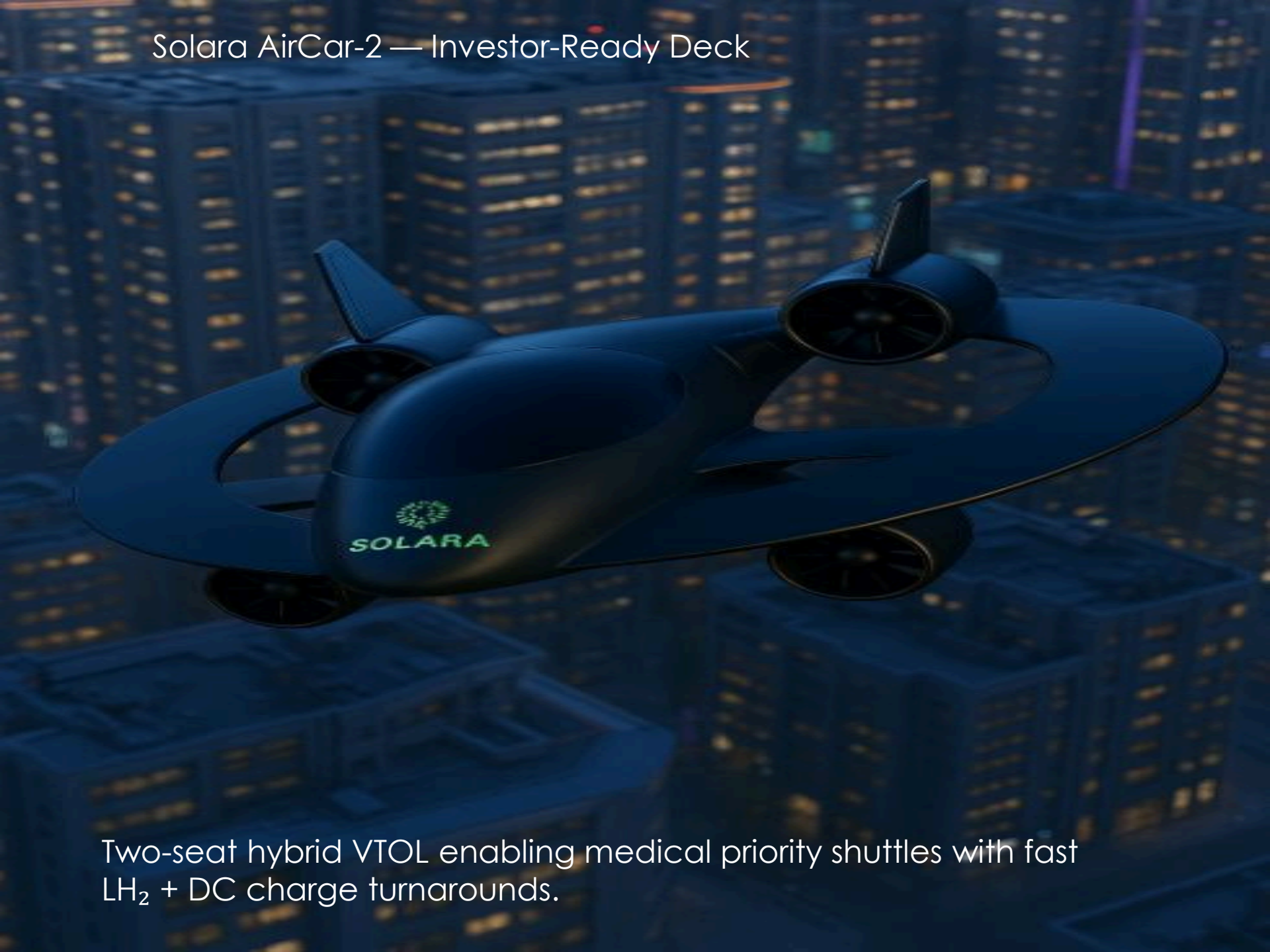
Solara AirCar-2 — Investor-Ready Deck



Two-seat hybrid VTOL enabling medical priority shuttles with fast LH_2 + DC charge turnarounds.

Urban Mobility Pain Points

Hospital–airport–CBD corridors waste hours; ground alternatives are unreliable and congested.

