WYOMING DEPARTMENT OF HEALTH, XPLORE TEAM UP TO MITIGATE EMS DATA DEMANDS

RUGGED TABLETS EQUIP PUBLIC HEALTH DIVISION WITH CRITICAL DATA COLLECTION PLATFORM

Wyoming Office Of Emergency Medical Services

Company	**Wyoming's Office of Emergency Medical Services (OEMS) & Trauma**
Industry	**Public Safety – EMS; Government – State and Local**
Location	**Wyoming, USA**

BACKGROUND

Wyoming's Office of Emergency Medical Services (OEMS) & Trauma oversees several programs within the state's Emergency Medical Services system. As part of the Wyoming Department of Health's Public Health Division, the mission of OEMS is "to promote, protect and enhance the health of all Wyoming citizens." Their ultimate goal is to lower the number of deaths that occur before patients reach hospitals. OEMS is constantly developing, implementing, and maintaining systems, vehicles, and technology that support this goal.

CHALLENGE

Establish Low-Maintenance, Highly Mobile Tech-Based Data System

The Licensing, Reporting & Data Analysis team at Wyoming's Office of Emergency Medical Services & Trauma manages the licensing of all ambulances in the Department's fleet. It's also responsible for collecting data and reporting information gathered by EMS teams during incident responses and patient care.

Unfortunately, the OEMS' old system required ambulance personnel to take paper notes while in the field and in the ambulance. Someone else then transferred the notes into a desktop-based system, resulting in data entry delays and errors. It was taking months to submit and review reports, and some 70 piles of paper were being shuffled every month. Records management became very inefficient. This time-consuming process also needed to be changed to keep pace with the healthcare industry's technology advances and better utilize the team's resources and skills.

In 2008, under the direction of Jay Ostby, Licensing Officer, Reporting & Data Analyst for Wyoming's Office of Emergency Medical Services & Trauma, the team began looking for a low-maintenance, highly durable mobile solution that could enable the department's full transition to a paperless environment. They were already in the process of developing a new data recording system called Wyoming Ambulance Trip Reporting System, or WATRS, in collaboration with ImageTrend Inc. The goal was to find an integrated system that could provide an EMS component and trauma registry – which they did with ImageTrend's Smart Client EMS System. They just needed a mobile computing platform that would be compatible with the new system and, ultimately, make WATRS effective across all workflows in the field and at the office. They recognized that their old notebook computers weren't conducive to both Internet-based operation and wireless data transmission. Notebooks couldn't be dropped in a bucket of bleach water for disinfection either.

BENEFITS

Responsive, hands-on customer service by Xplore and CounterTrade Products, Inc

Field-proven, real-world ruggedness/true resiliency in extreme EMS environments

Investment protection/ platform stability and longevity

Software compatibility allowed for fast implementation

Flexibility and reliability allowed for easy expansion, continued system growth

The criteria was set: Any mobile PC device considered for the job must be rugged enough to withstand frequently harsh weather conditions as well as the rough handling of devices that would occur in the emergency services environment. It's not uncommon for computers to fall off EMS vehicles or come in contact with bodily fluids.

"The patient is priority; the computer's second," explained Ostby. "Not only were we looking for an incredibly sturdy mobile solution, but one that could be easily disinfected to avoid cross-contamination. Not many laptops, notebooks, smartphones, or even tablets fit that description today, much less seven or eight years ago; but we weren't in a position to compromise on our rugged or computing criteria."

SOLUTION

Xplore ultra-rugged tablets, ImageTrend, Inc. software used to stand up WATRS

Ostby researched a wide range of mobile computing options before determining that rugged tablets were the best mobile PC form factor for the job. After further evaluating several rugged tablet options, the Office of Emergency Medical Services and Trauma selected Xplore's XC-series ultra-rugged tablet PCs with dual-mode sunlight readable (DMSR) display for a five unit, two-year exclusive pilot.

