

Autonomy  
VIRAGE

Security and Surveillance

# Protect Your Organization with the Most Advanced Security and Surveillance System in the World



Imagine if - at a major international airport - a suspicious man is seen loitering. Maybe last week a truck was towed because it was parked in the airport's short-term parking for too long. A couple of months ago, someone was discovered in a prohibited area of the terminal and yesterday, a woman was caught going through security with a concealed weapon.

These seemingly unrelated security breaches may not represent a pattern to authorities but to the advanced software that mines and analyzes audio, video and text files, they do. By instantly connecting the dots of each of the security breaches as they surface on the network, the software reveals that all four individuals share the same workplace and that the woman arrested shares a common address with the driver of the towed truck.

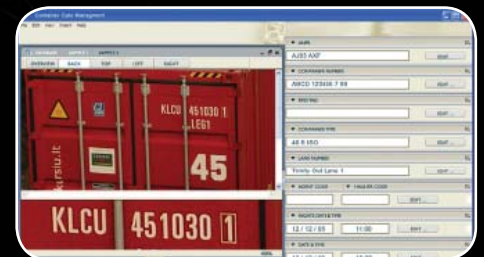
Cause for concern? Perhaps, but piecing together these clues manually could take months. With Virage, a leading provider of rich media management and security and surveillance technology, you can identify these patterns and alert authorities to investigate immediately.

Pre-eminent organizations such as the U.S. Department of Homeland Security, the Toronto Police Department, Dubai Police, and numerous other classified government agencies and security conscious corporations already rely on Virage to:

- Automate the capture, encoding and indexing of video surveillance
- Understand and interpret large volumes of video, audio and text files
- Alert police and security personnel to relevant information and activity in real-time
- Expedite police and corporate security investigations
- Protect corporate assets from theft, violence and vandalism
- Add context to intelligence and other valuable business information

## Capabilities

Virage not only provides an unrivalled range of stand-alone products but also a feature-rich platform capable of meeting security and surveillance requirements of any size - from complex command and control center deployments to small-scale security operations. The ability to not only access but automatically correlate and cross reference security and surveillance data stored in thousands of different file formats and in hundreds of information silos, allows organizations to adopt a proactive approach to monitoring operations. With an entirely modular architecture, Virage allows organizations to select only the capabilities they need.



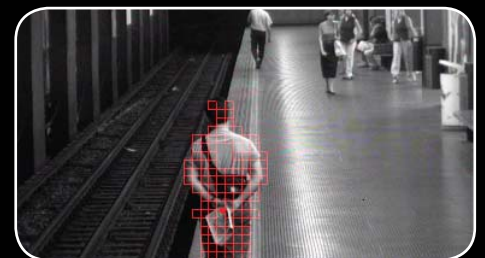
## Underlying Technology

Virage Security and Surveillance is a world leader in advanced recognition systems and brings together complimentary technologies that have been developed through extensive research including:

- Information Processing (both structured and unstructured)
- Advanced Recognition Software
- Video and Audio Analytics
- Process Management

As part of the Autonomy Group, Virage leverages the power of Autonomy's Intelligent Data Operating Layer (IDOL), an infrastructure platform which forms a conceptual and contextual understanding of all information, whatever its format or location. IDOL, provides a flexible framework, incorporating the essential attributes of a pan-enterprise infrastructure platform such as:

- **Scalability** - a linearly scalable system that can grow with the evolving information needs of an enterprise
- **Mapped Security** - delivering document and intra-document access control against user, group and role level entitlement
- **Global Language Support** - to enable the delivery of content in multiple languages
- **Support for Future Technologies** - delivered through an architecture that is extensible and can grow and adapt to new requirements and technologies



# Products

## Command and Control

Virage's unique Command and Control platform offers a fully comprehensive solution to pro-actively assist security officers, streamlining operations, and providing access to intelligence in real-time.

Command and Control provides an extensive range of automatic functionality including:

- **Automatic Hyperlinking to Related Content:** Given any piece of information, be it text, video or audio, Command and Control will automatically identify other relevant information, any relationships between different pieces of data and deliver it directly to the user in the form of hyperlinks.
- **Dynamic Clustering:** Command and Control is capable of providing a bird's-eye view of the entire knowledge base. By analyzing concepts held within different pieces of information, Command and Control identifies 'clusters' of related information, automatically sorting it into appropriate piles for immediate access. In this way, Command and Control unveils hidden relationships and identifies potential security threats that might otherwise have been missed.
- **Profiling and Alerting:** Through automatic profiling, Command and Control understands an investigator's interests and delivers highly targeted information in real-time to either a mobile device via SMS, by e-mail or over the Internet.

By automatically identifying correlations and trends present in any data, Command and Control allows security teams to understand the potential significance of seemingly disparate pieces of intelligence and take preventative measures to protect against risk.

## Digital and Network Video Recording (DVR and NVR)

Virage provides a full range of digital and network video recorders, with large system capabilities and a simple upgrade path. A one camera system can be expanded in a modular fashion to facilitate up to as many as 65,000 inputs per system.

Using advanced video compression techniques, Virage provides features including:

- Any combination of recording type – prescheduled, triggered event, pre/post event, snapshot and time-lapse
- Capture at up to full frame rate on all channels simultaneously
- Synchronous record, replay and archive
- High storage capabilities available from 120 Gigabytes to 1024 Terabytes

## Automatic License/Number Plate Recognition (ALPR / ANPR)

Virage's ALPR/ANPR system employs state-of-the-art neural network techniques in its character recognition. The system also has time scheduling as a standard facility to offer vehicle access control for commercial and industry entry / exit scenarios. Integration with the DVR system provides a complete solution to any license plate recognition requirement.

