CHALLENGE – LAW ENFORCEMENT DISCIPLINES

This challenge discipline can include Police Officers, Deputy Sheriffs, Troopers, Agents and Peace Officers

THE CHALLENGE:

Build solutions that collect and synthesize data from disparate sources and transform it into actionable information that is appropriately presented to first responders and targeted civilians, to optimize event coordination and incident response.

ENVIRONMENTAL CONSIDERATIONS

- For safety reasons, law enforcement personnel must avoid distractions, remain agile and have their hands free for monitoring and responding to their surroundings.
- Law enforcement personnel can't afford to spend time getting to know new solutions; the solutions need to be highly intuitive; requiring little to no period of acclimation. The interface shall be usable even in harsh conditions.
- Law enforcement officers are 3-5 times more likely to succumb to an occupational fatality.

IDENTIFIED NEEDS / USE CASES:

P1

"Protect the Protector " – Officer Wellness

To help protect those who protect us, officers could use smart devices to tell them when they are at an increased safety or wellness risk and then provide them with relevant advice or resources. An app could look for a concerning combination of key risk factors and then provide private warnings.

P2

"Awareness En route" – Comprehensive Incident Awareness

Empower first responders with comprehensive information about the incident before they arrive on scene for a timely, effective and safe response. Sensors, building blueprints, video and maps provide critical navigation and staging information. Social media and other public data can provide first-hand experiences and information about past incidents or other key patterns can provide helpful insights.

P3

"Nip it in the Bud" – Prevention & Proactive Response

With the growing use of social media and smart sensors, technology can help law enforcement prevent harm. An app that correlates relevant information from public places to identify suspicious or risky activity and then uses that information to proactively alert the appropriate authorities and disciplines could save lives and property.

CHALLENGE – FIREFIGHTING & RESCUE DISCIPLINES

This challenge discipline can include Firefighters, Fire Departments, FEMA, and Emergency Rescue

THE CHALLENGE:

Build solutions that collect, synthesize and present tracking and location information about people, places and things to secure the safety and coordination of emergency response personnel and targeted civilians

ENVIRONMENTAL CONSIDERATIONS

- When firefighters are dispatched to an incident, they perform their pre-planning in route to the fire ground– this information helps them understand things like fire hydrant locations, building architecture, emergency routes, wind conditions, etc
- Firefighters must have their hands free while battling a fire or rescuing individuals
- Firefighters are often in conditions with low to no visibility
- Incident commanders and Battalion Chiefs play significant roles in communicating status

IDENTIFIED NEEDS / USE CASES:

F1

"Digital Accountability Board" – Automatic Responder Tracking

When firefighters arrive on scene, they mark their arrival, assignments and building entry with physical markers on an personnel accountability board. Vital, is an app that automatically records a firefighters' arrival on scene and movement in the fire ground that is visibly available to incident commanders and other onsite personnel.

F2

"Swift Rescue" – Tracking the Help to People & Places

During emergencies such as floods, hurricanes, or earthquakes, first responders need an app that provides the locations of people who require rescue or assistance as well as a means of communicating with those that require the assistance. During large scale disasters, the app should also help keep track of which residences and building have been helped and cleared to avoid wasted relief efforts.

F3

"Present and Predictive Conditions"

Using different components of the IoTs, develop apps that gather information that would help commanders predict fire spread, heat and smoke spread and determine current building stability and future modeling for building stability after being exposed.

CHALLENGE – EMERGENCY MEDICAL SERVICE DISCIPLINES

This challenge discipline can include EMS, EMT, Emergency Physicians, 911 Dispatch and Telehealth Service

THE CHALLENGE:

Build solutions that; collect situationally relevant patient information for effective triaging and medical response; deliver customized care information or live support; and efficiently record information for easy tracking and reporting.

ENVIRONMENTAL CONSIDERATIONS

- Patients may be in a condition unable to communicate their symptoms, medical history, medicines they are taking, allergies etc. to arriving first responders.
- Emergency medical care requires the use of tailored diagnostic equipment and data which must be synthesized, recorded, monitored and shared with personnel throughout the continuity of care.
- Every patient's privacy is protected by HIPPA regulation.
- Availability of resources such as ambulances, EMTs, doctors, hospitals and medevac airlifts are expensive and many times has a wait.

IDENTIFIED NEEDS / USE CASES:

M1

"Doctor Online" – Telehealth & Support

To optimize how the "golden hour" is used, an app that EMTs can use to remotely connect with doctors and or hospitals will save lives and limited medical resources. The app will help doctors direct the activities of EMTs so that aid can be administered to the patient prior to transport or possibly to eliminate the need for transport to the hospital.

M2

"ER Front Desk"

A 911 dispatcher app that receives patient information from the patient's mobile (rather than just the audio that most dispatch centers have today) so precious moments are not lost by first responders receiving incorrect information; ensure privacy and security concerns are addressed in handling sensitive patient information.

M3

"Patient Log"

Medical response to emergencies requires a comprehensive and accurate recording of everything witnessed and done on-scene and in later transport to a medical facility. Given the environment, an app that can provide quick and accurate capture of this information with a minimal lapse in time and effort would prove valuable.