



## Facial Surveillance and Other Tactics in Modern Video Security

Theft and fraud continue to plague the banking and retail industries, with increasing creativity and reach. In the banking industry, a surge in ATM and gas pump skimming is being perpetrated by organized criminal groups who can strike 100 locations in a single sweep<sup>1</sup>. In retail, shrinkage rose more than 1.5% in a single year between 2009 and 2010<sup>2</sup>. 95% of retailers have been hit by organized retail crime (ORC) in the last 12 months<sup>3</sup>.

Weak security isn't the problem. Most of these crimes and criminals are being caught on several video cameras. From ATMs to parking lots, there are now 30 million cameras in the world capturing 250 billion hours of raw footage a year.

However, the omnipresence of surveillance cameras can translate to a data deluge for security and loss prevention teams. The sheer volume of recorded footage has now far outstripped the ability of human eyes to absorb it all and then extract and catalogue the meaningful events.

At the same time, compliance legislation requires bank investigation teams to file evidence on suspicious activities within 30 to 60 days of the suspect transaction. If banks do not comply, they can be held liable for fines that can reach millions of dollars.

A solution to staying ahead of the deluge lies in automated video analytics like Facial Surveillance, License Plate Recognition, or advanced object tracking. Integrating these video analytics with security and business systems (e.g., point of sale, ATM & Teller Systems, Alarm Panel, etc.) can transform a relentless profusion of raw footage into searchable, actionable information.

### "Google for Video"

The problem of video overload is similar to the early days of the web. At one time, there were no search engines; websites were manually catalogued by people one-by-one according to topic. But as the amount of web content exploded, it was no longer humanly possible to individually review and classify every website.

Google and other search engines solved the problem by automatically indexing websites, then using intelligent algorithms to instantly generate a list of relevant web pages for any topic or search term.

Video surveillance is undergoing a similar transformation. Automated video analytics systems analyze video footage in real time and turn raw footage into structured data that's organized, searchable, and most importantly, actionable.

Solving Fraud with Analytics and Data

Location	Data Integration	Video Analytics	Benefit
ATM	ATM Transaction Data	<ul style="list-style-type: none"> <li>Facial Surveillance</li> <li>Dwell Time</li> </ul>	<ul style="list-style-type: none"> <li>Combat ATM Fraud</li> <li>Investigate skimming</li> </ul>
Drive-up ATM	ATM Transaction Data	<ul style="list-style-type: none"> <li>License Plate Recognition</li> <li>Facial Surveillance</li> <li>Dwell Time</li> </ul>	<ul style="list-style-type: none"> <li>Combat ATM Fraud</li> <li>Investigate skimming</li> </ul>
Bank Teller Window	Teller Transaction System	<ul style="list-style-type: none"> <li>Facial Surveillance</li> <li>Customer Not Present</li> </ul>	<ul style="list-style-type: none"> <li>Investigate Check Fraud</li> <li>Investigate employee Fraud</li> <li>Investigate Identity Theft</li> </ul>

### Step-by-Step Use Case

**Incident:** A suspicious ATM transaction is identified by AML/Fraud Bank System.

- 1) Search on transaction in video surveillance system to find suspect's face
- 2) Use correlated search to identify other potential suspects aiding criminal activity
- 3) Use Facial Surveillance to search across other transactions
- 4) Create case in system
- 5) Find license plate of vehicle when person of interest uses a drive-up ATM
- 6) Export video evidence for law enforcement



## Increase Efficiency by Capturing the Footage that Matters

With Facial Surveillance and other video analytics, your video systems can know instantly whether a given segment of video has recorded a worthwhile event. This can lead to vastly more efficient storage. For example, a camera overlooks the entrance to a power plant, and only about an hour of footage every day contains any movement whatsoever. Video analytics can be used to store the one hour of important video at a higher resolution, and the remaining 23 hours of footage at lower resolution, translating to a huge gain in storage efficiency.

## Sharpen Your Perspective by Integrating with Enterprise Data Sources

Once video has been distilled into structured data, it shouldn't sit in its own silo. Open video analytics platforms with data integration and export capabilities allow video data to be mapped to other data sources. The resulting combination can dramatically increase the speed and efficiency of investigations. Security and loss prevention teams can have a single view of events that encompasses video, ATM transactions, alarm and control panels, and access control systems.

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## Faces: A Key Piece of the Puzzle

A key means of improving the efficiency of investigations is combining ATM transaction data with Facial Surveillance. Physical security breaches always involve people.

Video analytics software can identify faces in real time, making video footage easy to search and cross-reference with related data, even if events took place days, weeks, or months apart, and even if the suspicious point of transaction and face are not captured together. Security professionals can quickly understand what happened and focus their attention on the footage, places, and people that matter.

Criminal rings can attack more than 100 accounts in a single spree. With Facial Surveillance technology, investigators can quickly find all the accounts that might have been involved in criminal action. Not only can this make a big impact on solving crimes, but it can help investigative teams meet tough compliance requirements for suspicious activity reports, which must be filed within 30 days of a known transaction.

### Solving Fraud with Analytics and Data

Fraud Type	Video Analytics	Data Integration
ATM Fraud and Skimming Investigation	<ul style="list-style-type: none"><li>Facial Surveillance</li><li>Dwell Time</li><li>License Plate Recognition</li></ul>	<ul style="list-style-type: none"><li>ATM Transaction Data</li></ul>
Check Fraud	<ul style="list-style-type: none"><li>Facial Surveillance</li></ul>	<ul style="list-style-type: none"><li>Point of Sale</li><li>ATM Transaction Data</li><li>Teller Transaction Data</li></ul>
Employee Fraud	<ul style="list-style-type: none"><li>Customer Not Present</li><li>Facial Surveillance</li></ul>	<ul style="list-style-type: none"><li>Point of Sale</li><li>Teller Transaction Data</li></ul>
Identity Theft	<ul style="list-style-type: none"><li>Facial Surveillance</li></ul>	<ul style="list-style-type: none"><li>Point of Sale</li><li>ATM Transaction Data</li><li>Teller Transaction Data</li></ul>

## Using Additional Analytics to Connect the Dots

In video investigations, surrounding objects can help tie people and events together across space and time. Video analytics can go beyond facial recognition to find things like cars, license plates, and movement that will help paint a more comprehensive picture of events.

License Plate Recognition can provide additional evidence to investigations. Drive-up ATMs in financial institutions can use transaction data in conjunction with Facial Surveillance and License Plate Recognition to identify a person of interest. Investigative teams can search across locations for license plates of vehicles associated with a suspicious transaction or a person of interest. This additional evidence can sometimes make the difference in cracking an organized crime ring involved in multiple fraudulent transactions.

## Empowering Teams with Video Analytics

Amid a challenging business environment and increasing threats, Facial Surveillance and other video analytics can help loss and fraud prevention teams work more efficiently and solve crimes faster. Even in times of ample budgets, simply adding more cameras and more staff won't solve the problem of video overload. With the efficiency of video analytics, investigators can quickly find the relevant evidence to investigate incidents and identify suspects. Crimes will be solved faster, staff and resources will be more productive, and business assets will be more secure.

<sup>1</sup>Verizon Data Breach Report, 2011 | <sup>2</sup>Global Retail Theft Barometer, 2010 | <sup>3</sup>NRF, 2010