



BUSINESS PLAN

2026-2030 Strategic and Operating Plan

Medical Logistics | Disaster Relief | Defense Support

DISASTER RELIEF

Rapid response.
Critical delivery.



MEDICAL LOGISTICS

Precision delivery.
Elevated care.



DEFENSE SUPPORT

Tactical advantage.
Mission ready.



Prepared for strategic, investor, partner, and management review

Prepared by Phoenix Unmanned

Founder & CEO: Steve Dixon

July 2026 | Review Draft

Reach anywhere. Deliver faster. Save lives.



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SECTION 1

Executive Summary and Company Overview

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Confidentiality Notice

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The business plan includes forward-looking statements, preliminary technical assumptions, market estimates, and financial objectives. These are planning targets rather than guarantees. Aircraft performance, pricing, regulatory timing, customer commitments, and financial outcomes must be validated through engineering, flight testing, certification, commercial negotiations, and formal due diligence.

Business Plan Roadmap

Plan Section	Purpose
Section 1	Executive Summary and Company Overview
Section 2	Market Need, Customers, and Industry Analysis
Section 3	Aircraft Platform, Technology, and Product Roadmap
Section 4	Business Model, Pricing, and Go-to-Market Strategy
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Section 6	Competition, Intellectual Property, and Strategic Moat
Section 7	Team, Organization, Milestones, and Implementation Plan
Section 8	Financial Plan, Funding Strategy, Risks, and Appendices

1. Executive Summary

Phoenix Unmanned is an early-stage unmanned-aircraft company developing purpose-built cargo UAV systems for time-critical institutional logistics. The initial commercial focus is hospital-to-hospital movement of blood, pharmaceuticals, laboratory materials, medical devices, and other urgent payloads that are poorly served by congested roads and often too small or too expensive to justify conventional helicopter transport.

The Company's strategy is to build an aircraft and operating platform for missions where delivery speed, reliability, payload flexibility, and access matter more than lowest-cost parcel transport. Phoenix Unmanned will begin with medical logistics, establish safety and operating credibility through defined institutional routes, and then extend the platform into disaster relief, emergency response, and selected austere or defense logistics applications.

Business Snapshot

Operating name	Phoenix Unmanned
Founder and CEO	Steve Dixon
Current stage	Pre-revenue / development-stage company; prototype and customer validation phase
Initial market	Hospital-to-hospital and healthcare-system critical logistics
Core offering	Purpose-built cargo UAV platform with modular payload systems and recurring operational support
Revenue model	Aircraft sale or lease, payload modules, training, maintenance, route setup, compliance services, fleet software, and service contracts
Capital objective	\$2.0 million seed round
Near-term objective	Build, fly, validate, and secure first paid pilot programs

The Problem

Critical cargo still depends heavily on road vehicles, couriers, and helicopters. Urban traffic creates unpredictable arrival times. Disasters can make roads unusable. Battlefield and austere environments place drivers and crews at risk. Helicopters provide speed and access, but their acquisition cost, operating cost, crew requirements, noise, and scheduling burden make them inefficient for many small and medium urgent payloads.

The Phoenix Solution

Phoenix Unmanned intends to create a dedicated aircraft layer between ground courier networks and crewed aviation. The platform is designed around autonomous or highly automated vertical

takeoff and landing, modular cargo interfaces, route-specific operations, remote supervision, maintenance discipline, and integration with institutional logistics workflows. The goal is not to replace every truck or helicopter mission. It is to remove the most expensive, delayed, dangerous, or operationally awkward missions from those systems.

Initial Customer Wedge

- Regional hospital systems moving blood, pharmaceuticals, laboratory samples, devices, and emergency supplies between facilities.
- Blood centers, laboratories, specialty pharmacies, and medical distribution organizations with recurring time-sensitive routes.
- Emergency-management and disaster-response agencies needing first-wave resupply when roads are blocked or response time is critical.
- Later-stage customers in defense, public safety, and austere logistics requiring modular cargo beyond light-parcel delivery.

Market Opportunity

Independent market research cited in the Phoenix Unmanned seed deck estimates the global drone logistics and transportation market at approximately \$1.61 billion in 2024 and projects approximately \$16.15 billion by 2030. Separate research estimates the medical-drone market at approximately \$0.43 billion in 2025 and approximately \$1.18 billion by 2030. These forecasts should be treated as directional rather than guaranteed, but they support the central thesis that drone logistics is moving from isolated demonstrations toward repeatable networks and institutional adoption.

Phoenix Unmanned will not base its plan on capturing a broad percentage of the global market. The commercial model will be built from route-level economics: number of customer facilities, urgent movements per day, payload requirements, service-level targets, aircraft utilization, maintenance burden, and the value of avoided delay.

Business Model

The Company plans a blended hardware-and-services model. Aircraft may be sold, financed, or leased depending on customer preference. Recurring revenue is expected from payload modules, training, maintenance programs, route design, operating documentation, compliance records, software, fleet support, and multi-year service agreements. This model is intended to create an installed base while increasing lifetime value and reducing dependence on one-time aircraft sales.

Regulatory Strategy

As of July 2026, the FAA's proposed Part 108 framework for routine beyond-visual-line-of-sight operations remains a proposed rule rather than a final operating regulation. The FAA reopened a portion of the comment period in early 2026. Current commercial carriage of another party's property by UAS beyond visual line of sight generally relies on Part 135 certification and associated approvals, while aircraft above the small-UAS threshold may also require pathways such as Section 44807 exemptions and other airworthiness or operating approvals. Phoenix Unmanned will

therefore pursue a staged strategy: prototype and test legally under the appropriate experimental or exemption structure, design the aircraft and records around anticipated consensus standards, and work with qualified regulatory counsel and operators as the final Part 108 framework develops.

Competitive Position

Leading drone-delivery companies have validated customer demand and public acceptance, but much of the current market is optimized for light packages and highly standardized delivery networks. Phoenix Unmanned's proposed position is modular critical cargo: larger or operationally specialized payloads, institutional routes, mission-specific interfaces, and use cases where reliability and payload utility matter more than consumer delivery volume.

- Purpose-built cargo architecture rather than adapting a consumer-delivery platform.
- Founder-led aircraft development with prior heavy-lift UAS experience.
- Modular mission payloads for medical, emergency, disaster, and austere logistics.
- Revenue model that combines aircraft with services, compliance support, maintenance, and software.
- Institutional customer focus, beginning with defined healthcare routes instead of broad consumer delivery.

Founder and Team

Steve Dixon has worked in unmanned-aircraft development since 2013. He founded Full Throttle Innovations, formerly led Full Throttle Aerial, and directed the Scorpion XL heavy-lift aircraft program from concept to first flight in approximately 28 days. Phoenix Unmanned's current team materials identify support in aerospace engineering, regulatory strategy, and business development, including John Hayes, Rut Patel, and Jimmy Weise. The seed plan adds dedicated flight-test, software, manufacturing, quality, and customer-program capabilities.

Current Traction

Phoenix Unmanned's current assets are founder experience, aircraft concepts, a developed brand and website package, a completed investor pitch deck, and white papers covering medical logistics, disaster relief, and battlefield resupply. The Company is not presented as having commercial revenue or publicly announced customer partnerships at this stage. The next value-creating step is flight hardware supported by disciplined testing and documented customer discovery.

Seed Capital Request

Phoenix Unmanned is seeking \$2.0 million in seed capital to move from concept assets to a tested demonstrator and paid pilot pipeline. The proposed allocation is a planning framework and will be refined through vendor quotations, hiring plans, prototype configuration, regulatory advice, and customer-program design.

Category	Amount	Primary purpose
Prototype and flight test	\$700,000	Airframe, propulsion, avionics, tooling, fabrication, test equipment, ground testing, and flight campaign
Engineering team	\$500,000	Aerospace, systems, electrical, software, manufacturing, and flight-test support
Regulatory and safety	\$300,000	Counsel, operating approvals, safety cases, documentation, quality systems, and standards work
Pilot development	\$300,000	Customer discovery, route analysis, payload validation, site planning, demonstrations, and pilot execution
IP, operations, and marketing	\$200,000	IP strategy, insurance, facilities, administration, cybersecurity, brand, and business development

Twenty-Four-Month Outcome

- Freeze the first demonstrator configuration and complete a documented design baseline.
- Build the aircraft and complete propulsion, controls, payload, ground, and flight testing.
- Validate a modular medical payload box and chain-of-custody workflow.
- Establish the appropriate FAA testing and commercial-operations pathway.
- Complete customer discovery with hospital systems and identify route-level economics.
- Secure one or more paid pilot agreements or equivalent binding customer-development commitments.
- Create the data package required for the next institutional financing round.

Long-Term Vision

Phoenix Unmanned's long-term vision is to become a trusted provider of autonomous critical-logistics aircraft and operating systems. The Company intends to build a family of aircraft and payload modules that serve hospitals, emergency agencies, disaster-response organizations, defense logistics users, and other institutions that must move essential cargo when roads are slow, damaged, dangerous, or unavailable.

The strategic promise is simple: reach anywhere, deliver faster, and save lives - while building the engineering, regulatory, operational, and commercial discipline required to make that promise dependable.

2. Company Overview

Company Identity

Phoenix Unmanned is the operating name used throughout this business plan. The final legal entity name, jurisdiction, capitalization structure, share ownership, and subsidiary structure must be confirmed before external distribution of the complete plan. The business is being developed as an aircraft and critical-logistics company rather than a general-purpose drone-services provider.

Origin

The Company is rooted in Steve Dixon's prior work designing and building unmanned aircraft. Phoenix Unmanned is intended to carry that aircraft-first experience into a focused commercial mission: creating autonomous logistics systems that move urgent supplies safely and efficiently. The Company combines a humanitarian service orientation with a practical commercialization strategy built around institutional customers and recurring routes.

Mission

To design, build, and support unmanned aircraft systems that deliver critical cargo where it is needed most, when it is needed most.

Vision

To create the next logistics layer for humanity - a dependable autonomous-aircraft network serving medical, emergency, disaster, and austere missions.

Operating Values

Compassion: The mission begins with the people whose health, safety, and future depend on timely delivery.

Humility: Aircraft development and aviation operations demand honest testing, disciplined learning, and respect for risk.

Service: Technology is valuable when it solves real problems for customers, operators, responders, patients, and communities.

Safety: No schedule, demonstration, or commercial objective overrides airworthiness, operational discipline, and protection of the public.

Accountability: Decisions, requirements, test results, maintenance actions, and customer commitments must be documented and owned.

Execution: Phoenix will distinguish itself by building, flying, validating, and delivering - not by relying on concepts alone.

Strategic Objectives: 2026-2030

1

Demonstrate the platform

Build and flight-test the first purpose-built cargo demonstrator with documented performance and reliability data.

2

Win the medical wedge

Validate at least one healthcare route where the aircraft produces measurable time, access, or cost advantages.

3

Establish regulatory credibility

Develop aircraft, safety, quality, maintenance, and operating documentation compatible with the applicable FAA pathway.

4

Create repeatable unit economics

Define aircraft price or lease rate, service fees, maintenance reserves, utilization assumptions, and route profitability.

5

Build an installed base

Convert pilots into multi-aircraft programs and recurring support contracts.

6

Expand selectively

Enter disaster, emergency, and austere logistics only after the medical platform and operating discipline are proven.

7

Develop a product family

Extend core architecture into payload and range variants without fragmenting engineering and support resources.

8

Prepare for scale

Create the team, supply chain, quality system, and capital plan needed for low-rate initial production and later manufacturing growth.

Stage of Development

Status	Business-plan treatment
Completed or substantially developed	Founder track record; brand identity; investor deck; website package; concept aircraft family; use-case white papers; mission and market positioning.
In progress / next	Requirements definition; demonstrator configuration; supplier quotations; regulatory pathway; customer discovery; financial model; pilot program design.
Not yet claimed	Commercial revenue; production aircraft; type or operational certification; recurring customer contracts; publicly announced strategic partnerships.

Planning Assumptions Requiring Confirmation

- Legal entity name, state of incorporation, ownership, capitalization table, and existing liabilities.
- Final demonstrator gross weight, payload, range, cruise speed, energy source, redundancy, and operating concept.
- Manufacturing approach: internal fabrication, contract manufacturing, final assembly, or hybrid model.
- Target aircraft sale price, lease structure, annual maintenance cost, software fee, and pilot-program pricing.
- Customer launch geography and the first three route candidates.
- Status of patents, provisional applications, design ownership, trademarks, and prior-company intellectual property.
- Employment or advisory status of named team members and the hiring sequence funded by the seed round.
- Founder cash investment, historical development spending, existing assets, and current monthly operating costs.
- Insurance requirements, facilities plan, and test-site access.
- Fundraising instrument, valuation approach, investor rights, and minimum closing requirements.

Management Position

This plan deliberately separates demonstrated facts from future objectives. Phoenix Unmanned's immediate investment case is not that the business has already scaled; it is that the founder has relevant build experience, the customer problem is real, the market and regulatory environment are moving toward broader adoption, and a disciplined \$2.0 million program can create the aircraft, data, customer evidence, and regulatory foundation needed to determine whether the Company is ready for institutional scale.

Sources and Planning Notes

- Federal Aviation Administration, “Beyond Visual Line of Sight (BVLOS),” August 6, 2025; proposed Part 108 framework and supporting fact sheet.
- Federal Register, “Normalizing Unmanned Aircraft Systems Beyond Visual Line of Sight Operations,” proposed rule published August 7, 2025.
- Federal Register, reopening of comment period on the proposed BVLOS rule, January 28, 2026, with follow-on extension notice in February 2026.
- Federal Aviation Administration, “Package Delivery by Drone (Part 135)” and FAA guidance concerning commercial carriage of property by UAS.
- Federal Aviation Administration, Section 44807 guidance, updated June 10, 2026, concerning unmanned aircraft outside the scope of the small-UAS rule.
- Grand View Research, “Drone Logistics and Transportation Market Size Report,” market estimate of \$1.61 billion in 2024 and forecast of \$16.15 billion by 2030.
- Mordor Intelligence, “Medical Drones Market,” estimate of \$0.43 billion in 2025 and forecast of \$1.18 billion by 2030.
- Phoenix Unmanned Seed Pitch Deck and related founder, product, market, business-model, use-of-funds, and team materials.

Market forecasts are third-party estimates and should not be treated as audited facts or as the basis for revenue projections. The complete business plan will calculate serviceable market opportunity from identified customer facilities, route density, payload frequency, contract value, and achievable aircraft utilization.



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SECTION 2

Market Need, Customers, and Industry Analysis

From broad market promise to route-level customer economics

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Section Purpose

Section 2 defines the customers Phoenix Unmanned should pursue, the operational problems those customers experience, the market structure surrounding critical logistics, and the method the Company will use to size its opportunity. The central conclusion is that Phoenix should not enter the market as a general drone-delivery company. It should enter through a narrow institutional wedge: recurring, time-sensitive routes where delay has a measurable operational or clinical cost.

Key Market Conclusions

- The United States contains 6,100 hospitals, including 5,121 community hospitals; approximately 70% of community hospitals are system-affiliated. [1]
- Integrated health systems are the most efficient initial buyers because one executive decision can unlock multiple facilities, routes, and payload categories. [2]
- CMS lists more than 5,400 Medicare-registered hospitals in its current public hospital dataset, confirming a large and geographically distributed institutional base. [3]
- Approximately 1,600 small rural hospitals and Critical Access Hospitals are served by HRSA's Small Rural Hospital Improvement Program, while 152 rural hospitals closed between 2010 and 2025. [4] [5]
- Blood, organs, laboratory specimens, pharmaceuticals, and specialized equipment create credible time-sensitive use cases, but each route must be validated for payload integrity, custody, weather, regulation, and economics. [6][7]
- Commercial precedent already exists: Zipline reports service to more than 5,000 hospitals and health facilities globally; UPS Flight Forward and Wing have conducted healthcare logistics programs; and Wing reported reducing a 40-minute ground journey to a five-minute flight in a 2026 NHS program. [8][9][10]
- Phoenix's intended opportunity is not lightweight consumer delivery. It is modular critical cargo and route-specific institutional logistics that can justify higher service value.

Market Definition

Phoenix Unmanned defines its market as the movement of urgent, high-consequence, or operationally difficult cargo between institutional locations using autonomous or highly automated aircraft. The market includes the aircraft, payload modules, route infrastructure, operating approvals, fleet supervision, maintenance, software, documentation, and customer integration required to deliver a dependable service.

What the Market Is

- A business-to-business and business-to-government logistics market.
- A route network market in which customer value is created repeatedly, not through one-time demonstrations.
- A regulated aviation service requiring documented safety, maintenance, custody, and operating processes.

- A mission market where payload characteristics and delivery urgency determine aircraft and service design.
- A hardware-enabled recurring-revenue opportunity rather than a pure aircraft-manufacturing opportunity.

What the Market Is Not

- A generic consumer parcel-delivery market.
- A replacement for all ground couriers, ambulances, helicopters, or conventional freight.
- A market that can be sized responsibly by applying a percentage to a global forecast.
- A market in which the fastest aircraft automatically wins.
- A market that can scale without regulatory, community, infrastructure, and customer-workflow integration.

Healthcare Market Scale

The U.S. healthcare system is large enough to support multiple specialized logistics models. National health expenditures reached \$5.3 trillion in 2024, representing 18.0% of U.S. GDP. Phoenix does not assume that a material percentage of total healthcare spending is available for drone logistics; the figure demonstrates the size and institutional complexity of the sector. The addressable revenue must be derived from specific routes, movements, and service contracts. [15]

Market indicator	Current figure	Source
All U.S. hospitals	6,100	AHA Fast Facts, 2026 [1]
Community hospitals	5,121	AHA Fast Facts, 2026 [1]
System-affiliated community hospitals	3,567 / 70%	AHA Fast Facts, 2026 [1]
U.S. health systems	397	AHA Fast Facts: Health Systems, 2025 [2]
Hospitals in systems	4,157	AHA Fast Facts: Health Systems, 2025 [2]
Medicare-registered hospitals in CMS dataset	5,432	CMS Hospital General Information, May 2026 [3]
Small rural and Critical Access Hospitals served by SHIP	~1,600	HRSA, May 2026 [4]
Rural hospital closures, 2010-2025	152	HRSA, February 2026 [5]

Customer Segmentation

Segment	Priority	Customer environment	Decision makers	Why it fits
Integrated health systems	Primary launch segment	Multiple hospitals, laboratories, pharmacies, and distribution sites under coordinated management.	System COO; supply-chain executive; clinical operations; innovation; risk; legal; procurement.	Recurring interfacility routes, centralized purchasing, and the ability to scale one successful pilot across multiple locations.
Hospital laboratories and pathology networks	Primary use case	Central labs, satellite clinics, pathology centers, and hospital campuses moving specimens and supplies.	Lab director; pathology operations; courier manager; quality; infection control.	Short turnaround requirements, predictable routes, measurable baseline times, and strong chain-of-custody needs.
Blood centers and hospital blood banks	Primary use case	Regional blood organizations and hospital transfusion services moving blood products and related supplies.	Blood-bank director; transfusion medicine; supply chain; EMS partnership lead.	High clinical consequence of delay, temperature-control requirements, rural-access needs, and emergency inventory balancing. [6]
Specialty pharmacy and pharmaceutical distribution	Secondary launch segment	High-value or time-sensitive medicines moving between distribution points, hospitals, clinics, and care sites.	Pharmacy executive; cold-chain logistics; quality; compliance; supply chain.	Value density, delivery urgency, track-and-trace requirements, and potential recurring schedules.
Organ procurement and transplant networks	Selective specialist segment	OPOs and transplant centers coordinating preserved organs and associated materials.	OPO operations; transplant administrator; surgical team; aviation/logistics coordinator.	Extreme time sensitivity, custody requirements, and preservation windows. Hearts and lungs are usually transplanted within six hours; liver, pancreas, and intestinal organs within 12 hours; kidneys usually within 36 hours. [7]
Rural and Critical Access Hospitals	Access segment	Small and remote facilities with long road distances and limited logistics resources.	Hospital CEO/administrator; regional health network; emergency preparedness; state rural-health office.	Geographic isolation, limited inventory, weather and road vulnerability, and the need to connect to regional hubs. [4][5]
Emergency management and disaster response	Expansion segment	Government agencies, healthcare coalitions, responders, NGOs, and staging centers.	Emergency manager; logistics chief; public safety; healthcare coalition; procurement.	Road disruption, urgent resupply, temporary routes, and high value placed on access and response time.
Defense and austere logistics	Later-stage segment	Military, allied, and government users requiring unmanned resupply into hazardous or infrastructure-limited areas.	Program office; logistics command; contracting; test and evaluation; safety.	High payload utility and risk reduction, but long procurement cycles, demanding qualification, and mission-specific requirements.

Recommended Beachhead Customer

The preferred first customer is a multi-hospital health system with a centralized laboratory or blood-bank function, at least two facilities separated by a ground route that is predictably delayed, a repeatable daily movement pattern, executive sponsorship, and a safe launch-and-recovery environment. This structure creates measurable before-and-after data and a clear path from pilot to multi-route expansion.

Customer Personas and Buying Roles

1

Economic buyer

Chief operating officer, health-system supply-chain executive, or service-line executive. Primary concern: Total cost, strategic value, resilience, speed, scalability, and risk.

2

Operational owner

Courier/logistics manager, laboratory operations leader, pharmacy logistics, or blood-bank director. Primary concern: Daily workflow, staffing, turnaround time, dispatch, custody, payload handling, and exception management.

3

Clinical sponsor

Laboratory medical director, transfusion-medicine leader, transplant leadership, emergency medicine, or pharmacy leadership. Primary concern: Clinical urgency, payload integrity, patient impact, and acceptance criteria.

4

Safety and compliance gatekeeper

Risk, legal, quality, privacy, cybersecurity, infection control, aviation advisor, and regulatory counsel. Primary concern: Liability, approvals, records, data, incident response, dangerous goods, and community exposure.

5

Technical integrator

Facilities, IT, security, biomedical engineering, and fleet systems. Primary concern: Site infrastructure, network integration, power, monitoring, access control, and maintenance.

6

Procurement authority

Strategic sourcing, contracting, finance, and capital committee. Primary concern: Competitive process, pricing, insurance, warranties, service levels, and contract terms.

Customer Problems Phoenix Must Solve

1

Unpredictable ground transit

Traffic, construction, weather, driver availability, and handoff delays make urgent delivery times variable.

2

High cost for low-volume urgency

A dedicated courier, staff vehicle, or helicopter can be operationally disproportionate to a small but important payload.

3

Inventory imbalance

One facility may have critical stock while another facility faces shortage, yet the movement is too urgent for scheduled distribution.

4

Centralization of laboratories and services

Health systems increasingly concentrate specialized testing and services, increasing interfacility movement.

5

Rural access constraints

Long travel distances and reduced local capability increase dependence on regional hubs and resilient logistics.

6

Chain-of-custody and temperature control

Clinical payloads require documented custody, environmental control, secure packaging, and exception handling.

7

Disaster and infrastructure disruption

Roads can be blocked, damaged, congested, or reserved for response traffic when essential supplies are needed most.

8

Limited visibility

Customers need dispatch status, location, condition data, custody events, estimated arrival, and audit-ready records.

Proof That Customers Will Use Aerial Logistics

The market has moved beyond theory. UPS Flight Forward received the first full Part 135 Standard certification for a drone airline in 2019 and used the authority to move laboratory samples at WakeMed. UPS later announced healthcare programs involving UC San Diego Health and Atrium Health Wake Forest Baptist. Zipline reports regular deliveries to more than 5,000 hospitals and health facilities globally. In July 2026, Wing described an NHS-linked program carrying urgent blood samples between facilities and reducing a 40-minute ground journey to a reliable five-minute flight. [8][9][10]

These examples demonstrate that healthcare customers will adopt drone logistics when the route is specific, the payload is controlled, the operational benefit is measurable, and the regulator and

customer accept the safety case. They do not prove that every route is economical or that Phoenix's planned aircraft configuration is validated.

Route Archetypes

Route archetype	Typical movement	Commercial significance
Campus or near-campus loop	Hospital to laboratory, clinic, pharmacy, or support building	High frequency; short distance; simple baseline; useful for first workflow validation
Metro hospital corridor	Hospital-to-hospital or hospital-to-central-lab route	Traffic avoidance; scheduled plus on-demand movements; scalable across a health system
Regional hub-and-spoke	Central blood center, pharmacy, or laboratory to multiple hospitals	Inventory balancing; larger service area; requires dispatch and fleet coordination
Rural access route	Regional medical center to rural or Critical Access Hospital	Long ground time; access value; weather and communications become more important
Emergency surge route	Staging area to hospital, shelter, command post, or isolated community	Temporary infrastructure; uncertain demand; high operational value during disruption
Specialist transport route	OPO or specialty center to receiving hospital	High urgency and custody burden; route-by-route risk and approval requirements

Route Qualification Framework

Phoenix should rank opportunities with a documented score before committing engineering or regulatory resources. A route with a dramatic headline but low frequency, weak executive sponsorship, unsafe sites, or poor payload fit should not outrank a repeatable route that can produce dependable revenue and operating data.

Qualification factor	Weight	Evaluation question
Mission urgency and consequence of delay	20%	Does faster delivery materially change operations, inventory, readiness, or patient care?
Movement frequency and predictability	15%	Are there enough repeatable movements to support utilization and learning?
Ground-time variability	15%	Is current delivery slow or unreliable because of traffic, distance, road vulnerability, or staffing?
Payload fit	15%	Can the payload be carried safely within validated weight, volume, packaging, and environmental limits?
Launch and recovery feasibility	10%	Are sites secure, accessible, power-ready, and compatible with the operating concept?
Airspace and regulatory feasibility	10%	Can the route be approved without unacceptable complexity or delay?
Executive sponsor and procurement readiness	5%	Is there a funded owner with authority to run a pilot and convert it?
Weather and communications resilience	5%	Can required availability be achieved in the local environment?
Economic value and budget fit	5%	Can Phoenix price the route below the customer's perceived and measurable value?

Route Scoring Decision

- 80-100 points: priority pilot candidate; begin detailed customer, site, airspace, and economic diligence.
- 65-79 points: promising route; advance only after resolving the lowest-scoring constraints.
- 50-64 points: customer-discovery opportunity, not yet an engineering or regulatory commitment.
- Below 50 points: defer unless strategic value justifies a specifically approved exception.

Illustrative Route Economics

Pricing will be developed in Section 4. For market sizing, Phoenix should begin with the value created by a route rather than with a desired aircraft price. The example below is a planning illustration, not a customer quote or financial forecast.

Illustrative input	Value	Comment
Urgent movements per operating day	6	Customer discovery input
Operating days per year	300	Route schedule
Illustrative avoidable ground cost per movement	\$150	Courier, labor, dispatch, vehicle, and delay burden
Annual direct logistics value	\$270,000	6 x 300 x \$150
Additional value not included	Not quantified	Faster clinical decisions, inventory reduction, resilience, or avoided helicopter use

This example supports an important discipline: a customer route should not be sold merely because a drone can fly it. Phoenix must show that the route's annual value can support aircraft, operations, maintenance, insurance, compliance, customer integration, and an acceptable contribution margin.

TAM, SAM, and SOM Method

Total Addressable Market (TAM)

TAM is the full U.S. institutional market in which critical cargo could theoretically benefit from autonomous aircraft: hospitals, health systems, blood centers, laboratories, specialty pharmacies, OPOs, emergency agencies, and later defense or austere users. The 6,100-hospital base and nearly 400 health systems establish scale, but TAM should not be converted into revenue by multiplying every facility by a standard contract value. Many facilities will have no suitable route, insufficient frequency, restricted airspace, unfavorable weather, or poor economics. [1][2]

Serviceable Available Market (SAM)

SAM is the subset Phoenix can serve with its initial aircraft configuration, regulatory approvals, operational model, geographic reach, and team. The first SAM should emphasize system-affiliated hospitals, centralized laboratories, blood networks, and rural hub-and-spoke routes within launch regions selected for favorable airspace, weather, customer sponsorship, and test infrastructure.

- Health systems with at least two facilities and recurring interfacility movements.
- Routes within the validated aircraft payload, distance, and weather envelope.
- Customers able to sponsor a paid pilot and complete legal, risk, facilities, and procurement review.
- Locations with practical launch, recovery, communications, and maintenance access.
- Operations compatible with the current FAA approval pathway.

Serviceable Obtainable Market (SOM)

SOM is the realistic share Phoenix can win with available capital and organizational capacity. For the first 24 to 36 months, management should define SOM by customers, routes, aircraft, and contract milestones rather than market percentage.

24-36 month SOM measure	Planning target	Definition
Early customer organizations	3-5	Health systems, blood/lab networks, or equivalent institutional customers
Paid or contract-backed routes	5-15	Mix of pilot and early deployment routes
Aircraft in customer or demonstration operations	5-20	Subject to final aircraft, regulatory, and support model
Geographic launch regions	1-3	Concentrated to protect engineering and field-support capacity
Primary proof point	Route conversion	Pilot becomes recurring service or multi-aircraft program

Market Sizing Formula

Annual serviceable market = qualified routes x expected annual contract value per route + aircraft or lease revenue + payload-module revenue + recurring software, maintenance, training, and compliance support. Each variable must be supported by customer interviews, pilot data, supplier quotations, and the product configuration defined in Section 3.

Management should not count a route in SAM or SOM until the minimum data below are documented. This prevents broad facility counts from becoming unsupported revenue forecasts.

Route Data Required for Bottom-Up Sizing

- Origin, destination, route distance, baseline ground time, and worst-case ground time.
- Movements per day, operating days, schedule pattern, on-demand frequency, and seasonality.
- Payload weight, dimensions, packaging, temperature range, dangerous-goods status, and custody requirements.
- Current direct cost, customer labor, vehicle burden, premium courier use, and any helicopter or charter substitution.
- Required delivery window, acceptable failure rate, weather limits, airspace constraints, and launch-site conditions.
- Budget owner, procurement timing, executive sponsor, pilot funding, and written conversion criteria.

Industry Structure and Trends

1

Health-system consolidation

A larger share of hospitals operates within systems, enabling centralized decisions and multi-facility route expansion. [1][2]

2

Centralized diagnostics and specialty services

Central labs and specialty centers can create recurring interfacility movements and measurable turnaround-time requirements.

3

Rural access pressure

Rural closures and limited local capability increase the value of connections to regional hubs, although economics and weather remain demanding. [4][5]

4

Demonstrated healthcare drone adoption

UPS, Zipline, Wing, and Matternet-related programs show that healthcare payloads can support real operations when the route and safety case are defined. [8][9][10]

5

BVLOS regulatory transition

The FAA continues to use existing Part 135 and exemption pathways while developing a proposed Part 108 framework. Market timing depends partly on the final rule and implementation. [12]

6

Consumer-network scale

Wing, Amazon, and retail partners are expanding lightweight delivery networks, increasing public familiarity and infrastructure investment while also competing for regulatory attention and talent.

7

Data and chain-of-custody expectations

Institutional customers increasingly expect condition monitoring, digital custody records, cybersecurity, auditability, and integration with existing workflows.

8

Capital discipline

Hardware companies must prove utilization, maintainability, and repeatable route economics; impressive flight demonstrations alone do not establish a sustainable business.

Competitive and Substitute Landscape

Phoenix will compete against direct drone companies and against the customer's decision to continue using couriers, staff vehicles, scheduled distribution, charter aviation, or helicopters. The most dangerous competitor is often the existing process because it is already approved, budgeted, and understood.

Provider / substitute	Primary position	Evidence or strength	Implication for Phoenix
Zipline	Healthcare and retail instant logistics	Large operational footprint; reports deliveries to 5,000+ hospitals and health facilities globally. [10]	Validates medical logistics demand; strong incumbent in light and standardized delivery. Phoenix must avoid competing only on speed.
Wing	Lightweight autonomous delivery for retail and selected healthcare routes	Large-scale retail expansion and a 2026 NHS sample-delivery program reporting 40-minute ground journeys replaced by five-minute flights. [8]	Shows small-package networks can scale. Phoenix's intended differentiation is modular institutional cargo and specialized payload utility.
UPS Flight Forward / Matternet	Healthcare campus and network logistics	Part 135 precedent and healthcare programs involving lab samples and medical products. [9]	Validates institutional procurement and regulatory pathways; potential competitor, partner, or operating-model benchmark.
Amazon Prime Air	Consumer parcel delivery	Consumer delivery of eligible packages up to five pounds in selected service areas. [11]	Raises customer expectations for automation but is not the primary target segment for Phoenix.
Ground courier and internal fleet	Current institutional default	Flexible, approved, and familiar; affected by traffic, staffing, distance, and road disruption.	Phoenix must prove total-value advantage and reliable exceptions management.
Helicopter or charter aviation	High-speed and long-range urgent transport	High capability and established operations; expensive and crew-intensive for smaller payloads.	Phoenix should target missions where crewed aircraft are operationally or economically disproportionate.
Emerging cargo-UAS developers	Middle-mile, industrial, defense, and specialized logistics	Varied aircraft sizes and regulatory maturity.	Phoenix requires a clear payload/route niche, disciplined certification strategy, and protectable systems knowledge.

Phoenix's Intended Market Position

Phoenix should position itself as the critical-cargo specialist between lightweight parcel delivery and crewed aviation. The product and service promise should emphasize mission-fit payloads, route engineering, documented custody, institutional integration, and dependable support. This position remains a strategic objective until the aircraft and operating data prove it.

Barriers to Entry

1

Regulatory approval

BVLOS, carriage of property, aircraft weight, route characteristics, and commercial operations can require exemptions, certification, and detailed safety work.

2

Airworthiness and reliability

Customers and regulators require evidence that propulsion, controls, communications, payload systems, and failure responses are dependable.

3

Operational infrastructure

Launch sites, recovery areas, power, communications, weather data, maintenance, spares, and trained personnel must be available.

4

Customer integration

Clinical payloads require packaging, temperature control, custody, workflow, cybersecurity, and exception-management integration.

5

Insurance and liability

Aviation, product, cyber, professional, and cargo risks must be allocated and insured.

6

Public and community acceptance

Noise, privacy, visual impact, perceived risk, and local engagement can affect route approval and continuity.

7

Capital requirements

Aircraft development, test, approvals, production readiness, and field support require capital before significant recurring revenue.

8

Incumbent response

Large logistics companies, established drone networks, and customer-owned fleets can reduce pricing power or accelerate competing services.

Customer Acquisition and Buying Process

1

Customer discovery

Interview executive, clinical, logistics, risk, and technical stakeholders. Quantify current movements, cost, delay, payload, and failure consequences.

2

Route screen

Apply the qualification score; eliminate routes that do not fit the aircraft, sites, customer sponsorship, or regulatory path.

3

Operational concept

Define origin, destination, payload, custody, dispatch, supervision, communications, weather limits, maintenance, and exceptions.

4

Value case

Compare baseline ground performance with expected aerial performance, including full service cost and nonfinancial operational value.

5

Site and regulatory diligence

Review airspace, property control, community exposure, environmental considerations, approvals, and customer policies.

6

Paid pilot agreement

Set scope, milestones, responsibilities, data ownership, insurance, pricing, termination rights, and conversion criteria.

7

Demonstration and pilot

Execute progressive testing, then limited operational missions with documented safety and service metrics.

8

Conversion

Move to recurring route contract, multi-route expansion, aircraft sale or lease, and long-term support agreement.

Planning Sales Cycle

Management should plan for a six- to eighteen-month institutional sales and pilot cycle, depending on aircraft readiness, regulatory requirements, site complexity, budget timing, legal review, and customer appetite. This is a planning assumption to be validated through customer discovery; it should not be treated as an industry statistic.

Pilot Success Metrics

Metric	Required evidence
Safety	No serious incident; compliance with approved operating limitations and customer procedures.
Mission completion	Percentage of scheduled and dispatched missions completed as planned.
On-time delivery	Arrival within the promised service window.
Time advantage	Median and worst-case aerial delivery time compared with baseline ground transport.
Payload integrity	Temperature, shock, orientation, security, custody, and acceptance at destination.
Availability	Aircraft and route availability after accounting for maintenance, weather, airspace, and staffing.
Cost per completed mission	Full operating cost, not only energy or direct labor.
Customer labor impact	Dispatch, handling, packaging, and receiving time required from customer staff.
Conversion evidence	Customer willingness to pay, expand routes, or enter a recurring contract.

Geographic Launch Criteria

- Concentration of multi-hospital systems, laboratories, blood centers, and rural referral relationships.
- Airspace that supports a practical approval strategy and does not create unnecessary early complexity.
- Weather compatible with the first aircraft's demonstrated operating envelope.
- Available test sites, maintenance access, communications coverage, and safe launch/recovery areas.
- Customer champions with authority, budget, and willingness to share baseline operational data.
- State and local stakeholders supportive of advanced aviation, emergency logistics, or rural-health access.
- Manageable distance from Phoenix engineering and field-support resources.
- Potential to expand from one route into a regional network without fragmenting the team.

Market Entry Recommendation

Phoenix should enter through one flagship health-system program rather than several unrelated demonstrations. The ideal program contains one high-frequency short route for operational learning, one higher-value regional route that demonstrates the aircraft's differentiation, and a documented expansion plan across the same customer network. The Company should avoid unpaid demonstrations that do not provide data rights, executive access, regulatory learning, or a defined path to contract.

Section 2 Milestones

- Complete at least 30 structured customer interviews across health systems, laboratories, blood services, pharmacy, emergency management, and logistics.

- Build a database of at least 100 candidate institutional routes with origin, destination, ground time, movement frequency, payload, customer, and route score.
- Select the top 10 routes for detailed site and economic diligence.
- Obtain three letters of interest or equivalent written customer-development commitments.
- Secure at least one paid pilot or contract-backed demonstration before committing to production tooling.
- Create a route-level market model that feeds Section 4 pricing and Section 8 financial projections.

Sources and Market Evidence

- [1] American Hospital Association, Fast Facts on U.S. Hospitals, 2026. Reported 6,100 total hospitals, 5,121 community hospitals, and 3,567 system-affiliated community hospitals.
- [2] American Hospital Association, Fast Facts: U.S. Health Systems, 2025. Reported 397 health systems and 4,157 hospitals in systems.
- [3] Centers for Medicare & Medicaid Services, Hospital General Information dataset, modified April 28, 2026 and released May 13, 2026. Dataset reported 5,432 rows.
- [4] Health Resources and Services Administration, Small Rural Hospital Improvement Program, updated May 28, 2026. Program serves approximately 1,600 small rural hospitals and Critical Access Hospitals.
- [5] Health Resources and Services Administration, Rural Hospital Programs, updated February 11, 2026. Reported 152 rural hospital closures between 2010 and 2025.
- [6] AABB, Emergency Prehospital Blood Transfusion. Describes the importance of reducing time to blood and expanding access in rural and remote areas.
- [7] Health Resources and Services Administration / OPTN, Donor Matching System, reviewed December 2025. Describes preservation windows and the importance of short transport times.
- [8] Wing, Elevating Healthcare Logistics: Wing Partners with Apian and the NHS for South West London Drone Deliveries, July 16, 2026.
- [9] UPS Healthcare and UPS Flight Forward materials concerning WakeMed, UC San Diego Health, and healthcare drone delivery; UPS 2019 Annual Report described Part 135 certification and lab-sample operations.
- [10] Zipline Fact Sheet and company materials. Zipline reports regular service to more than 5,000 hospitals and health facilities.
- [11] Amazon Prime Air customer information and AWS overview. Eligible consumer packages are limited to five pounds and operations are conducted within defined service areas and conditions.
- [12] Federal Aviation Administration, Package Delivery by Drone (Part 135), BVLOS program materials, and current exemption guidance.
- [13] Grand View Research, Drone Logistics and Transportation Market Size Report. Directional estimate used in Section 1.
- [14] Mordor Intelligence, Medical Drones Market. Directional estimate used in Section 1.
- [15] Centers for Medicare & Medicaid Services, National Health Expenditure Fact Sheet, updated June 24, 2026. U.S. health spending reached \$5.3 trillion in 2024.

