

Eight Benelli rifles and artificial intelligence: how Italy's LIVET turret hunts drones

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Mounting eight shotguns on a remotely controlled turret may seem like an unusual solution, but in the fight against small drones it represents a concrete, targeted response. This is the idea behind **LIVET**, a remote-controlled weapon station (RCWS) developed by Italian technology company **DUALEE** in collaboration with **Beretta Defense Technologies**, recently put to the test in a live-fire demonstration in Denmark before the Danish armed forces.

A cost-effective response to an asymmetric threat

The proliferation of small, inexpensive and highly maneuverable drones has created a serious tactical and economic problem for modern militaries. Using missiles costing tens or hundreds of thousands of euros to shoot down low-cost unmanned aircraft is unsustainable, especially in the face of repeated or swarm attacks.

Shotguns offer a far more sustainable kinetic alternative. While assault rifles and machine guns struggle to hit small, unpredictable aerial targets, a shotgun's shot pattern significantly increases the likelihood of a hit, applying principles well known in bird hunting to very-low-altitude air defense.

Eight Benelli M4 Drone Guardian shotguns with airburst ammunition

At the heart of the LIVET turret is a battery of eight 12-gauge semiautomatic shotguns based on the **Benelli M4 Drone Guardian**, a model introduced in 2024 and designed specifically for counter-drone operations (C-UAS).

Compared with employing a single weapon carried by an operator, the multi-weapon turret configuration offers clear advantages:

- **Greater firepower and redundancy:** eight ready-to-use weapons provide a greater volume of fire and operational continuity even if a single weapon malfunctions.
- **Programmable *airburst* ammunition:** the rounds are designed to disperse their payload at a preselected distance from the target, saturating a larger volume of airspace and increasing the chances of a kill.
- **Multiple engagements:** the platform is designed to address several threats in rapid succession or concentrate fire on a single high-speed aircraft.

Artificial intelligence and human control

Beyond its firepower, LIVET's effectiveness rests on an artificial intelligence-assisted targeting system. The software can automatically detect, identify and track up to **five aerial targets simultaneously**, managing weapon alignment and drone tracking.

The turret can also integrate with external sensors, such as radar and radio-frequency detectors, receiving the coordinates of threats detected at a distance and pre-positioning itself toward their direction of origin. Despite the high degree of automation in tracking, **the final decision to open fire always remains with the human operator**, who controls the system

through a dedicated console.

Its role in air defense: the last line of protection

Like any 12-gauge-based solution, LIVET has specific physical limitations related to range. It is not designed to counter large fixed-wing drones or aircraft operating at medium altitude, but rather micro- and mini-UAVs — such as reconnaissance quadcopters or FPV drones — that manage to approach sensitive targets.

The French Army's experience, having already adopted the individual version of the Benelli M4 Drone Guardian, indicates an optimal engagement distance of around **50 meters** (160 feet) and a maximum effective range of approximately **100 meters** (330 feet).

Feature	Details
Developers	DUALEE and Beretta Defense Technologies
Armament	8 Benelli M4 Drone Guardian semi-automatic shotguns (12 gauge)
Ammunition	Programmable *airburst* cartridges
AI tracking	Up to 5 simultaneous targets with radar/RF integration
Typical range	Optimal ~50 m, maximum ~100 m
Fire control	Remote, with mandatory operator confirmation (*human-in-the-loop*)

This places LIVET in the terminal layer of counter-drone defense: a vital last line of protection for defending troops, vehicles, or critical infrastructure when electronic warfare systems fail or when drones have already penetrated long-range barriers. While it does not entirely eliminate the challenges associated with intercepting extremely fast and agile FPV drones, the Italian solution is part of an increasingly widespread trend — already tested in various forms in Ukraine, Turkey, and Estonia — that relies on close-range kinetic saturation to protect the modern battlefield.