

“Bye Aerospace, the
‘Tesla’ of Aviation”

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Revolution Aero
Corporate Jet Investor

Business Overview



Forward-Looking

FORWARD LOOKING STATEMENTS

FORWARD-LOOKING TERMINOLOGY: INCLUDES “BELIEVES,” “EXPECTS,” “MAY,” “WILL,” “SHOULD” OR “ANTICIPATES” OR THE NEGATIVE THEREOF, OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY, OR BY DISCUSSIONS OF STRATEGY THAT INVOLVE RISKS AND UNCERTAINTIES.

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- SIGNIFICANT CHANGES IN AIR TRAVEL (COVID PANDEMIC, TERRORIST ATTACK OR WAR)
- SIGNIFICANT CHANGES IN FUEL COST AND/OR IN FUEL AVAILABILITY
- SIGNIFICANT CHANGES IN AEROSPACE TECHNOLOGY
- OTHER

THE INFORMATION PRESENTED IN THIS DOCUMENT IS DESIGNED TO ACQUAINT THE READER WITH OUR BUSINESS AND THE CHARACTERISTICS OF OUR ELECTRIC AIRCRAFT. FOR MANY REASONS, INCLUDING THE CONTINUOUS REVIEW AND DEVELOPMENT OF THE AIRCRAFT, THE INFORMATION PRESENTED IN THIS DOCUMENT MAY BE INCOMPLETE AND MAY BE SUPERSEDED WITHOUT NOTICE.

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Introduction

Bye Aerospace development approach is lower risk. The design-to-production process iterates common architecture, FAA certification work, and building from lessons learned on eFlyer 2, to the eFlyer 4 and then the eFlyer 800 program

Table-rotation video (1 min.) showing all 3 eFlyer aircraft:



Engineering history video (2 min.) also showing prototype flight:

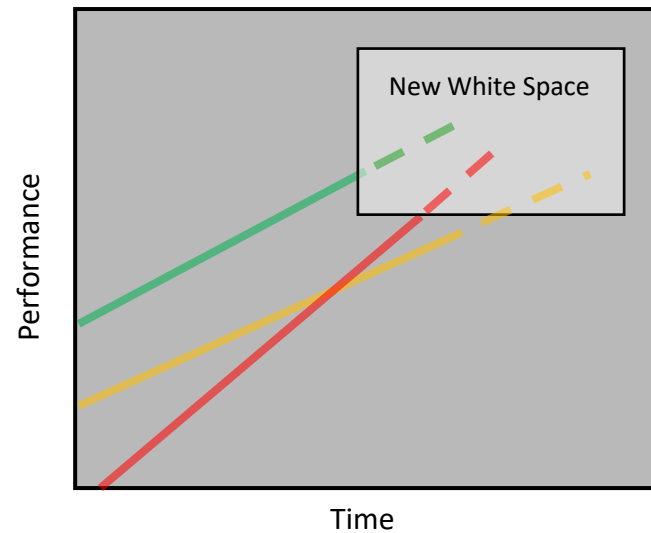


Interview (25 min.) by former editor-in-chief of "Business & Commercial Aviation" Bill Garvey:



Introduction

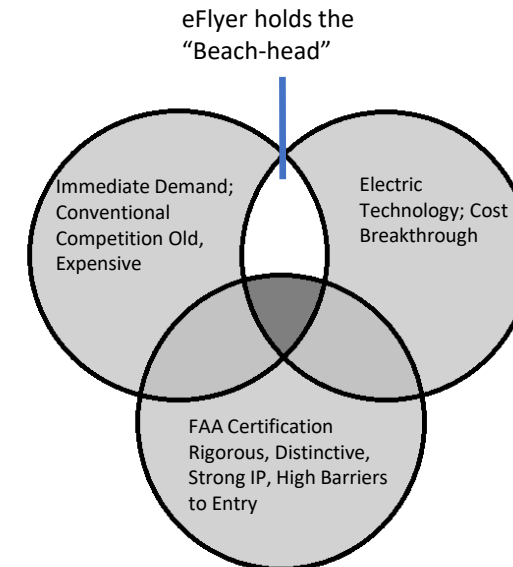
Technology Trends



Key Technologies

- Battery energy density (Watt-hour/kg)
- Electric motor efficiency (kW/kg)
- Full and Partial Aircraft Automation
- IT and Artificial Intelligence

Why Now?



