FLIGHT FRAME

"Our traditional supply chains are critical vulnerabilities. Flight Frame's Protean Platform is a paradigm shift towards resilient logistics and rapid innovation."

Col Nate Marvel, USMC
MCWL Rapid Capability Office

Problem: Contested Logistics

Sustaining supply chains under attack from adversaries, leading to greater risk of catastrophic impacts

Current System Vulnerabilities

- Tyranny of Distance: Global network with risk and delays
- Fixed hubs and routes: Vulnerable single points of failure
- Platform-specific integration: slows proliferation of new capabilities
- Upgrade cycles: cannot match adversary tempo
- Vendor-locked suppliers: Multiple single points of failure.
- Uniform platform design: Single vulnerability affects entire fleet.
- Complex platform design: Increased maintenance requirements

Today's Inadequate Solutions

- Increased inventory buffers
- High-cost defensive systems deployed globally with no-fail mission
- Larger aircraft deployments
- Ad hoc autonomy capabilities
- Vertical integration
- Reliance upon automated software and AI systems.
- Inflated defense spending and unsustainable costs.

Architectural rigidity and a zero-defect mentality.

These approaches increase cost and complexity without delivering true architectural resilience.

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Solution: Accept Probability, Minimize Impact

- Flight Frame shifts aviation logistics to an architecture-centric model of distributed manufacturing and sustainment of diversified platform designs.
- It provides a flexible interface, enabling rapid role changes without needing new aircraft for every mission.
- Instead of seeking a perfect solution, we manage the risks by reducing severity and anticipating frequency.

Rapid Mission Reconfiguration

Roles transform in hours, not months, via standardized interfaces

Modular Payload Interchangeability

Easily swap mission systems; no platform-specific engineering needed.

Platform-Agnostic Integration

Integrate across all aircraft types, existing and future.

Technology Insertion Without Redesign

Seamlessly integrate new capabilities as they emerge.

Why Now

- The strategic environment has fundamentally shifted, creating urgent demand for architectural agility in contested logistics
- Military focus is shifting away from efficiency-focused, zero-defect sustainment to resiliency-focused, fault-tolerant logistics. Agility is mandatory.
- Proven Traction:

Peer Adversary Competition

Competitors targeting logistics infrastructure and supply chains

GPS & Cyber Vulnerability

Disruption of positioning and communications systems.

Distributed Operations

Mandates for distributed logistics in contested environments.

Open Systems Mandates

Defense acquisition push for Modular Open Systems Approach.

Autonomous Systems

Expansion requires flexible integration architectures.

