



Office of Aviation Services (OAS)

Concept Paper – For Information



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Issue/Topic

In Your Hand and On Demand – A concept for enhanced awareness, effectiveness, & safety

Key Messages

- Smart phones are ubiquitous in American life. They put maps, news, alerts, weather, location data, communications, etc. *“in our hand and on demand.”* Unfortunately, when our wildland firefighters go into the field, they go back in time, largely cut off from the connectivity of the modern world.
- *“In Your Hand and On Demand”* proposes to bring wildland firefighters into alignment with the rest of America by leveraging available technologies to enhance awareness, effectiveness, & safety.
- *“In Your Hand and On Demand”* concept of operations:
 - Establish temporary cell/broadband network over large wildfires using equipped drones positioned at the top of established Temporary Flight Restrictions (TFR’s). Drones would possess multi-hour endurance and would rotate on and off station to ensure unbroken coverage. Following Hurricane Maria a drone provided cell coverage over parts of Puerto Rico.
 - Using personal or work phones, firefighters would download an app specifically designed for wildland fire information sharing and safety. Each fire would have a unique identifier and password, preventing unauthorized access. Firefighters could be given/establish unique ID’s.
 - Capabilities of the app would include (but not limited to): scalable fire maps with geolocation of each user depicted, field location data for other members of the fire team, location data for aircraft in the area, local weather conditions, ability to send and receive text messages, ability to receive emergency broadcast alerts, ability to send an “SOS” emergency signal, ability to upload photos/videos to assist incident commanders with field level situational awareness, ability to link to live stream video from nearby UAS on the fire, etc.
 - Leveraging available smartphone availability and capability, *“In Your Hand and On Demand”* reduces the cost of providing standalone, singular function personnel and equipment tracking hardware and software (the app would provide location data after the user logs in, even if the app is off), provides the firefighters with useful information, and uses social engineering to encourage the use of the app, which also provides incident commanders with real time situational awareness of where firefighters are in the field.

Background

In the age of networked information, wildland firefighters in the field operate with a level of connectivity that has changed little in the last 50 years. This compromises mission effectiveness, efficiency, and firefighter safety. *“In Your Hand and On Demand”* is a concept for enhancing the awareness, effectiveness, and safety of firefighters with familiar technology.

Current Status

“In Your Hand and On Demand” is part of the [DOI UAS Integration Strategy](#) update discussion.

Point of Contact

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