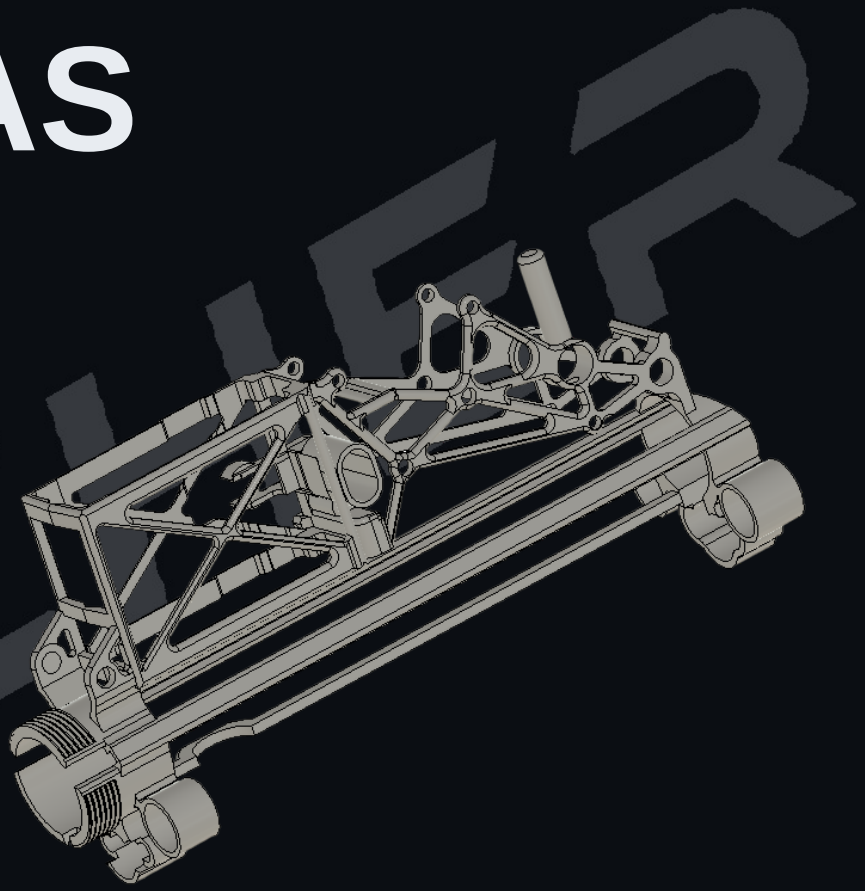
COUNTER-UAS CAPABILITY OVERVIEW



The Anti-Drone Ecosystem

Multi-layered detection | Intelligent fire control | Armed interceptor drones
Autonomous mounted weapons | Vehicle, armor, and infrastructure protection

3	~1 kg	<0.3s	Reusable	5.56
Detection Layers	X-Gun Weight	Drone Detection	Interceptor Model	NATO Standard

Table of Contents

This document presents the Blecher Group counter unmanned aerial systems ecosystem: an integrated, multi-layered defense architecture spanning soldier-carried optics, armed interceptor drones, and autonomous mounted weapon systems.

Principals

JDBlecher

Education and Credentials

- New York Bar, 99th percentile
- MPRE, 99th percentile
- Juris Doctor, UC Berkeley School of Law (2024)
- Previously ranked 4th at Florida State University College of Law, 4.036 GPA
- Book prizes in Constitutional Law and Legal Writing
- Prosser Prizes in Secured Transactions (Article 9) and Estates and Trusts
- BS Biology, University of Florida, completed in two years, cum laude
- 98th percentile nationally on the National Biology Major Field Test
- Designed his own high school curriculum, 20+ AP courses

Practice and Technical

- Prior practice in mergers and acquisitions at a top firm in NYC
- Sole architect of Veracity-Engine, automated citation verification, 500k+ lines
- Built inference-relay, npm-distributed compute routing, ~98.9% cost reduction
- Co-designed BrashZero, caseless ammunition operating system
- Built ITAR/EAR compliance and cross-border manufacturing framework
- Dual-use software specialist; prolific patent drafter
- SolidWorks since age eleven; designer of over ten firearms
- Lived in five countries and five US states

APBlecher

Education and Credentials

- Admitted in New York. Passed NY, California, and Ontario Bar Examinations
- M&A and Securities at Kirkland & Ellis LLP (NYC)
- Securities Law at Stikeman Elliott LLP (Toronto)
- JD, Osgoode Hall
- 1st place US Securities Regulation
- 1st place Business Associations
- Engineering (Boston University), Physics (York University)