Legacy rotorcraft remain noisy, emissions-heavy, and costly to operate.

Critical transfers (patients/organs/samples) require predictable, fast, safe hops across metro regions.

Solution: Hybrid Advantage

AirCar-2: Two-seat hybrid VTOL combining hydrogen fuel cell (cruise) + solid-state battery (VTOL/boost).

Noise ops target is procedures-based (not a certified guarantee); validation referenced to NASA/Joby benchmarks.

Longer range, faster turnarounds, and improved thermal safety vs. battery-only eVTOL.

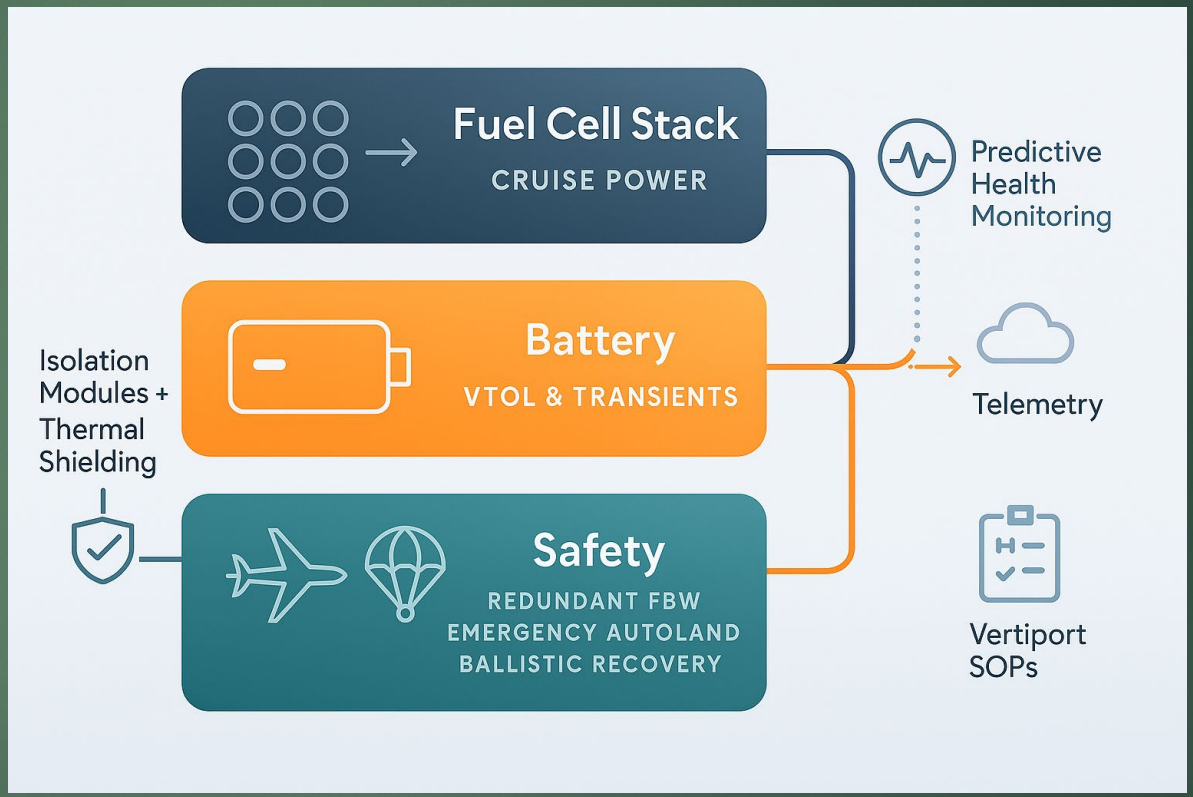
Simplified infrastructure: vertiport LH_2 top-up + CCS-based DC fast charge.

Parametric pre-bench estimates; reserves policy A/B

Noise targets validated against NASA/Joby benchmarks (≤65 dBA @100 m VTOL; ~45.2 dBA at 500 m cruise); operations remain procedures-based.

