



Elysium Aerospace

BUSINESS PLAN 2023



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Key Acronyms and Definitions

AAM – Advanced Air Mobility. AAM is NASA’s program to help emerging aviation markets to safely develop an air transportation system that moves people and cargo between places previously not served or underserved by aviation - local, regional, intraregional, urban - using revolutionary new aircraft that are only just now becoming possible.

CONSTANT SPEED PROPELLER – A propeller that is designed to automatically change its blade pitch to allow it to maintain a constant RPM, irrespective of the amount of engine torque being produced or the airspeed or altitude at which the aircraft is flying.

EXPERIMENTAL CATEGORY – A special airworthiness certificate issued by the Federal Aviation Administration (FAA) in the United States to operate an aircraft as a matter of research or to showcase new technologies.

ICE – Internal Combustion Engine. A heat engine in which the combustion of a fuel occurs with an oxidizer (usually air) in a combustion chamber that is an integral part of the working fluid flow circuit. (i.e., a car engine)

LIGHT AIRCRAFT – Light aircraft have MTOWs that range from 600 kg to 5,700 kg. These aircraft include Light sports aircraft, fixed-wing aircraft, helicopters, gyrocopters, and unmanned aerial vehicles (UAVs.)

MICROTURBINE – A small combustion turbine that is comprised of a compressor, combustor, turbine, alternator, recuperator, and generator.

MTOW – Maximum take-off weight.

N NUMBER – The registration number of aircraft in the United States that is commonly referred to as an "N" number, because all aircraft registered there have a number starting with the letter N.

REx – Range extender. A fuel-based auxiliary power unit (APU) that extends the range of a battery electric aircraft by driving an electric generator that charges the aircraft's battery.

UAM – Urban Air Mobility. Refers to the transport aspect of Smart City initiatives. Drones are set to play a crucial role in the future of UAM as passenger and delivery drones will in the future be transporting people and goods in urban areas.

UAV – Unmanned Aerial Vehicle, or drone. A full-sized aircraft without a human pilot on board. Note: UAV's and drones in this Business Plan refer only to large drones with MTOW exceeding 1,320 lbs. (see Appendix for further drone classification.)

VTOL / EVTOL – Vertical Take-off and Landing / Electric Vertical Take-off and Landing. Aircraft that can hover, take off, and land vertically. This classification can include a variety of types of aircraft including fixed-wing aircraft as well as helicopters and other aircraft with powered rotors, such as cyclogyros/ cyclocopters and tiltrotors.





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VTOL Example.
Source: Joby Aviation



BUSINESS PLAN HIGHLIGHTS

Company Name	Elysium Aerospace - Elysium Black Level Inc.
Business	Provider of electric and hybrid-electric propulsion systems and independent, agnostic solutions servicing the aviation industry, namely UAV and emerging UAM sectors.
Value Proposition	1. Unrivaled expertise of leadership team; 2. Flexibility of products in an evolving landscape; 3. Superiority of patented products that are already achieving unprecedented milestones.
Market Size	Total Addressable Market, Light Aircraft: \$8.9 Billion by 2030 (Markets & Markets) Total Serviceable Market, Aircraft Systems: \$ 6.8 Billion by 2030 (Markets & Markets) Future Outlook, UAM: \$11.1 Billion by 2030 - \$1.5 Trillion by 2040 (Multiple Sources)
Influencers	Joby Aviation raised \$590 million in Series C funding led by Toyota Motor Corporation; Lilium GmbH received an investment \$35 million from Baillie Gifford, extending the current funding round to more than \$275 million. Hundreds of companies are in a race for an aircraft to lead the UAM market, and they're all in search of superior aircraft components to do so.
Target Market	Aviation (Experimental Category), UAV Applications (Military) and UAM Applications (Military & Commercial)
The Opportunity	1. EA offers a holistic approach to aviation - catering to UAV needs while building a foundation for UAM applications. 2. NAAC has the time and resources to innovate while larger players recover from COVID-19 impacts. 3. NAAC is focusing on hybrid technologies, a segment that will hold the largest market share in the coming decade. 4. EA's focus on exceptional components can meet the needs of existing prototypes. 5. EA's patented technologies are setting new benchmarks for aviation acoustics - an essential component for the success of UAM.
Revenues (in US\$Million)	Year 1: \$73.16, Year 2: \$183.45, Year 3: \$287.36, Year 4: \$368.14, Year 5: \$453.33
EBITDA (in US\$Million)	Year 1: \$15.71, Year 2: \$43.14, Year 3: \$70.66, Year 4: \$95.73, Year 5: \$101.35
Capital Requirement	\$20,000,000



SUMMARY

**Executive Summary –
Propelling the aviation
industry to new heights**



Company Overview

Elysium Aerospace (“EA” or “the Company”) is a provider of superior electric and hybrid-electric propulsion systems and independent, agnostic solutions servicing the aviation industry at large. EA designs, builds and flight tests motor and propeller components, combining them to deliver less noise, increased efficiency, greater power-to-weight, and maintenance free systems. Having already caught the attention of Boeing and its ‘Boeing NeXt’ innovation division, EA seeks to become an industry leader catering to the urban air mobility (UAM) and unmanned aerial vehicle (UAV) markets.

Since its inception, EA has combined integrated **science, innovation, and dedicated personnel.** to better understand, improve, and design aerospace propulsion systems.

The Company’s near-term objective is to test and refine these technologies to be able to deliver dependable, versatile, high-performance solutions in the longer-term.

¹ Boeing’s ‘NeXt’ innovation division was launched to explore the Urban Air Mobility space. Boeing closed the division in 2020 due to the impact of the COVID-19 pandemic. This closure is not uncharacteristic for similar big players in aerospace – which presents an opportunity for EA. See EA’s Positioning in the Ecosystem’ on pg 24 to learn more.





Products

One of the distinctive features of EA product development is simplicity and sophistication in design. Every component is designed to meet the specific goals of each operator's propulsion system,

with acute consideration to form, function, and efficiency. The Company strives to design complex products that don't feel complex.

MARKET-READY PRODUCTS

Elliptical Propeller

With 6 patents in the U.S., Japan, Canada, U.K. and China, the Company's Elliptical Propeller 20% faster/more efficient and 80% quieter than its

competitors.

Quick Disconnect

Allows operators to replace the engine in under 30 minutes, while engine accessories and fluids remain with aircraft.

Microturbine

Runs efficiently on all types of heavy fuels, such as jet fuel, and generates useful onboard electrical power that is 3 times greater than what is produced by internal combustion engines (ICE.)

Electric Motor System

Agnostic and scalable to any horsepower (HP) from 50 HP to 400 HP.

AI Engine Health System

Allows operators to accurately monitor the health of any engine on-board in real-time and autonomously address any future issues and faults.

Propulsion Systems

The Company optimizes a wide range of available propulsion systems, allowing the best exploitation of airframe characteristics as well as generating proper thrust to comply with all requirements. The EA propulsion system is modular and agnostic to battery chemistry, allowing the architecture to scale to the needs of the user.

PROTOTYPES IN DEVELOPMENT

Turbo-charged Engine

This breakthrough propulsion system delivers 2.92 brake horsepower per pound with a 400 HP engine that weighs 136.8 lbs., puts out 7,500 RPM to run a stealth propeller at 3,750 RPM.



Note: To ensure accuracy in conveying data from multiple resources, all figures in the Market & Industry Analysis sections are denoted in USD\$.

Market Size

TOTAL ADDRESSABLE MARKET

\$8.9 Billion

Light Aircraft

Market Size: \$5 Billion in 2020. **Projected Market Size: \$8.9 Billion in 2030** ('20-'30 CAGR: 7.7%)¹

Light aircraft have MTOWs that range from 600 kg to 5,700 kg. North America holds 45% of the global market share in 2020 and is projected to register a CAGR of 7.1% through to 2030.

BY SEGMENT

Unmanned Aerial Vehicles (UAVs)

Market Size: \$1.7 Billion in 2020. **Projected Market Size: \$3.8 Billion in 2030** ('20-'30 CAGR 8.6%)

Military & Defense

Market Size: \$2.5 Billion in 2020. **Projected Market Size: \$3.9 Billion in 2030** ('20-'30 CAGR 4.7%)

Civil & Commercial

Market Size: \$3.0 Billion in 2020. **Projected Market Size: \$7.6 Billion in 2030** ('20-'30 CAGR 9.7%)

Conventional Take-off & Landing (CTOL)

Market Size: \$3.3 Billion in 2020. **Projected Market Size: \$6.2 Billion in 2030** ('20-'30 CAGR 8.6%)

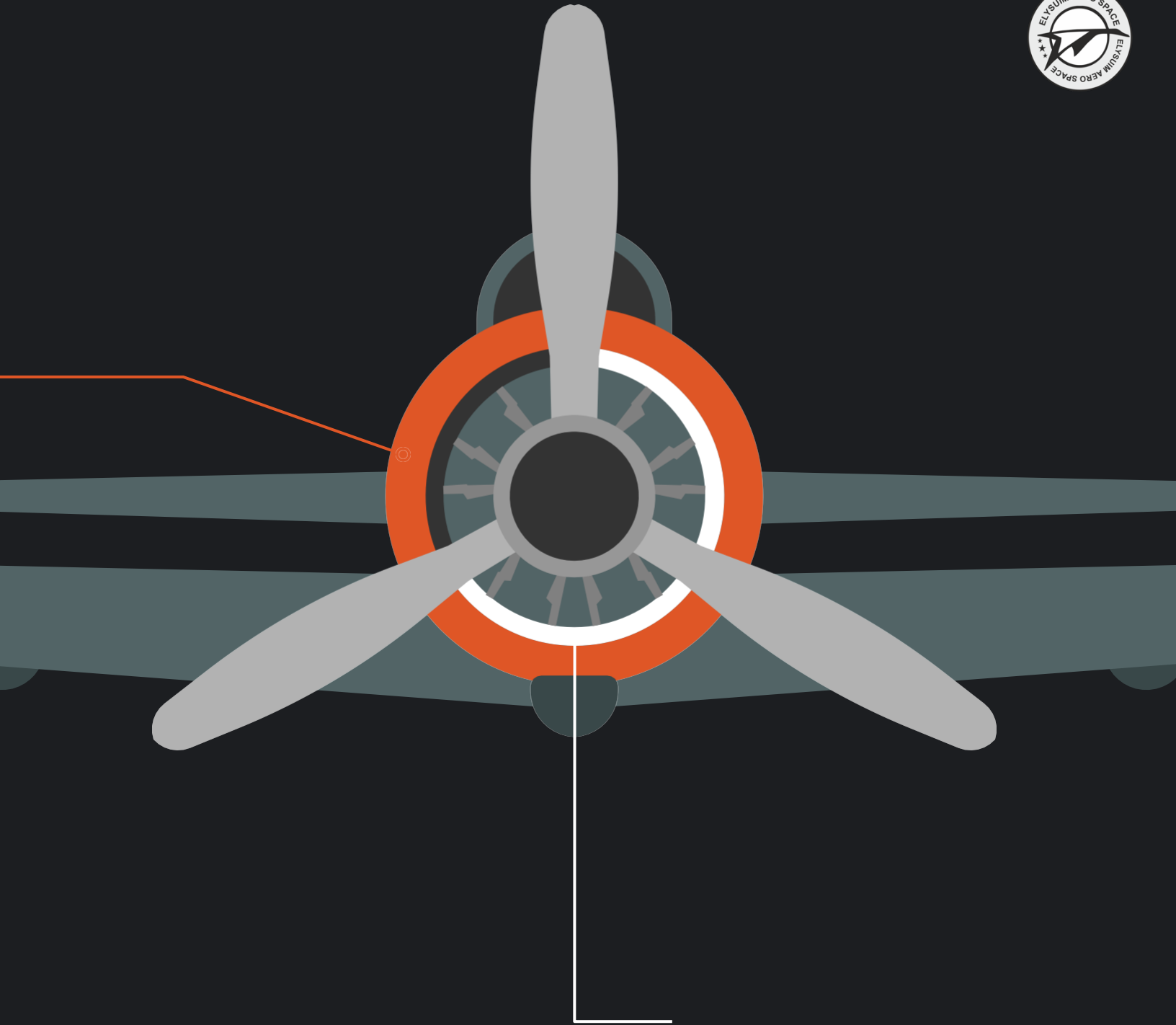
Vertical Take-off & Landing (VTOL)

Market Size: \$2.1 Billion in 2020. **Projected Market Size: \$65.3 Billion in 2030** ('20-'30 CAGR 9.6%)

Electric/Hybrid

Market Size in 2020: N/A. **Projected Market Size: \$475 Million in 2030** ('20-'30 CAGR 22.9%)

¹ "Ultralight and Light Aircraft Market – Global Forecast to 2030" Markets and Markets, 2020. | Elysium Aerospace. Business Plan



TOTAL SERVICEABLE MARKET
\$6.8 Billion

Aircraft Systems Segment

Market Size: \$3.2 Billion in 2020. Projected Market Size: \$6.8 Billion in 2030 ('20-'30 CAGR: 7.6%)

Aircraft systems include all mechanical and electrical systems, including hydraulic systems, pneumatic systems, propulsion systems, environmental control systems, emergency systems, electrical systems, and landing systems | Elysium Aerospace. Business Plan • 11



FUTURE OUTLOOK

Urban Air Mobility

Market Size: \$5.8 Billion in 2020. Projected Market Size: Conservative Estimate: \$15.1 Billion in 2030¹ ('20-'30 CAGR: 11.33%) – Optimistic Estimate \$1.5 Trillion by 2040²

The UAM market is driven by a confluence of technologies, including autonomous vehicles such as drones and self-driving cars, more efficient batteries, and advanced manufacturing techniques. The variation in market size estimates can be attributed to differing judgments in a) public perception and acceptance of UAM, b) successes and influence of early adopters, and c) rate of infrastructure development - which is highly contingent on Federal Aviation Administration (FAA) guidelines that have yet to be fully developed.