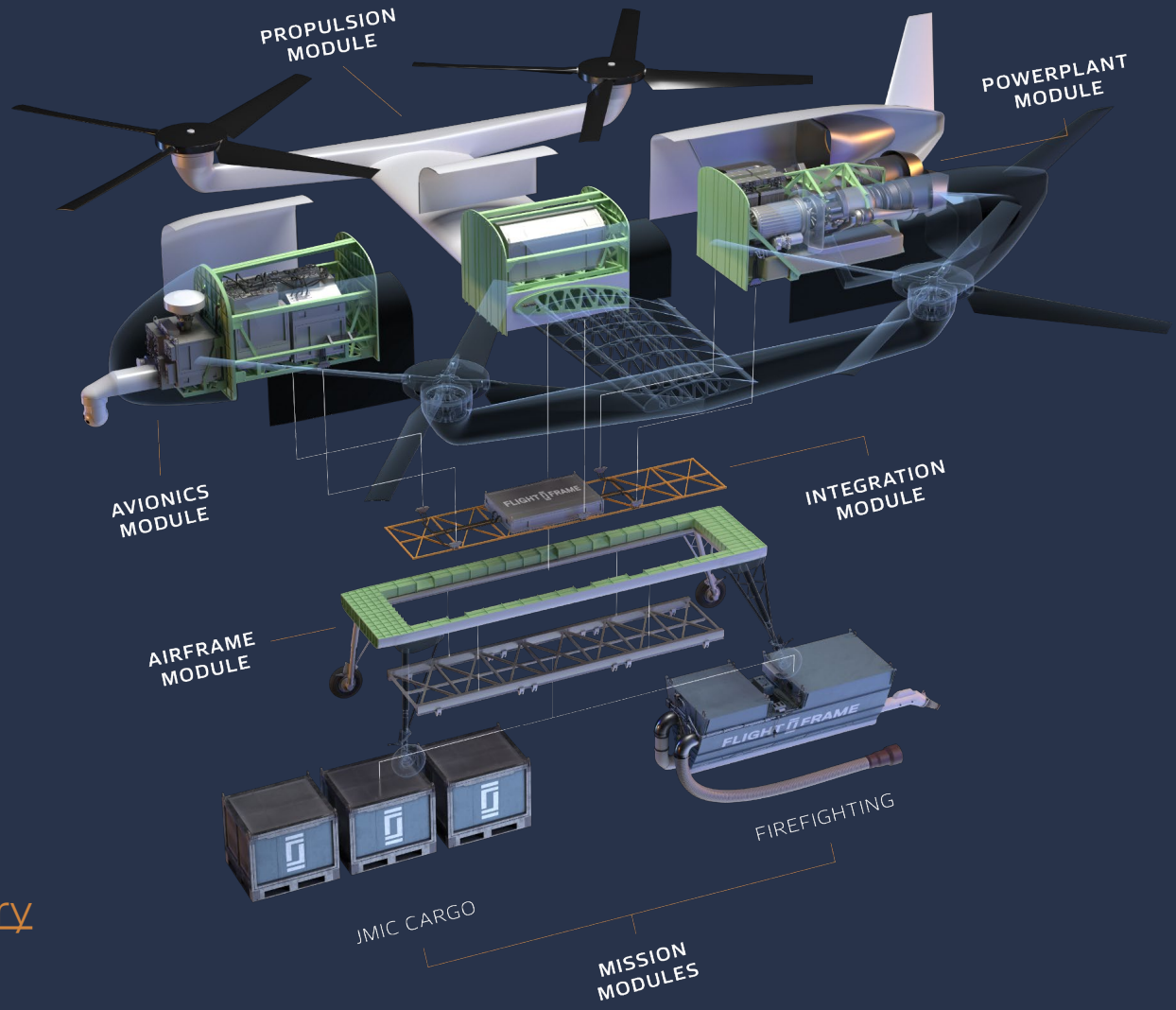
Supply Chain Fragility

Exposed brittle dependencies needing resilient alternatives.

The Protean Platform

- A modular system-of-systems designed for scalability and interoperability.
- Creates a diversified ecosystem of systems designed and manufactured by many different suppliers with a common system interface.
- Enables platform-agnostic testing, integration, and certification of new systems.
- Driving aircraft design towards modularity via its Common Receptacle Interface Box (CRIB) - Akin to USB and PC computer interfaces.

See how the Protean Platform changes the industry



The CRIB

- The CRIB transforms host aircraft into reconfigurable platforms. It's the physical and digital backbone for rapid integration and fielding of diversified systems. It is platform agnostic and can integrate into existing and future aircraft to replace $500k+ custom integration efforts and enable $1M+ in avoided engineering, schedule acceleration, and future upgrade optionality.
- Currently TRL-3. Ready for physical prototyping to take it to TRL-6 within 9 months and begin generating revenue. We've received requests from the Army, Marine Corps, and Navy to accelerate CRIB development for integration into Contested Logistics, Group 4+ UAS, MV-75, ULS-A, and H-60 modernization programs.

Multi-Mission Modules

Onboard reference clock and deterministic timing architecture enable reliable subsystem synchronization under GNSS-degraded conditions for payloads.

Distributed Autonomy

Two federated processors, real-time payload controller, and a mission management processor, manage data routing, translation, health monitoring

Integrated Power & Data

28VDC, serial data (RS232/422/485), Ethernet, precision time sync (1PPS, 10 MHz), and secure zeroize signaling.

Roll-On/Roll-Off

MIL-STD connectors for up to eight (8) independent payloads that can be replaced in hours with minimal tools.

Protocol Isolation

secure interface isolation protects classified/proprietary systems; maintains interoperability.

Defensible Competitive Advantages

- Flight Frame reduces lifecycle lock-in while enabling distributed fleet scaling across multiple domains.
- Our architectural approach creates compounding advantages that strengthen as the ecosystem expands.

Interface Standards

Open architecture transcends vendor-lock and creates accessibility.