Third-party market forecasts and company-reported operating statistics are included as directional evidence. Phoenix should validate customer demand, route economics, payload requirements, and competitive differentiation through direct diligence. No source listed here should be interpreted as endorsing Phoenix Unmanned.



BUSINESS PLAN

2026-2030 Strategic and Operating Plan

SECTION 3

Aircraft Platform, Technology, and Product Roadmap

One core aircraft architecture. Modular missions. Disciplined verification.

Prepared for strategic, investor, partner, and management review

Prepared by Phoenix Unmanned

Founder & CEO: Steve Dixon

July 2026 | Review Draft

Section Purpose

Section 3 converts Phoenix Unmanned's market strategy into a technical and product-development plan. It defines the working aircraft architecture, mission systems, autonomy approach, payload strategy, engineering process, verification program, regulatory design posture, manufacturing readiness, and five-year product roadmap. Exact performance values remain preliminary until requirements are approved, supplier data are verified, and flight testing establishes the aircraft's true operating envelope.

Technical Executive Summary

Phoenix Unmanned intends to develop a runway-independent cargo aircraft system for repeatable institutional logistics. The preferred concept is a fixed-wing vertical-takeoff-and-landing platform with distributed lift, a central fuselage, modular payload interfaces, autonomous flight controls, and remote operational supervision. Existing Phoenix concept work includes four- and six-lift-unit configurations, multiple tail arrangements, and external or internal cargo modules. The first engineering task is not to preserve every concept feature; it is to select the simplest configuration that satisfies the launch customer's route, payload, safety, maintainability, and regulatory requirements.

The Company will use one core architecture and build mission variants through payload modules, software configuration, energy-system options, and limited structural changes. This reduces engineering fragmentation, improves fleet support, and creates a clearer path from demonstrator to low-rate production.

Technical Planning Conclusions

- The first full-scale product must be sized from validated customer routes, not from the maximum payload the team can imagine.
- A fixed-wing VTOL configuration is the current preferred baseline because it combines runway independence with more efficient cruise than a pure multirotor; the final topology remains subject to trade study.
- The aircraft, ground station, communications, payload module, maintenance system, and fleet software must be engineered as one system.
- Phoenix should build certification-quality habits before formal certification is required: controlled requirements, configuration management, traceable verification, supplier records, and disciplined safety analysis.
- The first customer pilot must use a narrow approved operating envelope; broader weather, range, payload, and autonomy capability should be released only after evidence supports it.
- The initial seed program should produce a flight-tested demonstrator and a customer-ready data package, not premature production volume.

Product Strategy

Phoenix's product strategy is a platform-and-mission-kit model. The aircraft supplies lift, cruise, power, navigation, command and control, safety functions, and a common mechanical and data interface.

Mission kits supply cargo containment, environmental control, custody monitoring, handling equipment, and customer-specific integration.

1

Mission before configuration

Freeze the customer route, payload, service level, and regulatory concept before finalizing the airframe.

2

Common core, controlled variants

Use shared propulsion, avionics, software, ground systems, maintenance processes, and interfaces across variants.

3

Safety by architecture

Allocate hazards to design features, operating limitations, maintenance, supervision, and contingency procedures from the beginning.

4

Evidence before expansion

Increase payload, range, weather envelope, and operational autonomy only after testing and service data support the change.

5

Maintainability at the design table

Make inspections, replacement, diagnostics, access, and transport part of the initial design rather than later corrections.

6

Supplier independence where practical

Avoid single-source components when an alternate can be qualified without excessive weight, cost, or certification burden.

7

Digital traceability

Connect requirements, drawings, software versions, serial numbers, tests, maintenance, and field events in a controlled data system.

8

Customer workflow integration

Treat packaging, custody, dispatch, receiving, exception handling, and data exchange as product requirements.

Working Product Family

The designations below are internal planning labels, not final commercial names. Performance ranges are candidate requirement bands for trade studies and capital planning. They are not demonstrated specifications, sales commitments, or certification claims.

Planning designation	Role	Candidate payload	Candidate radius	Primary purpose
D1 - Instrumented Demonstrator	Engineering and flight-test platform	25-100 lb candidate payload band	25-75 nmi candidate mission radius	Validate VTOL, transition, cruise, controls, payload interface, ground systems, and data collection
P1 - Critical Medical Logistics	Initial commercial configuration	50-200 lb candidate useful payload band	50-150 nmi candidate mission radius	Hospital, laboratory, blood, pharmaceutical, and regional critical-cargo routes
P2 - Regional Cargo Variant	Extended payload and range	150-500 lb candidate useful payload band	100-300 nmi candidate mission radius	Regional hub-and-spoke, rural access, emergency logistics, and larger medical equipment
P3 - Heavy-Lift Development	Later product family	500-1,000 lb candidate useful payload band	Mission-dependent	Austere, defense, disaster, and specialized heavy cargo after P1/P2 maturity

Product-Family Decision Rule

Phoenix should not fund P2 or P3 as independent clean-sheet aircraft during the seed stage. The larger variants advance only when the P1 architecture has produced flight data, supplier knowledge, customer demand, route economics, and an engineering basis that can be reused.

Preliminary Baseline Architecture

System element	Working design direction
Airframe	Fixed-wing VTOL cargo aircraft with central fuselage; H-tail and alternative tail arrangements remain trade-study candidates. Structure should prioritize strength-to-weight, inspection access, repairability, and producibility.
Vertical-lift system	Distributed electric or hybrid-electric lift units. Four- and six-unit layouts will be compared for failure tolerance, hover efficiency, weight, cost, controls complexity, and maintainability.
Cruise propulsion	Dedicated cruise propulsor or integrated propulsion architecture selected through aerodynamic and energy trade studies.
Energy system	Battery-electric, hybrid-electric, fuel-cell, and generator-assisted options will be evaluated against payload, range, reserve, thermal, infrastructure, cost, and certification requirements.
Flight controls	Redundant sensing, flight-control computation, navigation, actuator control, health monitoring, envelope protection, and contingency management.
Command and control	Primary and backup communications paths appropriate to the route, plus lost-link behavior, remote identification, position reporting, and secure operational interfaces.
Payload system	Quick-change mechanical, electrical, and data interface supporting general cargo, medical cargo,

System element	Working design direction
	temperature-controlled containers, and later mission kits.
Ground segment	Operator workstation, mission planning, weather, dispatch, fleet monitoring, maintenance control, records, and customer status interfaces.
Support system	Transport equipment, charging or fueling, spares, test tools, maintenance publications, training, configuration control, and field-support procedures.

Preliminary Mission Requirements

The requirements below establish what engineering must measure and trade. Numerical targets will be approved after customer-route data and concept analysis are complete.

Requirement category	Planning requirement
Runway independence	Vertical takeoff and landing from approved compact sites without a conventional runway.
Useful payload	Carry the selected launch payload with packaging, environmental control, restraints, and monitoring included in the weight statement.
Route performance	Complete the customer mission with legal reserves, alternate or contingency capability, and demonstrated energy margins.
Turnaround	Enable rapid cargo exchange and energy replenishment through modular handling and accessible servicing.
Dispatch reliability	Meet a defined service level after maturation; cancellations, maintenance, weather, and airspace causes must be recorded separately.
Payload integrity	Maintain required temperature, shock, vibration, orientation, security, and chain-of-custody conditions.
Containment and restraint	Prevent cargo movement, leakage, contamination, or unauthorized access under normal and defined emergency loads.
Navigation performance	Maintain route accuracy and safe geofencing using appropriate multi-sensor navigation and integrity monitoring.
Contingency behavior	Respond predictably to lost link, navigation degradation, propulsion faults, energy limits, weather changes, and site unavailability.
Maintainability	Support line-replaceable units, built-in diagnostics, scheduled inspections, repair documentation, and serialized component tracking.
Cybersecurity	Protect command, software, configuration, customer data, fleet services, and maintenance interfaces from unauthorized access or alteration.
Environmental capability	Define and progressively validate temperature, wind, precipitation, icing exposure, altitude, electromagnetic, vibration, and transport limits.
Community compatibility	Control noise, lighting, privacy exposure, site security, and local operational impacts.
Scalability	Allow multiple aircraft and routes to be supervised without assuming one remote pilot must manually control every aircraft continuously.

Requirement Freeze Inputs

- Top three customer routes, including distance, ground time, payload, frequency, service window, site, weather, and economic value.
- Aircraft configuration trade study covering lift topology, tail, wing, propulsion, energy, structure, and cargo arrangement.
- Supplier data for motors, propellers, batteries, fuel cells, generators, controllers, actuators, avionics, and communications.

- Regulatory concept of operations and preliminary engagement with qualified FAA and certification advisors.
- Mass-properties model, energy model, aerodynamic model, structural load cases, and preliminary hazard analysis.
- Customer acceptance criteria for payload condition, chain of custody, dispatch, data access, and exceptions.

Modular Payload System

The payload interface is a central commercial differentiator. Phoenix should design the aircraft around a standardized cargo envelope and a controlled mechanical, electrical, and data interface. Mission modules should be removable without disturbing flight-critical systems.

1

General critical cargo module

Secure reusable container for non-temperature-controlled supplies, equipment, and emergency inventory.

2

Medical controlled-environment module

Insulated and, where required, actively conditioned container with temperature logging, tamper evidence, custody events, and acceptance checks.

3

Blood and laboratory module

Validated packaging interface supporting documented temperature, orientation, shock, and handoff procedures; actual biological packaging remains governed by customer and applicable standards.

4

Pharmaceutical module

High-value secure container with environmental monitoring, access control, and integration with customer track-and-trace processes.

5

Equipment rack or pallet module

Structured interface for larger devices, repair parts, emergency equipment, and standardized cargo restraint.

6

Future mission modules

Disaster relief, communications relay, sensor, defense, and specialized cargo modules developed only after the core aircraft and interface mature.

Autonomy, Software, and Ground Operations

Phoenix's operating concept is supervised autonomy rather than uncontrolled independence. Automation will execute approved flight functions, monitor system health, and manage normal contingencies. Authorized personnel will plan, release, supervise, intervene when the operating concept permits, and manage exceptions. The allocation between automation and human responsibility will be defined through safety analysis, regulator engagement, and customer operations.

Software / operations layer	Primary functions
Flight-control layer	Stabilization, guidance, navigation, propulsion and actuator control, envelope protection, health monitoring, and emergency modes.
Mission-management layer	Approved route execution, geofencing, energy prediction, weather and airspace inputs, alternate-site logic, and payload coordination.
Communications layer	Secure aircraft links, operational messaging, position and status reporting, link monitoring, and route-appropriate redundancy.
Remote operations layer	Mission planning, dispatch, supervision, alerts, checklists, authority control, logs, and multi-aircraft workload management.
Fleet-services layer	Configuration, maintenance, trend monitoring, reliability analytics, software release control, and customer service reporting.
Customer-integration layer	Order intake, status, estimated arrival, custody records, payload-condition reports, proof of delivery, and exception notifications.

Software Development Discipline

- Controlled system and software requirements with traceability to tests and operating limitations.
 - Software-in-the-loop and hardware-in-the-loop simulation before flight release.
 - Independent review of flight-critical changes and formal release authority.
 - Configuration identification for aircraft, ground systems, payloads, databases, and customer integrations.
 - Automated regression testing where practical, backed by manual safety and operational testing.
 - Flight-data recording sufficient to reconstruct events, diagnose faults, and support reliability growth.
 - A standards-applicability plan considering DO-178C for airborne software, DO-254 for complex airborne electronic hardware, and related FAA guidance when required by the certification basis.
- [6][7]

Cybersecurity and Data Governance

- Threat modeling for aircraft, ground station, cloud services, maintenance ports, payload interfaces, and supplier software.
- Identity, role, and authority controls for dispatch, flight release, maintenance, software loading, and customer access.
- Encrypted communications and authenticated software/configuration updates appropriate to the system and approval basis.

- Security logging, vulnerability management, incident response, backup, recovery, and continuing-airworthiness processes.
- Segregation of flight-critical functions from customer and enterprise networks.
- A standards-applicability review using the RTCA DO-326A, DO-355, and DO-356A security family where relevant. [9]

Safety Architecture

Phoenix should treat safety as a system property produced by design, operations, maintenance, training, infrastructure, and organizational controls. Redundancy alone is not a safety case; common-cause failures, software, human factors, maintenance error, environment, and route exposure must also be addressed.

1	System safety assessment Functional hazard assessment, preliminary system safety assessment, fault trees or equivalent analyses, common-cause review, and verification of safety requirements.
2	Propulsion resilience Fault detection, isolation, safe control after failures where feasible, protected wiring and power distribution, and conservative energy reserves.
3	Navigation integrity Multiple navigation inputs where justified, consistency checks, geofence integrity, altitude and position monitoring, and defined behavior under degraded navigation.
4	Command-and-control resilience Link monitoring, backup path where justified, predictable lost-link behavior, and communications coverage assessment for each route.
5	Operational containment Route, altitude, site, weather, and population-exposure controls matched to aircraft reliability and approval conditions.
6	Emergency response Abort, hold, return, divert, controlled landing, flight termination, site response, customer notification, and recovery procedures appropriate to the hazard.
7	Continuing airworthiness Scheduled maintenance, inspections, life limits, service bulletins, configuration records, reliability review, and corrective-action process.
8	Human factors Workload, alerting, authority, training, fatigue, checklist design, maintenance ergonomics, and handoff responsibilities.

Regulatory and Standards Design Posture

Phoenix's planned full-scale aircraft is expected to exceed the 55-pound limit of the small-UAS rule. Current FAA guidance states that civil operation of an unmanned aircraft over 55 pounds generally requires relief under 49 U.S.C. Section 44807, and commercial package delivery currently uses the FAA's Part 135 process with the necessary exemptions or waivers. The FAA also provides a special-class path under 14 CFR 21.17(b) for certain UAS type certification and has developed durability-and-reliability criteria for that process. [1][2][3]

The proposed Part 108 framework would normalize certain low-altitude BVLOS operations and includes proposed requirements affecting operators, manufacturers, separation, security, reporting, and records. It remains a proposed rule. Phoenix will monitor it but will not base the development schedule on an assumed final date or unchanged final text. [4]

Regulatory layer	Likely pathway or reference	Business purpose
Prototype and test authorization	Section 44807, experimental or other applicable FAA authority, COA, and site-specific approvals as advised	Enable legal ground and flight testing of an aircraft outside Part 107
Commercial carriage of property	Part 135 and associated exemptions/waivers under the current framework	Support paid delivery operations where applicable
Aircraft certification	Special-class type-certification path under 21.17(b), D&R or other agreed certification basis	Establish approved type design and airworthiness path when required
Future scalable BVLOS	Proposed Part 108 or successor final framework	Potentially enable normalized route operations if and when finalized
Standards	ASTM F38, RTCA, SAE, and other consensus material selected for applicability	Provide accepted methods, evidence structure, and test guidance
Customer and payload compliance	Healthcare, dangerous-goods, privacy, data, quality, and facility requirements	Ensure the aviation service fits the customer's legal and operational obligations

Standards Applicability Screen

1	ASTM Committee F38 UAS design, performance, quality acceptance, operations, maintenance, and safety-monitoring standards. Phoenix should build a standards matrix rather than claiming blanket compliance. [5]
2	RTCA DO-178C Software considerations for airborne systems and equipment certification; applicability and design-assurance level depend on the certification basis and safety allocation. [6]
3	RTCA DO-254 Design assurance for complex airborne electronic hardware; applicability depends on the hardware and certification basis. [7]
4	RTCA DO-160 Environmental and electromagnetic test procedures for airborne equipment. [8]
5	RTCA DO-326A / DO-355 / DO-356A

Airworthiness security process, continuing-airworthiness security, and security methods. [9]

6

Other consensus standards

SAE system-development and safety-assessment material, battery and fuel-cell standards, communications standards, quality standards, and payload-specific requirements selected with certification advisors.

Regulatory Management Rule

No drawing, supplier selection, software architecture, or customer promise should be treated as regulatory-neutral. The program must maintain a compliance-assumptions register and update it after every material FAA or standards decision.

Engineering and Verification Process

1

Mission Requirements Review (MRR)

Approve launch customer use case, route assumptions, payload, operating concept, and business objective.

2

System Requirements Review (SRR)

Approve controlled system requirements, verification methods, safety allocations, and interfaces.

3

Preliminary Design Review (PDR)

Confirm architecture closes the mass, energy, aerodynamic, structural, controls, safety, cost, and schedule trades.

4

Critical Design Review (CDR)

Release the design for fabrication with resolved interfaces, drawings, software baseline, test plans, and procurement status.

5

Test Readiness Review (TRR)

Confirm hardware, software, instrumentation, site, crew, approvals, hazards, and procedures are ready for each test phase.

6

First Flight Readiness Review

Authorize initial flight only after ground evidence, configuration audit, weather, airspace, and emergency response are accepted.

7

Envelope Expansion Review

Authorize each increase in speed, altitude, weight, transition, range, wind, and mission complexity.

8

Reliability Readiness Review

Confirm recurring faults are controlled and the aircraft is ready for extended mission-cycle testing.

9

Customer Pilot Readiness Review

Confirm payload validation, operations, training, maintenance, documentation, insurance, approvals, and customer acceptance.

10

Production Readiness Review (PRR)

Confirm design maturity, supplier capability, quality controls, work instructions, test equipment, and support readiness.

Verification and Test Program

Test domain	Evidence to be produced
Analysis and simulation	Mass, center of gravity, aerodynamics, energy, performance, thermal, structures, loads, controls, reliability, and route simulations.
Component qualification	Motors, propellers, controllers, batteries/fuel cells/generator, actuators, sensors, computers, radios, connectors, and payload hardware.
Structural testing	Material coupons, subcomponents, landing gear, motor mounts, wing/tail, fuselage, payload restraint, limit loads, and proof tests.
Propulsion and energy testing	Thrust, efficiency, endurance, cooling, power quality, fault behavior, reserve, charging/fueling, and cycle life.
Software and avionics testing	Unit, integration, software-in-the-loop, hardware-in-the-loop, fault insertion, regression, timing, resource, and release testing.
Environmental and EMI/EMC	Temperature, vibration, shock, humidity, precipitation, dust, electromagnetic compatibility, power input, and transport as applicable.
Ground integration	Weight and balance, controls, communications, navigation, cargo handling, taxi or restraint, tethered hover where appropriate, and emergency procedures.
Flight envelope expansion	Hover, low-speed, transition, cruise, approach, landing, weight, center of gravity, wind, altitude, range, and contingency tests.
Payload validation	Restraint, temperature, shock, orientation, tamper evidence, custody, loading, unloading, cleaning, and customer acceptance.
Reliability growth	Repeated mission cycles, maintenance events, turnaround, faults, cancellations, dispatch, spares, and corrective action.
Operational demonstration	End-to-end customer workflow with approved personnel, sites, procedures, payloads, data, and service-level measurement.

Flight-Test Release Philosophy

- Every flight has a controlled objective, configuration, approved test card, weather limits, crew assignment, and abort criteria.
- The aircraft does not expand more than one major risk dimension at a time when practical.
- Anomalies are recorded, classified, investigated, and dispositioned before the next affected test.
- Customer demonstration pressure does not override test sequence or configuration control.
- The program preserves raw data, calibrated instrumentation records, software versions, maintenance status, and pilot/operator observations.

Manufacturing and Supply-Chain Strategy

The seed-stage manufacturing objective is repeatable prototype construction and low-rate production readiness, not a high-volume factory. Phoenix should retain control of system architecture, final configuration, critical assembly, software, acceptance testing, and airworthiness records while using qualified suppliers for components and specialized fabrication.

Manufacturing element	Planned approach
Make/buy strategy	Retain internally what creates safety, integration, intellectual property, or rapid learning; outsource mature processes with capable suppliers.
Configuration control	Serialized aircraft and critical components, approved bills of material, drawing revision, software baseline, approved substitutions, and as-built records.
Supplier qualification	Technical capability, quality system, traceability, lead time, financial health, change notification, counterfeit avoidance, and alternate-source plan.
Incoming and in-process quality	Inspection plans, certificates, test results, nonconformance control, material traceability, and first-article review.
Assembly system	Controlled work instructions, torque and bonding records, wiring checks, software loading, functional test, and independent inspection for critical steps.
Acceptance test	Aircraft-level ground test, avionics and communications check, propulsion verification, weight and balance, configuration audit, and flight acceptance where required.
Field support	Spares, line-replaceable units, service tools, remote diagnostics, maintenance manuals, training, repair loop, and customer support metrics.
Production scaling	Low-rate initial production first; facility, tooling, automation, and headcount expand only after stable design and order visibility.

2026-2030 Product and Technology Roadmap

Phase	Planning window	Primary outputs	Gate
Phase 0: Requirements and trade studies	0-3 months	Customer-route baseline; configuration trades; regulatory concept; supplier requests; mass, energy, cost, and risk models	MRR and SRR
Phase 1: D1 detailed design and procurement	3-8 months	PDR/CDR; long-lead components; test rigs; software and ground-system baseline; fabrication release	CDR
Phase 2: Assembly and ground verification	7-12 months	Airframe assembly; propulsion, controls, communications, payload, structural, ground, and readiness testing	First Flight Readiness
Phase 3: Flight envelope and reliability	10-18 months	Hover, transition, cruise, range, weight, contingency, payload, maintainability, and repeated mission cycles	Reliability Readiness
Phase 4: Paid customer pilot	15-24 months	Approved route, validated payload, customer workflow, service metrics, operations and maintenance package	Pilot Conversion Decision
Phase 5: P1 production configuration	20-36 months	Design changes from pilot data; certification/compliance program; supplier and quality maturity; low-rate production	PRR

Phase	Planning window	Primary outputs	Gate
Phase 6: Network expansion and P2 trade study	30-48 months	Multi-route operations, recurring support, expanded payload/range, additional launch regions	P2 Business and Technical Gate
Phase 7: P2 deployment and P3 research	42-60 months	Regional cargo variant, advanced energy/propulsion, heavy-lift research, disaster/defense qualification planning	Product Family Investment Gate

Seed-Stage Technical Deliverables

- Approved system and customer-route requirements.
- Configuration trade study and selected D1/P1 architecture.
- Controlled preliminary and critical design packages.
- One instrumented flight demonstrator with serialized configuration records.
- Flight-control, mission-management, ground-operations, and payload software baseline.
- Modular medical payload demonstrator with condition and custody logging.
- Ground, flight, payload, reliability, and maintainability test reports.
- Preliminary safety assessment, compliance-assumptions register, and regulatory engagement package.
- Supplier, cost, lead-time, make/buy, and low-rate production plan.
- Paid-pilot technical and operational package.

Technical Risk Register

Risk	Rating	Potential effect	Primary mitigation
Weight growth	High	Payload or range falls below customer need	Mass budget by subsystem; weekly tracking; design margin; configuration control; early weighing
Energy and thermal limits	High	Insufficient range, reserve, turnaround, or component life	Competing energy trade studies; instrumented bench tests; realistic reserve and degradation models
VTOL-to-cruise transition	High	Control instability or limited envelope	Simulation, subscale/rig testing, incremental flight expansion, independent controls review
Propulsion reliability	High	Loss of thrust or recurring maintenance	Supplier qualification, endurance rigs, fault monitoring, conservative operating limits, alternate sources
Command-and-control coverage	High	Route interruption or loss of supervision	Coverage surveys, multiple link options, predictable lost-link behavior, route containment
Detect-and-avoid / airspace integration	High	Approval delay or restricted routes	Early regulator engagement, operating containment, phased routes, standards and service-provider assessment
Payload environmental control	Medium	Customer rejection or unusable cargo	Validated packaging, sensors, thermal chamber testing, acceptance criteria, exception procedures
Weather capability	Medium	Low availability and customer dissatisfaction	Launch geography selection, validated limits, forecasting, alternate modes, staged envelope growth

Risk	Rating	Potential effect	Primary mitigation
Supplier and component obsolescence	Medium	Schedule, cost, or redesign disruption	Approved vendor list, lifecycle review, alternates, inventory strategy, change notification
Software and cybersecurity	High	Unsafe behavior, operational disruption, or data exposure	Controlled lifecycle, independent verification, threat modeling, secure updates, incident response
Certification-path change	High	Rework, delay, or capital increase	Compliance register, FAA engagement, modular evidence, conservative claims, schedule contingency
Maintainability and field support	Medium	Low fleet availability and high service cost	Line-replaceable design, diagnostic coverage, maintenance demonstrations, spares and repair planning

Technical Organization and Staffing

Function	Accountability
Founder / Chief Product and Mission Lead	Mission, configuration decisions, founder aircraft knowledge, customer priorities, capital tradeoffs, and final program accountability.
Chief Engineer / Systems Engineering	Requirements, architecture, interfaces, technical budgets, reviews, safety allocation, and verification closure.
Aerodynamics and Flight Sciences	Configuration trades, performance, stability, control, loads, flight-test analysis, and envelope development.
Structures and Mechanical	Airframe, landing gear, motor structures, cargo interfaces, materials, stress, drawings, fabrication, and repair.
Propulsion and Energy	Motors/engines, propellers, controllers, batteries, fuel cells/generator, power distribution, cooling, and endurance testing.
Avionics and Electrical	Computers, sensors, wiring, power, communications, navigation, health monitoring, and environmental qualification.
Flight Controls and Software	Control laws, autonomy, mission management, simulation, test automation, releases, and fleet software.
Safety, Certification, and Quality	Hazard analysis, compliance strategy, regulator interface, quality system, audits, records, and corrective action.
Manufacturing and Supply Chain	Make/buy, supplier qualification, tooling, work instructions, production planning, cost, and configuration records.
Flight Test and Operations	Test planning, crew, sites, approvals, maintenance, data, emergency response, and customer-pilot operations.
Payload and Customer Integration	Cargo modules, packaging, environmental control, custody, customer workflow, facilities, IT, and acceptance.

Technical Governance

- Founder and chief engineer jointly approve mission and architecture changes that affect payload, range, safety, certification, schedule, or capital.

- A change-control board approves released drawing, software, supplier, and operating-baseline changes.
- A safety review board can stop testing or operations without commercial approval when evidence is insufficient.
- A weekly technical review tracks requirements, mass, energy, cost, schedule, risks, procurement, tests, and anomalies.
- A monthly program review aligns technical progress with customer commitments, cash, hiring, regulatory work, and investor milestones.

Decisions Required Before Section 3 Is Final

- Confirm the first three candidate customer routes and the payload category that will drive the D1/P1 requirement.
- Decide whether the first demonstrator is full-scale, reduced-payload full-geometry, or a staged subscale-plus-full-scale program.
- Approve the initial energy-system trade study candidates and reject options that cannot meet infrastructure or development constraints.
- Confirm whether the production target is primarily aircraft sale/lease, operator-owned service, or a model supporting both.
- Select the lead regulatory and certification advisor and define the planned testing authority.
- Confirm what prior designs, data, intellectual property, hardware, and supplier relationships Phoenix can legally use.
- Approve the technical hiring sequence and which functions will be internal, contracted, advisory, or supplier-led.
- Set the seed-stage cash and schedule reserve for test failures, component redesign, regulatory delay, and long-lead procurement.
- Define the customer-pilot conversion criteria and the minimum technical evidence required before accepting operational cargo.

Section 3 Milestones

1

Milestone 1

Within 30 days: approve the mission requirements and route-data package needed for trade studies.

2

Milestone 2

Within 60 days: complete configuration, propulsion, energy, payload, regulatory, and make/buy trade studies.

3

Milestone 3

Within 90 days: conduct MRR and SRR; freeze the D1 baseline and release long-lead procurement.

4

Milestone 4

Within 180 days: complete PDR and major component bench tests.

5

Milestone 5

Within 270 days: complete CDR and begin integrated aircraft assembly.

6

Milestone 6

Within 12 months: complete ground-test readiness and first-flight review, subject to funding and approvals.

7

Milestone 7

Within 18 months: complete initial envelope expansion and reliability-growth campaign.

8

Milestone 8

Within 24 months: execute a paid or contract-backed institutional pilot and produce the P1 production decision package.

Section 3 Management Position

Phoenix Unmanned's technical advantage will not be a single drawing or performance claim. It will be the ability to connect founder-led aircraft development, a modular cargo architecture, controlled engineering, route-specific safety, regulatory evidence, and customer operations into a dependable product. The seed-stage program succeeds when it produces repeatable flight evidence and a customer-ready system that can be financed, approved, supported, and improved.

Sources and Technical References

- [1] Federal Aviation Administration, Certification for Advanced Operations: Criteria for Special Classes. Describes the special-class path under 14 CFR 21.17(b) and the FAA durability-and-reliability process for certain UAS.
- [2] Federal Aviation Administration, Special Authority for Certain Unmanned Aircraft Systems, Section 44807, updated June 10, 2026. States that Part 107 applies only below 55 pounds and describes the exemption path for aircraft outside that scope.
- [3] Federal Aviation Administration, Package Delivery by Drone (Part 135). States that drone operators conducting small-package delivery use the existing Part 135 certification process with necessary exemptions or waivers.
- [4] Federal Aviation Administration, Beyond Visual Line of Sight proposed rule and fact sheet, August 2025; FAA Drone Integration Concept of Operations, May 2025. Proposed Part 108 remains a proposed framework as of this review.
- [5] ASTM International, Committee F38 on Unmanned Aircraft Systems. The committee develops standards and guidance addressing UAS design, performance, quality acceptance, operations, maintenance, and safety monitoring.
- [6] RTCA, DO-178C, Software Considerations in Airborne Systems and Equipment Certification.
- [7] RTCA, DO-254, Design Assurance Guidance for Airborne Electronic Hardware.
- [8] RTCA, DO-160, Environmental Conditions and Test Procedures for Airborne Equipment.
- [9] RTCA, Airworthiness Security standards and training materials concerning DO-326A, DO-355, and DO-356A.
- [10] Phoenix Unmanned concept aircraft, founder technical history, Scorpion XL materials, investor deck, medical logistics white papers, and prior design-review discussions.

The standards listed above may not all apply in full to every Phoenix configuration. Applicability, means of compliance, design-assurance levels, test categories, and certification evidence must be agreed with qualified advisors and the FAA. Technical ranges in this section are internal planning assumptions until verified by analysis, supplier data, ground tests, flight tests, and formal approvals.



BUSINESS PLAN

2026-2030 Strategic and Operating Plan

SECTION 4

Business Model, Pricing, and Go-to-Market Strategy

Sell measurable route value - then earn recurring revenue by keeping the mission dependable.

Prepared for strategic, investor, partner, and management review

Prepared by Phoenix Unmanned

Founder & CEO: Steve Dixon

July 2026 | Review Draft

Section Purpose

Section 4 defines how Phoenix Unmanned will convert its aircraft and route capability into revenue. It establishes the recommended commercialization model, planning price bands, route economics, sales process, customer-acquisition funnel, partnership strategy, contract structure, launch sequence, and commercial milestones. All prices in this section are internal planning assumptions for customer discovery and financial modeling. They are not published prices, customer quotes, or commitments.

Commercial Executive Summary

Phoenix should enter the market as a critical-logistics platform company rather than as a stand-alone aircraft seller. The preferred early model combines paid route studies, paid pilots, aircraft sale or lease, modular payload systems, maintenance, software, training, regulatory documentation, and multi-year support. For customers that prefer an outcome instead of equipment ownership, Phoenix should also offer route-as-a-service through an appropriately certificated operating structure or operating partner.

The Company should avoid free demonstrations, speculative manufacturing, and one-time hardware transactions that do not create recurring support or operating data. Every pilot must have an executive sponsor, a funded scope, customer baseline data, acceptance criteria, regulatory feasibility, and a defined conversion path.

Commercial Planning Conclusions

- Lead with a paid route-feasibility engagement before committing aircraft, regulatory, or engineering resources.
- Use a two-track model: Phoenix as aircraft/platform provider and Phoenix or a qualified partner as the route operator.
- Offer sale, lease, and managed-service structures so customers can choose capital or operating budgets.
- Price against measurable route value and service-level commitments, not merely aircraft cost or flight distance.
- Require minimum annual commitments for managed routes to protect aircraft utilization, staffing, maintenance, and regulatory investment.
- Make software, maintenance, payload modules, training, and compliance support recurring parts of the customer relationship.
- Concentrate the first 24 months on a small number of design partners and one flagship health-system program.
- Treat pilot conversion, route gross margin, dispatch reliability, and recurring revenue as the primary commercial proof points.

Recommended Commercialization Structure

Commercial track	Structure	Strategic value	Primary condition
Track A - OEM and platform provider	Phoenix sells or leases aircraft, payload modules, software, training, and support to an approved operator or institutional customer.	Creates hardware and recurring-support revenue without requiring Phoenix to operate every route.	Customer or partner must hold the required operating authority and operational capability.
Track B - Managed route service	Phoenix provides an outcome-based service under its own future authority or through a qualified Part 135 operating partner.	Reduces customer aviation burden and creates higher recurring revenue per route.	Requires operating approvals, insurance, field support, service reliability, and working capital.
Track C - Joint program	Phoenix, a health system, and an aviation/logistics partner share aircraft, route, site, and operating responsibilities under a negotiated program.	Accelerates pilots and allows each party to contribute specialized capability.	Requires clear authority, data ownership, liability, customer ownership, and conversion terms.

Recommended Early-Stage Position

During the seed stage, Phoenix should operate as an OEM, system integrator, and pilot-program lead while partnering for any commercial operating authority it does not yet hold. The Company can evaluate forming or acquiring its own operating capability after the aircraft, customer demand, safety case, and capital position justify that step. Current FAA guidance states that Part 135 is the existing pathway for compensated BVLOS carriage of another party's property. [1][2]

Revenue Architecture

Revenue stream	Customer deliverable	Revenue character
Route feasibility and program design	Customer route analysis, payload definition, site review, operating concept, regulatory screen, economic case, and pilot plan.	Professional-services revenue; first paid step in the sales process.
Paid pilot program	Aircraft availability, engineering support, payload validation, site integration, test operations, data, reporting, and conversion package.	Milestone-based project revenue with a defined decision at completion.
Aircraft sale	P1 aircraft, standard ground equipment, baseline software, documentation, and acceptance testing.	One-time product revenue with warranty and recurring support attached.
Aircraft lease	Fixed-term aircraft access with defined utilization, maintenance responsibility, residual value, and return conditions.	Recurring asset revenue; may require third-party financing or a special-purpose fleet vehicle.
Managed route service	End-to-end route availability, aircraft, operations, maintenance, software, dispatch, reporting, and service levels.	Annual minimum commitment plus variable mission or utilization charges.
Payload and site modules	Medical, laboratory, pharmaceutical, general-cargo modules, site equipment, charging or fueling equipment, handling systems, and spares.	Product revenue and replacement/upgrade revenue.

Revenue stream	Customer deliverable	Revenue character
Fleet software and data services	Mission planning, supervision, fleet status, maintenance, reliability analytics, customer tracking, custody records, and reporting.	Subscription revenue per aircraft, route, or customer organization.
Maintenance and support	Scheduled maintenance, parts, repairs, technical support, field service, software support, reliability review, and continuing-airworthiness documentation.	Annual support plan, usage-based program, or power-by-the-hour equivalent.
Training and compliance services	Operator, maintenance, dispatch, payload, emergency, customer-workflow, and recurrent training; documentation and audit support.	Initial and recurring professional-services revenue.
Engineering and mission integration	Customer-specific payload, interface, route, site, communications, or government-mission integration.	Nonrecurring engineering revenue with IP and change-control terms.

Revenue-Mix Objective

Phoenix should use hardware to establish the installed base and services to deepen the customer relationship. The long-term objective is for recurring software, maintenance, route service, training, and support revenue to represent more than half of annual revenue after the installed base matures. This is a management target, not a current forecast.

Initial Pricing Framework

Comparable enterprise pricing is rarely published because route scope, regulatory responsibility, aircraft configuration, service level, site infrastructure, and support differ materially. The planning bands below are designed to test customer willingness to pay and build the financial model. They must be revised after supplier quotations, aircraft cost estimates, insurance, operating-partner terms, customer interviews, and pilot data are available.

Offering	Planning price band	Commercial unit	Included scope
Route opportunity assessment	\$25,000-\$75,000	4-10 weeks	Baseline data, route score, site and airspace screen, payload analysis, preliminary economics, and recommended next step
Detailed pilot design	\$50,000-\$150,000	6-12 weeks	Concept of operations, site plan, payload validation plan, safety/regulatory work package, contract scope, and pilot budget
Paid pilot program	\$200,000-\$500,000	3-9 months	Aircraft and team availability, testing, site/customer integration, progressive missions, data, reporting, and conversion decision
P1 aircraft sale	\$850,000-\$1,500,000	Per aircraft	Aircraft, baseline ground equipment, standard software, documentation, acceptance, and limited initial training
P1 aircraft lease	\$30,000-\$65,000 per month	36-60 months	Aircraft access; scope depends on maintenance, insurance, residual value, utilization, and financing
Managed route service	\$350,000-\$900,000 per year	Per route or dedicated aircraft	Annual availability commitment; variable charges may apply above included missions or operating hours

Offering	Planning price band	Commercial unit	Included scope
Incremental completed mission	\$175-\$450	Above contracted allowance	Variable charge based on payload, distance, service level, operating complexity, and partner/operator cost
Payload module	\$40,000-\$175,000	Per module	General cargo, temperature controlled, secure, equipment, or customer-specific payload system
Fleet software and data	\$3,000-\$12,000 per aircraft/month	Subscription	Mission, fleet, maintenance, custody, customer visibility, and reporting functions
Annual maintenance/support plan	8%-12% of aircraft price	Annual	Technical support, scheduled support, software support, reliability review, publications, and defined parts/labor
Training and site activation	\$20,000-\$100,000	Per site/program	Initial operator, maintenance, dispatch, payload, emergency, customer, and recurrent training
Custom engineering	\$225-\$350 per hour or fixed scope	As required	Customer-specific engineering, integration, analysis, documentation, and program management

Pricing Rules

1

Paid discovery

Phoenix does not commit detailed engineering, route analysis, or regulatory resources without a funded engagement or approved strategic exception.

2

Value-based ceiling

Price should remain below the customer's measurable and perceived route value, including speed, resilience, labor, inventory, access, and avoided alternatives.

3

Cost-based floor

Price must cover fully burdened aircraft, operations, maintenance, insurance, regulatory, partner, site, customer-support, and capital costs at the target margin.

4

Minimum commitment

Managed routes require an annual minimum so Phoenix is compensated for dedicated aircraft, readiness, staffing, maintenance, and operating approvals.

5

Indexed adjustments

Multi-year contracts should allow inflation, insurance, energy, labor, regulatory, and extraordinary supplier-cost adjustments within agreed rules.

6

Scope control

Payload, site, service level, operating window, weather limit, included missions, response time, and reporting determine price and must be controlled in the contract.

7

Pilot credit

A portion of paid-pilot fees may be credited toward a multi-year deployment only when the customer signs within a defined period.

8

No hidden subsidy

Strategic discounts must identify the expected return: data rights, public case study, multi-route option, purchase commitment, partner contribution, or accelerated payment.