Value Proposition

UNRIVALED EXPERTISE

EA is a small team of highly experienced pilots, engineers, designers, aircraft mechanics, and fabricators. The Company's team of specialists have worked on the design and construction of manned and unmanned aircraft components, both fixed and rotary wing aircraft and with many composite and metal processes.

FLEXIBILITY OF PRODUCTS

EA is acutely aware of the limitations in existing battery technologies and the systems required for various UAV and UAM applications to become viable. For these reasons, EA's patented products are modular and agnostic to evolve alongside technological requirements.

SUPERIORITY OF PRODUCTS

Capitalizing on its unrivaled, holistic vision to build foundations for the future of aircraft energy systems, EA is keenly focused on increasing performance in fuel efficiency, emissions, noise, landing distance and maneuverability - all of which are essential to the aviation industry of tomorrow.

¹ "Ultralight and Light Aircraft Market – Global Forecast to 2030" Markets and Markets, 2020.

² "Are Flying Cars Preparing for Takeoff?" – Morgan Stanley, 2019
Elysium Aerospace. Business Plan







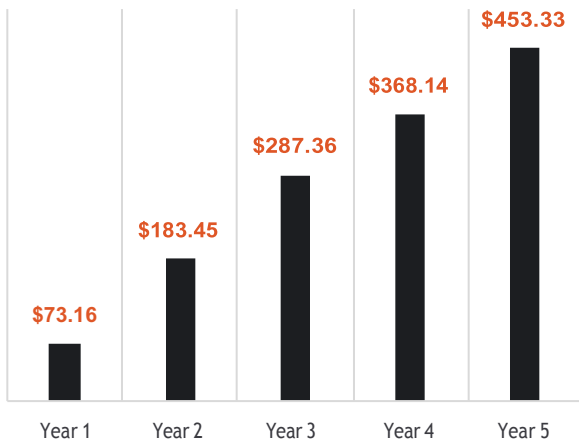
Capital Requirement

Elysium Aerospace seeks to raise US\$20,000,000 in Years 1 and 2 for product development and engine purchase (56% of funds), marketing and sales (13% of funds) and operations, working capital and inventory (7 propulsion units) (32% of funds.) See pg 71 for details.

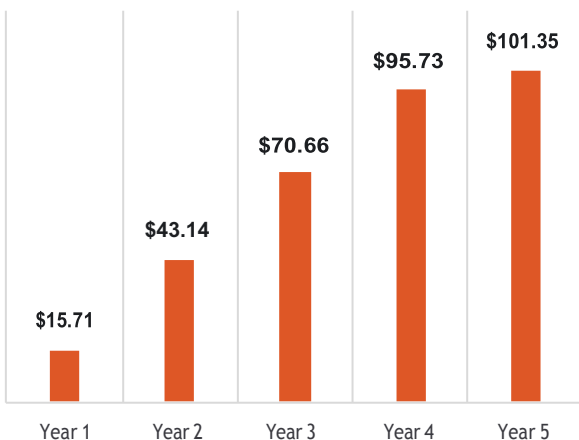
Financial Summary

(in US\$ millions.)

Total Revenues



EBITDA



Based on Company estimates. See Financial Analysis on pg 72 for details.

The Opportunity

A holistic approach to aviation

The EA Advantage: Catering to and supplying the UAV systems market while designing and refining the technologies for regional air mobility applications and Urban Air Mobility at large.

The post-pandemic startup opportunity

The EA Advantage: Unlike the bigger players in the space, the Company has the freedom to focus exclusively on innovation and the development of its aircraft systems and components.

Hybrid is the foreseeable future.

The EA Advantage: Understanding the existing limitations for all-electric systems, the Company develops hybrid-electric drivetrain solutions that can satisfy more immediate market demands.

Collaboration over competition

The EA Advantage: In a race for the most viable air taxi, EA is keenly focused on the exceptional design of its propulsion technology and integrated systems - components that can solve current problems in existing prototypes.

The disruptive path to UAM will be quiet.

The EA Advantage: Noise reduction will be one of the most vital features of winning UAM vehicles. - and EA's propeller is 80% quieter than its competitors'.



MARKET

**Market Analysis – An
Industry Primed for Takeoff**



Orville Wright's first flight
North Carolina, 1903

Aviation and Aerospace: The Evolution of Flight

Since the first manned flight with a powered aircraft in 1903, technology and innovation have changed not only how we fly and how far we can go **in distance**, but *why* we fly and how far we can go **in theory**.



What was once an industry categorized as a conduit of global trade and tourism has evolved to be a strategic tool in military and defense, agriculture, medical services, and urban mobility applications. From the efficiency of surveying large-scale crop production to the disruption of the taxi services industry, the aviation sector has broadened the boundaries of its reach.



Market Size

TOTAL ADDRESSABLE MARKET

Light Aircraft

Projected Market Size: \$8.9 Billion in 2030¹

– By Segment

Unmanned Aerial Vehicles (UAVs)

Projected Market Size: \$3.8 Billion in 2030

UAVs in the Light and Ultralight Aircraft categories with MTOWs up to 5,700 kg. This category does not include micro/nano UAV's, mini/small UAV's or medium UAVs (see Appendix for UAV Classifications.)

Military & Defense

Projected Market Size: \$3.9 Billion in 2030

Covers light aircraft used for pilot training, search & rescue, transportation of military cargo and combat, among others.

Civil & Commercial

Projected Market Size: \$7.6 Billion in 2030

Includes light aircraft used in personal, passenger, commercial cargo, training, survey & research, agriculture, and medical applications.

Conventional Take-off & Landing

Projected Market Size: \$6.2 Billion in 2030

These aircraft require a runway or an airstrip for operation and usually have turboprop or piston engines.

Vertical Take-off & Landing (VTOL)

Projected Market Size: \$5.3 Billion in 2030

These aircraft do not require a runway as their approach involves hovering vertically, then gaining forward thrust to transition into forward flight.

Electric/Hybrid

Projected Market Size: \$475 Million in 2030

This segment is comprised of solar-powered, hybrid, fuel cell powered and fully-electric aircraft - with hybrid projected to account for 76% of the total segment by 2030.

Civil & Commercial

Projected Market Size: \$7.6 Billion in 2030

Includes light aircraft used in personal, passenger, commercial cargo, training, survey & research, agriculture, and medical applications.

TOTAL SERVICEABLE MARKET

Aircraft Systems

Projected Market Size: \$6.8 Billion in 2030

Aircraft systems include all mechanical and electrical systems, including hydraulic systems, pneumatic systems, propulsion systems, environmental control systems, emergency systems, electrical systems, and landing systems.

FUTURE OUTLOOK

Aircraft Systems

Projected Market Size: Conservative: \$15.1 Billion in 2030; Optimistic: \$1.5 Trillion by 2040²

The UAM market is driven by a confluence of technologies, including autonomous vehicles such as drones and self-driving cars, more efficient batteries, and advanced manufacturing techniques. The variation in market size estimates can be attributed to differing judgments in a) public perception and acceptance of UAM, b) successes and influence of early adopters, and c) rate of infrastructure development - which is highly contingent on Federal Aviation Administration (FAA) guidelines that have yet to be fully developed.



THE EA ADVANTAGE

Elysium Aerospace has positioned itself as an aircraft systems supplier and provider of state-of-the-art aviation technologies.

Hyper-aware of the rapid shifts in market trends and requirements, the Company develops its products to be **flexible and agnostic to available technologies.**

For instance, the Company can meet the existing demands of the UAV market - realizing revenues in Year 1 - while developing and refining technologies for UAM applications in the coming decades.

Light Aircraft Market

Light aircraft are defined by their minimum and maximum take-off weights. Light aircraft have maximum take-off weights ranging from 600 kg to 5,700 kg. These weight limits are defined by manufacturers in adherence to regulatory guidelines and safety protocols.

600-2,500 kg. MTOW - Includes fixed wing and rotary wing aircraft used across applications such as search and rescue, leisure, sports, remote cargo services and military surveillance. New applications such as agriculture, medical services, and adventure sports act as market drivers.

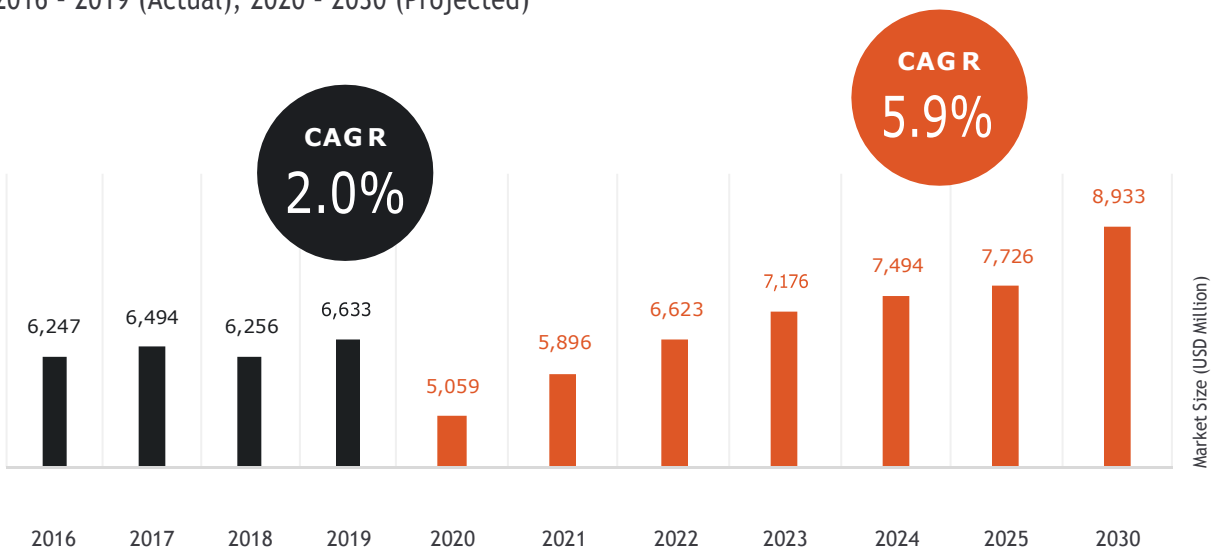
2,500-5,700 kg. MTOW - Includes fixed wing and rotary wing aircraft used across applications such as business travel, domestic charter services, aerial surveying, and military surveillance. New applications such as business aviation, air sports, emergency services, and flight training act as market drivers.

The increasing demand for aircraft to train pilots, along with the convenience of small aircraft to access remote areas, is the major factor driving the growth of the global light aircraft market in the near-term. Emerging technologies such as electric Vertical Take-off and Landing (VTOL) aircraft and UAVs to be used for Urban Air Mobility (UAM) are factors anticipated to drive the market in the coming decades.



LIGHT AIRCRAFT MARKET SIZE

2016 - 2019 (Actual), 2020 - 2030 (Projected)



Source: "Ultralight and Light Aircraft Market – Global Forecast to 2030" Markets and Markets, 2020.



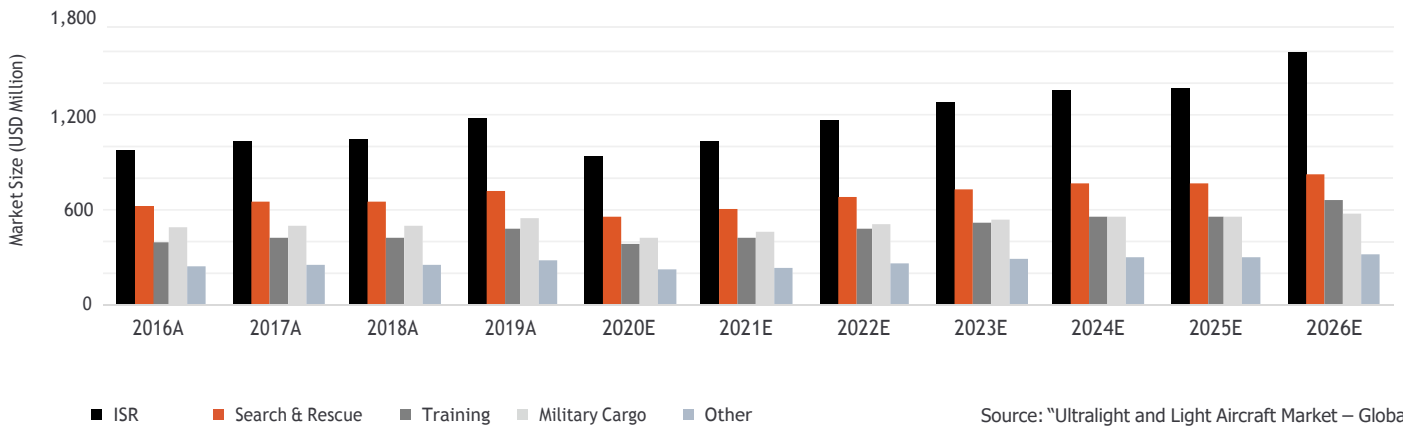
MILITARY AND DEFENSE

UAVs have become a key part of the armed forces across the globe, as they are being extensively deployed in war zones¹, counter-terrorism operations and for functions such as border patrol², maritime surveillance³ and search and rescue operations.