Ecosystem Lock-In

Marketplace effects compound over time.

Network Effects

Value increases with operator and supplier growth.

Certification Layer

Safety and security validation creates moats

See what's different about Protean Aircraft

Industry Landscape

Competition only offers vertically integrated avionics and mission payloads asking for high price and weeks to swap out. Only Flight Frame offers full system modularity open to 3rd parties, and they can be replaced in hours.

Market Size and Revenue Growth Strategy

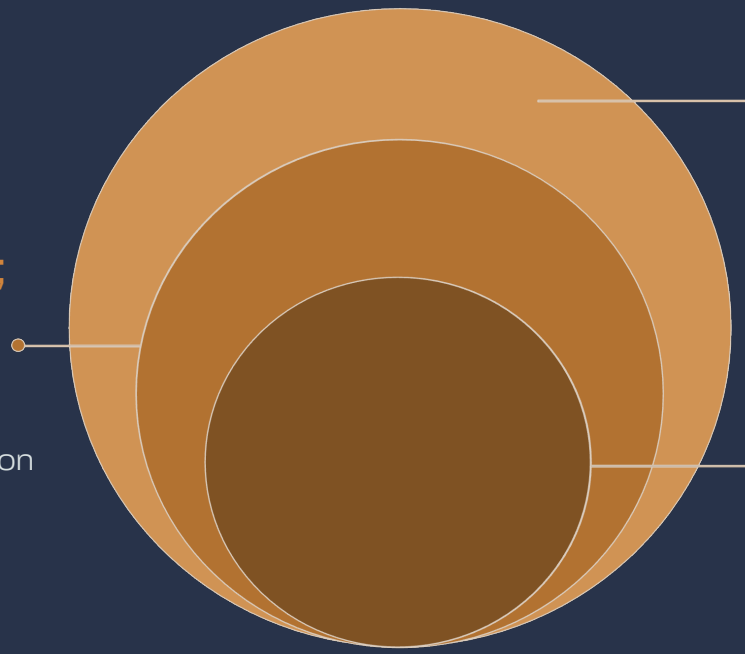
- Initial focus: programs demanding modular interoperability and rapid capability insertion, not new aircraft platforms.
- Early CRIB adoption (years 1-2) captures initial integration revenue (SOM), establishes the integration standard, and enables ecosystem dynamics that expand total addressable spend by Year 5+.
- Enables Protean Platform prototype by Year 3

TAM: $1-3B/yr;

- ~1,000 Group 4+ UAS globally today
- ~2-3x expansion, next 10+ years
- ~$5M-10M payload, avionics, and integration spend per system (lifecycle)
- $10-30B total TAM

SAM: $100-450M/yr;

- 2-3k UAS, not all modular
- ~50% (1-1.5k) adopts CRIB-like architecture
- ~$1-3M per system tied to integration layer & upgrade cycles
- $1-4B total SAM



SOM: $3-40M/yr;

- 2-4 programs in first 3 years
- 5-10 systems per program
- $1-3M per system
- $10M - $120M total SOM

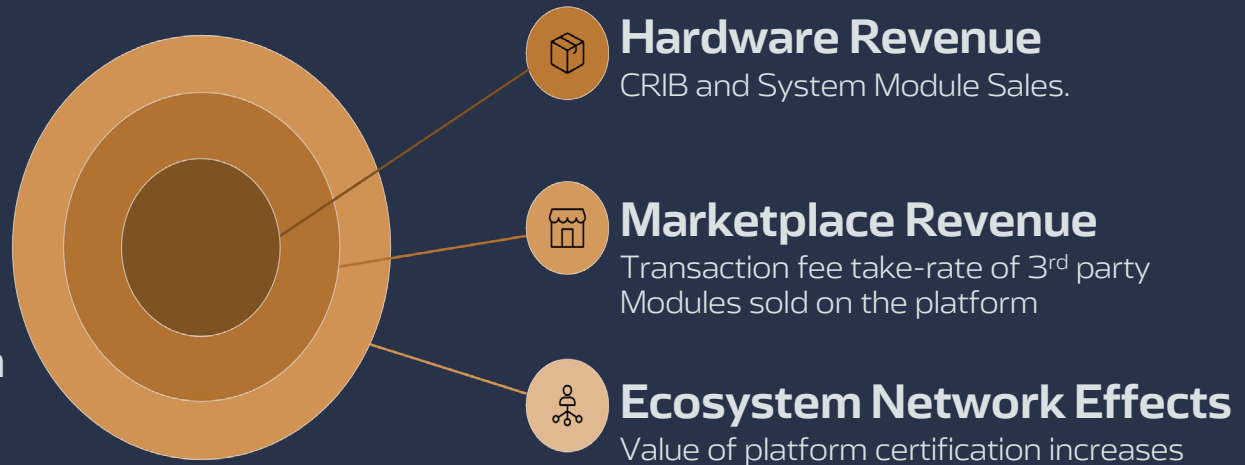
Sourced from: DoD/NATO logistics modernization budget and open-source market analysis

