



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.

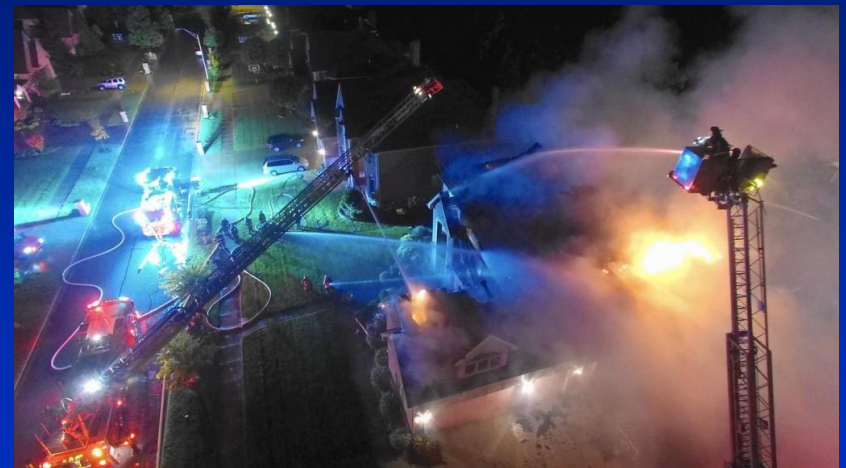




FIRE SERVICE APPLICATION

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

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





FIRE SERVICE APPLICATION