Practice and Technical

- Founded Blecher LLC, Flying Gun (X-Gun), and Blecher Precision
- Patented inventions spanning UAS, striker-fired, caseless ammunition, AR-15/M-16
- Designed and Manufactured Short Run Prize winning Motorcycles
- Designed 12+ firearms
- Expert in high-compression-ratio piston design and CNC tool path programming
- Parts at the limits of standard machining, small radii, extreme depths
- Many Patents Pending
- Serial entrepreneur, flagship Pandora Jewelry Concept Stores
- Sold Pandora Concept Stores for the highest multiple in company history
- Over 18 years in jewelry spanning retail, manufacturing, wholesale diamond

X-GUN

A complete 5.56 NATO weapons system purpose-built for aerial drone operations, weighing about 1 kg, with tunable near-zero recoil and fully autonomous fire control

~1 kg
Complete system weight

5.56
NATO / STANAG

Full Auto
Semi and fully automatic

5.56 NATO | About 1 kg | Servo Fire Control | Near-Zero Recoil

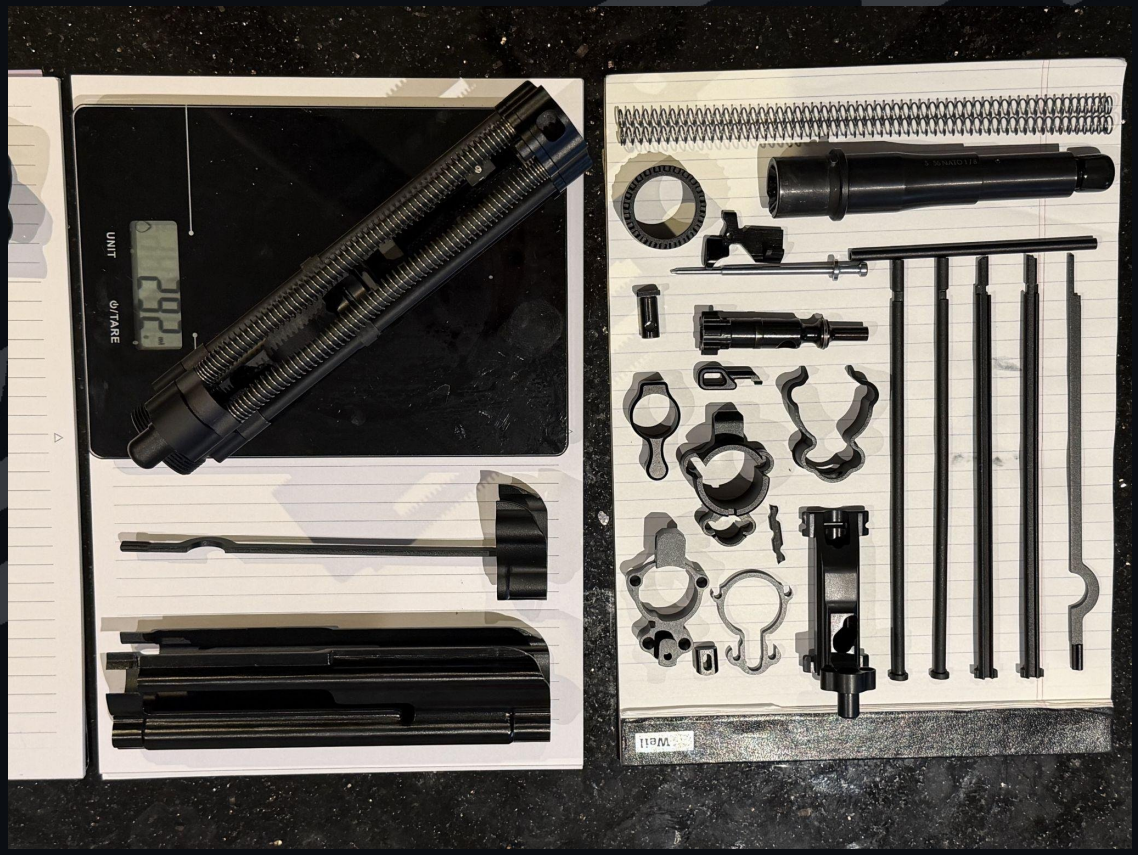
X-Gun: Production Hardware

Developed as a weapons system specifically designed for aerial drone operations. Principles include fully autonomous capability potential with servo controlled trigger and safety/selector. Capable of semi automatic and fully automatic fire. Main focus was on weight reduction and compact design including only those essential operating and structural components required for reliable operation. The complete system weighs about 1 kg. Servo actuating mechanism compatible with any standard AR-15/M4/M16 lower receiver.

