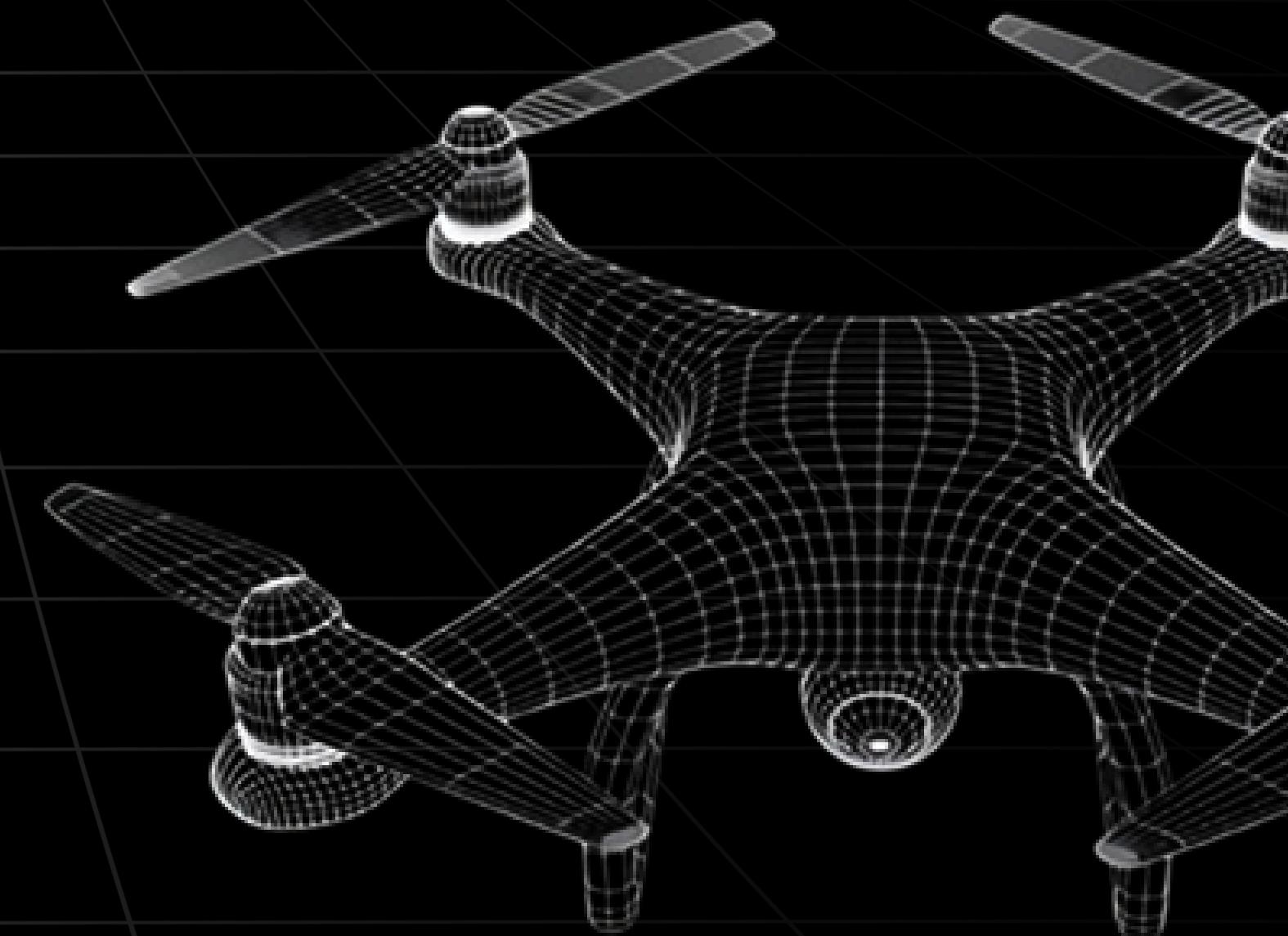
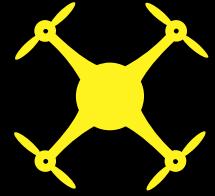




**UNLOCK REAL-WORLD  
AUTONOMY FOR YOUR  
DRONE**

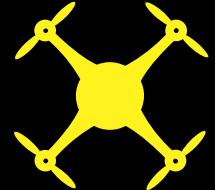


## Executive Summary



### WE CO-DEVELOP AI WITH DRONE OEMS & OPERATORS

- Custom perception, planning, and control for your airframes & sensors
  - Pilot in 8-12 weeks, production-ready in 3-6 months
- 



### WHY PARTNER WITH US

- Accelerate autonomy without heavy R&D
- Leverage our decentralized contributor network for continuous improvement
- Simulation-to-Real pipeline that de-risks field testing

# The Challenge for Drone Companies

- ✓ Edge cases, GPS-denied operations, and changing environments
- ✓ Costly data collection and long iteration cycles
- ✓ Integrating AI safely across diverse fleets and payloads
- ✓ Lack of adaptation
- ✓ Starting from scratch

## Our Solution: AI that makes drones smarter

- Ready-to-fly intelligence adapted to your mission
- End-to-end stack
  - Perception (vision/LiDAR/radar), localization, mapping
  - Planning, multi-agent coordination, and robust control
- Built for the real world
  - Handles occlusions, wind, RF interference, and low-light
  - Operates in GPS- or comms-degraded environments

## Bittensor & Swarm: the foundation

Bittensor is an opensource protocol where AI models compete and collaborate for rewards, a decentralized network that turns intelligence into an economy.