An increase in the defense budgets of military powers, including the US, China, and Russia, is expected to increase the demand for military UAVs.

LIGHT AIRCRAFT MARKET: MILITARY & DEFENSE

2016 - 2019 (Actual), 2020 - 2030 (Projected)



Source: "Ultralight and Light Aircraft Market – Global Forecast to 2030" Markets and Markets, 2020.

CIVIL AND COMMERCIAL

LIGHT AIRCRAFT MARKET: CIVIL & COMMERCIAL

2020 - 2030 (Projected) - USD\$ Million

Application	2020	2021	2022	2023	2024	2025	2030	CAGR
Personal	892	1,084	1,202	1,287	1,334	1,430	1,745	6.9%
Passenger	646	812	927	1,020	1,087	1,198	1,706	10.2%
Training	357	459	544	621	685	778	1,285	13.7%
Commercial Cargo	296	379	440	494	536	602	934	12.2%
Medical	161	201	234	261	283	316	486	11.7%
Survey & Research	513	624	691	739	765	818	989	6.8%
Agriculture	65	81	96	109	120	135	220	13.0%
Others	97	121	140	157	169	188	291	11.6%
Total	3,028	3,762	4,274	4,688	4,979	5,466	7,656	9.7%

Source: "Ultralight and Light Aircraft Market – Global Forecast to 2030" Markets and Markets, 2020.

¹ In Syria, one of the most volatile regions in the world, fighters from the separatist Kurdistan Workers' Party were spotted by a Turkish reconnaissance drone. As they were loading ammunition onto a truck, a drone fed their coordinates to an F-16 and it attacked seconds later – leaving nothing but a crater in its wake and an effective message as to how warfare UAVs can be utilized. Bloomberg, 2019.
² In 2019, the U.S. Customs and Border Protection agency announced six counter-drone systems to be deployed along the U.S.-Mexico border. Government Media Executive Group, LLC, 2019.
³ In 2019, the European Maritime Safety Agency (EMSA) extended its drone flights to a total of six EU Member States and Iceland. The drone surveillance services are carried out for the coastguards of each country. European Parliament, 2019.



Personal Passenger

Market Driver: Increasing procurement of light aircraft for business travel

In the short-term, 1-4 passenger aircraft enable high-net-worth individuals and government officials to conduct meetings and other official tasks en route. In the longer term, this segment aspires to broaden its reach as the UAM space makes aerial mobility more accessible. These aircraft eliminate the time spent at airports in queues through the check-in/out and security procedures.

They also provide access to locations where airlines do not have regular flights - a feature that may also become more prevalent with the rise of Urban Air Mobility initiatives such as Uber's proposed Skyports. These aircraft are unquestionably more cost-effective, with lower maintenance costs compared to larger aircraft.

Commercial Cargo

Market Driver: Transfer of cargo to remote locations

Light aircraft are used by cargo transport companies to move shipments to remote areas or to move shipments that do not meet the capacity requirements of larger cargo aircraft. Many cargo airlines incur a loss when large aircraft cargo space is not utilized. Remote areas with short airstrips are easily accessible with these aircraft, and these areas do not have a lot of incoming cargo. Cessna unveiled its SkyCourier 408 in November 2017, with FedEx Express having already placed a 50-aircraft order for the new model valued at over \$500 million².

¹ "Here's How Uber Is Designing Skyports for Future Air Taxis" Aviation Today, 2020.

² "The Cessna SkyCourier just took its first flight and has already fielded a 50-aircraft order from FedEx. Take a look at the world's newest American turboprop." Business Insider, 2020.



Source: Uber Rendering



Training

Market Driver: Foundation of pilot training

Various aircraft are used as starter vehicles to help people learn how to pilot an aircraft, and many are bought by aviation schools. Industry players such as Cessna, Pipistrel, and Piper are among the key players providing training aircraft. These are one of the most extensively used aircraft in the commercial & civil segment as every year, numerous pilots sign up to learn how to fly, ensuring continuous demand from aviation schools. With the industry's progressive move toward UAM applications in the coming decades, the demand for pilot training is virtually a certainty. (Even manufacturers that strive to eventually take autonomous aircraft to market, the viability of a sustainable UAM sector is reliant on the preliminary adoption to piloted air taxis.)

Agriculture

Market Driver: Advanced equipment in AgTech and precision agriculture

Agricultural aircraft are those that are manufactured or customized for agricultural applications such as seeding and spraying fertilizers and pesticides (aerial topdressing.) Light aircraft are preferred in this sector as they can cover extensive farmlands quickly and efficiently. This segment includes predominately UAVs that are hybrid/electric. The congruence of AgTech and aviation technologies will support one another's growth - particularly in a political landscape with consistently strong calls-to-action for global sustainability and carbon neutrality.



¹ Ultralight and Light Aircraft Market – Global Forecast to 2030” Markets and Markets, 2020.



Medical

Market Driver: A rising demand for emergency transportation and delivery services

Aircraft are used in the form of air ambulances by many hospitals and private air ambulance service providers for emergency situations. They help in carrying patients to and from hospitals to avoid traffic congestion. Helicopters, as well as delivery drones, are used to deliver medicines to people who are unable to access medicines and are in urgent need of assistance. A trial of a drone delivery service transporting medical supplies in a remote region of Scotland is already active and carrying Covid-19 test samples following a successful proof-of-concept phase¹. The project has been funded by a joint initiative between the UK Space Agency (UKSA) and the European Space Agency (ESA) to use space-enabled technology and services that can support the NHS.

Survey & Research

Market Driver: Collecting data in a data economy.

Light aircraft used for survey and research are equipped with special instruments, such as cameras, sensors, scanners, and radar, that assist in acquiring useful data. Carrying out mapping on a large regional scale in areas that are not accessible to other vehicles is made easier and cost-effective using these aircraft. UAVs that can be remotely piloted to gather data are more commonly used for survey and research.



Market Ecosystem

Prominent companies that provide light aircraft and systems, start-ups, distributors, and end-customers (private operators, non-schedule operators, and defense) are key stakeholders in the light aircraft ecosystem. Investors, academic researchers, service providers, as well as airport and heliport authorities serve as major influencers of the light aircraft market.

PROMINENT COMPANIES

Prominent companies in this market include well-established, financially stable manufacturers of aircraft and aircraft systems. These companies have been operating in the market for years, if not decades, and possess a diversified product portfolio, state-of-the-art technologies, strong global sales, and marketing networks.

START-UPS & SMALL ENTERPRISES

Start-ups and small enterprises are companies with new, innovative technologies, a comparatively narrow product range and few distribution channels. Some of these companies can strategically enter partnerships and joint ventures with prominent companies to gain a strong foothold in the market. Currently, start-ups & small enterprises look to capital financing for R&D, the development of prototypes and production. These companies have technologically advanced designs and concepts, with the major focus being on urban air mobility.

END - USERS

Non-scheduled airlines, private operators, governments, and the military are end-users of the light aircraft market, with Uber being an upcoming end-user for UAM.

EA's Positioning in the Ecosystem

Due to the outbreak of COVID-19, restrictions on air travel have had an adverse impact on the global commercial aviation industry - from airlines to aircraft manufacturers and the full breadth of their supply chains. Smaller players and suppliers have had to shut their doors entirely while the bigger players (Boeing, with the closing of its NeXt Innovation Division, Airbus² - among others) have had to shift their focus from innovation to survival. The recovery timelines vary across the commercial aviation spectrum, but no one player is walking away entirely unscathed.

With the more prominent companies changing course and focusing on reviving their principal businesses, a unique window of opportunity is opened to those not directly impacted by flight grounding and travel restrictions. These include startups and new companies in the experimental categories or those manufacturing the aerial vehicles of the longer-term future rather than the near-term. It's also worth noting that while the likes of Boeing and Airbus take a backseat to innovation in the space, big players in adjacent sectors such as Hyundai³ and Toyota⁴ are injecting capital into new aviation technologies. This means that startups not only can shape the aviation industry of tomorrow, but there is growing financial support (outside of the conventional aviation landscape) to help cement those opportunities into tangible realities.

1 "Even With 737 MAX Clearance, Covid-19 May Cause Overnight Closures In Aerospace Supply Chain" Forbes, 2020.
2 "Boeing And Airbus Halt Production; Future Of Airplane Manufacturing Uncertain" NPR, 2020.
3 "Flying taxis? Hyundai and Uber are working on it" Tech HQ, 2020.
4 "Toyota Invests \$394 Million in Electric Air Taxi Company Joby Aviation" Forbes, 2020.



Source: Uber Rendering



Investments in Aviation and Aerospace

Date	Company	Development
January 2020	Lilium GmbH	Lilium GmbH received an investment \$35 million from Baillie Gifford ¹ , extending the current funding round to more than \$275 million - with the total investment to date to more than \$375 million.
March 2020	Lilium GmbH	Lilium GmbH has received an investment of \$240 million from investors such as Tencent, Atomico, Freigeist, and LGT for the underpinning preparations for serial production and development of the Lilium Jet in Lilium's manufacturing facilities ² .
January 2020	Joby Aviation	Joby Aviation raised \$590 million in Series C funding led by Toyota Motor Corporation . Other investors included SPARX Group, Intel Capital, Capricorn Investment Group, JetBlue Technology Ventures, Toyota AI Ventures, and AME Cloud Ventures.
September 2019	Volocopter GmbH	Volocopter GmbH received a funding of \$56 million from the Chinese motor vehicle manufacturing giant Geely Holdings ³ , to commercialize electric aircraft in Europe by 2023.
July 2019	Karem Aircraft	Karem Aircraft Inc received funding worth \$25 million from the Korean industrial conglomerate Hanwha Systems ⁴ to launch an air taxi company.

¹ "Tesla's second largest shareholder invests \$35 million in air taxi startup Lilium" The Verge, 2020.

² Press Release: "Lilium completes funding round worth more than \$240 million" Lilium, 2020.

³ "Joby Aviation raised worth of \$590 million in Series C funding" Tech Crunch, 2020.

⁴ "Chinese Auto Giant Invests in Flying-Car Startup Volocopter" Bloomberg, 2019.

⁵ "One of Uber's flying taxi partners just raised a \$25 million Series A round" Tech Crunch, 2019.



SPACs are Propelling a New Aviation Industry

In the first quarter of 2021, special purpose acquisition companies in the U.S. have gone public in offerings that have raised \$87.7 billion - already exceeding the total issuance in 2020. SPACs have become popular in part due to the growing interest in private equity and venture capital - and in part because they can market themselves based on forward-looking statements. This makes them attractive vehicles for venture type investments, where most of the value of the company depends not on what it has today, but what it will create in the days to come.

With a lot of attention shifting toward urban air mobility themes, SPACs prove to be an attractive option for the aviation and aerospace industries of tomorrow.

SPAC DEALS IN AVIATION & AEROSPACE

Target	SPAC	Status	Expected Valuation	Sector
Archer	Atlas Crest Investment Corp. ³	Announced	\$3.8B	UAM
Blade	Experience Investment Corp. ⁴	Announced	\$825MM	UAM, Helicopter
WheelsUp	Aspirational Consumer Lifestyle Corp. ⁵	Announced	\$2.1B	Private Aviation
Joby Aviation	Reinvent Technology Partners ⁶	Announced	\$6.6B	UAM
Surf Air Mobility	Global Emerging Markets Group ⁷	Rumored		Regional Air Mobility
Lilium	Qell Acquisition Corp. ⁸	Rumored		Regional Air Mobility

¹ "SPACs break 2020 record in just 3 months, but the red-hot industry faces challenges ahead" CNBC, 2021.

² "U.S. IPO Performance" Renaissance Capital, 2021.

³ Press Release: "Archer, A Leading Urban Air Mobility Company, To List On NYSE Through Merger With Atlas Crest Investment Corp" Archer, 2021.

⁴ Press Release: "Blade to be listed on NASDAQ, creating the only publicly traded global urban air mobility company" Blade, 2020.

⁵ Press Release: "Wheels Up, The Leading Brand In Private Aviation, Announces Plans To Become Publicly-Traded Via SPAC Merger With Aspirational Consumer Lifestyle Corp." WheelsUp, 2021.

⁶ Press Release: "Joby Aviation to List on NYSE Through Merger With Reinvent Technology Partners" Joby, 2021.

⁷ "Surf Air Secures \$200 Million Funding Commitment from GEM" Bloomberg, 2020.

⁸ "German Flying-Taxi Startup Is In Talks to Merge With Qell SPAC" Bloomberg, 2021.



The Future of Urban Air Mobility



Mark my words: a combination airplane and motorcar is coming.”

– Henry Ford, 1940.

