Executive summary

Zunum Aero is developing regional hybrid-to-electric aircraft and underlying propulsion technologies with disruptive economics over ranges from 700 miles at entry in 2023 to 1,500 miles by 2035. By scaling airliner-grade economics to mid-sized platforms and design for quiet door-to-door service to tens of thousands of secondary airports, our aircraft will usher in a new era of fast and affordable regional travel. Door-to-door journeys will be 2 to 4 times faster than today, reversing the stagnation of the past 50 years. Meanwhile, our hybrid-to-electric propulsion will place aviation on pathway to zero emissions on all short-haul departures by 2040, 50% of emissions generated by the sector, aligned with the goal set by the Norwegian government this year. Our technologies include hybrid-to-electric aircraft and megawatt-class quiet propulsion with unmatched economics, along with software platforms to orchestrate seamless multi-modal journeys that take the flexibility and convenience of ride sharing to 1,500 miles. We have a large, expanding IP portfolio dating to 2014 that includes blocking claims on these technologies.

Product. Our first aircraft, the ZA10, with a range of 700 miles will be available for delivery in 2023 offering 6 executive, 9 business or 12 economy seating. We plan to scale from the ZA10 to a 50-seat platform with range of 1,000 miles by 2027. Notable feature:
• Costs 60 to 80% lower: 8 cents per seat mile or $250 per hour. Community and cabin noise 80% lower; Emissions on path to zero.
• Future-proof Electric and Hybrid variants, architected to transition seamlessly from Hybrid to Electric.

Outlook. We are a first mover to a $3 trillion market (over 20 years) for regional hybrid and electric aircraft that address vast societal challenges, ushering a new era of high-speed mobility, community connectivity, quiet and emissions-free travel. We are raising $50M in Series B funds to develop the business over the next year, including full-scale Flying testbeds, an Order book equal to several years of production capacity, and the Preliminary Design Review. Additional equity to bring the ZA10 to market, including a 150 unit per year production facility, is estimated at $80M net of customer deposits and production loans. At that stage, Zunum will generate positive cash to scale the ZA10 line of business indefinitely. A further raise will enable development of a 50-seat 1,000-mile aircraft in 2027. The return on these investments is very attractive. We estimate 25x returns for Series B and 10x for Series C investors through exit.
Fast, affordable, and everywhere!

<table>
<thead>
<tr>
<th>Disruptive economics</th>
<th>Fly to every community</th>
<th>Get there much faster</th>
<th>Zero emissions short-haul*</th>
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<tbody>
<tr>
<td>60 to 80% lower costs</td>
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<td>Quiet and green</td>
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*50% of aviation emissions on short-haul flights
Hybrid-electric air for fast and affordable regional transit
Extending from 700 miles in 2023 to 1,500 miles in 2035

Develop turnkey powertrain built on proprietary component technologies
- Quiet-electric propulsors
- Future-proof power system
- Airframe-integrated batteries
- Optimization and control

Develop breakthrough commercial aircraft (with Aerostructures partner)
- Airline-grade economics
- Future-proof architecture
- STOL to VTOL, pilot-optional
- Passengers, cargo, military

Drive multimodal eco-system while creating options for the future
- FAA Electric Aircraft working group; FAA Innovation office
- Legislative: Norway and USA
- Uber for long-distance patent
Hybrid to all-electric air for high-speed regional transit

Extending from 700 miles in 2023 to 1,500 miles in 2035

- Operating costs: 60-80%
- Door-to-door: 2-4x faster
- Emissions: 80-100%
- Noise: 80%
- Runway: 50%

Optimization and control platforms

Quiet electric propulsors

Airframe-integrated battery packs

Series hybrid-to-electric powertrain

ZUNUM Aero
Scaling to 80% of departures and 50% of emissions

2023: ZA10
- 700 miles
- 6-12 passengers

2027: ZA50
- 1,000 miles
- 50-60 passengers

2030+: ZA100
- 1,500 miles
- 100 passengers

Disruptive economics over short-haul
Outstanding performance relative to best-in-class

<table>
<thead>
<tr>
<th></th>
<th>2025</th>
<th>2030</th>
</tr>
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<tbody>
<tr>
<td>ZA 10-12</td>
<td>PC-12NG</td>
<td>Cessna CJ4</td>
</tr>
<tr>
<td><strong>Economics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue seats</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Operating costs (₦ per ASM)</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Electric</td>
<td>Hybrid range (miles)</td>
<td>130</td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum weight (lbs)</td>
<td>11,200</td>
<td>10,450</td>
</tr>
<tr>
<td>Useable load at 500 miles (lbs)</td>
<td>2,200</td>
<td>2,650</td>
</tr>
<tr>
<td>Wing loading (lbs/ft²)</td>
<td>46</td>
<td>38</td>
</tr>
<tr>
<td>Cruise (mph), 350 miles</td>
<td>300 (340)</td>
<td>280</td>
</tr>
<tr>
<td>Typical cruise altitude (ft)</td>
<td>23,000</td>
<td>23,000</td>
</tr>
<tr>
<td><strong>Footprint</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runway with 50' obstacles (ft)</td>
<td>2,200</td>
<td>2,650</td>
</tr>
<tr>
<td>Sideline noise (EPNdB)</td>
<td>65</td>
<td>79</td>
</tr>
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</table>

