

Big data, high-tech tools enhancing law enforcers' jobs

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SALT LAKE CITY — While the cyborg-vs-robot battles set in the crime-ridden near-futurescape of the '80s hit "Robocop" haven't quite come to fruition, a host of new and advanced high-tech tools have fundamentally reshaped the job of law enforcement.

Veteran cop and Salt Lake City Police Chief Mike Brown was first sworn into duty just a couple of years after "Robocop" debuted in theaters. Since that time, he's seen a profound evolution of the tools police officers use to prevent and fight crime.

And, he noted, it's been a process driven by necessity.

"Things have progressed pretty rapidly in the 29 years I've been on the job," Brown said. "When I started, we were handwriting reports and the coolest tech we had was a cellphone the size of a lunchbox.

"But to catch 21st century criminals, we need 21st century technology. Criminals are using the latest technology to commit crimes, and law enforcement has to use the same tools to do our jobs."

Technological advances have been behind many of the changes and upgrades to tools officers engage with every day like body cameras, cellphones, mobile computers, nonlethal stun guns and lifesaving kevlar vests.

But perhaps even more significantly, a slew of computer-based digital assets have given police officers the ability to communicate more effectively, identify and apprehend criminals more efficiently, and in some cases, even anticipate when and where crimes will occur before they happen.

The right tools for the job

Anyone who's had occasion to see or interact with a patrol officer of late has likely noted the sheer volume of gear variously strapped, hooked or holstered to that officer.

It's a lot, and the full complement now also includes a harness to help prevent injury to the officers that are lugging all this equipment. Some of the most notable new tech-driven gear includes still-evolving tools like body cameras and nonlethal stun guns.

Salt Lake police quartermaster Cody Lougy gave the Deseret News a guided tour of the latest innovations and noted the department is field testing the Axon 3 body camera, the latest iteration from the company formerly known as Taser.

While police body cameras started coming into use in the early 2000s, studies indicate only about half of the 18,000 or so police departments in the U.S. were utilizing the equipment as of 2019. Cost has played a role in this utilization. Cameras are expensive, and the Axon 3 starts at around \$700, but even bigger ongoing costs are related to the storage and management of the accumulated video footage.

The cameras being tested by Salt Lake police — officers are currently using an earlier model — have some new capabilities that can enhance the usefulness of the device, but have also raised concerns among civil rights groups.

One of those new capabilities, and part of what the Axon 3 cameras can do, is allow for live video and audio streaming. That's a feature that Lougy said could play a vital role in certain, high-stress law enforcement situations.

“So, if I'm a supervisor out in the field, and my officers are calling me to a critical incident, I can hit live stream,” Lougy said. “I can hear the conversation, I can see what's going on as I'm going to the scene. It also has a gunshot indicator so, if I fire my weapon, it automatically alerts command staff that a weapon has been fired.”

Nonlethal stun guns, like the Taser models used by Salt Lake police officers, came online about the same time as body cameras and have also evolved over the years. The weapons fire electrodes that penetrate the target's clothing and administer pulses of electricity of around 50,000 volts. Lougy said the new models have design enhancements that have helped improve the performance of the weapons, which are standard issue for Salt Lake officers.

The real robo-cops

Salt Lake police have three remote control robots in their portfolio of law enforcement tools and the machines have played critical roles in numerous incidents, taking the place of officers in very dangerous situations.

Sgt. Ryan Albrecht, attached to the Salt Lake police bomb squad, said the department's three robots have different capabilities to operate in a variety of scenarios. One machine that he demonstrated for the Deseret News was equipped with high-resolution cameras, a variety of arms that can deploy and manipulate various tools, as well as a water cannon and another weapon that can be loaded with a variety of lethal and nonlethal charges.

The machine also has the ability to morph, with quick-detach wheels that will allow it to climb stairs and enter and access tight spaces like buses or airplane aisles.

Albrecht said the most common deployments of the robots are in response to suspicious packages and potential explosive devices. The robots can perform fairly complex procedures with its arms, all being operated remotely by department explosive experts. The machines can

also be equipped with sensing devices that can detect some hazardous chemicals as well as radioactivity.

While some of the robots can be outfitted with lethal weapons, Albrecht said the department has never used a robot to deliver lethal force. That issue earned national news headlines in 2016 after Dallas police rigged a bomb squad robot with a pound of plastic explosives that were later detonated to kill a suspect who had shot and killed five officers, injured seven others and had become cornered in a parking structure.

Albrecht said Salt Lake's robots are first and foremost a tool to keep the public, and police officers, safer.

Building a smarter force

SmartForce is a digital communication platform that was developed by the nephew of an Argentine police officer who had the opportunity to join his uncle on some calls as a young man. One observation that stuck with Mariano Delle Donne after he won a scholarship to attend a U.S. university was the lack of a solid, real-time communication tool for cops.

Brian McGrew, SmartForce vice president of sales and marketing, said Delle Donne would go on to develop the platform after earning an information technology degree and working as a government consultant for Microsoft.

McGrew said that while most law enforcement agencies still rely on chains of email as their base of communication, SmartForce provides a significant improvement to that system, allowing information sharing between and among law officers in a particular department, as well as drawing in data from numerous other sources and agencies. It's also a system that can be accessed from any type of device, including smartphones, laptops and tablets.

"SmartForce is an everyday tool that combines multiple technologies into one platform so cops have the information they need to make critical decisions at their fingertips," McGrew said. "That real-time information is critical ... and helps officers get to that critical, next logical step faster."

For Salt Lake police officers, the department's SmartForce homepage features a scrolling photo gallery of current suspects or people of interest related to criminal matters, notes about ongoing enforcement efforts, information from across the department's individual divisions sharing data about cases under investigation and much more. The platform can be updated in real time and also mediates information exchanges between officers.

Brown cited one example of how the immediacy of a tool like SmartForce can have positive impacts on police work. He noted that an officer handling a missing persons report can gather the relevant info, download a photograph and have that information live on SmartForce — and available to every officer in the department — in a matter of moments.

“The difference and efficiency with how we do it now is exponentially better than in the past,” Brown said.

Big data drives better policing

Several years ago, Salt Lake police launched a semimonthly meeting, CompStat, that brings department leaders together with data analysts in an effort aimed at forging, and monitoring the best strategies for both crime solving and crime prevention.

It’s an approach Brown said has led to measurable and significant outcomes in reducing crime rates throughout the city. He said the department has not only built a system to make the best use of historic data to inform today’s best crime-fighting practices, but can leverage that information in ways that are both immediate and highly effective. The new, high-tech practices have become “almost core” to the modern job of law enforcement, Brown said.

“If you’re not using analysts to assess your data and look for crime hot spots and trends, you’re behind the curve,” Brown said. “Critical crime analysis is not what occurred in the last 24 hours, it’s what has occurred in the last five minutes. The real crime analysis happens in minutes and hours, and is put back out in the field.

“CompStat is just a measure of how we’re doing and where we need to focus.”

Finding the balance

Brown noted that challenges sometimes accompany the adoption of new, high-tech tools, and being responsive to community concerns, alongside the mission to utilize the best crime-fighting techniques available, is an ongoing effort.

“The technology certainly helps us do our jobs better and keep our officers safer,” Brown said. “Along with that is making sure the community knows how we’re using it.

“What it comes down to is the community will support us if they know how and why we’re doing this ... and bring them in and let them try some of these tools and technologies. We’re here to work with our community and reassure them that we’re using these tools and ... we’re always working to balance personal privacy and the safety of the public.”