplier will be willing to contribute financially to facilitate a video intelligence project. "If supplier partners want a direct line to consumer responsiveness to their promotions, there is no better opportunity than in real (not test market) in-store video monitoring," says Hand.

Currently, a major consumer goods supplier is working in partnership with a large U.S. grocery chain using video intelligence analysis to test in-store stimuli such as different signage and displays – ways to attract consumers to the products. This is similar to A/B testing done online. Now brick-and-mortar retailers can use control stores to analyze differences between one promotion and another, or one type of end-cap versus another.

Manufacturers typically welcome any consumer information that retailers are willing to provide. With access to information on consumer traffic patterns and dwell time within aisles, manufacturers can adjust product displays and in-store merchandising to better serve consumers, retailers and the manufacturers' own interests.

"Retailers can expand learning from Web analytics such as time on site, shopping funnel, abandonment and product conversion by applying in-store analytics from video intelligence to optimize enterprise merchandising and customer experience." —Janet Sherlock, AMR Research analyst

## 9. Leverage existing infrastructure and integrate in-store systems

One of the reasons some retailers may be resistant to adding a video business intelligence solution to their in-store technology mix is the concern of having too many different systems functioning at the same time. But today's best-in-class video intelligence system can be integrated into the existing store infrastructure for a seamless transition.

"An integrated video intelligence platform should support multiple use cases including loss prevention, traffic counting and POS data," says Hand. "It does not make sense to require multiple replicas of video or POS data to support discrete video analytics applications." This is where the strength of network video makes the difference.

For the Green Hills implementation, Hawkins was able to leverage existing loss prevention cameras and integrate them with new cameras from Axis Communications. "The integration went very smoothly," notes Hawkins. "It was a matter of running Cat 5 Ethernet cable from different locations back to the

server room where the BVI video analytics technology was installed." This type of network video solution runs on standard Ethernet networks, works with retailers' existing infrastructure and is based on open standards for ultimate compatibility with current and planned store equipment.

American Apparel took a similar approach. "When we started looking at video intelligence solutions, we wanted to be able to consolidate the technology in our stores," says Shulman. "I'm not a fan of having five different servers in one store. It was tough to find." Shulman chose the BVI/Axis Communications solution.

"The system we chose ties in sales transactions with loss prevention and traffic counting," Shulman continues. "We can watch videos of transactions and analyze the discounts taken at the POS to determine any patterns that may be affecting sales and the bottom line."

When solution providers, such as BVI and Axis, are able to facilitate the delivery of the video intelligence system as an integrated component into the existing channels that retailers already use in their stores, it is easier for retailers to expand their systems. American Apparel was able to integrate all the systems together with the help of Retail Information Systems (RIS), who supplies them with their POS system, as well as its BVI/Axis video intelligence system.

"The cross-functional use of the video surveillance solution allows teams to collaborate and share deployment cost." —Patrik Pettersson, Business Development Manager, Axis Communications

## 10. Install best-in-class equipment

When researching video intelligence solutions, retailers should look for cameras with high-quality video and analytical solutions that can provide a complete store-monitoring platform. The BVI Networks' RetailNEXT product brings the real-time signals together and presents them in a user-friendly and highly scalable dashboard.

To make the system work, retailers should look to combine the analytical solution with intelligent cameras that provide network video. Intelligent cameras accommodate on-board embedded applications such as business intelligence analytics that can analyze traffic counting and customer dwell time. "Retailers now have the capability to deploy cost-effective analytic applications processed by the camera, working in parallel with the overall solution," says Patrik Pettersson, business development manager, Axis Communications.

Cost also is a key factor when choosing video intelligence systems. Purchased separately, video intelligence and loss prevention systems would have cost American Apparel up to 40 percent more, says Shulman. "We were able to bring in something we didn't have before and got better quality at a lower overall price," she notes. "With the IP cameras it is a lot easier to maintain and monitor the system."

"The cross-functional use of the video surveillance solution allows teams to collaborate and share deployment cost," adds Pettersson. "The result is added coverage for loss prevention while providing valuable information to merchandizing, operations and marketing."