Route-Level Unit Economics

The commercial unit is the qualified route or route network, not the individual flight. Phoenix should estimate annual contract value, completed missions, direct operating cost, aircraft allocation, support burden, and gross margin before approving a pilot or deployment.

Illustrative Managed-Route Model

The example below uses the six-mission-per-day route introduced in Section 2. It is a modeling example, not a quote, forecast, or demonstrated operating result.

Model input	Illustrative amount	Planning note
Scheduled operating days	300	Customer calendar
Average completed missions per day	6	1,800 annual missions
Annual route contract	\$495,000	Equivalent to \$275 per completed mission before additional charges
Aircraft and capital allocation	\$75,000	Depreciation, lease, or capital reserve assumption
Field operations and supervision	\$90,000	Personnel and operating-partner allocation
Maintenance, parts, and spares	\$60,000	Scheduled and corrective maintenance assumption
Insurance, communications, sites, and permits	\$45,000	Route-specific annual allocation
Energy, payload supplies, and mission consumables	\$15,000	Battery/fuel/charging and consumable assumption
Customer support, data, and administration	\$12,000	Dispatch integration, reporting, billing, and account support
Illustrative direct annual cost	\$297,000	Sum of modeled direct route costs
Illustrative gross profit	\$198,000	40% route gross margin

Route Approval Thresholds

- Mature managed-route gross-margin target: 40%-55%, after direct operating and aircraft-allocation costs.

- Pilot pricing should cover incremental program cost and create a funded conversion decision; early pilots may not achieve mature margin.
- No production route should be approved without a path to positive contribution margin and sufficient reserve for irregular maintenance and mission cancellations.
- A route should support the required aircraft, spares, staffing, weather downtime, maintenance downtime, and customer service level without assuming perfect utilization.
- Route expansion should favor density: additional routes sharing sites, staff, maintenance, communications, or customer systems should improve network economics.

Product and Revenue Margin Targets

Revenue category	Planning target	Interpretation
Aircraft and payload hardware	30%-40%	Mature production target after supplier and manufacturing stabilization
Maintenance and technical support	35%-50%	Depends on included parts, field labor, warranty, and fleet scale
Managed route service	40%-55%	After direct route operations, aircraft allocation, maintenance, insurance, and partner cost
Software and data subscriptions	70%-85%	After hosting, communications, support, cybersecurity, and product-development allocation
Training and professional services	35%-55%	Depends on travel, specialist labor, documentation, and subcontractors
Blended company gross margin	45%+ long-term objective	Requires recurring revenue and manufacturing discipline

Commercial Metrics That Feed Section 8

- Average selling price and gross margin by aircraft and payload module.
- Average annual contract value by route, customer, and service model.
- Completed missions, mission revenue, and direct cost per completed mission.
- Aircraft utilization, availability, maintenance hours, and fleet support cost.
- Pilot cost, pilot revenue, pilot conversion rate, and time from pilot to recurring contract.
- Annual recurring revenue, recurring-revenue share, customer concentration, renewal, and expansion.
- Sales-cycle length, customer-acquisition cost, payback period, and cash collection timing.
- Deferred revenue, milestone billing, warranty reserve, lease-fleet capital, and working-capital requirements.

Go-to-Market Strategy

Phoenix's go-to-market strategy is direct, focused, and evidence-led. The Company will target a small number of institutional accounts, identify qualified routes, complete paid feasibility work, execute paid pilots, and convert successful pilots into recurring route or fleet agreements. Mass consumer marketing is not appropriate for the first product.

Phase	Window	Commercial action	Exit evidence
Phase 1 - Design partners	0-6 months	Select 5-10 high-value organizations; complete executive and operational discovery; secure data-sharing and paid route assessments.	Qualified route pipeline and written customer interest
Phase 2 - Paid feasibility and pilot contracts	3-12 months	Complete route, site, payload, regulatory, value, and program design; negotiate pilot and conversion terms.	Funded pilot backlog
Phase 3 - Demonstration and pilot execution	12-24 months	Run progressive technical and operational validation with customer stakeholders and required approvals.	Safety, service, payload, and economic evidence
Phase 4 - Route conversion	18-30 months	Convert pilot into multi-year route service, lease, or aircraft purchase with software and support.	Recurring revenue and first installed base
Phase 5 - Health-system expansion	24-42 months	Add routes, sites, payloads, and aircraft within the same system or regional network.	Lower acquisition cost and network density
Phase 6 - Adjacent markets	36-60 months	Enter rural networks, disaster response, emergency management, and selected defense/austere programs after the core platform matures.	Diversified revenue without diluting launch execution

Ideal Design-Partner Profile

- Multi-hospital or multi-facility network with recurring time-sensitive movements.
- Executive sponsor with budget authority and willingness to participate in a structured development program.
- Operational owner able to provide route, payload, cost, service, and exception data.
- Facilities and routes capable of supporting a practical launch, recovery, communications, and regulatory concept.
- A measurable problem whose value exceeds the likely cost of the service.
- Willingness to fund feasibility and pilot work and to define conversion criteria before the pilot begins.
- Ability to approve a public or private case study, data rights, or expansion option that creates strategic value for Phoenix.

Founder-Led Enterprise Sales

Steve Dixon should lead the first strategic accounts because the early sale is a mission, aircraft, and operating-development partnership rather than a standardized product transaction. A commercial lead should build account discipline, follow-up, proposals, customer mapping, and pipeline reporting around the founder. Technical, regulatory, operations, and customer-integration leaders enter the process only after the account and route pass defined qualification gates.

Customer-Acquisition Funnel: First 24 Months

Funnel stage	24-month target	Qualification standard
Named target organizations	100	Health systems, laboratories, blood organizations, rural networks, and selected emergency-logistics organizations
Executive or operational discovery meetings	40	Structured interviews with route and buying-role data
Qualified customer opportunities	15	At least one route above the qualification threshold with sponsor and budget path
Paid feasibility engagements	6	Customer funds route, site, payload, regulatory, and economic design
Paid pilots or contract-backed demonstrations	3	Formal scope, milestones, data, liability, and conversion criteria
Recurring route or fleet conversions	1-2	Multi-year contract, aircraft lease/sale, or managed route agreement
Expansion pipeline	3-8 additional routes	Options or opportunities within converted customer networks

Enterprise Sales Process

1

Account selection

Identify organizations with route density, executive access, strategic fit, regulatory feasibility, and funding potential.

2

Discovery and data request

Collect customer objectives, routes, payloads, frequency, baseline time, cost, failures, sites, buying roles, procurement process, and budget timing.

3

Opportunity qualification

Apply route score, technical fit, regulatory screen, business-value screen, and customer-readiness score.

4

Paid feasibility proposal

Offer a limited fixed-scope engagement that produces the route and pilot decision package.

5

Executive business case

Present measurable value, operating concept, risk, pricing options, implementation path, and decision required.

6

Pilot contracting

Execute master terms, statement of work, milestones, payment, data, site, payload, insurance, regulatory contingency, and conversion criteria.

7

Pilot execution

Deliver progressive evidence and formal customer reviews rather than a single demonstration event.

8

Conversion proposal

Offer sale, lease, route service, or network agreement with service levels, implementation, and expansion options.

9

Implementation and customer success

Activate sites, train personnel, establish support, review performance, resolve exceptions, and pursue route expansion.

10

Renewal and network growth

Use performance data to renew, add aircraft, add routes, add payloads, and expand across the customer organization.

Opportunity Qualification Gates

Qualification gate	Evidence required
Gate 1 - Strategic fit	Customer segment, mission, geography, executive access, and Phoenix product direction align.
Gate 2 - Route fit	Payload, distance, sites, frequency, airspace, weather, and service value pass initial screening.
Gate 3 - Sponsor and budget	Named executive and operational owners support a paid next step with an identified budget path.
Gate 4 - Regulatory and technical feasibility	Qualified advisors and engineering identify a realistic test and operating pathway.
Gate 5 - Commercial viability	Pricing can support customer value and a credible path to target margin.
Gate 6 - Conversion path	Pilot agreement defines the decision, evidence, timing, and commercial structure required for deployment.

Commercial Proposal Structure

- Customer problem and baseline data.
- Route and payload scope.
- Proposed operating and regulatory concept.
- Technical assumptions and exclusions.
- Program phases and decision gates.

- Customer and Phoenix responsibilities.
- Price, payment schedule, and change control.
- Safety, payload, data, insurance, confidentiality, and intellectual-property terms.
- Acceptance criteria, reporting, and service-level measures.
- Deployment or conversion option with expiration date.

Contract Architecture

Agreement	Commercial purpose
Mutual nondisclosure agreement	Protect route, aircraft, technical, financial, patient-independent operational, and customer information during discovery.
Paid feasibility agreement	Fixed scope, data requirements, deliverables, price, schedule, assumptions, permitted reliance, and ownership.
Master services agreement	Core legal relationship: confidentiality, IP, data, warranties, liability, insurance, compliance, disputes, and termination.
Pilot statement of work	Aircraft, sites, payload, personnel, tests, approvals, milestones, payment, acceptance, data rights, and conversion criteria.
Site license or access agreement	Property access, infrastructure, security, power, communications, operating hours, environmental and community requirements.
Payload handling agreement	Packaging, dangerous goods, custody, temperature, loading, acceptance, rejection, and customer responsibilities.
Service-level agreement	Availability, dispatch, response, completion, reporting, exceptions, credits, maintenance, and planned downtime.
Aircraft sale or lease agreement	Title, acceptance, payment, delivery, warranty, maintenance, utilization, modifications, return, and residual conditions.
Operating-partner agreement	Authority, operational control, crews, maintenance, manuals, data, insurance, customer relationship, economics, and incident management.
Data-processing and cybersecurity terms	System access, customer data, retention, privacy, security controls, audit, breach response, and subcontractors.

Commercial Risk Allocation

- Regulatory approval is a condition to operations; contracts must define what happens if approval is delayed, conditioned, or denied.
- Customer is responsible for lawful cargo, accurate payload information, approved packaging, trained handling, and site obligations unless Phoenix expressly assumes them.
- Phoenix is responsible for the aircraft/platform scope it controls, subject to agreed warranties, operating limitations, maintenance responsibilities, and exclusions.
- Operating control, flight release, maintenance release, and incident authority must be assigned explicitly when a partner is involved.

- Service credits should apply to controllable failures, not customer-caused delays, prohibited cargo, unavailable sites, or weather/airspace outside the contracted envelope.
- No agreement should promise medical outcomes; the service promise concerns transportation performance and payload-condition requirements.

Channel and Partnership Strategy

Phoenix should own the customer problem, product roadmap, technical integration, and commercial relationship whenever practical. Partners should accelerate regulatory authority, field operations, financing, infrastructure, payload validation, or market access without obscuring accountability.

Partner category	Partner contribution	Phoenix purpose
Part 135 or qualified operating partner	Commercial operating authority, manuals, operational control, crews, and regulatory experience	Pilot and early route operations while Phoenix evaluates its long-term operator strategy
Health-system design partner	Route data, clinical/operational acceptance, sites, executive sponsorship, and conversion opportunity	Launch-customer evidence and repeatable healthcare workflow
Blood, laboratory, pharmacy, and packaging partner	Payload standards, packaging, condition control, customer access, and domain credibility	Validate mission modules and reach specialized buyers
Aircraft finance or leasing partner	Fleet capital, residual-value structure, and customer lease products	Allow customers to use operating budgets and protect Phoenix cash
Communications, weather, and airspace providers	Route data, connectivity, situational awareness, and operational services	Improve availability and reduce internal infrastructure burden
Manufacturing and component suppliers	Production capability, quality, cost, lead time, and technical support	Accelerate development and low-rate production
Hospital, rural-health, emergency-management associations	Market education, member access, policy dialogue, and credibility	Efficient account development and use-case discovery
Insurance and risk partners	Aviation, product, cargo, cyber, professional, and site risk expertise	Improve contractability and risk discipline
Universities and test sites	Flight-test infrastructure, research, talent, and controlled operating environments	Development and validation support

Partner Selection Rules

- The partner must shorten time, reduce risk, improve economics, or add capability Phoenix cannot responsibly build at the same stage.
- Customer ownership, operational authority, technical authority, IP, data, public communications, and economics must be explicit.
- Phoenix should avoid exclusive arrangements that block priority customers or product markets unless the partner provides substantial capital or guaranteed business.
- Partner performance must be measured through service levels, audit rights, safety reporting, change notification, and termination/transition rights.
- No partner should be presented publicly as committed until a signed agreement permits the claim.

Marketing and Market Development

Phoenix's early marketing objective is credibility, not mass awareness. Content and events should help qualified buyers understand the route problem, the operating model, the aircraft's intended differentiation, and the evidence required to deploy safely.

1

Executive thought leadership

Founder articles, interviews, and presentations focused on critical logistics, service, aircraft execution, and institutional value.

2

Technical and use-case papers

Medical logistics, rural access, disaster response, payload integrity, route economics, regulatory development, and safety discipline.

3

Customer workshops

Private route-mapping sessions with health systems, labs, blood centers, pharmacy, emergency management, and logistics teams.

4

Demonstration program

Controlled technical demonstrations tied to a qualified account, data plan, safety objective, and paid conversion path.

5

Industry events

Hospital supply chain, laboratory, transfusion, rural health, emergency management, logistics, aerospace, and UAS conferences selected for target-buyer density.

6

Case studies

Approved evidence showing baseline, route, customer workflow, delivery time, payload condition, reliability, economics, and lessons learned.

7

Digital account marketing

Targeted outreach, website landing pages, email sequences, account research, and customer-specific content rather than broad consumer advertising.

8

Policy and community engagement

Transparent education about noise, safety, privacy, routes, environmental review, emergency procedures, and local value.

Brand Promise

Phoenix should promise disciplined mission performance, not science-fiction autonomy. Every public statement must distinguish demonstrated capability, validated pilot performance, production target, and long-term vision.

Customer Success and Expansion

The first sale is incomplete until the customer can receive dependable missions, understand exceptions, trust the data, maintain organizational support, and expand the program. Customer success should be an operating function with executive, technical, operations, and commercial accountability.

Review rhythm	Required discussion
Daily / mission level	Dispatch, mission status, payload condition, exceptions, recovery, customer notification, and issue ticket.
Weekly	Missions, on-time performance, cancellations, aircraft availability, maintenance, payload acceptance, and customer issues.
Monthly	Service-level review, route economics, reliability trends, support cases, forecast, risks, and expansion actions.
Quarterly	Executive value review, contract performance, safety and quality, roadmap, additional routes, modules, and renewal status.
Annual	Renewal, pricing adjustment, fleet plan, site and route expansion, training, insurance, and strategic program review.

Commercial KPI Dashboard

Metric	Definition	Planning objective
Pipeline coverage	Qualified pipeline value divided by next-12-month bookings target	3x or greater planning objective
Paid feasibility conversion	Qualified opportunities converting to funded route studies	40%+ planning objective
Pilot conversion	Paid pilots converting to recurring route, lease, or aircraft contract	50%+ after product readiness
Sales cycle	First qualified meeting to signed paid engagement and to recurring contract	Track by customer segment and deal type
Average pilot value	Recognized paid-pilot contract value	\$200,000-\$500,000 planning band
Average annual route value	Recurring contract value per managed route	\$350,000-\$900,000 planning band
Recurring revenue share	Software, support, maintenance, lease, and route service as a percentage of revenue	>50% long-term objective
Route gross margin	Route revenue less direct route and aircraft allocation cost	40%-55% mature target

Metric	Definition	Planning objective
Customer concentration	Revenue from largest customer and top five customers	Reduce as installed base grows
Net revenue retention	Renewal plus expansion less contraction and churn	>110% long-term objective
Cash collection	Days from milestone or invoice to cash	Contract deposits and milestone billing preferred
Backlog quality	Signed, funded, cancellable, regulatory-dependent, and conversion components	Report separately; do not treat interest as revenue

Commercial Risk Register

Commercial risk	Rating	Potential effect	Primary mitigation
Customers prefer pilots but delay deployment	High	Engineering and support resources consumed without recurring revenue	Paid pilots, executive sponsor, budget path, conversion criteria, expiration, and minimum deployment option
Pricing below true operating cost	High	Negative route margin and cash drain	Fully burdened cost model, partner quotes, minimum commitments, change orders, and quarterly route review
Regulatory timing delays revenue	High	Pilot or route start moves beyond plan	Stage-gated contracts, partner pathway, deposits, alternative test scope, schedule contingency, and no unsupported launch promises
Aircraft cost exceeds price band	High	Low hardware margin or unaffordable customer offer	Design-to-cost, supplier competition, leasing, modular scope, and price updates before binding proposals
Long institutional sales cycles	High	Cash pressure and uncertain bookings	Paid feasibility revenue, account focus, milestone billing, partner channels, and sufficient capital runway
Customer concentration	Medium	Single account controls revenue and roadmap	Multiple design partners, contract minimums, expansion balanced with new accounts, and no uncontrolled exclusivity
Operating-partner dependence	Medium	Margin, schedule, or customer experience controlled by third party	Multiple partner options, service levels, audit, data access, transition rights, and long-term operator strategy
Unpaid demonstrations and custom work	High	Distraction and unrecovered cost	Formal exception approval, defined strategic return, fixed scope, and no open-ended engineering
Public overstatement	Medium	Loss of trust, regulatory concern, or investor diligence issue	Claims review, evidence labels, approval for partnerships and performance statements
Procurement or budget cancellation	Medium	Delayed or lost contract	Deposits, milestone billing, multiyear planning, budget mapping, and diversified customer pipeline

Twenty-Four-Month Commercial Roadmap

Window	Commercial focus	Required outputs
0-3 months	Commercial foundation	Finalize pricing calculator, proposal templates, qualification gates, target-account list, customer-data request, CRM, contract templates, and partner map
3-6 months	Design-partner recruitment	Complete executive discovery, secure paid route assessments, obtain letters of interest, and prioritize flagship customer
6-12 months	Pilot contracting	Complete route studies, site and regulatory diligence, value cases, pilot statements of work, and operating-partner agreements
12-18 months	Pilot execution	Deliver technical and workflow evidence, monthly executive reviews, public/private case-study plan, and conversion proposal
18-24 months	First recurring contracts	Convert one or more routes, establish customer success, activate software/support revenue, and build expansion pipeline
24+ months	Network replication	Expand within the first health system, add a second launch region, standardize implementation, and introduce leasing/financing partners

Commercial Team and Ownership

Commercial function	Primary accountability
Founder & CEO	Strategic accounts, mission narrative, customer executive relationships, major pricing and partner decisions, and closing early programs
Business development lead	Target accounts, CRM, outreach, meetings, proposals, pipeline, follow-up, partners, events, and commercial reporting
Customer-program lead	Discovery, route data, pilot scope, implementation, customer communication, milestones, and conversion
Finance / commercial operations	Pricing calculator, margins, proposals, billing, collections, lease models, forecasts, contracts, and commercial controls
Regulatory and legal	Operating pathway, contract risk, customer compliance, claims review, approvals, and partner authority
Engineering and flight operations	Technical qualification, estimates, aircraft availability, site/payload integration, pilot execution, and service evidence
Customer success	Activation, performance reviews, issues, value reporting, renewal, expansion, and references

Decisions Required Before Section 4 Is Final

- Approve the preferred early commercialization model: OEM/platform, managed service, or formal dual-track structure.
- Select the first two launch geographies and the target-account list.
- Confirm the initial price bands and the discount authority retained by the founder and board.

- Approve the treatment of pilot fees, including any credit toward a later deployment.
- Select the initial operating-partner strategy and determine whether Phoenix will pursue its own Part 135 capability.
- Confirm the intended aircraft ownership model for managed routes and identify potential fleet-financing partners.
- Define standard warranty, support, maintenance, software, and training packages.
- Approve customer and partner contract templates with aviation counsel.
- Define sales compensation, partner referral compensation, and rules for revenue recognition and backlog reporting.
- Confirm the minimum gross-margin and cash-collection requirements for accepting a customer program.

Section 4 Management Position

Phoenix Unmanned should not sell flights, aircraft, or promises in isolation. It should sell a measurable logistics outcome supported by a controlled aircraft platform, approved operating structure, payload integrity, service data, maintenance, and customer accountability. The strongest commercial model is one in which each route produces evidence, recurring revenue, customer expansion, and reusable product knowledge.

Sources and Commercial Planning Notes

- [1] Federal Aviation Administration, Package Delivery by Drone (Part 135), updated April 30, 2026. States that operators conducting small-package drone delivery use the existing Part 135 certification process and obtain necessary exemptions or waivers.
- [2] Federal Aviation Administration, Unmanned Aircraft System or Drone Operations - Dangerous Goods. States that Part 135 is the current regulatory path for UAS carrying another party's property for compensation beyond visual line of sight.
- [3] Wing, company and partnership materials. Wing's current U.S. strategy uses merchant, retail, and delivery-platform partnerships to scale lightweight autonomous delivery networks.
- [4] Zipline, company materials describing instant delivery for food, groceries, and medicine and a large healthcare delivery footprint.
- [5] UPS Healthcare and UPS Flight Forward materials describing healthcare logistics programs involving medical products, laboratory samples, and cold-chain payloads.
- [6] Phoenix Unmanned Business Plan Sections 1-3, investor deck, medical-logistics white papers, founder materials, and route-level planning assumptions.

Competitors and logistics providers generally do not publish directly comparable enterprise route prices. Phoenix's price and margin bands are management assumptions created for customer discovery, proposal design, and Section 8 financial modeling. They require validation through customer willingness-to-pay interviews, supplier quotations, operator-partner terms, insurance estimates, aircraft cost modeling, and pilot results.



BUSINESS PLAN

2026-2030 Strategic and Operating Plan

SECTION 5

Operations, Manufacturing, Safety, and Regulatory Strategy

Build it under control. Operate it with discipline. Improve it with evidence.

Prepared for strategic, investor, partner, and management review

Prepared by Phoenix Unmanned

Founder & CEO: Steve Dixon

July 2026 | Review Draft

Section Purpose

Section 5 defines how Phoenix Unmanned will build aircraft consistently, operate routes safely, maintain the fleet, manage suppliers and facilities, control quality, respond to incidents, and execute the regulatory pathway. The operating system described here begins during prototype development and grows into low-rate production and commercial service. It is intentionally more disciplined than a demonstration program because Phoenix's customers will depend on the aircraft for critical logistics.

Operating Executive Summary

Phoenix should use a centralized operating and safety system with controlled local execution. Aircraft configuration, mission release, maintenance status, operator qualification, route limits, payload acceptance, and incident response should be governed through common manuals and digital records. Early commercial routes should be concentrated geographically so the Company can support aircraft, personnel, sites, spares, and customers without spreading the organization too thin.

Manufacturing should begin as controlled prototype and low-rate assembly. Phoenix should retain system architecture, final assembly, software loading, configuration control, acceptance testing, and airworthiness records while using qualified suppliers for mature components and specialized fabrication. The quality system should be designed to grow toward the requirements of 14 CFR Part 21 and any applicable production approval, rather than being rebuilt after the product reaches customers.

Operating Conclusions

- One accountable operating system must connect aircraft design, production, maintenance, flight operations, payload handling, customer service, and safety.
- Safety Management System practices should begin before Phoenix is legally required to implement a formal Part 5 SMS.
- Early routes should operate under conservative limits and controlled growth; commercial deadlines do not override technical or safety release authority.
- Phoenix should not build production inventory before the design baseline, supplier capability, customer demand, and regulatory pathway are sufficiently stable.
- Every aircraft, software load, critical component, maintenance action, payload module, and mission must be traceable to an approved configuration.
- Maintenance and reliability data should feed design changes, supplier corrective action, route availability, pricing, and customer commitments.
- The Part 135, Section 44807, type/production/airworthiness, environmental, hazardous-materials, and future BVLOS pathways must be managed as one integrated regulatory program.
- Community engagement, noise, privacy, site security, emergency response, and environmental review are operating requirements rather than public-relations afterthoughts.

Operating Model

Operating layer	Primary accountability
Corporate operations and	Policy, manuals, regulatory authority, SMS, operating control, quality, training, records,

Operating layer	Primary accountability
safety	incident management, and performance review.
Network operations center	Mission planning, release support, weather and airspace monitoring, aircraft and route status, communications, alerts, customer coordination, and escalation.
Field operations	Site readiness, payload acceptance, launch/recovery checks, aircraft servicing, local security, customer handoffs, and first-line maintenance.
Maintenance control	Airworthiness status, scheduled work, discrepancies, deferred items if authorized, parts, tooling, records, reliability, and return to service.
Manufacturing and configuration	Approved design data, supplier control, work instructions, assembly, inspections, software loading, acceptance, serialized records, and nonconformance control.
Customer program management	Contract scope, route performance, payload requirements, service reviews, site changes, customer training, and expansion.
Regulatory and compliance	Applications, exemptions, certifications, operations specifications, environmental review, dangerous goods, records, audits, and continuing compliance.

Operating-Control Principle

For every mission, Phoenix or its operating partner must be able to identify who has operating control, who may release or cancel the mission, who controls maintenance status, who accepts the payload, who supervises the aircraft, and who leads the response to an abnormal event. These responsibilities must be explicit in manuals, contracts, training, and the live operating system.

Route Activation Process

1

Business and route approval

Confirm customer contract, route value, program funding, aircraft capacity, support burden, and strategic fit.

2

Technical and site survey

Document origin, destination, obstacles, airspace, population exposure, weather, communications, access, security, power, maintenance, and emergency response.

3

Payload qualification

Approve cargo category, packaging, weight, dimensions, temperature, shock, custody, dangerous-goods status, loading, receiving, and rejection procedures.

4

Regulatory and environmental approval

Complete the applicable exemption, certificate, operations specification, airspace, environmental, local, property, and community requirements.

5

Operating concept and risk assessment

Define route, altitudes, sites, crew, automation, communications, weather, alternates, lost-link, contingency, maintenance, and customer responsibilities.

6

Infrastructure activation

Install and inspect landing/launch area, barriers, signage, power, communications, weather equipment, storage, handling, fire response, and security.

7

Training and readiness

Qualify operators, maintenance personnel, dispatch, customer handlers, emergency contacts, and supervisors; complete exercises and readiness reviews.

8

Progressive validation

Run ground, payload, communications, site, nonrevenue, limited-route, and service-level demonstrations before routine operations.

9

Operational authorization

Approve the route baseline, limitations, manuals, aircraft list, personnel, maintenance, payloads, customer procedures, and go-live decision.

10

Post-launch assurance

Review daily and weekly performance, defects, cancellations, customer issues, safety reports, and any requirement

to reduce or suspend operations.

Day-of-Operation Mission Flow

Mission stage	Controlled activity
Demand and dispatch	Authorized customer request or schedule enters the dispatch system with payload, service level, origin, destination, and requested time.
Payload acceptance	Qualified personnel verify cargo, packaging, labels, weight, dimensions, condition, temperature, security, custody, and dangerous-goods status.
Aircraft and route status	System confirms approved aircraft configuration, maintenance release, software, battery/fuel, route, site, weather, airspace, communications, and staffing.
Flight release	Authorized personnel approve the mission or reject it based on controlled criteria.
Loading and custody	Payload is loaded, restrained, sealed where required, recorded, and transferred into aircraft custody.
Mission supervision	Network operations monitors aircraft, route, link, energy, weather, sites, payload data, and alerts; personnel act under approved procedures.
Destination acceptance	Authorized receiving personnel verify identity, seal, condition, temperature, custody, and acceptance or rejection.
Mission closeout	System records completion, duration, condition, discrepancies, maintenance triggers, customer notification, and billing event.
Exception and learning	Any abnormal condition enters the safety, quality, maintenance, or customer corrective-action process.

Mission Release: Minimum No-Go Conditions

- Aircraft, payload module, software, maintenance, or inspection status is not current or cannot be verified.
- Payload is prohibited, misdeclared, damaged, outside limits, improperly packaged, or lacks required custody documentation.
- Weather, airspace, communications, site, energy reserve, or contingency capability is outside the approved envelope.
- Required operating, maintenance, customer, or emergency personnel are unavailable or unqualified.
- A safety alert, open critical discrepancy, regulatory restriction, or site condition affects the mission.
- Commercial or customer pressure is the only reason to proceed after a required control has failed.

Controlled Manuals and Records

Controlled document	Minimum scope
General operations manual	Organization, authority, operating control, dispatch/release, route procedures, weather,

Controlled document	Minimum scope
	communications, contingencies, records, and compliance.
Aircraft flight manual / operating limitations	Approved configuration, limits, normal, abnormal, emergency, performance, weight and balance, and required equipment.
Maintenance and inspection program	Intervals, tasks, methods, tooling, qualifications, life limits, software/configuration, discrepancies, and return to service.
Safety management manual	Safety policy, hazard reporting, risk management, assurance, investigation, promotion, data protection, and governance.
Training manual	Initial, recurrent, differences, checking, records, instructors, qualifications, remediation, and currency.
Dangerous-goods manual and training program	Will-carry or will-not-carry policy, acceptance, recognition, packaging, documentation, storage, emergency, reporting, and training.
Payload-handling manual	Cargo categories, packaging, environment, custody, loading, restraint, cleaning, rejection, and customer responsibilities.
Emergency-response plan	Aircraft event, fire, injury, lost aircraft, hazardous material, cyber event, site incident, notification, recovery, media, and family/customer coordination.
Quality manual	Organization, document control, suppliers, inspection, calibration, nonconformance, corrective action, audits, records, and product acceptance.
Security and cybersecurity plan	Physical access, personnel, aircraft, software, networks, data, keys, credentials, monitoring, incident response, and recovery.

Safety Management System

FAA guidance defines SMS as a formal, top-down, organization-wide approach to managing safety risk and assuring that safety controls remain effective. The FAA describes four SMS components: safety policy, safety risk management, safety assurance, and safety promotion. FAA's 2024 Part 5 changes expanded SMS requirements to certain Part 21 design and production organizations and Part 135 operators. Phoenix should implement a scalable SMS during development so the safety culture, data, and management processes exist before commercial scale. [3][4]

SMS component	Phoenix implementation
Safety policy	Accountable executive, safety objectives, roles and authority, employee reporting protections, emergency response, compliance, resource commitment, and management review.
Safety risk management	Describe systems and changes, identify hazards, analyze and assess risk, select controls, approve residual risk, and verify implementation.
Safety assurance	Collect operational, maintenance, manufacturing, quality, supplier, training, and customer data; investigate events; audit controls; monitor trends; and manage change.
Safety promotion	Competency, communication, lessons learned, leadership visibility, reporting feedback, safety meetings, and training matched to responsibility.

Safety Governance

- The Founder/CEO is the accountable executive and must provide authority, resources, and visible support for the SMS.
- A safety leader has direct access to the accountable executive and may recommend suspension of testing, production, maintenance, or operations.
- Risk acceptance authority increases with risk severity; high or unacceptable residual risk cannot be accepted solely by the project creating the risk.
- Employees and contractors may report hazards without retaliation when reports are made in good faith, while intentional misconduct remains subject to action.
- Safety data are shared with engineering, operations, quality, maintenance, customer programs, and leadership while protecting appropriate confidentiality.
- The board or designated committee receives regular safety, quality, regulatory, and major-risk reporting.

Hazard and Change Management

- New aircraft configuration, software release, propulsion or energy-system change.
- New route, site, customer, payload, dangerous-goods category, or operating partner.
- Expanded weight, range, altitude, speed, weather, population exposure, or operating hours.
- Supplier, manufacturing process, tooling, facility, maintenance interval, or inspection change.
- Organizational change affecting authority, staffing, workload, training, or contractor use.
- Event, trend, audit, regulatory change, customer complaint, or reliability issue showing a control may be ineffective.

Event Classification and Response

Event class	Examples	Required response
Immediate emergency	Injury, fire, uncontrolled aircraft, impact, hazardous-material release, loss of containment, or public danger	Protect life, execute emergency plan, notify authorities, preserve evidence, suspend affected activity, and establish command.
Serious operational event	Loss of control, unexpected landing, major system failure, airspace conflict, significant payload damage, or regulatory deviation	Secure aircraft/data, notify leadership and regulator as required, suspend affected configuration/route, investigate, and approve return.
Maintenance or quality escape	Incorrect part, assembly, software, inspection, documentation, or maintenance action reaches the next process or aircraft	Contain affected products, identify serial numbers, inspect, correct, perform root cause, and determine field action.
Hazard or near miss	Condition could have caused harm but did not	Capture promptly, assess risk, assign controls, communicate, and verify effectiveness.
Service or customer exception	Delay, cancellation, custody, temperature, handling, site, reporting, or support failure	Protect payload, notify customer, record cause, correct service, and determine safety/quality escalation.

Manufacturing Strategy

Phoenix should use a staged manufacturing model. Prototype builds maximize learning and instrumentation. Engineering builds establish controlled drawings and processes. Low-rate initial production proves repeatability and supportability. Volume expansion begins only after design stability, order visibility, supplier readiness, quality performance, and regulatory approval justify the investment.

Manufacturing phase	Planning volume	Operating method	Exit evidence
Prototype build	1-3 aircraft	Engineering-led fabrication and integration; temporary tooling allowed; every deviation documented.	Flight evidence and design learning
Engineering conformity build	1-3 aircraft	Controlled design baseline, released drawings, approved parts, calibrated tools, formal inspections, software and configuration records.	Certification and verification evidence
Low-rate initial production	2-12 aircraft/year planning range	Repeatable work instructions, qualified suppliers, controlled tooling, first articles, acceptance tests, quality audits, and field support.	Customer pilots and early deployments
Scaled low-rate production	12-36 aircraft/year planning range	Dedicated cells, production planning, supplier agreements, inventory controls, trained workforce, quality metrics, and capacity analysis.	Multi-customer installed base
Higher-rate production	Business-case dependent	Facility, automation, second sources, production approval, workforce, capital, and demand required.	Regional or product-family scale

Make-or-Buy Framework

Decision class	Planned treatment
Retain or tightly control	System architecture, safety requirements, interfaces, flight software, final configuration, critical integration, software loading, acceptance test, airworthiness records, and field feedback.
Qualified outsourcing	Composite or metal fabrication, machined parts, harnesses, batteries/fuel cells/generators, motors, propellers, actuators, avionics, radios, environmental containers, and specialized testing.
Strategic partner	Operations under external authority, fleet financing, communications/airspace services, specialized payload qualification, repair capability, and high-rate manufacturing if justified.
Avoid during seed stage	Capital-intensive automated factory, excessive vertical integration, unique components without supply justification, and production inventory not tied to an approved build plan.

Production Flow

1

Build authorization

Approved aircraft serial number, configuration, bill of material, schedule, customer/program allocation, and work order.

2

Procurement and receiving

Approved suppliers, purchase requirements, change notification, certificates, inspection, traceability, and quarantine of nonconforming material.

3

Kitting and material control

Verified parts, shelf life, environmental control, issue records, substitutions, shortages, and controlled storage.

4

Fabrication and subassembly

Released drawings, trained personnel, controlled processes, calibrated tools, in-process inspection, and recorded critical characteristics.

5

System integration

Mechanical, electrical, propulsion, avionics, software, communications, payload, and ground-system integration under work instructions.

6

Inspection and test

Continuity, function, power, controls, communications, propulsion, sensors, software, weight and balance, configuration, and acceptance.

7

Nonconformance disposition

Containment, engineering review, use-as-is/repair/rework/scrap authority, documentation, root cause, and trend monitoring.

8

Configuration audit

Verify as-built hardware, software, documents, serials, life status, inspections, deviations, and approved baseline.

9

Delivery and acceptance

Final records, operating limitations, maintenance status, spares, training, customer acceptance, and controlled release.

10

Field feedback

Reliability, maintenance, customer, safety, quality, and operational data enter design and supplier corrective action.

Quality Management System

FAA states that Part 21 includes type, production, and airworthiness certifications, and that a production-certificate applicant is evaluated through an audit of the organization, facility, quality system, and approved design data. Phoenix's early quality system should therefore be structured to preserve traceability and control now, while scaling toward the final production-approval basis later. [5][6]

Quality-system element	Phoenix control
Document and data control	Approved procedures, drawings, specifications, software, work instructions, forms, distribution, revision, and obsolete-data prevention.
Design transfer	Released product definition, manufacturing requirements, inspection criteria, test limits, tooling, and approved changes.
Supplier control	Qualification, approved supplier list, purchase requirements, first article, source inspection, performance, corrective action, and change notification.
Identification and traceability	Aircraft serials, critical parts, materials, batch/lot, software versions, life status, custody, and as-built configuration.
Process control	Qualified personnel, controlled environment, approved equipment, special processes, workmanship, and recorded acceptance.
Inspection and test	Incoming, in-process, final, software, functional, acceptance, and flight tests with calibrated equipment and objective evidence.
Nonconformance and corrective action	Containment, evaluation, disposition, root cause, corrective/preventive action, effectiveness, and field impact.
Calibration and tooling	Identification, interval, standards, status, out-of-tolerance response, storage, maintenance, and records.
Product release	Authorized acceptance, complete records, configuration audit, limitations, maintenance status, and delivery evidence.
Internal audit and management review	Independent audits, metrics, regulatory findings, supplier performance, resources, risks, and improvement actions.
Continued operational safety	Field reports, reliability, service bulletins, fleet inspections, customer alerts, design changes, and regulator communication.

Supplier and Inventory Management

Supplier tier	Examples	Minimum control
Tier 1 - Flight- and safety-critical	Propulsion, energy, flight computers, navigation, actuators, primary structure, communications, critical software	Formal qualification, technical and quality audit, approved changes, full traceability, lot/serial records, incoming evidence, performance review, alternate-source plan
Tier 2 - Mission-critical	Payload modules, environmental control, ground systems, weather, chargers/fueling, harnesses, landing gear, test equipment	Qualification by capability and testing, controlled requirements, acceptance criteria, change notice, and performance monitoring
Tier 3 - Standard commercial	Fasteners, shop supplies, packaging, office/IT, noncritical hardware	Approved specification, reputable source, counterfeit avoidance, receiving inspection as risk requires
Strategic service supplier	Flight-test site, operator, repair, laboratory, certification, environmental, communications, insurance, and logistics	Scope, qualifications, authority, service levels, data, audit, insurance, continuity, and exit plan

Inventory Policy

- Order long-lead and safety-critical items against an approved build and risk plan, not an optimistic sales forecast.
- Maintain minimum spares for field-replaceable items based on failure rate, lead time, fleet size, route criticality, and repair turnaround.
- Control shelf life, storage temperature, humidity, electrostatic protection, battery condition, fuel-cell or generator materials, and hazardous materials.
- Separate conforming, inspection-pending, customer-owned, engineering-use, scrap, and nonconforming material physically and digitally.
- Review excess and obsolete inventory at least quarterly; design changes require an approved disposition for affected stock.
- Protect against counterfeit or unauthorized parts through approved sources, traceability, inspection, and supplier controls.

Facilities Strategy

Facility function	Minimum capability
Engineering and administration	Systems engineering, software, customer programs, regulatory, quality, supply chain, finance, and secure records.
Prototype and assembly area	Controlled access, receiving, stores, fabrication, composite/metal work as applicable, integration, inspection, software loading, and acceptance testing.
Propulsion and energy test area	Thrust restraint, ventilation, fire protection, battery/fuel-cell/generator safety, instrumentation, emergency shutdown, and exclusion zones.
Aircraft ground-test area	Power-up, communications, controls, navigation, payload, propulsion, tether/restraint where approved, and emergency access.
Flight-test site	Airspace, approvals, range safety, weather, communications, recovery area, emergency

Facility function	Minimum capability
	services, storage, maintenance, and data.
Operations center	Secure mission planning and supervision, redundant communications, displays, weather/airspace, records, customer coordination, and incident command.
Field route site	Controlled launch/recovery area, perimeter, signage, lighting, power, communications, weather, cargo handling, storage, fire response, and customer access.
Maintenance and spares	Clean work area, tools, calibration, parts, quarantine, battery/energy servicing, records, aircraft movement, and environmental control.

