

BLUEFORCE FOR MOBILE INCIDENT MANAGEMENT

5

Deployed Blueforce Incident Management Capabilities



Non-Predictive Threats and Technology Platforms that Support a Wide Variety of Response Protocols

Whether it be an incident, hazard, or an act of Mother nature, our public safety professionals are our first line of defense against threats to the well-being and security of our cities, towns and citizens. Emergencies require a coordinated response with real-time information sharing and cross-agency "sense-making", yet this is where it often falls down: Coordination, Mutual Aid, and Inter-Agency continue to be at odds due to the lack of interoperability and secure interfaces that enable real-time incident data to be shared in real-time.

Much like warfare, complex emergency management is a lesson in organized chaos and stochasm. The first hours of an event present challenges to pre-conceived notions specific to scenario planning, preparedness, and mitigation. The reality is that most plans won't survive the "first shot" and will require rapid pivots that must be fueled by ground truth intelligence. While much of the chaos is introduced by the environment, response is often stymied by organizational complexity where we find scores of responding agencies, each with their own technologies and decision data, most of which are not interoperable.

This is the very foundation of the Blueforce edge IoT fusion platform which enables a complex network of interconnected entities, or "things", across the incident domain that delivers context and horizontal awareness of silicon, people, and autonomous edge AI services which continuously communicate and self-synchronize with each other to coordinate, learn, and interact with the physical environment. All of this presented to the decision maker on a single pane of glass, with enduser constructed dashboards with the right data, at the right time.

What follows are FIVE representative Blueforce deployed capabilities for Emergency Management Operations at the edge of the network.



CAPABILITY #1

Enhanced Mobile Command and Control

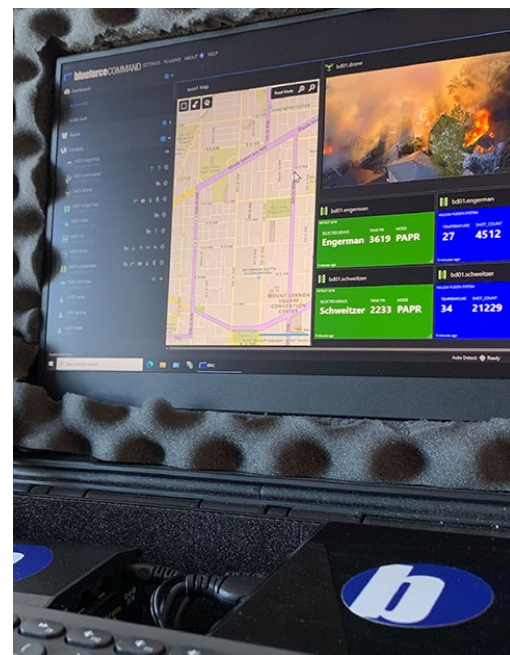
Blueforce positively impacts the speed of command by eliminating silos of sensor and human data, and presenting actionable information on an enduser constructed single pane of glass dashboard

Similar to military conflict, manmade and natural disasters present a very similar stochastic response environment where uncertainty, complexity, and variability are the norm. These time-constrained and chaotic decision environments require adaptability and a means to pivot quickly to changes in the operational environment.

The complexity of the event, the wide range of disparate responder agencies, combined with time compressed decision space and the severity of the potential consequences creates conditions that are unforgiving of error. Given the austere and sometimes contested communications in an incident environment, decision aids must be bandwidth-aware and possess the ability to assist in "sense-making" that doesn't bombard the commander with data nor force him or her to "search" for relevant decision data. The "golden ring" is affecting mutual understanding specific to the incident with limited exchanges of data.

Establishing a core competency around "speed of command" saves lives and property, and distributed Command and Control (C2) systems play a central role in incident management. Blueforce has supported scores of complex disasters and post-conflict environments and common to all of them was denied and contested communications, but also a wide array of sensors, services, and responder agencies. Critical to the incident response environment is a mobile C2 capability that delivers rapidly deployable and fully self-contained communications, compute, and decision aids that are optimized for austere and denied cloud backhaul.

Blueforce's new BlueforceMOBILE-CP (Command Post) is a turnkey hardware, software, and micro-services product offering housed in a "man portable" (less than 38 LBs and can be carried on to airplanes) ruggedized case. Apply power, turn it on, and go to work. The system ships with 10 BlueforcePATROL mobile software licenses, BlueforceCOMMAND Common Operating Picture Dashboard, and BlueforceEDGE with a wide variety of software plugins to include: Ultra Low Latency Video Streaming plugin, Map Interoperability Services plugin, and more.



