

# BC Ambulance Service Trials CommandWear Technology to Enhance First Responder Communications at the 2014 GranFondo

## The Situation

For 40 years the BC Ambulance Service (BCAS) has been supplying emergency medical and non-emergency transport services 7/24/365 to millions of British Columbia residents and visitors.

For the last 18 years it has also provided paramedic services at large special events throughout the province – events such as Vancouver’s Celebration of Lights and the BC GranFondo – the premier North American cycling event where 3,000+ cyclists pedal their way from Vancouver to Whistler along the Sea to Sky Highway.



In May of 2014, the Emergency Management and Special Operations branches of BCAS were combined under a new director of EMO, Rod Salem. Today, in addition to special event services, EMO is also responsible for:

- Supporting the police during mass gatherings such as planned protests or outbreaks of civil disobedience
- Assisting the RCMP when foreign dignitaries and Internationally Protected Persons visit the province
- Responding to hazardous material incidents with the purpose of decontamination
- Partnering with urban search and rescue teams around the world to offer emergency relief for those impacted by disasters such as hurricanes, floods, landslides and fires

A 24 year veteran of BCAS, Salem understood the challenges the EMO inherited as a result of the merger and started looking for effective and economical ways to solve them through new technologies, systems and training. Communications was at the top of the list.

“At festivals, concerts and other large public events, noise levels can be at a height where you can’t hear yourself think, let alone hear radio communications,” explained Salem. “We have tried a number of different products, such as headsets similar to what pilots wear. And although they solve the noise issue, they are cumbersome and not conducive to caring for patients in the field.”

In emergency, HAZMAT and Protected Persons situations noise is not the only challenge.

- Communicating over radios while wearing protective equipment is difficult.
- Maintaining contact with team members in high-risk environments, knowing where they are or if they are moving is problematic.

- Confidential communication is awkward at best. And although BCAS vehicles are furnished with devices to transmit private text messages, paramedics have no access to non-verbal communication devices when outside their vehicles.

To find solutions to these problems, Director Salem started looking at planned Special Events as training and testing grounds for innovative solutions. When he learned about the CommandWear Situational Awareness Suite - a new mobile platform that integrates smartphones, wearables, tablets and networks to deliver situational awareness for public safety agencies - he immediately scheduled a trial to test the technology during the BC GranFondo.

## The Objectives

Director Salem and his EMO team planned the trial to evaluate CommandWear's ability to deliver:

1. High quality on-the-go communications between the command centre and paramedics in and outside their vehicles across a large geographical region
2. Effective non-voice messaging alternatives for use during extremely noisy situations or when privacy is a requirement
3. Integrated solutions that don't interfere with protective gear or a paramedic's ability to treat patients on scene
4. The ability to track personnel in the field and their movements for safety and security reasons
5. An affordable and easy-to-use system that requires minimal training or technical expertise

## The Trial

The 2014 GranFondo EMO Team consisted of:

- One Team Commander and one Dispatcher co-located with the GranFondo organizers in Whistler
- 8 paramedics in 4 ambulances servicing an area spanning Vancouver to Whistler
- 2 paramedics in a Gator Utility Terrain Vehicle (UTV) – a special ambulance designed for off-road, remote access

The EMO Command Centre Team was equipped with a laptop running the CommandWear Commander App for managing and communicating with paramedics in the field, displaying a log of all communications and visually tracking their locations in real time.

Each two-person paramedic team was issued a smartphone with CommandWear's Communicator App installed that supported secure non-verbal communications, plus tracking software that continually transmitted location data to the Commander App.

Two paramedics were also outfitted with a wearable ruggedized, waterproof smartwatch which was readable in direct sunlight or shade. The smartwatches provided tactile feedback (vibration) of incoming messages, allowing the paramedics to read dispatches at a glance.

During the 14 hour trial period, CommandWear transmitted and logged ~300 messages between the command centre and team members. It also tracked the movement of vehicles and personnel in real time and displayed their locations on a colour-coded map on the laptop in the command centre.

## **The Results**

Within minutes of arriving at the GranFondo compound in Whistler, the ECO team quickly discovered that the bunker allocated for their command centre did not support radio communications.

“Not having any radio support was completely unexpected and resulted in the dispatcher turning solely to CommandWear to communicate back and forth with the crews in their vehicles,” said Salem. “It was unanticipated, but also fortunate because it really allowed us to put the system through its paces.”

“The trial was very successful and CommandWear proved to be an impressive product,” continued Salem. “Every member of the team was enthusiastic about how easy it was to use and how well the technology performed in the field. The message logging capabilities that facilitated their post-event reporting was an added bonus they didn’t expect. CommandWear definitely met our objectives of what we were trying to accomplish.”

## **Opportunities**

When asked about other potential applications of CommandWear, Director Salem was very optimistic, “I see enormous opportunities for this type of technology throughout all public safety organizations.

In mass civil unrest situations, the ability to track responders’ locations, know where they are and whether they are moving will definitely help to improve their safety.

It could also greatly enhance our integrated communications. Today we try to use radios to communicate with the police, fire departments and search and rescue teams, but it’s complex and not easy to manage. This type of technology could definitely help in crossing those boundaries and allowing us to communicate securely and confidentially on site and with our dispatchers.

I’m really looking forward to the day when these types of products are integrated into the 700 MHz spectrum designated for public safety in the future.

I see CommandWear being on the cusp of that technology.”