ALPR / ANPR applications:

- High volume or standard traffic flows
- Parking lots and garages
- Traffic surveys
- Gasoline filling stations
- To detect stolen vehicles

## Video Analytics: Intelligent Scene Analysis System (ISAS)

The Intelligent Scene Analysis System (ISAS) is an advanced solution that helps users of any surveillance system identify important activity such as a potential threat, an illegal action or a situation where help is required. In fact, the system can be trained to detect whatever the user requires.

ISAS integrates with any new or existing CCTV installation and improves efficiency in a wide variety of situations including:

- Monitoring access to restricted areas
- Traffic monitoring to identify vehicles in emergency lanes, illegal overtaking or stationary traffic on a motorway
- Monitoring rail or metro stations to identify people who are too close to the platform edge or overcrowding
- Airport monitoring to identify suspicious behavior or unattended luggage

## Electronic Point of Sale (EPOS) Monitoring

Virage provides high quality EPOS monitoring and DVR in one powerful package. The system detects and deters fraudulent activity at the point of sale by monitoring user-defined transactions such as:

- Refunds
- Discounts
- Voids
- Keyed Entry
- No Sale
- Credit Card

Separate interfaces are available to allow connection with:

- Cash registers (300 types)
- Car park ticket machines
- Automatic teller machines Coin scales and sorters
- Weigh bridges
- Toll booths

## Container Surveillance and Management (CSM)

Virage provides one of the world's leading vehicle and container management systems. Through high quality DVR management, CSM allows users to keep an accurate record of exactly when and where containers pass through transport hubs such as seaports, inland container terminals and rail container terminals.

Virage automatically captures information such as:

- Vehicle number plates
- Location
- Container ISO numbers
- Container Condition
- Container types

## Audio Recognition

Virage's audio recognition functionality includes:

- Speaker independence - works out-of-the-box with no manual training
- Extensive vocabularies - no arbitrary limit on size
- Speaker change and speaker recognition
- Word spotting and phrase recognition

## Our Value

Virage delivers tangible results for businesses of all sizes, across all vertical markets. Whether you select Virage to ensure public safety or protect your corporate assets, you can expect a wide range of meaningful and measurable benefits.

**Record** - Virage supplies and supports the full range of analogue and digital video sources, allowing your organization to realize even greater value from its entire existing infrastructure.

**Recognize** - Virage automatically understands and interprets large volumes of video, audio and text files, identifying what is relevant and allowing security personnel to focus on critical activities and confidently make more informed decisions

**Review** - Virage automates the capture, encoding and indexing of video surveillance, creating a highly-detailed index. This makes it faster and easier for security personnel to find the information they need in order to protect both people and corporate assets

**Report** - Automatic reporting reduces the costs of data entry and distribution of information to relevant users.

**Respond** - Virage automatically monitors large volumes of video surveillance and automatically feeds highly-targeted information to investigators in real-time, ensuring that threats are identified immediately and allowing for rapid response.



## Virage Security and Surveillance in Action

Virage delivers world-class surveillance and detection for offices, airports, casinos, intelligence agencies, transport networks, sports arenas, government buildings, oil and gas exploration sites, server rooms and more. Here are a few examples of our solutions in action:

### Streamlining Security Inspections

A major logistics company deploys Virage to streamline the inspection of transporters entering and leaving its distribution centers. Virage ALPR/ANPR records vehicle details and Virage's facial recognition identifies drivers as they approach the gates. If the driver and vehicle details correspond with the company's database information, the facility's barriers are lifted. The transporters can then proceed swiftly to the designated loading bays where the relevant paperwork is waiting for them and loading/unloading can begin.

### Keeping Freeways Safe

A government deploys an extensive Virage solution to monitor and identify dangerous drivers and illegal activity along the country's highways. Thousands of cameras are strategically deployed, including a combination of both analogue and digital IP video sources. Virage analyzes all of the video footage instantly from a central Command and Control center and matches license plates of offending vehicles with the government's database of driver registration information.

### Protecting Crowded Stadiums

One of the world's best-known professional soccer teams deploys a Virage-powered security and surveillance solution to protect their fans from terrorism and violence. This includes non-stop recording and transmission of all cameras in the main areas of the stadium and strategic cameras externally, advanced video motion detection and full alarm capability per camera. Virage can identify suspect behavior in crowded stadiums with pinpoint accuracy and alert security personnel immediately, allowing them to take preventative action.

## Contact Virage

Please contact us if you would like to see Virage in action, or have any other questions or comments.

### Virage Inc. (USA)

One Market, Spear Tower, 19th Floor,  
San Francisco, CA 94105, USA  
Tel: +1 415 243 9955  
Fax: +1 415 243 9984  
Email: [info@virage.com](mailto:info@virage.com)

### Virage (UK)

Cambridge Business Park,  
Cowley Rd, Cambridge CB4 0WZ, UK  
Tel: +44 (0) 1223 488 540  
Fax: +44 (0) 1223 448 001  
Email: [info@virage.com](mailto:info@virage.com)

### Other Offices

Virage has additional offices in Antwerp, Barcelona, Beijing, Bogota, Boston, Buenos Aires, Calgary, Cambridge, Chicago, Dallas, Darmstadt, Kuala Lumpur, London, Madrid, Mexico City, Milan, Munich, New York, Oslo, Ottawa, Paris, Pleasanton, Rome, San Francisco, Santa Clara, Shanghai, Singapore, Santiago, Sao Paulo, Stockholm, Sydney, Tokyo, Utrecht and Washington, D.C.