Global, permissionless marketplace for machine learning.

Transparent on-chain scoring and TAO incentives.

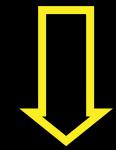
Each subnet specializes in a domain Swarm is #124: drone autonomy.

Swarm uses this protocol to host a perpetual, on-chain tournament for flight intelligence:

**validators mint drone missions**



**miners submit pre-trained autopilots**



**rewards flow automatically to the best-performing pilots.**

→ An open arena where flight intelligence evolves through transparent competition.

## Evolution, not iteration

**Swarm turns R&D into a self-improving ecosystem, not a product cycle.**

Headless evaluation  
=  
**reproducible, auditable  
results**

Constant competition  
=  
**faster iteration and  
measurable gains**

Partners integrate  
top-performing pilots  
without retraining

We are the platform where autonomous flight learns, adapts, and  
keeps getting better.

# What Makes SWARM Unique

## Global Network of Developers

- I+D cycle running 24/7
- Infinitely Scalable by Design

## Sim→Real, Fast

- Curriculum training in rich simulation; continuous real-flight fine-tuning
- Rapid iteration with risk managed in virtual environments first

## Tailored to Your Fleet

- Model adapters for your airframes, sensors, and operational constraints
- Drop-in SDKs & APIs for on-board and edge deployments

## Where We Help (Use Cases)

- **Defense & Security**
  - AI-driven patrols, threat detection, intercept support
- **Search & Rescue**
  - Self-organizing sweeps, survivor localization, supply drops
- **Precision Agriculture**
  - Stress detection, irrigation optimization, yield forecasting
- **Infrastructure Inspection**
  - Autonomous scouting of bridges/towers/pipelines
- **Autonomous Delivery**
  - Urban navigation, obstacle avoidance, secure hand-off
- **Mapping & Surveying**
  - On-the-fly 3D mapping with terrain & no-fly learning
- **First-Responder Overwatch**
  - Hotspot tracking, hazard mapping, notarized telemetry

# How We Train Your Models

## [ Stage 1 ]    **Define & Align (Weeks 0-2)**

- Scope missions, KPIs, safety constraints, data & integration plan
- 

## [ Stage 2 ]    **Simulate & Iterate (Weeks 3-6)**

- Domain-randomized sims, sensor models, curriculum & RL/IL training
- 

## [ Stage 3 ]    **Real-World Feedback (Weeks 7-9)**

- Controlled flights, flight log ingestion, failure analysis & fine-tuning
- 

## [ Stage 4 ]    **Tailor to Your Fleet (Weeks 10-12)**

- Adapter layers, quantization, hardware-in-loop, SDK packaging

# Engagement Plan & Timeframes

## Pilot (8-12 weeks)

- [ Weeks 0-2 ] discovery & success criteria
- [ Weeks 3-6 ] simulation curriculum & first models
- [ Weeks 7-9 ] controlled flight tests
- [ Weeks 10-12] v1 tailored model + SDK handoff

## Scale-Up (3-6 months)

- ✓ Multi-site deployment, additional missions, performance hardening
- ✓ Fleet-wide OTA & MLOps dashboards

## Ongoing (Subscription)

- ✓ Continuous updates, edge-case mining, and model optimization

## Integration & Handoff



SDKs for common  
flight stacks and  
sensors



Model cards &  
documentation with  
clear KPIs



Enablement: pilot  
playbooks, training for your  
engineering & ops teams

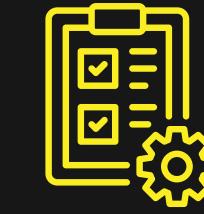
## Example KPIs



Collision-avoidance  
near-miss rate under  
specified conditions



Waypoint mission  
completion rate and  
time-to-complete



False positive/negative  
rates for detection tasks

# Commercial Options

## **Model Delivery & Licensing**

Full ownership of the resulting model by the client

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## **Maintenance & Support Subscription**

Continuous improvement

---

## **Co-Development**

Shared roadmap and co-owned IP for strategic missions (optional)

## Early Partner Advantages

- ✓ Shaping the roadmap & priority access to new capabilities
  - ✓ Preferential pricing and co-marketing opportunities
-

## Proof in Action

### Demo:

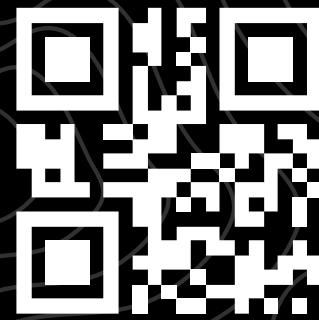
LiDAR + GPS fusion for  
obstacle avoidance

### Demo:

Multi-drone sweep in  
simulated GPS-  
denied environment

### Demo:

Real-world test  
transitioning from sim to  
field



## Next Steps

- [ Step 1 ] **Share** your mission goals and constraints
- [ Step 2 ] **Select** target airframe/payload for the pilot
- [ Step 3 ] **Kickoff** workshop and data/SDK access
- [ Step 4 ] **Start** your 8-12 week pilot

## Contact



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