

# Detection of Presence of Life through Walls



Science and Technology

## THE CHALLENGE: LOCATING HIDDEN TRAFFICKING VICTIMS AND CRIMINALS

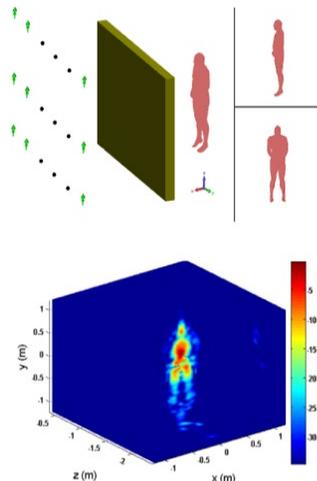
Victims of human trafficking and kidnapping are frequently hidden behind false walls, and criminals conceal themselves behind barriers as well. For law enforcement officers looking for victims and hunting criminals, searching around corners and behind blind spots can be time-consuming and dangerous. A capability that enables officers to safely detect life behind walls, barricades, household objects, and doors would enhance their situational awareness and potentially save lives.

Firefighters use presence-of-life detection technologies designed specifically for their rescue operations, but the current implementations are deficient for law enforcement purposes due to burdensome form factors (size, shape, etc.), long measurement times, and inconsistent readings depending on the material the responder is attempting to “see through.”

A device that meets the needs of law enforcement would be particularly helpful when searching for victims or entering a building in which an armed perpetrator’s whereabouts are uncertain. That’s where the Department of Homeland Security Science and Technology Directorate’s Detection of Presence of Life (DePLife) through Walls Project comes in.

## A SOLUTION FOR LAW ENFORCEMENT

The DePLife System is radar-based and distinguishes between human and non-human objects behind walls, and between single and multiple persons. Using radio frequency transceivers, digital processors, and miniaturized antenna arrays, the radar system will be able to identify human subjects behind walls and help visualize the location of the detected subject. The system requires very minimal setup time, allowing officers to quickly scan multiple environments. Once placed in its desired position, the device can be operated hands-free and



contains a user interface that leverages auditory and haptic (simulating touch and motion) feedback, allowing officers to focus on what's in front of them while easily obtaining better situational awareness.



Sample use case: Leaning Tripod/Radar Stick

## SAVING LIVES AND PROTECTING OFFICERS

The DePLife System provides law enforcement officers the ability to:

- Detect a person through walls, increasing officer awareness and effectiveness
- Precisely locate a person, or persons, behind a wall
- Choose between covert and overt methods of alerts
- Wirelessly share data collected with law enforcement officer cell phones and tablets and retain a record of the data collection

These capabilities will increase the likelihood of finding human trafficking and kidnapping victims, improve the safety of law enforcement officers, and provide them with critical information that potentially enables more tactical options.

## UPCOMING MILESTONES

- Completed Critical Design Review: FY22/Q1
- Completed Operational Field Assessment: FY22/Q4
- Final Prototype Delivery: FY23/Q4

## PERFORMER

- MaXentric Technologies, Fort Lee, NJ

