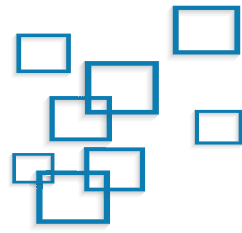


# Rugged Mobile Solutions Take Emergency Response To New Heights

*For firefighters, police officers, and EMTs,  
working more efficiently isn't about cutting  
costs — it's about saving lives.*



## Rugged Mobile Solutions Take Emergency Response To New Heights

**W**hen fire trucks, police cruisers, and ambulances are racing to the scene of a fire, accident, or some other emergency, the two things these workers all share in common are the need for reliable communication (voice and data) and access to information. Mobile technology is playing an increasingly important role in equipping emergency responders with the necessary tools to help them make difficult decisions under pressure. With the right solution, emergency responders lessen the burden of having to recall and document the details of emergency incidents.

In this article, we'll explore common emergency response scenarios that illustrate how mobile IT solutions can be used to help responders work more effectively and safely, and we'll end with some best practices to keep in mind when evaluating similar solutions for your organization.

### Mobile Technology Shifting For Police Departments

A large portion of a police officer's work day could involve pulling over motorists — whether for speeding, failing to obey traffic signs, or a variety of other reasons. Over the past decade, more and more police cruisers have been outfitted with in-vehicle rugged mobile laptops, complete with wireless access to DMV and criminal databases that provide immediate feedback on the vehicle and driver in question. Not only does this cut down on the time it takes to complete each citation, it also helps police officers find out more

quickly when a routine traffic violation could become a potentially dangerous situation.

More recently, rugged tablets have become the form factor of choice for many police departments since these devices can be more easily undocked from vehicles than their laptop counterparts. Now, in a single trip, the officer can scan a driver's license (using a built-in 2D imager), write up a ticket, capture the driver's signature on the touchscreen, and even issue a copy of the ticket using a USB/Bluetooth printer clipped to their belt.

**Rugged mobile solutions are once again being used to help responders focus on taking care of patients rather than on all the extra tasks and requirements vying for their attention.**

### EMTs Reduce Paperwork, Improve Accuracy With Rugged Tablets

Of all the emergency responders, the medical responders' jobs have to be the most consistently hectic because not only are they dealing with people's lives on a daily basis, they have to worry about complying with the latest HIPAA regulations as well. And, on top of that, first responders come in contact with lots of sick people, and therefore, need to ensure they're not inadvertently spreading germs from one sick person to another.

After working all day in a high-stress environment, first responders have to thoroughly document each situation, so patient records can be updated, healthcare insurance companies can be billed, and lawsuits can be minimized.

Rugged mobile solutions are once again being used to help responders focus on taking care of patients rather than on all the extra tasks and requirements vying for their attention. Wireless tablets can be used to access patient

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records (e.g. to verify allergy and/or other medical concerns with unconscious patients) and document the details of an accident — including the treatment provided — all while at the scene when the information is fresh in the EMTs' minds.

### **How A Fire-And-Rescue Department Improves Patient Care With Tablet PCs**

In Pierce County, Washington, a local fire-and-rescue department that serves a population of more than 75,000 with 6 staffed and 6 volunteer firefighters decided to make the transition from paper-based records to an electronic patient care reporting (ePCR) solution deployed on tablet PCs. The department sought to eliminate the unnecessary duplication of information, increase the accuracy of reports, save time, and improve the overall quality of patient care.

**Since the implementation, the fire department eliminated its reliance on time-consuming and error-prone paper processes**

The fire department implemented ePCR software from ESO Solutions and began the search for a tablet PC that was durable enough to withstand the conditions in the field as well as provide optimal computing power. After researching a variety of mobile devices, the department chose to implement Wi-Fi and Bluetooth-enabled F5 rugged tablet PCs from Motion Computing,

complete with mobile docking stations in each of its primary EMS vehicles.