White Space "Beach-head"

- Important pilot training and regional air mobility market with 'critical problem' to be solved. eFlyer = compelling solution with disruptive 1/5 ops cost benefit
- FAA Part 23 certification creates valuable IP and high barrier to entry
- Order backlog, immediate early-adopter customer demand

Leading the electric Aircraft Revolution (eCTOL)

Integrated Design, Motor, Batteries, Automation, AI

Mission

To be the world's pioneer of innovative electric aircraft

Vision

To create clean, quiet, all-new electric aircraft with breakthrough operating costs and successfully design, build, and certify those advanced products to answer compelling market needs

Philosophy

To maintain the highest ethical standards coupled with unbiased, data-based exemplary research, sound engineering and proactive team professionalism

“eFlyer 2” is the Technology Foundation for our Markets

eFlyer 4 and eFlyer 800 follow



eFlyer 4



eFlyer 800



Historical Markets



Piper Archer



Cessna 172

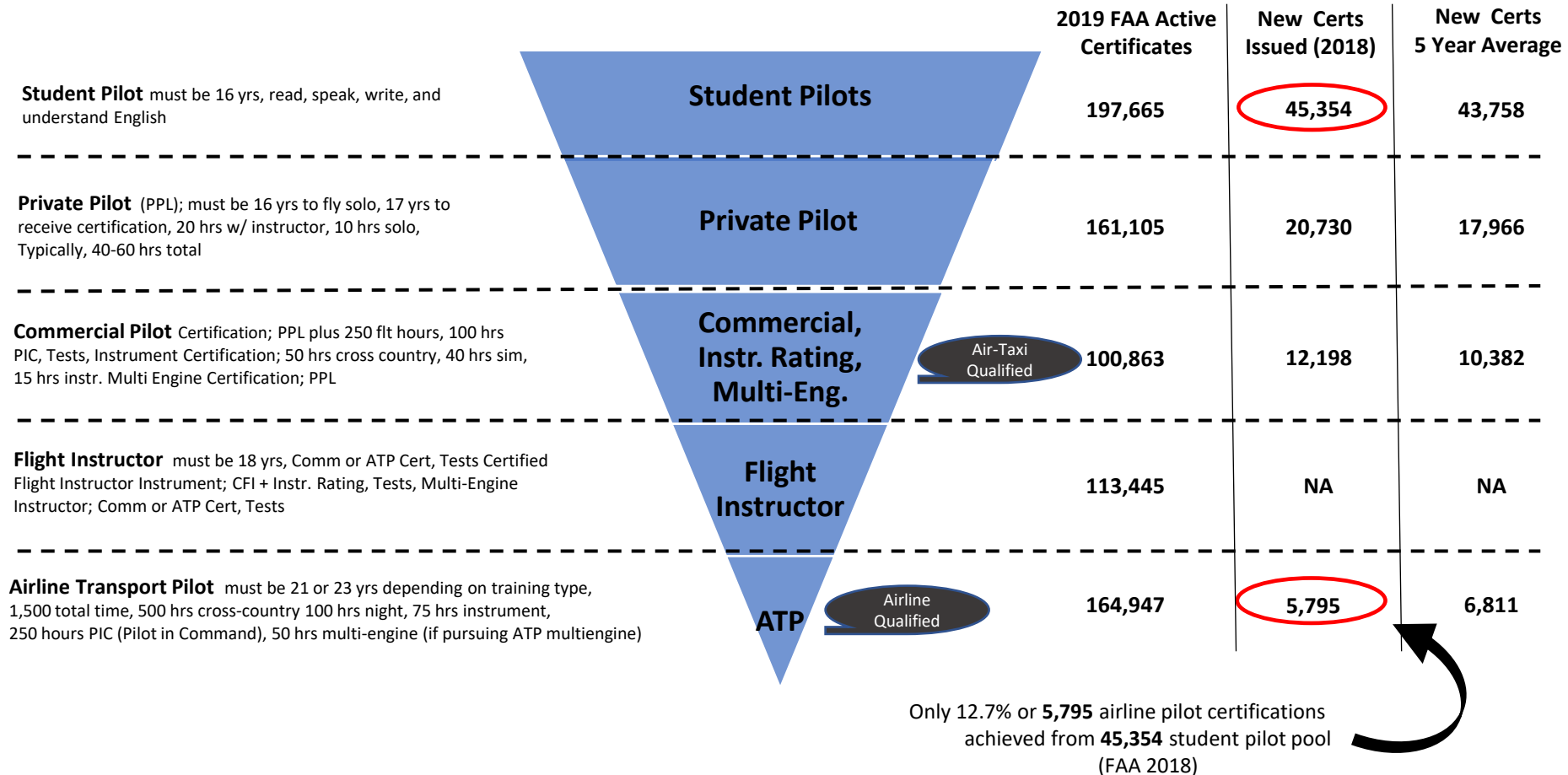


Cirrus SR22

Ranking	Top 7 Countries	Single-engine Fleet
1	United States	130,330*
2	Canada	20,250
3	Brazil	16,466
4	United Kingdom	8,800
5	Australia	7,800
6	Germany	6,500
7	France	5,500
	KEY MARKETS	195,646 units

*FAA Aircraft Registry Average
fleet age:
46 years old (2018)

Training Requirements



Total Addressable Market

All-electric eCTOL eFlyer 20-year TAM targets conventional markets with aged fleets (50%) and new emerging market requirements (50%) including pilot training, air taxi and business class charter and commuter, (“regional air mobility” markets). The TAM is accelerated by eFlyer’s 1/5 ops-cost benefits and is both immediate and compelling.

eFlyer 800



10,250 units

Historical Markets:

