

You can hear them before you see them.

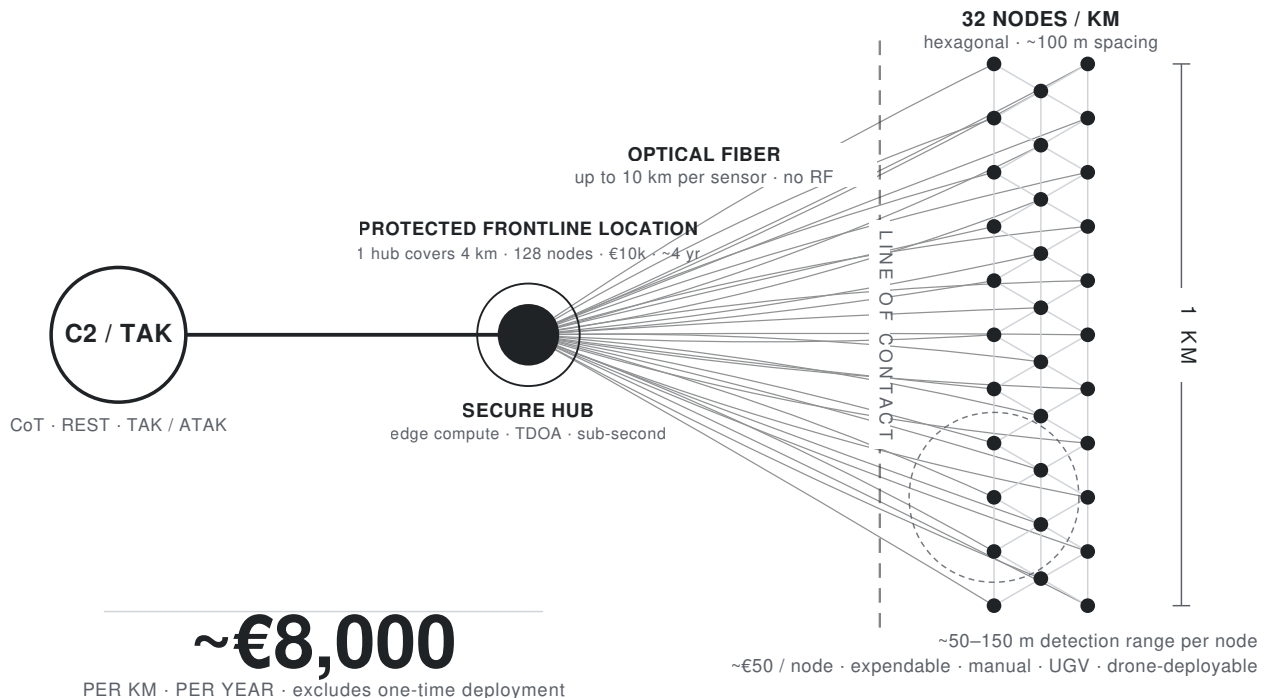
Passive acoustic detection for fiber-optic FPV drones, at the front line. These tethered drones emit no RF, fly below radar, and cannot be jammed, so sound is the one signal they cannot hide. Silent Mesh is a dense mesh of expendable, fiber-connected microphones strung along the line of contact. It listens continuously, then detects, localizes and tracks the drones in **sub-second** time and feeds the live track straight to **C2 / TAK**. The whole chain is **end-to-end optical with zero RF anywhere**, nothing to emit and nothing to jam, and one **Secure Hub up to 10 km in the rear** holds a contested kilometre of front for roughly **€8,000 per year**.

THE THREAT

Radar, RF detection and thermal cannot reliably engage a drone that emits nothing and hugs the ground at 5-30 m. Acoustic detection does work, but the deployed networks (Sky Fortress, Zvook) backhaul over cellular, which is jammed or absent exactly at the front line. Silent Mesh moves the listening right up to the line of contact and carries it home over fiber, so there is **nothing on air to jam**. **Fiber-backed acoustic closes that gap.**

SYSTEM & DEPLOYMENT

Star topology, one fiber per sensor, so a single fiber cut affects only that sensor. The **Secure Hub** sits at the protected frontline location and localizes every source by **classical-DSP multi-sensor TDOA**, with no neural networks; target classification is on the roadmap.



VALIDATION STATUS

TRL 5 - achieved. Multi-sensor outdoor field test against an FPV-class target, Romania, May 2026.

TRL 6 - candidate data under analysis. Controlled crash test in Ukraine, organized by BRAVE1 and the Snake Island Institute, 29-30 May 2026: a four-sensor array deployed by a single operator detected and localized an FPV drone ~50 m beyond the array, in rain and wind. Origin: audio-over-fiber pipeline first demonstrated at the EUDIS Defence Hackathon, Lisbon, March 2026.

TEAM & CONTACT

Paulo Fonseca - Industrial/Product Design and System Architecture. Ex-Founder, Designer.

Andrei Voinea - Software and Hardware Engineering. Ex-Tier-1 automotive radar firmware, Engineer.

Gonçalo Fortes - Manufacturing scale-up. Prodsmart founder, sold to Autodesk, Advisor.

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