Recoil System | Servo Actuator | Constellation Lower

X-Gun

Multiple mounting orientations for different platform requirements: conventional orientation for belly mounting on a traditional drone, inverted configuration (magazine up) for the most compact profile with downward cartridge ejection away from propellers, and the integrated armed drone configuration where mounting spars extend outward from the receiver to carry motors and propellers, creating an armed drone where the firearm receiver forms the body of the drone itself.

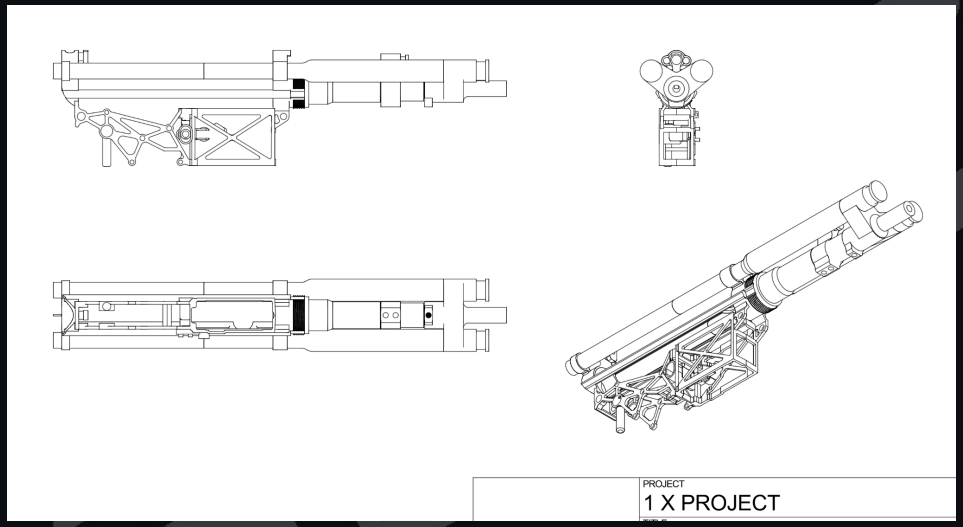


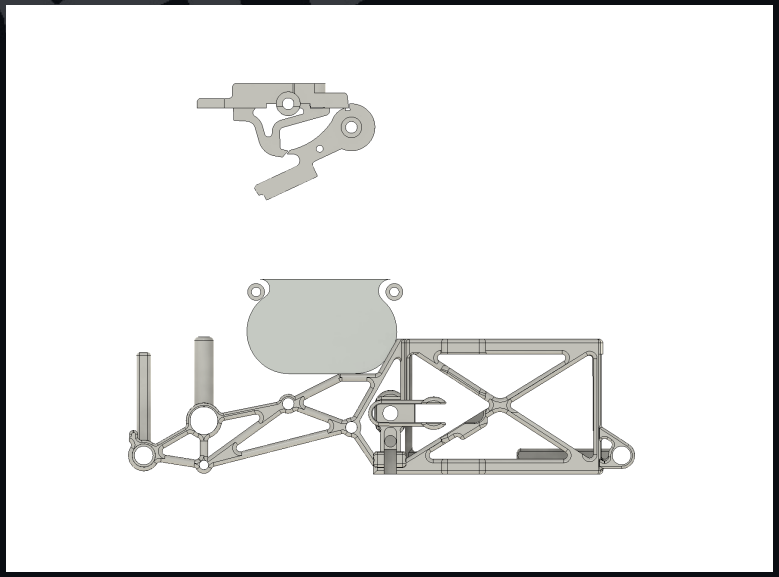
X-Gun components, servo actuating mechanism, and Constellation lower receiver.

5.56 NATO | About 1 kg | Real Hardware

X-Gun: Engineering and Design

The trigger group (right) includes a lightened version designed to interface with the servo actuating mechanism, providing fully autonomous fire control capability while maintaining compatibility with any standard AR-15/M4/M16 lower receiver. The recoil management apparatus is visible in the hardware photographs: an adjustable system that fits on virtually any barrel length, with a gas system tuning knob that regulates the amount of gas fed to the proprietary operating system, allowing each application to be perfectly balanced for different ammunition types and barrel configurations.