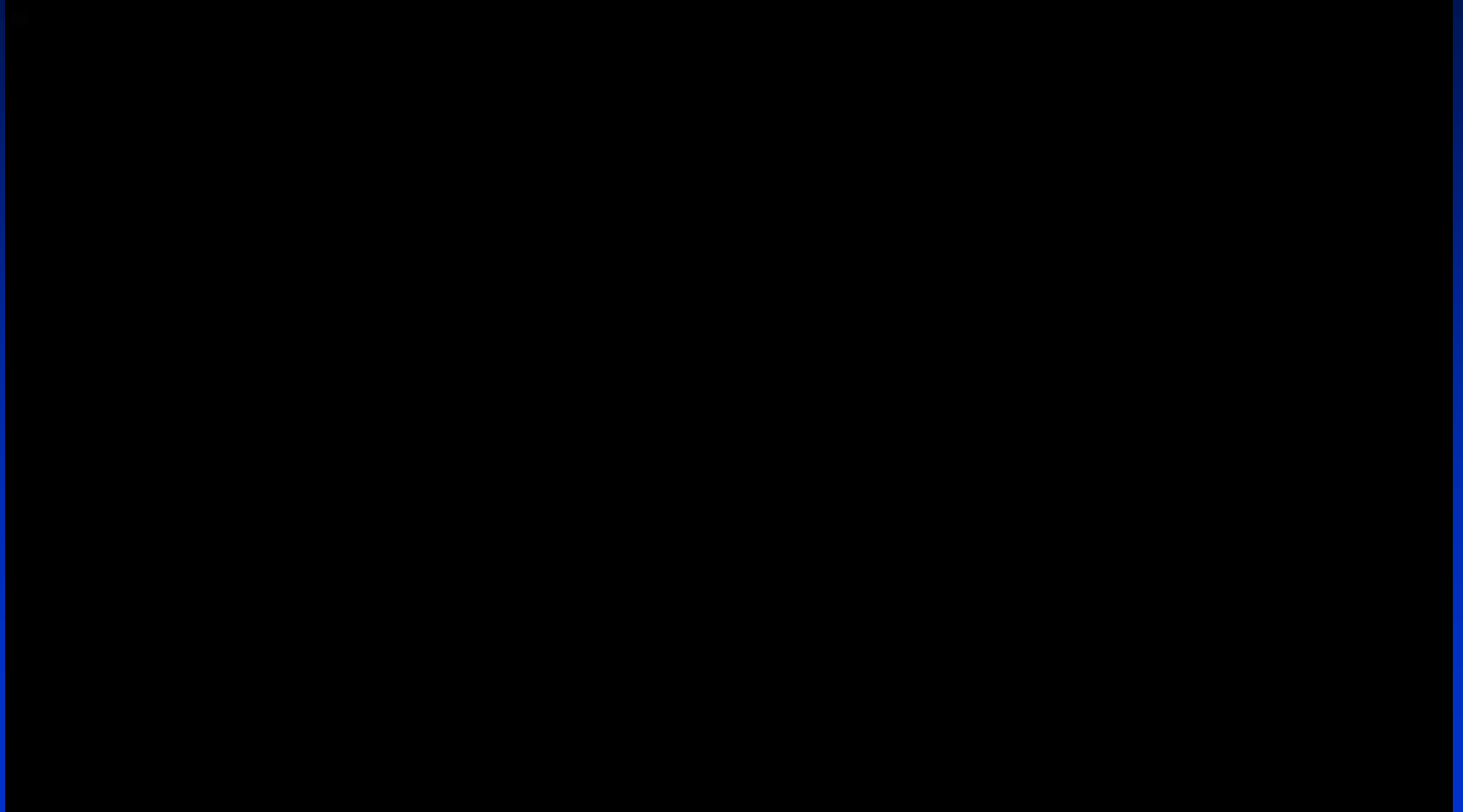
Structural Firefighting

- 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

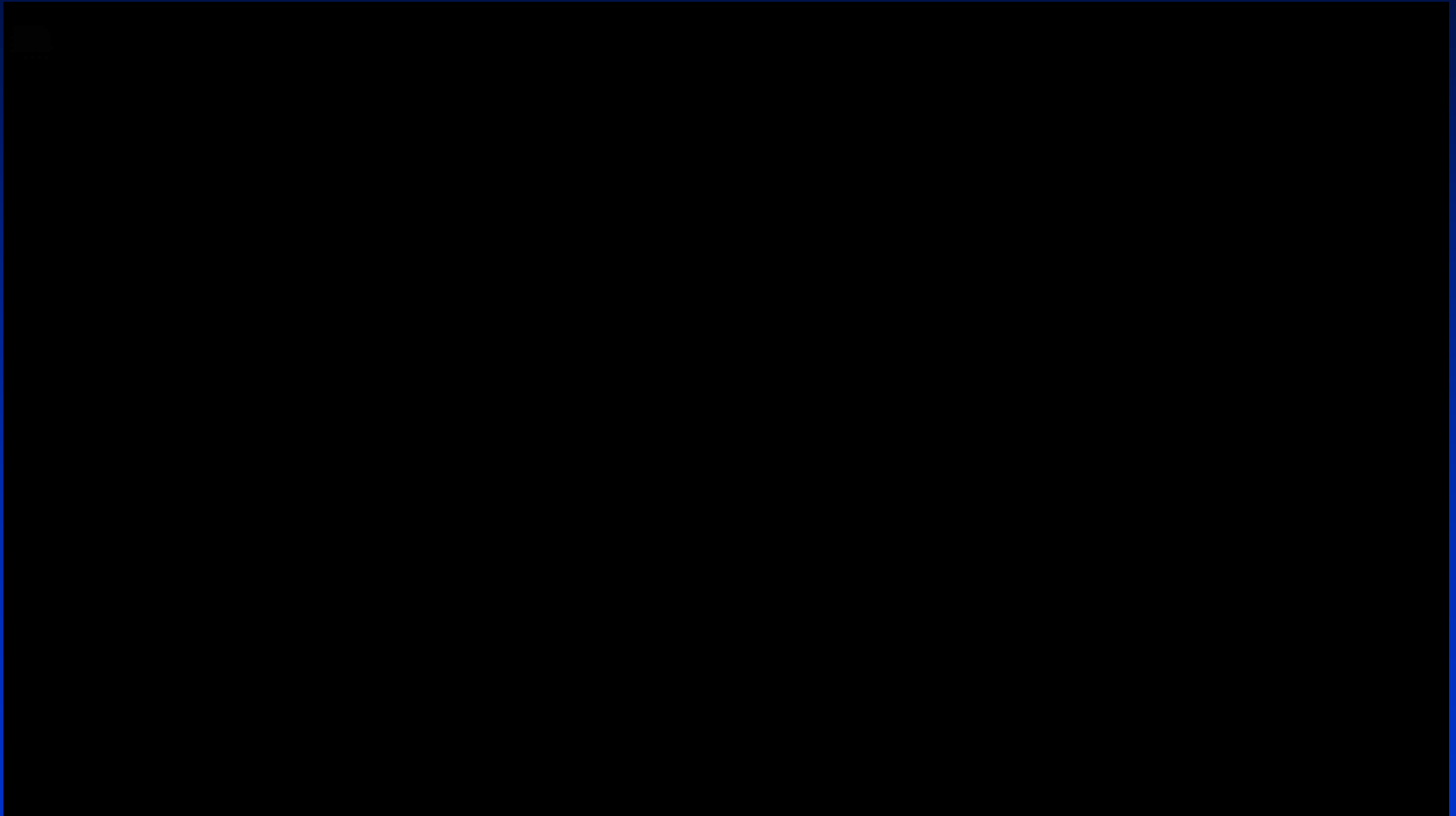
Emergency Medical Services

- 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

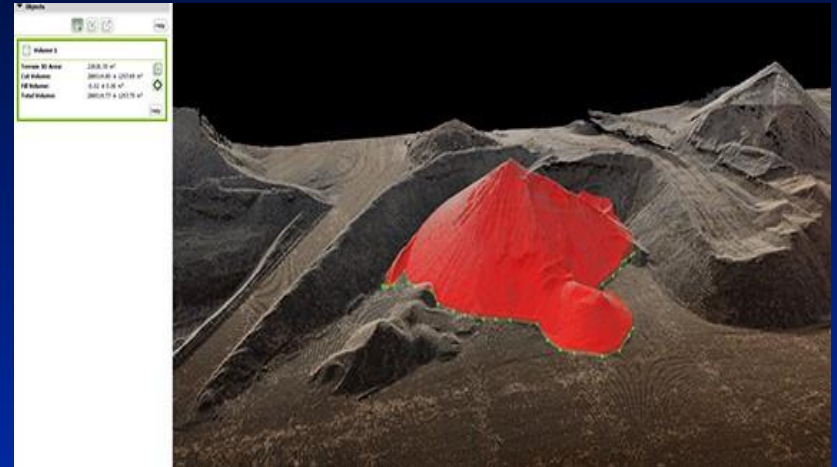