Platform Business Model

Long-Term Vision: A standardized modular aviation ecosystem, like cloud computing marketplaces. Marketplace economics will eventually dominate hardware sales, ensuring high-margin, defensible revenue via multiple revenue streams, strengthening as the ecosystem matures.

Conservative Short Term Revenue Projections:

- $50M cumulative RDT&E and service contracts over 5 years with US and Allied Militaries to develop Protean CRIBs, system modules, aircraft and the Platform.
- Year 2: $2M from production CRIB sales for integration into existing aircraft. 20 CRIBs sold domestically at $100k blended ASP and 85% margin. CRIB sales fund the continued development of Protean system modules
- Year 5: $10M from 50 CRIBS sold globally at $200k blended ASP and begin production of Protean aircraft/system modules.



Our Team

KOSTAS FETFATSIDIS
COO

EXPERIENCE:
- 2x VC-backed hardware startup exits, $20M acquisition, and $2.5B IPO.
- Leadership experience, including operational, technical, and strategic, through various stages of companies (pre-seed to growth stages)
- Significant experience leading innovative aerospace & defense programs (>$100M in contracts from Air Force, NASA, Navy, DARPA, FAA)

EDUCATION:
- B.S., M.S., Ph.D., Mech. Engineering, University of Massachusetts Lowell
- MBA, MIT Sloan

BEN BUTTERWORTH
CEO

EXPERIENCE:
- 12 years leading rapid development and employment of emerging technologies at Army Aviation Technology Office.
- 21 years in military aviation maintenance and helicopter aircrew with the Marine Corps and Army Special Operations.

EDUCATION:
- B.S. Project Management from Embry-Riddle Aeronautical University
- MBA, MIT Sloan
- FAA Airframe & Powerplant Licensed
- Project Management Professional (PMP)

DANIEL CHRISTIE
SR. SYSTEMS ENGINEER

EXPERIENCE:
- 18 years in aviation design, analysis, product development, rapid prototyping, and systems integration.
- Director of Engineering for Leidos Airborne ISR
- Sr Engineer of Advanced Concepts division at Blue Origin.
- Mission Commander for Special Operations commercial aerial platform.

EDUCATION:
- B.S. Aerospace Engineering, NC State Raleigh
- SAWE A/C Mass Properties Engineering
- FE Mechanical

$5M Seed at $15M Pre-money Value. (Structured-seed is optional)

- Phase 1 (Pre-Seed – $500k SAFE + $50k state grant):
  - Completed Protean Interface; CRIB is TRL3 and ready for TRL4+; 2x provisional patents. 1x full patent.
- Phase 2 (1st Tranche Seed – $1.5M @ $15M Pre):
  - Build TRL5 prototypes of the CRIB and validate capacity to support diversified payloads – MVP ($1.2M).
  - Secure >$5M in funded contracts from beachhead market for CRIB and Protean development. ($0.3M)
- Phase 3 (2nd Tranche Seed – $3.5M @ $25M Pre): Triggered by ≥$5.0M of funded contracts within next year.
  - Production and sales of TRL6+CRIBs. Revenue funds System Module development ($1.5M).
  - Expand team (7-8 FTEs), develop Protean system modules, and establish regional network ($2.0M).
- Phase 4 (Series A): Sized and triggered to align with revenue, military purchase orders and contracts.
  - Global expansion of CRIB + mission module sales, development of Protean aircraft & platform.

FLIGHT FRAME

Let’s build this together

Visit our site
https://www.flightframe.us

Meet with us

email us
contact@flightframe.us