There’s More to Surveillance Than Meets the Eye
Building Safer, Smarter, More Efficient Communities Through Connected Intelligence

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Current Surveillance Falls Short for Public Safety

Advances in technology now deliver unprecedented volumes of data to public safety officials. This data is produced by a variety of sources, such as video surveillance cameras and gunshot detectors, that can aid crime investigations. Likewise, sensors on traffic systems, public transportation and other critical infrastructure can bring attention to equipment malfunctions, unsafe conditions and gridlock. However, for most public safety organizations, this flood of information is more than any agency can effectively review with its human resources alone.

To act swiftly in the face of community events and crises, public safety officials need more than fast and easy access to data from all of their disparate surveillance systems. They need data compiled, correlated and delivered as actionable information in real time—right at their fingertips.

Integrated Data Strengthens Public Safety Efforts

Over the past 15 years, communities have invested heavily in public safety systems to fight crime, protect critical infrastructure and manage disasters. They’ve integrated subsystems contributing pertinent data that include computer-aided dispatch (CAD), gunshot detection and license plate recognition. And they now have access to sensor-driven alerts that can detect faulty infrastructure, malfunctions in critical equipment and unsafe conditions, such as too many people on a train platform.

While society benefits from these systems, public safety organizations are still not getting the full value from their investments. For these agencies, it can be a hit or miss proposition for limited human resources to detect the right changes quickly enough to respond in a proactive manner. Logging onto each one of these disparate systems to manually correlate the information found there is not only a labor-intensive task, but also a recipe for information overload.

It’s simply not realistic for human resources to review the quantity of data these systems are generating. In 2012 alone, an estimated 200 million intelligent video surveillance cameras around the world captured 1.6 trillion hours of video footage, a figure expected to
double by 2020. An assumption that 20% of the most critical video streams produced that year should have been reviewed by human operators would result in a hypothetical need for 110 million operators working 300 days a year.1

To fully utilize disparate public safety systems and make the best use of limited resources, public safety personnel need to view current, relevant information from a variety of subsystems in real time. They need visualization tools that automatically update and correlate information from any location. And they need analytical tools that instantaneously process big data from multiple systems, bringing key issues to the immediate attention of decision-makers, first responders and investigators.

Improve Public Safety With Consolidated Information

There are now solutions available that can change the course of criminal investigations and make the most of current equipment and trained manpower. Rather than logging into 5 or 6 different systems to stitch together a picture of events at the scene of a crime, public safety officers can now view intelligence from diverse systems on a single pane of glass, in real time.

Think about the possibilities. Analytics will sort through the big data to bring the most important information forward. Hundreds of authorized individuals can view compilations of video footage at the same time without creating bottlenecks. Commanders will know how many resources to deploy. The following examples illustrate these capabilities:

First Response
A gunshot detector goes off and automatically turns the closest cameras towards the sound for a view of the scene. Cameras further from the gunshot automatically turn towards routes of escape, possibly capturing an image of any suspects, a getaway vehicle or potential witnesses. A series of 911 calls establishes the location of the shooting and information about the people who live there. First responders receive this collected information in real time as they arrive on the scene and quickly develop situational awareness.

Investigations
Investigators use the instant analysis of consolidated video footage to detect patterns in an environment, anomalies in a crowd and temporal events not captured by any given image. They can rapidly consult systems that intercept phone calls and computer traffic and use GPS units to locate suspects. Whether on the scene of a crime or back at headquarters, they can access systems that store records from prior investigations to find repeat offenders.

Special Events
At high profile sporting events or concerts, officers can connect into a facility’s security system to capture visual information. Without leaving their single pane of glass, they can also access information from city traffic systems to reroute traffic created by the event, identify license plates or set up roadblocks.

Deputize Local Business Security Cameras

The value of integrated surveillance solutions goes beyond just integrating your own systems: You can now integrate the systems of private businesses. Often a camera belonging to a hotel, store, utility company or other private entity has a view not shared by the cameras that hang from public poles. These privately owned cameras can be powerful tools in crime investigation, especially if police know of their whereabouts before a crime takes place. The integrated value of these new surveillance solutions encourages private and public entities to join forces for safer, smarter and more efficient cities.

For example, in cities such as Moreno Valley, CA, and Washington, DC, private entities can register their cameras and commit to sharing video footage with police. In Moreno Valley, this expansion of video capability has already cut the time it takes to investigate a crime in half. In some cities, businesses can also place selected cameras on a citywide network, where police can view camera footage within seconds of receiving a call or alarm at the business.

Leverage Your Investments in Public Safety Systems

At Hitachi, we are engaged in making the world a safer place through innovative surveillance solutions. We not only build smart public safety systems, but we also have the technology to integrate your disparate systems to make information from them more accessible. And we can turn big data produced by those systems into instant information to help you solve crime and protect your city’s critical infrastructure.

Efficiently viewing and analyzing data from numerous public safety systems requires a new generation of innovative tools. These tools run on top of existing, disparate systems and have the power to extend the reach and usefulness of each system while providing deep insight from comprehensive information. They also simplify the user experience by putting data from your disparate systems on a common platform and associating metadata with millions of evidence clips that can be retrieved for analysis. Here are just a few of the benefits:

**Metadata Management**

To avoid connectivity problems when accessing bandwidth-intensive video data for analysis, you need smart solutions with storage as close to the edge as possible. We can scrape metadata applied to videos and return only pertinent data for analysis, thus saving bandwidth. Once you’ve identified content that might act as future evidence, it can be stored in a public or private cloud infrastructure depending on the needs of the agency.

**User-Friendly Data Visualization**

Even a single pane view of information from date, time and information-stamped data can be overwhelming, unless public safety users can disseminate how and what they view. Our solutions allow you to turn information on and off and view key information in a geospatial format with icons that show up on the map as events occur. If a user needs to analyze events over a certain time period, an ideal timeline view is provided.

**Workflow Engine**

This new smart public safety system allows the setup of a workflow engine for automated responses to sensor data. This approach helps you program cameras to turn automatically when a gunshot goes off or send a text message when a particular event occurs, such as the opening of a warehouse door under surveillance.

Realize the Vision of the Smarter, Safer Community

Hitachi helps public safety leaders ensure safer, smarter communities by connecting public safety systems onto a single platform for efficient visualization and fast delivery of analytical insights. We bring together a unique set of capabilities that address all components of public safety technology, because machine data is part of our DNA.

We are also hard at work at developing the types of analytics needed to realize the vision of public safety officials. Hitachi builds much of the social infrastructure and machinery that produces big data. Research from our big data labs contributes to a steady stream of innovative analytics solutions designed to improve the quality of life in our communities.

In the near future, our systems will be able to help you predict where crimes are likely to occur, analyze the reasons for increases in traffic accidents, act proactively to avoid problems with critical infrastructure and more. To Hitachi, that means realizing a safer tomorrow for everyone.