Orange County BCC

Fire Rescue
Unmanned Aerial Systems

April 25, 2017

Presentation Outline

- Unmanned Aerial Systems (UAS)
- Fire Service Application
- Legal Requirements
- Requested Action

UNMANNED AERIAL SYSTEMS

IAFC Position: Use of Unmanned Vehicles in Public Safety Emergency Response

"The International Association of Fire Chiefs constantly seeks to advance safety, operations, command and fiscal efficiencies of emergency incidents. The use of unmanned aerial vehicles is a viable option for emergency personnel to quickly and safely gather essential incident intelligence for the use of tactical planning and observation of executed plans."
https://www.iafc.org/topics-and-tools/communications-technology/uas-toolkit

UAS

- Aircraft without a human pilot aboard
- Unmanned Aerial System (UAS) – A valuable tool for emergency responders regarding rapid response in regards to gaining situational awareness before responding to and or engaging in dangerous situations
- UAS include small unmanned aircraft weighing 55 pounds or less.

Fire Service Application

The intelligence provided by UAS is cost affective and avoids unnecessarily subjecting emergency personnel to hazardous environments

- Structural Firefighting
- Emergency Medical Services
- Disaster Recovery
- Hazardous Materials Response
- Water Rescue

Fire Service Application

Structural Firefighting

- Rapid 360 of buildings
- View of large structures through high-resolution video and thermal imagery
- Assess the viability of roof operations
- Investigation, documentation, and training
- Pre-planning

Structural Firefighting

Fire Service Application

Emergency Medical Services

- Rapidly provide AED to a remote scene
- Assess area of greatest need
- Evaluate mass gatherings or events spread over large areas

Emergency Medical Services

Fire Service Application

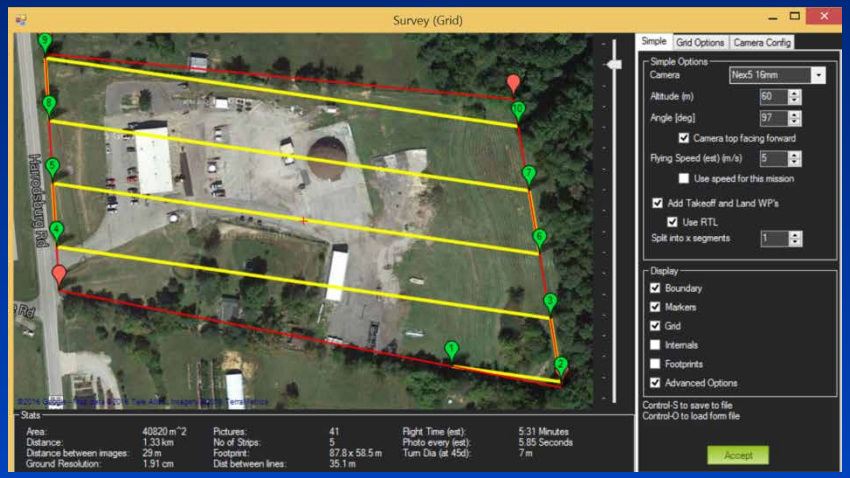
Disaster Response

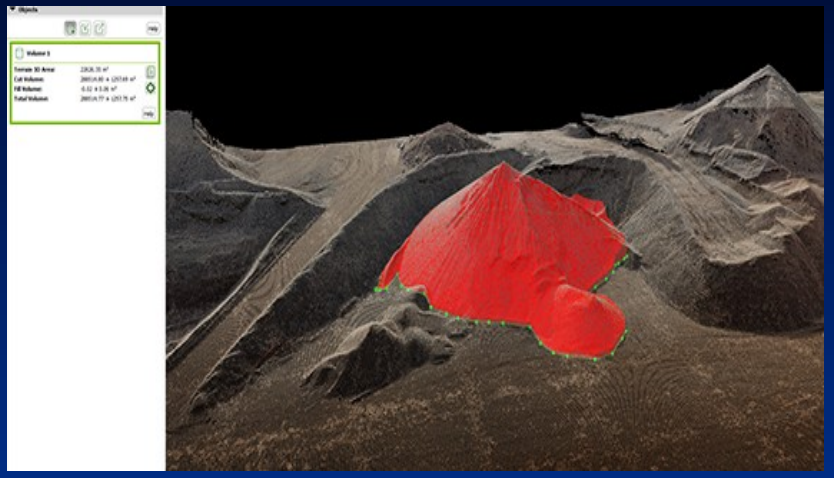
- Overview of impacted areas either too dangerous or too vast to cover
- Impact of critical Infrastructure
- Evaluate road networks, evacuation, and response routes
- Document response, damage, and the effects for FEMA reporting

Fire Service Application

Disaster Response

Uses the camera's perception of depth to provide a 3D model of an area





Output calculated volumes on a perfect representation of your stockpile, with adjustable base height and detailed view for more precise measurements

Fire Service Application

Rescue

- Water, Wildland, Wide area search
- Survey Aircraft or Motor Vehicle accidents over large areas or embankments
- Thermal Imagery of victims in confined spaces, high angle, or rubble piles

Fire Service Application

Rescue

Water rescue operations

Search and rescue

FLIR®

Hazardous Materials Response

Legal Requirements

COA: Certificate of Waiver or Authorization

Categorized as "Public Aircraft Operations"
Allows for pre-approval to fly in designated airspace

Training/Application Requirements

Public Declaration Letter (Letter to FAA certifying public status)
Follow all FAA 107 rules for operators

Requested Action

Approval to apply for and obtain a Certification of Authorization from FAA to conduct Unmanned Aerial System operations