

TLAZA

TLAZA Boomerang™ 12-Inch Cardboard Drone Platform

Executive Summary

Overview

- Modern military and security forces face an evolving threat landscape involving **small unmanned aerial systems (sUAS)**. These platforms are increasingly used for reconnaissance, surveillance, and asymmetric attacks. Traditional training drones are often expensive, fragile, or difficult to replace at scale.
- The **TLAZA Boomerang™ 12-inch drone platform** addresses this gap by introducing a **low-cost, flat-pack, biodegradable UAV chassis** constructed from **MIL-SPEC corrugated cardboard** and modular flight components.
- The platform provides a **realistic training tool**, a **disposable decoy system**, and a **fully flight-ready FPV drone platform** that can be rapidly assembled and deployed.

A Low-Cost, Rapidly Deployable Training and Flight-Ready C-UAS System

Key Capabilities & Intended Applications

Flat-pack rapid assembly platform	Flight-ready FPV drone configuration	Training and decoy drone capability	Biodegradable and environmentally responsible materials
Compatible with widely available commercial drone hardware	Extremely low manufacturing cost	Designed for large-scale production	Rapid expendable UAV operations
Rapid expendable UAV repair / reusability of components	Drone Education & Training	Counter-UAS training exercises	Electronic warfare testing
Radar and sensor signature training	FPV pilot training	ISR experimentation	Decoy swarm deployment

Rapid expendable UAV Deployment



Current Training Limitations / Training Gap

Traditional drones cost hundreds or thousands per unit	Limits training frequency and experimentation	No standards of UAS platform and use.	3D printers, plastics, Battery packs require power all cost money
Limited Scalability	Large training scenarios require dozens or hundreds of drones	Repair Complexity	Composite and carbon frames require skilled repair
Repairs are time-consuming	Requires special tooling. (Allen key, Hex , Metric and SAE)	Repairs require exotic materials not commonly available	No standards of bolt, fastener for assembly or reassembly all known UAS platforms
Environmental Concerns	Lost drones leave plastic and carbon waste	Carbon fiber is difficult to retrieve	Lack of Disposable Platforms
	Unavailable on any market place	Few systems are designed to be expendable or swarm-deployable	

Tlaza **Boomerang 12-inch drone** is a modular UAV frame designed for:

- Rapid manufacturing (100,000+) per week
- Disposability
- Toolless assembly
- Field assembly
- low-cost deployment ($11.00) per chassis
- works with all motor types
- universal hardware compatibility
- made to look covert or overt with printed graphics



Water Resistance Treatment

V3C material is treated with a hydrophobic polymer coating, which provides resistance to moisture absorption.

Environmental Performance
This treatment allows the platform to maintain structural integrity during:

- light rain
- Snow
- humid conditions
- field training environments

Property	Performance
Water Absorption	Reduced by 70–85% compared to untreated cardboard
Humidity Resistance	Stable up to 85% RH
Surface Water Resistance	Splash resistant
Operational Exposure	Suitable for outdoor flight operations

Frame Type	Weight (Typical 12" Frame)
Carbon Fiber	180–250 g
Aluminum	300–400 g
Injection Plastic	200–280 g
TLAZA Boomerang Frame	25–60 g

Structural Weight Comparison

- This results in:
- longer flight times
- reduced motor load
- lower power consumption
- lightweight construction
- structural rigidity
- water resistance
- vibration damping
- biodegradable materials

Modular Universal Hardware Compatibility

The Boomerang platform is compatible with standard drone components including:

brushless motors

standard ESC systems

Common flight controllers

FPV (F405)

Pix Hawk (Cube)

GPS, Air speed, Video, Audio, Signal Track /Decoy

Autonomous systems

This allows operators to integrate existing hardware and software systems.

Counter-UAS Training and Decoy and Swarm Simulation

- The Boomerang platform allows agencies to simulate **large numbers of threat drones** at extremely low cost.
- Use cases:
- CUAS Training
- CUAS radar calibration
- drone interception training
- EW jamming testing
- kinetic interceptor testing

- Because of its **low manufacturing cost**, the platform can be deployed in **large quantities**.
- Possible uses include:
- swarm threat simulation
- air defense training
- radar signature training
- sensor validation exercises

FPV Training Platform

The Boomerang drone provides an ideal platform for **pilot training.**

- safe learning environment
- inexpensive replacement
- standardized training configuration

Rapid Field Manufacturing

The drone frame can be produced at **large scale production volumes.**

Projected capacity:

100,000 units per day

1 million units per month

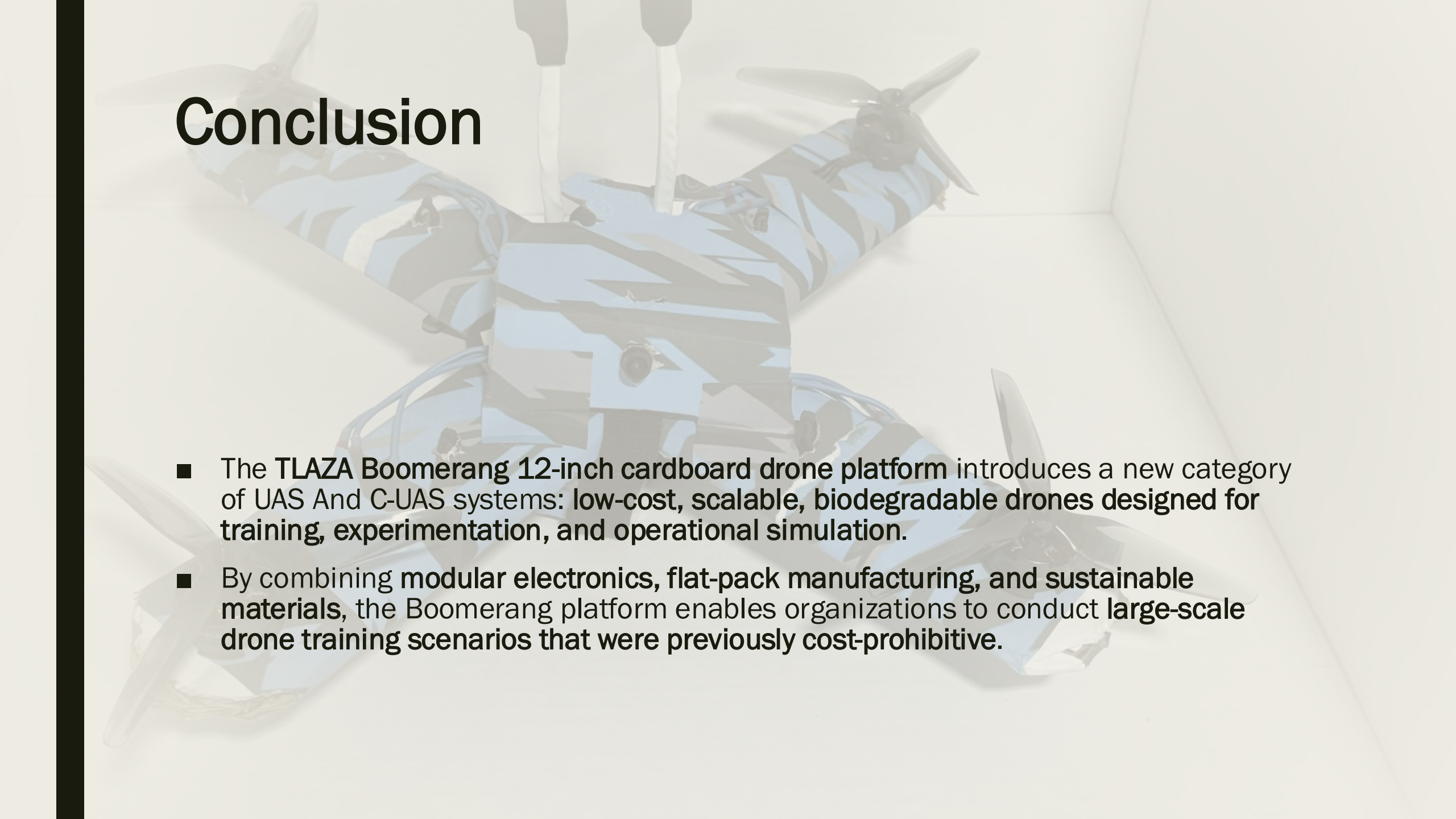
This enables **mass training exercises and operational testing scenarios**

Strategic Impact

Feature	Traditional Drone	TLAZA Boomerang
Cost	High	Extremely Low
Repair	Complex	Replaceable
Deployment	Limited	Mass Deployable
Environmental Impact	Plastic/Carbon Waste	Biodegradable
Production	Limited	High Volume

Flexible Aerial Platform Design
TLAZA develops **flying wing and Shahed-style aerial platforms** designed for training, decoy, research, and flight-ready applications. Our modular engineering approach allows us to manufacture **drones in virtually any size or shape**, depending on mission requirements.
Using **flat-pack structural designs, universal motor mounts, and open flight-controller compatibility**, TLAZA systems can integrate standard FPV, GPS, or autonomous technologies. This flexibility allows organizations to rapidly prototype, test, and deploy aerial platforms at scale.

Conclusion



- The **TLAZA Boomerang 12-inch cardboard drone platform** introduces a new category of UAS And C-UAS systems: **low-cost, scalable, biodegradable drones designed for training, experimentation, and operational simulation**.
- By combining **modular electronics, flat-pack manufacturing, and sustainable materials**, the Boomerang platform enables organizations to conduct **large-scale drone training scenarios that were previously cost-prohibitive**.