Multi-View Drawing | Trigger Group

X-GUN: ANTI-PERSONNEL

The same platform that defends against drones provides suppressive fire and anti-personnel capability with ammunition that defeats modern body armor

With current-generation enhanced performance 5.56 NATO ammunition, the weapon defeats body armor designs rated to stop standard rifle ammunition and maintains consistent terminal effectiveness at extended ranges. The X-Gun platform is additionally compatible with the emerging class of hypervelocity 5.56x45mm ammunition currently under development. These developmental rounds operate at chamber pressures in excess of 82,000 PSI, extending the effective engagement range of 5.56 platforms from 300 meters to beyond 600 meters with substantially improved barrier penetration and terminal performance. The X-Gun's operating system is engineered to accommodate the elevated pressures and bolt thrust generated by hypervelocity ammunition without component failure.

Its proprietary operating system combines the best features of direct impingement accuracy and long-stroke piston reliability through strategic placement of the piston to prevent interference with barrel harmonics.

Hardened Penetrator
Defeats armor rated for standard rifle rounds

Extended Range
Consistent terminal effect at distance

Legacy Compatible
Backward compatible with all 5.56 platforms

Dual Purpose
Anti-drone and anti-personnel from same mount

Enhanced Ammunition | Body Armor Defeat | Dual Purpose

A $500 drone can destroy a $5 million vehicle, and every countermeasure on the market today costs more than the threat it stops

A commercially available first-person-view drone costs approximately $500 to build. It can destroy a $5 million armored vehicle, disable a $50,000 generator powering a field hospital, knock out a radar installation, or kill personnel inside a fortified position. In Ukraine, cheap drones are destroying main battle tanks, infantry fighting vehicles, artillery pieces, and logistics trucks at a rate that is reshaping procurement doctrine worldwide.

The cost of what the drone destroys is orders of magnitude above the cost of the drone itself. The attacker does not need to win a technology race. The attacker needs only to be cheap enough, in sufficient quantity, to overwhelm the defender's ability to protect assets worth thousands of times more.

$500
Attack drone cost

$5M+
Value of target destroyed

$2M
Missile intercept cost (Red Sea)

$15K
Low-cost interceptor drone (Merops)

Expendable
Every current interceptor

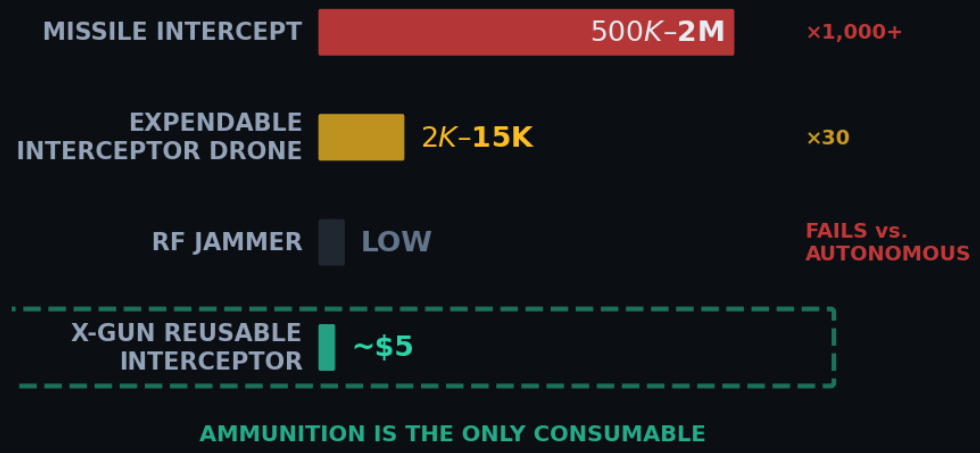
Asset Destruction | Cost Asymmetry

There is no fielded system that combines low cost per engagement, reusability of the interceptor, and effectiveness against both remotely piloted and autonomous drones

Every current countermeasure fails the cost test at scale. Missile-based intercepts cost between $500,000 and $2 million per shot. In the Red Sea, coalition forces expended interceptors costing over a thousand times the value of the drones they destroyed.

Even purpose-built low-cost interceptor drones, the most economical kinetic option available today, cost between $2,000 and $15,000 per unit and are expendable. They destroy themselves to kill one target. Against a swarm of fifty $500 drones, the defender spends $100,000 to $750,000 in interceptors that cannot be recovered or reused. The attacker reloads for $25,000.

Electronic warfare systems offer a lower per-engagement cost but cannot defeat autonomous drones that navigate without a control link. Laser-based directed energy weapons promise low cost per shot.



