
## Technologies that will make a difference for Canadian Law Enforcement

The car is several meters away, with only the passenger's side visible to the naked eye, but that doesn't matter.  A 360-degree camera immediately zeros in on the suspect — the same suspect who had been previously identified in a crowded room via facial recognition software less than an hour before.

With the car blocked, the suspect bolts from the vehicle and begins fleeing the scene into a grassy field. The pursuit on foot begins, and normally getting a clear photograph in these circumstances would be next to impossible. In this case, however, a unique algorithm in the body-worn camera reduces vibration, reflections and other potential distractions so that a proper image is captured. Even if the suspect manages to get away at this point, a vital piece of evidence is already on its way back to headquarters.

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While elements of this scenario may still be new to some Canadian police officers and law enforcement personnel, this is not a scene out of science fiction or a description of the distant future. In fact, all of the technologies described are real, ready for deployment and actually being used in some cities, right across the globe. Technology is evolving at a high rate of acceleration, with the potential to make communities smarter, safer and more sustainable.

Not far from Canada, for instance, a glimpse of what smart cities will look like is already taking shape. Consider the city of Denver, Colo., where Panasonic has brought in security cameras, environmental sensors and smart-road systems in an area near the municipality's airport. Much like similar initiatives in Fujisawa, Japan, technologies that range from mobile Internet and cloud computing to 3D printing and renewable energy offer ways to create a more citizen-centric approach to government, more specifically public safety, that would have been unthinkable a few years ago.

In practice, of course, any new wave of technology needs to overcome a number of challenges or obstacles before adoption becomes commonplace and best practices begin to emerge. No matter how revolutionary the IT equipment or applications, the most successful organizations have learned to tie them directly to objectives that can be clearly measured. This will be particularly true of the technologies that are brought in to augment an area as critical as policing and public safety.

## The need for integration

Whereas there might have been some resistance to automation or adopting more technology into police procedures in the past, many law enforcement professionals are eager to get as hands-on with the latest innovations as possible. In fact, there are some areas where police personnel suggest even more work could be done to create technology solutions that directly address life-and-death risks.

For many law enforcement agencies in Canada, there is a trend towards convergence, primarily in how video-based products can be used with other technologies to enhance public safety. For example, using multiple technologies together for maximum efficiencies for front line. These technologies, however, need not be limited to what police carry with them or have installed in their cars. Take the scenario of surveillance tools reimagined based on how the technology is evolving. More specifically, a traffic accident, where the driver who caused it immediately left the scene.

In this scenario — in a smart city — if that camera was on the exit ramp or an entrance ramp, police could possibly locate that vehicle. On one hand, this brings up possible privacy concerns, but on the other hand, with Canadians becoming more comfortable with tracking systems for toll highways, the possibility of these technologies being used become one step closer to reality.

The truth though is that decisions around allocating the resources required for that kind of initiative isn't up to law enforcement agencies alone. For most jurisdictions, the road to smart cities will require deeper collaboration with other municipal departments, elected officials and businesses. Police officials might understand the need to leverage technology to improve public safety, but they don't always have that ability, whereas municipalities have budgets to say, 'Yes, this is a great investment.'

## The connected police force

While they develop those alliances, law enforcement agencies will likely be learning about what works (and what doesn't) from an IT perspective based on the experience of those in the field. The modern police car, for instance, is now often equipped with everything from laptops and cameras to a plethora of applications to assist with note-taking, evidence-gathering and more.

Even with all these innovations, however, there are some public safety officials who suggest there are nuances to their procedures and processes that technology doesn't always take into account. For example, there can be three different kinds of note-taking involved in any investigation. This includes written notes, those recorded on an app, and those entered into a computer-aided dispatch (CAD) system. That makes the business case for bringing on new hardware or software becomes more complicated.

However, it's not just a matter of convincing senior leadership within a police force as Crown attorneys may challenge certain kinds of information gathered through innovative technologies to be accepted as evidence in court. The forces of innovation, meanwhile, wait for no one. Video might soon represent another form of note-taking, for instance, possibly as a means to let the public share their stories more easily and capture emotions in real-time that might be difficult to articulate later on.

As with any expenditure in the public arena, there must be justification for every dollar spent. The return on investment comes in proven, real-world examples of improved public safety, especially when it comes to technology investment.

If vehicles are equipped with in-car cameras, why also have witnesses and victims stand at the side of the road hand-writing statements, where, by the time they get to court, they can't remember why they put certain details in there? The impact of having good evidence to support a criminal offense, or even a traffic offense, has resulted in a reduction of offenses going to trial.

In this instance, being able to put officers back out on the road versus sitting in a courtroom for eight hours, provides easily demonstrable return-on-investment. There is a push within police organizations to move toward creating more officer mobility beyond the vehicle. That's why police forces are piloting Panasonic CF-33 detachable notebooks, to create "true mobility" for officers who

want to update their notes while sitting in a hospital or school, for example.

For a long time, there has been a paradigm for the connected officer. Police agencies either move the technology out of the vehicle so the officer can increase productivity at a road side or at a victim's house, but conversely, there remains a dependency on the police car and the ability to have a large screen to perform tasks like make a query while driving to a dispatch call.

In other business sectors and even in the consumer space, the overwhelming trend has been to work towards a "mobile first" approach to technology, where almost any activity can be conducted directly via an individual smartphone. While that may be true of law enforcement at some point, experts are advocating for a more blended take on computing.

This is where mobility comes into play because it deals with existing or emerging technologies that are smartphone-ready. Whatever the solution, police agencies are saying, rather than being locked in to a particular vendor's products and services.

## The privacy paradox

Even as law enforcement agencies and vendors continue to optimize the way they collect and manage information, there's still the responsibility of respecting citizen privacy and complying with local and national regulations.

The rise of smart cities, however, may change attitudes towards privacy.  As citizens become consumers of open data sets to provide richer experiences from government, the public may come to recognize the need for greater freedom for law enforcement agencies to manage information in a way that ensures safety for all.

At the end of the day though, public safety is a trust business, in which transparency is critical to the process.

## Conclusion

Many professions and industry sectors - from transportation to hospitality and retail - have sometimes struggled to grapple with the forces of disruption. Despite some understandable growing pains, however, there is a concerted effort by law enforcement organizations to keep pace with the innovation that surrounds them.

Just as in-car technology once seemed intrusive, body-worn cameras will soon become a regular fact of life for officers, who will also be influenced by the wearable technologies becoming more pervasive in the consumer market. Besides mastering the ways technology can assist with

investigations and other everyday activities, some of the next steps will include working more closely with partners such as the Crown to work out how best to share information in the most effective way.

For many, smart cities that embrace data-driven policing are most likely to thrive, no matter how the technology changes. It's about building efficiencies along with the technology that really matters.

And at the end of the day, the goal of all this technology is to enhance public safety, all while making the jobs of our law enforcement personnel easier, safer and smarter.

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