6,000 King Air, 1,000 TBM 940, 1,450 Piper Meridian, 1,800 Pilatus PC-12 produced, and older Cessna Citation, Lear Jet and Falcon light business jets, production back to 1970's

eFlyer 4



40,000 units

Historical Markets:

44,000 C-172 and 23,237 C-182's along with ~15,000 Piper 4-seat trainer/utility produced from 1960 – 1982

eFlyer 2



45,000 units

Historical Markets:

23,839 Cessna 150 and 7,584 Cessna 152 2-seat primary trainers, along with ~20,000 Piper primary trainers produced from 1960 – 1985

Key Market – Commercial Pilot Training

<https://www.flightglobal.com/flight-international/us-airlines-recruit-to-beat-pilot-re-shortage/145276.article>

**Additional Pilot Training Market
air-taxi, charter, instructor pilots, cargo,
business and private pilots, NOT included*

Forecast pilot training	Boeing and Airbus 20-year forecast ^(1,2) : 550,000 to 612,000 commercial pilots required worldwide*. Average of 27,500 to 30,000 pilots needed per year, (only about 6,000 ATP ratings per year today)
Pilot training expensive	80% of student pilots quit training before qualification. #1 reason cited: “Cost” ^(3,4)
eFlyer is better	Differentiation: eFlyer total operating cost is only 1/5 the ops-cost of conventional pilot training aircraft
Training fleet old	11,566 trainers in U.S. today, (FAA registry, 2017), the nearly obsolete fleet averages 46.2 years old (FAA)
eFlyer market	45,000 eFlyer 2 and eFlyer 4 training aircraft needed, (forecast part of the eFlyer 2 and eFlyer 4 “TAM”)

NOTE 1: Boeing, Sept 2021 20-year worldwide forecast: 612,000 new commercial pilots needed. “The company (Boeing) predicted “opportunity for aspiring aviators will abound” but warned aviation businesses that they would “face stiff competition in recruiting and retaining top tier talent” in the decades ahead.”