The concept of flying cars has been a hallmark of science fiction for decades - and companies large and small are actively working toward a future where the autonomous urban aircraft is no longer just the stuff of comic books. The shift toward a more integrated mobility system with aerial options can substitute ground travel for air travel and ultimately save customers time and money.



Source: Archer Aviation Rendering



KEY THEMES

Private aviation as a substitute for premium commercial aviation.

As with many innovations brought to market, the first iterations are only accessible to a smaller and often wealthier subset of the population (the early adopters) before companies can reach economies of scale and broaden their reach. For instance, Tesla's debut release in 2008 (the Roadster) was \$109,000¹ - making it a luxury item. Today, a Tesla Model 3 starts at just under \$40,000.

In that same vein, UAM players today target replacing autos in the last mile for premium traffic as part of a larger luxury play. The intent is to utilize General Aviation airports closer to home or closer to the traveler's destination - airports that typically don't suffer from the same congestion and lengthy security checks as commercial airports (a global pandemic may make this feature even more appealing to those early adopters².)

Military contracts and ride sharing as a path to UAM scale.

Another view is based on the fundamentally different assumption regarding the supply and demand balance. Joby, having taken the opposite macro view, believes the market will be constrained by aircraft supply instead of demand. Joby's plan is to use large-scale government contracts to build revenue prior to commercial certification - with \$40M in contracts signed and an additional \$120M in process³. The government bridge makes sense given the time it will take not only to certify, but also to create operating models that drive down cost/seat mile, build out appropriate infrastructure, and refine the aircraft.

¹ "SPACs break 2020 record in just 3 months, but the red-hot industry faces challenges ahead" CNBC, 2021.

² "U.S. IPO Performance" Renaissance Capital, 2021.

³ "A Flood of SPAC Money Will Take You Out Of Your Car And Into The Air" Forbes, 2021.

Image source: Joby Aviation



UAM as a travel service with proprietary infrastructure.

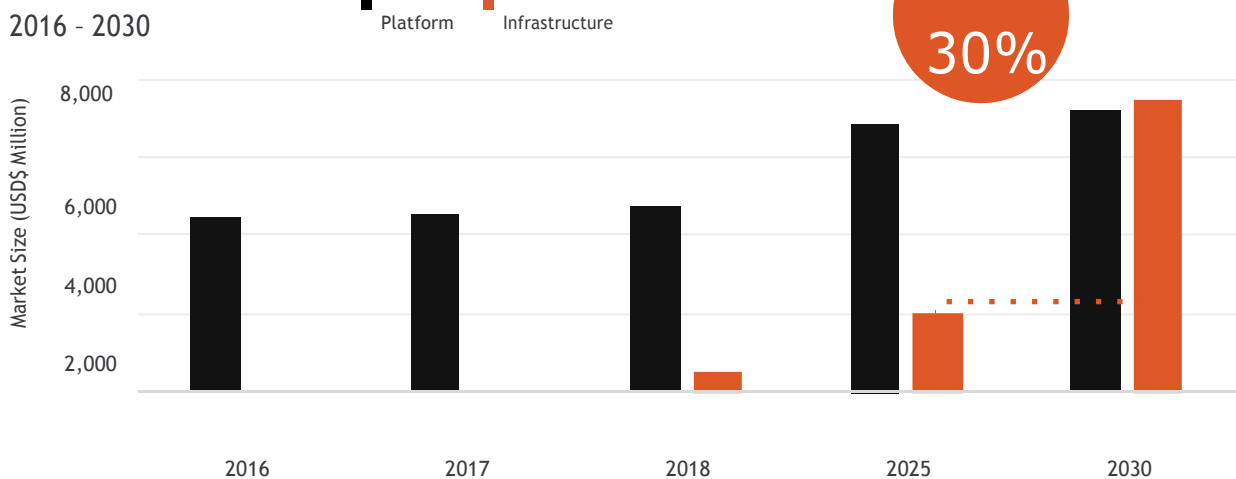
When planning for a future of accessible aerial transportation, one cannot ignore the means of getting there: the booking and ground experiences and the general infrastructure.

Companies like Blade are working through models that resemble what Uber did in the ridesharing market¹. Blade contracts capacity from operators, while focusing on the booking and ground experience. The high initial cost of UAM service, the initially limited landing locations outside airports, and the large number of UAM airframe programs underway have led them to plan on an eVTOL market that will start off demand constrained rather than supply constrained. By staying asset light as electric/hybrid aircraft are certified, Blade can put itself in the best position to develop demand early and then contract capacity in a competitive market.

Given the potential demand for the most attractive locations and the complexity of developing supply, infrastructure could provide even greater advantages in UAM than in commercial aviation. In addition, booking process, ground experience, and multi-modal integrations all matter relatively more in a business with 20-30-minute flights than in commercial aviation.

The market share between the Platform and Infrastructure segments are almost evenly split by 2030, with infrastructure anticipating having a CAGR of 30.04% from 2025 to 2030². Both segments require the support of one another in terms of economic sustainability. More infrastructure - predicated on public acceptance and adoption - will allow for more vehicle capacity, which will in turn result in more aircraft production and subsequently component demand.

URBAN AIR MOBILITY, BY COMPONENT



Source: "Ultralight and Light Aircraft Market – Global Forecast to 2030" Markets and Markets, 2020

¹ "Helicopter Service Blade Pivots to Uber-Like SUVs During NYC Shutdown" Bloomberg, 2020.
² "Ultralight and Light Aircraft Market – Global Forecast to 2030" Markets and Markets, 2020.

Regional air mobility using hybrid-electric aircraft.

Finally, other companies look to growth plays on the existing regional and air taxi markets. Air taxi and regional services mostly fly routes under 500 miles. This market declined over the last 40 years as travelers increasingly substituted car trips for air trips due to unfavorable cost trends for air travel vs. automobiles and increased time spent waiting in airports. At this point, travelers use cars for about 97% of all inter-city trips, so enormous market development potential exists for car substitution.

Next-generation hybrid-electric propulsion will help **exploit this opportunity.**

Generally, cars represent a formidable competitor to aviation. They cost about \$0.37/passenger mile at average occupancy¹ - likely a tenth or less of what UAM services will initially cost and about half the cost of operating smaller regional aircraft like the Cessna Caravan or Twin Otter. Upon certification, hybrid-electric propulsion could close this gap and create a cost inversion where small aircraft become cheaper than traveling by car.

Like its more conventional cousin - commercial aviation - the UAM space's winners will create business models, platforms and designs that optimize the economics of flight. These new businesses will need to compete favorably against traditional forms of transit, other well-funded business models and designs, and perhaps most challenging, future business models and designs. The large uptick in R&D funds available through the SPACs and investments from autos will accelerate this progress.



Image source: Lilium

¹ "AAA's Your Driving Costs" AAA Exchange, 2021.



Aircraft (VTOL & eVTOL) Watch list – 2021

An overview of players in the UAM space and their prototypes, organized by stages of development: Preliminary Design, Prototype Build, Flight Testing, Certification and Commercially Operating - no aircraft have reached this final stage due to limitations in battery and propulsion technology.

PRELIMINARY DESIGN

Karem Butterfly

Type: Winged VTOL, Intracity

Powerplant: All-Electric

Top Speed: 150-200 mph

Range: 100 miles

Propeller Configuration: Quad tiltrotor with Optimum Speed Tiltrotor (OSTR) technology; large rotor, slow turning propeller.

Passenger Capacity: 5 incl. pilot

PROTOTYPE BUILD

Vertical Aerospace VA-1X

Type: Winged VTOL

Powerplant: All-Electric

Top Speed: 150 mph

Range: 100 miles

Propeller Configuration: 8 lift rotors, 4 tilting rotors (front)

Passenger Capacity: 5 incl. pilot or 1,000 lbs.

Embraerx

Type: Winged VTOL

Powerplant: All-Electric

Top Speed: Unknown

Range: Unknown

Propeller Configuration: 10 total. 8 electric propellers for vertical lift and 2 ducted pusher propellers

Passenger Capacity: 5 incl. pilot

Bell Nexus Air Taxi

Type: Winged VTOL

Powerplant: 6HX Hybrid-Electric; 4EX All-Electric

Top Speed: 200 mph

Range: 6HX - 150 miles; 4EX - 60 miles

Propeller Configuration: 6 HX - 6 tiltrotors; 4EX - 4 tilt-rotors

Passenger Capacity: 5 incl. pilot.

Pipistrel 801

Type: Winged VTOL

Powerplant: All-Electric

Top Speed: 175 mph

Range: 69 miles

Propeller Configuration: 8 propellers for vertical flight; 1 thrust rotor for horizontal, level flight

Passenger Capacity: 1

Aston Martin Volante

Type: Winged VTOL

Powerplant: Hybrid graphene, hydrogen fuel cell drive

Top Speed: 380 mph

Range: 1,150 miles

Propeller Configuration: 4 Maglev rim driven ducted fans.

Passenger Capacity: Undisclosed

Jaunt Air Mobility

Type: Winged VTOL

Powerplant: Hybrid-Electric, details undisclosed

Top Speed: 212 mph

Range: Unknown

Propeller Configuration: 4 pitch controllable rotors, one main lifting rotor

Passenger Capacity: 5 incl. pilot

Note: As of April 2021, there are no aircraft (VTOL, eVTOL) in the Commercially Operating stage.

FLIGHT TESTING

Airbus CityAirBus

Type: Wingless eVTOL, Intracity
Powerplant: All-Electric
Top Speed: 75 mph
Range: 60 miles
Propeller Configuration: 8 lift/thrust rotors.
Passenger Capacity: 4

Boeing PAV

Type: Winged VTOL
Powerplant: All-Electric
Top Speed: Undisclosed
Range: 50 miles
Propeller Configuration: 8 lifting rotors, 1 pusher propeller
Passenger Capacity: 2

Beta Technologies Alia

Type: Winged VTOL
Powerplant: All-Electric
Top Speed: 166 mph
Range: 287 miles
Propeller Configuration: Four vertical lift propellers, one rear pusher propeller
Passenger Capacity: 6

Volocopter 2X

Type: Wingless VTOL
Powerplant: All-Electric
Top Speed: 62 mph
Range: 17 miles
Propeller Configuration: 18 independent electric motors and propellers
Passenger Capacity: 2 or 350 lbs. total payload

Wisk Cora

Type: Winged VTOL
Powerplant: All-Electric
Top Speed: 100 mph
Range: 25 miles
Propeller Configuration: 6 lift propellers under each wing (non-tilting), 1 rear pusher-propeller for forward thrust.
Passenger Capacity: 2

Joby Aviation S4

Type: Winged VTOL
Powerplant: Distributed Electric Propulsion (DEP) System powered by Li-Ni-Co-MnO2 batteries.
Top Speed: 200 mph
Range: 150 miles
Propeller Configuration: 46 propellers tilt vertically - 2 with a linkage mechanism
Passenger Capacity: 5 incl. pilot.

CERTIFICATION

EHANG216

Type: Wingless VTOL
Powerplant: All-Electric
Top Speed: 80 mph
Range: 22 miles with max payload
Propeller Configuration: 16 lift/thrust rotors (8 dual rotors)
Passenger Capacity: 2 or 485 lbs. total payload

Lilium Jet

Type: Wingless VTOL
Powerplant: All-Electric
Top Speed: 187 mph
Range: 186 miles
Propeller Configuration: 36 ducted fans
Passenger Capacity: 5

Lift Hexa

Type: Wingless eVTOL, Intracity
Powerplant: All-Electric
Top Speed: Undisclosed
Range: 10-15 minutes of flight time
Propeller Configuration: 18 independent electric motors and propellers
Passenger Capacity: 1 pilot



CONCLUSION

Market size estimations for the UAM sector vary across the board. Markets and Markets, a global B2B market research firm, takes a conservative view that the industry could be valued at \$15.1 billion by 2030, growing at a CAGR of 11.33%.¹ Morgan Stanley takes a more optimistic approach and estimates the market to be valued at \$1.5 trillion by 2040.² Frost & Sullivan sees air taxis beginning in 2022 in Dubai and expanding with a compound annual growth rate of about 46% to more than 430,000 units in operation by 2040.³