This is the gap the Blecher anti-drone ecosystem fills.

Cost Exchange | Expendable Problem | Sustainability

An integrated anti-drone ecosystem from the individual soldier to infrastructure defense, connected on one encrypted mesh where every node makes every other node smarter

The Blecher anti-drone ecosystem is an integrated, multi-layered counter-drone architecture within the larger Reckon Matrix tactical network. The ecosystem coordinates detection, engagement, and defense products that share intelligence, coordinate responses, and operate across every echelon from the individual soldier to fixed-site infrastructure protection.

Tier 1: Soldier Carried

Reckon optic (1-10x) and Reckon Shrike (1x C-UAS). Individual drone detection, target amplification, predictive engagement, and autonomous fire timing. Every equipped soldier is a counter-drone node.

Tier 2: Armed Interceptor Drones

X-Gun armed interceptors engage and destroy hostile drones in the air, then return for rearming. Single, dual, and triple weapon configurations. Reusable platform; ammunition is the only consumable.

Tier 3: Mounted Weapon Systems

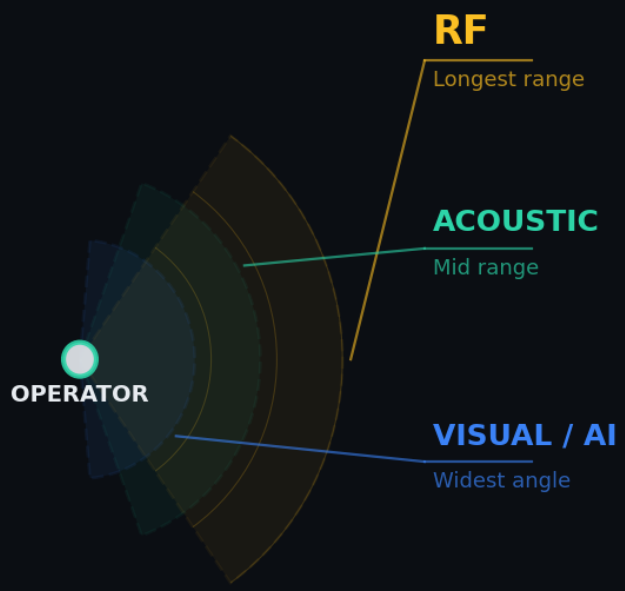
Vehicle, tank, and infrastructure protection using cameras and sensors for autonomous detection, classification, tracking, and engagement. Configurable autonomy from fully autonomous to fully human-controlled.

All three tiers share detection data across an encrypted mesh. A drone detected by any node is visible to every other node instantly.

Reckon Matrix | Mesh Network | Multi-Tier Defense

Three independent detection methods operating simultaneously ensure that no countermeasure a drone employs can defeat all three

Redundancy is deliberate. A drone that jams its RF signature is still detected acoustically and visually. A drone that flies silently is still detected by RF and visual sensors. A drone that uses visual camouflage is still detected by RF emissions and acoustic blade noise.



Mesh Networked Awareness

A detection from any layer, on any device, propagates across the encrypted squad mesh instantly. Every operator sees the threat arrow at the same moment.

RF Detection | Acoustic Classification | AI Visual Detection | Mesh Alert

When the drone is invisible to the human eye, the system detects it, tracks it, and projects an amplified image with a predictive aiming zone onto the operator's display

A typical attack drone presents a cross-section of approximately 30 to 50 centimeters. At 200 meters, this target subtends roughly the angular size of a human head. At 300 meters, it is at or below the reliable detection threshold of the unaided human eye under field conditions.

The system's imaging sensors resolve the drone at ranges where the operator cannot. When the target is below visual threshold, the system projects onto the operator's display:

- A target position marker showing the drone's angular location, updated in real time
- A velocity vector indicator showing direction and speed of travel
- A dynamic aiming zone that narrows as alignment improves, providing convergent visual feedback

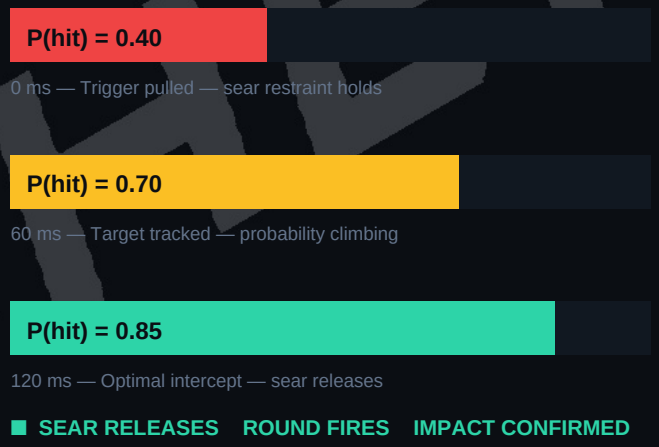
The operator engages a target they literally cannot see with their own eyes. The camera sees it; the display shows it; the operator aims against the augmented representation.

