

The Critical Importance of Drone Detection and Mitigation for Public Safety

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Statement for the Record:

The Critical Importance of Drone Detection and Mitigation for Public Safety

As unmanned aircraft systems (UAS) continue to proliferate across recreational, commercial, and malicious domains, the ability of public safety agencies to detect and mitigate unauthorized or threatening drones has become a national imperative. This statement outlines the growing threat landscape associated with drones, discusses the current challenges in detection and mitigation, and advocates for the urgent integration of counter-UAS (CUAS) capabilities within the broader public safety framework.

The rapid evolution and accessibility of drone technology have transformed industries and revolutionized emergency response and public safety operations. However, with this growth comes an increasing threat of misuse—whether intentional or negligent. From contraband drops over prison yards to surveillance of critical infrastructure and interruptions of emergency scenes, public safety agencies now face a complex airspace risk. The ability to detect, track, identify, and, when necessary, mitigate rogue drones is essential for protecting lives, preserving critical infrastructure, and ensuring operational integrity.

Drones present a unique set of challenges to public safety:

- **Criminal Exploitation:** Criminal organizations increasingly use drones to smuggle drugs, weapons, and contraband into correctional facilities or across borders.
- **Terrorist Use:** Adversarial state and non-state actors have experimented with drones for surveillance and weaponization, creating a low-cost, low-detection threat vector.
- **Privacy Violations and Harassment:** Drones can be used to stalk, harass, or violate the privacy of civilians and law enforcement officers, often in ways that are difficult to detect and prevent.

- **Interference with Public Safety Operations:** Unauthorized drones flying near traffic crashes, fire scenes, or disaster zones can impede emergency response, creating hazardous conditions for both responders and civilians.

The Need for Detection and Mitigation Capabilities

Public safety agencies must be able to detect, identify, and if authorized, mitigate UAS threats in real time. Without this capacity, agencies operate blindly in a shared airspace, increasing risks to both responders and the public. Key benefits of these capabilities include:

- **Situational Awareness:** Drone detection systems enhance airspace awareness, allowing agencies to monitor aerial activity near sensitive locations or active scenes.
- **Threat Identification and Attribution:** Identifying the type, intent, and operator of a drone is essential for appropriate response and legal action.
- **Incident Mitigation:** In critical scenarios, stopping or redirecting a drone may be necessary to prevent harm or disruption—especially during mass gatherings, dignitary protection, or major disasters.

Current Limitations and Legal Barriers

Despite the urgent need, most state, local, tribal, and territorial (SLTT) public safety agencies lack the legal authority to mitigate drones, and often face limitations in even detecting them. Only federal agencies currently possess broad CUAS authority under 6 U.S.C. §124n, leaving a gap in homeland security at the local level.

Additionally:

- **Technology Access:** CUAS systems are costly, complex, and often limited to military or federal use.
- **Interagency Coordination:** Lack of real-time data sharing and standard operating procedures hinders unified responses.
- **Policy Gaps:** Existing federal laws, including the FAA’s preemption of airspace regulation, complicate the roles and responsibilities of SLTT agencies.

Path Forward: Recommendations for Enhancing CUAS Capabilities

1. **Legislative Reform:** Grant limited, controlled CUAS authority to vetted and trained public safety entities under federal oversight, as proposed in several legislative efforts.

2. **Training and Standardization:** Create standardized CUAS training and certification programs, ensuring safety, accountability, and legal compliance.
3. **Technology Deployment:** Fund and deploy scalable, non-kinetic drone detection systems to local agencies, particularly those responsible for critical infrastructure and mass events.
4. **Public-Private Collaboration:** Encourage partnerships between technology providers, law enforcement, and federal agencies to pilot CUAS tools under lawful frameworks.
5. **Community Engagement:** Educate the public on the responsible use of drones and build awareness of the risks associated with unauthorized operations.

Conclusion

The ability to detect and mitigate rogue drones is no longer a futuristic concept—it is a present-day necessity. Public safety professionals stand on the frontlines of both natural and manmade crises, and their lack of CUAS capability leaves a critical vulnerability in our national preparedness. While federal agencies play a vital role, empowering state and local responders with the tools, training, and authority to protect their communities from aerial threats is the next essential step in securing the homeland.

The following is what will be needed for forward movement on this topic:

Research documenting the legal framework surrounding C-UAS with special emphasis on Congressional authorizations and special exemptions.

Capabilities Research focused on the types of C-UAS technology available with special emphasis on detection and mitigation capabilities.

Certifications Research focused on developing standards, training, and certification programs for the C-UAS ecosystem.

Capacity Research focused on building capacity to implement C-UAS technologies to facilitate awareness and security in the NAS.

Accountability Research focused on developing accountability surrounding a C-UAS conceptual framework to ensure oversight and adequate protection of civil liberties.