## 11. Plan for future growth

A significant advantage of implementing an integrated video intelligence system is that it can grow with the retail organization. "I was looking for a system that could grow with our needs," says Shulman. Shulman is initially using the system for traffic monitoring and loss prevention, then plans to add dwell analysis to examine employee productivity.



Beyond the basics, retailers have a long list of in-store data that can be leveraged today and in the future using the right system. "The sources of available real-time data in retail stores have been steadily increasing over the last few years," reports LeHong. Current data sources include POS data, customer traffic data, queue data, electronic article surveillance (EAS) data and IP-based video feeds. Emerging technologies include RFID, the ability to locate mobile phones via GPS, cell tower or Wireless Fidelity (Wi-Fi) triangulation, plus new in-store shopping devices such as shopping cart computers and handhelds. "It's obvious that, in the future, retailers will need to have some kind of platform that integrates, manages and makes sense of these real-time signals in the store."

## **12. Conclusion**

The amount of data available today and in the future could make any retailer's head spin. The trick is harnessing that data, analyzing it properly and using it to the benefit of the business. Integrated video intelligence that can combine disparate technology sources within the store and deliver customized reports and a data mining dashboard give headquarters and store management the information they need to make real-time business decisions. This is a strategic imperative most retailers cannot ignore and many are building into their near-term plans.

As a best practice, retailers should strongly consider systems that are designed and built for the retail environment, not adapted from unrelated industries to partially fit the retail needs. Systems that automate major components of the data collection and information delivery will ensure a higher degree of adoption, which ultimately means a higher success rate for the retailer. By embracing the role of real-time data from within the store – similar to the online commerce environment – retailers will be able to differentiate themselves from the competition, creating high-performing retail stores that dwarf those that manage business under an older paradigm of data sampling, occasional shopper feedback and data visibility.

The combination of best-in-class video equipment and video intelligence analytics will provide both large and small retailers with a system designed to improve customer service, enhance retailer/supplier relationships, create more effective labor utilization, promote multichannel marketing and reduce losses and out-of-stocks – creating a retail organization that is poised for continued success and growth.

## **13. About BVI Networks**

BVI Networks offers the open RetailNEXT platform that provides real-time and near real-time customer metrics that let retailers improve store execution and customer satisfaction by optimizing staffing, merchandise placement and in-store advertisements. RetailNEXT also enables brand manufacturers to make much better product and marketing decisions and truly measure ROI on advertising investments. The BVI Networks team includes former senior managers from Cisco, Motorola, IBM, Juniper, Novell and Intel, as well as retail professionals with extensive backgrounds in operations, merchandising and asset protection. BVI Networks is rapidly establishing partnerships with leading in-store solution providers and is quickly expanding its customer base. Early customers include major big box retail chains, grocery stores, hardware stores and specialty retailers. BVI Networks is headquartered in San Jose, California. For more information, please visit [www.bvinetworks.com](http://www.bvinetworks.com) or call 408-884-2162x710

## **14. About Retail TouchPoints**

Retail TouchPoints is an online publishing network for retail executives, with content focused on optimizing the customer experience across all channels. Tapping into the power of the Web 2.0 environment, the Retail TouchPoints network is made up of a weekly e-newsletter, category-specific blogs, twice-monthly Special Reports, Web seminars, benchmark research, virtual events, and a content-rich Web site at [www.retailtouchpoints.com](http://www.retailtouchpoints.com).

## About Axis Communications

Axis is an IT company offering network video solutions for professional installations. The company is the global market leader in network video, driving the ongoing shift from analog to digital video surveillance. Axis products and solutions focus on security surveillance and remote monitoring, and are based on innovative, open technology platforms.

Axis is a Swedish-based company, operating worldwide with offices in more than 20 countries and cooperating with partners in more than 70 countries. Founded in 1984, Axis is listed on the NASDAQ OMX Stockholm under the ticker AXIS. For more information about Axis, please visit our website at [www.axis.com](http://www.axis.com)