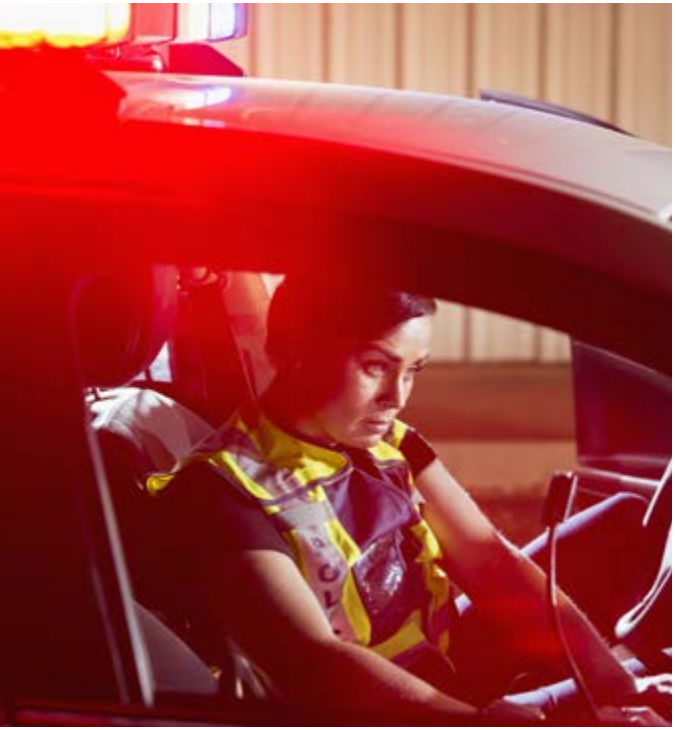
Panasonic

The Technologically Advanced Squad Car – Why We Need It



Police vehicles are becoming more than just modes of transportation. Technological advances are transforming squad cars into powerful crime fighting machines. These teched-out patrol cars contain sophisticated tools designed to heighten officer safety and streamline efficiency. Best of all, innovative tools in the vehicle act as force multipliers to keep costs in check for budget-driven law enforcement agencies.

Departments have come a long way from the days when officers drove 5,000-pound police vehicles equipped with gongs. The original police cruisers could reach 18 mph, ran for up to 30 miles on a single battery charge, housed prisoners in a cell in the back and served their purpose. But as criminals advanced in their use of technology, police officers and their squad cars had to evolve as well.

Today's complex cruisers drive all day, reach speeds of up to 150 mph, and come equipped with advanced sirens and lightbars that integrate into other technologies in the vehicle and at police headquarters. A smart squad car leverages mobile computing capabilities via a rugged computer, router and antenna securely mounted inside. These tools allow officers to wirelessly connect to computer-aided dispatch systems, records management systems, and other databases housing mission-critical information. Cruisers also can include video cameras, global positioning systems (GPS), license plate readers and night vision capabilities.

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Mobile Command Center

As a digital command center, a police vehicle boosts efficiency and increases officer and public safety by enabling the ability to:

- Respond quickly to a range of incidents with limited police resources.
- Collect information in the field, such as vehicle license plates, to reference against online databases, such as the National Crime Information Center (NCIC) online clearinghouse.
- Record police-citizen encounters for greater police transparency and accountability, reducing public complaints while protecting the public from unnecessary use of force.
- Provide real-time access to data in the field giving officers greater situational awareness while affording dispatch and command a view into circumstances as they unfold.

84% LAW ENFORCEMENT AGENCIES

that used mobile field technology installed in squad cars or worn by officers

Source: 2016 *POLICE* Magazine survey

Transformative Technology Needs

In 2016, a Police Magazine survey found 84 percent of law enforcement agencies reported using mobile field technology installed in squad cars or worn by officers. This number is growing exponentially. But, to gain maximum value from an investment in mobile tools, police agencies must arm their squad cars with guaranteed communications coverage. This feat is accomplished by leveraging cutting-edge communications platforms such as satellite, in-vehicle hotspots, LTE, Wi-Fi, etc. To be of use, communications platforms also must offer the right transmission speeds and bandwidth; with optimal speeds of at least 3 megabits per second when streaming video.

In addition, the connection to communications must work in all conditions, be it high speeds, vibrations, severe weather, extreme temperatures or rugged terrain. It must be secure, in other words encrypted in such a way to give authorized users access while keeping unauthorized users out. Finally, mobile computing technologies must easily integrate with other systems to offer seamless interoperability with GPS; video systems; license plate readers; body cameras; e-ticketing systems; and smartphones, tablets, laptop computers and wearables.

Applications for Technology

The squad car command center offers tremendous potential for officers. Connected devices help make officers' jobs less dangerous and less difficult. But their ability to boost efficiency is where the rubber meets the road; this technology acts as a true force multiplier, allowing agencies to do more with fewer officers.