Camera-Augmented | Sub-Visual Engagement | Aiming Bracket | Convergent Feedback

The operator pulls the trigger to authorize the engagement, the system holds the sear and releases at the computed moment of maximum probability of impact

Engaging a drone with small-arms fire is fundamentally a fire-timing problem. Human reaction time from visual stimulus to trigger break is approximately 200 to 300 milliseconds. At 30 m/s, the drone moves 6 to 9 meters during that window alone. A human pulling the trigger at the moment they perceive alignment will miss every time.

The trigger pull is the human authorization to engage. After the trigger is pulled, an electronic sear restraint holds the firing mechanism. The fire control system continuously computes probability of impact. At the computed optimal moment, the system releases the sear. The weapon fires.



- Operates on the sear pathway downstream of the complete trigger pull
- Restrains the firing mechanism AFTER full manual trigger pull
- Fail-safe default: power loss equals normal semi-automatic operation
- Human Authority Principle is maintained at all times

Sear Restraint | Probability of Hit | Trajectory Prediction | Human Authority

Sub-millimeter actuators in the stock correct weapon aim while the operator holds steady, reducing the engagement task from impossible to a trigger pull

The stock contains a fixed operator interface: a buttpad and integral cheekweld that remain stationary against the operator's shoulder and face. Between this fixed cradle and the weapon body is an actuated translation stage that moves the weapon in two axes. The operator's shoulder serves as a fulcrum. Corrections are sub-millimeter and imperceptible.

The operator's head, eye, and cheek remain stationary. Sight picture and eye relief are preserved throughout the correction process.

OPERATOR: Coarse alignment + Trigger pull

SYSTEM: Detection · Tracking · Aim correction · Fire timing

For precision long-range shooting, the same system provides sub-MOA corrections for environmental effects, delivering bench-rest accuracy from field positions.

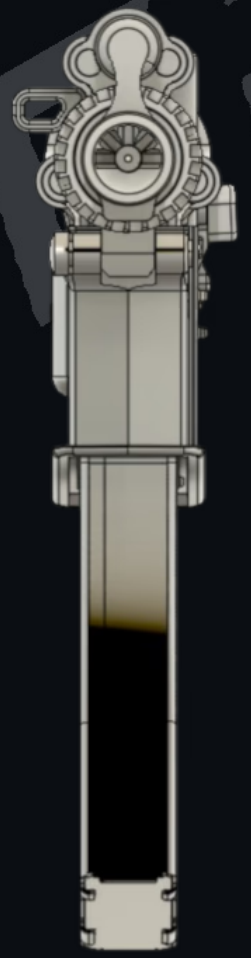
Buttstock Actuators | Fixed Cheekweld | Sub-MOA Correction

RECKON SHRIKE

A 1x non-magnifying optic where target amplification is the primary engagement interface, giving every equipped soldier organic counter-drone capability without dedicated air defense assets

Shrike has no magnification. At engagement ranges of 100 to 400 meters, the operator cannot optically resolve a 30-centimeter drone through a 1x optic. Target amplification is therefore the primary engagement interface. The imaging sensors are the only means of resolving the target. The display renders the amplified drone image, velocity vector, and convergent aiming bracket.

The aiming bracket in Shrike is rendered as concentric indicators that narrow as the weapon approaches optimal alignment, providing a graduated visual guidance funnel. A squad equipped with Shrike-mounted weapons is a distributed counter-drone defense network.



1x Non-Magnifying | Target Amplification | Convergent Bracket | Squad Mesh

Every interceptor on the market destroys itself to kill one target, but an X-Gun armed interceptor shoots the target down and flies home, making ammunition the only consumable

Every fielded interceptor drone today, from the $2,100 Ukrainian Sting to the $15,000 Merops, destroys itself to kill one target. An X-Gun armed interceptor drone engages the hostile drone with aimed fire and returns to base for rearming. The airframe is not consumed. The sensors are not consumed. Ammunition is the only consumable.