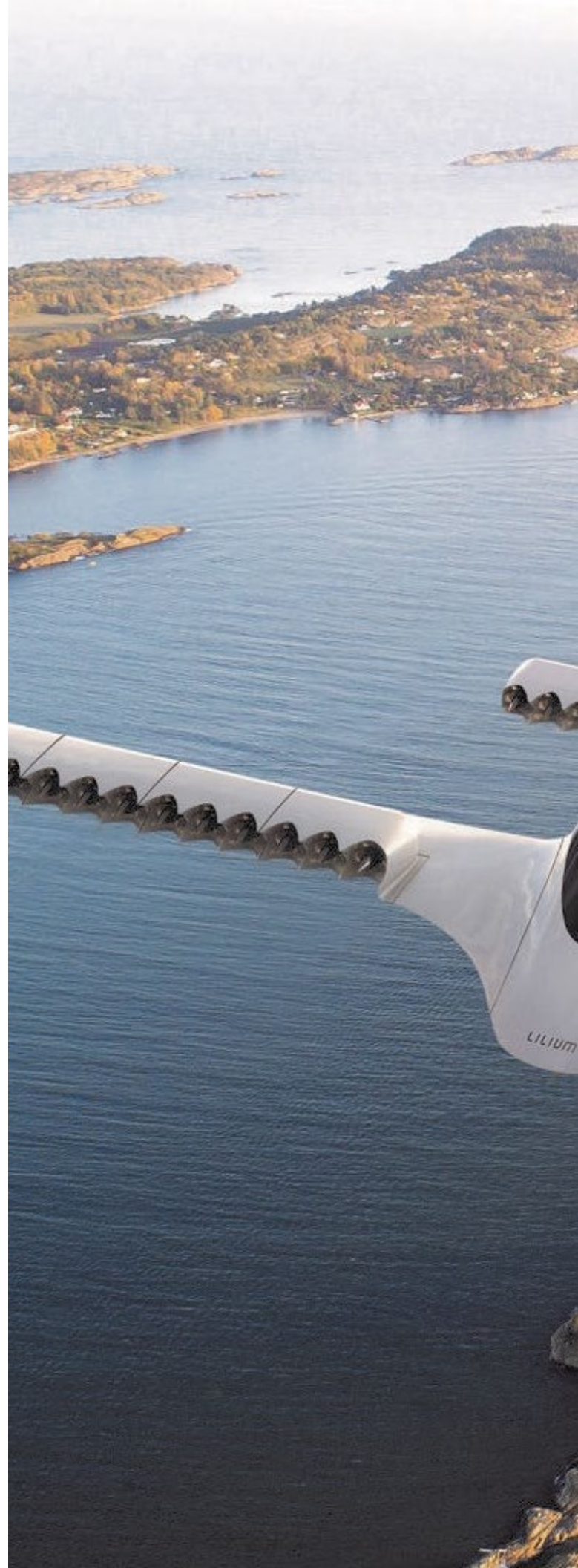
At this stage, it's difficult to accurately size up what the market could be in 20 years, or even 10 years. What is indisputable today is the capital already invested in the sector and into the promising technologies of tomorrow. However, the industry evolves, it will undoubtedly favor players who are adaptable to shifts in a nascent sector, positioned to meet the demands of moving targets and teams who have the expertise to produce superior products in an industry whose successes will be defined by safety and efficiency.

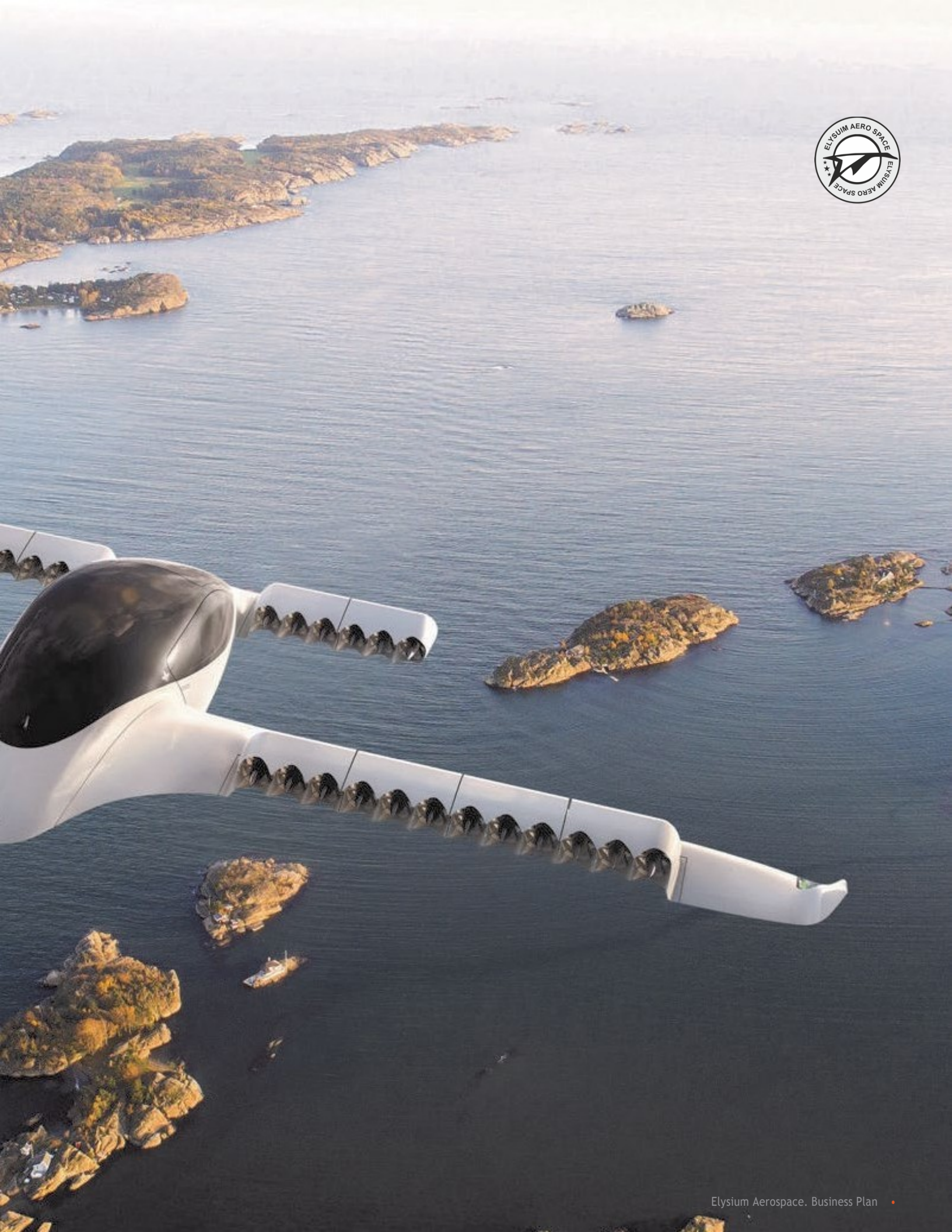
Through this journey,
the only players able to
eliminate the noise around
the hype of UAM will be
those with **proven concepts
and incontestable results.**

¹ "Ultralight and Light Aircraft Market – Global Forecast to 2030" Markets and Markets, 2020.

² "Are Flying Cars Preparing for Takeoff?" Morgan Stanley, 2019.

³ "Frost & Sullivan Presents the Evolving Urban Air Mobility Landscape Up to 2040" Frost & Sullivan, 2019.







Key Opportunities for EA

A Holistic Approach to Aviation

The EA Advantage: Catering to and supplying the UAV systems market while designing and refining the technologies for regional air mobility applications and Urban Air Mobility at large.

Elysium Aerospace's product offering can meet the technical requirements of UAV systems for various end-uses - from military light aircraft to agricultural drones. The Company can supply to these markets while continuing to design and develop the systems for UAM applications (see Research & Development on pg 49.)

The Post-Pandemic Startup Opportunity

The EA Advantage: Unlike the bigger players in the space, the Company has the freedom to focus exclusively on innovation and the development of its aircraft systems and components.

With the more prominent companies changing course and focusing on reviving their principal businesses, a unique window of opportunity is opened to those not directly impacted by flight grounding and travel restrictions. These include startups and new companies in the experimental categories and those manufacturing components for the flights of the longer-term future -- rather than the near-term.

Hybrid is the foreseeable future.

The EA Advantage: Understanding the existing limitations for all-electric systems, the Company develops hybrid-electric drivetrain solutions that can satisfy more immediate market demands.

Market and Markets posits that hybrid propulsion systems will hold most of the market share in the fuel alternatives segment through to 2030 (\$365 million of the \$475 million Electric/Hybrid segment). Market estimates aside, it's important to understand the state of aerial transportation today and its existing limitations. The promises, prototypes, and high-end digital renderings of companies such as Volo copter and Lilium are appealing to the public, but what they don't discuss in detail are the limitations of existing battery technology. The former example's (Volo copter) all-electric aircraft solution has a range of 17 miles and a maximum payload of 350 pounds - which is not practical for the aerial vehicle's intended use.

1 "Are Flying Cars Preparing for Takeoff?" – Morgan Stanley, 2019.



The latter example's (Lilium) aircraft has a preferable range of 186 miles with a maximum capacity of 5 passengers. However, its prototype aircraft caught fire and burned "beyond repair" in 2020. While Lilium never disclosed the reasons for the fire, specialists point to the fact that the prototype used the same batteries that are used in electric vehicles - and almost every EV manufacturer has suffered battery fire problems at some point. This wasn't an issue unique to Lilium either - Eviation, Siemens and Airbus have all had their all-electric aerial vehicle prototypes face the same fate.

Simply put, existing battery technology cannot carry enough energy yet. Until energy density is at least doubled, most of these designs won't offer range endurance long enough to make them commercially viable. These big battery packs will need charging, too, which would ground the aircraft for a significant time.

That's not to say that optimal battery technology is something unforeseen - Tesla's battery research group in Canada published a white paper citing how, upon diagnosing the reasons for the batteries' failures and better understanding battery cell deterioration², they are now one step closer to developing batteries for safe and viable end-uses. However, this breakthrough was four years in the making - and it's anyone's guess how long of a wait it will be until the next one.

In the interim, hybrid-electric propulsion becomes a viable alternative solution for the aviation sector - in parallel with the automotive industry. Hybrid-electric reveals potential advantages including fuel savings, lower pollution, and reduced noise emission - all of the vital components for feasible UAV and UAM applications.

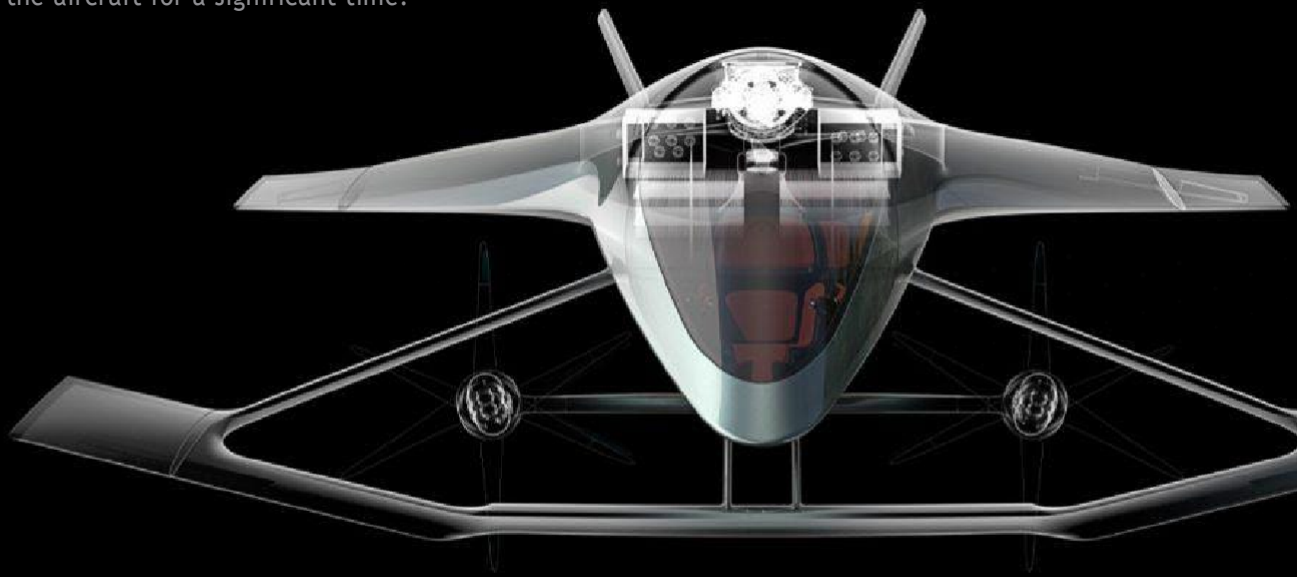


Image source: Aston Martin

¹ "How Lilium managed to raise \$240m in tough times" Sifted, 2020.

² "Tesla researchers show path to next-gen battery cell with breakthrough energy density" Electrek, 2020.



Collaboration over competition

The EA Advantage: In a race for the most viable airtaxi, EA is keenly focused on the exceptional design of its propulsion technology and integrated systems.

- components that can solve current problems in existing prototypes.

In the foundations of a new market with vast market opportunity, the case for collaboration is stronger than ever. It takes a substantial amount of capital to develop new products and to penetrate new markets that few companies can go it alone in any situation. Time is also, a critical factor. Strategic alliances can provide shortcuts for companies racing to improve their production efficiency and quality control.

EA, as a developer of state-of-the-art components, can supply to operators in the race to produce a state-of-the-art product. In this scenario, strategic goals converge while competitive goals diverge, and there is a clear upstream/downstream division of effort.

This opportunity can present itself with both consumer-facing companies and government alliances. While there is definitive competition amongst air taxi contenders, governments are also eager to capitalize on the eVTOL boom after missing its opportunity to dominate the personal drone market. DJI, a Chinese tech company, holds approximately an 80% share of the personal drone market¹ – and the U.S. Pentagon must sign off on every Department of Defense use of a DJI drone. Not wanting to miss the boat with the roll-out of VTOL and eVTOL technologies, the U.S. government launched Agility Prime, opening the door to private sector contractors operating in the emerging space.

The disruptive path to UAM will be quiet.