Seed-Stage Facility Principle

Phoenix should lease flexible engineering and controlled assembly space and use qualified external facilities for specialized processes and major flight testing until aircraft configuration, production rate, and customer geography justify a larger permanent footprint.

Maintenance and Continuing Airworthiness

Maintenance is part of the product and service model. The program must know each aircraft's configuration, life status, discrepancies, inspections, repairs, software, component history, and release status before the aircraft is assigned to a mission. FAA guidance for Part 135 continuous-airworthiness maintenance programs and instructions for continued airworthiness provides a useful planning basis even where exact applicability depends on the approved configuration and operating authority. [7][8]

Maintenance layer	Scope
Line maintenance	Preflight, postflight, routine servicing, visual inspections, software/status checks, simple replacement, cleaning, payload-interface checks, and discrepancy entry.
Scheduled maintenance	Calendar, cycle, flight-hour, energy-cycle, condition, and life-limited tasks defined by approved maintenance data.
Corrective maintenance	Troubleshooting, removal/replacement, repair, software restoration, functional test, and controlled return to service.
Heavy maintenance and overhaul	Major structural, propulsion, energy, avionics, or life-limit work performed internally or by qualified repair capability.
Condition monitoring	Flight and ground data, vibration, temperature, electrical, performance, fault, battery/fuel-cell health, and trend analysis.
Reliability program	Failure rates, removals, repeats, delays, cancellations, maintenance hours, parts consumption, supplier issues, and corrective actions.
Field support	Spares, tools, remote diagnostics, technical publications, escalation, aircraft recovery, customer communication, and service response.
Continuing-airworthiness action	Service bulletins, mandatory inspections, limitations, software updates, field modifications, fleet campaigns, and regulator/customer notices.

Maintenance Release Controls

- Only qualified and authorized personnel may perform, inspect, or release assigned work.
- Work must use current approved instructions, correct parts, calibrated tools, and recorded results.
- Open discrepancies, deferred items, temporary repairs, software limitations, and life status must be visible to mission release.
- Required independent inspections or verification apply to designated critical tasks.
- A return-to-service or equivalent release identifies aircraft, configuration, work, date, person, and supporting records.
- Maintenance records are retained, backed up, protected from alteration, and available for audits, investigations, and fleet analysis.

Reliability Triggers

- Repeat discrepancy on the same aircraft, part, system, route, or software version.
- Failure rate or unscheduled removal above the approved alert level.
- Mission cancellation, delay, or in-flight abnormality with common technical cause.

- Supplier lot, manufacturing process, maintenance procedure, or training concern.
- Unexpected battery, fuel-cell, generator, motor, propeller, actuator, or structural degradation.
- Customer payload-condition failure or site-related equipment issue.
- Any event suggesting the approved inspection interval, life limit, or operating limit may be inadequate.

Personnel Qualification and Training

Role group	Training scope
Remote operations / flight crew	Aircraft systems, limitations, mission planning, weather, airspace, automation, communications, abnormal and emergency procedures, human factors, security, and checking.
Maintenance personnel	Aircraft and component systems, manuals, inspection, troubleshooting, software/configuration, tools, human factors, battery/energy safety, records, and authorization.
Dispatch and mission coordinators	Customer request, payload, route, weather, airspace, aircraft status, release criteria, communications, records, and escalation.
Payload handlers	Cargo acceptance, packaging, weight, labels, temperature, custody, loading, restraint, cleaning, rejection, dangerous-goods recognition, and emergency actions.
Site personnel	Access, launch/recovery area, barriers, weather equipment, power, communications, security, fire response, aircraft movement, and customer handoff.
Managers and accountable leaders	SMS, risk acceptance, legal authority, operational control, fatigue/workload, performance, change management, incident response, and compliance.
Manufacturing and quality personnel	Work instructions, drawings, workmanship, process control, inspection, calibration, nonconformance, traceability, configuration, and product safety.
Customer stakeholders	Request, packaging, custody, receiving, service status, exceptions, emergency contacts, data access, and prohibited activities.

Training-Control Requirements

- Initial qualification, supervised practice, checking, authorization, recurrent training, differences training, remediation, and currency are documented.
- Training is tied to aircraft and software configuration, route role, payload authority, maintenance task, and operating responsibility.
- Instructors and evaluators are qualified for the subject and independent where required.
- Personnel are removed from duty when qualification, currency, medical/fitness, security, fatigue, or performance requirements are not met.
- Training effectiveness is measured through checks, observations, event data, audits, and performance trends.

Regulatory Execution Strategy

Phoenix must manage aircraft approval, operating authority, airspace, environmental review, dangerous goods, safety management, production, and continuing compliance as an integrated program. The exact path will depend on aircraft weight, design, mission, compensation, ownership, route, population exposure, and the final FAA framework.

Workstream	Primary pathway	Phoenix objective
Development and flight testing	Section 44807 exemption, special airworthiness or other applicable authority, registration, COA/airspace, test site, manuals, and limitations	Enable legal testing of aircraft outside Part 107; FAA states Part 107 applies below 55 pounds and aircraft above that threshold may require other authority. [9]
Commercial property carriage	Part 135 air-carrier/operator certification with required exemptions, waivers, operations specifications, and airspace	Current FAA pathway for compensated BVLOS carriage of another party's property. [1][2]
Part 135 certification project	Five-phase, three-gate FAA process: pre-application, formal application, design assessment, performance assessment, and administrative functions	Demonstrate the organization, manuals, systems, personnel, and performance needed for certification. [10][11]
Aircraft design approval	Special-class type certification under Part 21 or other agreed basis, including durability and reliability or applicable standards	Approve the aircraft design where required.
Production approval	Production under type certificate or production certificate, approved quality system, facilities, organization, design data, and FAA audit	Produce conforming aircraft under the approved design. [5][6]
Airworthiness approval	Aircraft-level airworthiness certificate or approved alternative applicable to the configuration and operation	Authorize individual aircraft for operation.
Future routine BVLOS	Monitor proposed Part 108 and successor final rule; update design and operations assumptions as the rule develops	Potential normalized pathway, but not a current commitment or schedule basis.
Environmental and community review	NEPA review and public involvement where applicable, plus site/property/local requirements	FAA is conducting environmental reviews for advanced drone operations proposed for authorization. [12]
Dangerous goods	Will-carry or will-not-carry program; Part 135, operations specification, training/manual, and 49 CFR hazardous-material requirements	Control biological, battery, chemical, dry-ice, pharmaceutical, and other regulated cargo. [13][14]
Safety Management System	Part 5 applicability, SMS implementation plan, accountable executive, manuals, data, audits, and acceptance	Support required or voluntary organization-wide safety management. [3][4]

Part 135 Certification Preparation

- Pre-application statement and certification strategy.
- Management personnel, organizational structure, facilities, aircraft, contracts, financial resources, and operating scope.
- General operations, training, maintenance, dangerous-goods, emergency, security, recordkeeping, and safety-management documentation.
- Compliance statement and evidence mapping.
- Aircraft, control station, communications, software, route, maintenance, and payload configuration.
- Demonstration and inspection plan for the performance-assessment phase.

- Operations specifications, exemptions, waivers, environmental review, airspace, and customer/site approvals.
- Post-certification surveillance, change, reporting, and continuing-compliance system.

Part 135 Build-or-Partner Decision

Phoenix should maintain two parallel plans until management has enough evidence: (1) partner with a qualified Part 135 operator for pilots and early routes, and (2) prepare the organization, manuals, SMS, personnel, and capital requirements for a future Phoenix-controlled certificate. The decision should compare time, cost, control, margin, customer experience, liability, and long-term strategic value.

Dangerous Goods and Medical Cargo

FAA guidance states that a Part 135 UAS applicant must develop a dangerous-goods training program and manual, and that operators authorized to carry hazardous materials must comply with the applicable Hazardous Materials Regulations in 49 CFR Parts 171-180. Phoenix must decide which cargo categories it will carry, prohibit, or accept only after additional authorization and training. [13][14]

Cargo category	Operating treatment
Will-not-carry baseline	Prohibit dangerous goods except those specifically reviewed and authorized; train personnel to recognize and reject undeclared or prohibited material.
Medical specimens and substances	Classify packaging and regulatory status with customer and hazmat specialists; define leakage, temperature, custody, exposure, and emergency procedures.
Dry ice	Evaluate quantity, ventilation, packaging, marking, documentation, and aircraft compatibility where used for temperature control.
Lithium batteries and battery-powered devices	Control cargo classification and packaging separately from aircraft-installed batteries; manage damage, state, quantity, and emergency response.
Pharmaceuticals and chemicals	Review each product or category for hazardous-material status, security, temperature, documentation, and customer responsibilities.
Blood and human materials	Apply customer clinical packaging and custody requirements and determine any transportation classification with qualified specialists.
Unknown or undeclared cargo	Reject, isolate, notify, investigate, and report under the approved program.

Environmental Review and Community Operations

FAA is conducting National Environmental Policy Act reviews for advanced drone operations proposed for authorization. Recent package-delivery environmental assessments evaluate issues such as noise, communities, biological and cultural resources, and public involvement. Phoenix should screen environmental and community requirements during route selection rather than after a customer contract is signed. [12]

Community / environmental area	Operating control
Noise	Measure aircraft and site noise; model route and operating frequency; avoid sensitive areas where practical; set hours and profiles; monitor complaints and actual exposure.
Privacy and data	Limit collection to operational need; define cameras/sensors, retention, access, customer use, public information, and law-enforcement requests.
Site safety	Perimeter, approach restrictions, signage, lighting, barriers, authorized access, emergency shutdown, fire response, and public separation.
Visual and community impact	Explain routes, altitude, frequency, service purpose, safety controls, and complaint process; coordinate with property owners and local authorities.
Environmental resources	Screen parks, wildlife, wetlands, historic/cultural resources, environmental justice, and other issues relevant to the approval and site.
Emergency coordination	Provide local responders with aircraft, battery/fuel, payload, site, shutdown, fire, recovery, and contact information.
Complaint and feedback system	Record, investigate, respond, trend, and use community feedback in route and operating decisions.

Insurance and Risk Transfer

Coverage area	Planning purpose
Aviation hull and liability	Aircraft loss, third-party bodily injury/property damage, and operating exposure; limits driven by route, customer, authority, and contract.
Products and completed operations	Aircraft, payload module, software, maintenance, and manufacturing claims after delivery.
Cargo and bailee	Loss, damage, temperature, custody, or customer cargo exposure, subject to policy terms and contract allocation.
Cyber and technology errors	Network, data, software, security incident, service failure, and customer-system exposure.
Workers compensation and employer liability	Employees and, where applicable, site, manufacturing, flight-test, and field operations.
Property and equipment	Facilities, tooling, inventory, test equipment, batteries/energy systems, and business

Coverage area	Planning purpose
	interruption.
Professional and management liability	Engineering, advice, directors and officers, employment, and fiduciary exposure as applicable.
Partner and supplier coverage	Required limits, certificates, additional-insured status, waivers, indemnity, and notice provisions matched to scope.

Operations, Quality, and Safety Dashboard

Metric	Definition	Management use
Mission completion rate	Completed missions divided by released missions	Track by route, aircraft, customer, cause, and service level
On-time delivery	Missions delivered inside contracted window	Track median, percentile, and exception cause
Aircraft availability	Time aircraft is airworthy and available for assignment	Separate planned maintenance, unscheduled maintenance, regulatory, and site causes
Dispatch reliability	Released missions completed without technical cancellation	Reliability-growth measure
Technical interruption rate	In-flight or mission-impacting technical events per mission or flight hour	Trend by system and configuration
Maintenance burden	Maintenance labor hours per flight hour, mission, and aircraft month	Supports staffing, pricing, and design improvement
Repeat discrepancy rate	Defects recurring after corrective maintenance	Quality of troubleshooting and corrective action
Supplier quality	Defective receipts, escapes, on-time delivery, corrective actions, and change compliance	Tiered by supplier criticality
Manufacturing first-pass yield	Units or work steps accepted without rework	Track by process, work center, and defect
Safety reports and closure	Reports, risk level, investigation, corrective-action age, and effectiveness	A strong reporting rate is not automatically negative
Training compliance	Qualified and current personnel by required role	No assignment outside authorization
Customer payload acceptance	Payloads accepted without temperature, custody, damage, or handling exception	Track by module, customer, and route
Regulatory action closure	Applications, findings, commitments, audits, and due dates	Executive visibility
Community complaints	Complaints per operating volume, cause, response, and recurrence	Route and site improvement measure

Operating Organization and Staffing

Role	Primary accountability
Accountable Executive / CEO	Resources, safety and quality policy, regulatory commitments, operating strategy, management review, and major risk acceptance.
Head of Operations	Operating control, manuals, network operations, field sites, route readiness, customer service, staffing, and performance.
Director of Safety	SMS, reporting, risk management, investigation, assurance, safety promotion, and independent escalation.
Chief Engineer / Product Authority	Aircraft design, technical limitations, configuration, continued operational safety, and engineering support.
Head of Quality and Manufacturing	Quality system, production, suppliers, inspections, conformity, audits, records, and corrective action.
Director of Maintenance	Maintenance program, qualifications, airworthiness status, reliability, parts, tooling, records, and return to service.
Chief Pilot / Remote Operations Lead	Crew standards, training, checking, procedures, scheduling, fatigue, route operations, and flight performance.
Regulatory and Certification Lead	FAA strategy, applications, exemptions, certification, operations specifications, environmental review, findings, and compliance.
Supply Chain Manager	Supplier qualification, procurement, lead time, inventory, cost, change control, and continuity.
Customer Program Manager	Route activation, sites, payloads, milestones, customer training, performance, issues, and expansion.
Cybersecurity / IT Lead	Aircraft and enterprise security, access, networks, data, monitoring, backup, incident response, and customer integration.
Field and Site Leads	Local readiness, payload handling, servicing, security, customer coordination, and first response.

Staffing Sequence

1

Seed stage

Chief engineer/systems, safety-regulatory lead, operations/flight-test lead, manufacturing-quality lead, software/controls, mechanical/structures, supply chain, and customer program support.

2

Pre-pilot

Dedicated maintenance control, remote operations, training, field support, quality inspection, site activation, cybersecurity/IT, and customer success.

3

First recurring routes

24/7 or extended-hours coverage as contracted, additional operators, maintenance technicians, operations control, spares/logistics, safety assurance, and account support.

4

Low-rate production

Production planning, cell leads, inspectors, supplier quality, material control, manufacturing engineering, test technicians, and repair support.

Operations and Regulatory Risk Register

Risk	Rating	Potential effect	Primary mitigation
Part 135 or operating approval delay	High	Paid route launch and revenue move beyond plan	Partner pathway, early application planning, complete manuals/evidence, deposits, schedule reserve, and no unsupported commitments
Aircraft or production nonconformity	High	Test delay, fleet grounding, rework, customer or regulator concern	Configuration control, inspection, conformity records, containment, root cause, serial traceability, and release authority
Safety event during test or operations	High	Injury, public harm, program suspension, liability, and reputation damage	Progressive envelope, SMS, emergency response, qualified personnel, conservative limits, data, and stop-work authority
Maintenance burden exceeds plan	High	Low availability, cost growth, missed service, and customer dissatisfaction	Reliability growth, maintainability design, spares, diagnostics, supplier support, and realistic pricing
Supplier failure or counterfeit parts	High	Unsafe product, schedule disruption, redesign, or fleet action	Critical supplier qualification, approved sources, traceability, incoming inspection, alternate source, and change notification
Hazardous or misdeclared payload	High	Fire, exposure, aircraft damage, regulatory violation, or injury	Will-carry/will-not-carry program, trained acceptance, packaging, documentation, rejection, and emergency response
Community or environmental opposition	Medium	Route delay, restrictions, complaints, or loss of site	Early screening, noise data, engagement, environmental review, complaint process, and route alternatives
Operations-center or communications outage	High	Mission suspension or loss of supervision	Redundancy, backup site/process, tested continuity, link monitoring, conservative lost-link behavior, and exercises
Training or staffing shortfall	Medium	Schedule limits, errors, fatigue, and low availability	Qualification system, staffing model, recurrent training, duty controls, cross-training, and hiring lead time
Data, cyber, or configuration compromise	High	Unsafe behavior, service interruption, privacy loss, or invalid records	Access control, segmentation, secure releases, logging, backup, incident response, and independent review
Insurance or liability cost exceeds assumptions	Medium	Route economics and contractability deteriorate	Early broker engagement, design and operating controls, partner allocation, limits review, and pricing adjustment
Regulatory framework changes	High	Design, manuals, approvals, or schedule require revision	Compliance assumptions register, FAA engagement, modular evidence, change management, and capital contingency

Twenty-Four-Month Operations and Regulatory Roadmap

Window	Program focus	Required outputs
0-3 months	Foundation	Appoint accountable leaders; create SMS and quality plans; map regulations; select advisors and test-site pathway; establish configuration, records, supplier, and manual architecture.
3-6 months	Controlled development operations	Release prototype manufacturing controls, inspection plans, training framework, emergency plan, maintenance concept, supplier qualifications, and initial FAA engagement.
6-12 months	Assembly and test readiness	Activate facilities, stores, tooling, calibration, aircraft records, ground/flight-test operations, safety reviews, and development authorization.
10-18 months	Flight and reliability operations	Run progressive flight testing, anomaly/corrective-action system, maintenance and reliability program, route/site surveys, environmental screens, and partner preparation.
12-20 months	Commercial certification preparation	Develop Part 135/partner documentation, SMS, manuals, dangerous-goods decision, operations control, training, maintenance, insurance, and customer pilot readiness.
18-24 months	Paid pilot activation	Approve route, sites, payload, personnel, aircraft, maintenance, customer process, emergency response, data, and service-level plan; execute progressive pilot.
20-30 months	Low-rate production and recurring route	Complete production-readiness actions, supplier agreements, field support, spares, acceptance, customer success, and conversion to recurring operations.

Seed-Stage Operations Deliverables

- SMS implementation plan and initial safety manual.
- Regulatory pathway and compliance-assumptions register.
- Prototype and low-rate manufacturing/quality plan.
- Approved supplier and critical-component qualification plan.
- Aircraft configuration and serialized-record system.
- Maintenance concept, inspection program, reliability database, and spares strategy.
- Ground, flight-test, and emergency-response manuals.
- Training and qualification framework.
- Part 135 partner or build strategy and certification-readiness gap assessment.
- Dangerous-goods will-carry/will-not-carry decision and program plan.
- Route/site activation checklist including environmental and community screening.
- Paid-pilot operational-readiness package and executive go-live review.

Decisions Required Before Section 5 Is Final

- Confirm the legal entity and accountable executive that will own the SMS, quality, and regulatory commitments.
- Select the initial FAA test and exemption strategy for the D1 demonstrator.
- Choose the preferred Part 135 operating-partner strategy and trigger for pursuing a Phoenix-controlled certificate.
- Confirm the first flight-test site, engineering/assembly facility, and first commercial launch region.
- Approve the make-or-buy boundaries and the critical supplier list.
- Select the digital systems for requirements/configuration, manufacturing/quality, maintenance/fleet, SMS, training, and customer operations.
- Decide whether the initial dangerous-goods position is will-not-carry, limited will-carry, or a staged program by cargo category.
- Approve the quality-system standard and roadmap used before and after production approval.
- Define the minimum insurance limits and risk-transfer terms for prototype, pilot, and recurring operations.
- Approve staffing authority, independent safety authority, and stop-work / stop-flight rights.
- Set production volume assumptions and confirm that no speculative inventory will be built outside approved limits.
- Approve operational, quality, safety, and regulatory metrics for monthly executive and board review.

Section 5 Management Position

Phoenix Unmanned will earn trust by operating the same way it intends to fly: with clear authority, verified status, conservative limits, disciplined execution, and continuous learning. The Company's operating system must make it difficult to build the wrong configuration, release an unairworthy aircraft, accept an unapproved payload, launch outside limits, lose critical records, or repeat a known failure.

Sources and Regulatory References

- [1] Federal Aviation Administration, Package Delivery by Drone (Part 135), current FAA pathway for drone package-delivery operators and required certification phases, exemptions, waivers, airspace, and operating approval.
- [2] Federal Aviation Administration, Unmanned Aircraft System or Drone Operations - Dangerous Goods. FAA states Part 135 is the current path for carrying another party's property for compensation beyond visual line of sight.
- [3] Federal Aviation Administration, Safety Management System, updated June 17, 2026. Describes SMS as an organization-wide approach and identifies safety policy, safety risk management, safety assurance, and safety promotion.
- [4] Federal Aviation Administration, Safety Management System for Design and Manufacturing Organizations, reflecting 2024 revisions to 14 CFR Part 5 for certain Part 21 and Part 135 organizations; AC 120-92D provides implementation guidance.
- [5] Federal Aviation Administration, UAS Certification. Describes type, production, and airworthiness certifications under 14 CFR Part 21.
- [6] Federal Aviation Administration, Production Certificates and Production Approvals Regulations and Policy. Describes FAA quality-system audits and Part 21 production requirements.
- [7] Federal Aviation Administration, AC 120-124, Continuous Airworthiness Maintenance Program Training Program, October 24, 2023.
- [8] Federal Aviation Administration, Order 8110.54A, Instructions for Continued Airworthiness Responsibilities, Requirements, and Contents.
- [9] Federal Aviation Administration, Section 44807 Special Authority for Certain Unmanned Aircraft Systems, updated June 10, 2026; Part 107 is limited to aircraft below 55 pounds at takeoff.
- [10] Federal Aviation Administration, 14 CFR Part 135 Air Carrier and Operator Certification, updated February 25, 2026.
- [11] Federal Aviation Administration, 14 CFR Part 135 Certification Process, updated June 3, 2026. The process uses five phases and three gates.
- [12] Federal Aviation Administration, Public Involvement and Environmental Review for Drone Operations and 2026 package-delivery environmental assessments.
- [13] Federal Aviation Administration, Guidance for Transporting Hazardous Materials by UAS, 2025. UAS operators carrying hazardous materials must hold Part 135 authority and comply with applicable 49 CFR Parts 171-180 requirements.
- [14] Federal Aviation Administration, Dangerous Goods Operations Manual Information and AC 121-40 guidance for Part 121 and Part 135 dangerous-goods programs.
- [15] Phoenix Unmanned Business Plan Sections 1-4, concept aircraft materials, founder technical history, medical-logistics white papers, and customer/route planning assumptions.

This section is a management plan rather than legal, certification, hazardous-materials, quality, environmental, or insurance advice. Phoenix must confirm applicability and acceptable means of compliance with qualified counsel, certification specialists, the FAA, customers, insurers, and relevant authorities before acting.



BUSINESS PLAN

2026-2030 Strategic and Operating Plan

SECTION 6

Competition, Intellectual Property, and Strategic Moat

The moat is not one patent or one aircraft. It is a system competitors cannot reproduce quickly.

Prepared for strategic, investor, partner, and management review

Prepared by Phoenix Unmanned

Founder & CEO: Steve Dixon

July 2026 | Review Draft

Section Purpose

Section 6 identifies Phoenix Unmanned's direct competitors, adjacent aircraft developers, substitute logistics methods, and likely future entrants. It defines the position Phoenix should occupy, the intellectual-property assets the Company must secure, the cybersecurity and supply-chain controls that protect those assets, and the layered strategic moat required to turn an aircraft program into a durable enterprise.

Strategic Executive Summary

Drone logistics is no longer an empty market. Zipline, Wing, and Matternet have accumulated operating experience, customer relationships, regulatory approvals, software, ground infrastructure, and public credibility in lightweight delivery. Elroy Air, MightyFly, and Dronamics are developing larger cargo aircraft for middle-mile, defense, commercial, and rapid-response missions. Ground couriers, internal fleets, charter aviation, and helicopters remain powerful substitutes because customers already understand and approve them.

Phoenix should not attempt to defeat every competitor across every payload and route. Its intended position is modular critical cargo between small-package networks and large runway-dependent freight: runway-independent aircraft sized for institutional payloads, integrated with medical and emergency workflows, supported by route engineering, controlled custody, safety evidence, maintenance, software, and recurring service.

The Company is not currently represented in this plan as holding issued patents, registered trademarks, or a completed freedom-to-operate opinion. The immediate priority is chain-of-title review, confidential invention capture, trademark clearance, prior-art and competitor-patent analysis, trade-secret controls, software/open-source governance, and filing decisions before additional public disclosure.

Strategic Conclusions

- Light-delivery incumbents possess the strongest operating, regulatory, and network evidence but are primarily optimized for small payloads.
- Larger cargo-aircraft developers validate demand for 100- to 1,000-pound autonomous logistics but increase competition for capital, talent, suppliers, regulatory attention, and customer mindshare.
- Phoenix's defensible market position must be narrower than 'heavy-lift drone' and more valuable than 'faster delivery.'
- The most durable moat will combine customer-route data, payload validation, aircraft integration, safety and certification evidence, reliability data, fleet software, operating processes, supplier quality, and long-term contracts.
- Patents should protect inventions that competitors can observe or reverse engineer; trade secrets should protect processes, parameters, data, models, economics, and know-how that can remain confidential.
- Every founder, employee, advisor, contractor, supplier, university, customer, and operating partner must have clear intellectual-property, confidentiality, data, publication, and assignment terms.
- Public images, books, pitch materials, demonstrations, proposals, websites, and customer discussions require an invention-disclosure and publication-review process before release.

- Cybersecurity and supply-chain trust are competitive requirements because customers and regulators must rely on aircraft software, communications, data, configuration, and third-party components.

Competitive Landscape

Competitive category	Representative participants	Primary market	Structural advantage
Lightweight instant-delivery networks	Zipline, Wing, Matternet and similar systems	High-frequency healthcare, retail, food, and small-package delivery with mature software and network operations	Operating scale, approvals, customer integration, data, automated infrastructure, and brand
Middle-mile VTOL cargo developers	Elroy Air, MightyFly and emerging hybrid-electric cargo programs	Approximately 100- to 500-plus-pound autonomous or remotely supervised cargo missions	Payload-range performance, defense/customer programs, capital, test evidence, and platform IP
Runway or short-field autonomous cargo	Dronamics and other remotely piloted or autonomous freight aircraft	Long-range, larger-payload logistics using small airfields or short strips	Range, cargo volume, aviation codes, network partnerships, and lower infrastructure cost than conventional air cargo
Conventional logistics substitutes	Couriers, internal fleets, express carriers, ambulances, charter aircraft, helicopters	Approved and familiar transport across nearly all payload classes	Installed operations, customer trust, flexibility, insurance, regulatory certainty, and existing budgets
Customer-owned or integrated fleet	Health systems, logistics companies, defense organizations, public agencies	Customer acquires aircraft, software, or operating partner and internalizes the service	Control, purchasing scale, data ownership, and ability to select multiple vendors
Future platform entrants	Aerospace primes, eVTOL companies, robotics firms, logistics platforms, and aircraft manufacturers	May enter after BVLOS rules, customer demand, and certification pathways mature	Capital, certification expertise, manufacturing scale, distribution, and government relationships

Selected Competitor Profiles

The figures below are company-reported and represent different dates, missions, configurations, and definitions. They are useful for strategic comparison but are not independent performance verification.

Competitor / substitute	Position	Public evidence	Primary strengths	Implication for Phoenix
Zipline	Autonomous delivery network for healthcare, retail, food, and home delivery	Company reported more than 2 million deliveries, service to more than 5,000 hospitals and health facilities, and more than 125 million autonomous commercial miles in January 2026. [1] [2]	Scale, operational data, healthcare relationships, capital, automated logistics, and public credibility	Primarily a small-package network; Phoenix should not compete as a copy of Zipline.
Wing	Lightweight home, retail, and selected healthcare delivery	Company reports more than 1 million commercial home deliveries; technology supports fleet oversight and high daily volume. A July 2026 NHS program reported a 40-minute ground trip reduced to a five-minute flight. [3] [4]	Google/Alphabet heritage, software, merchant integrations, multi-aircraft oversight, and consumer network growth	Strong benchmark for automation and integration; Phoenix differentiates through larger modular institutional cargo.
Matternet	Urban and suburban healthcare and commerce networks	M2 carries up to 4.4 pounds over approximately 12.4 miles. Public filings report more than 60,000 flights and FAA Type and Production Certificates. [5][6]	Certification, healthcare operations, landing stations, software, payload systems, and operator network	Direct healthcare competitor for lightweight samples and pharmaceuticals; regulatory evidence is a major advantage.
Elroy Air	Autonomous VTOL critical cargo for defense, commercial, and rapid response	Current company materials market the Chaparral at 500-plus pounds payload and 450 miles extended range; a 2025 A-to-B demonstration described a 300-pound/300-mile configuration. [7][8]	Hybrid-electric VTOL, detachable cargo pod concept, defense and logistics positioning	Overlaps Phoenix P2/P3 ambitions and validates demand for runway-independent cargo.
MightyFly	Autonomous hybrid eVTOL middle-mile logistics	Current company materials market up to 500 pounds and up to 1,000 miles, while other company releases describe 100- and 500-pound aircraft and prior range targets. [9][10]	Long-range concept, autonomous cargo handling, defense demonstrations, and end-to-end service model	Potential overlap in regional cargo; current claims and readiness require independent diligence.
Dronamics	Long-range remotely piloted or autonomous cargo airline	Black Swan is marketed at approximately 770 pounds payload and 1,550 miles range, using a short runway rather than VTOL. [11]	Long range, cargo volume, airline positioning, IATA/ICAO codes, and use of small airfields	Competes for regional urgent cargo but serves a different infrastructure and range profile.
Ground courier / internal fleet	Existing institutional logistics	No new aviation approval or aircraft required; variable time, staffing, traffic, and road exposure	Familiarity, flexibility, established budgets, broad cargo acceptance, and dense coverage	The default alternative Phoenix must beat on total value, not only flight time.
Helicopter / charter aviation	High-value urgent and long-range transport	Existing aviation capability with crew, airport/heliport, dispatch, and established procedures	Speed, payload, range, all-weather capability in approved conditions, and customer trust	Phoenix should target missions where crewed aviation is operationally or economically disproportionate.

Competitive Readiness Must Be Compared by Evidence

1

Concept

Renderings, target specifications, mission narrative, and early supplier assumptions.

2

Prototype

Integrated hardware exists and has completed controlled ground or flight tests.

3

Flight envelope

Aircraft has demonstrated weight, transition, speed, range, weather, and contingency performance.

4

Regulatory evidence

Exemptions, certificates, approvals, operations specifications, environmental work, and accepted manuals.

5

Commercial pilot

Customer-funded program with defined payload, route, service metrics, and conversion criteria.

6

Recurring operation

Routine revenue missions, trained personnel, maintenance, customer integration, and service data.

7

Scaled network

Multiple customers, routes, aircraft, support locations, repeatable economics, and fleet oversight.

Phoenix Competitive Position

Phoenix should position P1 and early P2 offerings in the gap between lightweight delivery drones and large middle-mile aircraft. The target is not simply a payload number. The position is a complete institutional critical-cargo system with enough payload utility to carry meaningful medical, emergency, or equipment loads while retaining VTOL access and route-level operating flexibility.

Position dimension	Phoenix intent	Required proof
Payload utility	More useful than small-package systems; narrower and more route-accessible than large freight aircraft	Validated modular cargo envelope and mission-specific payload kits
Customer	Hospitals, laboratories, blood organizations, rural networks, emergency agencies, and selected government users	Direct workflow and executive integration
Route	Interfacility, hub-and-spoke, rural access, emergency surge, and critical regional movements	Route engineering and economic qualification
Infrastructure	Approved compact VTOL sites with controlled support equipment	Avoid dependence on conventional runways for the launch product
Service model	Aircraft/platform plus software, support, route design, maintenance, and managed-service options	Higher lifetime value and customer retention
Evidence	Payload integrity, dispatch reliability, safety, maintenance, route economics, and customer outcomes	Claims grounded in controlled test and service data
Brand	Mission-driven aircraft company serving critical logistics	Founder credibility, service values, and disciplined execution

Differentiation Strategy

1

Critical-cargo mission focus

Optimize customer selection, aircraft requirements, payload systems, operations, and pricing around urgent institutional cargo rather than general consumer delivery.

2

Modular payload architecture

Create controlled mechanical, electrical, data, environmental, and custody interfaces that allow one aircraft family to support multiple missions.

3

Founder-led aircraft execution

Use Steve Dixon's prior aircraft-build experience as an execution advantage, while replacing informal founder knowledge with controlled requirements, records, and repeatable team processes.

4

Route-first engineering

Use actual route, payload, site, weather, service, regulatory, and economic data to drive configuration and operating limits.

5

Hospital and customer workflow integration

Build dispatch, packaging, custody, receiving, exception, security, and reporting into the system rather than treating the customer as a loading dock.

6

Safety and regulatory discipline

Develop evidence, manuals, SMS, quality, configuration, maintenance, and certification habits early.

7

Supportable product family

Grow from D1/P1 to P2/P3 through reusable architecture and interfaces rather than unrelated clean-sheet projects.

8

Hardware-enabled recurring revenue

Combine aircraft, modules, software, maintenance, training, route services, compliance support, and customer success.

9

Mission data and reliability learning

Use every test and customer mission to improve route qualification, design, maintenance, availability, pricing, and future certification.

10

Service-centered brand

Differentiate through compassion, humility, service, and the practical promise to deliver critical supplies dependably.

Claims Phoenix Should Avoid

- Claiming the aircraft is the first, largest, safest, fastest, cheapest, most efficient, or only solution without a defined comparison and independent evidence.
- Presenting candidate payload, range, autonomy, availability, weather, cost, or schedule targets as demonstrated specifications.
- Describing a customer, investor, regulator, supplier, or partner as committed without signed permission and accurate scope.
- Suggesting that a patent application guarantees patent issuance, freedom to operate, product approval, or commercial exclusivity.
- Using competitor logos, photos, specifications, or marketing language without legal and factual review.
- Representing AI-generated art, text, or design output as fully exclusive human-authored IP without reviewing creation records, applicable terms, and Copyright Office guidance.

The Phoenix Strategic Moat

Moat layer	Asset created	Why it compounds
Customer-route intelligence	Structured data on routes, payloads, baseline cost, delay, sites, weather, approvals, service levels, and willingness to pay.	Improves product requirements, account selection, pricing, and network replication.
Validated payload and custody system	Tested modules, packaging interfaces, temperature/shock data, loading, restraint, custody, cleaning, and acceptance.	Creates customer trust and mission-specific evidence competitors must reproduce.
Integrated aircraft architecture	Airframe, lift/cruise, energy, controls, communications, payload, ground systems, maintainability, and safety allocation.	Difficult to copy as a complete system even when visible externally.
Safety, certification, and quality evidence	Hazard analyses, tests, manuals, approvals, conformity, supplier records, SMS, maintenance, and continued operational safety.	Time-consuming, expensive, and organization-specific evidence base.
Reliability and maintenance data	Failure modes, component life, inspection intervals, diagnostics, spares, repair, availability, and corrective action.	Reduces service cost and improves contract credibility.
Autonomy and fleet software	Mission planning, supervision, health, energy, contingency, maintenance, customer visibility, custody, and analytics.	Recurring customer integration and operational learning.
Approved routes, sites, and customer workflows	Property access, infrastructure, training, contracts, approvals, data connections, and local acceptance.	Creates switching cost and practical network advantage.
Supplier and manufacturing trust	Qualified suppliers, controlled processes, alternates, traceability, work instructions, acceptance, and capacity.	Improves quality, cost, lead time, and production credibility.
Commercial installed base	Aircraft, leases, recurring route contracts, software, maintenance, support, and customer expansion.	Generates reference value, recurring revenue, and lower acquisition cost.
Mission brand and organizational culture	Founder story, service values, safety behavior, disciplined claims, customer care, and employee commitment.	Hard to replicate because it depends on repeated behavior, not a slogan.

Moat Measurement

- Number of qualified routes and depth of route/customer data.
- Validated payload categories and customer acceptance evidence.
- Patent families, trade-secret assets, registered marks, copyrights, and clean ownership records.
- Regulatory submissions, accepted evidence, approvals, and certification progress.
- Cumulative test and operational missions, hours, payload cycles, reliability, and maintenance data.
- Aircraft availability, mission completion, payload acceptance, and mature route gross margin.
- Recurring revenue, contracted routes, installed aircraft, renewals, expansion, and customer concentration.
- Qualified suppliers, second sources, first-pass yield, lead time, field escapes, and cost reduction.
- Cybersecurity maturity, vulnerability closure, software provenance, supplier assurance, and incident readiness.

Intellectual Property Architecture

USPTO materials describe patents, trademarks, copyrights, and trade secrets as distinct forms of intellectual property. Phoenix should use them together. A patent may protect a qualifying invention that becomes public; a trade secret depends on reasonable measures to maintain secrecy; a trademark identifies the source of goods or services; copyright can protect qualifying human-authored software, manuals, drawings, text, and visual works. [12][13][14][15]

Asset class	Phoenix examples	Protection value
Utility patents	New and nonobvious functional inventions such as aircraft systems, cargo interfaces, control, energy, safety, ground infrastructure, and operating technology	Time-limited right to exclude others from claimed inventions; public disclosure through the patent system
Design patents	Qualifying ornamental appearance of aircraft, payload modules, stations, displays, or products	Protects claimed visual design, not functional operation
Trade secrets	Requirements, engineering parameters, models, algorithms, source code, manufacturing methods, supplier data, test methods, route economics, pricing, reliability, and customer data	Can continue while secret if reasonable measures are maintained; no registration
Trademarks and service marks	Phoenix Unmanned name, logos, product names, service names, slogans, and source identifiers	Protects customer recognition and reduces confusing use in relevant goods/services
Copyright	Human-authored software, manuals, drawings, reports, website text, photographs, training, and marketing works	Protects qualifying expression; not the underlying functional idea or system
Data and database rights	Flight, maintenance, route, payload, customer, supplier, manufacturing, and reliability datasets	Value created through contract rights, confidentiality, access controls, copyright where applicable, and technical security
Contracts and licenses	Assignments, confidentiality, invention ownership, data rights, supplier restrictions, customer terms, open-source licenses, and partner agreements	Creates enforceable ownership, use, access, and commercialization boundaries
Regulatory and quality evidence	Safety analyses, tests, conformity, manuals, approvals, maintenance, supplier, and operational records	Not a traditional IP right, but costly evidence and organizational know-how can be strategically difficult to reproduce

Current IP Status: Planning Position

Asset area	Current planning status	Required action
Issued patents / pending applications	Not confirmed in the current business-plan record	Conduct founder and entity search, assignment search, prior-company review, and counsel-led portfolio audit.
Phoenix Unmanned trademark registrations	Not confirmed	Conduct comprehensive federal, state, common-law, domain, and international clearance before filing and expansion.
Copyright registrations	Not confirmed	Inventory software, manuals, books, graphics, photographs, videos, and websites; identify human authorship and ownership.

Asset area	Current planning status	Required action
Trade-secret program	Not yet documented as a formal program	Create classification, access, NDA, repository, disclosure, vendor, publication, offboarding, and incident controls.
Prior-company intellectual property	Ownership and permitted use require confirmation	Review Full Throttle Innovations, Full Throttle Aerial, Scorpion XL, former collaborators, contracts, investors, and asset transfers.
AI-assisted content and design	Substantial project content and imagery have used generative tools	Preserve human contributions and tool records; review exclusivity, third-party rights, registration disclosures, and business use with counsel.
Freedom to operate	No formal opinion represented	Perform product-specific patent landscape and counsel-led FTO before design freeze and commercial release.