Hybrid System Architecture & Safety

- Fuel Cell Stack (Cruise Power)
- Battery (VTOL & Transients)
- Isolation Modules + Thermal Shielding (callout with shield icon)
- Safety Layer (Redundant FBW, Emergency Autoland, Ballistic Recovery)
- Predictive Health Monitoring (sensor icon)
- Telemetry (cloud icon)
- Vertiport SOPs (checklist icon)



Initial Use-Cases & Segments

The Solara Air Car2: Freedom in Motion

- **Go Anywhere, Anytime** – No more waiting, no more traffic. The Solara gives you direct access to hospitals, airports, city centers—or anywhere life takes you.
- **Personal Air Mobility** – A sleek two-seat design built for individuals who value independence and control. Commute across urban segments (7–25 miles) or escape regionally (50–150 miles) with ease.
- **Life Without Limits** – Whether it's a quick hop to a meeting, a weekend getaway, or delivering something critical, The Solara makes mobility personal, fast, and effortless.

Competitive Landscape

Platform	Seats	Range Focus	Turnaround	Cert Path
Solara AirCar-2	2	Regional (up to 700 mi target)	LH_2 ≤15 min + fast charge ≤10 min	FAA Part 21 Special Class (powered-lift)
Joby S4	Pilot + 4	~100 mi	DC fast charge (GEACS)	FAA Special Class; Final criteria Mar 8, 2024
Archer Midnight	Pilot + 4	Optimized ~20 mi	~10 min between trips	FAA Special Class powered-lift
BETA Alia A250	Pilot + 5 (var.)	Regional eVTOL/CTOL variants	DC fast charge network	FAA Special Class (in progress)
Vertical VX4	Pilot + 4	Urban/regional	CCS-based fast charge	EASA/CAA pathways

Charging note: Industry converging on CCS (BETA, Archer, Vertical). GEACS deployed with Atlantic Aviation; Solara will support CCS primary with GEACS adaptor.

Business Model & Revenue Streams

Hardware: sales/lease; spares kits; upgrade pathways.

Ops SLA: ground handling, dispatch, turnaround fees.

Training: pilot, maintenance, vertiport staff.

Energy: LH_2 + fast charge tariffs; pack subscription.

SaaS: flight ops, scheduling, health monitoring.

Support: MRO, AOG, remote diagnostics.

Energy Pricing Context & Strategy

• Item	Cost ($)
Energy (1.5 kg LH_2 + 8 kWh)	$30
Maintenance (0.375 hrs @ $120/hr)	$45
Crew/Insurance	$75
Revenue (2 seats × 70% × $120)	$168
Contribution	$18 (10.7%)

Energy Pricing Overview

Retail LH_2 Pricing (2024–2025):
$30–$36/kg (California pump data)
Contracted LH_2 Strategy:
Target $14–$18/kg via supply agreements
DC Fast Charge Bands:
$0.12–$0.30/kWh
Risk Factors: Volatility, station uptime (CARB/CEC reports)
Mitigation: Index/hedge structure to stabilize margins

Dual base cases shown: Contracted LH_2 ($14–$18/kg) vs Retail LH_2 ($30–$36/kg); DC fast charge $0.12–$0.30/kWh; margin sensitivity follows. Source: NREL vertiport power/demand context.

CAPEX SUMMARY & DEPRECIATION

CAPEX COMPONENTS

COMPONENT	DESCRIPTION
Aircraft purchase or lease	$1.2M per unit (based on current eVTOL prototypes)
Vertiport kit (pads, power cbinets)	$150K per site (modular vertiport estimates)
LH_2 skid (storage & transfer system)	**$80K per system** (hydrogen storage industry average)
CCS fast-charging cabinets	$50K per cabinet (EV fast-charging benchmarks)

DEPRECIATION & MAINTENANCE

ITEM	NOTES
Depreciation schedule	Based on major asset life cycle
Maintenance reserves	Airframe and energy systems
Depreciation schedule	Airframe and energy systems

UTILIZATION & COST ASSUMPTIONS

Assumptions based on AirCar 2 prototype; subject to change post-certification.

