

5G First Responder Lab spotlight: Qwake Technologies

Bringing the power of 5G to support first responders

Verizon has decades of experience supporting the public safety community. Our portfolio of solutions is designed to help improve safety and security, increase officer efficiency, reduce crime and strengthen the relationship between law enforcement and the community.

And we're doubling down on that commitment with 5G First Responder Lab, a collaboration between Verizon and ResponderXLabs.

5G First Responder Lab is an innovation incubator dedicated solely to creating technology solutions for first responders. We're working alongside responders to determine their most pressing needs and tapping into the global entrepreneurial community to find the most promising and impactful solutions.

5G First Responder Lab is currently working with 15 companies to bring the power of 5G to their solutions. We will deliver those solutions to public safety agencies throughout the country as we work to achieve our goal of bringing 5G to first responders first.

The 5G-enabled solutions being developed by Verizon, ResponderXLabs and the companies we are partnering with are more than just cutting edge; they're designed to help save lives. The lives of the responders themselves and of the people they serve.

Because these technologies have the potential to impact so many lives in such a meaningful way, we're spotlighting the first five companies partnering with 5G First Responder Lab.

Next up, Qwake Technologies.

"All of the companies developing technologies at the 5G First Responder Lab believe what we believe—it's about serving those who serve."

—Nicholas Nilan, Director, Public Sector Product Development, Verizon

"The ability to see in the types of environments that we work in is a game changer. It could mean the difference between life and death."

—Tom Calvert, Battalion Chief, Menlo Park Fire Protection District

Company and mission

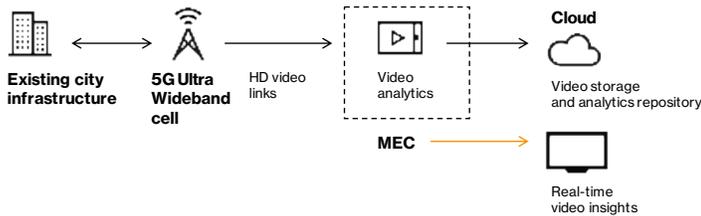
Qwake Technologies was founded on the belief that innovation has the potential to be a force for good. Qwake Technologies' cross-disciplinary team, which includes a volcanologist/explorer, rocket scientist/firefighter and neuroscientist/computer-vision expert, seeks to redefine the future of fire and rescue through computer vision and augmented reality.

The challenge

The number-one challenge firefighters face is limited-to-zero visibility. And current imaging solutions require the responder to stop, look at a small screen, make sense of complex information and then act upon that information going forward.

The technology

C-THRU is a software-as-a-service (SaaS) platform that can be integrated into firefighters' self-contained breathing apparatus (SCBA). It applies neuroscience principles to computer vision and augmented reality to help enable faster, safer navigation through smoke-filled environments. C-THRU provides edge detection and hotspot identification in real time, and wirelessly connects firefighters with incident command, transmitting visual point of view (POV) telemetry data and location to command and control. Qwake also plans to add object recognition and flow-path tracking capabilities.



Multi-access edge computing (MEC) uses cellular networks and 5G as its primary connectivity. A foundational technology for 5G, it provides both an IT service environment and cloud-computing capabilities at the edge of the mobile network, within the radio access network (RAN) and in close proximity to mobile subscribers.

The power of 5G

At the 5G First Responder Lab, the innovators from Qwake Technologies are seeing firsthand how 5G and C-THRU could help improve firefighter safety.

MEC, a critical component of the Verizon 5G Ultra Wideband network, allows cloud servers to run closer to endpoints, helping to reduce latency and speed local processing.

That means that C-THRU can augment firefighters' vision in real time, helping them see in smoke-filled, limited-to-zero-visibility environments. That improved vision and navigational ability could help lead to improved firefighter safety, more timely rescues and faster fire suppression.

In test routes, C-THRU enabled firefighters to move nearly three times faster and with three times greater consistency in tests against technologies that were not 5G-enabled.

5G's massive bandwidth, combined with MEC, could also empower better firefighting strategy and coordination. Large crews of firefighters and other first responders, outfitted with C-THRU's high-speed thermal cameras, could send mapping data to a MEC facility, where it would be processed and shared in real time. That means incident commanders could map the entire environment to create more effective fire suppression strategies, while simultaneously tracking crews of 20 to 30 responders and monitoring individuals' vital signs.

Verizon is the network of choice for first responders.

Here are the top five reasons why:

1. A dedicated public safety network core
2. Widest coverage, superior capacity and world-class security
3. Interoperable communications
4. Rapid disaster response
5. First to 5G

"We can have a future in which first responders can more calmly go about their job, because they have the aid of all their senses," says Dr. John Long, Qwake Technologies cofounder and head of technology.

Bill Bratton's "Three Cs and the I" for public safety

Former two-time New York City Police Commissioner Bill Bratton (who also served as police commissioner of Boston and Los Angeles chief of police) spoke at the 5G First Responder Lab about the "Three Cs and the I" that he considers crucial for public safety.

"Communication. It is essential to us. And it always has been.

"Collaboration. We have seen that, in dealing with terrorism, 'traditional' crime and natural disasters, the reality is that without seamless collaboration—with service providers like Verizon, and among public safety agencies—we are not going to be able to function effectively, to either prevent or to respond.

"Consistency. You need to know that when you need it, that device is going to work, whether it's for data, video, radio or cell phone communication. That in good times or bad, in good weather or bad weather, in crises or normal times, you can count on it.

"Innovation. Verizon is clearly demonstrating its commitment to innovation with the 5G First Responder Lab. They are not only moving into the Fourth Industrial Revolution, but they intend to own it. And that ownership is going to drive phenomenal benefits for public safety."

With the network of choice for first responders, you're ready.

At Verizon, we don't wait for the future. We build it.

This is just the beginning of our 5G-enabled solutions for first responders. Verizon 5G Ultra Wideband will help support many more next-generation capabilities for public safety, including:

- Near real-time intelligence
- Critical training preparedness
- Next-generation communications
- Remote asset operations
- Augmented reality (AR) on-the-job support

When it comes to your communications network, you have a choice. And Verizon is committed to providing reliable communications and solutions for first responders.

Learn more:

Experience the future of public safety powered by Verizon at 5gfirstresponderlab.com.