The EA Advantage: Noise reduction will be one of the most vital features of winning UAM vehicles. – **and EA's propeller is 80% quieter than its competitors'.**

Most research firms and industry professionals define the UAM market opportunity by the rate of advancing technologies and expanding capabilities. Flying cars have been a collective aspiration since the launch of the automobile - but now that there are existing technologies that can nearly facilitate it, the reality is starting to set in. What these firms and professionals can't predict or estimate, however, is the reception from perhaps the biggest stakeholder - the general public. How UAM affects the livelihoods of millions of people around the world is something that will only be known after releasing the first fleet of air taxis. But one thing that we know is a virtual certainty is that these new aircraft must meet certain acoustic requirements. - the noise they emit cannot be disruptive to citizens' daily lives.

EA's patented propeller design is race-proven and 80% quieter than its competitors, making it a superior component for UAM applications (see EA Technology & Solutions on following page)

¹ "Agility Prime: the Pentagon's eVTOL Power Play" Osinto, 2020.



PRODUCTS

**EA Technology &
Solutions – Superiority
in Design, Efficiency and
Acoustics**



The EA Difference

One of the distinctive features of EA product development is simplicity and sophistication in design. Every component is designed to meet the specific goals of each operator's propulsion system, with acute consideration to form, function, and efficiency. The Company strives to design complex products that don't feel complex.

The components below are incorporated in either a hybrid-electric or internal combustion propulsion system. EA's components are packaged standalone or as a complete propulsion system and will be sold wholesale to OEMs and retail through EA's distributor.



ELLIPTICAL PROPELLER

With 6 patents in the U.S., Japan, Canada, U.K. and China, EA's Elliptical Propeller **20% faster and more efficient** and **80% quieter** than its competitors'.

The EA propeller is exactly what the drone market needs - stealth, efficiency and speed. The fixed pitch propellers and constant speed propellers are designed to produce an elliptical lift (thrust) distribution all along the blade's span, weighted heavily at the root, diminishing at the tip, and with the correct airfoil at each station that corresponds with the speed - slower speeds at the root, higher speeds at the tip. As with other propellers, the angles along the span change with changes in local airspeed at each station. The blade chord and pitch angles are much exaggerated at the hub. The patented unique blade platform is not seen on any other propeller. The small chord at the tip solves the problem of rotational drag at speed and results in an exceptionally quiet propeller.

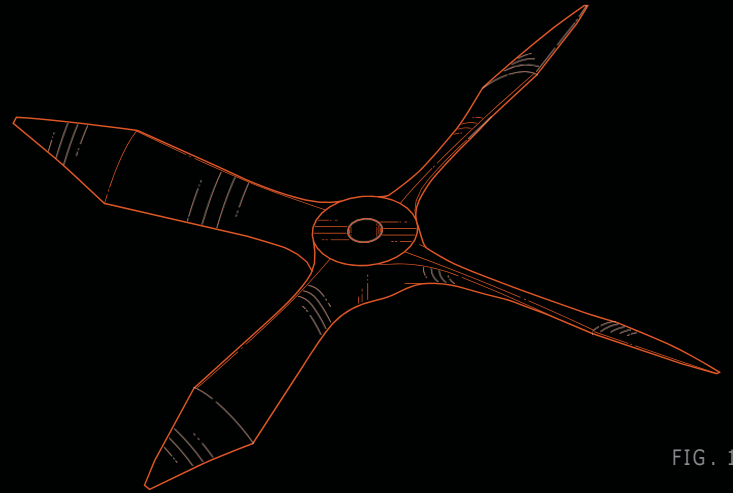


FIG. 1



FIG. 2

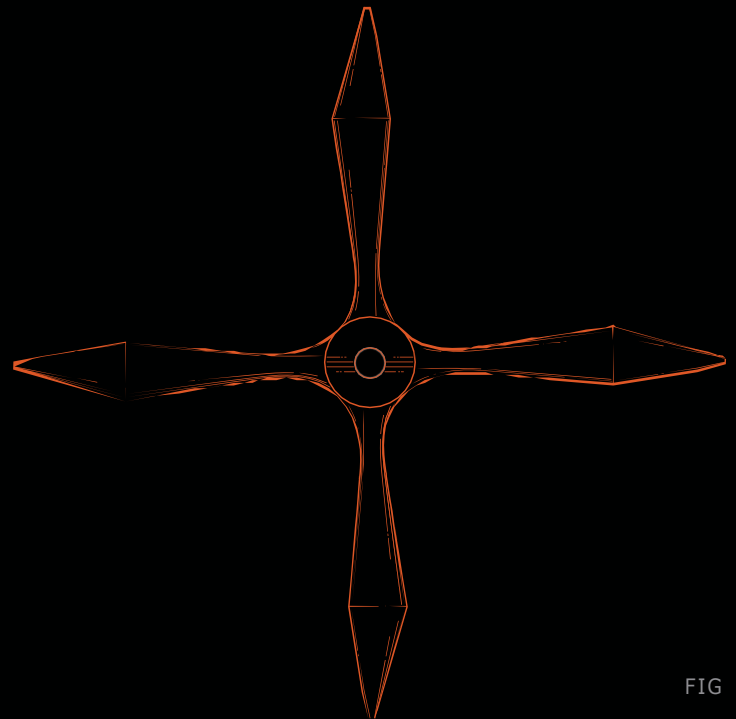


FIG. 3



Test results verify that the EA fixed pitch propeller is on average 46.894 mph faster and 80% quieter than other propellers. The test results are proven by running the EA propellers on the #62 Phantom in the Reno Air Races biplane class. The propeller has won 13 Gold National Championships - more than any other race aircraft in the history of the Reno Air Races. The Phantom biplane qualified at 221 mph with its 64-inch two-blade prop in 2003, 241 mph with its 59-inch diameter three-blade EA propeller in 2004 at 250 rpm less than in 2003, and 251 mph with its 59-inch diameter four-blade EA propeller in 2007 at the 2003 rpm. Many commented on how quiet his propeller was as he flew by on the home course, where the noise was mainly from the engine exhaust.

It's important for makers of UAVs and aircraft for UAM applications to understand how improved propeller efficiency can significantly enhance the performance of their product: A 1% efficiency increase will add 1% to the range or loiter time of the vehicle, and a 3% increase will increase the speed 1%, plus additional efficiency will increase rate-of-climb.

For a plane with 80 HP weighing 1,000 lbs., that requires 20 thrust HP at best L/D (lift-to-drag), an 80% efficient propeller will give 1,452 feet per minute (FPM) and an 81% efficient propeller will give 1,478.4 FPM for a 1.8% increase.

As such, an efficiency increase from 80% to 85% is not a 5% increase but **an increase of 6.25%.**

PATENTS OVERVIEW

Country	Title	Status	Filing Date	Grant Date
US	Elliptical Propeller	Issued	Aug. 22, 2018	Oct. 29, 2019
JP	Elliptical Propeller	Issued	Feb. 18, 2019	Feb. 5, 2020
CA	Elliptical Propeller	Issued	Feb. 7, 2019	May 29, 2020
CN	Elliptical Propeller	Issued	Feb. 21, 2019	Nov. 1, 2019
EM	Elliptical Propeller	Issued	Feb. 13, 2019	Feb. 13, 2019
GB	Elliptical Propeller	Issued	Feb. 13, 2019	Feb. 13, 2019
US	Elliptical Propeller	Pending	Aug. 29, 2019	-



QUICK DISCONNECT

Issued on Sept. 29, 2020, EA holds a U.S. patent for its Quick Disconnect engine mount. Enabling users to replace the engine in less than half an hour while engine accessories and fluids remain with the aircraft, the Quick Disconnect can help save valuable time during connections and disconnections. The same Quick Disconnect is used in the factory and maintenance depots.

MICROTURBINE

The Microturbine runs efficiently on all types of heavy fuels, such as jet fuel, and generates useful onboard electrical power that is 3 times greater than what is produced by internal combustion engines (ICE.) Currently at 50 HP, NAAC is actively working to get the Microturbine to 150 HP.

ELECTRIC MOTOR

EA's Electric Motor is agnostic and scalable to any horsepower (HP) - from 50 HP to 400 HP - and for multiple end-uses. The Electric Motor is lightweight, weighing 44 lbs. at 50 HP and 100 lb. at 350 HP. Further, the Electric Motor can maintain propeller RPM at 3,750.

ENGINE HEALTH SYSTEM

Powered by Artificial Intelligence (AI), EA's Engine Health System allows operators to accurately monitor the health of any engine on-board in real-time and autonomously address any future issues and faults.

A paradigm shift from non-destructive testing to structural health monitoring systems has led. the Company's pursuit of enhanced autonomous engine health suite. Fiber optics sensors to measure in-torque data, flight messengers to monitor maintenance needs, and aviation analytics comprise EA's evolving technologies. The Company's focus has shifted from health and usage monitoring (HUMS) through telemetry to AI to accurately monitor the health of any engine on-board in real time and autonomously address future faults long before any other form of health monitoring. The telemetry feature will continue for ground-based engineers and in the development of the AI based multi-sensor engine health system.

In line with the Company's goal to deliver the lightest and most efficient hardware, EA has been able to redesign its data acquisition hardware from a 5.52 lbs. unit to a .35 lbs. unit.





Prototypes in Development

TURBO-CHARGED ENGINE

Through an internal engine study, EA was able to achieve an extraordinary feat. With the initial design goal 2.0 brake horsepower per pound.

At 136.8 lbs. and 400 HP, the Company achieved. 2.92 brake HP per pound – **the smallest, densest, and most powerful aircraft ICE.**



In June 2020, EA's closest competitor unveiled its two-stroke Hawk V4 E-330J/G clean sheet design engine at 306 lbs. and 350 HP. EA's prototype engine is in the same category (experimental), liquid-cooled and turbo-charged, more powerful, lighter and with a much smaller footprint.



Component Benefits

PROPULSION SYSTEM

Elysium Aerospace offers a wide range of propulsion systems, which both allows the best exploitation of the airframe characteristics and can generate proper thrust to comply with all the assumed requirements. The goal is to increase performance in fuel efficiency, emissions, noise, landing distance and maneuverability. EA's drone groundwork is based on the premise that presently, all- electric motor-based propulsion systems are not viable. Until the microturbine is advanced enough, the piston engine is optimal for hybrid-electric propulsion systems.

ACOUSTICS

Drone noise is predominately created with three sources: 1) the propulsion system converting the energy of the fuel into the thrust; 2) the flow of the air around the fuselage; and 3) the vibration of the structure with the forces, including the propeller(s). Electric-powered UAVs operate more efficiently and create less vibration and noise compared to a UAV utilizing combustion gas. type propulsion systems - particularly at high-altitude operations. Significantly, EA's patented propeller design is the solution to propeller noise. The propeller design is race-proven on the #62 Phantom biplane at the Reno Air Races, and the human ear cannot discern propeller sound from the aircraft.

AUTONOMY

To handle high-bandwidth applications, flight messengers need to monitor maintenance needs and effectively harness specific aviation analytics. EA's focus has shifted from health and usage monitoring (HUMS) through telemetry to AI to accurately monitor the health of any engine on-board in real time and autonomously address future faults long before any other form of health monitoring.

EFFICIENCY

The functional limitations of batteries require the integration of more efficient airframes, the more efficient EA propeller, and more efficient and lighter internal combustion engines. A hybrid-electric drivetrain can lead to substantial improvements in fuel efficiency of a given aircraft configuration, though these gains depend strongly on the coupled variations in the degree of drivetrain electrification and the required mission range. Both factors influence the weight allocation of battery and fuel systems, as well as the weight scaling imposed by internal combustion engine and electrical motor components. To obtain the greatest fuel efficiency, EA uses a hybrid architecture that has as much electrification in the drivetrain as is permissible within a given range requirement.



COMPETITION

Competitive Landscape –
the EA Advantage



Competitive Analysis

AC AERO

AC-Aero is a manufacturer of engines targeting the aerospace and aviation sectors, with its two principal product lines being the Higgs Diesel Engines and Lycoming Performance Solutions. The former (Higgs Diesel) aim to achieve the necessary horsepower while keeping the weight of the jet burning engine at or below similar AVgas versions of the engines. On June 12th, 2020, Higgs Diesel unveiled the two-stroke Hawk V4 E-330J/G clean sheet design engine.

MAGNIX

MagniX is an electric motor manufacturer for electric aircraft, wholly owned by Singapore investor Clermont Group. The company is headquartered in Redmond, Washington, United States, and has an engineering center in Queensland, Australia, where they were founded. Their latest release, used in Eviation's Alice 9-passenger aircraft, is the magni250 electric motor at 350 HP turning at 1,900 RPM with a maximum speed of 3,000 RPM.

The EA Advantage

EA's engine prototype competes well with the Hawk V4 E-330J/G, which is essentially a heavier two-stroke diesel at 306 lbs. and 350 HP -

compared to EA's
136.8 lbs. and 400 HP with
a much smaller footprint.

The EA Advantage

EA continues to develop and refine its electric motor, which is already lighter than the MagniX product offering and can maintain RPM at 3,750. The Company's advantage in competing against component manufacturers in this space is its propulsion flexibility and acute awareness of the limitations in all-electric systems. While planning for all-electric capabilities (i.e., battery technologies),

the Company has hybrid solutions as **pragmatic alternatives** in the near-term.



