KYOCERA CASE STUDY
BLUEFORCE DEVELOPMENT

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BLUEFORCE AND KYOCERA COLLABORATE TO SUPPORT

AFFORDABLE, MOBILE COUNTER-TERRORISM APPLICATIONS

Partnership Delivers Extraordinary Cost Savings for Government and Military Agencies

OVERVIEW

Today, U.S. military and law-enforcement agencies spend tens of thousands of dollars per unit on body-worn, underground and unattended sensors and monitors. Kyocera and Blueforce have teamed to use their commercially available smartphones and software to create robust alternative solutions for less than $1,000 per unit.

THE CHALLENGE

Blueforce Development Corporation is a long-standing software partner to Kyocera, providing products and services that enhance safety, increase operational efficiency and enable better decisions, primarily in the defense, law-enforcement and security industries.

Blueforce is a perfect match for Kyocera because it has a customer base that operates in rugged environments, and its solutions require a mobile device that can dependably withstand these conditions without the need for a protective case.

Recently, underground tunnels have become a huge area of concern and pose a threat to our military, law-enforcement and government operations. Kyocera's North American headquarters is in San Diego, where cross-border tunnels used for drug and human smuggling from Mexico are regularly discovered. Given this type of risk, Blueforce was approached to develop software that could help combat these new threats and turn mobile devices into smart sensors that could withstand the harshest environments and provide dependable battery life for up to ten to twelve hours at a time. More and more government agencies are looking for cost-effective alternatives to expensive ground-sensor hardware.

INDUSTRY:
Government/
Public Safety

REGION:
USA

SOLUTION:
Rugged Smartphone—
Kyocera Brigadier

KEY BENEFITS:

- HAZLOC (Hazardous Location) Class I Div 2 Certified
- Rugged
- Durable
- Waterproof
- Resistant to falls and shocks
- Resistant to high temperatures
- Connectivity
- Long battery life
- Affordable
- Microphone
- Camera

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THE SOLUTION AND ITS BENEFITS

Earlier this summer, Blueforce was asked by a Department of Defense (DoD) agency to demonstrate and evaluate a solution that used body-worn smart devices (like smartphones, tablets, and heads-up display systems) to track agents and the environments around them as they deployed in in-structure and underground environments. This entailed not only location tracking in GPS-denied environments, but also biotelemetry and multi-gas/chemical/radiological sensing. Blueforce executed the test program by using the Kyocera Brigadier in Wi-Fi mode at the mouth of a tunnel system and pushing Blueforce sensor data via low-wattage Wi-Fi through Mobile Ad-Hoc Network (MANET) radios. The Brigadier, using Blueforce Tactical, also incorporated gamma radiation and multi-gas chemical detection alongside the seismic and acoustic activity.

"The Kyocera Brigadiers and their operators were deployed throughout a one-kilometer underground tunnel, and the combined solution performed flawlessly during this pilot test," said Michael Helfrich, CEO of Blueforce Development Corporation. "The Brigadier also delivered noted reliability in a high-heat environment, consistently providing 10-12 hours of battery life with Blueforce Tactical running on the device nonstop. Meanwhile, other mobile devices succumbed to the heat and simply stopped operating during the testing."

Secondly, during the Gulf Wars, unattended ground sensors (UGSs) used by the U.S. military were highly proprietary systems that cost tens of thousands of dollars—many were priced at more than $100,000 each—and were highly fixed in their capabilities. U.S. agencies have since been interested in developing a "system of systems" approach, where a network of UGSs could be constructed on the fly from disparate sensors using inexpensive, but secure, means to move sensor data. In all cases, these "just-in-time" systems could be left behind to protect their operators because of their low cost.

Combining the capabilities of built-in smartphone accelerometer, gyroscope and microphone sensors for detecting motion, vibration and sound presents great opportunity for unattended surveillance, so Blueforce built a new Tactical plugin that monitors seismic and acoustic activity to trigger the on-board Kyocera cameras to capture imagery and send it to the nearest Blueforce user, and/or to a command and control center. The plugin is called "ugsONE" and uses the core Blueforce system to provide pre-processing and detection, awareness, and subsequent secure movement of sensor detections to quick-reaction forces and tactical operations centers.

The future for Blueforce and Kyocera looks very promising, potentially delivering an incredibly cost-efficient underground monitoring solution for less than $1,000 per device. Government and military agencies are spending close to $40,000 per device on similar sensor equipment today. This potential cost savings, coupled with Kyocera's rugged hardware and Blueforce's advanced software solutions, could change underground monitoring and sensor solutions down the road, making all of us safer and protecting the men and women who so bravely put their lives on the line to protect us.

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