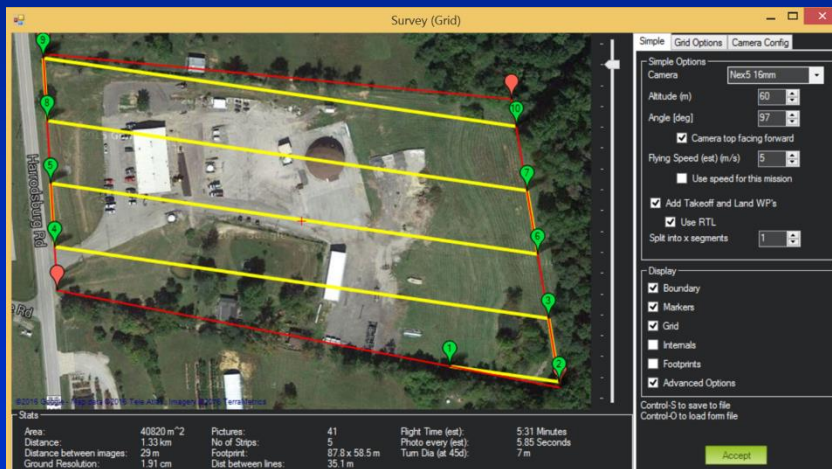
- Overview of impacted areas either too dangerous or too vast to cover
- Impact of critical Infrastructure
- Evaluate road networks, evacuation, and response routes
- Document response, damage, and the effects for FEMA reporting



