



Here is a Squad-Level C-UAS Capability

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The geometric proliferation of micro and nano class unmanned aerial systems (UAS) on contemporary battlefields has radically changed the paradigm of survival and effectiveness of basic tactical level units. Until recently, defense against aerial threats was the exclusive competence of specialized army or large unit assets. Today, the need to ensure an organic, immediate, and distributed **Counter-UAS (C-UAS)** capability down to the **rifle squad** level has become an absolute doctrinal imperative.

In this scenario, the technology developed by specialized companies like SMARTSHOOTER represents a concrete and immediately integrable response to fill the capability gap of dismounted infantry facing three-dimensional asymmetric threats.

The Technological Core: SMASH 2000LE (SMASH 3000SA)

The SMASH 2000LE device (also identified in export contexts as SMASH 3000SA) represents the forefront of optoelectronic assisted aiming systems (*Fire Control System - FCS*) applicable directly on standard assault infantry weapons and small calibers compliant with NATO

standards.

Unlike traditional optics, the system integrates advanced **computer vision** modules, **artificial intelligence (AI)** algorithms, and automatic target tracking (*target tracking*). Its operation is based on a predictive ballistic principle: the operator frames the macro or micro-UAS threat, the system calculates the target's kinematics in real-time and assists the user, drastically improving engagement accuracy. The optics, in fact, optimize the shot release by coordinating with the shooter's movements to ensure impact on the target, eliminating human error related to combat stress.

The introduction of the **2000LE** variant brings a fundamental evolution: the **networking capability**. The optics no longer operate as an isolated technological silo but allow operators to share information with squad-level systems, with *Battle Management Networks*, and with other sensors deployed on the battlefield, creating a true distributed low-altitude air defense architecture.



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Tactical Implications at Rifle Squad Level

The integration of SMASH technology at the level of troops equipped with assault rifles and for sniper teams solves one of the major vulnerabilities of infantry: the downing of drones, ground systems, and other low-altitude aerial threats through individual kinetic fire.

Traditionally, the ammunition consumption necessary to shoot down an erratically moving micro-drone with reflex or iron sights was statistically prohibitive, resulting in a rapid depletion

of the unit's fire reserve without any guarantee of success.

The key operational capabilities offered by the system can be summarized in three fundamental pillars:

- **Lethality Multiplication:** The system instantly elevates the shooting standards of the entire squad, allowing even non-specialized personnel to hit highly dynamic and elusive targets with pinpoint accuracy.
- **Favorable Asymmetric Costs:** It allows the neutralization of asymmetric flying threats (such as modified commercial drones or loitering munitions) using ordinary ammunition already in service (e.g., 5.56mm or 7.62mm). This drastically reduces the cost per single downing and the dependence on complex guided missile systems for close defense.
- **Multi-domain and Multi-target Flexibility:** Although the optimization of the algorithms is focused on low-altitude aerial threats, the platform's computing capabilities are designed to engage with maximum effectiveness even fast-moving ground targets and short-range surface threats.

Conclusions

The availability of solutions based on the SMASH family confirms that anti-micro-drone defense can no longer be considered an optional or specialized capability relegated to higher echelons only. The positioning of these smart optics reflects a critical conceptual transition: the extension of computational precision directly into the hands of the individual combatant. The field implementation of these "cyber-physical" optics lays the foundation for a new standard of survival in modern operational theaters, radically redefining the protection capabilities and firepower of the infantry squad.