Elysium Aerospace also competes with the internal teams of UAM aircraft manufacturers and government organizations. Much like the Company's Skunk Works platform, many similar technologies are being designed, developed, and tested privately before a viable solution can be presented.

to the public. One of EA's ongoing strategies will be to leverage strategic partnerships and alliances to compete through collaboration.

There are currently countless companies, both in public view and private, working on prototypes for UAV and UAM applications – and they all need **efficient, powerful, silent, and superior components** to successfully penetrate these new markets.

With its expert team, proven proprietary technologies and flexible product offerings, EA is positioned to become a leader in propulsion technology solutions in both electric and hybrid-electric applications for the UAV and UAM sectors.



Research & Development - NaaX



NAAAX

**Research and
Development – Ongoing
Innovation with NaaX**



NaaX is the official pseudonym for EA’s own Skunk Works, a semi-secret R&D facility and organization which operates as a subsidiary of EA. NaaX is stationed in a hangar at the Penticton Airport.

NaaX’s mission is to invent and launch propulsion components that aim to make the world a radically better place. Licensing NaaX’ technology to operations is NaaX’s principal business. With its innovation pipeline acting as a cornerstone of EA’s business model, the Company must keep this conduit moving. NaaX’ overriding aim is to enable the Company to support the most promising paths in both electric and hybrid-electric propulsion technologies. Research in these areas applies agile methods in a “test and iterate” approach.

SKUNK WORKS PRINCIPLES

The Skunk Works name was taken from the moonshine factory in the comic strip Li'l Abner. The designation “skunk works” is widely used in business, engineering, and technical fields to describe a group within an organization given a high degree of autonomy and unhampered by bureaucracy, with the task of working on advanced or secret projects. What sets the Skunk Works apart is its unique approach created by its founder, Kelly Johnson. Johnson’s “14 Rules and Practices” are trademarked and utilized today by Lockheed Martin. EA has adopted Kelly Johnson’s 14 Rules and Practices in so far as they apply to the Company’s operations.

Recognition

In April 2021, EA was welcomed to The Society of Experimental Test Pilots' roster of distinguished Corporate Members. See 'Industry Alliances' on pg. 69 for more information.

Test Aircraft

EA owns and operates test aircraft to refine and strengthen its components and technologies. These include:

THE BERKUT

- Length: 18 ft. 6 in.
- Height: 7 ft. 6 in. (parked)
- Wingspan: 26 ft. 8 in.
- Wing Loading: 18.1 lbs./sq. ft.
- Flaps: none
- Glide Ratio: 18:01
- Service Ceiling: 25,000 ft.
- Empty Weight: 1,110 lbs., Gross Weight: 2,000 lbs.
- Fuel Capacity: 58 gal.; 74 gal. with aux
- Useful Load: 890 lbs.
- Net Payload: (with std) 542 lbs.; (with aux) 446 lbs.

THE BD-5

- Length: 13 ft. 7 in.
- Height: 2 ft. 2 in.
- Wingspan: 21 ft. 6 in.
- Empty Weight: 355 lbs.
- MGTO: 659 lbs.
- Maximum Speed: 232 mph at sea level
- Cruise Speed: 229 mph, Stall Speed: 55 mph
- Range: 935 miles optimum, with 30 min. reserve
- Rate of Climb: 1,919 ft./min. at sea level
- Take-off Distance to 50 ft: 226 m.
- Landing Distance from 50 ft: 253 m.





STRATEGY

**Business Structure &
Leadership –
A Committed Team with
Achievable
Ambitions**



exceptional propulsion systems



Business Model

EA's revenue drivers are hardware and software licensing fees, and recurring annual warranty and maintenance fees. Licensing of the following components and systems will be available in Year 1:

- Elliptical Propeller
- Quick Disconnect
- Microturbine
- Electric Motor
- Engine Health System
- Complete Propulsion Systems

Prototype components in development:

- Turbo-Charged Engine

Supply Chain

The supply chain network in aerospace is comprised of operators who provide essential materials and commodities that are used to manufacture a finished product. These suppliers are recognized in three tiers:

Tier 1 – Manufacturers of major components or systems who receive parts or sub-assemblies from Tier 2 suppliers. These companies directly supply the aerospace sector with critical finished products, including engines, control systems, braking systems and more. EA is a Tier 1 propulsion manufacturer and relies on Tier 2 and Tier 3 suppliers.

Tier 2 – Suppliers responsible for the manufacture for parts or subsystem assemblies used by Tier 1 companies. They provide components including airfoils and tires, airframe structures and similar components.

Tier 3 – These companies are mostly component manufacturers that ship their products directly to Tier 2 companies for the manufacturing of critical parts and subsystems, which can include hydraulic fittings, high-strength fasteners, and pins, and more.

EA'S Tier 2 & 3 Suppliers

LEADING EDGE AEROSPACE
IMAGINATION MACHINE WORKS
CATTO PROPELLERS
RAPID3D
PANDUIT
BRAYTON ENERGY
BERKUT
QUANTUM WORKS
MANNARINO SYSTEMS & SOFTWARE



Key Suppliers

CATTO PROPELLERS

Catto Propellers has been a progressive leader in the advancement of propeller design and engineering. Its latest advancements have been in conducting a full vibration, Finite Element Analysis (FEA) and flow analysis of a propeller and adapting the findings to continuously advance our airfoils.

In 2013, Catto Propellers began to develop a method to record the dynamic air flow of a propeller in flight. With a custom mount and a vacuum formed carbon fiber case to house a GoPro device, Catto was able to maintain a live feed on the propeller aerodynamics. This provided a real-time visual throughout the flight profile that allowed Craig Catto to improve the propeller efficiency by actively notating where it is possible to reattach flow and modify the airfoils, accordingly, ultimately improving the performance of the blade, in all aspects.

It's been this type of continuous improvement that has led to Catto's achievement of numerous world records and recognition of advanced propeller design.

BRAYTON ENERGY

Brayton Energy has over 12 years of experience in the development of small stationary microturbines in the power level of interest. The company also has R&D projects currently active with the AFRL, focused on UAV propulsion. Through that work, and its collaboration with EA, Brayton Energy has developed a practical solution to address existing market demand.

Brayton's core technology is enabled by advancements in several areas:

- **The advanced recuperator.** This patented design creates a compact, lightweight, high-effectiveness package.
- **High-firing temperature turbine design.** Employs novel cooled hot section features which enable higher firing temps relative to competing engines.
- **Superior aerodynamic design.** Developed through a combination of advanced computational fluid dynamic optimization and testing.
- **Light-weight high-speed bearings.** Incorporates mature technology demonstrated on other Brayton microturbines.
- **Compact combustor technology.** Includes liner cooling, and proprietary combustion modeling methods developed over decades of small gas turbine engine testing.

Operations & Regulatory Landscape –

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Operations Overview

In October 2020, EA moved its propulsion lab airside to Penticton Airport for the following strategic purposes:

- to locate the flight test aircraft (NaaX operation) for the integration of NAAC technologies.
- to provide a showroom to showcase NAAC products to potential buyers and/or partners.
- to provide a showroom to showcase NaaX technologies to interested parties and stakeholders.

ITAR COMPLIANCE

EA's operation will be International Traffic in Arms Regulations (ITAR) compliant for ITAR-controlled parts (under the U.S. International Traffic in Arms Regulations, 22 CFR Parts 120-130), in anticipation of working with U.S. defense contractors. The Company has already engaged legal counsel (Thomsen & Burke LLC) to assist in the ITAR Canadian Exemption application process preliminary to an LOI with an OEM governed by ITAR.

The Company is also compliant with the Department of Defense's Cybersecurity Maturity Model Certification (CMMC) (Level 3.) EA utilizes the services of PreVeil for its communications encryption to ensure continued compliance.

Remote Workforce

Pivoting quickly with the onset of the COVID-19 pandemic, EA has prioritized remote work as a strategy to enhance the Company's top objectives in 2021 and onward. The Company's entire workforce is now remote except for the aircraft mechanics and fabricators that work on the aircraft at the Penticton hangar. EA also uses Wrike, a cloud-based project management software, that simplifies the way teams manage workloads and communicate, and cloud-based video conferencing services, including Zoom, Microsoft Teams, and Cisco Webex.

EA anticipates that remote workplace flexibility will boost the Company's bottom line by enhancing productivity, performance, engagement, retention, and - ultimately - profitability. Additionally, when EA teams are authentically motivated to take ownership, they are more accountable to themselves, to their team members, and to the business.

Regulatory Landscape

EA works with a Designated Airworthiness Representative (DAR) out of Spokane, WA. EA operates piloted test aircraft under the jurisdiction of the FAA for the following reasons:

- Transport Canada does not yet have a comparable experimental R&D category for flight test aircraft.
- EA can develop technologies for drones in the experimental category without the prohibitive costs of certification.
- It is easier to market aerospace technologies in the United States with an N-numbered demonstration aircraft; and,
- The flight test aircraft are piloted to be able to operate in controlled airspace.



GROWTH

Growth Strategy: Seizing Opportunities in an Evolving Market

High-level Marketing Strategy

The solutions being offered by EA are advanced and far ahead those of the current market. In the UAV market, the demand for light, efficient and powerful propulsion systems are not being met. In the UAM market, demand is currently in the growth phase, and operators (commercial and government) are incrementally seeking solutions as technologies evolve.



EA's approach will focus its efforts on educating operators, manufacturers, distributors and other stakeholders on the power, efficiency, and acoustic requirements of the UAV and UAM systems of today and tomorrow. By doing this, the Company will create its own market, develop the appropriate narratives, and be a single-source supplier of premium powertrain solutions. EA is in a discernible position to become a trailblazer in the UAV and UAM markets. The Company will deploy the following strategies to effectively capitalize this opportunity:

1 – EA will continue to seek sponsorships and participate in demonstration flights that showcase the Company's superior technologies to drone and aircraft manufacturers at airshows and select trade shows. This strategy has already proven to be effective, with its Phantom sponsorship at the Reno Air Races generating extensive interest in the propulsion technology.

2 – The Company will identify and engage with influential entities that have notable exposure in the target markets. This can include institutions, publications, large systems providers or prominent companies.

3 – EA will clearly differentiate its products and service offerings in a manner that is seen to be meaningful to both the customer and the market at large.



MARKET OPPORTUNITIES

Regarding the Company's ongoing marketing strategy, there are considerable market opportunities available to Elysium Aerospace that will be considered moving forward:

- 1** – The UAM market is in its nascent stage as the necessary battery technologies continue to evolve and regulations take form.
- 2**– There is no clear market leader to date.
- 3** – EA's product offering is agnostic to available technologies and can be distributed both as a complete propulsion system or by individual component - allowing for greater flexibility as operators' aircraft prototypes evolve.
- 4**– EA is acutely aware of the limitations in all-electric aircraft for UAM applications and is designing systems to meet the growing demand for hybrid-electric propulsion systems.
- 5** – EA has already developed race-proven technologies and achieved unprecedented milestones - this will only continue as the Company matures.



Source: Archer Aviation Rendering



Communications Strategy

The current opportunities in place for the Company will be spearheaded by efforts to educate stakeholders across select markets. To achieve this, the EA communications strategy incorporates a marketing mix of B2B marketing, direct marketing, online marketing, partnerships, sponsorships, and referrals:

B2B MARKETING

Communication efforts will include corporate presentations, print materials (e.g., flyers, advertisements), sales materials (e.g., customized brochures, proposals, and other sales documents) and the corporate website: naaerospace.com.

DIRECT MARKETING

Direct marketing efforts will include reaching target audiences through email marketing platforms. (e.g., MailChimp, SendGrid, Drip), as well as cold calling. The Company will work to develop effective communications strategies and implement the most successful tactics moving forward. In the context of email marketing, this may be approached through strategic A/B testing of various brand messaging and communication.

ONLINE MARKETING

Efficient online marketing strategies are an essential component of EA's marketing and communications strategy. The Company will utilize the following proven online marketing strategies:

Conversion rate optimization (CRO)

Using video content increases website conversion rates by 86%¹. EA has the option of displaying video content (e.g., a video display of how fast and quiet a UAV is with the Company's patented propulsion system) directly on the website to evoke consumer response.

Organic Search

Google is responsible for 94% of total organic web traffic² and 70-80% of search engine users are focused solely on organic results³.

Search Engine Optimization ("SEO") and growing organic presence is the top inbound marketing priority⁴. This affirms the priority of targeting consumers through effective keywords that assist in communicating the Company's brand messaging.

Content Marketing

Content Marketing helps companies: (i) educate leads and prospects about specific products, (ii) boost conversations, (iii) build relationships between the customers and the business, (iv) connect with audiences to demonstrate how the products can provide specific solutions, and (v) create a sense of community. Content marketing can be delivered through modes of social media messaging, infographics (a recommended form of communication, particularly for a rising technological sector), blog content and podcast content.

¹ Wordstream, 2018.

² Web Presence Solutions, 2019.

³ MarTech, 2018.

⁴ HubSpot, 2019.



#62 Phantom

SPONSORSHIPS

With the nature of EA’s technology, the best communication is often observation. One of EA’s early success stories includes the Phantom sponsorship in the 2018 Reno Air Races biplane class, where the #62 Phantom won its 12th Gold Medal - an achievement unrivaled by any other race aircraft in any class in the history of the National Air Races that have taken place in the United States since 1920.

