VTOL Fixed-Wing Long-Endurance UAV

The **AETHER-300** is a Vertical Take-Off and Landing (VTOL) fixed-wing unmanned aerial vehicle (UAV) engineered for long-endurance missions, wide-area surveillance, and multi-role operations. Combining VTOL flexibility with fixed-wing efficiency, it ensures extended range, autonomous performance, and reliable deployment in areas with limited or no infrastructure.

Flexible Deployment & Endurance

- VTOL Capability allows deployment without runways, making it fully operable in remote or infrastructure-limited areas.
- Fixed-Wing Design ensures long-range coverage and aerodynamic efficiency.
- High Endurance with over 8 hours of flight, enabling persistent surveillance and extended operational reach.

Power & Payload Capacity

- Equipped with a thermal propulsion pusher engine (11.5 hp) for reduced refueling and higher cruise speeds.
- Capable of carrying ISR sensors, EO/IR surveillance payloads, and mission-specific equipment.
- Lightweight CFRP structure ensures strength, durability, and efficient load capacity for extended operations.

Operational Readiness & Advanced Sensors

- Rapid deployment with quick assembly and easy transport.
- Rugged design optimized for harsh and demanding environments.
- Advanced EO/IR systems with AI-enabled real-time target detection, tracking, and intelligence gathering—ensuring mission-critical awareness day or night.needs. It contains 10 preset reticles and the Miltech custom reticle software for maximum customizability.

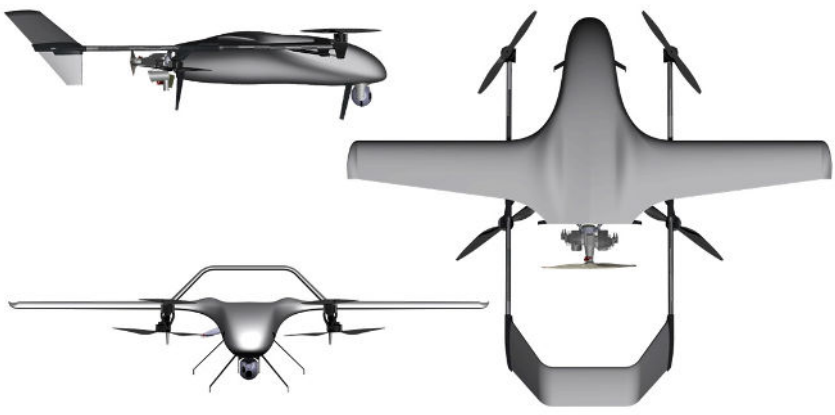
Technical Specifications

PARAMETER	SPECIFICATION
Type	VTOL Fixed-Wing UAV
Engine	Thermal Pusher Engine, 11.5 hp
Endurance	> 8 hours
Take-Off & Landing	Vertical (no runway required)
Max Take-Off Weight (MTOW)	65Kgr
Cruise Speed	95Km/h
Payload Capacity	ISR/EO/IR systems, support materials
Structure	CFRP (Carbon Fiber Reinforced Polymer)
Operational Range	Dependent on communication link
Deployment	Rapid assembly & transport
Operational Environments	Harsh terrain, limited-infrastructure zones

System Advantages:

- **Extended Endurance & Range:** More than 8 hours of continuous flight for large-area coverage.
- **Runway-Independent Operations:** VTOL capability ensures deployment in confined or remote environments.
- **Thermal Pusher Engine:** Delivers power efficiency, higher speeds, and extended mission resilience.
- **Multi-Payload Support:** Carries ISR sensors, EO/IR systems, or small mission-critical packages.
- **Advanced Surveillance:** Real-time monitoring and data collection with day/night capability.
- **Ease of Transport:** Compact design for simple packaging and rapid field deployment.
- **Rugged & Reliable:** Operates effectively in harsh climates and infrastructure-limited areas.

Hybrid Electric–Thermal Aircraft: Superior Design and High Versatility for Long Range Missions



Low Cost High Efficiency Thermal Engine Operation

1. **Four + 1 Rotor VTOL Configuration**
2. **MTOW 55Kg with 15 kg useful load (fuel+payload)**
3. **High Level Architecture BVLOS CONTROL**
4. **Hybrid Power Plant Thermal Engine - Battery**
5. **Endurance >8h at 90km/h Range >1000km at 100km/h**
6. **Triple Redundancy GPS Assisted IMU**
7. **Light Weight CFRP Construction**

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