Chain of Title and Ownership Audit

Patent and trademark ownership can be transferred by written assignment and recorded through the USPTO Assignment Center. USPTO guidance also notes that an assignee or a party to whom an inventor is obligated to assign may apply for a patent. Phoenix must therefore confirm written ownership rather than relying on possession of files, founder involvement, payment, or verbal understanding. [16][17]

1

Identify every contributor

Founder, employees, advisors, contractors, designers, software developers, photographers, suppliers, universities, customers, former-company personnel, and AI-assisted workflows.

2

Inventory every asset

Aircraft designs, drawings, CAD, analyses, code, algorithms, test data, photos, videos, logos, books, pitch materials, websites, domains, customer data, supplier data, and prototypes.

3

Trace creation and funding

When, where, under which entity, with whose equipment, under which agreement, and whether customer, investor, grant, university, or government funds were involved.

4

Collect agreements

Employment, consulting, confidentiality, invention assignment, work-made-for-hire, licenses, asset purchases, founder contribution, university, customer, supplier, and former-company documents.

5

Resolve gaps

Execute assignments, confirmations, licenses, releases, waivers, or redesigns before financing, filing, customer disclosure, or commercialization.

6

Record transfers

Record appropriate patent and trademark assignments and maintain corporate records for copyrights, software, domains, data, and physical assets.

7

Create continuing process

No contributor begins substantive work without approved terms; invention and asset ownership are reviewed at onboarding, milestones, and offboarding.

Priority Founder and Prior-Company Questions

- Which Scorpion XL, Harrier, Full Throttle Innovations, and Full Throttle Aerial designs, data, photographs, supplier records, code, and know-how were owned by Steve personally or by another entity?

- Were any inventions created jointly, assigned, pledged, licensed, sold, funded, or subject to investor, customer, employee, contractor, or creditor rights?
- Which Phoenix concepts are newly created, which are derived from earlier work, and which require a license or clean redesign?
- Do current team members have obligations to previous employers, customers, universities, or government programs?
- Have any relevant inventions already been published, demonstrated, offered for sale, used publicly, posted online, included in decks, books, white papers, or shown to third parties without confidentiality?
- Are all domains, social accounts, source files, design files, cloud repositories, and brand assets held in accounts controlled by the legal entity?

Patent Strategy

USPTO guidance describes a provisional application as a lower-cost filing that can establish an early U.S. filing date, but it expires after 12 months unless a corresponding nonprovisional application is filed. Public disclosure may preserve a limited U.S. grace period while preventing protection in many foreign countries. Phoenix should therefore file before public disclosure whenever practical and use qualified patent counsel for applications and international decisions. [18][19]

Candidate patent family	Potential invention scope
Modular payload and aircraft interface	Mechanical capture, alignment, restraint, power, data, environmental control, verification, and safe release across multiple mission modules.
Medical payload integrity system	Temperature, shock, orientation, custody, access, contamination, cleaning, acceptance, and aircraft/ground integration.
VTOL cargo architecture	Configuration-specific lift, cruise, structure, tail, landing, cargo, energy, transition, and failure-management innovations that are new and nonobvious.
Energy and propulsion management	Hybrid or distributed energy architecture, reserve prediction, fault isolation, thermal management, maintenance, and mission optimization.
Autonomous contingency management	Route, alternate, site, link, navigation, energy, weather, payload, and emergency logic tied to supervised operations.
Fleet and operator supervision	Multi-aircraft mission release, workload, alerts, authority, route status, maintenance, payload, and customer coordination.
Ground and site infrastructure	Compact launch/recovery, charging/fueling, cargo exchange, security, weather, automated checks, and deployment methods.
Health monitoring and reliability	Sensor fusion, trend detection, component life, mission risk, maintenance triggers, fleet learning, and configuration-aware diagnostics.
Manufacturing and maintenance technology	Novel fixtures, assembly, inspection, calibration, repair, modular replacement, or conformity methods when patentable and commercially valuable.

Patent Decision Screen

1

Business importance

Does the invention protect a revenue, cost, safety, certification, customer, or product-family advantage?

2

Patentability

Is it potentially useful, novel, nonobvious, and adequately described compared with prior art?

3

Detectability

Could Phoenix identify infringement through products, software behavior, documentation, operations, or discovery?

4

Design-around risk

Can a competitor avoid the claim easily without losing meaningful performance or customer value?

5

Disclosure cost

Would publication expose more valuable know-how than the enforceable patent is likely to protect?

6

Geographic value

Which countries matter for customers, competitors, manufacturing, investors, suppliers, and enforcement?

7

Budget and timing

Can Phoenix fund drafting, filing, prosecution, international decisions, maintenance, and enforcement?

8

Ownership and inventorship

Are all inventors identified and obligated to assign, with no unresolved prior-company or partner rights?

Patentability Is Not Freedom to Operate

A Phoenix patent would not automatically give Phoenix the right to practice the invention. USPTO materials note that ownership of a patent does not eliminate other legal restrictions or dominant patent rights. Freedom to operate requires a product-, country-, date-, and claim-specific legal analysis of unexpired third-party rights. [20]

Patent Landscape and Freedom-to-Operate Program

1

Define the product baseline

Aircraft, propulsion, energy, payload, ground station, communications, software, automation, manufacturing, maintenance, and operating method.

2

Search the landscape

Use USPTO Patent Public Search, international databases, inventor/assignee searches, classification searches, citations, products, papers, and competitor portfolios. [21]

3

Map relevant claims

Identify live U.S. and target-country claims, status, expiration, ownership, continuations, related families, and product elements.

4

Engineering review

Determine whether the design reads on claims, whether evidence is uncertain, and whether an alternative design is practical.

5

Counsel opinion and action

Obtain legal analysis where material; redesign, license, acquire, challenge, monitor, or accept managed risk.

6

Update at gates

Repeat before architecture freeze, CDR, supplier commitment, pilot, production release, new country, major software change, and acquisition.

7

Monitor competitors

Track applications, grants, assignments, litigation, standards, products, hiring, partnerships, and regulatory submissions.

Initial Search Themes

- Fixed-wing VTOL cargo aircraft and distributed electric or hybrid lift.
- Transition control, lift-cruise architecture, propulsion redundancy, and contingency landing.
- Detachable, quick-change, temperature-controlled, or medical cargo modules.
- Autonomous cargo loading, unloading, ground stations, charging, and battery exchange.
- Multi-aircraft supervision, BVLOS fleet management, route approval, geofencing, and lost-link management.

- Flight termination, detect-and-avoid, navigation integrity, command-and-control, and health monitoring.
- Hospital, laboratory, blood, organ, pharmaceutical, and dangerous-goods drone logistics.
- Aircraft maintenance analytics, life prediction, configuration management, and operational reliability systems.

Trade-Secret Program

USPTO and Department of Justice resources emphasize that trade-secret protection depends on reasonable measures to keep information secret. Phoenix should not label everything confidential; it should identify its crown jewels, restrict access, and demonstrate consistent protection. [22][23]

Classification	Examples	Required controls
Crown jewel - Restricted	Source code, control parameters, safety and failure logic, proprietary models, unreleased inventions, route economics, customer data, detailed test failures, supplier terms, encryption material	Named access, strong authentication, encryption, logging, no personal storage, approved export, quarterly review, immediate offboarding
Confidential	Drawings, CAD, requirements, analyses, manufacturing instructions, pricing, proposals, contracts, regulatory drafts, quality and maintenance data	Role-based access, approved repositories, NDA, controlled sharing, retention, and offboarding
Internal	Policies, schedules, general procedures, nonpublic organization information, early marketing plans	Employee/contractor access and ordinary business controls
Public approved	Released specifications, website, press, demonstrations, published papers, regulatory public records, customer-approved case studies	Formal claims, IP, security, export, customer, and legal review before release

Trade-Secret Controls

- Approved confidentiality and invention-assignment terms before access or work begins.
- Role-based repositories, multifactor authentication, encryption, logging, backups, retention, and access review.
- Confidential legends and handling rules matched to the actual classification.
- Need-to-know disclosure to customers, suppliers, investors, regulators, and partners with purpose and downstream-use limits.
- Clean-room or controlled review when prior-employer, competitor, customer, government, or third-party information could contaminate Phoenix work.
- Publication, demonstration, pitch, website, patent, book, image, video, and conference review before release.
- Secure remote work, device management, removable-media controls, physical visitor controls, and restricted manufacturing/test areas.
- Joiner, mover, and leaver process with access removal, return of information, certification, reminder, and investigation triggers.
- Trade-secret incident response, evidence preservation, legal escalation, customer/partner notification, and corrective action.

Trademark and Brand Protection

USPTO recommends searching for similar marks before filing and notes that a comprehensive clearance search can include federal applications and registrations, state databases, and the internet. Phoenix should not assume that the company name, logo, product names, or slogans are available merely because a domain or state entity name is available. [24][25]

Brand asset	Use	Required review
PHOENIX UNMANNED	Company and service name	Aerospace vehicles, unmanned aircraft, logistics, software, maintenance, training, research, and related services as counsel defines
Phoenix heart-wing / bird logo	Primary design mark	Search visual elements and similar aerospace, robotics, logistics, emergency, and technology marks
Disruptive UAV Technology	Tagline used in prior brand work	Evaluate distinctiveness, ownership, actual intended use, and conflicts
Reach anywhere. Deliver faster. Save lives.	Mission-oriented slogan	Evaluate registrability and use as source identifier rather than descriptive message
D1 / P1 / P2 / P3 or future product names	Internal planning labels and later commercial marks	Do not invest in public launch until clearance and naming architecture are approved
Phoenix Unmanned Laboratories / research-institute names	Related organizational names used in prior materials	Decide which names remain active, owned, licensed, abandoned, or reserved to avoid brand confusion
The Phoenix Master Plan and published materials	Book, content, and thought-leadership assets	Coordinate title, author, company, copyright, and marketing rights

Brand Governance

- Create one approved legal/company naming architecture and retire inconsistent public names unless they serve a defined purpose.
- Maintain a trademark register with owner, mark, classes, countries, filing basis, status, specimens, deadlines, domains, and authorized use.
- Use approved brand standards for logo, color, wording, product names, notices, partners, and customer references.
- Review distributor, partner, licensee, employee, contractor, and merchandise use for quality control and ownership.
- Monitor relevant applications, domains, social media, marketplaces, and confusing commercial use; escalate proportionately.
- Use trademark symbols only as legally appropriate and never use the federal registration symbol before registration.

Copyright, Software, Open Source, and AI-Assisted Assets

The U.S. Copyright Office provides registration paths for computer programs, manuals, and other works, while its AI guidance requires applicants to identify and disclaim material generated by AI where appropriate and focuses protection on qualifying human authorship. Phoenix should preserve creation records and avoid assuming that an AI output provides exclusive copyright protection. [26][27][28]

Asset	Potential protection	Required control
Flight and fleet software	Source code, object code, user interface, databases, documentation, tests, and human-authored structure	Repository history, contributor terms, copyright notices, registration strategy, secrets, security, and open-source inventory
Engineering drawings and manuals	Human-authored drawings, illustrations, text, procedures, tables, and training	Ownership, revision, copyright notice, controlled distribution, and registration of high-value works
Website, deck, white papers, and book	Text, layout, photographs, graphics, videos, and editions	Author/contributor records, source licenses, customer permissions, AI disclosure review, and registration strategy
Logos and generated imagery	Human-created and AI-assisted visual assets	Document prompts, selections, edits, original photographs, human creative contributions, tool terms, and third-party likeness/asset permissions
Customer and supplier materials	Requirements, interfaces, data, packaging, site drawings, and documentation	Contract ownership, license, confidentiality, permitted use, derivative works, and return/destruction
Open-source software	Libraries, operating systems, tools, models, firmware, and dependencies	Software bill of materials, license obligations, attribution, copyleft review, vulnerabilities, updates, and release approval
Third-party commercial software	CAD, simulation, cloud, communications, security, and enterprise tools	Seat and use rights, output/data rights, export/access limits, support, escrow, continuity, and termination

Open-Source Release Gate

- Maintain a machine-readable software bill of materials for aircraft, ground, cloud, mobile, test, and manufacturing software.
- Identify license, version, source, owner, modifications, distribution method, security status, export classification, and replacement risk.
- Review reciprocal or source-disclosure obligations before including software in a distributed aircraft, ground station, customer appliance, or SDK.
- Scan dependencies and containers, track vulnerabilities, validate supplier SBOMs, and update affected configurations.
- Require legal, security, software, and configuration approval before releasing any product or customer update.
- NIST SSDF and CISA SBOM resources should guide the secure-development and transparency program. [29][30]

Data Rights and Regulatory Evidence

Data class	Ownership / control principle	Strategic treatment
Aircraft test data	Phoenix-owned when created under Phoenix program unless funding/partner terms state otherwise	Use for design, certification, reliability, safety, maintenance, and future products; protect raw and processed data.
Customer route and workflow data	Customer-owned or controlled data licensed to Phoenix under defined terms	Use for route design, service, de-identified analytics, product improvement, case studies, and regulatory evidence only as authorized.
Payload-condition and custody data	Shared operational record with customer and potential regulatory/contract obligations	Define access, retention, correction, evidence, privacy, security, and dispute treatment.
Fleet and reliability data	Phoenix should retain broad rights to aircraft health, maintenance, failure, configuration, and service improvement data	Creates a primary moat; customer confidentiality and identifiable information must be protected.
Regulatory submissions and approvals	May include Phoenix, partner, supplier, and customer confidential information; some material may become public	Mark appropriately, minimize unnecessary disclosure, coordinate FOIA/confidential treatment, and preserve reuse rights.
Supplier data	Licensed or confidential according to agreement	Ensure Phoenix can use, retain, disclose to regulators/customers where necessary, support products, and transition suppliers.
Government-funded data	Rights depend on contract, funding source, clauses, marking, and deliverables	Review before accepting funding; protect limited/restricted rights and background IP.
De-identified and aggregated analytics	Potential Phoenix product asset if contracts permit and re-identification risk is controlled	Use for route benchmarking, reliability, pricing, network planning, and customer value reports.

Customer and Partner Data Terms

- Identify data categories, owner/controller, processor roles, permitted use, access, location, retention, deletion, and audit.
- Grant Phoenix sufficient rights to operate, maintain, investigate, improve safety and reliability, support certification, and defend claims.
- Define whether de-identified and aggregated data may support benchmarking, product development, and commercial analytics.
- Protect patient, employee, customer, security, location, and proprietary information; avoid collecting information that is not operationally required.
- Control regulator, insurer, investigator, legal, emergency, and public disclosure.
- Address data portability and transition when a contract ends without surrendering Phoenix's product, safety, reliability, or regulatory records.

Cybersecurity as a Strategic Moat

NIST Cybersecurity Framework 2.0 organizes cybersecurity outcomes under Govern, Identify, Protect, Detect, Respond, and Recover. NIST's supply-chain guidance adds structured management of supplier cybersecurity risk, and the Secure Software Development Framework provides practices for reducing

software vulnerabilities. Phoenix should build a risk-based profile for aircraft, ground systems, cloud services, manufacturing, maintenance, customer integration, and enterprise systems. [31][32][29]

CSF 2.0 function	Phoenix implementation focus
Govern	Cyber risk strategy, roles, policy, legal/regulatory obligations, supplier requirements, risk appetite, oversight, and metrics.
Identify	Aircraft, software, data, identities, networks, suppliers, dependencies, critical functions, vulnerabilities, threats, and business impact.
Protect	Architecture, segmentation, authentication, least privilege, encryption, secure configuration, development controls, training, backups, and physical security.
Detect	Aircraft and enterprise logging, anomaly detection, integrity checks, vulnerability monitoring, supplier notices, operational alerts, and threat intelligence.
Respond	Incident command, containment, safe aircraft/route actions, investigation, evidence, communications, legal/regulatory/customer notice, and corrective action.
Recover	Restore safe configuration and service, validate data and software, rotate credentials, repair, alternate operations, lessons learned, and resilience improvement.

Aircraft and Fleet Security Priorities

- Secure boot, signed software and configuration, authenticated updates, rollback protection, and release provenance.
- Separation of flight-critical, payload/customer, maintenance, and enterprise functions.
- Strong identity and authority controls for flight release, software loading, maintenance release, dispatch, customer access, and administration.
- Encrypted and authenticated command, telemetry, customer, maintenance, and cloud communication appropriate to the threat and certification basis.
- Fail-safe and contingency behavior that remains safe when data, communications, cloud, or noncritical services are unavailable.
- Vulnerability intake, coordinated disclosure, severity assessment, fleet applicability, mitigation, update, customer/regulator communication, and verification.
- Security monitoring linked to SMS, quality, configuration, maintenance, and incident response.
- Independent security testing, penetration testing, supplier evidence, and red-team exercises before high-consequence operations.

Supply-Chain Trust

Supply-chain control	Phoenix requirement
Criticality analysis	Identify components and services whose compromise could affect flight safety, security, certification, availability, IP, or customer data.
Supplier due diligence	Ownership, location, financial health, capability, quality, cybersecurity, export, sanctions, counterfeit, sub-tier, continuity, and incident history.
Contract requirements	Security, quality, traceability, SBOM, vulnerability notice, change approval, audit, access, data, IP, sub-tier flow-down, continuity, and termination.
Technical assurance	Incoming inspection, code/signature validation, firmware provenance, hardware authenticity, test evidence, secure configuration, and destructive/forensic review where justified.
Access control	Limit supplier access to systems, facilities, repositories, designs, customer data, and production information by role, time, purpose, and geography.
Change and obsolescence	Advance notice, impact assessment, requalification, alternate source, lifecycle monitoring, inventory, and redesign plan.
Incident and vulnerability response	Defined notice period, containment, affected serial/configuration identification, corrective action, fleet communication, and evidence preservation.
Concentration and country risk	Avoid uncontrolled dependence on one supplier, location, government jurisdiction, transportation lane, cloud, communications provider, or energy component.

Export-Control and Foreign-Access Screen

The Commerce Department's Export Administration Regulations cover commodities, software, and technology subject to U.S. export controls and can treat release of controlled technology to a foreign national in the United States as an export. Unmanned aircraft, avionics, navigation, sensors, encryption, propulsion, software, and technical data may require classification under the EAR or, for certain defense articles and technical data, review under the ITAR. Phoenix should establish jurisdiction and classification before foreign sharing, hiring, cloud access, travel, demonstrations, investment diligence, manufacturing, or sales. [33][34]

- Appoint an export-control owner and qualified counsel.
- Classify aircraft, components, software, encryption, technical data, services, and prototypes; document jurisdiction and ECCN/USML analysis.
- Screen customers, investors, employees, contractors, suppliers, visitors, destinations, end users, end uses, and sanctions.
- Control foreign-person access to repositories, facilities, meetings, demonstrations, source code, drawings, test data, and technical assistance.
- Review cloud hosting, collaboration tools, remote work, travel, repair, returns, temporary exports, and international patent filings.
- Include export clauses, flow-downs, records, licenses/authorizations, technology-control plans, and reporting in relevant agreements.

- Do not assume a civil mission or commercially available component is free from export-control obligations.

Partnering Without Losing the Moat

1

Background IP

Each party identifies what it owned before the program and what it contributes; no implied transfer.

2

Foreground IP

Define ownership by inventorship/authorship, workstream, funding, field of use, or negotiated allocation.

3

Improvements and derivatives

Control rights to modifications of Phoenix aircraft, software, payloads, data, and processes.

4

Data

Define ownership, access, use, de-identification, regulatory, safety, customer, analytics, retention, and termination.

5

Licenses

Limit field, territory, customer, term, transfer, sublicensing, exclusivity, support, source access, and change rights.

6

Publication and publicity

No disclosure, press, case study, paper, demonstration, or customer reference without review and written approval.

7

Supplier and sub-tier rights

Flow confidentiality, IP, security, export, quality, audit, and return requirements to all contributors.

8

Exit and continuity

Ensure Phoenix can support customers, retrieve data/assets, transition suppliers/operators, and continue the product after termination.

9

Government and university terms

Review funding clauses, patent rights, data rights, publication, march-in or license rights, and facility policies before work begins.

10

Enforcement and dispute

Define notice, cooperation, control, cost, settlement, indemnity, and rights when third-party claims arise.

Competitive Intelligence Program

Phoenix should gather competitive information legally and ethically from public, licensed, customer-provided, and properly authorized sources. The program must not solicit competitor trade secrets, encourage violations of prior obligations, misrepresent identity, access restricted systems, or use confidential materials received by mistake.

Intelligence source	Permitted use
Public company sources	Websites, press releases, filings, patents, trademarks, jobs, technical papers, regulatory records, public contracts, environmental reviews, conference material, and demonstrations.
Customer discovery	Customer experience, requirements, alternatives, buying criteria, budgets, and dissatisfaction - without requesting confidential competitor information.
Supplier and partner market data	General capability, lead time, cost trends, standards, and technology direction within contractual and ethical boundaries.
Flight and site observation	Lawful observation from permitted locations; no interference, trespass, unsafe activity, or unauthorized recording.
Standards and regulatory participation	Public standards, FAA materials, rulemaking, certifications, exemptions, and industry working groups.
Patent and trademark monitoring	New applications, grants, assignments, continuations, oppositions, cancellations, and disputes.
Talent and organization signals	Public hiring, leadership, location, function, and skills trends; no solicitation of protected information.
Commercial intelligence	Pricing structure, partner model, service scope, customer references, and contract patterns obtained lawfully.

Quarterly Competitive Review

- Competitor product, payload, range, configuration, energy, autonomy, and infrastructure changes.
- Testing, certifications, exemptions, environmental approvals, route launches, incidents, and service performance.
- Customers, partners, contracts, financing, hiring, facilities, suppliers, and geographic expansion.
- Patents, trademarks, litigation, standards participation, publications, and public technical disclosures.
- Phoenix win/loss data, objections, price alternatives, customer preference, and route economics.
- Strategic response: ignore, monitor, differentiate, accelerate, redesign, partner, license, acquire, or exit.

Competition and IP Risk Register

Risk	Rating	Potential effect	Primary mitigation
Unclear ownership of prior designs or assets	High	Investor diligence failure, dispute, injunction, redesign, or loss of core technology	Immediate chain-of-title audit, written assignments/licenses, clean redesign where required, and controlled records
Public disclosure before patent filing	High	Loss of foreign rights and possible U.S. rights	Publication review, invention disclosures, provisional/nonprovisional decision, confidentiality, and filing calendar
Third-party patent infringement	High	License cost, redesign, litigation, delay, or market restriction	Landscape, FTO, claim mapping, design alternatives, opinions, licensing, and monitoring
Weak trade-secret measures	High	Loss of protection, leakage, employee/supplier misuse, and competitive copying	Classification, access, NDA, monitoring, offboarding, incident response, and consistent enforcement
Trademark conflict	Medium	Rebrand cost, customer confusion, opposition, or infringement claim	Comprehensive clearance, filing strategy, naming architecture, monitoring, and counsel
AI-assisted asset uncertainty	Medium	Limited exclusivity, registration issue, third-party claim, or inconsistent brand ownership	Human-authorship records, source review, tool terms, legal review, redesign, and accurate registration disclosures
Open-source license or vulnerability issue	High	Source-disclosure obligation, product delay, cyber exposure, or customer rejection	SBOM, license review, scanning, approved components, updates, supplier evidence, and release gate
Cyber compromise of aircraft or IP	High	Unsafe operation, data loss, fleet grounding, theft, regulatory action, and reputational damage	CSF/SSDF program, segmentation, secure releases, monitoring, testing, response, backups, and exercises
Supplier compromise or counterfeit component	High	Unsafe product, hidden access, quality escape, or fleet action	Criticality analysis, approved suppliers, provenance, inspection, contracts, testing, alternates, and incident flow-down
Export-control violation	High	Civil/criminal penalties, loss of privileges, investment and customer disruption	Classification, screening, technology-control plan, licenses, access control, records, and counsel
Competitor reaches Phoenix payload niche first	Medium	Reduced customer access, price pressure, talent/capital competition, and weaker differentiation	Focused beachhead, faster evidence, design partners, route data, modular payload, partnerships, and claims discipline
Overbroad product roadmap	High	Capital dilution, slow execution, fragmented IP, and weak customer proof	P1 focus, stage gates, reuse targets, market evidence, and board approval for new aircraft

Twenty-Four-Month IP and Moat Roadmap

Window	Program focus	Required outputs
0-30 days	Ownership containment	Appoint counsel/owner; freeze uncontrolled disclosure; inventory assets and contributors; collect agreements; secure repositories; begin trademark and patent searches
30-90 days	Audit and first filings	Resolve priority chain-of-title gaps; create invention-disclosure process; complete initial patent landscape and FTO screen; file priority applications where justified; begin mark clearance
3-6 months	Program controls	Launch trade-secret classification, publication review, open-source/SBOM, cybersecurity profile, supplier IP/security terms, export-control classification, and brand standards
6-12 months	Evidence and portfolio	File follow-on inventions; decide nonprovisional/PCT strategy; register priority marks/copyrights; monitor competitors; protect D1 design, software, payload, tests, and route data
12-18 months	Pilot protection	Finalize customer/partner data and IP terms; protect site, payload, workflow, software, safety, and reliability learning; conduct updated FTO before pilot configuration
18-24 months	Commercial moat	Convert pilot data into patents/secrets/software/process improvements; register marks; qualify suppliers; secure recurring contracts; update export and international protection strategy
24+ months	Portfolio and scale	Annual portfolio pruning, continuation strategy, international filings, licensing/acquisition opportunities, enforcement, defensive publications, and product-family expansion gates

IP and Competitive Governance

Role	Primary accountability
Founder & CEO	Business priorities, founder contributions, prior-company history, strategic claims, major filings, partnerships, and risk acceptance.
Chief Engineer	Invention capture, technical secrecy, prior art, design alternatives, technical disclosure, configuration, and engineering evidence.
IP counsel	Ownership, patentability, drafting, filing, prosecution, FTO, trademarks, licenses, enforcement, and international strategy.
General / commercial counsel	Employment, contractor, customer, partner, supplier, data, AI, open-source, export, publicity, and dispute terms.
Security and IT	Repositories, access, monitoring, incident response, device/cloud control, software provenance, and supplier security.
Quality and operations	Configuration, manufacturing, maintenance, safety, regulatory, supplier, and field-data protection.
Business development and marketing	Claims review, competitor information, customer data, branding, events, demonstrations, proposals, and publications.

Role	Primary accountability
Finance and board	Budget, portfolio value, insurance, diligence, material disputes, licensing, acquisition, and strategic moat metrics.

IP Review Cadence

- Weekly during active design: new inventions, disclosures, collaborator access, supplier changes, public materials, and competitor events.
- At every engineering gate: ownership, invention disclosures, patent/FTO status, secrets, open source, export, and publication readiness.
- Monthly executive review: critical assets, filings, deadlines, risks, incidents, budget, agreements, competitor changes, and required decisions.
- Quarterly board review: portfolio, moat metrics, material claims, export/security, litigation, licensing, international strategy, and investment priorities.
- At onboarding/offboarding and every material partnership: assignment, confidentiality, access, return, data, publication, and continuing obligations.

Decisions Required Before Section 6 Is Final

- Confirm the legal entity that will own all Phoenix intellectual property, data, marks, domains, software, and regulatory evidence.
- Authorize a privileged chain-of-title review covering Steve Dixon, prior companies, Scorpion XL, collaborators, and current Phoenix work.
- Select patent and trademark counsel and approve the initial search and filing budget.
- Decide which concepts must remain confidential until filings are complete and which materials should be removed or revised publicly.
- Approve the initial patent-family priorities and the criteria for patent versus trade-secret treatment.
- Approve a comprehensive PHOENIX UNMANNED name/logo clearance and the final company/product naming architecture.
- Confirm the treatment and documentation of AI-assisted imagery, text, designs, and business materials.
- Select secure repositories and implement confidentiality classification, access, publication review, and offboarding.
- Approve open-source, SBOM, secure-development, vulnerability-disclosure, and supplier cybersecurity policies.
- Appoint export-control ownership and authorize classification of the aircraft, software, technical data, encryption, propulsion, and sensors.
- Approve customer, supplier, employee, contractor, university, investor, and operating-partner IP/data contract templates.
- Define the first 24-month moat metrics presented to investors and the board.

Section 6 Management Position

Phoenix Unmanned's moat must be earned through repeated execution. Competitors can copy a visible shape, publish a larger payload target, hire experienced people, or enter the same market. They cannot quickly reproduce a cleanly owned portfolio, validated cargo system, customer-route intelligence, safety and certification evidence, reliable fleet, secure software, trusted suppliers, approved sites, trained organization, recurring contracts, and a culture that protects the mission.

Sources and Strategic References

- [1] Zipline, January 21, 2026 announcement: more than 2 million deliveries, more than 5,000 hospitals and health facilities, and more than 125 million autonomous commercial miles.
- [2] Zipline, February and July 2026 company announcements concerning healthcare networks and U.S. expansion.
- [3] Wing company website and technology materials, 2026: more than 1 million commercial home deliveries and scaled fleet-oversight capabilities.
- [4] Wing, July 16, 2026, NHS/Apiary/South West London Pathology program: company reported a route reduced from up to 40 minutes by road to a reliable five-minute flight.
- [5] Matternet M2 system materials: up to 2 kilograms / 4.4 pounds over approximately 20 kilometers / 12.4 miles, integrated with landing station and software.
- [6] Matternet public filings and company materials, 2026: more than 60,000 cumulative flights and FAA Type and Production Certificates for the M2 platform.
- [7] Elroy Air Chaparral current company product materials: company-marketed 500-plus-pound payload and 450-mile extended range.
- [8] Elroy Air, December 18, 2025, first A-to-B cargo-delivery announcement describing a configuration intended to carry up to 300 pounds across 300 miles.
- [9] MightyFly current company website: company-marketed cargo capacity up to 500 pounds and range up to 1,000 miles.
- [10] MightyFly company releases concerning 100- and 500-pound autonomous hybrid eVTOL aircraft, defense demonstrations, and development programs.
- [11] Dronamics Black Swan company materials: approximately 350 kilograms / 770 pounds payload, 2,500 kilometers / 1,550 miles range, and short-runway operations.
- [12] United States Patent and Trademark Office, Patent Basics and IP basic toolkits.
- [13] United States Patent and Trademark Office, Trademark Basics and federal trademark searching guidance.
- [14] United States Patent and Trademark Office, Trade Secret Policy and IP toolkits.
- [15] U.S. Copyright Office, Copyright Basics, computer-program registration guidance, and registration resources.
- [16] USPTO Assignment Center and patent/trademark assignment guidance, updated 2026.
- [17] USPTO patent ownership and assignment guidance concerning assignees and obligations to assign.
- [18] USPTO, Provisional Application for Patent guidance: early filing date, 12-month pendency, public-disclosure and foreign-right warnings.
- [19] USPTO, Pursuing International IP Protection: many countries may not grant patents when public disclosure precedes filing.
- [20] USPTO MPEP ownership guidance: patent ownership does not itself provide freedom to practice where other rights or legal restrictions apply.
- [21] USPTO Patent Public Search, updated July 2026, for U.S. patents and published applications.
- [22] USPTO Trade Secret Policy and resources.

- [23] U.S. Department of Justice trade-secret guidance: owners must take reasonable measures to keep information confidential.
- [24] USPTO Trademark Basics and Search tools.
- [25] USPTO, Why Search for Similar Trademarks: comprehensive clearance can include federal, state, and internet sources.
- [26] U.S. Copyright Office Circular 61, Copyright Registration of Computer Programs, including software manuals and documentation.
- [27] U.S. Copyright Office, Copyright Registration Guidance for Works Containing AI-Generated Materials.
- [28] U.S. Copyright Office, Copyright and Artificial Intelligence, Part 2: Copyrightability, January 2025.
- [29] National Institute of Standards and Technology, SP 800-218 Secure Software Development Framework Version 1.1; Version 1.2 remained a draft in 2026.
- [30] Cybersecurity and Infrastructure Security Agency, Software Bill of Materials resources and 2025 minimum-elements materials.
- [31] National Institute of Standards and Technology, Cybersecurity Framework 2.0: Govern, Identify, Protect, Detect, Respond, and Recover.
- [32] NIST SP 800-161 Rev. 1 and SP 1305 Cybersecurity Supply Chain Risk Management guidance.
- [33] U.S. Department of Commerce, Bureau of Industry and Security, Export Administration Regulations, 15 CFR Parts 730-774.
- [34] U.S. Department of State, International Traffic in Arms Regulations, including Category VIII treatment of specified manned and unmanned aircraft and related articles.
- [35] Phoenix Unmanned Business Plan Sections 1-5, investor deck, aircraft concepts, white papers, brand assets, publication materials, founder history, and route/product planning assumptions.

Competitor capabilities are based on public company statements and may describe targets, selected configurations, or self-reported results. Phoenix should independently verify material claims during diligence. This section is a strategic management plan, not a legal opinion on patentability, freedom to operate, ownership, trademark availability, copyright, trade-secret protection, export controls, cybersecurity compliance, or enforceability.



BUSINESS PLAN

2026-2030 Strategic and Operating Plan

SECTION 7

Team, Organization, Milestones, and Implementation Plan

Build the team. Assign the authority. Turn strategy into controlled execution.

Prepared for strategic, investor, partner, and management review

Prepared by Phoenix Unmanned

Founder & CEO: Steve Dixon

July 2026 | Review Draft

Section Purpose

Section 7 defines the leadership, organization, governance, hiring sequence, decision rights, management cadence, and integrated implementation plan required to execute Phoenix Unmanned's approved strategy. It translates the market, aircraft, commercial, operating, regulatory, and intellectual-property plans in Sections 1-6 into accountable workstreams, stage gates, staffing decisions, and a 2026-2030 company-building roadmap.

Organizational Executive Summary

Phoenix Unmanned is a founder-led, pre-revenue aircraft company entering a capital-constrained development stage. The organization must therefore be small enough to preserve runway, technically strong enough to build and test a full-scale demonstrator, disciplined enough to create certification-quality evidence, and commercially focused enough to convert customer discovery into paid programs. The Company should not attempt to staff a production organization before the design, regulatory pathway, customer route, and financing base are sufficiently mature.

Steve Dixon should remain the accountable Founder and Chief Executive Officer, responsible for mission, capital, strategic customers, senior hiring, and overall execution. Technical, safety, regulatory, quality, financial, and commercial authority must nevertheless be assigned to named functions with independent escalation rights. Founder speed is an advantage only when it operates inside controlled requirements, configuration, safety, and cash-management systems.

Current Phoenix materials identify John Hayes in aerospace engineering, Rut Patel in regulatory support, and Jimmy Weise in business development. This plan does not assume that any named individual is a full-time employee, officer, director, or equity holder unless documented. Before external diligence, Phoenix must confirm each person's legal relationship, responsibilities, availability, compensation, confidentiality, intellectual-property assignment, conflicts, and authority.

Organizational Planning Conclusions

- Build a small core team around systems engineering, flight controls/software, test, manufacturing integration, safety/regulatory execution, customer programs, and financial control.
- Use advisors, contractors, suppliers, and operating partners for specialist capacity, but retain internal ownership of system architecture, configuration, safety decisions, customer commitments, and program integration.
- Separate technical authority, safety authority, and commercial pressure so schedule or fundraising urgency cannot override evidence-based release decisions.
- Tie every hire to a funded work package, an accountable milestone, and a fully loaded cost that preserves the approved runway.
- Operate one integrated master plan connecting aircraft development, regulatory approvals, customer pilots, IP, quality, cash, hiring, and financing.
- Use 30-, 60-, 90-, 180-, 270-day, 12-month, 18-month, and 24-month gates already established in the technical and commercial plans.
- Measure organizational readiness through demonstrated outputs, not job titles, headcount, or activity volume.

Founder Leadership and Current Team

Founder and Chief Executive Officer - Steve Dixon

Steve Dixon is the founder and proposed Chief Executive Officer of Phoenix Unmanned. Prior Phoenix materials state that he founded Full Throttle Innovations in 2013, formerly led Full Throttle Aerial, and directed the Scorpion XL heavy-lift UAS program from concept to first flight in approximately 28 days. That history supports a founder-led build culture, but investor and partner diligence should verify the prior-company chronology, aircraft records, ownership of designs and assets, public claims, and any continuing obligations. [1][5]

Founder accountability	Primary responsibilities	Evidence expected
Mission and strategy	Set the Company mission, customer wedge, product boundaries, capital priorities, and annual objectives.	Board-approved strategy, operating plan, budget, and documented priorities.
Capital and runway	Lead fundraising, investor communication, financing terms, cash discipline, and contingency planning.	Monthly cash forecast, fundraising pipeline, closing plan, and approved spending authority.
Strategic customers	Own executive relationships with launch health systems, operating partners, suppliers, and public-sector stakeholders.	Named accounts, meeting records, customer data, paid next steps, and contract decisions.
Leadership and culture	Recruit senior contributors, set performance expectations, resolve cross-functional conflicts, and model safety and integrity.	Role charters, objectives, reviews, succession coverage, and documented decisions.
Accountable executive	Provide authority and resources for safety, quality, regulatory compliance, cybersecurity, and operational control.	SMS accountability, stop-work support, management reviews, corrective actions, and board reporting.
External representation	Approve public claims, demonstrations, partnerships, press, investor materials, and customer references.	Publication review, claim substantiation, confidentiality, and approval records.

Founder Role Boundaries

- The Founder/CEO does not unilaterally release aircraft for flight when technical or safety criteria are not met.
- The Founder/CEO does not approve unbudgeted commitments outside delegated authority without the required board or financing approval.
- The Founder/CEO does not represent candidate performance, partnerships, certifications, or customer commitments as completed facts.
- The Founder/CEO may accelerate decisions, but requirements, configuration, test evidence, contracts, and risk acceptance must remain documented.
- The Company should establish a practical succession and emergency-authority plan so operations do not depend on one individual being continuously available.

Named Contributors in Current Materials

Name / identified function	Planning role in Section 7	Required confirmation before reliance
John Hayes - Aerospace Engineering	Support aircraft architecture, engineering review, technical planning, design evidence, and development decisions within documented authority.	Legal status; availability; qualifications; scope; technical authority; compensation; IP assignment; conflicts; prior obligations; deliverables.

Name / identified function	Planning role in Section 7	Required confirmation before reliance
Rut Patel - Regulatory	Support regulatory strategy, applications, compliance mapping, authority pathway, operating-partner diligence, and regulator coordination.	Legal status; regulatory experience; scope; professional-advisor relationship; confidentiality; conflicts; approval authority; deliverables.
Jimmy Weise - Business Development	Support target accounts, customer discovery, partnerships, CRM, proposals, follow-up, and commercial pipeline development.	Legal status; availability; account ownership; compensation; commission/equity terms; confidentiality; claims authority; conflicts; deliverables.

No title in a pitch deck or business plan substitutes for a signed agreement, verified qualifications, defined authority, measurable deliverables, and clear intellectual-property ownership.

Team Diligence File

- Signed employment, consulting, advisory, director, or supplier agreement for every contributor.
- Confidentiality, invention assignment, prior-invention schedule, work-product ownership, data, publication, and return-of-materials terms.
- Resume, references, relevant licenses or certificates, availability, location, citizenship/export-control screen where required, and conflict disclosures.
- Compensation, equity, commission, expense, milestone, termination, and change-of-control terms approved under delegated authority.
- Role charter, reporting relationship, decision rights, measurable objectives, and access permissions.
- Background and sanctions screening proportionate to access, customer requirements, aviation responsibility, finance authority, and export-controlled information.