Single X-Gun

Minimal weight penalty. Standard engagement capability.

Dual X-Gun

Redundancy and increased rate of fire.

Triple X-Gun

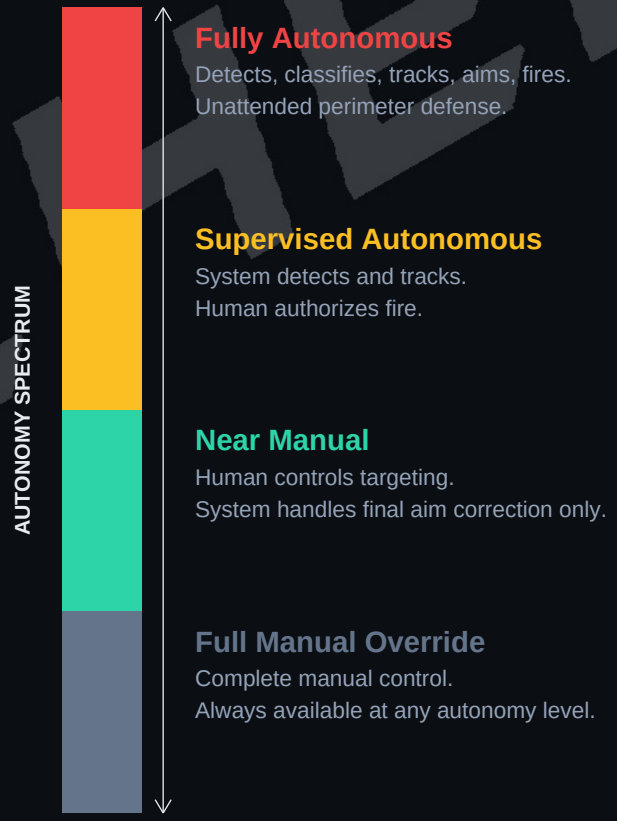
Dedicated anti-drone weapons platform. Rapid multi-target engagement.

Expendable interceptors at $10K each vs. 50 attacks/week = $26M/year consumed. Reusable armed interceptors: ammunition cost only.

Shoot and Return | Ammunition Only | Scalable Configs

The same physical installation supports fully autonomous through fully human-controlled engagement, with the autonomy level configurable to the buyer's doctrine

Mounted systems use cameras and sensors, not optical scopes, to detect, classify, track, and engage targets. The weapon system sees through its electronic sensors and engages through computed fire control.



Fully Autonomous
Detects, classifies, tracks, aims, fires.
Unattended perimeter defense.

Supervised Autonomous
System detects and tracks.
Human authorizes fire.

Near Manual
Human controls targeting.
System handles final aim correction only.

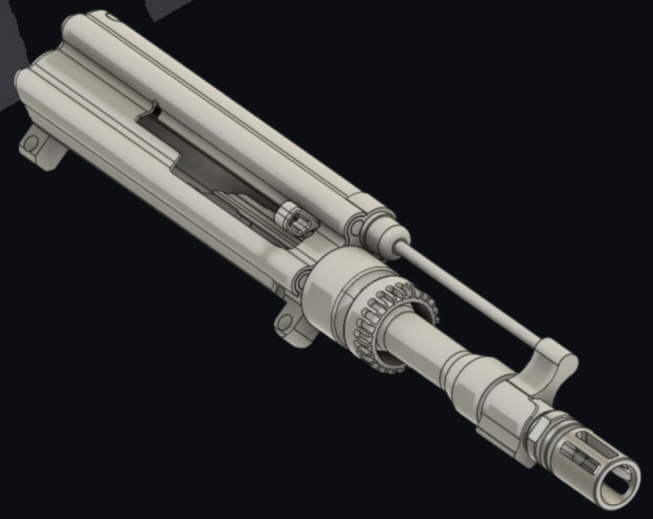
Full Manual Override
Complete manual control.
Always available at any autonomy level.

The autonomy level is a commissioning parameter. The same physical installation serves any point on the spectrum.

Cameras Not Scopes | Buyer Defined

A single operator wearing a lightweight monocle display controls multiple mounted weapons from a protected position, with coordinated multi-weapon convergent fire and pre-programmed engagement doctrine

The monocle receives a live feed from the weapon's cameras via low-latency wireless link. One operator can monitor and control multiple mounted weapons simultaneously, switching between feeds and engaging targets across different sectors.