UTILIZATION ASSUMPTIONS	
UTILIZATION	ASSUMPTIONS
Daily flight hours	3 hours
Typical mission range	50–150 miles

OPERATING COSTS	
Energy cost per hour	Maintenance reserve
$30	$4K per year

Unit Economics Sensitivity — Energy Pricing

Energy pricing context: CA retail H_2 printed ~$30–$36/kg in 2024–2025; strategy uses contracted delivered LH_2 below

H_2 $/kg \ kWh $/kWh	0.12	0.20	0.30
10	Energy $16.0 | Margin 19.1%	Energy $16.6 | Margin 18.7%	Energy $17.4 | Margin 18.2%
16	Energy $25.0 | Margin 13.7%	Energy $25.6 | Margin 13.3%	Energy $26.4 | Margin 12.9%
30	Energy $46.0 | Margin 1.2%	Energy $46.6 | Margin 0.8%	Energy $47.4 | Margin 0.4%
36	Energy $55.0 | Margin -4.1%	Energy $55.6 | Margin -4.5%	Energy $56.4 | Margin -5.0%

Procurement & Hedging

- Delivered LH_2 vs GH_2 price bands (contracted)
- Index/hedge structure to stabilize margins
- Energy bench validation program for consumption assumptions

Retail vs contracted context: Retail pump pricing bands ~$30–$36/kg (CA 2024–2025).
Sources: S&P Global/Platts; FuelCellsWorks recap https://fuelcellsworks.com/2024/10/02/news/california-hydrogen-pump-prices-for-light-duty-vehicles-reach-new-highs

Certification & Safety Plan (Summary)

U.S.: FAA Part 21 Special Class (powered-lift). AC 21.17-4 (Jul 18, 2025) provides performance-based MoCs.

Ops & pilots: SFAR No. 120 (Part 194) final rule Nov 21, 2024; 10-year framework for powered-lift operations.

EASA: SC-VTOL Enhanced for passenger ops over congested areas.

Compliance stack: ARP4754A/4761; DO-178C/254; DO-160; DO-326A.

Engagement Plan

- DER/ODA invitations issued across powered-lift certification domains
- Pre-submittal reviews scheduled (Q2–Q4 2026)

Means of Compliance — Key Areas

- Handling qualities, control laws, and transition: performance-based MoCs per AC 21.17-4.
- Energy isolation, thermal runaway, fire protection, EWIS: propose MoCs tailored to fuel cell + battery architecture.
- Crashworthiness & continued safe flight/landing: analysis + tests per ARP4754A/4761, DO-160.
- Noise certification: Part 36 applicability case-by-case; supplemental criteria if required.

Noise ops procedures: pre-test vs NASA/Joby benchmarks; case-by-case Part 36 applicability. Source: Joby/NASA press (See QR Index slide for source: www.jobyaviation.com/news/joby-revolutionary-low-noise-footprint-nasa-testing/)

Turnaround & Infrastructure — Evidence & Programs

LH_2/GH_2 pathway: SOPs for connect/disconnect, purging, chill-down, transfer; fuelling targets ≤15 min subject to safety separation.

EU demonstrations: ALRIGH2T (airport-level LH_2 refuelling) and Airbus GOLIAT (LH_2 ops at multiple airports).

Battery fast charge: industry converging on CCS-based DC fast charging for interoperability.

Vertiport power planning: MW-class per-pad demand; utility coordination and microgrids recommended.

NYC pad readiness: Atlantic Aviation preparing East 34th St Heliport for CCS + GEACS; utility upgrades planned.

Charging at E.34th is under preparation (CCS + GEACS); commissioning schedule aligns with early eVTOL entry-into-service.

AirCar-2 Prototype

Freedom in Motion

- Two-seat hybrid VTOL designed for personal nobility
- Enables medical priority hops and premium urban travel
- Current status: Energy bench commissioning and hover rig validation underway

Certification Roadmap

- FAA Part 21 Special Crass (powered-lift)
- Ops & Pilots: SFAR Part 194 framework
- EASA SC-VTOL harmonization

Q3 2028

Solara - Lineup

AirCar2 – Personal Mobility

AirCar7 – Passenger (Local)

AirCar15 – Passenger (Regional)

AirLift – Cargo/First Response

Roadmap — 2026–2027

Milestone	Target Date
Energy bench commissioned	Q1 2026
Subscale lift rig hover	Q2 2026
Integrated turnaround demo	Q3 2026
Conformity article preparation	Q4 2026
Pilot ops (Manhattan ↔ JFK/LGA; JCMC ↔ EWR)	Q2 2027

Gate Criteria (Objective)