Once on the scene, the medics

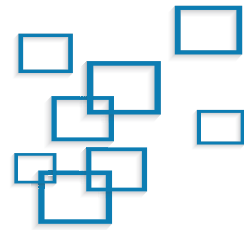
use the tablet PCs for everything from entering patient information and capturing photo documentation to importing vital signs, such as heart rate, blood pressure and oxygen levels, from other medical devices. All necessary information is captured on the tablet and either printed in the EMS vehicle or electronically faxed to the hospital in order to ensure that the patient is seamlessly transitioned from the medics' care to the hospital for treatment.

"After the patient is in the hospital's care, the medics are required to provide a paper copy of the patient report, which the medics are able to complete by using the tablet PC's Bluetooth keyboard and printer," says the department's information systems manager. "From prepopulating some of the information taken during the 911 call through the ESO software to transferring the necessary data to the billing company on the backend, we are pleased with how these rugged tablets have been able to support the entire emergency process."

Another advantage is the F5's hot-swappable battery feature, which enables the medics to replace an existing battery with a charged battery while the tablet is operating, with no need to shut down or standby. "We needed a tablet with substantial battery life, since we are often called on back-to-back calls with no time to stop at the station," said a fire fighter. "The hot-swap feature is essential to have, and we are confident our rugged tablets will maintain power and mobility while out in the field."

Since the implementation, the fire department eliminated its reliance on time-consuming and error-prone paper processes, saving significant resources, creating efficiencies, and improving the

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quality of its patient care. “Now, the reports are more legible and complete,” said the information systems manager. “We also don’t have to re-enter patient or billing information, which saves enormous amounts of time and effort. Not only can we input more information into the ePCR with the tablet PCs, but we also can’t close out the report until all the fields are filled out, which increases accuracy,” said a fire fighter. “The reports are also much easier to access later, since we don’t have to sift through huge stacks of paper, we can pull them up electronically.” The department now benefits from on-demand access to all its recent reports, which are stored in a database, increasing the quality management and security of the data. According to the information systems manager, “We’re formulating a program for our deputy fire marshals to use the tablets to store, process, and sign off on new building and code inspections, too.”

### **3 Tips For Choosing The Right Rugged Mobile Solution**

The examples mentioned above represent a small percentage of the ways mobile solutions can and are being used to help emergency responders work more effectively and reduce the inefficiencies that go along with the traditional paper trail of documentation that accompany emergencies. That said, there are some important choices to be made when selecting a mobile solution, such as choosing the right device, communication strategy, and applications. Making a mistake in any of these three key areas can seriously reduce your chances of success. The following are tips to keep in mind as you consider mobile computing solutions for your emergency response organization.

#### **1. Choose A Communication Strategy With The Best Coverage**

A good place to begin your mobile computing selection is by considering all the ways the first responder will use their device to access information and/or communicate. Unlike a repair person who may be able to get away with carrying a device that has a lot of information stored locally, there’s probably a good chance your “field worker” will need access to real time information and therefore will need reliable wireless connectivity. Before selecting a wireless carrier, be sure to compare the carriers voice and data coverage maps with the area your emergency responders cover. If you’re in a very remote area with limited cellular coverage, you’ll need to look into antenna boosters and possibly satellite-based communication as a backup.

#### **2. Get Lots Of Input Before Choosing A Mobile Application**

One thing that’s nice about the emergency response field is that there is much more openness to sharing ideas among organizations. Use this to your advantage when evaluating mobile applications for your responders. Find out what applications your peers are using to support their responders. One thing’s for certain: developing a customized application from scratch should be the last thing you should consider and only after exhausting all other options, which should include contacting industry associations with which you’re affiliated.