RESOURCES:

[BlueforcePATROL for Android/iOS](#)

[BlueforceCOMMAND](#)

[BlueforceEDGE](#)

[Contact Us](#)



CAPABILITY #2:

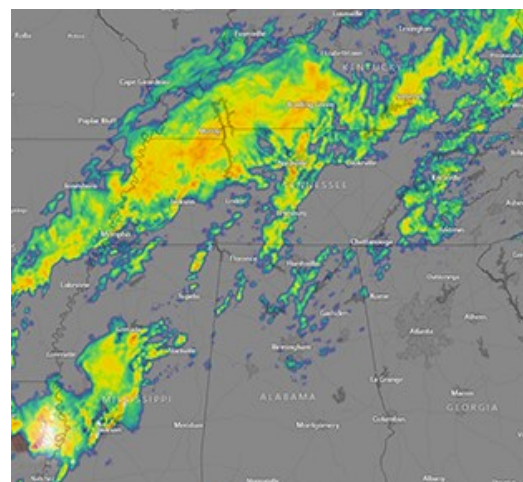
Far Forward Edge Micro-Services

Emergency management micro-services that eliminate “searching” and facilitate “finding” in time constrained decision environments

While cloud based analytics and AI services can provide high-value recognitional services across imagery and data, too often data communications back to the cloud are jittery and quite often denied due to the crush of requests related to the incident, hampering access. Moving recognitional and computation services to the edge ensures access, but also delivers an ultra low latency solution in time constrained environments.

BlueforceEDGE is our autonomous agent software product that runs alongside of, and analyzes in real-time, human and sensor data delivering reasoned decisions - allowing selective actions designed to meet a certain goal without the involvement of humans. Like the entire Blueforce platform product set, EDGE supports plugins which provide access to autonomous sensors, information services, and data pumps which are crucial to incident environments, some of which include:

- Map Interoperability Services Plugin: Enables edge-based storage, discovery, and serving of offline maps, KML/KMZ overlay files, and provides interoperability services transforming Blueforce location and sensor data to "dynamic KML/KMZ".
- Severe Weather: Our HyperLocal Severe Weather Plugin for BlueforceEDGE provides near real-time reporting of proximate weather data based on the LAT/LON of each responder so they have real-time awareness of approaching severe weather.
- Ultra-Low Latency Video Services: Our WarpVideo Plugin for BlueforceTACTICAL turns your Android (and soon iOS) mobile device into a ultra-low latency video streaming device allowing you to leverage devices you already own and carry. The plugin is now in BETA and early test results are showing sub-500 millisecond latency over standard 4G networks.
- Dynamic Network Services: Our PINGMON Plugin monitors local network components and Multi-Access Edge Compute (MEC) resources and can dynamically signal 5G/CBRS “slicing” algorithms, thereby “turning up” and “turning down” bandwidth to support specific data types.



RESOURCES:

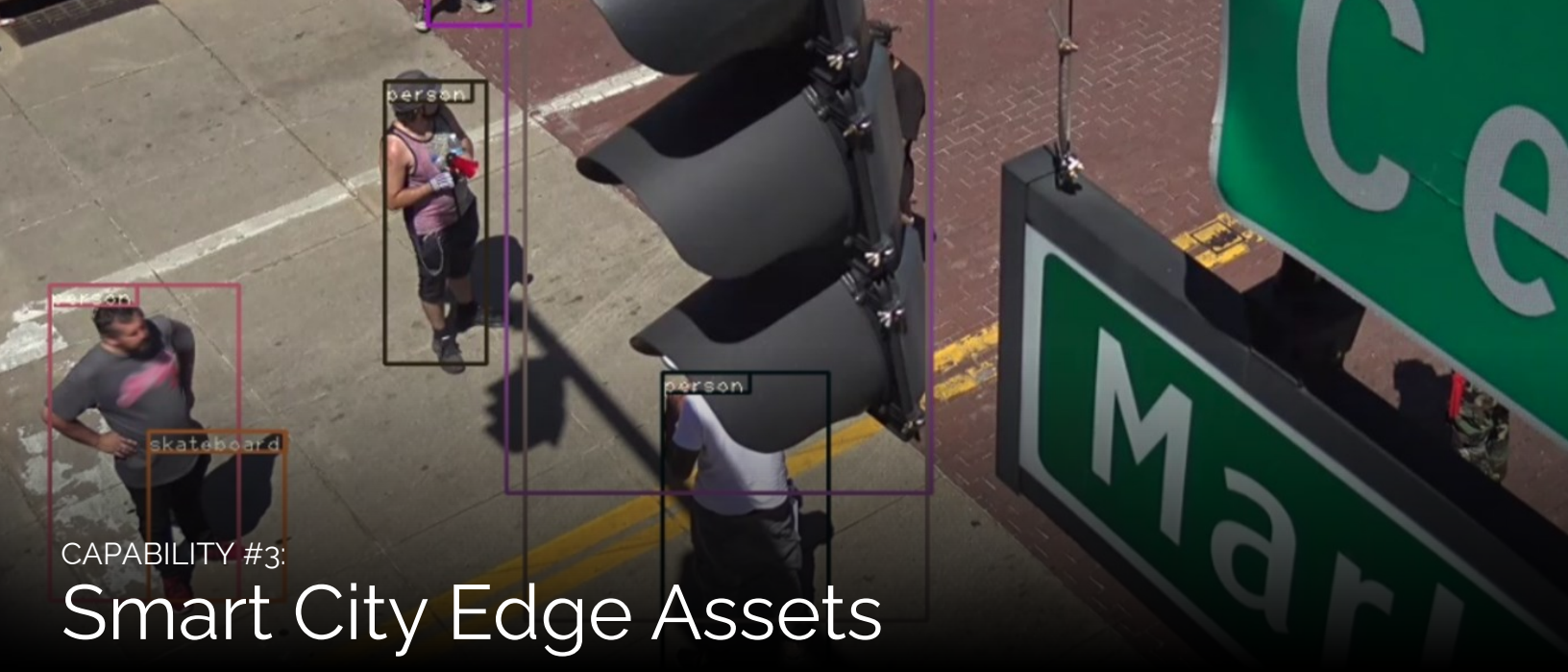
[BlueforceEDGE](#)