- Energy bench: efficiency & safety matrix complete (DO-160 thermal/electrical) — PASS/FAIL
- Sub-scale hover: stability, acoustic pre-test, energy partition validation — PASS/FAIL
- Turnaround demo: SOPs for LH_2 + DC fast charge validated with safety separation — PASS/FAIL
- Conformity article: configuration control & inspections scheduled — PASS/FAIL

Top Risks & Mitigations

- Technical: energy system integration, thermal/fire (Mitigation: isolation, shielding, test campaigns).
- Regulatory: MoC acceptance timelines (Mitigation: engage DERs; pre-submittal reviews).
- Supply chain: LH_2 availability and pricing volatility (Mitigation: contracted supply; hedging; dual-source).
- Ops: vertiport power and fuelling throughput (Mitigation: microgrids; staged operations; SOP training).
- Community: noise and flight path acceptance (Mitigation: procedures; outreach; continuous monitoring).

Confidential — Solara AirCar-2 Investor Deck (Ready Version) — December 2025
lawrence.woods@thesolaracollective.com
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Core Team & Advisor Targets

Lawrence K. Woods — Founding Executive Chairman & Project Architect.

Assia Wilson — Executive Liaison & Strategic Coordinator.

Advisors (targeted): Certification DERs/ODAs; Hydrogen safety; Composites; Flight controls; Vertiport ops.

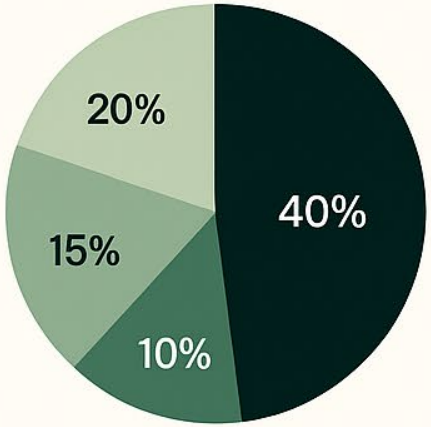
Ask & Use of Funds — $18M SAFE Raise

Funding

- $18M SAFE raise
- Allocation:
  Engineering 40%
  Certification 25%
  Ops 15%, Infra 10%, Contingency

Exit

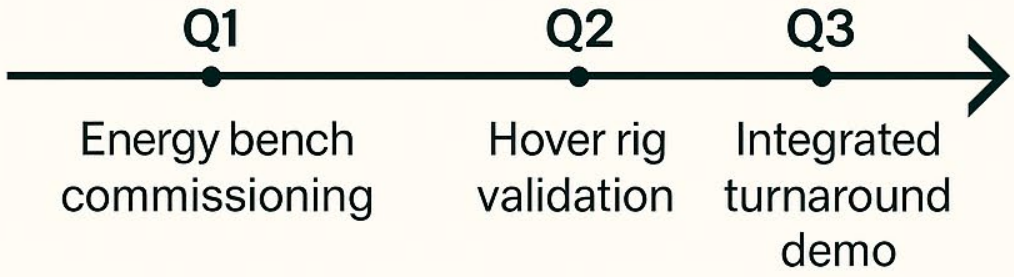
- IPO or **strategic acquisition** by aerospace OEM



Milstone-linked burn plan

- Energy bench commissioning
- Hover rig validation
- Integrated turnaround demo

Pipeline



Timeline graphic ▯▯lIne:

Valuation, Growth Drivers & Key Assumptions

Valuation Strategy

The $60M SAFE agreement with 20% discount reflects confidence in proprietary hybrid hydrogen propulsion technology and scalability.

Growth Drivers

Certification milestones, flight demonstrations, pre-orders, and strategic partnerships drive market penetration and value creation.

Manufacturing Readiness

Pilot production sites and a strong supply chain are critical to scaling manufacturing and accelerating growth.

Key Assumptions & KPIs

Monitoring KPIs like flight hours, unit backlog, and margin improvements supports valuation and operational execution.

Financial Forecast & Exit Scenarios

5-Year Forecast & ROI Pathways

YEAR	UNITS	REVENUE	GM %	GROSS PROFIT	EBITDA
Y1	200	$36M	25%	$9M	-$51M
Y2	1,000	$180M	30%	$54M	-$26M
Y3	3,000	$540M	35%	$189M	$69M
Y4	7,500	$1.35B	38%	$513M	$313M
Y5	12,000	$2.16B	40%	$864M	$584M

Emerging Market Strategy — Solara's Global Control

Why Emerging Markets?

