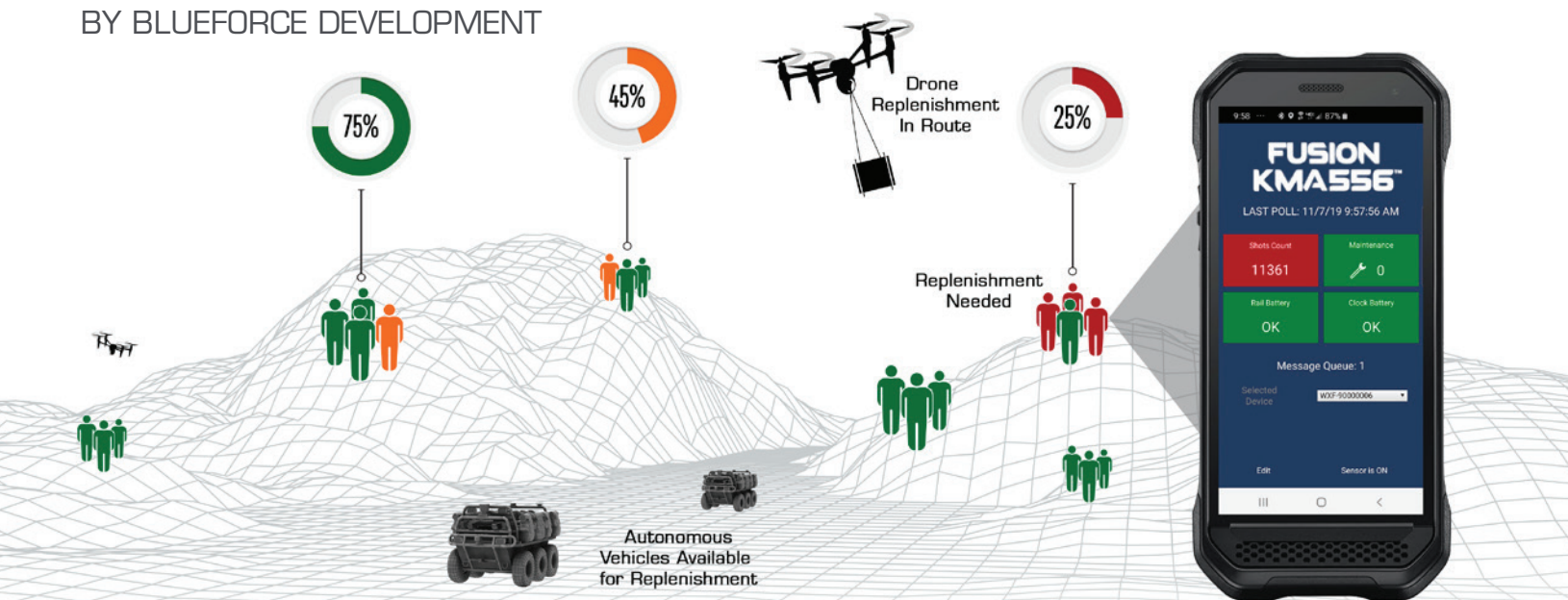


# OPERATIONAL SUSTAINMENT

BY BLUEFORCE DEVELOPMENT



Battlefield, disaster response, and public safety sustainment is both an art and science; it's about synchronizing, integrating, and transporting commodities in a highly "just-in-time" manner to provide maneuver and incident commanders with freedom of action, extended operational reach, and prolonged endurance. As it turns out, the "science" of sustainment is not terribly difficult as it is grounded in basic math and computation, based on real-time data from the operational space. A fire team deploys with X amount of ammunition multiplied by the number of soldiers on a fire team, and then an ability to monitor ammunition consumption in real-time. The same calculus can be made for food, water, fuel, medical necessities, and nearly every other class of supply.

The "art" of sustainment is about considering how the tactical or incident response environment affects logistics and resupply. The "cog" at the center of the autonomous replenishment machine is data and situational awareness, fed by an array of IoT sensors (body worn and proximate) and stream analytics to anticipate resupply needs. Using a very simple example, a vehicle that takes X amount of petrol may be started early to warm up on a cold day which will require additional fuel sooner. Similarly, on a hot day with soldiers experiencing an accelerated operational tempo will drive faster and more acute need for resupply of water. Core

to the discussion of "art", is all channel access to IoT, GIS, and environmental data, but also recognition support "services" in the form of rules and AI.

Wilcox Industries, has partnered with Blueforce Development Corporation and Thunderbolt Solutions, and have developed a packaged capability for operational sustainment based on deployed fire teams using the [Wilcox FUSION System](#). The FUSION System houses an integrated maintenance counter which monitors the number of rounds fired as well as barrel temperature and other rail sensors and moves weapon data using [BlueforceTACTICAL](#) (BTAC) where the data is shared amongst the fire team and their commander but is also shared with the Wilcox Armorers Module in an armory. FUSION System data is also monitored in real-time by Blueforce's new Autonomous Orchestration Plugin for [BlueforceEDGE](#), which monitors a wide array of soldier systems to include the Wilcox FUSION System, physiological wearables, CBRN, laser rangefinders/targeting, and others for single-variant and multi-variant threats. The Plugin contains sets of business rules that can detect active engagement and shot counts, but also looks across an entire deployed fire team versus a single operator. On certain thresholds, the Plugin can launch autonomous drones, track vehicles, or other for resupply and/or over-watch.

FORCE  
READINESS

TACTICAL  
AWARENESS

OPERATIONAL  
SUSTAINMENT

PREDICTIVE  
MAINTENANCE

Approved for Public Release by DOD



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**BTAC™**  
 with FUSION Plugin

### BlueforceCOMMAND

## PREDICTIVE MAINTENANCE

Wilcox weapons system data can be shared in real time with Wilcox Armorer's Module, a pluggable module for BlueforceCOMMAND, and the authoritative application for service and predictive maintenance.

## AUTONOMOUS REPLENISHMENT

Because BTAC and the Wilcox Plugin for BTAC are constantly monitoring weapons systems across a team, autonomous delivery platforms can be cued for just-in time field replenishment.

## FORCE READINESS

The Wilcox Armorers Module not only drives supply chain value, but can also provide awareness of force readiness and can display weapon location and status.

## TACTICAL AWARENESS

Real-time shared awareness of oxygen and PPE operating modes, environmental data, maintenance counters, barrel temperature, and maintenance status of Wilcox devices shared in real-time amongst the team and command.

## CURRENTLY AVAILABLE WITH THE FOLLOWING PRODUCTS


**FUSION SYSTEM™**

**HYBRID PATRIOT 5510™**

**RAPSTAR S™**

**BOSS X<sup>™</sup>**

**RAID X<sup>™</sup>**

## ABOUT BLUEFORCE DEVELOPMENT

Blueforce is a mobile Edge IoT platform that enables faster and more informed decisions... by transforming edge-based data from people, sensors, and systems into actionable intelligence... this enables shared situational awareness, increases operational efficiencies, and improves outcomes. **Learn more at [www.blueforcedev.com](http://www.blueforcedev.com)**



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