

Unmanned Aircraft Systems Types and Use

Melissa Lineberger

Colorado Center of Excellence Director



COLORADO

Center of Excellence for Advanced
Technology Aerial Firefighting

Department of Public Safety

Center of Excellence for Advanced Technology Aerial Firefighting

Mission

To protect the citizens, land, and resources in Colorado, the Center of Excellence will research, test, and evaluate existing and new technologies that support sustainable, effective, and efficient aerial firefighting capabilities.



Vision

The Center of Excellence is the worldwide leader in collaboratively researching and developing innovative technologies and capabilities supporting or related to aerial firefighting.



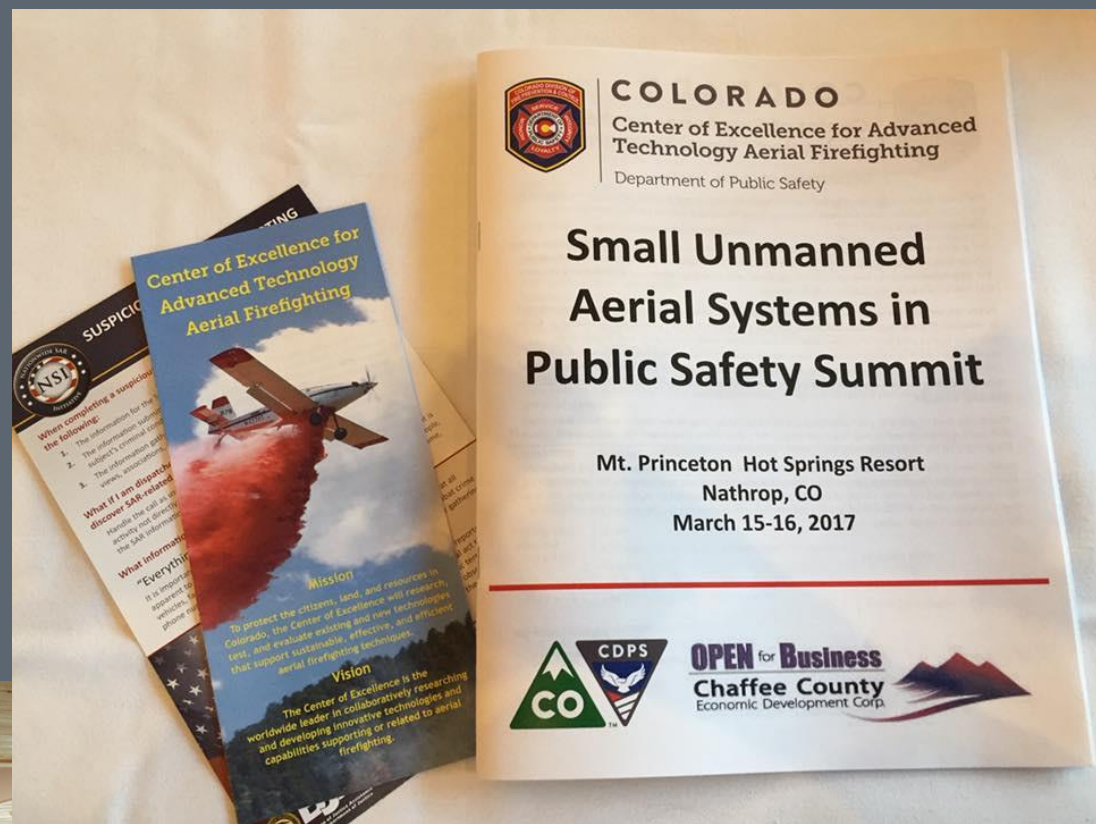
Unmanned Aerial Systems

Identifying ways that UAS can improve the efficiency and effectiveness of aerial firefighting through research, training, education, and outreach.



Goal: Determine the best way to help local agencies through the creation of a State UAS module and/or assisting local agencies with standing up a UAS program.

sUAS in Public Safety Summit



House Bill 17-1070

The bill requires the CoE to conduct a pilot project and study concerning the integration of unmanned aircraft systems within state and local government public safety operations.



