

UNMANNED UNITED INC.

Counter-UAS Close-In Kinetic Defeat — Engagement Envelope Analysis

A public position paper from an American autonomous-systems company

Small unmanned aircraft have made the final protective layer a critical problem. Detection and disruption can be decisive, but every defensive architecture must also account for the residual threat that reaches close range. The question is not whether a single technology solves counter-UAS; it is whether the overall system preserves time, discrimination, and responsible decision authority when other layers are stressed.

UNMANNED UNITED POSITION

Close-in counter-UAS is a defensive systems-engineering problem. It should be evaluated through layered protection, positive identification, controlled effects, accountable human authorization, and rigorous safety—not through slogans, isolated performance claims, or a one-size-fits-all tool.

Why the Close-In Layer Matters

OPERATIONAL REALITY	CONSEQUENCE FOR A PROTECTIVE SYSTEM
Detection is not defeat	A sensor alert must be converted into a timely, understandable decision and an authorized response.
Adversaries exploit complexity	Swarm behavior, clutter, terrain, weather, and low signatures can stress individual sensors or response tools.
Collateral risk is central	Any final protective measure must be evaluated for the actual environment, people, infrastructure, and airspace involved.
Human authority must be clear	A system must support defined rules of engagement, positive control, logging, and after-action accountability.

An Engagement Envelope Is More Than Distance

For public discussion, an engagement envelope should be understood as the conditions in which a defensive system can safely and responsibly contribute to a layered protective posture. It includes detection confidence, classification confidence, target behavior, background environment, protected-asset geometry, response time, authorized action, and effect containment. It is not merely a range number.

- Detection-to-decision time: how quickly can credible information reach the authorized human decision-maker?
- Discrimination: can the system distinguish relevant objects and conditions sufficiently for the mission?
- Protected-area context: what people, structures, traffic, and sensitive assets are within the operating environment?
- Interoperability: can sensors, command-and-control, and response elements share a coherent picture?
- Accountability: are actions logged, reviewable, and governed by appropriate authorities?

USA-First Industrial Priorities

Counter-UAS systems intended to protect U.S. personnel and infrastructure should be designed with American control of critical software, data, supply-chain knowledge, and sustainment pathways. Domestic production capability supports transparent component provenance, configuration control, secure updates, training, and repair—requirements that become more important as systems are deployed near people and critical assets.

A Responsible Path Forward

Unmanned United is developing defensive technology and integration approaches for this broader problem. We advocate for government-industry evaluation environments where safety, legal authority, sensing, command workflows, and controlled effects can be assessed together. The goal is a credible protective architecture—not an oversimplified claim that any single system can resolve a complex and evolving threat.

Discussion Prompts

- Which layers of the defense architecture are owned by the site, the operating force, and external authorities?
- What evidence threshold must be met before a protective action is authorized?
- How will the organization validate safety and effectiveness in its real operating environment?
- What domestic sustainment and software-control requirements should be mandatory for close-in protective systems?

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