Organization Design Principles

- 1 Mission before hierarchy**
Design the organization around the D1 demonstrator, P1 medical-logistics pilot, and customer-route evidence rather than around conventional executive titles.
- 2 One accountable owner per output**
Every requirement, drawing, test, supplier, application, customer commitment, budget line, risk, and milestone has one named owner and a defined approver.
- 3 Independent technical and safety authority**
Commercial urgency cannot override design, airworthiness, test, maintenance, quality, security, or safety controls.
- 4 Small core, controlled specialist network**
Retain company-level integration and accountability while using qualified contractors, advisors, suppliers, and partners for bounded work.
- 5 Evidence-based growth**
Add people, facilities, and management layers only after work volume, risk, revenue, and financing justify the fixed cost.
- 6 Cash and schedule visibility**
Every workstream reports cost to complete, schedule variance, dependency, and decision required before commitments increase.
- 7 Cross-functional program control**
Engineering, regulatory, customer, operations, manufacturing, finance, IP, and safety plans are managed as one integrated program.
- 8 Documentation proportional to consequence**
Use lightweight controls for low-risk work and rigorous records for flight, safety, regulatory, customer, financial, IP, and configuration decisions.
- 9 Learning without repetition**
Test anomalies, customer objections, supplier escapes, and process failures produce corrective actions, owners, due dates, and verified closure.
- 10 Succession and resilience**
Critical knowledge, credentials, files, access, vendor relationships, and decision authority must survive absence, turnover, or contractor termination.

Seed-Stage Organizational Shape

Operating group	Core accountability	Initial staffing model
Executive and program leadership	Strategy, capital, integrated plan, priorities, major decisions, customer and partner alignment.	Founder/CEO plus program-management capacity; board and specialist advisors.
Aircraft and systems engineering	Requirements, architecture, mass/energy, structures, propulsion, avionics, controls, payload, interfaces, verification.	Small internal technical core supported by qualified engineering contractors and suppliers.
Flight test and safety	Test plans, readiness reviews, test conduct, telemetry, anomalies, emergency planning, independent stop authority.	Dedicated accountable lead before powered ground or flight test; specialist pilots/crew as required.
Manufacturing and quality	Supplier control, work instructions, as-built configuration, inspection, nonconformance, acceptance, records.	Manufacturing/test technician plus quality authority; outsourced fabrication where appropriate.
Regulatory and operations	Testing authority, applications, manuals, operating concept, partner strategy, sites, training, maintenance, compliance.	Fractional or contracted specialists early, with a named internal owner and direct CEO access.
Customer programs and commercial	Discovery, route data, proposals, paid feasibility, pilot scope, implementation, conversion, customer success.	Founder-led strategic accounts with business-development and customer-program support.
Finance, legal, people, and administration	Cash, accounting, controls, contracts, equity, insurance, payroll, HR, facilities, and board administration.	Outsourced professionals with internal executive ownership until scale justifies hires.
Software, data, and cybersecurity	Flight/ground software, fleet services, data architecture, access, release control, SBOM, security, customer integration.	Core flight-control/software ownership plus specialist cloud/security capacity.

Recommended Reporting Structure: Seed Stage

Role / function	Reports to	Independent authority or escalation
Founder & CEO	Board of directors	Accountable executive; subject to board reserved matters and financing documents.
Chief Engineer / Design Authority	CEO	May reject or defer technical release; escalates unresolved safety, performance, and compliance issues.
Program Lead	CEO	Maintains integrated master plan; escalates cross-functional dependency, budget, and schedule conflicts.
Safety / Quality Lead	CEO with direct board access	May stop work, test, manufacturing release, maintenance release, or flight within defined authority.
Flight-Test Lead	Chief Engineer or Program Lead, with safety independence	Controls test execution and readiness criteria; may terminate tests.
Regulatory Lead	CEO / Program Lead	Controls regulatory submissions and compliance claims within approved strategy.
Customer-Program Lead	CEO / Commercial Lead	Controls customer scope, data, milestones, and implementation records; cannot promise unapproved capability.
Finance / Controller	CEO with board reporting	Controls accounting, cash reporting, payment process, budget variance, and financial records.
Cybersecurity / Data Owner	Chief Engineer or COO-equivalent as organization grows	Controls privileged access, release security, incident escalation, and customer-data safeguards.

Role Architecture and Hiring Plan

Headcount Philosophy

The \$2.0 million seed plan cannot support a conventional aerospace organization with every discipline staffed full time. Phoenix should budget by required capability and deliverable, then select the lowest-risk mix of employees, contractors, advisors, suppliers, and partners. Headcount is a result of the work plan, not a milestone by itself. [1]

- Keep company payroll concentrated on persistent integration, decision, safety, customer, and knowledge-retention roles.
- Use fixed-scope contracts for finite analyses, specialized fabrication, counsel, certification support, environmental work, and independent testing.
- Avoid long-term dependency on one contractor for flight-critical software, configuration records, customer data, or regulatory files without continuity rights.
- Do not hire ahead of funding close, approved scope, workspace, tools, manager capacity, and measurable first-90-day outputs.
- Require a runway test before every hire: fully loaded cost, start date, recruiting fees, equipment, benefits, travel, taxes, insurance, and severance exposure.
- Use compensation and equity bands approved by the board; avoid one-off promises that create internal inequity or capitalization surprises.

Twenty-Four-Month Capacity Plan

Window	Core payroll capacity - planning band	Fractional / contractor capacity	Primary organizational objective
0-3 months	2-4 full-time or founder-equivalent contributors	Engineering, regulatory, legal, finance, IP, and customer specialists	Establish requirements, legal relationships, controls, trade studies, budget, and program baseline.
3-8 months	3-5 core contributors	Structures, propulsion, avionics, software, test-rig, supplier, and certification specialists	Complete PDR/CDR work, release procurement, and create controlled design and test packages.
7-12 months	4-7 core contributors	Fabrication, inspection, flight-test, telemetry, safety, and site support	Assemble the demonstrator, complete ground verification, and prepare for first flight.
10-18 months	5-8 core contributors	Flight-test crew, reliability, maintenance, payload, cybersecurity, and regulatory support	Expand the envelope, grow reliability, close anomalies, and prepare the customer pilot.
15-24 months	6-10 core contributors	Operating partner, field support, customer implementation, quality, legal, and financing support	Execute a paid pilot, convert the first route, and build the P1 production and financing package.

These are planning bands, not authorized positions. Section 8 must test them against compensation, contractor rates, payroll burden, vendor quotations, hiring timing, cash reserve, and financing milestones. A smaller team with experienced fractional capacity may be preferable to premature full-time hiring.

Priority Hiring Sequence

1	Program and systems integration capacity Create one controlled requirements set, work breakdown structure, integrated schedule, risk register, budget, and cross-functional decision record.
2	Chief Engineer / Design Authority Own aircraft architecture, requirements allocation, technical reviews, configuration release, verification evidence, and technical risk.
3	Flight controls and embedded software Own control laws, avionics integration, software architecture, simulation, hardware-in-the-loop, release control, and flight-data analysis.
4	Manufacturing and test integration Own build planning, tooling, work instructions, supplier coordination, as-built records, ground test, instrumentation, and discrepancy closure.
5	Safety, quality, and regulatory execution Create the safety case, SMS/quality controls, test authority, applications, compliance mapping, manuals, and independent release gates.
6	Customer-program leadership Convert route discovery into paid feasibility, data packages, pilot contracts, site readiness, payload validation, and executive reviews.
7	Electrical, energy, and propulsion depth Own power architecture, energy storage/generation, thermal management, wiring, propulsion integration, redundancy, and supplier evidence.
8	Flight-test and maintenance capability Plan and execute safe test operations, maintain configuration, analyze anomalies, control maintenance, and build reliability evidence.
9	Finance and operations control Strengthen accounting, procurement, budgeting, payroll, inventory, contracts, insurance, board reporting, and audit readiness.
10	Customer success and field operations Add after pilot scope is funded to support sites, training, service metrics, issue resolution, renewal, and route expansion.

Hiring Gates

Gate	Evidence required before offer or contract	Approver
Work requirement	Documented role charter, outputs, first-90-day plan, manager, dependencies, tools, and success measures.	Hiring manager and Program Lead
Financial capacity	Fully loaded cost, budget line, cash impact, runway after hire, start date, and downside plan.	CEO and finance; board where required
Candidate capability	Relevant work evidence, structured interviews, references, technical exercise where appropriate, and values/safety assessment.	Functional lead and CEO
Legal and IP	Agreement, confidentiality, invention assignment, prior inventions, conflicts, export/data access, and background screen as applicable.	Legal/IP owner and CEO
Access and onboarding	Approved accounts, data classification, training, equipment, facility access, records, and 30/60/90-day objectives.	Manager, security, and administration
Continuation	Performance review, milestone contribution, cost-to-complete need, team fit, and knowledge transfer.	Manager and CEO

Priority Role Profiles

Chief Engineer / Design Authority

Dimension	Planning requirement
Mission	Convert customer and regulatory needs into a safe, testable, producible aircraft system and control the released technical baseline.
Core outputs	Requirements; architecture; interface control; mass/energy/cost models; design reviews; verification matrix; configuration approvals; anomaly decisions; production transition.
Experience emphasis	Aircraft/UAS systems integration, flight-critical design, test, configuration, multidisciplinary tradeoffs, supplier evidence, and clear technical communication.
Authority	Approve or reject technical releases within delegation; require additional evidence; convene reviews; stop technical progression when criteria are not met.
First 90 days	Close mission requirements, lead trade studies, conduct MRR/SRR, define PDR/CDR evidence, identify long-lead risks, and establish design authority.
Success measures	Requirements closure, mass/energy margin, review readiness, controlled changes, verification completion, anomaly closure, and technical milestone quality.

Program Lead / Systems Program Manager

Dimension	Planning requirement
Mission	Maintain one integrated program connecting aircraft, customer, regulatory, operations, IP, hiring, suppliers, cash, and financing.
Core outputs	Integrated master schedule, work breakdown, responsibility matrix, dependency map, risk register, decision log, cost-to-complete, executive dashboard, and review cadence.
Authority	Require owners and dates, escalate conflicts, reject unplanned scope, prepare gate decisions, and maintain the approved baseline.
First 90 days	Create work packages, milestone dictionary, weekly review, monthly board package, change control, and recovery plans for critical dependencies.
Success measures	Milestone predictability, dependency closure, schedule and budget variance, decision cycle time, action closure, and management visibility.

Flight Controls / Software Lead

Dimension	Planning requirement
Mission	Deliver controlled, testable, secure flight and ground software that supports safe VTOL, transition, cruise, contingency behavior, and remote supervision.
Core outputs	Software architecture; simulation; requirements; source control; coding standards; test automation; HIL/SIL; release records; cybersecurity; telemetry and data analysis.
Authority	Control software release and rollback within delegation; reject untested changes; require independent review for flight-critical functions.
First 90 days	Select architecture/toolchain, establish repositories and access, baseline simulation and HIL plan, define software assurance and release process.
Success measures	Requirements/test traceability, defect escape rate, simulation correlation, release stability, test coverage, anomaly closure, and secure configuration.

Safety, Quality, and Regulatory Lead

Dimension	Planning requirement
Mission	Create independent assurance that the Company designs, builds, tests, and proposes operations within approved safety, quality, and regulatory controls.
Core outputs	Regulatory roadmap; compliance matrix; SMS; hazard analyses; quality procedures; audit plan; test limitations; event process; applications; regulator and partner records.
Authority	Direct access to CEO and board; stop-work and stop-flight rights; approve or reject release evidence within delegation.
First 90 days	Confirm testing authority strategy, define risk acceptance, establish SMS/quality baseline, identify required applications, and conduct readiness gap assessment.
Success measures	Regulatory actions on schedule, hazard closure, audit findings, corrective-action aging, controlled records, and no release outside approved limits.

Customer-Program Lead

Dimension	Planning requirement
Mission	Translate customer problems into qualified routes, paid feasibility work, pilot contracts, implementation plans, and recurring service conversions.
Core outputs	Route data; stakeholder map; opportunity score; value case; proposal; pilot SOW; customer responsibilities; site/payload readiness; executive review; conversion plan.
Authority	Control customer program scope and change requests; cannot commit unapproved aircraft performance, regulatory outcome, schedule, or price.
First 90 days	Establish target accounts, CRM, discovery guide, route-data request, qualification gates, proposal templates, and first paid-feasibility pipeline.
Success measures	Qualified opportunities, paid feasibility, pilot contracts, data completeness, customer action closure, conversion probability, and recurring revenue pipeline.

Contractors, Advisors, Suppliers, and Partners

External Capacity Model

External relationship	Appropriate use	Phoenix control requirement
Engineering contractor	Finite analysis, drawing, simulation, test-rig, software module, certification artifact, or design package.	Approved requirements, deliverables, interfaces, reviews, source/design files, IP assignment, configuration, acceptance, and continuity.
Strategic advisor	Periodic expert review, introductions, governance, technical challenge, regulatory perspective, or market guidance.	Written scope, confidentiality, conflicts, no implied authority, time commitment, compensation/equity approval, and measurable contribution.
Supplier	Mature components, propulsion, avionics, structures, energy systems, fabrication, tooling, communications, or site equipment.	Quality, traceability, change notice, cybersecurity, export, IP, warranty, sub-tier, continuity, and alternate-source plan.
Operating partner	Part 135 authority, operational control, crews, manuals, maintenance, route operations, or commercial carriage support.	Clear authority, customer ownership, safety, data, economics, insurance, incident response, audit, and transition rights.
University / laboratory	Specialized research, testing, facilities, students, faculty expertise, or sponsored development.	Pre-work IP, publication, data, background rights, student assignment, sponsor terms, export, facility policies, and commercialization rights.
Professional firm	Legal, IP, accounting, tax, insurance, HR, cybersecurity, environmental, and regulatory counsel.	Engagement letter, budget, privilege/confidentiality, conflicts, deliverables, records, access, and escalation.

Make-or-Hire Decision Test

- Is the capability persistent, safety-critical, integration-critical, customer-critical, or central to intellectual property? Favor internal ownership.
- Is the need temporary, highly specialized, independently verifiable, and bounded by a clear deliverable? Consider contracting.
- Would externalizing the work create unacceptable schedule, security, export, certification, continuity, or knowledge-transfer risk? Retain or dual-source.
- Can Phoenix define acceptance evidence before work starts? If not, clarify requirements before committing.
- Does the manager have time and technical ability to supervise the external resource? Unmanaged contractors do not create capacity.
- Will the arrangement preserve customer, source-code, design, data, tooling, test, and regulatory records after termination?

Advisor Governance

Control	Required practice
Appointment	CEO recommendation and board approval where equity, officer-like title, public representation, or material access is involved.
Agreement	Scope, term, confidentiality, IP, conflicts, non-reliance, compensation, equity vesting, termination, publicity, and return of information.
Access	Least-privilege access limited to the engagement; no automatic repository, customer, financial, or flight-system access.
Performance	Quarterly review against introductions, reviews, deliverables, attendance, or other defined contribution.

Control	Required practice
Public title	Use accurate titles such as advisor, consultant, or contractor; do not imply employment, board membership, certification authority, or customer endorsement.
Exit	Disable access, collect records, confirm continuing confidentiality/IP, update public materials, and preserve work product.

Governance, Decision Rights, and Management Control

Board Structure - Seed-Stage Recommendation

The final board structure will depend on the legal entity, financing instrument, investor rights, and founder ownership. A practical seed-stage model is a three-person board: the Founder/CEO, one investor representative after a qualified financing, and one independent director with relevant aviation, safety, manufacturing, healthcare-logistics, or company-building experience. Until the financing closes, Phoenix should document who has legal director authority and avoid presenting advisors as directors.

Board responsibility	Minimum oversight
Strategy and capital	Approve annual strategy, financing, budget, cash reserve, material changes in business scope, and next-round readiness.
Safety, quality, and regulatory	Receive regular risk, event, audit, regulatory, test, and corrective-action reporting; protect independent stop authority.
Leadership and compensation	Appoint/evaluate the CEO; approve senior roles, compensation bands, equity pool, grants, succession, and related-party matters.
Technical and product	Review major stage gates, design or mission pivots, production commitment, certification strategy, and material performance claims.
Commercial commitments	Approve material contracts, exclusivity, pricing exceptions, guarantees, customer concentration, operating authority, and liability exposure.
Financial and legal control	Review financial statements, runway, taxes, insurance, litigation, IP ownership, capitalization, conflicts, and compliance.

Reserved Matters - Planning List

- Issuing equity, options, SAFEs, notes, warrants, debt, guarantees, or changing the capitalization structure.
- Annual budget, material unbudgeted spending, borrowing, liens, acquisitions, asset sales, or commitments above delegated limits.
- Hiring, terminating, or materially changing compensation of officers and other designated senior roles.
- Entering production, committing to customer delivery quantities, opening major facilities, or purchasing material long-lead inventory.
- Changing the core product family, primary customer market, regulatory operating model, or ownership of material intellectual property.
- Material litigation, settlements, related-party transactions, exclusive licenses, change-of-control rights, or public-company claims.

- Approval of stage gates that materially increase technical, regulatory, commercial, or cash exposure.

Delegation of Authority

Decision category	Primary owner	Required concurrence / escalation
Strategy and annual plan	CEO	Board approval
Technical baseline and release	Chief Engineer / Design Authority	Safety/quality concurrence where applicable; CEO informed
Flight-test readiness and conduct	Flight-Test Lead	Chief Engineer and Safety Lead; authority-specific approvals
Safety risk acceptance	Assigned risk authority by severity	High/unacceptable risk escalated to CEO/board; originating team cannot self-approve
Regulatory submission or claim	Regulatory Lead	Legal/technical review and CEO approval for material submissions
Customer scope and proposal	Customer-Program / Commercial Lead	Engineering, operations, finance, legal, and CEO according to risk/value
Supplier award and change	Functional owner / procurement	Quality, technical, finance, IP/security review as applicable
Budgeted spending	Budget owner	Within written limits; finance verification and procurement controls
Unbudgeted or material spending	CEO	Board or financing approval above threshold
Public statement or demonstration	CEO / communications owner	Technical, legal, customer, regulatory, and IP publication review

Stop-Work and Stop-Flight Authority

Any qualified person may call an immediate pause when an unsafe, unairworthy, uncontrolled, unapproved, or materially uncertain condition exists. Restart requires documented disposition by the designated authority - not the person or schedule that created the pressure to continue.

- Define who can stop design release, procurement, fabrication, assembly, software loading, ground test, flight test, maintenance release, payload acceptance, and customer operation.
- Protect good-faith reporting and prohibit retaliation for raising safety, quality, compliance, cybersecurity, financial-control, or ethical concerns.
- Record the reason, affected configuration or work, immediate containment, investigation owner, evidence required, approval to resume, and lessons learned.
- Escalate repeated overrides, hidden discrepancies, record alteration, unauthorized flight, or intentional noncompliance directly to the CEO and board.

Management Cadence and Company Operating System

Cadence	Participants	Purpose and required outputs
Daily / test-day control	Active workstream leads and affected personnel	Safety, aircraft/configuration status, blockers, site/weather, work release, immediate actions, and handoff.
Weekly technical review	CEO, Chief Engineer, Program, software, test, manufacturing, safety/quality, regulatory	Requirements, mass/energy, design, procurement, tests, anomalies, changes, risks, schedule, and decisions.
Weekly commercial review	CEO, business development, customer programs, finance, regulatory, engineering	Accounts, discovery, route data, proposals, contracts, customer actions, conversion, claims, and capacity.
Weekly cash and commitment review	CEO, finance, program, procurement	Cash, payables, purchase commitments, hiring, forecast, variance, runway, collections, and approvals.
Monthly program review	Executive and functional leads	Integrated milestone dashboard, cost to complete, risks, staffing, customer, safety, quality, regulatory, IP, and corrective actions.
Monthly board / investor package	Board and designated observers	Cash, financing, stage gates, major risks, safety/quality, technical progress, commercial pipeline, hiring, and decisions required.
Quarterly strategy review	Board, leadership, selected advisors	Market evidence, product fit, competitor response, financing, organizational capacity, roadmap, and pivot/continue decisions.
Gate review	Decision authority and independent reviewers	Evidence against entry/exit criteria, open risks, waivers, cost/schedule, decision, conditions, and accountability.

Required Management Records

Record	Minimum content and owner
Integrated master plan	Program Lead: work packages, milestones, dependencies, baseline, critical path, owners, dates, and status.
Decision log	Program Lead: decision, options, evidence, approvers, date, assumptions, conditions, and follow-up.
Risk and opportunity register	Functional owners: cause, event, impact, rating, mitigation, trigger, owner, due date, residual risk, and escalation.
Action register	Meeting owner: action, accountable person, due date, status, aging, and closure evidence.
Cost-to-complete forecast	Finance and Program: actuals, committed cost, estimate to complete, reserve, runway, and scenario impacts.
Configuration and test records	Engineering/quality: released baseline, serials, software, build, inspections, test results, anomalies, and approvals.
Customer program record	Customer-Program Lead: stakeholders, route data, scope, commitments, approvals, actions, contract, value, and conversion.
People and access register	Administration/security: status, agreements, role, training, devices, accounts, access, review, and termination.
Board and legal record	Corporate secretary/counsel: consents, minutes, capitalization, grants, contracts, conflicts, policies, and filings.

Management Dashboard Principles

- Show trend, target, current status, owner, forecast, and decision required - not only completed activity.
- Distinguish demonstrated facts, planning assumptions, committed dates, target dates, and externally dependent dates.
- Use red/amber/green only with defined thresholds and narrative explaining cause and recovery.
- Report cost and schedule together; an on-time milestone that consumes the next milestone's budget is not healthy.

Integrated Implementation Workstreams

Workstream	Accountable output	Primary owner	Key dependencies
Company and financing foundation	Legal entity, capitalization, governance, budget, cash control, insurance, facilities, data room, and fundraising plan.	CEO / Finance / Counsel	Funding terms, ownership records, historical obligations, board decisions.
Customer and route validation	Named launch accounts, route data, qualification, paid feasibility, pilot scope, value case, and conversion path.	CEO / Customer Programs	Customer sponsor, payload data, sites, regulatory feasibility, aircraft requirements.
Aircraft requirements and architecture	Approved D1/P1 requirements, configuration, interfaces, verification, mass/energy/cost, and design baseline.	Chief Engineer	Route data, supplier evidence, regulatory concept, cash and schedule.
Software, autonomy, and ground systems	Controlled flight/ground software, simulation, HIL, communications, telemetry, security, release, and customer data interfaces.	Software Lead	Architecture, avionics, safety requirements, test assets, cyber controls.
Prototype manufacturing and supply chain	Qualified suppliers, released work, tooling, build records, inspections, as-built configuration, acceptance, and spares.	Manufacturing / Quality	Design release, procurement, facility, funding, long-lead items.
Safety, quality, and test	Hazard controls, SMS/quality system, test plans, readiness, event response, anomalies, reliability, and evidence package.	Safety / Quality / Flight Test	Configuration, staff qualification, site, authority, instrumentation, emergency response.
Regulatory and operating pathway	Testing authority, applications, compliance matrix, Part 135 partner/build strategy, manuals, sites, and operating concept.	Regulatory Lead	Aircraft/mission definition, legal advice, partner diligence, FAA schedule.
Payload and customer workflow	Validated medical/general cargo module, containment, monitoring, custody, handling, receiving, and exception process.	Payload / Customer Program	Customer requirements, test articles, quality, dangerous-goods position.
IP, cybersecurity, and data governance	Ownership, inventions, filings, trade secrets, secure development, access, SBOM, supplier trust, and data rights.	CEO / Legal / Technical owners	Contributor agreements, architecture, suppliers, publications, customer contracts.
Commercial and partnership execution	Pricing, proposals, contracts, operating/supplier partners, CRM, paid programs, conversion, and expansion pipeline.	CEO / Business Development	Technical evidence, regulatory feasibility, capacity, finance, legal.
People and organization	Role charters, hiring, onboarding, performance, training, culture, access, succession, and contractor governance.	CEO / Functional leads	Budget, work packages, manager capacity, legal and security controls.
Next-round readiness	Auditable data room, demonstrated milestones, customer evidence, financial model, financing story, diligence, and use of proceeds.	CEO / Finance / Program	All workstreams, board strategy, market conditions, investor pipeline.

Integrated Program Principle

Phoenix does not have an aircraft schedule, a fundraising schedule, a customer schedule, and a regulatory schedule. It has one company schedule with shared dependencies and one cash runway.

Twenty-Four-Month Master Implementation Plan

Window	Company and team	Aircraft and operations	Customer and commercial	Gate / outcome
0-30 days	Confirm legal structure, named-team status, board authority, role charters, budget owners, advisors, data room, and hiring priorities.	Approve route-data request, mission requirements process, test-authority options, safety/quality baseline, and systems tools.	Finalize target accounts, discovery guide, route qualification, pricing model, NDA, and paid-feasibility offer.	Mission and organization baseline approved.
31-60 days	Engage priority technical/regulatory capacity; complete IP assignments, access controls, supplier and hiring pipeline.	Complete configuration, propulsion, energy, payload, regulatory, make/buy, facility, and test-site trades.	Conduct executive discovery, collect initial route data, map operating partners and customer decision process.	Trade-study recommendation and funding allocation.
61-90 days	Establish weekly/monthly reviews, delegation, cash controls, compensation bands, board reporting, and 90-day performance plans.	Conduct MRR/SRR, freeze D1 baseline, release long-lead procurement, approve verification and safety approach.	Qualify opportunities, seek letters of intent and paid route assessments, identify flagship customer.	D1 baseline and customer focus approved.
3-6 months	Add required software, manufacturing/test, and program capacity; formalize advisor and supplier governance.	Complete PDR, bench tests, simulation/HIL, supplier first articles, facility readiness, and regulatory application work.	Complete paid feasibility work, pilot business case, site/payload diligence, and draft pilot/partner contracts.	PDR and pilot feasibility decision.
6-9 months	Add flight-test/safety and build capacity when funded; maintain runway and contingency reserve.	Complete CDR, release integrated build, close critical design risks, begin assembly and test article production.	Negotiate pilot SOW, data, liability, customer responsibilities, conversion, and public-reference terms.	CDR and build authorization.
9-12 months	Qualify test crew, maintenance, emergency, quality, and configuration responsibilities; prepare next-round narrative.	Complete assembly, inspections, software loading, ground testing, first-flight review, and legal test authority.	Finalize customer pilot readiness plan, operating partner, route/site approvals, payload articles, and executive governance.	First-flight readiness and controlled first flight.
12-18 months	Retain critical knowledge, manage fatigue/workload, add reliability and customer-program capacity only as required.	Expand hover/transition/cruise envelope, range, payload, contingencies, maintenance, reliability, and cybersecurity evidence.	Execute progressive customer demonstrations, monthly executive reviews, value validation, and conversion proposal.	Reliability readiness and pilot authorization.
18-24 months	Build P1 and field-support organization plan; complete financing, production, and governance readiness assessment.	Execute paid/contract-backed institutional pilot, close anomalies, validate payload workflow, service metrics, and production changes.	Convert one or more routes or secure equivalent binding program; build expansion pipeline and next-round evidence.	P1 production decision and institutional financing package.

Cross-Functional Milestones

1	Milestone 1 - 30 days Approve legal/organizational baseline, mission requirements process, route-data package, integrated plan, initial budget, and decision rights.
2	Milestone 2 - 60 days Complete configuration, propulsion, energy, payload, regulatory, make/buy, supplier, facility, hiring, and cash trade studies.
3	Milestone 3 - 90 days Conduct MRR and SRR; freeze D1 baseline; release long-lead procurement; qualify launch customer and paid-feasibility pipeline.
4	Milestone 4 - 180 days Complete PDR, major bench tests, regulatory/testing submission package, paid route studies, and pilot feasibility decision.
5	Milestone 5 - 270 days Complete CDR, authorize integrated assembly, close critical IP/ownership issues, and negotiate pilot/operating-partner terms.
6	Milestone 6 - 12 months Complete ground-test readiness, first-flight review, legal authority, trained test organization, and controlled first flight.
7	Milestone 7 - 18 months Complete initial envelope expansion, reliability-growth campaign, maintenance baseline, customer workflow evidence, and pilot authorization.
8	Milestone 8 - 24 months Execute a paid or contract-backed institutional pilot, decide P1 production configuration, and complete the next institutional financing package.

Critical Path, Dependencies, and Stage Gates

Primary Critical-Path Dependencies

Dependency	Why it controls the program	Required management action
Launch route and payload data	Aircraft requirements, site, range, payload, reserves, custody, value, and pilot design cannot be responsibly frozen without it.	Secure customer data early; use bounded assumptions with explicit owners and expiration dates.
Legal ownership and contributor agreements	Unclear rights can block investment, supplier work, software use, patent filing, and customer contracts.	Complete chain-of-title and assignments before broader disclosure or material development.
Configuration and energy architecture	Drives propulsion, structure, controls, mass, thermal, cost, test, and procurement.	Complete disciplined trades and protect change control after SRR/CDR.
Long-lead propulsion, avionics, energy, and fabrication	Late orders or supplier changes can move assembly and first flight by months.	Request quotes early, qualify alternates, approve cash commitments at gates, track supplier evidence weekly.
Testing authority and site access	The aircraft cannot legally or safely test without an approved pathway, site, airspace, crew, emergency plan, and insurance.	Select strategy early, maintain regulator/counsel cadence, and preserve alternate sites/pathways.
Flight-control software and test infrastructure	Simulation, HIL, sensor/actuator integration, release control, and telemetry are prerequisites to safe first flight.	Staff early, control interfaces, automate tests, and maintain independent software review.
Cash and financing timing	Every technical and commercial dependency consumes runway; delays can strand a partially completed aircraft.	Use rolling 13-week and 24-month forecasts, scenario triggers, staged procurement, and financing lead times.
Pilot contract and operating partner	A technically successful aircraft does not create commercial proof without funded scope, authority, sites, customer actions, and conversion criteria.	Begin partner/customer contracting before first flight; do not wait for a finished aircraft.

Stage-Gate Framework

Gate	Entry evidence	Decision options
Gate A - Mission / Requirement Readiness	Customer route assumptions, payload, operating concept, regulatory screen, program objectives, budget, organization, and risks.	Approve; approve with conditions; require rework; change mission; pause.
Gate B - System Requirements Review	Approved requirements, architecture candidates, verification approach, interfaces, mass/energy/cost, suppliers, and critical risks.	Freeze baseline; continue trade; descope; acquire evidence; stop configuration.
Gate C - Preliminary Design Review	Preliminary design, models, bench evidence, software plan, hazard analysis, manufacturing/test plans, and updated cost/schedule.	Proceed to detailed design; conditionally proceed; redesign; change supplier; pause.
Gate D - Critical Design Review	Released design evidence, analyses, interfaces, software baseline, supplier status, verification, build/test readiness, and open-risk disposition.	Authorize build; authorize limited build; hold; redesign; cancel work package.
Gate E - First-Flight Readiness	As-built configuration, inspections, ground tests, software release, authority, crew, site, weather, emergency, limitations, and residual-risk approval.	Fly; fly with limits; repeat tests; correct discrepancies; suspend.
Gate F - Reliability / Pilot Readiness	Envelope evidence, repeated cycles, maintenance, payload, communications, contingencies, training, site/customer/partner readiness, and contract.	Authorize pilot; restrict scope; extend reliability; change route; pause.
Gate G - P1 Production Decision	Pilot results, customer contract, design changes, certification/compliance plan, supplier/quality readiness, unit economics, capital, and organization.	Enter LRIP; fund redesign; continue pilots; partner/license; defer; stop.

Gate Decision Record

- Scope and configuration reviewed.
- Entry criteria and evidence status.
- Open deviations, waivers, assumptions, and expiration dates.
- Safety, technical, regulatory, quality, commercial, financial, IP, cybersecurity, and organizational risks.
- Cost spent, committed, estimate to complete, schedule forecast, and cash runway impact.
- Decision, conditions, accountable owners, due dates, and authority to proceed.
- Independent dissent or minority technical/safety opinion preserved in the record.

Performance Management and Key Metrics

Company-Level Scorecard

Category	Seed-stage measures	Management use
Cash and financing	Cash balance; monthly burn; committed spend; 13-week forecast; runway; financing pipeline; reserve; forecast accuracy.	Control commitments, hiring, procurement, scenario triggers, and fundraising timing.
Program execution	Milestone forecast; schedule variance; critical-path status; action aging; decision aging; cost to complete; scope changes.	Expose recovery needs and prevent hidden schedule/cash transfer between workstreams.
Technical	Requirements closure; mass/energy margin; design maturity; verification completion; software releases; anomaly severity/aging; test pass rate.	Assess readiness for each technical gate and identify where evidence is insufficient.
Safety and quality	Hazards; residual risk; reports; events; audit findings; nonconformance; corrective-action aging; repeat escapes; stop-work events.	Protect independent assurance and verify that controls work in practice.
Manufacturing and supply chain	Supplier on-time delivery; first-article acceptance; incoming defects; build completion; rework; traceability; long-lead exposure.	Manage first-flight schedule, configuration integrity, and alternate-source decisions.
Regulatory	Applications, findings, evidence requests, approvals, partner readiness, manuals, compliance closure, and authority risk.	Maintain realistic operating/test schedule and resource regulatory work.
Commercial	Named accounts; discovery; route data; qualified opportunities; paid feasibility; pilot contracts; conversion; pipeline value; cycle time.	Measure whether technical investment is producing customer and revenue evidence.
People	Critical roles filled; time to hire; 90-day output; retention; contractor dependence; workload; training; access review; succession coverage.	Detect capacity, burnout, knowledge, and governance risk.
IP and cybersecurity	Assignments; invention disclosures; filings; trade-secret reviews; access exceptions; vulnerabilities; SBOM; patch/action aging.	Protect enterprise value and prevent avoidable diligence or operational failures.

Individual Objective Framework

- Every role receives three to five measurable quarterly outcomes tied to company gates, not a list of general duties.
- Objectives include quality and documentation, not only speed or output quantity.
- Managers review progress at least monthly and formally at 90 days, six months, and annually or before major equity/compensation decisions.
- Safety reporting, integrity, collaboration, and knowledge transfer are performance requirements.

- Missed objectives trigger diagnosis of capability, priorities, resources, dependencies, management, and behavior before action is taken.
- Bonuses, commissions, and milestone payments must not reward unsafe flight, unapproved claims, hidden defects, premature customer commitment, or revenue without collectability.

Compensation and Equity Principles

Principle	Planning treatment
Market and affordability	Use credible market data, but approve compensation within the financing plan and fully loaded runway model.
Internal consistency	Create role levels and bands; document exceptions; avoid individually negotiated titles and grants that undermine future hiring.
Equity governance	Board-approved plan, pool, grant authority, valuation/tax process, vesting, exercise, repurchase, and capitalization records.
Milestone incentives	Tie incentives to accepted evidence, customer payment, quality, safety, cash, and team outcomes - not publicity or unsupported claims.
Contractor economics	Use defined deliverables, rates, caps, expenses, acceptance, change control, and no accidental employee-like promises.
Founder compensation	Board-approved and transparent; balance personal sustainability, investor expectations, taxes, and runway.
Commission	Define credit, payment timing, cancellations, renewals, house accounts, expenses, authority, and post-termination treatment.

Culture, Ethics, and Talent Development

Phoenix Operating Principles

1	Mission with truth The humanitarian mission does not justify exaggeration. Claims, schedules, partnerships, performance, and risks must be stated accurately.
2	Safety over urgency No customer, investor, demonstration, or deadline overrides airworthiness, legal authority, qualified personnel, or approved limits.
3	Build and document Fast engineering is valuable when the configuration, test, decisions, data, and lessons remain traceable and reusable.
4	Own the outcome Each person owns a defined output, communicates risk early, asks for decisions, and closes actions with evidence.
5	Challenge respectfully Technical and safety dissent is expected. Decisions should be debated on evidence and then executed under the approved baseline.
6	Protect trust Customer information, patient-independent logistics data, intellectual property, access, finances, and public claims are handled deliberately.
7	Learn across functions Engineering understands customer and operations; commercial understands technical limits; finance understands program dependencies.
8	Scale discipline before scale The Company creates the habits, records, and leadership needed for production before adding volume.

Training Matrix - Minimum Categories

Training category	Who requires it	Control objective
Company orientation and authority	All employees, advisors, and contractors proportionate to role	Mission, organization, decision rights, reporting, conflicts, and escalation.
Safety and quality	All personnel; deeper qualification for technical/operations roles	Hazard reporting, stop authority, configuration, nonconformance, corrective action, and records.
Cybersecurity and data	All system users; privileged-role training for administrators/developers	Identity, devices, repositories, customer data, phishing, access, incidents, secure development, and export-sensitive information.
IP and publication	All contributors and public-facing personnel	Invention disclosure, trade secrets, prior IP, open source, AI-generated materials, confidentiality, and approval.
Role qualification	Engineering, software, test, manufacturing, maintenance, operations, payload, dispatch, and customer handlers	Demonstrate competency before independent work or release authority.
Regulatory and dangerous goods	Affected operations, customer, maintenance, and commercial personnel	Correct representations, cargo acceptance, documentation, limitations, and reporting.
Leadership and finance controls	Managers, budget owners, board, and procurement	Hiring, contracts, expenses, approvals, conflicts, compensation, cash, and record retention.
Emergency and incident response	Test, site, management, communications, customer, and security roles	Immediate safety, command, notification, evidence, business continuity, and recovery.

Knowledge and Succession Controls

- At least two authorized people understand every critical system, supplier, application, customer account, financial process, and repository.
- Design rationale, source code, credentials, test procedures, calibration, tooling, supplier files, and regulatory records are stored in company-controlled systems.
- Key contributors maintain handover notes, decision histories, open risks, and next actions rather than private notebooks or personal accounts.
- The board reviews CEO and design/safety authority succession annually and before high-risk test or extended absence.
- Termination and offboarding include access removal, device/data return, customer and supplier transition, IP confirmation, and continuity review.

First 100 Days After Seed Close

1	Days 1-10 - Close and control Complete financing documents, board actions, capitalization, banking, accounting, insurance, data room, budget, spending authority, and communication plan.
2	Days 1-20 - Confirm the team Execute or update agreements for all named contributors, verify qualifications and availability, assign reporting/authority, and approve role charters.
3	Days 1-30 - Establish the operating system Launch integrated schedule, risk/action/decision logs, weekly reviews, cash forecast, repositories, configuration, cybersecurity, and publication controls.
4	Days 1-30 - Freeze customer data request Approve target accounts, discovery process, route qualification, payload categories, economics inputs, and paid-feasibility package.

5	Days 15-45 - Complete mission and organization baseline Approve MRR inputs, initial requirements, regulatory concept, facility/test-site options, hiring priorities, and supplier request packages.
6	Days 30-60 - Close major trade studies Select preferred configuration, energy candidates, make/buy boundaries, test approach, tools, long-lead strategy, and organization capacity plan.
7	Days 45-75 - Build commercial evidence Complete executive discovery, secure route data and paid assessments, identify flagship customer, and map operator/healthcare partners.
8	Days 60-90 - Conduct SRR and release long leads Freeze D1 baseline within approved assumptions, approve verification/safety approach, order selected long-lead items, and baseline cost/schedule.
9	Days 75-100 - Prepare PDR and financing visibility Demonstrate bench/simulation progress, supplier status, regulatory application plan, pilot pipeline, cash forecast, risks, and first board gate review.