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

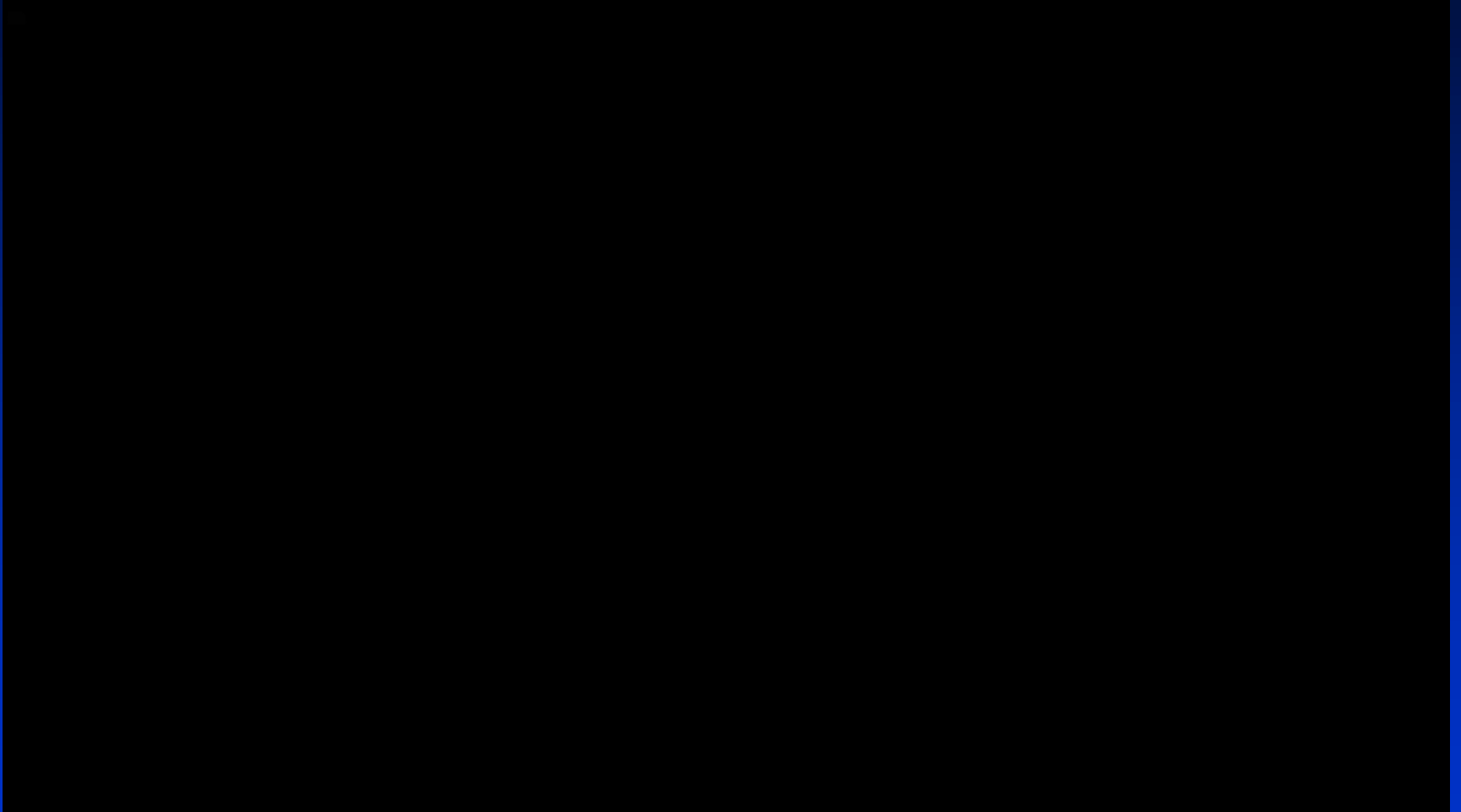


Search and rescue





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**