#### **3. Keep TCO Top Of Mind When Selecting Mobile Computers**

For some companies, mobile devices are viewed as commodities that can be easily discarded and replaced if broken. If you’re thinking about using the latest consumer-

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### **The recent influx of consumer devices into the enterprise has contributed to an increase in device failure rates.**

grade Android, iOS, or Windows tablet for your first responders, you should consider the following research findings from VDC Research Group:

- The recent influx of consumer devices into the enterprise through broader support for BYOD programs and the desire by users for a more intuitive and modern platform has contributed to an increase in device failure rates.
- Failure rates for popular (nonrugged) consumer devices used to support line of business applications exceeds 15% for tablets and 20% for smartphones, representing a measurable increase in comparison to the previous research conducted by VDC.
- Conversely, failure rates of rugged devices dropped.

What studies like this show is that while the initial price tag of a consumer device is much less than its rugged counterpart, when you take into consideration the cost of downtime and the limited uses of consumer devices in harsh work environments, the total cost of ownership (TCO) of a rugged device is a smarter financial move.

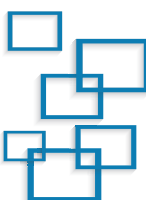
Here are some additional considerations to keep in mind with your device selections:

- *FORM FACTOR*. Handhelds, tablets, and laptops all have their places in the outdoor work environment. If your primary mobile application requires minimal data entry and primarily makes use of drop down menus and check boxes, keep handhelds

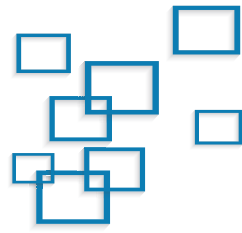
in mind as viable options. If, on the other hand, there is a need for data entry, applications that run on full Windows operating systems, and/or the need for viewing maps or graphics, then tablets or laptops are going to be better options. One of the nice things about a tablet is that it's more portable than a laptop, and for workers who do a lot of data entry most tablets can be paired with a physical keyboard via Bluetooth. The one thing to watch with some tablets is the operating system. You'll want to make sure it supports the mobile applications you'll be using.

- *RUGGED VS. SEMI-RUGGED*. Lots of mobile computing companies will use the term rugged, when in fact their devices are better categorized as semi-rugged. Make sure to not only ask questions but test devices before making your final selection. Here are some questions to keep in mind:

- Can the device be cleaned with disinfectants?
- What kind of a drop (and onto what kind of surface) is the device designed to withstand?
- Does the device have specific internal components that protect it against shock and vibration (i.e. not just a consumer device in a hard shell)?
- Is the device's screen readable in bright sunlight and backlit at night?
- Does the device use a spinning disk drive or a solid state drive?



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- **BATTERY LIFE.** Unless the mobile device will spend most of its time in a vehicle charging dock, battery life is a very important consideration. Many emergency responders work beyond the traditional 8-hour shift, so a 10- or even 12-hour battery life is important. Even better is selecting a mobile device that supports hot swappable batteries, so that in the event the primary battery runs low (and at some point it will), a replacement battery can be added without losing any data.
- **DOCKING AND MOUNTING SOLUTION.** In-Vehicle computing is a big part of

a mobile solution for first responders. Making sure the docking and mounting solution is safe, space-saving, rugged and flexible is as important as the mobile device selection.

Emergency responders are relying on mobile solutions in a greater capacity now more than ever before. Choosing a mobile solution that combines the right device, application, and form factor will go a long way in helping your response team work more productively and to focus on what they're best at — saving lives.

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### **Field Technologies:**

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### **Motion Computing**

*Motion Computing® empowers businesses worldwide with technology solutions designed to optimize the performance of mobile workers. Building on a foundation of award-winning technical expertise and decades of industry experience, the Motion® team makes it their business to understand your business. Through industry-leading rugged tablet PCs, tailored accessories, software, services and a deep partner network — Motion delivers mobile technology solutions customized to business workflows. Purposely built for vertical markets including field service, healthcare, utilities, construction, retail, public safety and first responders — Motion's suite of mobile technology solutions improves worker productivity, data accuracy and security, while enabling real-time decision making at the point-of-service. Customers report lower operational expenses, increased efficiency and enhanced customer service. Motion makes its solutions available through a global network of value added resellers and distributors. For more information, visit [www.motioncomputing.com](http://www.motioncomputing.com).*