- Wildland Fire Situational Awareness
- Search and Rescue
- Accident Investigation and Reconstruction
- Structure Fire Investigation
- Emergency Management

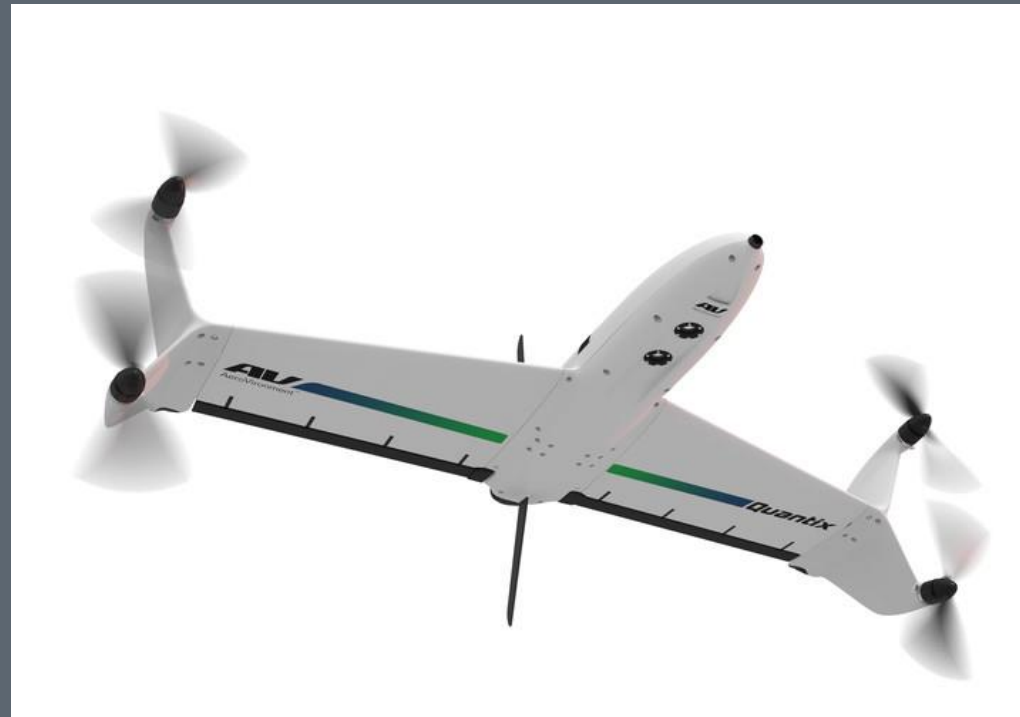
Rotor Wing Platforms



Fixed Wing Platforms



Fixed Wing Hybrid Platforms



Larger UAS Platforms

- Autonomous Water Pickup
- Hotspot Identification
- Dynamic UAS Re-tasking
- Autonomous Water Delivery
- Delivery Effects Evaluation
- Cooperative UAS Operations
- Precision Resupply Operations
- Personnel Recovery
- Equipment Delivery



Lockheed Martin K-MAX with 6,000lb Payload

UAS in Firefighting

- Wildland Firefighting:
 - Real Time ISR
 - IR/EO Mapping
 - Airspace Integration
 - Data Direct to Web
 - Bucket Drops
 - Cargo Delivery
 - Parcel Level Risk Assessment



- Local structure departments are exploring use for:
 - HazMat Emergency Assessment
 - Situational Awareness
 - Firefighter Tracking
 - Locating Victims
 - Training and Education
 - Search and Rescue
 - Investigation



UAS in Public Safety (Non-Fire)

- Accident Investigation
- Crime Scene Investigation
- Search and Rescue
- Body Recovery
- Land Slides
- Rock Fall Mitigation
- Flood/Disaster Recovery Efforts
- [Man Hunt/Fugitive Search](#)
- Marijuana Grow Operations
- River and Ice Rescue
- EMS
- Communications Link



Other Government Applications

Surveying/Mapping

Tracking Wildlife

Inspections

Environmental Monitoring

Oil and Gas



Questions?

Contact Us:

<https://www.colorado.gov/dfpc/coe>

(970) 665-0034

Melissa.Lineberger@state.co.us