100-Day Success Test

Question	Minimum acceptable evidence
Does Phoenix know what it is building and why?	Approved route/payload assumptions, requirements, architecture direction, operating concept, and customer value case.
Does Phoenix know who owns each output?	Executed agreements, role charters, responsibility matrix, decision rights, and review cadence.
Can Phoenix legally and safely test it?	Regulatory/test strategy, site plan, safety/quality system, hazards, insurance path, and qualified test organization.
Can Phoenix afford the approved plan?	Updated quotations, payroll/contract plan, committed cost, estimate to complete, runway, reserve, and financing triggers.
Are customers paying attention with data and budget?	Qualified opportunities, executive sponsors, route data, paid feasibility or equivalent funded steps, and pilot path.
Is the enterprise investable?	Clean capitalization, IP ownership, accurate claims, controlled records, board governance, milestone evidence, and transparent risks.

2026-2030 Organization and Implementation Roadmap

Planning period	Company stage	Organization and governance	Primary implementation outcome
H2 2026	Foundation and detailed program definition	Confirm legal/team status; establish board and controls; hire/contract critical engineering, program, regulatory, and customer capacity.	Requirements and D1 baseline; trade studies; paid route assessments; long-lead procurement; PDR preparation.
2027	Demonstrator build, first flight, and reliability development	Add manufacturing/test, software, safety/quality, flight-test, and regulatory depth; strengthen finance and board reporting.	Complete CDR, assembly, ground test, first flight, envelope expansion, and customer pilot readiness.
2028	Paid pilot and P1 production decision	Add customer-program, field-support, maintenance, quality, and operations capacity; close institutional financing.	Execute paid pilot, convert first route, freeze P1 changes, establish LRIP and certification/compliance program.
2029	Low-rate production and initial recurring network	Develop functional leaders, production/quality organization, customer success, network operations, and formal board committees as needed.	Deliver/support early P1 aircraft or managed routes, improve reliability and margin, expand within launch customer/region.
2030	Multi-customer replication and product-family decision	Scale finance, supply chain, operations, engineering, cybersecurity, and people systems; build succession and regional support.	Replicate routes, add launch region, evaluate P2 based on P1 evidence, and prepare growth financing or strategic partnership.

Stage-Based Organization Evolution

Stage	Likely leadership emphasis	Do not add until justified
Concept to first flight	Founder/CEO, Chief Engineer, Program, Software, Manufacturing/Test, Safety/Quality/Regulatory, Customer Program, fractional finance/legal.	Large executive team, dedicated sales force, high-volume production management, multiple locations.
First flight to paid pilot	Flight Test, Reliability/Maintenance, Payload, Regulatory/Operations, Customer Implementation, stronger finance and quality.	Network operations center at scale, regional field teams, broad product variants.
Pilot to LRIP	Production/Quality leader, Supply Chain, Customer Success, Continuing Airworthiness, Cybersecurity/Data, Program Finance.	High-rate automation, large inventory, separate business units, international expansion.
Recurring routes and expansion	COO-equivalent, functional VPs/directors, regional operations, production planning, support, compliance, people/finance systems.	P2/P3 clean-sheet teams unless P1 reuse, demand, capital, and management capacity are proven.

Trigger-Based Hiring Beyond the Seed Stage

Trigger	Potential organizational addition
Multiple aircraft in repeated test/service cycles	Dedicated maintenance control, reliability engineering, spares, and continuing-airworthiness management.
Signed LRIP orders or funded managed-route commitments	Production planning, supplier quality, manufacturing engineering, customer implementation, and field support.
Part 135 or equivalent Phoenix-controlled operation	Required management personnel, operations control, training, maintenance, safety, dispatch, records, and compliance.
More than one launch geography	Regional site/field leadership, standardized activation team, local maintenance and customer success.
Material recurring software/data revenue	Product management, cloud/platform engineering, security operations, customer integration, support, and data governance.
P2 product decision	Separate program leadership only after architecture reuse, customer requirements, financing, and resource isolation are approved.
Institutional scale financing	Experienced finance leader, people operations, legal/compliance depth, board committee support, and formal internal controls.

Organization and Implementation Risk Register

Risk	Rating	Potential effect	Primary mitigation
Founder dependency and limited delegation	High	Decision bottlenecks, burnout, weak controls, succession risk, and inconsistent execution.	Role charters, delegated authority, program lead, independent technical/safety authority, board oversight, succession and documentation.
Named-team status or availability unclear	High	Diligence failure, staffing gap, IP conflict, misleading materials, and schedule disruption.	Immediate agreements, verification, role/availability confirmation, backup candidates, and accurate public descriptions.
Hiring exceeds seed affordability	High	Runway compression, incomplete aircraft, emergency financing, layoffs, and loss of credibility.	Fully loaded hiring gates, staged starts, contractor mix, reserve, monthly forecast, and scenario triggers.
Critical capability hired too late	High	Unsafe shortcuts, rework, delayed applications, unstable software, and first-flight delay.	Critical-path staffing plan, early specialist engagement, backup suppliers/contractors, and gate-based readiness.
Contractor knowledge or IP loss	High	Source/design unavailable, redesign, disputes, weak certification evidence, and customer support failure.	Company repositories, assignments, deliverables, acceptance, documentation, access, escrow/continuity where appropriate, and knowledge transfer.
Commercial pressure overrides technical evidence	High	Unsafe testing, unapproved claims, customer failure, regulatory action, and reputational harm.	Independent release authority, stop rights, claims review, gate records, board safety oversight, and aligned incentives.
Weak program integration	High	Aircraft, regulatory, customer, supplier, hiring, and cash plans diverge.	One integrated master plan, program owner, dependency reviews, cost to complete, change control, and monthly executive decisions.
Board or capitalization not clean	High	Financing delay, disputes, invalid approvals, equity surprises, and governance failure.	Counsel-led entity/cap-table review, consents, policies, grant records, conflicts, and data room.
Burnout and excessive workload	Medium-High	Errors, turnover, hidden risk, poor decisions, and safety events.	Realistic plans, workload/fatigue monitoring, leave, cross-training, surge support, and no hero-dependent scheduling.
Management layers added prematurely	Medium	Cost, bureaucracy, unclear accountability, and distance from technical/customer work.	Stage-based organization, player-coach roles, evidence-based spans, and periodic role elimination/combination review.
Compensation/equity inconsistency	Medium-High	Retention problems, cap-table dilution, disputes, tax issues, and investor concern.	Board-approved bands and plan, valuation/tax process, written offers, vesting, and capitalization controls.
Inadequate financial controls	High	Cash leakage, fraud, tax/accounting errors, uncontrolled commitments, and financing diligence failure.	Segregated approvals, accounting close, bank controls, purchase orders, board reporting, audit trail, and professional support.
Key-person or access loss	High	Aircraft, code, customer, regulatory, supplier, or financial work stops.	Dual knowledge, company-controlled credentials, backups, offboarding, succession, and business continuity.

Implementation Recovery Triggers

- Projected runway falls below the board-approved minimum before the next financeable milestone.
- Critical-path milestone slips beyond the recovery reserve or requires unapproved scope/cost transfer.
- A required role remains unfilled and no qualified temporary control exists.
- Test, quality, safety, regulatory, cyber, or IP evidence shows the current baseline cannot responsibly continue.
- Customer route data or willingness to pay no longer supports the selected product requirement.
- Supplier failure, component obsolescence, or long-lead delay removes the first-flight or pilot path.
- Named financing, customer, operating-partner, or regulatory dependency is withdrawn or materially conditioned.
- Management cannot accurately state as-built configuration, committed cost, cash, open risk, or decision authority.

Recovery Options

Option	When appropriate
Reduce scope / narrow envelope	Preserve the core mission and evidence while deferring range, payload, weather, autonomy, or secondary features.
Resequence work	Advance low-cost customer, regulatory, simulation, documentation, or supplier work while a critical item is delayed.
Change configuration or supplier	Evidence shows the baseline cannot meet requirements, schedule, cost, availability, or certification needs.
Add bounded specialist capacity	A finite bottleneck can be resolved through a qualified, supervised, fixed-scope engagement.
Pause hiring or procurement	Runway, requirement, customer, or regulatory uncertainty makes fixed commitments premature.
Raise bridge or strategic capital	A defined milestone is financeable, the gap is credible, and terms do not destroy the long-term plan.
Partner, license, or acquire capability	External capability reduces time/risk while preserving customer value and Phoenix control of the enterprise.
Stop or pivot a workstream	Evidence shows it does not support the mission, cannot be funded, or creates unacceptable risk.

Decisions Required Before Section 7 Is Final

- Confirm the legal entity, board members, officer appointments, capitalization, and authority currently in effect.
- Confirm the employment, advisory, consulting, director, or other status of John Hayes, Rut Patel, Jimmy Weise, and every other named contributor.
- Approve the Founder/CEO role charter, accountable-executive responsibility, compensation approach, and succession coverage.
- Select the initial Chief Engineer/Design Authority, Program Lead, Safety/Quality Lead, Flight-Test Lead, Regulatory Lead, and Customer-Program owner.
- Approve the 24-month staffing and contractor capacity plan after Section 8 validates fully loaded costs and runway.

- Approve the initial board structure, independent-director profile, reserved matters, board cadence, and safety/quality reporting access.
- Set written spending, hiring, contract, pricing, public-claim, technical-release, flight-release, and risk-acceptance authority.
- Approve compensation bands, equity pool and grant process, advisor treatment, commission policy, and conflict/related-party policy.
- Select the integrated program, requirements/configuration, source-code, accounting, CRM, HR/access, quality/SMS, and data-room systems.
- Approve the first 100-day plan, gate criteria, company scorecard, board dashboard, and recovery triggers.
- Confirm the first flight-test site, facility model, operating-partner strategy, launch-customer owner, and institutional financing milestone.
- Approve which roles remain internal, which may be fractional or contracted, and the continuity controls for each external dependency.

Section 7 Management Position

Phoenix Unmanned should be managed as an integrated aircraft, aviation, customer, and financing program - not as a collection of independent technical projects. The organization wins by combining founder speed with disciplined authority, a small accountable core, specialist external capacity, transparent cash and schedule control, independent safety and quality, and stage-gated growth.

The seed-stage company succeeds when it can answer five questions with evidence: what is being built, who owns each decision, whether it can be tested and operated safely and legally, whether customers will fund the next step, and whether cash remains sufficient to reach the next financeable milestone.

Build the organization the way Phoenix intends to build the aircraft: one controlled architecture, clear interfaces, verified status, known limits, independent checks, and disciplined expansion after evidence.

Sources and Planning Notes

- [1] Phoenix Unmanned Business Plan Section 1 - Executive Summary and Company Overview, including founder history, current-stage disclosures, \$2.0 million seed use of funds, 24-month outcomes, and team-status assumptions.
- [2] Phoenix Unmanned Business Plan Section 2 - Market Need, Customers, and Industry Analysis, including launch-customer segments, route qualification, customer roles, and market-entry discipline.
- [3] Phoenix Unmanned Business Plan Section 3 - Aircraft Platform, Technology, and Product Roadmap, including technical governance, 30-day through 24-month milestones, 2026-2030 roadmap, design reviews, and staffing decisions.
- [4] Phoenix Unmanned Business Plan Section 4 - Business Model, Pricing, and Go-to-Market Strategy, including the customer-acquisition funnel, commercial team ownership, paid-feasibility model, pilot conversion, and 24-month commercial roadmap.
- [5] Phoenix Unmanned Business Plan Section 5 - Operations, Manufacturing, Safety, and Regulatory Strategy, including accountable executive, safety governance, operating control, quality, manufacturing, Part 135 readiness, and stop-work / stop-flight principles.
- [6] Phoenix Unmanned Business Plan Section 6 - Competition, Intellectual Property, and Strategic Moat, including ownership diligence, contributor agreements, data rights, cybersecurity, supply-chain trust, publication controls, and 24-month IP roadmap.
- [7] Phoenix Unmanned investor deck, founder materials, website package, aircraft concepts, white papers, team references, and internal planning assumptions available as of July 2026.

This section is an organizational and implementation planning document, not legal, tax, employment, securities, compensation, export-control, aviation, or fiduciary advice. Legal entity, board, officer, equity, employment, contractor, compensation, immigration, export, licensing, and insurance decisions require qualified professional review. Named roles and staffing bands are recommendations subject to funding, verification, customer requirements, regulatory strategy, and Section 8 financial modeling.



BUSINESS PLAN

2026-2030 Strategic and Operating Plan

SECTION 8

Financial Plan, Funding Strategy, Risks, and Appendices

Fund the milestones. Protect the runway. Scale only after evidence.

Prepared for strategic, investor, partner, and management review

Prepared by Phoenix Unmanned

Founder & CEO: Steve Dixon

July 2026 | Review Draft

Section Purpose

Section 8 completes the Phoenix Unmanned business plan by translating the approved market, aircraft, commercial, operating, intellectual-property, and organizational strategies into a staged financial plan. It defines the \$2.0 million seed use of funds, an 18-month cash-deployment framework, a five-year management scenario, funding milestones, capital controls, consolidated enterprise risks, diligence requirements, and appendices for management and investor review.

Financial Executive Summary

Phoenix Unmanned is a pre-revenue, development-stage aircraft company. The Company's immediate financial objective is not near-term profitability; it is to convert \$2.0 million of seed capital into a flight-tested demonstrator, controlled engineering and safety evidence, paid customer-development activity, a credible regulatory pathway, and a financeable P1 program. Every dollar should be tied to a milestone that increases technical, commercial, regulatory, or financing readiness.

The base management scenario assumes modest paid-feasibility and pilot revenue before aircraft sales, then a staged transition to aircraft, route-service, software, maintenance, and training revenue. It reaches positive EBITDA during 2030 only if Phoenix completes the aircraft program, converts pilots, finances working capital and production, and achieves the margin discipline established in Section 4. This scenario is an internal planning case, not a forecast, valuation, securities offering, customer commitment, or guarantee.

Financial Planning Conclusions

- Treat the \$2.0 million seed round as milestone capital, not general operating cash.
- Maintain a rolling 13-week cash forecast, a monthly 24-month model, and a board-approved minimum liquidity floor.
- Stage hiring, long-lead procurement, flight testing, and pilot spending behind evidence-based gates.
- Begin the next institutional financing process while at least nine months of cash remains; target closing before the runway falls below six months.
- Use paid assessments, customer-funded pilots, strategic programs, and non-dilutive awards to reduce equity dependence without allowing restricted funding to distort the product roadmap.
- Do not enter low-rate production, lease-fleet ownership, or recurring route commitments without funded working capital, warranty reserves, supplier capacity, and contract-backed demand.
- Update every planning number after configuration freeze, supplier quotations, compensation decisions, insurance indications, operating-partner terms, and customer contracts.

Model Basis, Status, and Limitations

Model element	Business-plan treatment	Current status / required evidence
Reporting basis	Management planning model in U.S. dollars; annual figures shown in \$000s unless stated otherwise.	Accounting classification, revenue recognition, tax treatment, and financial-statement presentation require qualified accounting review.
Revenue	Built from route assessments, pilot programs, aircraft/payload sales, managed routes or leases, and recurring software/support.	No commercial revenue or signed recurring customer contract is claimed in this plan.
Aircraft economics	Uses Section 4 price and mature-margin bands with staged learning-curve assumptions.	Requires released bill of materials, labor routing, supplier quotes, warranty data, production plan, and acceptance terms.
Route economics	Uses the Section 4 six-mission-per-day managed-route example and density assumptions.	Requires actual route, operator, insurance, site, maintenance, weather, and service-level data.
Headcount	Uses Section 7 capacity bands and a mixed employee/contractor model.	Requires compensation bands, payroll burden, start dates, equipment, recruiting, benefits, travel, and severance assumptions.
Funding	Assumes a \$2.0 million seed program followed by milestone-based institutional and production capital.	Instrument, valuation, investor rights, closing timing, legal entity, capitalization, and existing liabilities remain to be confirmed.
Risk	Consolidates risks from Sections 1-7 and adds liquidity, financing, accounting, and working-capital risk.	Risk owners, indicators, tolerances, insurance, and contingency budgets must be approved and maintained.

Financial discipline means preserving the ability to reach the next financeable milestone - not merely reducing this month's spending.

Core Financial Policies

- Separate demonstrated results, contracted backlog, qualified pipeline, and planning assumptions in every report.
- Recognize no revenue, backlog, partnership, grant, or investor commitment until the applicable agreement and conditions are documented.
- Use cash, committed cash, estimate-to-complete, and milestone readiness together; budget variance alone is not sufficient.
- Protect a contingency reserve for technical rework, supplier disruption, insurance, test delays, and regulatory changes.
- Do not capitalize prototype or software costs merely to improve reported results; apply the accounting policy selected by the Company's professionals consistently.

\$2.0 Million Seed Use of Funds

The seed allocation below carries forward the approved capital request from Section 1 and the investor deck. It is a board-level capital envelope, not permission to spend each category automatically. Management should release funds through approved work packages and stage gates.

Category	Amount	Share	Primary purpose	Release evidence
Prototype and flight test	\$700,000	35%	Airframe, propulsion, avionics, energy system, fabrication, tooling, instrumentation, ground testing, test site, and flight campaign.	Requirements and architecture baseline; supplier quotes; test plan; safety and configuration controls.
Engineering team	\$500,000	25%	Core and fractional aerospace, systems, electrical, software, manufacturing, program, and flight-test capability.	Approved role charter or statement of work; fully loaded cost; milestone ownership; IP and confidentiality terms.
Regulatory and safety	\$300,000	15%	Counsel, test/operating approvals, safety case, SMS, quality, manuals, environmental work, insurance, and standards support.	Regulatory plan; advisor scope; compliance map; safety/quality deliverables; insurance indications.
Pilot development	\$300,000	15%	Customer discovery, paid route studies, payload validation, site planning, customer integration, partner work, and pilot execution.	Named customer sponsor; route data; funded scope; regulatory feasibility; acceptance and conversion criteria.
IP, operations, and marketing	\$200,000	10%	IP diligence and filings, cyber/data systems, accounting, facilities, insurance support, customer materials, and controlled market development.	Chain-of-title review; approved systems and vendors; publication control; budget and measurable output.
Total	\$2,000,000	100%	Complete the demonstrator and create the evidence package for the next institutional financing round.	Board-approved integrated plan and monthly capital review.

Seed Capital Objective

The seed round succeeds when Phoenix has a controlled aircraft baseline, completed ground and flight evidence, validated payload workflow, funded customer path, regulatory credibility, and a defensible next-round data room - not simply when the cash has been spent.

Illustrative 18-Month Cash Deployment

The schedule below is a cash-control framework. Actual timing must be re-baselined after funding close, supplier quotations, hiring decisions, and the selected aircraft configuration. Customer receipts and non-dilutive awards should extend runway rather than automatically expand scope.

Window	Primary milestone	Illustrative cash deployment	Cumulative use	Minimum release condition
Months 0-3	Corporate, mission, requirements, team, regulatory, and supplier foundation	\$300,000	\$300,000	Financing closed; banking/accounting active; team agreements; budget; requirements and customer-data plan.
Months 4-6	Trade studies, SRR/PDR work, test architecture, early customer assessments	\$350,000	\$650,000	Preferred architecture; updated mass/energy/cost; supplier proposals; initial paid customer scope.
Months 7-9	Detailed design, software/HIL, long-lead procurement, facility/test-site preparation	\$425,000	\$1,075,000	PDR exit; configuration and change control; approved long leads; regulatory/test pathway.
Months 10-12	Fabrication, integration, ground rigs, payload module, manuals and readiness evidence	\$425,000	\$1,500,000	Released build package; quality plan; inspection/test procedures; safety reviews; site and insurance readiness.
Months 13-15	Ground test, first-flight readiness, initial flight campaign and anomaly closure	\$300,000	\$1,800,000	As-built records; ground-test pass; software release; crew/site/authority; residual-risk approval.
Months 16-18	Reliability growth, customer pilot readiness, next-round diligence and financing	\$200,000	\$2,000,000	Flight evidence; updated ETC; paid pilot path; P1 roadmap; data room; institutional financing process.

Runway Controls

- Planning average: approximately \$111,000 gross cash use per month across 18 months; actual burn will be lower early and higher during procurement, build, and test.
- Minimum liquidity floor: the greater of \$300,000 or 90 days of approved gross burn, unless the board approves a controlled wind-down or bridge plan.
- Uncommitted reserve: retain 10%-15% of seed capital until design and first-flight risks are better understood.
- Financing trigger: launch next-round preparation no later than month 6; begin formal investor process by month 9; target close by month 15.
- Scope trigger: if estimate-to-complete exceeds available cash plus highly probable receipts, descope before signing new fixed commitments.

Seed Budget by Economic Cost Type

Economic cost type	Planning amount	What is included	Primary control
Core payroll and founder-equivalent capacity	\$500,000	Persistent integration, systems, software, program, customer, finance, safety, and manufacturing/test responsibility.	Fully loaded monthly cost; start-date gate; role deliverables; payroll and access controls.
Specialist engineering and professional contractors	\$300,000	Structures, propulsion, controls, HIL, certification, legal, IP, accounting, insurance, environmental, and independent review.	Fixed scope; acceptance evidence; not-to-exceed value; IP/data ownership; knowledge transfer.
Aircraft components, materials, and fabrication	\$480,000	Propulsion, avionics, energy, structure, landing gear, payload hardware, wiring, controls, machining, composites, and supplier NRE.	Approved BOM; competitive quotes; alternates; deposits protected; serialized receipt and inspection.
Tooling, test equipment, facilities, and sites	\$220,000	Benches, fixtures, load rigs, HIL, telemetry, calibration, safety equipment, workspace, storage, test site, and transport.	Make/buy analysis; asset register; calibration; site agreement; utilization and disposal plan.
Regulatory, safety, legal, quality, and insurance	\$210,000	Applications, counsel, SMS, quality system, manuals, independent safety work, insurance, and compliance support.	Approved pathway; deliverable calendar; board safety access; policy limits and exclusions.
Customer, payload, pilot, travel, and site integration	\$180,000	Route assessment, packaging, payload instrumentation, customer systems, partner costs, travel, site readiness, and pilot events.	Customer-funded scope where possible; milestone billing; no free demonstrations without approved strategic return.
IP, software tools, cyber, finance systems, and controlled marketing	\$110,000	Patent/trademark work, repositories, security, accounting/CRM/HR tools, data room, website and investor/customer materials.	Approved subscriptions; least privilege; publication review; renewal and termination tracking.
Total	\$2,000,000	Internal cost-type view of the board-level use-of-funds envelope.	Monthly reconciliation to both category and workstream budgets.

Commitment Discipline

Cash timing matters as much as total budget. Management should track paid cash, open purchase orders, signed contracts, expected payroll, customer receipts, deposits, cancellation exposure, and estimate-to-complete. A low monthly expense report can still conceal an unaffordable commitment backlog.

Personnel and Contractor Financial Plan

Section 7 establishes a 24-month capacity band of two to ten core contributors supplemented by specialists. The financial model assumes a lean mixed-capacity structure. It does not authorize headcount and does not assign compensation to named individuals.

Window	Core capacity planning band	Illustrative fully loaded monthly payroll band	Fractional / contractor band	Financial gate
0-3 months	2-4 founder-equivalent contributors	\$35,000-\$60,000	\$20,000-\$45,000	Confirm legal status, role charters, compensation, IP, payroll burden, tools, and 90-day outputs.
3-8 months	3-5 core contributors	\$50,000-\$80,000	\$25,000-\$55,000	Tie each start to SRR/PDR/CDR work, software/HIL, customer data, supplier, or regulatory deliverables.
7-12 months	4-7 core contributors	\$65,000-\$105,000	\$30,000-\$65,000	Fund only if build package, procurement, site, test, and cash forecast support the start date.
10-18 months	5-8 core contributors	\$80,000-\$125,000	\$30,000-\$70,000	Require first-flight/reliability workload, approved ETC, and next-round financing progress.
15-24 months	6-10 core contributors	\$95,000-\$155,000	\$35,000-\$80,000	Add field/customer/quality/operations capacity only against funded pilot, route, or institutional financing.

Fully Loaded Cost Checklist

- Base salary or consulting fee; payroll taxes; benefits; workers compensation; recruiting; equipment; software; travel; training; insurance; workspace; and manager time.
- Equity grant, commission, advisor compensation, milestone bonus, severance, relocation, immigration, and change-of-control obligations.
- Contractor conversion rights, overtime or rate escalation, minimum hours, travel markup, background/export requirements, and termination notice.
- Continuity cost if a key person becomes unavailable, including source-code access, design documentation, replacement recruiting, and transition support.

A lower hourly rate is not cheaper when Phoenix must repeat the work, recover missing records, resolve IP ownership, or redesign an unsafe interface.

Prototype and Flight-Test Cost Model

Cost package	Seed planning band	Primary cost drivers	Required evidence before commitment
Airframe structure and fabrication	\$130,000-\$190,000	Materials, composite or metal fabrication, tooling, fasteners, landing gear, access, repairability, supplier NRE.	Released geometry, loads, material/process selection, inspection criteria, quote, delivery schedule, and alternate path.
Propulsion, energy, and thermal systems	\$150,000-\$230,000	Motors, propellers, controllers, batteries/generator/fuel-cell candidates, wiring, thermal control, spares.	Power/energy model, safety limits, supplier data, test plan, lead time, replacement and transport rules.
Avionics, flight controls, C2, and software test	\$110,000-\$170,000	Computers, sensors, navigation, actuators, communications, telemetry, SIL/HIL, source control, licenses.	Architecture, interfaces, cybersecurity, simulation/HIL plan, release process, qualification and redundancy evidence.
Payload module and customer instrumentation	\$45,000-\$80,000	Container, restraint, environmental monitoring, temperature/shock/custody sensors, handling and cleaning.	Payload requirements, packaging, acceptance, data ownership, calibration, customer workflow, and rejection criteria.
Ground, structural, propulsion, and integrated test	\$70,000-\$120,000	Rigs, fixtures, load cells, test articles, instrumentation, calibration, safety barriers, analysis and rework.	Verification matrix, procedures, pass/fail criteria, independent review, discrepancy and corrective-action process.
Flight campaign, site, crew, insurance, and transport	\$80,000-\$140,000	Site/airspace, pilot/crew, chase/support, weather, emergency response, travel, transport, maintenance and spares.	Legal authority, site agreement, qualified team, manuals, insurance, emergency plan, maintenance status, flight-readiness review.
Contingency and anomaly closure	\$70,000-\$110,000	Supplier replacement, damaged parts, redesign, extra test, software defects, weather/site delays and investigation.	Held centrally; released by CEO/finance with technical and safety concurrence and updated ETC.

The ranges intentionally overlap and exceed the \$700,000 prototype-and-flight-test envelope when considered independently. The approved configuration and make/buy plan must reconcile them to the budget through scope selection, supplier negotiation, reuse, customer/partner contribution, or additional approved capital.

Revenue Architecture and Planning Assumptions

Revenue stream	Planning price / unit	Earliest planning window	Base-case role	Financial caution
Route opportunity assessment	\$25,000-\$75,000 per 4-10 week engagement	2026	Creates paid discovery, customer data, route economics, and a qualified next step.	Do not over-customize or allow unpaid engineering to consume aircraft resources.
Detailed pilot design	\$50,000-\$150,000 per 6-12 week engagement	2026-2027	Funds operating concept, site, payload, regulatory, value, and pilot package.	Scope and reliance must be bounded; customer data and decisions are dependencies.
Paid pilot program	\$200,000-\$500,000 per 3-9 month program	2027	Creates technical, workflow, safety, service, and conversion evidence.	Early pilot margin may be low; require milestone billing and defined conversion decision.
P1 aircraft and payload sale	\$850,000-\$1,500,000 per aircraft	2028+ planning case	Builds installed base and recurring support.	Price is not validated; requires BOM, production labor, acceptance, warranty, delivery and customer financing.
P1 lease	\$30,000-\$65,000 per month for 36-60 months	2028+ planning case	Supports customer operating budgets and recurring asset revenue.	Phoenix should not self-fund fleet assets without dedicated financing and residual-value protection.
Managed route service	\$350,000-\$900,000 annually per route or dedicated aircraft	2028+ planning case	Higher recurring revenue and customer integration.	Requires operating authority/partner, insurance, staffing, maintenance, working capital and service-level reserve.
Software, maintenance, training, and compliance	Subscription, annual support, usage, training, and project fees	With first pilot / installed base	Deepens customer relationship and improves recurring-revenue mix.	Avoid bundling unlimited support into hardware price; define coverage, response, parts and exclusions.

The base case uses the midpoint of no published market price. It uses internal planning assumptions that must be replaced by customer willingness-to-pay, supplier cost, partner terms, and flight data.

Base Management Revenue Scenario: 2026-2030

Revenue stream (\$000s)	2026	2027	2028	2029	2030
Assessments & design	\$75	\$175	\$150	\$200	\$250
Paid pilots	\$0	\$350	\$600	\$750	\$750
Aircraft & payload sales	\$0	\$0	\$1,100	\$4,400	\$11,500
Managed route / lease	\$0	\$0	\$450	\$1,650	\$4,800
Software, maintenance, training	\$0	\$0	\$250	\$1,350	\$3,400
Total revenue	\$75	\$525	\$2,550	\$8,350	\$20,700

Scenario Narrative

- 2026: one or more paid route-assessment or pilot-design engagements; no aircraft or route-service revenue assumed.
- 2027: multiple paid assessments/designs and one pilot program; revenue remains secondary to demonstrator and first-flight execution.
- 2028: one aircraft-equivalent sale, one partial-year managed route or lease, pilots, and the first meaningful support/software revenue.
- 2029: four aircraft-equivalent sales, approximately three managed-route equivalents, expanding support, and continued pilot/customer engineering.
- 2030: ten aircraft-equivalent sales, approximately eight managed-route equivalents, and a larger recurring software, maintenance, training, and compliance base.

The model does not assume defense production awards, disaster-response surge revenue, international sales, P2/P3 aircraft, acquisitions, licensing income, or a broad Part 108 market acceleration. Those opportunities should remain outside the base case until evidence supports them.

Paid Assessment and Pilot Economics

Program	Illustrative contract	Illustrative direct cost	Illustrative gross margin	Primary cost drivers	Approval threshold
Route opportunity assessment	\$50,000	\$27,500	45%	Customer/program labor, route/site/airspace analysis, travel, legal/regulatory review, reporting.	Customer data, executive sponsor, 50%+ upfront or short milestones, bounded reliance, next-step decision.
Detailed pilot design	\$100,000	\$60,000	40%	Engineering, payload, site, operating concept, safety/regulatory work, partner and contract design.	Defined deliverables, assumptions, change control, customer responsibilities, pilot budget and decision date.
Early paid pilot	\$350,000	\$280,000	20%	Aircraft/test team, site, travel, payload, operating partner, insurance, maintenance, data and reporting.	Incremental cost covered; milestone billing; approval contingency; safety gates; conversion terms.
Mature repeat pilot	\$400,000	\$260,000	35%	Reusable aircraft, procedures, software and customer implementation with lower engineering burden.	Stable configuration, qualified site/process, reusable evidence, customer reference or deployment option.

Customer-Funded Development Rules

- No free demonstration unless the board-approved strategic return is specific: paid follow-on, customer data, public case study, operating partner, purchase option, or co-funded infrastructure.
- Bill pilots in advance and by milestone; do not finance a health system or strategic partner from Phoenix's seed runway.
- Separate customer-specific nonrecurring engineering from reusable platform work and preserve Phoenix ownership of background and platform IP.
- Credit pilot fees toward deployment only within a defined period and only when the deployment economics remain acceptable.
- Record revenue and backlog under the accounting policy selected by the Company's professionals; a letter of interest is pipeline, not contracted revenue.

Illustrative P1 Aircraft Sale Economics

The following economics represent a mature low-rate production target, not the demonstrator cost and not a current quotation. Early aircraft may cost materially more because of engineering changes, low volume, supplier NRE, inefficient labor, scrap, and warranty learning.

Aircraft sale model	Low case	Base case	High case	Planning note
Selling price	\$850,000	\$1,150,000	\$1,500,000	Section 4 planning band; final price depends on configuration, ground equipment, support, warranty, training and payment terms.
Direct material and supplier content	\$455,000	\$555,000	\$690,000	Released BOM, supplier quotes, alternates, freight, duties, inspection, and scrap.
Direct assembly, test, and acceptance labor	\$95,000	\$125,000	\$155,000	Manufacturing, software load, quality, ground/flight acceptance, records, and rework.
Warranty and field-support reserve	\$40,000	\$55,000	\$70,000	Reserve must be based on reliability, included parts/labor, response, travel and contract.
Allocated production overhead	\$50,000	\$70,000	\$85,000	Facility, tooling, calibration, production quality, planning, stores, and supervision.
Illustrative cost of revenue	\$640,000	\$805,000	\$1,000,000	Excludes corporate R&D, sales and G&A.
Illustrative gross profit	\$210,000	\$345,000	\$500,000	Cash collection, payment milestones and working capital remain critical.
Illustrative gross margin	25%	30%	33%	Management target is 30%-40% after production stabilizes; high selling price alone does not prove margin.

Production Decision Rule

Phoenix should not authorize P1 low-rate production until the pilot result, customer contract, released design, supplier/quality readiness, unit economics, working capital, warranty reserve, insurance, and organization all pass Gate G.

Illustrative Managed-Route Economics

This model carries forward the Section 4 example of six completed missions per day over 300 scheduled operating days. It is a route-screening tool, not a quote or demonstrated result.

Model input	Illustrative annual amount	Share of revenue	Planning note
Annual route contract	\$495,000	100%	Equivalent to \$275 per completed mission at 1,800 annual completed missions before additional charges.
Aircraft and capital allocation	\$75,000	15%	Depreciation, lease, dedicated financing, or capital reserve assumption.
Field operations and supervision	\$90,000	18%	Phoenix and/or operating-partner personnel allocation.
Maintenance, parts, and spares	\$60,000	12%	Scheduled/corrective maintenance and irregular-event reserve.
Insurance, communications, sites, and permits	\$45,000	9%	Route-specific annual allocation; actual insurance may be materially different.
Energy, payload supplies, and consumables	\$15,000	3%	Battery/fuel/charging, seals, packaging and mission consumables.
Customer support, data, and administration	\$12,000	2%	Dispatch integration, reporting, billing, customer success and account support.
Illustrative direct annual cost	\$297,000	60%	Does not include corporate R&D, general sales, or G&A.
Illustrative route gross profit	\$198,000	40%	Within the mature 40%-55% target band; early routes may be lower.

Route Sensitivities

- Completed missions and contract minimum: fixed costs make low utilization expensive.
- Aircraft availability and spare strategy: service-level commitments require funded downtime coverage.
- Operating-partner cost and operating control: authority and economics must be explicit.
- Weather, site and airspace downtime: do not assume perfect dispatch or completion.
- Network density: shared sites, maintenance, staffing, communications and customer systems should improve margin.
- Customer payment timing: annual minimums and advance billing reduce working-capital exposure.

Gross-Margin Development

Revenue category	2026	2027	2028	2029	2030
Assessments & design	45%	45%	45%	45%	45%
Paid pilots	n/a	20%	25%	35%	40%
Aircraft & payload sales	n/a	n/a	32%	35%	38%
Managed route / lease	n/a	n/a	25%	40%	45%
Software, maintenance, training	n/a	n/a	55%	62%	70%
Blended gross margin	45%	28%	32%	41%	45%

Cost-of-Revenue Principles

- Aircraft cost of revenue includes direct material, production labor, acceptance, warranty reserve, supplier quality, freight and allocated production overhead.
- Route cost of revenue includes aircraft allocation, operating-partner cost, field labor, maintenance, insurance, sites, communications, energy, consumables and direct customer support.
- Pilot cost of revenue includes the incremental aircraft/test team, site, travel, payload, partner, insurance, maintenance and reporting needed to deliver the contracted program.
- Software and support margins should include hosting, communications, cybersecurity operations, support labor, customer integration and contracted service obligations.
- Corporate R&D for future capability, general selling, finance, governance and broad regulatory strategy remain operating expenses unless directly attributable under the approved accounting policy.

Gross margin can be positive while cash flow is negative. Aircraft inventory, customer receivables, lease assets, spare aircraft, supplier deposits, warranty reserves, and production tooling can consume substantial cash.

Operating Expense Plan: Base Management Scenario

Operating expense (\$000s)	2026	2027	2028	2029	2030
Research and development	\$420	\$700	\$1,500	\$2,300	\$3,000
Operations, test, quality, and regulatory	\$120	\$300	\$900	\$1,600	\$2,300
Sales and customer programs	\$60	\$150	\$500	\$850	\$1,400
General and administrative	\$140	\$300	\$600	\$850	\$1,300
Total operating expenses	\$740	\$1,450	\$3,500	\$5,600	\$8,000

Expense Logic

Category	What drives the plan	Scale control
Research and development	D1/P1 engineering, software, systems, reliability, payload, supplier integration, product changes, and future compliance evidence.	One core architecture; approved requirements; configuration control; reuse; P2/P3 deferred.
Operations, test, quality, and regulatory	Facilities, test crews, maintenance, SMS, quality, manuals, compliance, insurance support, flight and pilot readiness.	Conservative operating envelope; partner where appropriate; no premature network or production organization.
Sales and customer programs	Direct enterprise selling, route studies, proposals, implementation, customer success, travel, partner management and marketing.	Small target-account list; paid next steps; no broad consumer marketing; compensation tied to cash and quality.
General and administrative	Finance, legal, board, HR, cybersecurity, accounting, tax, systems, insurance, facilities and corporate support.	Fractional capacity early; monthly close; delegated authority; standardized tools; audit-ready records.

Illustrative Pro Forma Income Statement

Income statement (\$000s)	2026	2027	2028	2029	2030
Revenue	\$75	\$525	\$2,550	\$8,350	\$20,700
Cost of revenue	\$41	\$376	\$1,730	\$4,960	\$11,378
Gross profit	\$34	\$149	\$820	\$3,390	\$9,322
Gross margin	45%	28%	32%	41%	45%
Research and development	\$420	\$700	\$1,500	\$2,300	\$3,000
Operations, test, quality, and regulatory	\$120	\$300	\$900	\$1,600	\$2,300
Sales and customer programs	\$60	\$150	\$500	\$850	\$1,400
General and administrative	\$140	\$300	\$600	\$850	\$1,300
Total operating expenses	\$740	\$1,450	\$3,500	\$5,600	\$8,000
Illustrative EBITDA	(\$706)	(\$1,301)	(\$2,680)	(\$2,210)	\$1,322

Interpretation

- The base case remains intentionally loss-making through 2029 while Phoenix develops, validates, commercializes, and finances the platform.
- Positive EBITDA in 2030 depends on aircraft volume, route conversion, recurring support mix, production learning, reliable operations, and disciplined overhead.
- The model excludes interest, taxes, depreciation/amortization, stock-based compensation, grant accounting, gains/losses, and other non-operating items until professional accounting policies and financing terms are established.
- A positive EBITDA year does not remove the need for production, inventory, receivable, fleet, tooling and warranty financing.

Management should maintain a monthly model by legal entity and program, with actual-versus-budget, committed cost, estimate-to-complete, cash timing, and scenario variance. Annual projections are too coarse for an aircraft-development company.