NOTE 2: Airbus, Nov 2021 20-year worldwide forecast: 550,000 new commercial pilots needed

NOTE 3: While 80% drop-out is noted, 20% success reaching “ATP” rating, 15% is more typical, and in 2018 (FAA), only 12.7% made it from “student pilot” to “ATP pilot license”

NOTE 4: AOPA: “Why Do Some Students Quit” by Dale Smith, www.aopa.org #1 “Money” “... flight training is expensive.” A recent AOPA survey, February 5, 2020, #1 Issue facing general aviation “cost of flying” 66.92%. Other surveys of student pilots: “Top Ten Reasons Why Student Pilots Quit”, “Lack of Funding” October 31, 2019, www.PilotElite.com, and June 1, 2019, “7 Reasons Why Student Pilots Quit Flight Training” Number 1 reason, “Money” Nancy Bradshaw, CFI

Key Market – Pilot Training

*Boeing 20-year forecast: **612,000** pilots required worldwide*

*Airbus 20-year forecast: **550,000** pilots required worldwide*

“Today we celebrate our history, but more importantly, we look to the future,” said Bart de Vries, Managing Director of KLM Flight Academy.

“We are excited to become part of the eFlyer development of Bye Aerospace and look forward to becoming a zero-emission flight academy in support of our parent company’s development and strategy.”

KLM Flight Academy, located at Groningen Airport Eelde in the Netherlands, has completed purchase deposits for six all-electric eFlyer 2 and eight all-electric eFlyer 4 airplanes.

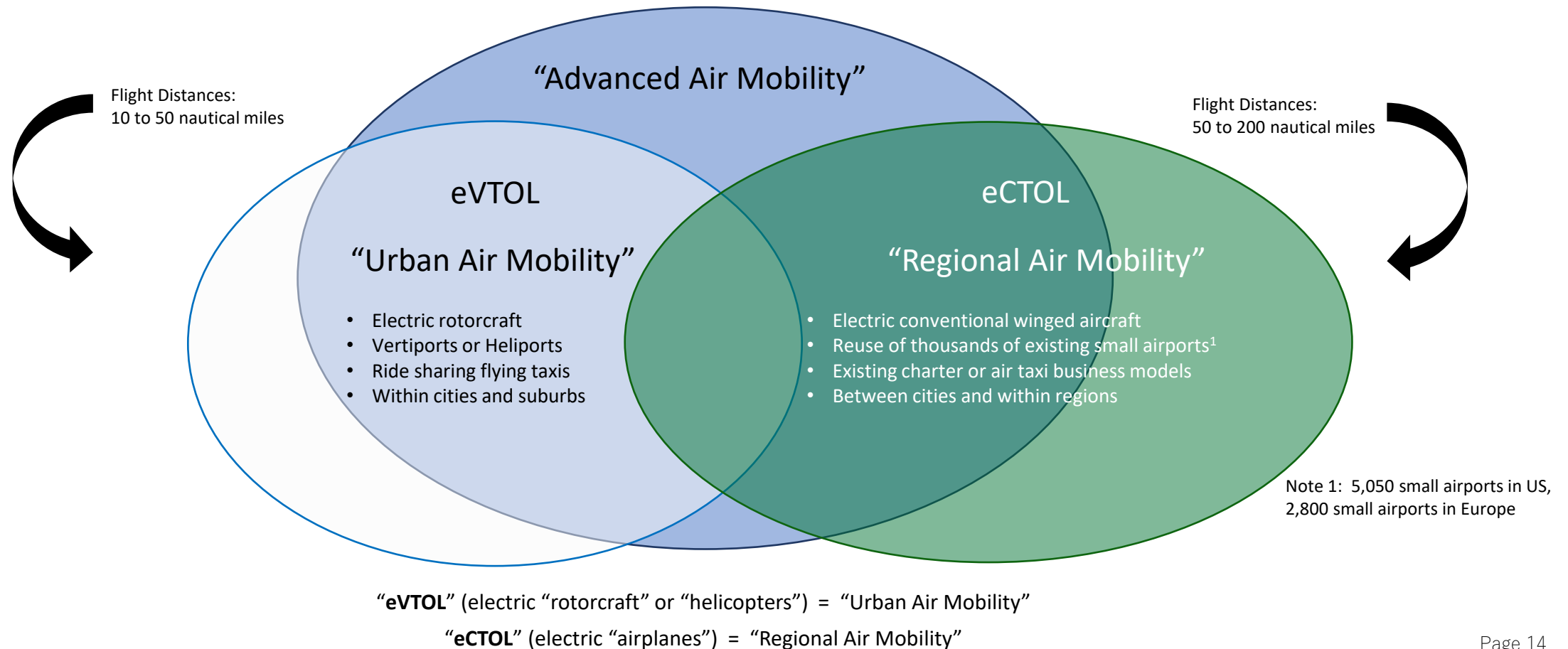
<https://asianaviation.com/klm-flight-academy-signs-up-for-14-bye-aerospace-all-electric-eflyers/>