Multi-Weapon Coordination

- Convergent fire: multiple weapons engage a single target from different angles simultaneously, with synchronized timing ensuring simultaneous round arrival
- Distributed target assignment: system assigns individual targets to specific weapons based on engagement geometry, readiness, and probability of success
- Single operator manages the entire weapon network from a consolidated threat picture

Pre-Programmed Engagement Doctrine

Targeting priorities, engagement zones, response sequences, and rules of engagement can be programmed before a threat materializes. When a threat enters a defined zone matching pre-programmed criteria, the weapons respond according to doctrine without requiring real-time human tasking.

Solid Eye | Convergent Fire | Target Assignment

Vehicle and armor mounted anti-drone weapons that provide continuous 360-degree aerial defense independent of the primary weapon systems, addressing the threat destroying armored platforms worldwide

Turret-mounted or remote weapon station integrated weapons protect vehicles from FPV drone attack during movement and at halt. Continuous 360-degree aerial surveillance, automatic detection and classification of inbound drones, and computed engagement with autonomous fire timing. Vehicle crew are protected without needing to expose themselves.

For armored vehicles and tanks, the anti-drone weapon installation addresses the threat destroying armored platforms at scale: inexpensive top-attack drones and loitering munitions. Multiple weapons cover different sectors simultaneously. The system operates independently of the vehicle's primary weapon systems.

360 Surveillance
Continuous aerial monitoring via camera sensors

Auto Detection
AI classification of inbound aerial threats

Independent
Operates alongside primary weapon systems

Dual Purpose
Anti-drone and anti-personnel from same mount

Enhanced Ammo
5.56 EPR defeats modern body armor at range

Vehicle Defense | Tank Protection | 360 Coverage | Anti-Personnel

Fixed-site installations scan for days on minimal power and transition to full engagement in under three seconds, protecting infrastructure worth thousands of times the cost of the defensive installation

Permanent or semi-permanent weapon installations protect guard posts, command centers, power generation, communications infrastructure, logistics depots, airfields, and forward operating bases. Installations operate in ultra-low-power surveillance mode for days to weeks. Upon detecting a classified threat, the system transitions to full engagement capability in under three seconds.

For critical infrastructure where a single drone can inflict damage far exceeding the cost of the defensive installation, the economics are unambiguous. A mounted weapon station protecting a $5 million radar installation or a $50 million fuel depot pays for itself on the first intercept it prevents.

Anti-Personnel and Suppressive Fire

Every mounted installation is inherently dual-purpose.
Anti-drone and anti-personnel from the same platform.
Enhanced 5.56 NATO defeats modern body armor.
One installation serves both missions.

Scalable Deployment

Single guard post to coordinated network of dozens.
All nodes share detection data on the mesh.
More nodes = better detection + coordination + accuracy.

Fixed-Site | Alert Sleep | Scalable Network

Every asset from soldier optics to interceptor drones to mounted weapons communicates on one encrypted mesh, and our decentralized model can stand up licensed production in-country

The counter-drone capabilities described in this document are not standalone products. They are integrated layers of the Reckon Matrix, a unified tactical ecosystem where every asset communicates on one encrypted mesh network, feeds one shared intelligence picture, and coordinates through one common protocol.

Reckon
Full-spectrum intelligent optic, 1-10x variable magnification

Reckon Shrike
1x C-UAS non-magnifying, dedicated counter-drone

Loki
Robotic smart bipod, remotely operated sentry

Solid Eye
Wearable monocle display, remote situational awareness

X-Gun
Armed drone weapon, reusable interceptor platform

Talon / Kestrel
Personal ISR drones, persistent surveillance

Reckon Matrix | Mesh Protocol | In-Country Production

Concept to production-ready prototype in under a month, with the ability to stand up licensed manufacturing in-country aligned with national industrial policy

Our decentralized R&D and manufacturing model enables licensed production in-country, establishing domestic manufacturing capability and technology transfer aligned with national industrial policy. Every component uses standard interfaces and footprints, enabling sourcing flexibility across multiple global suppliers without redesign.

The system is free of US export jurisdiction by design. Procurement is direct, between buyer and manufacturer, on the buyer's timeline. No US export license, no Foreign Military Sales process, no third-country approval required.

<1 Month
Concept to production-ready prototype

Direct
Buyer to manufacturer procurement

Zero
Third-party approvals required

In-Country Manufacturing | Technology Transfer | Export Jurisdiction

BLECHER

Counter Unmanned Aerial Systems

blecher.ai | blecherllc.com | flyinggun.ai

Blecher Group | Confidential | 2026