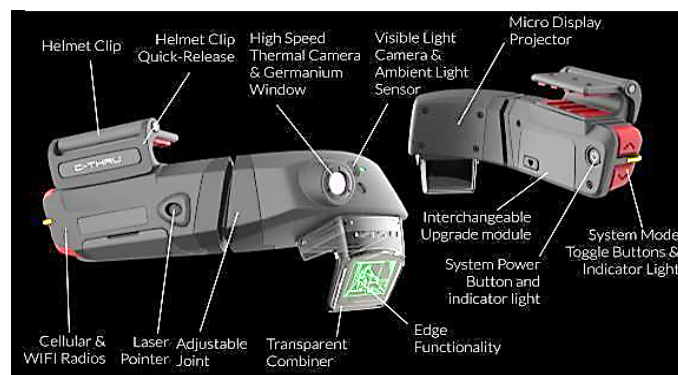


ENSURING MISSION SUCCESS TO BRING RESPONDERS SAFELY BACK HOME

Firefighters frequently face unfamiliar environments under hectic conditions. Navigating through flames and debris while rescuing trapped or incapacitated civilians, keeping tabs on colleagues, and communicating with the command center are difficult enough, but add dark, dense smoke and it can be easy to become disoriented. That confusion can have disastrous consequences if responders are unable to locate an unobscured exit route. A lightweight, hands-free navigation solution is needed to help them find their way to safety and back home to their loved ones.



With the Department of Homeland Security (DHS) Science and Technology Directorate (S&T)-sponsored C-THRU Real-Time Indoor Visualization System, first responders can see surface edges and detect exit routes quickly. C-THRU is a real-time, helmet-mounted indoor visualization system currently in development with Qwake Technologies LLC that makes hazardous environments navigable and shares critical information.



C-THRU delivers an augmented reality visual overlay with intuitive imaging that minimizes confusion and disorientation while enabling two-way communication and personal navigation. The heads-up display is powered by a micro-computer capable of thermal imaging and edge extraction to identify surfaces in the vicinity, such as stairs and people. This capability saves precious time, which can save a human life. Because of this vital situational awareness tool, first responders will no longer be handicapped in smoky, dark, low-visibility environments.

ADDRESSING IMPORTANT ISSUES FOR FIRST RESPONDERS

- Firefighters are often disoriented and confused when in low-visibility buildings
- Expert firefighters struggle with low visibility, which inhibits their abilities to help citizens in life-threatening situations
- This technology provides first responders the ability to communicate to crew members in a continuous manner

RETURN ON INVESTMENT IMPACT

C-THRU technology offers intuitive imaging to firefighters to minimize confusion and disorientation, providing navigation, and visual communication applications that will aid in saving lives. S&T private industry partner Qwake Technologies LLC signed a contract with Menlo Park Fire (CA), which will purchase units for each of their 40 front-line firefighters, for a total of \$210,000. The units cost just under \$5,000 per unit, which is significantly more affordable than hand-held thermal cameras that cost between \$7,000 - \$13,000 each.

With the contract mentioned above, firefighters will work with designers to develop the final version, which will be transitioned to the commercial market for their use.

PRIVATE INDUSTRY PARTNER

Qwake Technologies LLC, San Francisco, California