<https://aviationweek.com/business-aviation/aircraft-propulsion/klm-flight-academy-signs-order-14-bye-eflyers>



Advanced Air Mobility

Understanding “Urban Air Mobility” and “Regional Air Mobility” Markets



Advanced Air Mobility

Regional Air Mobility: eFlyer 4, eFlyer 800 key advantages



- Short range, low speed, low altitude
- Hover, slow climb
- Up to four seats, (depending on model)
- Low aero-efficiency, energy intensive hover
- Hover safety concerns
- Complex fly-by-wire flight controls
- Relatively high ops-cost per flight hour
- Business model requires unproven high utilization; 25 flights per day per aircraft by 2027 (“Lilium”)
- Unproven markets (“helicopter” market questions)
- Unproven vehicle designs with complex FAA certification
- Low altitude urban FAA airspace issues
- Few existing heliports



- ✓ Longer range, higher speed, higher altitude
- ✓ Faster climb rates to altitude
- ✓ More payload and seating
- ✓ High aero-efficiency; energy efficient flight
- ✓ Fixed-wing safety
- ✓ Safe, conventional flight controls
- ✓ Low ops-cost per flight hour
- ✓ The eFlyer business model requires traditional utilization rates; 3 to 4 flight per day (“Cape Air”, “Mesa Airlines”)
- ✓ Large, proven markets – large production backlog
- ✓ Classic airplane design with straightforward FAA certification
- ✓ Normal FAA airspace
- ✓ Normal airport use

Keys to eFlyer



1. Low Operating Cost
2. CO2 Benefits and Low Noise
3. Electric Technology Trends (Battery Energy Density, Cost, Safety)



King Air 260

Operations Cost: **\$1,095** per flight hour



eFlyer 800

Operations Cost: **\$150** per flight hour

1/5 the Operating Cost¹

NOTE 1: Comparison uses U.S. energy (~ \$5 per gallon), maintenance cost and a battery replacement reserve to sum to total flight hour cost. However, Europe is over \$12 per gallon making the contrast/benefit of the electric eFlyer stronger.

Keys to eFlyer



1. Low Operating Cost
2. CO2 Benefits and Low Noise
3. Electric Technology Trends (Battery Energy Density, Cost, Safety)



Cirrus SR22

Operations Cost: **\$183** per flight hour



eFlyer 4

Operations Cost: **\$30** per flight hour

1/5 the Operating Cost¹

NOTE 1: Comparison uses U.S. energy (~ \$5 per gallon), maintenance cost and a battery replacement reserve to sum to total flight hour cost. However, Europe is over \$12 per gallon making the contrast/benefit of the electric eFlyer stronger.

Keys to eFlyer



1. Low Operating Cost
2. CO2 Benefits and Low Noise
3. Electric Technology Trends (Battery Energy Density, Cost, Safety)



Cessna 172
Operations Cost: **\$125** per flight hour



eFlyer 2
Operations Cost: **\$24** per flight hour

1/5 the Operating Cost¹

NOTE: Comparison uses U.S. energy (~ \$5 per gallon), maintenance cost and a battery replacement reserve to sum to total flight hour cost. However, Europe is over \$12 per gallon making the contrast/benefit of the electric eFlyer stronger.