Footprint: All ZAs delivery 80 to 100% lower emissions.
Breakthrough ZA10 aircraft for delivery starting 2023

- Operating cost: 8¢/seat mile
- Passengers: 6 exec - 12 econ
- Max range: 700 miles
- Max cruise speed: 340 mph
- Take-off distance: 2,200 ft
Serious, revolutionary stuff, a new dawn for our industry

Tweet by London Oxford Airport on JetSuite order for 100 ZA10 aircraft

This is serious, revolutionary stuff, bringing operating costs for aircraft in this size category down massively. Quieter, environmentally far superior, altogether a new dawn for our industry, be that regional scheduled services or private charter @zunumaero #electricaviation

- ↓70% Operating costs
- ↓70% Travel time
- ↓80% Emissions
- ↓80% Noise
- ↓50% Runway
Recent recognition for Zunum Aero

New Energy Pioneers Award 2019

Bloomberg
NEW ENERGY FINANCE

World’s Most Innovative Companies 2019

FAST COMPANY

Zunum Aero featured heavily:

The transformation of the global aviation sector may be one of the major investment opportunities of the century … a new $3 trillion industry in regional air-travel could be created

13D Global Strategy & Research
November 2018
## Delivering three breakthroughs

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<td>Sub-airliner operating costs in mid-sized aircraft</td>
<td>High-speed mobility everywhere</td>
<td>De-carbonization</td>
<td>*50% of aviation emissions on short-haul flights</td>
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Reducing door-to-door times by factors of two to four

13,500 airports
40,000 world-wide
Addressing a vast transport gap over regional ranges

Driven by 70-year shift to large airliners serving fewer hubs

96% of air traffic in 1% of airports
96% of regional trips on ground

Door-to-door times worse today than 50 years ago
1,000s of communities without high-speed links
Inflexible and capital-heavy alternatives, e.g., HSR
Fast door-to-door mobility will capture $3 trillion market

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<th>Scheduled commercial</th>
<th>Regional cargo</th>
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<td>Fast and affordable regional air&lt;br&gt;2 to 4 times faster door-to-door than today</td>
<td>Same and next-day delivery via&lt;br&gt;close-in air at ground costs</td>
</tr>
</tbody>
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<table>
<thead>
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<th>Business and on-demand</th>
<th>Military tactical transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick, comfortable all-hours flights to more destinations, at 60 to 90% lower cost</td>
<td>Versatile, survivable and sustainable&lt;br&gt;intra-theatre platforms</td>
</tr>
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Leader with unmatched talent and market traction

A. World-class talent with amazing progress to-date
B. Prototype with unmatched performance in fabrication and test
C. $800M launch customers and major legislative wins
D. Large patent portfolio since 2014 with blocking claims granted
E. Strong regulatory progress: Rulemaking 2014, FAA early resourcing 2017
F. Moderate capital and rich returns to positive cashflow
Can this plane reshape air travel?

Zunum Aero leads in betting on the power of hybrid-electric technology.

Confidential
Founders and executive leadership

**Ashish Kumar**, Ph.D., Founder and CEO
Senior executive and versatile entrepreneur with rich experience as GM at Microsoft, COO Americas at Google, GM at Dell, management consultant at McKinsey. Early career in tech R&D as Professor of Engineering at Brown University and scientist at Sandia National Labs.
- MS and PhD, Mechanical and Aerospace Engineering, Cornell University
- BS, Mechanical Engineering, Indian Institute of Technology, Delhi

**Matt Knapp**, Founder and CTO Aircraft
Senior aircraft designer with extensive experience in design, aerodynamics, performance, S&C, and certification. Lead Designer and Director of Flight Sciences for the Javelin high performance jet, and for Pioneer Rocketplane sub-orbital spacecraft. Extensive consulting across Lockheed, Boeing, aero OEMs, NASA, DARPA. Certified flight instructor.
- BS and MS, Aerospace Engineering, MIT

**Waleed Said**, Ph.D., CTO Power
Senior EE leader with 30 years of experience with power and electronics for commercial and military aircraft at UTC Aerospace Systems. Led development and deployment of Boeing 787 and Lockheed Martin F35 electric systems. Led Tiger team to improve aviation products focused on High voltage, Plasma/Partial discharge, Electric arcs.
- PhD, Electrical Engineering, University of Loughborough