Police agencies are embracing mobile technologies to dramatically reduce manual processes and make better use of officers' time. The technology frees officers from the confines of the precinct so they can be more visible in the field and solve crimes faster. Consider the impact of just some of the available cruiser technologies:

Dash Cams and Body Worn Cameras. Not long ago, dash cameras and body worn cameras (BWC) worked independently of each other. Today that's not the case. These two capabilities are integrated within squad cars to provide a powerful picture of what occurs on-scene. In-car video captures the big picture at a call, while BWC records an officer's point of view during police-citizen interactions.

Automated License Plate Readers (ALPR). Research has shown that 70% of crimes involve a vehicle. Officers leverage ALPRs to scan the license plates of moving cars to determine if a driver is a person of interest. They also employ the technology to apprehend fugitives, locate missing persons, track down suspects of violent crimes, recover stolen property and more when they run plates against data housed in NCIC and other databases. In fact, 87 percent of participants, in a NetChoice survey of more than 500 law enforcement agencies, reported ALPR assisted officers in solving Part 1 offenses, such as homicide, rape and armed robbery.

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GPS offers navigational safeguards for officers while giving dispatch and command an accurate picture of where patrol cars are in the field. GPS also grants situational awareness to other officers on duty. Though GPS has been used for a long time, its applications are increasing as agencies extend its use to laptop and tablet computers, smartphones and wearable technology. When this is in play, dispatch and command gain greater insight into where an officer is once he leaves the patrol car. Should an officer require emergency medical care or backup assistance, they can direct it to the right place.

Night Vision mounts on a vehicle's spotlight and is controlled by an officer inside. The system lets officers see in the dark. The visual intelligence gained by its use helps officers react quickly and proactively. For example, if an officer responds to a call about a home burglary in progress and rolls up guided only by night vision, he may be able to sneak up on the suspect and catch him in the act. In a rural area, night vision might aid in finding a suspect hiding in a field or an Alzheimer's patient who has wandered off. Rugged computers with backlit keyboard capabilities and monitors with low-light capabilities also provide night vision of sorts. The computers let officers send and retrieve critical information in dimly lit areas.

E-Ticketing software loaded onto rugged mobile data computers and connected to a mobile printer, quickly and accurately captures, processes and accesses information from the squad car. Officers input license information with a barcode or magnetic stripe reader, enter citation information, and then print a paper ticket. Ticket data uploads automatically into an agency's records management where it can be used for analysis or reporting and is tied into court records management systems. And because this application is faster and more efficient, officers are out of their cars for less time, reducing exposure to danger from other traffic — a major contributor to the police injuries and fatalities logged every year.

Keep the Connection

Officers once walked into a scene with little more than an address in their hands. Today, mobile connectivity provides them with real-time information in advance of their arrival. As they respond to the scene, officers use their mobile computers to pull up suspect histories, mugshots, previous incidents at the address, and other critical information designed to increase situational awareness. When they leave the car, untethered access to information tools keeps them safer by continuing this real-time connection via smartphones, tablets or wearable technology. Once back in their vehicle, officers can efficiently document the incident, attach photos from the scene and upload video to the agency's records management system.

Here, capabilities hinge on the utility of a mobile computer, which serves as a data powerhouse that connects officers to detailed information and records and gives them a tool to report incidents after they end. However, even with a reliable communications connection, mobile computers need to be designed for the challenging patrol car environment. While many computers promise to hold up to vigorous use, only a rugged computer and hardware designed for police use stands up to the tough patrol car environment.

Rugged devices tested to MIL-STD-810G offer resiliency in extreme environmental conditions. Devices meeting this standard can withstand severe vibration and temperatures. They are wind, rain, sand, dust, fluid, crash and shock resistant. They also hold up well in high humidity and high altitudes and continue to operate even after accidental drops.

Technology that transforms squad cars into powerful crime fighting machines is more than a bunch of unnecessary bells and whistles. These advanced tools enable officers to serve and protect more efficiently. That, in and of itself, makes them a worthwhile investment. But the tools also provide invaluable situational awareness that keeps both police and the public they serve, safe. While this technology costs money, it's hard to put a price on safety.

Panasonic Products are Built for Policing

Panasonic meets the mission-critical challenges of public safety with patrol car connectivity solutions that include 360-degree mobile evidence capture cameras for vehicles; wearable body cameras that automate capture and transmission of video evidence; rugged laptops and tablets tested to rigorous military specifications; industry-leading software and a full system of professional services to help agencies plan, test, and deploy their technology. Panasonic takes its customers' jobs seriously and listens carefully to their needs and feedback, which fuels ongoing product innovation — all with law enforcer's and public safety professionals in mind.

Panasonic TOUGHBOOK computers are built to be mobile and offer an industry-leading failure rate of 2.5 percent. They can handle extreme environments, even temperatures from -20 degrees up to 140 degrees Fahrenheit. They are shock and vibration resistant.

These hardened computers can be configured and customized to handle data retrieval programs, run license plate numbers, scan photographs or organize case details. And, the computers' dual execution cores enable them to run several demanding software programs at the same time.

Law enforcement officials work hard to keep us safe. They deserve a computer that works even harder to keep them productive and safe too.

For more information about Panasonic technology for law enforcement:

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