

Using Advanced Tactical Camera Technology to Improve Situational Awareness

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Even with the recent advances in modern technology, a significant gap continues to exist as it relates to providing video based situational awareness to first responders. To address this void in public safety technology, we must first determine the features of a tactical camera system that would aid in achieving incident objectives.

While many advanced tactical camera solutions are available to first responders, most are cost prohibitive and require significant compromises in terms of connectivity, battery life, and recording capabilities. First-responders should never face compromises when it comes to safety. To overcome these challenges innovators must address connectivity, recording, and image stabilization as they develop products for tactical applications. On the forefront of this cutting-edge technology is a solution from Bounce Imaging that bridges that gap by giving responders video based situational awareness in real-time.

Connectivity

Tethered video applications have long been the standard in search and rescue applications. Modern solutions should adapt to the wide array of first-responder needs from a local fire department to national USAR teams. Modern tactical video applications should allow for a direct wireless connection at minimum, so incident commanders can have a true operational picture of tactical operations.

Advanced connectivity options include a device generated network, similar to a router in your home, without the need for internet connectivity. This allows the video to be passed to responders in below grade emergencies or disaster areas where cellular connectivity has not been reestablished.

As providers continue to build out cellular networks that prioritize first responders, public safety agencies can now begin implementing high resolution video applications that pass data back to a command vehicle or operations center. Devices that have built in 4G-LTE modems will allow cameras to connect directly to the network without additional adapters or cables.



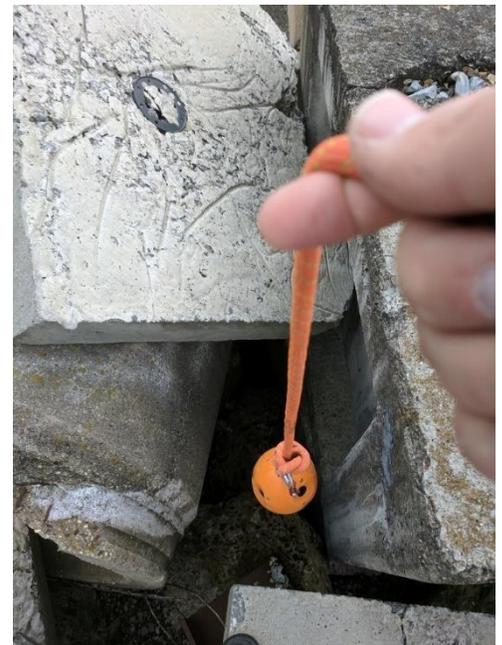
Recording

With the cellular capabilities of tactical video devices, public safety agencies now have the option to stream video in a secure, encrypted environment. Cloud relay services will allow the device to stream real-time video to an unlimited number of authorized mobile users. Technology developed by Bounce Imaging takes these capabilities one step further by adding a hosted storage solution that now gives agencies the option to record live video for future playback.

Stabilization and Imaging

As helmet mounted video recording devices first made their appearance around the turn of the century, the primary concern was the lack of image stabilization. The poor image and sound quality coupled with storage and public records concerns, soon lead to removal of the devices from the helmets of many responders. Modern tactical video devices will feature horizontal and vertical stabilization technology that virtually eliminates the shakiness of video captured by first responders in the field.

In addition to stabilized video, cutting edge technology now available to public safety agencies adds true 360-degree/VR video functionality to tactical video solutions. While a wide-angle view of a disaster area is far beyond the current capabilities of many agencies, the added benefit of a 360-degree view of an incident gives responders a point of reference. The stabilized 360-degree/VR video ensures your 12 o'clock stays constant. This further enhances situational awareness for first responders, incident commanders, as well as personnel staffing operations centers during major events.



Applications

As with most public safety solutions, advanced tactical camera technology was created and developed for defense applications. Law enforcement agencies have been early adopters of this former military technology however, a wide variety of applications in other public safety disciplines exist and this technology will soon become mission critical. The most obvious practical applications are the S&R specialties of structural collapse and trench rescue. Initial responders can complete a rapid primary search in areas you need situational awareness but can't safely get a human. Secondary search crews can now utilize the captured video and sound to focus rescue efforts in specific areas. Bounce Imaging also offers a range of accessories to deploy this equipment in a variety of manners including pole mounted or a rope tether. Consider the added benefit of omnidirectionally recorded sound particularly in confined space rescue. When little Timmy falls down the well, responders can rapidly establish a video and audio contact to make tactical decisions for a successful rescue.

While many Urban Search and Rescue teams have implemented a variety of video capturing equipment in the field, the fire service has only scratched the service on the practical applications of advanced tactical camera technology. The uses in planning, mitigation, and response efforts are virtually endless in the fire/rescue sector of public safety. The 360-degree situational awareness now available to responders will provide valuable information to incident commanders and company officers to make decisions in real-time.





[Bounce Imaging](#), is a leading provider of advanced tactical cameras for fire/rescue, industrial safety, law enforcement, and defense. They are a Harvard Innovation Lab/MIT company focused on first-responder safety. Its advanced 360-degree/VR imaging systems allow users to gain total situational awareness in dangerous environments without having to expose themselves to harm. Bounce Imaging's cameras can be thrown through a window, lowered on a rope, deployed on a pole, or mounted on a K-9. In all these use cases, the cameras send back real-time omnidirectional video to many users' phones or VR headsets. That video can be shared via 4G-LTE to commanders thousands of miles away. Bounce Imaging is deployed with over 200 police and fire departments around the world. Its products have also been named CNN, Popular Science, and CNN Best Inventions and have been featured in popular shows like NCIS: LA, CSI: Cyber, and CBS's Innovation Nation, among others.

Bounce Imaging's 360-degree camera systems were recognized as the [First Place Winner at TEEX/Disaster City's Under Fire Response Challenge](#) for cutting-edge technologies in first-response. Bounce Imaging is a MassChallenge, 43North, and Luminate company and in 2015 was awarded the \$1M Verizon Powerful Answers Award. Bounce Imaging is based in New York State as part of the [43North](#) and [Luminate](#) programs. All its products are manufacturing in the USA in partnership with [Lightspeed Manufacturing](#).

To contact Bounce Imaging, email sales@bounceimaging.com, call 202-630-3725, or visit their website at www.bounceimaging.com