[Map Interoperability Services Plugin](#)

[Weather Services Plugin](#)

[Ultra Low Latency Video Plugin](#)

[Contact Us](#)



CAPABILITY #3:

Smart City Edge Assets

Machine Learning for Enhanced Detection

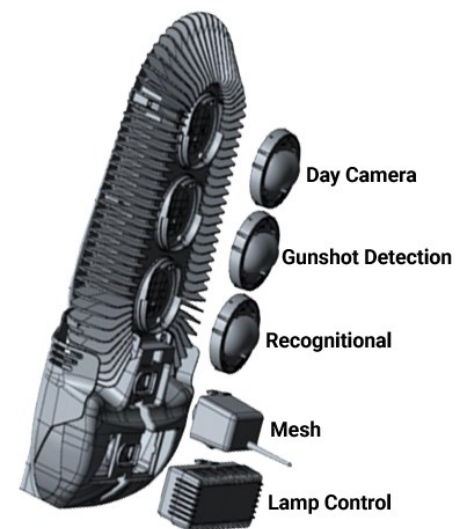
The first recorded organized method of public lighting was deployed in 1417 by the Mayor of London, Sir Henry Barton. Residents were ordered to hang a lantern outside of their homes at nightfall. Even then, urban lighting was installed as a public safety measure, allowing residents to leverage illumination to avoid being attacked or mugged.

Smart lamps, smart poles, and 5G MECS are only three of the emerging class of “smart” infrastructure products being deployed today. Smart “lamps” and intelligent displays with on-board compute from Samsung are proving to be effective platforms for IoT sensors and loosely coupled AI enabled services.

Blueforce has partnered with Wi-Fiber, the world leader in smart city infrastructure, to provide a single interface to the wide array of sensors supported by Wi-Fiber’s smart lamps and MI.MEC offerings which leverage Blueforce’s patented edge-based IoT sensor fusion and cueing services to eliminate IoT silos. Deployed capabilities include:

- **Swarming:** BlueforceEDGE embedded on lamp head compute allows an approved agency to rapidly acquire lamp head sensor data plus hyperlocal alerts when sensors detect threat.
- **Edge Compute:** Wi-Fiber lamps and MI.MEC edge compute products allow BlueforceEDGE to run at the edge, minimizing latency when backhaul is denied and/or contested.
- **Public Safety Sensors:** Wi-Fiber and Blueforce support multiple gunshot, signal intelligence, environmental, and AI algorithms to run proximate to areas of interest in partner smart cities.

Eliminating silos of sensing plus workflow optimization make cities SAFE; Blueforce and Wi-Fiber make public safety detection SMART.




RESOURCES:

[BlueforceEDGE](#)

[EAGL Gunshot Detection Plugin](#)

[Tagger/Tracker/Locator Plugins](#)

[Contact Us](#)



CAPABILITY #4:

Integrated K9 Operations

Man's best friend as the ultimate sensing platform for counter-terrorism, and urban search and rescue operations

Today, canines are used for a whole host of protective services: protection, security, life safety, tactical support, and the detection of contraband including illicit drugs, explosives and biological and chemical agents. New York Police Department and the U.S. Military has deployed highly trained canines outfitted with Blueforce's mobile solutions delivering the ultimate "sensing platform", while also delivering the ultimate in deterrence.