Key members of Xplore's technology team had flown to Wyoming to meet with the OEMS team in person, demonstrate their rugged tablets' capabilities, and answer all of the OEMS team's questions before implementation even began. Not only did this level of customer service impress Ostby personally, but he had been able to experience the true ruggedness of the Xplore tablets risk-free upfront. Xplore shared Ostby's goals, and the rugged tablet manufacturer was accurate in their performance assessments of the tablet PC in various EMS environments. For example, "It's important that batteries last at what they are advertised and we found that the Xplore battery life was superb. We were quite surprised and pleased at this," explained Ostby.

Ostby had a high degree of confidence that every Xplore ultra-rugged tablet used by the OEMS ambulatory team would remain resistant to drops, vibrations, rain, snow, sunshine, extreme temperatures, disinfecting chemicals, and bodily fluids for many years to come. After all, the Xplore ultra-rugged tablet could be completely submerged in bleach when needed to ensure an effective cleaning.

On one occasion, the durability of the Xplore tablets was clearly demonstrated in a real-life "training accident." Ostby was showing EMS technicians how to clean and disinfect the rugged tablets and dropped one into a bucket to showcase their resistance to fluid penetration and contamination. Not only did the tablet handle the water without breaking, it actually broke the bucket it was dropped into. In a separate instance, Ostby received an Xplore ultra-rugged tablet in his office that needed to be cleaned up. It looked like the ambulance personnel had "hammered in nails with it," but the tablet still worked. Ostby likes to tell people that you can play Solitaire underwater on the Xplore XC-series ultra-rugged tablets with no issues.

But the Xplore-based solution was not chosen strictly for its tolerance of rough handling. Ostby was also confident that the Xplore's tablet technologies offered the right combination of processing power, storage capacity, connectivity, and data capture tools to support a quick rollout of WATRS and allow for easy and frequent expansion of the electronic records system as new privacy and interoperability standards dictated. Indeed they did. There was a 90 percent positive acceptance rate of the paperless system among ambulance attendants during the first round of trials.

"The Xplore rugged tablets, in combination with the ImageTrend Smart Client Internet-based software, made it significantly easier for ambulance personnel to enter data in real-time from the ambulance, at the scene, and even once they returned to the hospital or office," continued Ostby.

In fact, Wyoming's OEMS experienced such an overwhelmingly positive ROI for their Xplore rugged tablets that, after the two-year pilot program was complete, they purchased another 180 Xplore rugged tablets over a period of five years. Today, nearly every ambulance in the state of Wyoming is equipped with an Xplore XC-series DMSR ultra-rugged tablet PC.

RESULTS

As soon as WATRS went live, the OEMS team immediately reduced the amount of time they spent recording incident response details. There was also an impressive improvement in the quality of data being entered into WATRS and a reduction in lost data. Ostby estimates that the Xplore ultra-rugged tablets still save about 40-50% of time previously spent recording and tracking data. Report retrieval times also decreased, being sent to necessary parties immediately upon completion.

OEMS also continues to benefit greatly from the long-term stability that Xplore's rugged tablet quality and customer service provided to their team. Over the years, OEMS has had to replace less than 30 of the 180 Xplore rugged tablets introduced into service. When repairs are needed, Xplore is quick to provide technical support and send new units if required. Ostby noted that this number is very impressive given the extensive level of wear and tear the units experience and the amount of abuse they've been forced to withstand over the years. Some rugged tablets have been actively used since 2008.

"I could not have accomplished what we have with WATRS without the consistent and expert support of Kim Witkofsky at CounterTrade Products, Inc., and Xplore's technology team," Ostby praised.

CounterTrade Products began managing the relationship between the Wyoming's OEMS and Xplore in 2010.

"It didn't matter if it was a $300 order or a $50,000 order, Witofsky and CounterTrade Products have delivered consistently high quality customer service since they partnered with Xplore to support our OEMS team," Ostby praised. "They take care of the little guy."

WHAT'S NEXT

Wyoming's Office of Emergency Medical Services and Trauma will continue using Xplore tablets for the unforeseeable future. They will continue to replace them with the next generation of Xplore rugged tablets as necessary and funds become available.