- **Urbanization Surge:** Africa & Asia will account for 90% of global urban growth by 2050.
- **Mobility Gaps:** Congested roads + limited hospital connectivity → strong demand for medical priority shuttles and airport connectors
- **Energy Synergy:** Hydrogen + microgrid infrastructure aligns with sustainability mandates and government incentives

Solara's Control Levers

- **Vertiport Infrastructure Ownership**
  Deploy LH_2 + CCS fast-charge pads; license SOPs for safety and turnaround

- **Regulatory Partnerships**
  Shape powered-lift frameworks early; secure favorable operating corridors

Market Impact

- **TAM Expansion:** Emerging markets add $259B hardware TAM and $85B annual ops TAM (Base scenario)
- **Defensible Moat:** Infrastructure + IP + regulatory influence = long-term dominance
- **Strategic Goal:** Command ecosystem control in Africa, South Asia, and LATAM → recurring revenue from aircraft, energy, and ops

References & Programs

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https://www.jobyaviation.com/news/joby-revolutionary-low-noise-footprint-nasa-testing/
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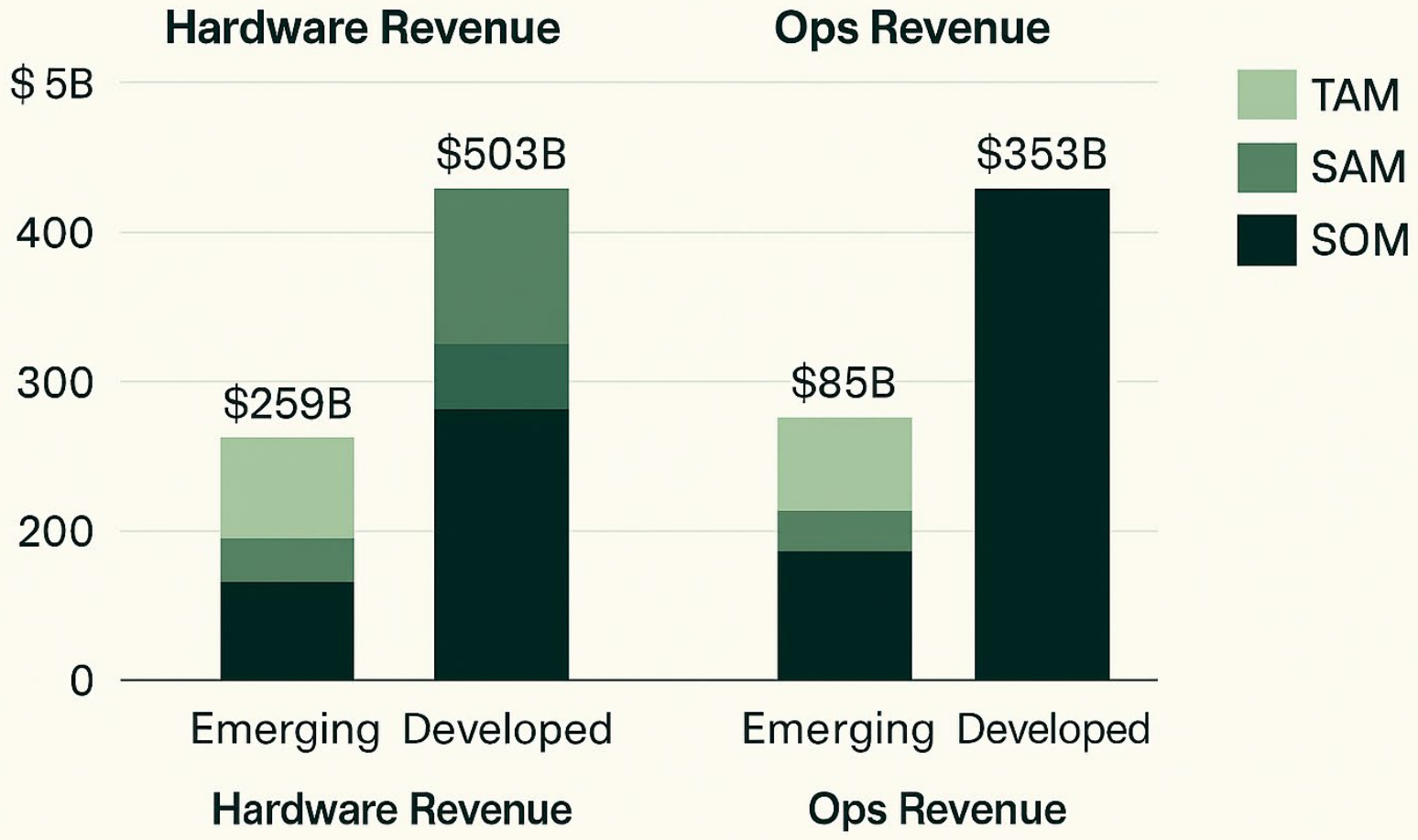
7. ALRIGH2T — Airport-level LH_2 refuelling demos (EU Horizon 101138105)
https://cordis.europa.eu/project/id/101138105
8. Airbus GOLIAT — LH_2 ground ops at EU airports https://www.research.airbus.com/en/products-systems/goliat