Whether our four legged friends are deployed for service in the Secret Service, Law Enforcement, DoD, Search & Rescue, or other missions, the health, wellness, and injury prevention remains one of the most essential goals to ensure success and survivability of these important assets and their handlers. The objective capability is a working animal that can perform as an extensible sensor platform. Even more important, Blueforce plugins support a wide variety of physiological sensors that ensure life safety of the K9.

Because it is near impossible to train every K9 for every threat, Blueforce delivers a stronger canine platform. Blueforce delivers this by blending natural and taught K9 skills with best in class sensor augmentation technologies. This powerful combination allows the handler to integrate mission specific sensors and monitors as part of the canine delivery package. For off-leash scenarios, this capability also allows real-time remote communications from the canine to the handler, thereby delivering greater ground truth intelligence while enabling occupational health, wellness, and medical surveillance to increase longevity of service.

With Blueforce, every K9 becomes an enhanced sensing platform, which keeps the animal safe, but also delivers early warning for the men and women who follow the K9 into harms way.



RESOURCES:

[BlueforceTACTICAL for Android/iOS](#)

[Subterranean Tracking Blog](#)

[Discovery Channel Special \(YouTube\)](#)

[Tagger/Tracker/Locator Plugins](#)



CAPABILITY #5:

Autonomous Ground Truth Sensing

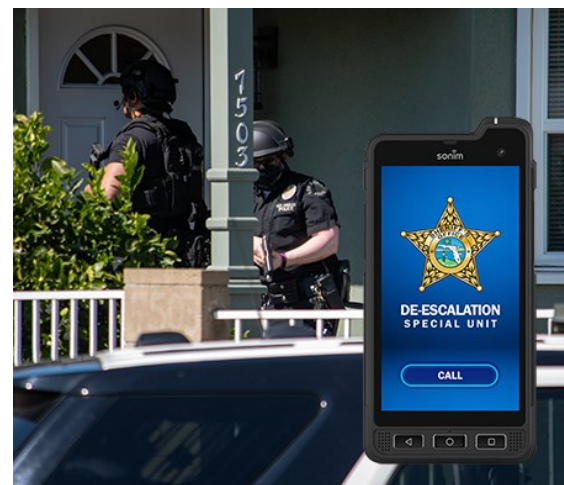
Disposable ground sensing enhances operational efficiencies and life safety for our first responders

One of the greatest concerns facing public safety across the country today is the threat of chemical, radiological, and explosive compounds at locations responders are dispatched to. Most of these chemicals, compounds, and "agents" produce by-products and gases that endanger life and property.

Consistent with the threats stated above, a need exists for added ground truth intelligence where environmental metrics are collected autonomously before humans enter the picture. Ground truth can equal environmental variables, but also the basics like movement, audio, imagery, and other sensor types that build an entire "picture" for the decision maker that is deciding when and where to send human and K9 assets.

BlueforceEDGE today, supports 400+ off the shelf sensors from more than 120+ manufacturers. Our favorite sensor and AI plugins for autonomous platforms include:

- Squishy Robot Plugin: Squishy Robotics robots and BlueforceEDGE aggregate and display relevant data in the field to incident command during operations. The Squishy robot can be dropped by drone from altitudes as high as 1000 feet and can provide multi-gas, radiological, plus 360-degree video.
- De-Escalation Throw Phone: Blueforce has partnered with Zebra to deliver the next generation of throw-phones for hostage rescue and barricade situations. BlueforceTACTICAL on Zebra ruggedized devices provides location, proximity, SIGINT, live streaming audio, and imagery collection.



RESOURCES:

[BlueforceEDGE](#)

[Squishy Robotics Plugin Blog Post](#)

[CBRN and HAZMAT Response Blog Post](#)

[Contact Us](#)



About Blueforce Development

Blueforce develops a packaged and supported mobile edge compute software platform for IoT and AI fusion using edge-based processing, enabling the warfighter or first responder to access capabilities on the fly, share actionable intelligence, and swarm faster than our adversaries. Our patented Decentralized Fusion Engine (DFE) and services oriented architecture (SOA) enables serial or parallel processing with edge and/or cloud-based AI, decreasing the need for remote processing and limiting ingress bandwidth to the core and the cloud.

This mobile edge compute capability results in an acceleration of recognitional decision making by widening the responder's aperture to a greater number of IoT sensor inputs, and a wider array of sensor types, delivering superior decision support and accelerated speed of command. Simply put: We have been delivering our mobile edge compute platform since 2011 which has been deployed to the sensor head, mobile compute devices, and far forward portable compute environments for DoD, Homeland Security, and public safety.

For more information visit us at www.blueforcedev.com or call us at +1 866-960-0204.