Defence & Public Safety
Delivering Public Service for the Future

Video analytics: public safety solutions
to make the most of camera investments
Improving investments

While CCTV has seen exponential growth in recent years, it is only as effective as the response it is able to generate:

Countries such as France, with one million cameras, and the United Kingdom, with nearly 6 million cameras, have invested heavily in CCTV monitoring, while some United States cities, such as Chicago, are estimated to have as many as 24,000 cameras connected throughout the city—numbers that are challenging human analysis. When used proactively to monitor real-time events, CCTV operators struggle to remain alert to view all the footage. Known limitations in human concentration tell us 95 percent of incidents are likely to be missed after 20 minutes in the command and control room. The sheer volume of footage that needs to be analyzed is also an issue when CCTV is used reactively, following an incident. As criminals know all too well, 98 percent of video footage is not seen by anyone, let alone acted upon. As a result, it is necessary to question the true return on investment that CCTV by itself can offer as a public safety solution.

Video analytics can support and enhance the traditional use of CCTV as both a proactive and reactive public safety tool. Video analytics can quickly analyze, alert and report on CCTV footage—even monitor feedback from multiple cameras constantly—without the errors of manual intervention. Similarly, video analytics can deliver improved results as part of post-incident analysis. Immense improvements have been made in the accuracy of both video and biometrics analysis in the last five years. For instance, face recognition technology is more accurate than human analysis as vehicles and people can be counted with more than 97 percent accuracy. Also, age and gender can be automatically assessed with more than 90 percent precision rates. As a result, video analytics is becoming a far more reliable and trusted technology which can help to free up public safety staff for more valuable tasks—and provide public safety solutions that better serve citizens’ needs.

Dual challenges

Two core challenges are influencing the effectiveness of CCTV as a public safety solution:

First, public safety challenges are creating "the perfect storm"—a combination of budget cuts, evolving threats, decreased public safety officer headcount and increased citizen expectations, highlight the need to develop and maintain a cost effective response. Used intelligently, CCTV has the power to address these pressures.

A second challenge lies around the fact that CCTV alone does not deter crime. While there is no shortage of cameras, the existing infrastructure must initiate a response to best utilize camera output—despite more than 13,000 cameras in Paris, they were ineffective in the capture of the perpetrators of the Charlie Hebdo massacre because they were set up for traffic enforcement and were incompatible with systems that may be used for wider public safety purposes (such as facial recognition or vehicle identification).

The digital age, prompting a vast increase in the volume of video, enhanced connectivity and speed of data exchange, extends the ability to improve the use of CCTV as a public safety solution. However, poor compatibility between CCTV networks across agencies and non-existent integration of public safety systems and technologies, such as drones and body-worn cameras, is adding to the complexity of managing public safety concerns. With a high number of incidents across vast populations, it is essential to process information swiftly and generate the right intelligence in a timely way; for example, it still took five days to identify the Boston bombers' rucksack, despite the clear video footage of the incident.

Four steps to effective video analytics

Public safety agencies can benefit from pairing CCTV with automated analysis if they:

1. **Develop a strategy**
   
   Using video analytics and making it part of how public safety organizations’ operate already has the support of citizens. Eight out of 10 citizens surveyed declared they were in favor of police using digital technologies—83 percent citing they are comfortable with CCTV. Video analytics can benefit police officers in the field—improving situational awareness, providing a tactical information feeds and conducting real-time assessments. There is evidence, too, that body-worn cameras can have a positive effect on behaviors. When officers and civilians are aware their actions are being recorded, both are likely to act in a more civil manner—the Mesa Police Department found 77 percent of police officers believe body-worn cameras cause them to behave more professionally. Finally, video analytics and cameras are also a useful training tool, helping to prepare officers and improve the quality of service by providing a comprehensive view of incidents and interactions.

   **Action:** Shape a strategy for the next five years that builds video analytics into your organization, taking account of specific operational needs and demands. The strategy should also assess the implications for and practicalities around the storage and management of video data.

2. **Partner and interact in new ways**
   
   Public safety organizations can draw on the resources and capabilities of the private sector, either to gain greater intelligence or work collaboratively on a technology solution. Accenture collaborated with six government agencies to pilot the Singapore Government’s Safe City Solution. The Government can now integrate public safety video information from a range of agencies and produce meaningful insights in real-time.
Where next?

Arguably the biggest driver of productivity and growth for many organizations in the next decade, the Internet of Things—where existing objects are connected to the Internet to collect and receive data—will affect the private and public sector alike.

Business models, how data is shared and workforces are all being reinvented by this latest wave of digital innovation. For public safety agencies, this could mean that when a police officer enters a dangerous zone, his presence is automatically detected, activating the public or private CCTV cameras to offer support, cover or intelligence about the location.

The evolving sophistication of video analytics means that its accuracy and relevance are also growing. For example, video analytics could be used to detect violence or monitor prisoner congregations by sending alerts to preempt fights or assaults, leading to safer prisons and jails.

By redefining their strategies, embracing new partnerships, flexing technology and driving a dynamic approach, public safety agencies can take advantage of the new, improved video analytics to deliver public service for the future.
About Delivering Public Service for the Future

What does it take to deliver public service for the future? Public service leaders must embrace four structural shifts—advancing toward personalized services, insight-driven operations, a public entrepreneurship mindset and a cross-agency commitment to mission productivity. By making these shifts, leaders can support flourishing societies, safe, secure nations and economic vitality for citizens in a digital world—delivering public service for the future.

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