Emerging vs. Developed Markets



References — QR Index

1. FAA AC 21.17-4

2. SFAR No. 120 / Part 194

3. eCFR Part 194

4. Joby JAS4-1

5. NASA/Joby Acoustic Testing

6. NREL Vertiport Electrical Infrastructure Study (Dec 2023)

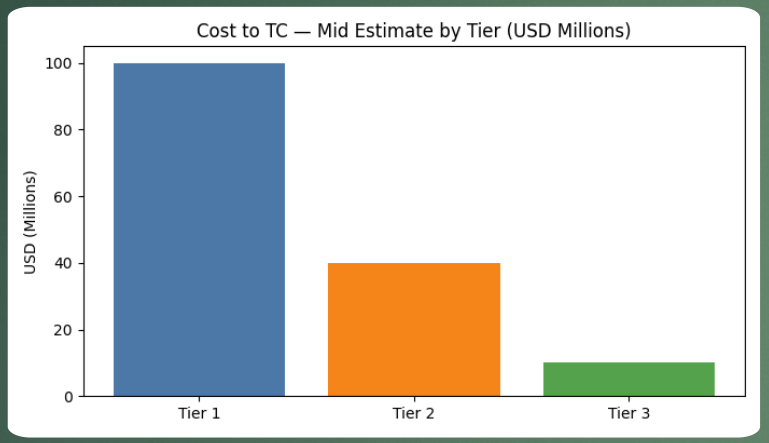
7. ALPHA 2T

8. Airbus GOLIAT

Executive Summary — AirCar-2 at a Glance

- Two-seat hybrid VTOL (hydrogen fuel cell cruise + solid-state battery VTOL/boost) for medical priority shuttles and premium urban–regional hops.
- Key targets: Range up to 700 mi; turnaround ≤15 min LH_2 + ≤10 min DC fast charge; operational noise ≤65 dBA @100 m (aim ≤60 dBA) — procedures-based; validation vs NASA/Joby benchmark. (procedures + validation).
- Initial corridors: Manhattan ↔ JFK/LGA; Jersey City Medical Center ↔ EWR (per-seat scheduled + charter; medical priority windows).
- Certification: FAA Part 21 Special Class (powered-lift) guided by AC 21.17-4; SFAR No. 120 / Part 194 for ops/pilots; EASA SC-VTOL/VCA Issue 2 awareness.
- Raise: $18M SAFE | $60M cap | 20% discount | 18-month runway aligned to Means of Compliance acceptance & demo gates.
- Use of funds: Engineering 40% • Certification 25% • Operations 15% • Infrastructure & pilot sites 10% • Contingency 10%.

Cost to Type Certification (TC) — By Tier



- Tiered vendor engagement reduces TC cost & schedule risk:
  - Tier 1: certification-critical systems (battery/BMS/thermal, propulsion, avionics SW/HW, flight controls, structures)
  - Tier 2: HIL/SIL rigs, harnesses, sensors, redundancy systems for compliance artifacts
  - Tier 3: interiors, composites finishing, test instrumentation, QA/AS9100 tooling post-integration

Vendor Engagement vs Certification Milestones