Keys to eFlyer



1. Low Operating Cost
2. CO₂ Benefits and Low Noise
3. Electric Technology Trends (Battery Energy Density, Cost, Safety)

CO₂ Benefits

*If all-electric eFlyers replace the conventional pilot-training aircraft fleet **millions of metric tons** CO₂ of combustion pollutants would be eliminated each year*

*2% to 3% of the world's carbon emissions comes from aviation. While that may seem like a relatively small carbon footprint for such an important global industry, if aviation were a country, it would be **the world's sixth largest source of CO₂**¹.*

SOURCE: <https://www.dw.com/en/carbon-neutral-flying-aviation-co2-traveling/a-57001567>



Prototype 2.5-year Flight Test Program (since 2018) Fully Demonstrated Electric Benefits and Performance

<https://www.youtube.com/watch?v=DOJ700labfU>

- short flight test video -

The eFlyer 2 prototype flight tests conducted at 9,450 feet density altitude demonstrating unprecedented performance:

70 kW (92 hp) = 750 fpm climb

30 kW (40 hp) = 90 KTAS cruise

45 kW (60 hp) = 120 KTAS cruise

111 test events including 47 flight tests accomplished

Thrust Test: 5.7 lbs force / kW propulsive efficiency
(as compared to 4.6 lbs force/kW for Cessna 172)

Aerodynamic Efficiency: L/D 17
(as compared to L/D 9.6 for Cessna 172)





AVIATION SAFETY RESOURCES
INNOVATIVE SOLUTIONS FOR AVIATION SAFETY



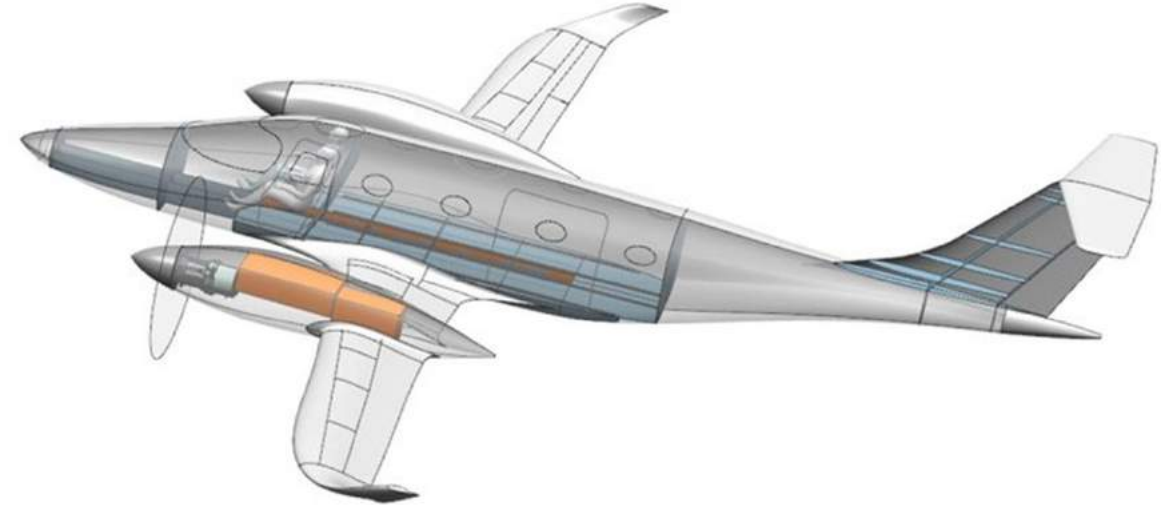
eFlyer 2 Full Airframe Safety Parachute



eFlyer 2 with Garmin G500 TXi



Production eFlyer 2: Fuselage, Horizontal Tail, Wing Molds



eFlyer Manufacturing Plant Agreement¹ Progress

eFlyer 2, eFlyer 4 Initial Assembly Facility: 100,000 square feet eFlyer 800 Expansion: eFlyer 800 floorspace added

Note: Location MOU signed, and architect/engineering/construction firm interviews underway



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Conclusion

"Quality", "Scarcity", "Theme", "Valuation"



- eFlyer operating cost is only 1/5 of conventional aircraft
- No CO₂ and low noise, increased safety
- FAA Type Certificate progress and assembly start eFlyer 2 serial #001
- Industry-leading team, 1st-tier suppliers (including Safran, Garmin, Siemens)