



Outpacing the Swarm:

How 1st MLG Marines are innovating to defeat the drone threat

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Through rapid experimentation, hybrid kinetic and electronic solutions, and a relentless "what's next?" mindset, Headquarters and Service Battalion is pioneering unit-level counter-sUAS

CAMP PENDLETON, Calif. –

The battlefield is constantly evolving. The use of inexpensive, commercial-off-the-shelf drones has transformed combat. Once considered surveillance novelties, these low-cost systems now scout positions, track unit movements, coordinate precision strikes, and deliver lethal ordnance directly onto tactical formations.

Recognizing that logistics nodes and command elements are primary targets in any peer-level conflict, U.S. Marines with Headquarters and Service Battalion, 1st Marine Logistics Group, I Marine Expeditionary Force, anticipated the threat of small-unmanned aircraft systems and began to experiment with methods to counteract the danger before Marines were at risk.

Cpl Ryan Ramsammy, USMC



Anticipating the Danger:

From Clay Targets to Combat Shotguns



LCpl Mhecaela Watts, USMC

Every major military adaptation begins with fundamentals. When H&S Battalion initiated its counter-drone development in December 2025 during Exercise Steel Knight 25, instructors recognized that engagement geometry against moving aerial targets demanded new muscle memory.

To build local proficiency from the ground up, the battalion developed a live-fire training package pairing service-issue M1014 semi-automatic shotguns with enhanced combat optics. The initial iteration was deliberately pragmatic: Marines engaged clay targets launched from standard skeet throwers. While simple, the drill forced warfighters to master target lead, muzzle discipline, and the rapid target-tracking mechanics required to engage small, erratic aerial threats at close range.

More importantly, it established a foundation upon which new tactics, techniques, and procedures could be continuously refined.



LCpl Mhecaela Watts, USMC

Evolving the Engagement: Dynamic Targets and Electronic Warfare

Battlefield threats do not travel in predictable arcs, and by June 2026, H&S Battalion escalated the complexity of their live-fire regimes. Instructors introduced dynamic targets –descending tethered balloons beneath drones closely simulate loitering munitions and dropping payloads. This gave Marines an authentic contextual picture of drone speed, descent angles, and evasive flight profiles.

Simultaneously, Marines with H&S Battalion recognized that kinetic fire represents only one layer of survivable air defense posture and began fielding non-kinetic options like the NightFighter Mini counter drone system. A compact, man-portable, and single-person operable system, the NightFighter Mini uses radio frequency jamming to overwhelm the control and navigation signals that keep a drone connected to its operator and oriented in space. By disrupting the link, an enemy drone is rendered ineffective and may hover in place, return to its launch point, or descend — all outcomes represent mission failure for an adversary trying to conduct reconnaissance or deliver a payload.





Sgt Mary Torres, USMC

Multi-Dimensional Immersion: Virtual Reality at the Tactical Edge

Live ammunition training offers unmatched physical feedback, but it introduces inevitable safety constraints when replicating 360-degree, high-angle aerial swarms within confined installations. In July 2026, H&S Battalion bridged this gap by implementing the use of immersive virtual reality into its C-sUAS training.

Marines strapped into the Interceptor C-sUAS Trainers, entering a digital environment populated by multi-vector drone attacks. In the simulated space, Marines practiced rapid scan and detection drills, priority targeting when confronted with swarms, and full-circle perimeter defense without the risk of crossfire. By augmenting live-fire training with virtual reality, H&S Battalion accelerates reps and sets, drastically compressing the timeline needed to build intuitive situational awareness across non-infantry support personnel.

Moving with the Convoy: Live Targets and Mounted Fires

By September 2026, H&S Battalion's Combat Skills Training School executed a critical capstone event that brought every phase together under combat-representative conditions. Operating at live ranges, the battalion integrated the Dronebuster C-sUAS system – a handheld electronic mitigation tool engineered to detect, identify, track, and disrupt hostile UAS signals. The exercise featured live, free-flight drone targets maneuvering against defensive parameters, vehicle-mounted firing positions, and combined-arms integration, fusing visual detection, RF disruption, and kinetic engagement into a synchronized defensive sequence.

This evolution demonstrated that counter-drone protection is not just a base-defense requirement, but a tactical imperative for mobile sustainment units traversing contested corridors.

Cpl Ryan Ramsammy, USMC



Dronebuster

Cpl Ryan Ramsammy, USMC



Marines firing from vehicle-mounted positions



LCpl Mhecaela Watts, USMC

Culture of Readiness

Technology in modern conflict carries an exceptionally short half-life. What works on Monday can be countered by Sunday. The standout achievement of H&S Battalion, 1st MLG, is not merely that they acquired shotguns, jamming devices, or VR headsets; it is that they fostered an agile operational culture that refuses complacency.

Whenever the battalion validates a new tactic or masters innovative gear, their reaction is not contentment...It is an immediate, collective question: "**what's next?**"



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