Capital Expenditures and Working Capital

Cash requirement (\$000s)	2026	2027	2028	2029	2030
Capital expenditures	\$250	\$300	\$1,200	\$2,500	\$3,500
Incremental working-capital investment	\$0	\$50	\$500	\$1,400	\$2,800
Illustrative cash use before financing	\$956	\$1,651	\$4,380	\$6,110	\$4,978

Capital-Expenditure Categories

Category	Seed / demonstrator stage	Pilot / LRIP stage	Financing treatment
Test and engineering assets	HIL/SIL, structural/propulsion rigs, telemetry, fixtures, calibration, shop and safety equipment.	Higher-capacity test assets, production tooling, acceptance equipment, serialized tooling and facility improvements.	Purchase only when recurring use or control justifies ownership; otherwise rent, partner or contract.
Aircraft and payload assets	D1 demonstrator, test articles, spares and payload instrumentation.	Pilot fleet, spare aircraft, route equipment, customer site assets and replacement pools.	Separate company R&D assets from customer-fundable or financeable fleet assets.
Software and infrastructure	Repositories, compute, cyber, data, accounting, CRM, quality/SMS and maintenance systems.	Fleet operations, customer portals, network monitoring, production and support infrastructure.	Prefer scalable subscriptions early; control renewal, security, data export and implementation cost.
Facility and production assets	Lean workspace, storage, controlled assembly and test access.	LRIP line, stores, inspection, calibration, shipping, field-support and spares capability.	Avoid long leases or major buildout before customer contracts, production plan and financing.

Working-Capital Drivers

- Supplier deposits and long-lead purchases before customer billing.
- Aircraft work in process and finished goods before acceptance.
- Customer receivables and milestone disputes.
- Lease or managed-route aircraft retained on Phoenix's balance sheet.
- Spare parts, batteries/energy assets, tools and warranty replacements.
- Deferred revenue and customer deposits, which improve cash but create delivery obligations.

Milestone-Based Financing Map

Capital stage	Planning amount / source	Milestones financed	Target evidence before close	Primary use after close
Seed - current plan	\$2.0 million target; minimum close only with approved reduced scope	Requirements, demonstrator, ground/flight test, payload validation, paid pilot pipeline, regulatory and data-room foundation.	Clean entity/cap table; IP ownership; budget; team agreements; aircraft and customer plan; credible 18-month cash schedule.	Build and fly D1; create technical, safety, commercial and financing evidence.
Institutional / Series A planning range	\$8-\$12 million; timing after first-flight evidence and before pilot/LRIP cash need	Reliability growth, paid pilot, P1 design maturity, certification/compliance work, operating partner, key hires and pilot fleet.	Flight data; updated P1 cost/schedule; customer-funded pilot; regulatory plan; supplier quotes; governance; clean diligence.	Convert D1 evidence into a pilot-ready and production-decision package.
Growth / production planning range	\$15-\$25 million equity, strategic, debt, equipment, fleet or blended capital	LRIP, tooling, supplier commitments, inventory, warranty, field support, customer implementation and multiple routes.	Gate G approval; contracted demand; production BOM/routing; quality/supplier readiness; unit economics; insurance and working-capital model.	Deliver aircraft, activate routes, support customers and improve margin/reliability.
Non-dilutive / customer capital	SBIR/STTR, sponsored R&D, pilot payments, deposits, partner contribution and grants	Bounded technical work, customer integration, testing, specific research, site or infrastructure.	Eligible scope, award/contract, cost-share and data-rights review, realistic timing and compliance resources.	Reduce equity burn without making the roadmap dependent on uncertain awards.
Asset / fleet financing	Equipment lease, secured facility, special-purpose fleet vehicle or customer-backed financing	Aircraft retained for managed routes or customer leases, production equipment and fleet spares.	Financeable asset, contracts, residual value, insurance, maintenance, repossession and cash-flow coverage.	Separate fleet capital from corporate R&D and growth equity.

The next round should be raised against completed evidence, not against an emergency cash deadline. Begin financing early enough to preserve negotiating power and technical discipline.

Scenario Analysis

Scenario	2027 revenue	2028 revenue	2029 revenue	2030 revenue	2030 EBITDA	Primary assumptions
Downside	\$250,000	\$1.1 million	\$3.5 million	\$8.5 million	Negative	First flight or approval delayed; pilots convert slowly; no meaningful aircraft volume until 2029; margins remain below target; additional bridge capital and scope reduction required.
Base management scenario	\$525,000	\$2.55 million	\$8.35 million	\$20.7 million	\$1.32 million	First flight and paid pilot occur on the staged plan; one aircraft/route equivalent in 2028; four aircraft and three routes in 2029; ten aircraft and eight routes in 2030.
Upside planning case	\$850,000	\$4.2 million	\$13.5 million	\$32.0 million	\$4.5-\$6.0 million	Strategic health-system partner; co-funded pilot; faster regulatory/partner pathway; stronger production learning; customer deposits and fleet finance support scale.

Scenario Use

- The downside case governs liquidity protection, hiring restraint, bridge planning, supplier commitments, and wind-down alternatives.
- The base case governs board budget and milestone expectations only after the underlying assumptions are approved.
- The upside case is not permission to hire or procure early; spending follows contracted demand, cash collection, technical readiness, and production capacity.
- Each monthly forecast should show probability-weighted receipts separately from contracted cash, and committed costs separately from optional work.
- Scenario changes must identify which assumptions changed: date, volume, price, margin, payment, staffing, supplier, approval, reliability or capital.

Most Sensitive Variables

First-flight timing; paid-pilot timing; aircraft configuration and BOM; customer conversion; gross margin; operating-partner cost; insurance; long-lead deposits; aircraft payment terms; managed-route utilization; lease-fleet ownership; hiring start dates; and the timing and terms of institutional capital.

Downside Preservation Plan and Financial Triggers

Trigger	Early warning threshold	Required management response	Board decision if unresolved
Runway	Forecast cash falls below nine months before the next financeable milestone.	Freeze noncritical hiring and optional procurement; accelerate financing; update downside ETC and scope.	Approve bridge, strategic process, program descope, pause, or controlled wind-down.
Estimate to complete	D1/first-flight ETC exceeds approved capital by 10% or more.	Technical/cost review; identify root cause; reprice suppliers; reduce scope; rebaseline schedule.	Release contingency, change configuration, raise capital, partner, or stop work package.
Schedule	Critical path slips more than 60 days or first-flight gate lacks credible recovery.	Protect safety/quality; resequence low-cost work; customer and investor communication; financing update.	Change leadership/supplier/configuration, extend round, or narrow milestone.
Customer	No paid assessment/pilot path by month 9 or no executive sponsor/route data.	Revalidate wedge, accounts, pricing, route criteria and commercial ownership; concentrate resources.	Change launch geography/use case, partner, or reduce customer-program spend.
Technical	Mass, energy, controls, reliability or safety evidence threatens launch requirements.	Independent review, trade study, bounded tests, requirement change and customer impact analysis.	Redesign, descope envelope, acquire/license capability, or stop configuration.
Regulatory / insurance	Test or pilot pathway becomes unavailable, materially delayed or unaffordable.	Engage counsel/regulator/insurer; preserve alternate site/operator/pathway; revise concept of operations.	Change geography, partner, aircraft class, mission, schedule or capital plan.
Margin / working capital	Pilot, aircraft or route cannot meet contribution threshold or cash terms.	Reprice, rescope, require deposits/minimums, change make/buy or partner economics.	Decline customer program, change model, or secure dedicated financing.

A controlled reduction in scope is preferable to an underfunded aircraft, unsafe test campaign, unfunded customer promise, or emergency financing on destructive terms.

Funding Strategy

Phoenix should use a layered capital strategy. Equity funds enterprise risk and milestone creation. Customer and strategic capital fund defined programs. Non-dilutive awards fund eligible technical work. Asset finance funds financeable aircraft and equipment. The Company should not use short-maturity debt to fund uncertain certification or open-ended R&D unless repayment is fully understood and approved.

- 1 **Close a clean seed round** - Confirm legal entity, cap table, prior instruments, founder contributions, liabilities, board authority, IP ownership, team agreements, use of funds, minimum close and milestone plan.
- 2 **Create evidence before the next price-setting event** - Complete requirements, architecture, controlled build, ground/flight testing, customer-funded work, regulatory plan, and updated P1 economics.
- 3 **Run institutional financing as a program** - Maintain target investor list, materials, data room, references, model, diligence tracker, decision calendar, lead process and backup paths.
- 4 **Pursue non-dilutive funding selectively** - Target solicitations that match Phoenix work already required; do not delay the core program while waiting for an uncertain award.
- 5 **Use strategic capital with boundaries** - Accept customer, supplier, operator, healthcare, aerospace or defense capital only with clear exclusivity, IP, data, field, pricing, governance and change-control terms.
- 6 **Separate fleet capital from corporate capital** - Finance managed-route aircraft, customer leases, spares and production assets through deposits, leases, equipment finance, strategic vehicles or dedicated facilities where possible.
- 7 **Maintain a financeable failure path** - Preserve records, IP, assets, customer rights, supplier options and a controlled pause/wind-down plan so capital constraints do not create safety or legal failures.

Seed Financing Instruments - Decision Framework

Instrument	Potential advantage	Primary risk / tradeoff	Phoenix planning position
Priced preferred equity	Clear valuation, ownership, governance, investor rights, option pool, and institutional baseline.	Higher legal/diligence cost; negotiation can take longer; governance and protective provisions must be understood.	Preferred when a credible lead investor and clean diligence can establish a durable institutional structure.
Post-money SAFE	Faster and simpler execution; defers priced-round negotiation; standardized documents may reduce friction.	Future dilution, stacked instruments, valuation caps/discounts, side letters and pro-rata rights can create cap-table complexity.	Use one standardized form and consistent terms only after cap-table modeling and counsel review; avoid serial ad hoc SAFEs.
Convertible note	May bridge to a priced round and can include defined maturity, interest, conversion and investor protection.	Debt maturity, interest, security, default and repayment pressure are poorly matched to uncertain aircraft-development timing.	Use only for a bounded bridge with a credible financing event and no hidden operational control or repayment risk.
Strategic equity or program investment	May add customer access, operating capability, suppliers, credibility and follow-on resources.	Exclusivity, rights of first refusal, channel conflict, IP/data claims, pricing restrictions and competitor signaling.	Accept strategic rights only when their value is measurable and does not block customers, investors, products or exits.
Founder / insider financing	Can accelerate close and signal commitment.	Related-party fairness, priority, disclosure, security, repayment and governance conflicts.	Document at arm's length with board approval, full disclosure, cap-table treatment and counsel review.

U.S. securities offerings require counsel-selected exemptions, filings, disclosure and solicitation controls. SEC materials distinguish private-placement pathways such as Rule 506(b) and general-solicitation offerings under Rule 506(c); Phoenix should select the pathway before broad investor outreach. [8][9][10]

This business plan is not an offer to sell or a solicitation to buy securities. Financing terms must be documented by qualified securities counsel and approved by the authorized board and stockholders.

Non-Dilutive, Customer, and Strategic Capital

Capital source	Best use	Do not assume	Required controls
SBIR / STTR and agency R&D awards	Eligible research, prototype, autonomy, safety, payload, communications, manufacturing or mission-specific work aligned with the core roadmap.	Award timing, topic fit, eligibility, win probability, payment timing, indirect-cost recovery, follow-on award, or customer conversion.	Proposal calendar; cost accounting; timekeeping; data rights; foreign influence/security; deliverables; audit and commercialization obligations.
Customer-paid feasibility and pilots	Route analysis, payload, site, workflow, progressive validation, reporting and conversion decision.	That a large institution will pay quickly, accept Phoenix terms, provide data, or convert after a successful demo.	Advance/milestone billing; executive sponsor; customer responsibilities; approvals; acceptance; data/IP; cancellation and conversion terms.
Sponsored development / strategic partner	Specific integration, operating capability, supplier technology, manufacturing, healthcare or government mission.	That strategic interests remain aligned or that exclusivity creates sufficient value.	Background/foreground IP; data rights; publications; exclusivity; field/geography; price; change control; termination and continuity.
State, regional, university and economic-development support	Facilities, workforce, test ranges, matching funds, research partnerships and infrastructure.	Free or unrestricted cash; rapid approval; permanent facility value; no clawback or reporting burden.	Site and lease terms; matching requirements; procurement; publication; IP; employment; relocation; clawback and termination.
Customer deposits and advance payments	Reduce working capital for aircraft, site, payload and route deployment.	That deposits are revenue or unrestricted cash.	Segregate delivery obligations; milestone acceptance; refund/cancellation; credit risk; revenue-recognition and performance tracking.

As of April 2026, SBA guidance identifies SBIR/STTR as America's Seed Fund and publishes Phase I and Phase II award thresholds, while the programs were reauthorized through September 30, 2031. Phoenix should treat all awards as competitive, restricted, and uncertain until executed. [11][12]

Non-Dilutive Rule

Pursue funding that accelerates the approved Phoenix roadmap. Do not redesign the Company around a solicitation merely because money is available.

Capital Governance and Approval Matrix

The thresholds below are planning recommendations for board review. They are not current legal authority and should be adjusted to the final financing documents, bylaws, budget, staffing, banking controls, and board-reserved matters.

Decision	Budget owner / manager	Founder / CEO + finance control	Board or designated committee
Budgeted operating spend	Up to \$10,000 within approved work package and no new recurring obligation.	\$10,001-\$50,000; confirm cash forecast, scope, contract and delegated authority.	Above \$50,000 if material, long-term, related-party, outside normal course, or required by financing documents.
Unbudgeted spend	No authority unless emergency safety action.	Up to \$15,000 within central contingency with documented reason and updated forecast.	Above \$15,000, or any action that changes milestone, runway, financing, aircraft baseline or customer commitment.
Long-lead purchase / supplier deposit	Prepare quote, comparison, acceptance and cancellation analysis.	Approve up to \$50,000 only after technical/program release and liquidity test.	Above \$50,000, sole-source critical commitment, deposit without protection, or multi-year supplier obligation.
Hiring / compensation	Recommend role, band, fully loaded cost, objective and start date.	Approve within board compensation bands and funded headcount plan.	Officer/senior role, exception to band, material equity, severance, related-party or commitment beyond runway.
Customer price / discount	Quote within approved calculator and standard terms.	Approve strategic discount with documented return and contribution/cash test.	Below minimum margin/cash threshold, exclusivity, material warranty/service exposure or nonstandard risk.
Financing / equity / debt	No authority.	Negotiate within board-approved process; no binding commitment.	All issuances, SAFEs, notes, warrants, debt, liens, guarantees, valuation, investor rights and cap-table changes.
Technical / flight / safety release	No financial authority overrides designated technical or safety authority.	Ensure resources and schedule support evidence-based decisions.	Accept only residual enterprise risk within governance; never direct an unsafe release.

Cash-Control Cadence

- Weekly 13-week cash and committed-cost review.
- Monthly close, budget variance, ETC, runway, financing pipeline and board dashboard.
- Quarterly scenario reforecast, reserve adequacy, insurance, capitalization and risk review.
- Immediate escalation of fraud, unauthorized commitment, liquidity breach, covenant, tax, payroll, safety, customer or regulatory event.

Accounting, Reporting, and Internal Controls

Control domain	Seed-stage minimum	Evidence expected
Banking and payments	Company accounts only; least privilege; dual approval for material wires; verified vendor changes; no shared credentials.	Bank resolutions, authorized signer list, access log, payment support, callbacks, monthly reconciliation.
Purchasing and payables	Approved vendor, contract/PO, receipt/acceptance, invoice review, coding, payment approval and retention.	Three-way support where practical; open-commitment report; vendor master; deposit and renewal tracking.
Payroll and contractors	Approved person/entity, agreement, tax/worker classification, rate, time/milestone, manager approval and access termination.	Payroll register, time/milestone record, W-9/W-8 or employee file, benefits, equity approval, separation checklist.
Revenue and contracts	Executed agreement, customer credit, billing schedule, acceptance, change order, collection and revenue policy.	Contract register, invoice, cash receipt, deferred revenue, backlog classification, receivable aging and dispute log.
Fixed assets and inventory	Serialized receipt, custody, location, condition, calibration, capitalization policy, transfer and disposal.	Asset register, inventory counts, aircraft/component records, impairment and loss reporting.
Equity and capitalization	Board/stockholder authorization, executed instrument, payment, securities filings, cap-table update and document retention.	Legal cap table, stock ledger, option/award records, 409A or other valuation where applicable, Form D/state filings.
Financial close and reporting	Accruals, reconciliations, prepaid/deferred items, grant/customer restrictions, actual-to-budget, cash forecast and management review.	Close checklist by day 10, trial balance, balance sheet, P&L, cash flow, variance, ETC and board package.
Fraud and cybersecurity	Segregated access, phishing/vendor-change controls, backups, logs, incident reporting, insurance and recovery.	Access review, security training, backup test, incident log, cyber policy, corrective actions.

Reporting Package

Monthly management reporting should include cash and runway; 13-week forecast; P&L and balance sheet; committed cost; program ETC; use-of-funds reconciliation; payroll and contractor capacity; customer receipts and pipeline; capital-raising status; risk register; technical and commercial milestones; and decisions requiring board action.

Consolidated Enterprise Risk Framework

Risk class	Risk statement	Financial consequence	Primary owner
Capital and liquidity	Phoenix cannot raise sufficient capital on acceptable timing and terms to reach the next financeable milestone.	Incomplete aircraft, emergency financing, supplier/customer default, layoffs, loss of IP/data and controlled wind-down.	Founder/CEO with finance and board.
Technical and performance	Aircraft fails to meet payload, range, transition, stability, energy, redundancy, noise, maintainability or reliability requirements.	Redesign, test delay, lost customer, additional capital, write-off and lower valuation.	Chief Engineer / Design Authority.
Flight safety and test	Accident, injury, property damage, flyaway, fire or serious anomaly occurs during test or operations.	Program suspension, liability, investigation, insurance loss, regulatory action and reputation damage.	Accountable Executive, Safety and Flight-Test leaders.
Regulatory and operating authority	Required test, airworthiness, exemption, Part 135/partner, site, environmental or dangerous-goods approvals are delayed, conditioned or denied.	Schedule slip, route cancellation, legal cost, stranded assets and revenue delay.	Regulatory lead / accountable executive.
Customer adoption and concentration	Health systems do not provide data, budget, sponsorship, site support or conversion; one customer becomes too dominant.	Low revenue, free pilot burden, pricing pressure, receivable exposure and strategic dependency.	Founder/CEO and Customer Program.
Unit economics and working capital	Aircraft, pilots or routes cost more, price lower, collect slower or require more capital than assumed.	Negative contribution, cash shortage, production delay, contract loss and dilution.	Finance with engineering/operations/commercial.
Supplier and manufacturing	Critical supplier is late, fails quality, changes product, raises price or becomes unavailable; Phoenix cannot build consistently.	Schedule/cost overrun, redesign, scrap, rework, warranty and missed delivery.	Manufacturing / Supply Chain / Quality.
Team and governance	Founder dependency, missing capability, unclear named-team status, weak controls, conflict or misconduct.	Diligence failure, delay, unsafe decisions, fraud, turnover and loss of investor/customer trust.	Founder/CEO and board.

Consolidated Enterprise Risk Register - Continued

Risk class	Risk statement	Financial consequence	Primary owner
Intellectual property and ownership	Phoenix lacks clear rights to prior designs, contractor work, software, data, brand or inventions; competitor rights block implementation.	Investment blocked, injunction, redesign, license cost, lost valuation and dispute.	CEO, legal/IP and technical leadership.
Cybersecurity and data	Aircraft, software, command links, customer, maintenance, source, financial or personal data are compromised or altered.	Safety event, outage, breach cost, customer loss, regulatory exposure, insurance issue and IP theft.	Cyber/software lead and accountable executive.
Insurance and liability	Coverage, limits, exclusions, premiums or indemnities do not match aircraft, test, cargo, site, cyber or commercial exposure.	Unfunded claim, prohibited operation, contract loss, insolvency and board liability.	CEO, finance, legal, safety and broker.
Commercial contract and claims	Phoenix accepts unachievable performance, warranty, service level, delivery, exclusivity, liability or public claim.	Credits, refunds, damages, litigation, lost customer, reputational and regulatory harm.	CEO, commercial, legal, technical and operations.
Community, privacy and environment	Noise, site, route, land use, privacy, environmental review or public opposition blocks or restricts operations.	Delay, relocation, mitigation cost, route loss and damaged brand.	Operations, regulatory and customer program.
Export, government and supply-chain trust	Foreign ownership/control/influence, export, sanctions, cybersecurity or government-contract requirements are not met.	Lost funding/customer, penalties, data restrictions, supplier change and program exclusion.	Legal/compliance, security and board.
Accounting, tax and securities	Financial records, grants, payroll, contractor classification, tax, capitalization, securities offering or investor disclosure are incorrect.	Penalties, restatement, financing delay, director liability, investor claim and audit cost.	Finance, legal, CEO and board.
Business continuity and key assets	Fire, weather, theft, cyber incident, site loss, key-person absence, data loss or supplier failure interrupts the program.	Replacement cost, schedule slip, lost evidence, customer breach and funding risk.	Operations, IT/cyber, program and CEO.

Risk Method

Each risk should have an owner, likelihood, consequence, leading indicators, preventive controls, contingency action, insurance/risk transfer, target date, residual rating and cash exposure. Risks that can consume more than the central contingency or threaten the next financing milestone require board visibility.

Top Risk Priorities and Contingency Reserve

Priorit y	Risk	Current planning rating	Leading indicator	Cash / scope protection
1	Capital and financing timing	Critical	Runway below nine months; weak investor process; unresolved diligence; no lead.	Start early, maintain alternatives, reduce commitments, preserve clean data room, bridge/wind-down plan.
2	Aircraft performance and configuration	Critical	Mass/energy/cost growth; unstable controls; repeated redesign; supplier data gap.	Independent trade reviews, strict requirements, test early, configuration control, descope envelope.
3	Flight safety / serious test event	Critical	Open hazards, rushed readiness, unverified software, inadequate site/crew/emergency response.	Independent release, conservative limits, insurance, spare/test articles, investigation reserve, stop authority.
4	Regulatory / operating pathway	High	Application delay, unclear aircraft status, unavailable operator/site, insurance exclusion.	Multiple pathways/sites/partners, counsel/regulator cadence, staged mission, regulatory contingency.
5	Customer-funded pilot and conversion	High	No executive sponsor, budget, route data, contract, site or partner by gate.	Paid discovery, focused accounts, conversion terms, alternate launch customer/use case.
6	Supplier and long-lead execution	High	Late quote/order, sole source, deposit exposure, quality issue, discontinued component.	Alternates, early quotes, staged purchase, inspection, schedule reserve, redesign threshold.
7	Unit economics / working capital	High	BOM above plan, low pilot margin, long receivable, lease asset required, warranty growth.	Deposits/milestones, reprice/rescope, dedicated fleet finance, contribution threshold, reserve.
8	Team / founder dependency	High	Open critical role, undocumented work, slow decisions, burnout, conflicts, unclear authority.	Role charters, backups, repositories, delegation, board support, succession and knowledge transfer.

Contingency Policy

- Central seed contingency target: 10%-15% of capital until major design, supplier and first-flight uncertainties are reduced.
- Contingency is not used to fund scope expansion, unapproved hiring, marketing, speculative inventory or underpriced customer work.
- Every release records the risk, root cause, owner, amount, remaining reserve, schedule effect, recovery action and updated estimate-to-complete.
- If one event consumes more than 25% of the remaining contingency, conduct an immediate program and financing review.

Insurance, Contractual Risk Transfer, and Reserves

Exposure	Potential coverage / transfer	Financial model requirement	Do not assume
Prototype and flight test	Aviation/UAS liability, hull/equipment, premises, workers compensation, auto, property, inland marine and test-site terms.	Premium, deductibles, exclusions, named insureds, pilot/site/aircraft conditions and claim reserve.	That ordinary general liability covers aircraft flight or that an insurer will accept the planned configuration and mission.
Commercial route and cargo	Aviation liability, cargo, products/completed operations, errors/omissions, cyber, property/site and operating-partner policies.	Contract-required limits, additional insureds, waiver/subrogation, cargo limits, temperature/custody and partner allocation.	That customer indemnity replaces insurance or that high-consequence medical cargo is automatically covered.
Product and warranty	Products liability, recall/grounding considerations, warranty reserve, supplier indemnity and quality agreements.	Reserve by aircraft/flight hour; included labor/travel/parts; exclusions; service bulletin and field-action process.	That early reliability data support mature reserve rates or that supplier warranties cover Phoenix's customer obligation.
Cyber and data	Cyber/privacy, technology E&O, crime/social engineering, business interruption and incident-response services.	Control prerequisites, sublimits, exclusions for aviation/safety, retention, notification and customer terms.	That cyber insurance compensates for unsafe flight behavior, IP theft, lost certification evidence or reputational damage.
Directors, officers, employment and fiduciary	D&O, employment practices, fiduciary/crime and indemnification.	Premium and retention after financing; policy continuity; investor/board requirements; related-party and securities exclusions.	That incorporation or indemnification eliminates personal exposure for misrepresentation, fiduciary breach or unlawful conduct.

Reserve Categories

- Technical redesign and anomaly reserve.
- Warranty and field-support reserve.
- Regulatory, legal and investigation reserve.
- Customer service credit/refund and contract reserve.
- Bad-debt and receivable reserve.
- Inventory obsolescence and supplier-deposit reserve.
- Cyber/business-continuity and insurance-deductible reserve.

Investor and Partner Due-Diligence Readiness

Diligence area	Minimum ready-state	Red-flag examples
Corporate and capitalization	Formation documents, good standing, board/stockholder records, stock ledger, cap table, all SAFEs/notes/options/warrants and liabilities.	Conflicting cap tables, undocumented founder promises, missing approvals, prior-company claims or unrecorded debt.
Financial and tax	Bank records, monthly statements, budget/model, use of funds, payroll, contractor/vendor files, tax filings, grants and revenue policy.	Personal/company commingling, unsupported expenses, unpaid payroll/tax, unexplained related parties, overstated revenue/backlog.
Team and governance	Executed agreements, role/availability, compensation/equity, IP assignment, conflicts, background and board authority.	Named team not committed, missing assignment, undisclosed conflict, advisor presented as officer/director, no succession.
Technical and product	Requirements, architecture, design records, BOM, software, configuration, tests, hazards, discrepancies, suppliers, schedule and ETC.	Concept art represented as tested aircraft, missing source/design, uncontrolled changes, unsupported performance or cost claims.
Regulatory, safety and quality	Test/operating strategy, counsel/advisor scopes, applications, SMS, quality, manuals, site, insurance and incident records.	Implied approval, no legal test path, weak stop authority, missing maintenance/configuration records or undisclosed incident.
IP, data and cyber	Chain of title, assignments, prior inventions, patents/trademarks, FTO plan, open-source, repositories, access, data rights and cyber controls.	Prior employer/contractor ownership, public disclosure before filing, unknown code, shared credentials or customer data without rights.
Customer and commercial	CRM, meeting notes, route data, proposals, contracts, pricing, pipeline classification, pilot economics and references.	Letters presented as revenue, unsupported partnerships, free pilot burden, nonstandard liabilities or no conversion path.
Operations and supply chain	Facility/site, supplier quotes, quality records, make/buy, lead times, alternates, maintenance, spares and production plan.	Single-source critical item, unprotected deposits, supplier claim without agreement, speculative inventory or no acceptance plan.

Diligence readiness is a financing asset. Clean records reduce closing time, protect credibility, reveal risk early, and allow management to negotiate from evidence rather than explanation.

Appendix A - Base Financial Assumptions

Assumption category	Base planning assumption	Update trigger
Planning period	July 2026 through December 2030; 2026 represents a partial year.	Funding close date and actual accounting period.
Currency and units	U.S. dollars; financial tables generally shown in \$000s.	None unless the Company enters material foreign-currency commitments.
Seed capital	\$2.0 million target with staged use over approximately 18 months.	Instrument, closing amount/date, fees, minimum close, investor rights and cash on hand.
Revenue start	Paid route assessment/design in 2026; paid pilot in 2027; first aircraft/route equivalent in 2028.	Executed customer agreement, approval, aircraft readiness and payment terms.
Aircraft price	\$850,000-\$1.5 million planning band; base modeled around \$1.1-\$1.15 million.	Released configuration, BOM/routing, support/warranty, customer research and contract.
Managed route value	\$350,000-\$900,000 annual planning band; base route example \$495,000.	Route, missions, SLA, operator, staffing, insurance, sites, weather and customer terms.
Mature margins	Aircraft 30%-40%; route 40%-55%; software 70%-85%; blended long-term 45%+.	Supplier and labor actuals, reliability, warranty, utilization, partner cost and customer price.
Staffing	Lean core within Section 7 bands, supplemented by fractional/contract capacity.	Role offers/SOWs, compensation, payroll burden, start dates and manager capacity.
Production	No speculative production inventory; LRIP after Gate G and funded customer demand.	Pilot result, contract, released design, supplier/quality readiness and production financing.
Regulatory	Staged testing and commercial pathway with qualified counsel/operator support.	FAA action, aircraft category, mission, site, operating partner and Part 108/final rules.
Taxes and accounting	No detailed tax provision or GAAP policy assumed in this management scenario.	Entity/jurisdiction, accountant, R&D and software policy, grants, revenue and financing terms.
Exit / valuation	No exit, valuation, investor return or dilution outcome is modeled.	Board-approved financing analysis and securities counsel.

Appendix B - Financial and Operating KPI Dictionary

KPI	Definition	Management use
Cash runway	Unrestricted available cash divided by approved forward gross burn, adjusted for committed costs.	Financing timing, hiring and procurement gates.
Gross burn / net burn	Cash operating outflow before / after customer and other operating receipts.	Cost discipline and runway movement.
Committed cash	Signed PO, contract, payroll, lease or other noncancelable obligation not yet paid.	Prevents hidden overspend and false runway.
Estimate to complete	Expected remaining cash to achieve the defined program milestone, including contingency.	Scope, financing and board decisions.
Contracted backlog	Remaining enforceable consideration under signed customer contracts, classified by cancellation and approval conditions.	Delivery planning; not the same as pipeline or cash.
Qualified pipeline	Opportunities that pass customer, route, sponsor/budget, technical/regulatory, commercial and conversion gates.	Sales forecast and resource prioritization.
Pilot conversion rate	Paid pilots converted to recurring route, lease or aircraft/support contracts.	Commercial proof and capital efficiency.
Aircraft build cost	Direct material, labor, acceptance, warranty reserve and allocated production overhead per aircraft.	Pricing, margin and working capital.
Route contribution margin	Route revenue less direct aircraft, partner, field, maintenance, insurance, site, energy and support costs.	Route approval, pricing and density.
Dispatch / completion reliability	Approved missions dispatched / completed, with cancellations separated by cause.	Service evidence, staffing, spares and customer SLA.
Aircraft availability and utilization	Time aircraft is serviceable; missions or hours produced relative to planned capacity.	Fleet size, maintenance and economics.
Recurring-revenue share	Software, maintenance, route service, training and support as a percentage of revenue.	Business quality and installed-base maturity.
Customer concentration	Revenue, backlog and receivables represented by the largest customers.	Risk, financing and account strategy.
Cash collection cycle	Days from contract/milestone to invoice and cash receipt.	Working capital and customer terms.

Appendix C - Data Room Index

Folder	Core contents	Owner / refresh
01 Corporate and capitalization	Formation, bylaws/operating agreement, good standing, minutes/consents, stock ledger, cap table, securities, liabilities, related parties.	Legal / finance; update with every action.
02 Financing	Pitch deck, business plan, model, use of funds, investor list, term sheets, disclosures, Form D/state filings, closing binder.	CEO / finance / counsel; live during round.
03 Financial and tax	Monthly statements, bank, budget, forecast, ETC, payroll, AP/AR, assets/inventory, tax, grants, insurance and accounting policies.	Finance; monthly or event-driven.
04 Team and governance	Organization, role charters, employment/consulting/advisor agreements, compensation/equity approvals, resumes, conflicts, board materials.	CEO / HR / legal; event-driven.
05 Technical and product	Requirements, architecture, CAD/drawings, BOM, analyses, interfaces, software, configuration, verification, flight/test data, discrepancies and roadmap.	Chief Engineer / program; controlled release.
06 Safety, quality and regulatory	SMS, hazards, risk assessments, manuals, quality plan, supplier quality, applications, counsel memos, site/test authority, incidents and corrective actions.	Safety/quality/regulatory; controlled and current.
07 IP, data and cybersecurity	Assignments, prior inventions, patent/trademark, FTO, trade secrets, open-source, repositories, access, cyber policies, incidents and customer data rights.	Legal/IP / software/cyber; event-driven.
08 Customers and commercial	CRM export, route data, meeting records, proposals, LOIs, contracts, pricing, pilot budgets, pipeline, receipts, case-study rights and references.	Customer program / finance; weekly/monthly.
09 Operations and supply chain	Facilities/sites, make/buy, suppliers, quotes, POs, lead times, alternates, manufacturing, maintenance, spares, tooling, calibration and logistics.	Operations / manufacturing; weekly/monthly.
10 Risk and insurance	Enterprise risk register, contingency, insurance policies/quotes, claims, contract risk, business continuity and recovery plans.	CEO / finance / safety / legal; monthly/quarterly.

Access should be role-based, logged, revocable, and limited to the diligence stage. Export-controlled, customer-confidential, personal, security-sensitive, or trade-secret information requires separate handling and counsel/security review.

Appendix D - Milestone, Cash, and Financing Dashboard

Gate / window	Technical and operating evidence	Commercial evidence	Financial evidence	Financing decision
Gate A / Months 0-3	Mission, payload, route assumptions, regulatory screen, organization and risks.	Target accounts, customer-data request, paid assessment offer.	Closed seed, budget, cash forecast, authority, initial ETC.	Release foundation spending; preserve reserve.
Gate B-C / Months 3-8	SRR/PDR, architecture, models, interfaces, verification, supplier and safety evidence.	Executive discovery, route data, paid assessment, pilot concept.	Supplier quotes, staffing plan, cost/schedule baseline, runway.	Release selected long leads; launch next-round preparation.
Gate D / Months 7-12	CDR/released build, software/HIL, manufacturing and test readiness.	Pilot SOW draft, operator/site/customer responsibilities.	Updated ETC, contingency, committed cost, financing pipeline.	Continue build only if first-flight milestone remains funded.
Gate E / Months 10-15	As-built, ground tests, software release, site/crew/authority, flight readiness.	Customer review, payload workflow, pilot schedule and approvals.	Cash floor, insurance, anomaly reserve, institutional diligence.	Close or secure next-round path before liquidity pressure.
Gate F / Months 15-24	Envelope, reliability, maintenance, payload, contingency, training and pilot readiness.	Executed paid pilot, conversion criteria, executive sponsor and route economics.	Pilot cost/margin, P1 ETC, working capital and runway.	Fund pilot/P1 maturity; decide institutional round scope.
Gate G / 2028+	Pilot result, P1 design, compliance, supplier/quality, production and support readiness.	Contracted aircraft/route demand, cash terms, expansion path.	Unit economics, inventory/receivable/fleet needs, warranty and production capital.	Enter LRIP, continue pilot, partner/license, redesign, defer or stop.

Dashboard Rule

No gate is passed by schedule alone. Phoenix advances when the aircraft, customer, regulatory, organization, cash, risk, and financing evidence agree that the next commitment is responsible.

Management Decisions Required

- Confirm the legal entity, capitalization table, existing liabilities, founder contributions, bank accounts, tax status and authorized board.
- Approve the \$2.0 million target, minimum closing amount, financing instrument process, investor rights boundaries, legal budget and securities-offering controls.
- Approve the seed use-of-funds envelope, 18-month cash schedule, minimum liquidity floor, contingency reserve and delegated spending authority.
- Select the accounting firm, accounting policy, monthly close, chart of accounts, revenue/backlog treatment, asset/inventory policy and tax/compliance calendar.
- Approve compensation and contractor bands, hiring starts, equity pool/grant process, commission treatment and fully loaded cost assumptions.
- Authorize the demonstrator configuration budget only after requirements, trade studies, supplier quotations, make/buy, test plan and estimate-to-complete are reconciled.
- Approve the route assessment, pilot, aircraft, lease, route-service, support and software pricing framework and minimum contribution/cash terms.
- Select the institutional financing milestone, target round range, investor strategy, data-room owner, diligence calendar and backup capital paths.
- Approve the non-dilutive strategy, eligible topics, proposal resources, cost-accounting readiness, data-rights rules and prohibition on grant-driven roadmap distortion.
- Approve production and fleet-financing rules: no speculative inventory, no unfunded route assets, customer deposits/milestones, warranty reserve and Gate G authority.
- Approve the consolidated risk register, owners, indicators, insurance strategy, contingency release, bridge options and controlled pause/wind-down plan.
- Reconcile this financial model to actual supplier, payroll, insurance, regulatory, customer and financing evidence before external investor reliance.

Section 8 Management Position

Phoenix Unmanned should finance the Company the same way it intends to develop and operate the aircraft: with a defined mission, controlled configuration, explicit authority, verified status, conservative limits, independent review, recorded decisions, known reserves, and disciplined expansion after evidence.

Capital is not the milestone. Capital is the resource that allows Phoenix to create evidence, preserve safety and credibility, win customers, and reach the next responsible decision.

Sources and Financial Planning Notes

- [1] Phoenix Unmanned Business Plan Section 1 - Executive Summary and Company Overview, including the \$2.0 million seed request, use of funds, current-stage disclosures and 2026-2030 objectives.
- [2] Phoenix Unmanned Business Plan Section 2 - Market Need, Customers, and Industry Analysis, including launch segments, route qualification, customer economics and demand evidence.
- [3] Phoenix Unmanned Business Plan Section 3 - Aircraft Platform, Technology, and Product Roadmap, including D1/P1/P2/P3 planning, technical milestones, verification and product-family controls.
- [4] Phoenix Unmanned Business Plan Section 4 - Business Model, Pricing, and Go-to-Market Strategy, including price bands, revenue streams, managed-route example, margin objectives and commercial roadmap.
- [5] Phoenix Unmanned Business Plan Section 5 - Operations, Manufacturing, Safety, and Regulatory Strategy, including quality, manufacturing, maintenance, operations, insurance and regulatory requirements.
- [6] Phoenix Unmanned Business Plan Section 6 - Competition, Intellectual Property, and Strategic Moat, including IP ownership, cybersecurity, supplier trust, data, contracts and moat investment.
- [7] Phoenix Unmanned Business Plan Section 7 - Team, Organization, Milestones, and Implementation Plan, including staffing bands, governance, stage gates, first 100 days and financing dependencies.
- [8] U.S. Securities and Exchange Commission, Private Placements - Rule 506(b), small-business capital-raising guidance.
- [9] U.S. Securities and Exchange Commission, General Solicitation - Rule 506(c), small-business capital-raising guidance.
- [10] U.S. Securities and Exchange Commission, Common Startup Securities and startup-securities building-block materials, including preferred equity, convertible notes and SAFEs.
- [11] U.S. Small Business Administration and SBIR.gov, SBIR/STTR program guidance and 2026 reauthorization information.
- [12] SBIR.gov, About SBIR and STTR, April 2026 award-threshold guidance.
- [13] Phoenix Unmanned investor deck, website, aircraft concepts, white papers, founder materials and internal planning assumptions available as of July 2026.

This section is a management planning document and does not constitute accounting, audit, tax, valuation, investment, securities, banking, insurance, legal, employment, export-control, government-contracting, regulatory or fiduciary advice. The projections are illustrative internal scenarios based on unverified assumptions and must not be represented as guaranteed results, contracted revenue, an appraisal, or an offer to sell securities. Qualified professionals must review all external use.

The complete plan now connects mission, market, aircraft, commercial model, operations, strategic moat, organization, milestones, capital, risk, and execution into one controlled enterprise plan.