These races are key for EA because, as in any motor sport, technologies are developed and tested in challenging race conditions. Often these technologies, such as those in race cars, show up on the vehicles consumers buy or utilize in another capacity (e.g., rent or charter.) For EA, the race environment tests the propeller and other components, and showcases the results. As previously mentioned, the players who can eliminate the noise around the hype of these new industries will be those with proven concepts and incontestable results.

All six objectives are essential for EA and its communication strategy, particularly due to the nature of the market and lack of adequate educational resources. As UAS and UAM technologies develop across the globe, more consumers across more market segments will have questions - turning to EA’s platform upon identifying those answers will prove to be advantageous to the Company.

PARTNERSHIPS AND REFERRALS

EA will leverage existing relationships and alliances with industry professionals, regulators and selected organizations that will assist the Company in raising awareness regarding its powertrain solutions. Management will introduce Referral Programs to foster ongoing relationships and develop new ones.



BRAND POSITIONING

At its core, EA is a UAV/UAM solutions provider founded on cutting-edge technology. Currently, the Company flies under the radar of larger, public competitors. As such, there is an opportunity to discreetly disrupt existing markets while introducing its propulsion systems solutions to emerging markets and establish itself as a market leader.

As a brand, EA's character is precise, elegant, and intelligent. The Company seeks to establish a presence in aviation in the same way Apple established a presence in telecommunications - through simplicity and sophistication in design. This is reflected both in the Company's product lines and throughout its digital brand experiences.

In a fast-growing market, the point of difference for the Company is founded on education to industries and operators that do not have.

exposure to the **quieter, more powerful and more efficient solutions that EA is developing.** and bringing to market.

In marketing and sales activities, this is demonstrated through digital savvy.



Sales & Distribution

EA will use authorized distribution and maintenance centers in the U.S. and Canada, and management will begin identifying these locations in 2023. The Company's sale cycle will be as follows:

- | | |
|--|----------------------------------|
| 1 – First Contact | 8 – Optional Adjustments |
| 2 – Brand & Product Information | 9 – Contract |
| 3 – Qualification of Lead | 10 – Production |
| 4 – Brief CTO for Project Potential | 11 – Progress Updates |
| 5 – Opportunity to introduce CEO or COO | 12 – Product Delivery |
| 6 – Secondary Meeting for Product Expert & Demonstration | 13 – Training |
| 7 – Customized Quote | 14 – Follow Up |
| | 15 – Maintenance/Up-Sell/Re-Sell |

Industry Alliances

EA will maintain existing relationships, and foster new alliances, across the industry to expand its sales and marketing efforts, develop regional platforms for education and demonstration and influence evolving regulations.

NASA ADVANCED AIR MOBILITY

NASA invited EA to participate in the Advanced Air Mobility (AAM) ecosystem working groups, which has given EA credibility, recognition, and the opportunity to closely collaborate with NASA and other government organizations in discussions relating to standards, policies, and operationalization of AAM. NASA commenced the AAM ecosystem working groups in March 2020 in a virtual forum. To date, the Company has participated in 15 AAM ecosystem working groups.

More important, particularly for the Company's propeller program, EA has participated virtually in the Acoustic Technical Working Group (ATWG) meeting in October at NASA Glenn Research Center and will again in April 2021 at NASA Langley Research Center. In conjunction with the ATWG, EA also participated and will participate in the Urban Air Mobility Noise Working Group (UNWG) which follows the day after the ATWG at the same respective facility.

THE SOCIETY OF EXPERIMENTAL TEST PILOTS

SETP is an international organization that seeks to promote air safety and contributes to aeronautical advancement by promoting sound aeronautical design and development; interchanging ideas, thoughts, and suggestions of the members, assisting in the professional development of Experimental pilots. EA was accepted as a member in April 2021.

Industry Events

To further form strategic alliances within the Americas, as well as international arenas, EA will either participate in or attend various UAVS/UAM/AAM-related events, trade shows and conferences. These networking opportunities are influential for the Company in terms of sales leads and prospects, labor/added human capital and more.

EA has been actively participating in numerous events, including: the biennial Farnborough International Airshow, the Unmanned and Autonomous Systems Expo (AUVSI XPONENTIAL 2020), PNAAs 20th Annual Aerospace Conference in Seattle and more.



THE ASK

Capital Requirement –
Building the Future of Flight



Capitalization

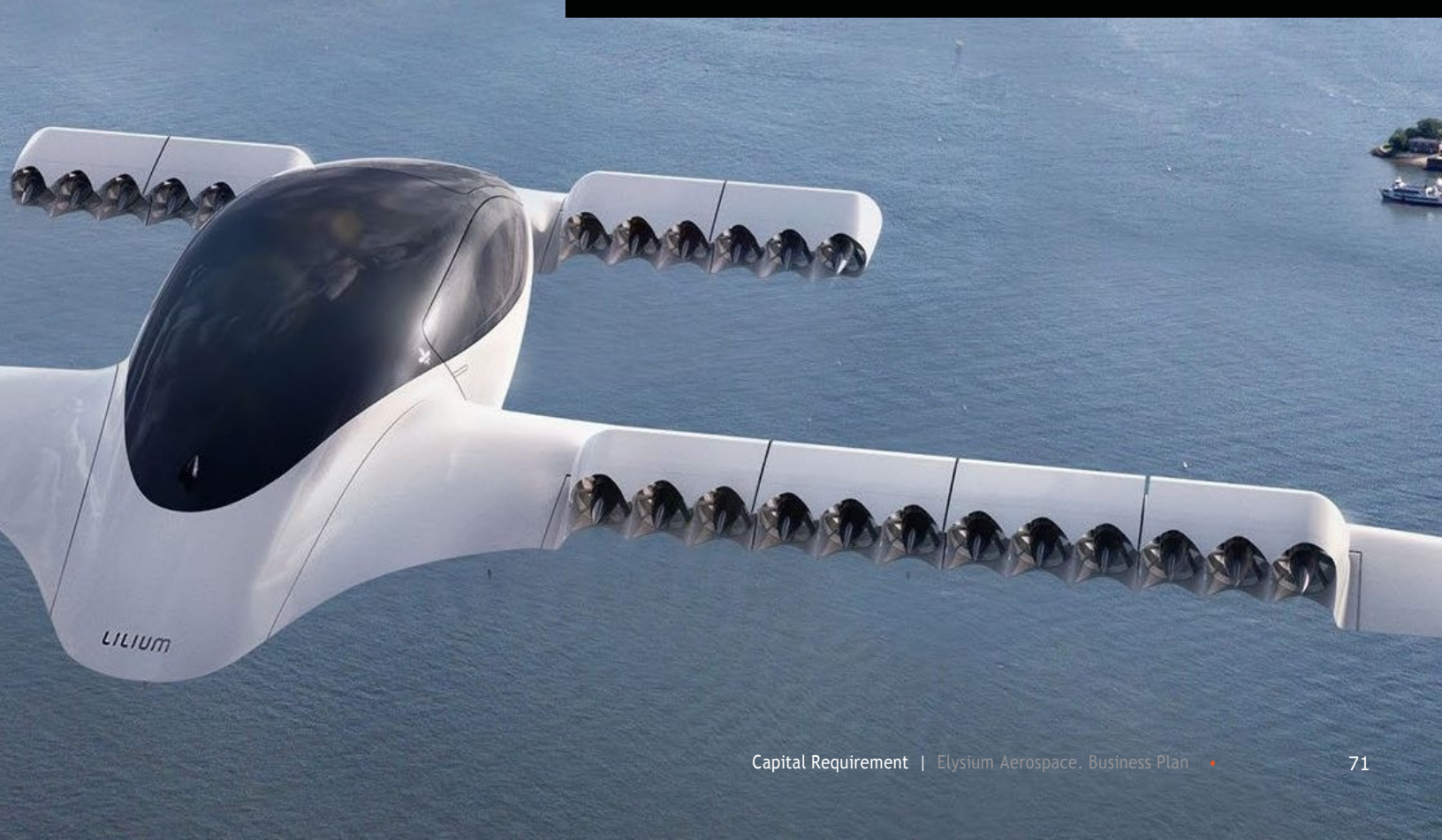
EA founder shares account for 75% of the issued and 100% of the issued voting shares. The Company welcomes the discussion to extend share ownership and expand its Board of Directors in an effort to build a well-rounded team, particularly in the area of business development and financial expertise.

Capital Requirement

US\$20M

USE OF PROCEEDS

Working Capital, Operations & Contingency (32%),
Engine Purchase (31%), Product Development (25%),
Sales & Marketing (13%)





FINANCIALS

Financial Analysis – Pro-Forma Projections through to Year 5



Note: All figures in this section are in US\$ currency. All assumptions and projections herein are based on Company estimates derived from industry expertise and thorough market analysis.

Revenue Assumptions

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues					
Elliptical Propeller Revenues	\$835,200	\$1,151,700	\$1,699,100	\$2,247,100	\$3,172,000
Quick Disconnect Revenues	\$701,250	\$867,750	\$1,067,550	\$1,306,375	\$1,594,800
Microturbine Revenues	\$5,698,000	\$7,017,000	\$11,311,250	\$13,944,000	\$16,924,000
Electric Motor System Revenues	\$4,208,400	\$5,118,600	\$8,360,250	\$10,030,200	\$12,074,200
AI Engine Health System Revenues	\$1,875,000	\$5,400,000	\$9,450,000	\$11,325,000	\$13,575,000
Complete Propulsion System Revenues	\$59,840,000	\$163,894,000	\$255,476,000	\$329,284,000	\$405,989,428
Total Revenues	\$73,157,850	\$183,449,050	\$287,364,150	\$368,136,675	\$453,329,428
Cost of Goods Sold					
Elliptical Propeller - COGS	\$439,350	\$625,100	\$884,800	\$1,257,550	\$1,787,250
Quick Disconnect - COGS	\$279,000	\$343,800	\$421,560	\$514,500	\$626,760
Microturbine - COGS	\$4,233,600	\$5,174,400	\$8,466,000	\$10,195,800	\$12,316,800
Electric Motor System - COGS	\$3,362,240	\$4,084,960	\$6,669,400	\$7,994,720	\$9,621,120
AI Engine Health System - COGS	\$1,500,000	\$4,320,000	\$7,560,000	\$9,060,000	\$10,860,000
Complete Propulsion System - COGS	\$42,374,200	\$116,091,800	\$181,037,200	\$228,987,200	\$302,419,400
Total Cost of Goods Sold	\$52,188,390	\$130,640,060	\$205,038,960	\$258,009,770	\$337,631,330
Gross Profit	\$20,969,460	\$52,808,990	\$82,325,190	\$110,126,905	\$115,698,098
Operating Expenses					
Advertising and Promotion	\$352,501	\$606,665	\$776,661	\$948,292	\$1,148,793
Amortization of Equipment	\$17,373	\$39,174	\$42,041	\$41,065	\$32,617
Office and General	\$120,000	\$144,000	\$172,800	\$207,360	\$248,832
Rentals	\$42,000	\$60,000	\$61,800	\$63,660	\$65,570
Shop supplies	\$10,000	\$12,000	\$14,400	\$17,280	\$20,736
Launch Costs	\$334,975	\$300,000	\$-	\$-	\$-
Travel	\$108,000	\$129,600	\$155,520	\$186,624	\$223,949
Vehicle Expenses	\$7,800	\$9,360	\$11,232	\$13,478	\$16,174
Salaries	\$940,834	\$1,073,719	\$1,484,522	\$2,175,180	\$2,740,864
Business Licenses	\$2,500	\$2,875	\$3,306	\$3,802	\$4,373
Engineering and Design	\$2,813,387	\$6,211,444	\$7,398,544	\$8,820,426	\$7,051,255
Insurance	\$30,000	\$34,500	\$39,675	\$45,626	\$52,470
Banking Fees	\$2,400	\$2,760	\$3,174	\$3,650	\$4,198
Professional fees	\$246,750	\$424,665	\$543,662	\$663,804	\$1,148,793
Utilities	\$4,800	\$5,520	\$6,348	\$7,300	\$8,395
R&D	\$225,001	\$613,331	\$953,323	\$1,200,584	\$1,580,705

Total Operating Expenses	\$5,258,321	\$9,669,613	\$11,667,008	\$14,398,132	\$14,347,723
Total Expenses	\$57,446,711	\$140,309,673	\$216,705,968	\$272,407,902	\$351,979,053



Other General Assumptions

	Year 1	Year 2	Year 3	Year 4	Year 5
Corporate Tax Rate	20.00%	20.00%	20.00%	20.00%	20.00%
Days in Receivable	30	30	30	30	30
Amount	\$3,657,893	\$9,172,453	\$14,368,208	\$18,406,834	\$22,666,471
Days in Payable	30	30	30	30	30
Amount	\$164,334	\$483,481	\$583,350	\$719,907	\$717,386

DEPRECIATION SCHEDULE

	Year 1	Year 2	Year 3	Year 4	Year 5
Building					
Useful Life (Years)	15	15	15	15	15
Opening Balance	\$-	\$5,000,000	\$11,100,000	\$11,100,000	\$11,100,000
Purchases	\$5,000,000	\$6,100,000	\$-	\$-	\$-
Total Value	\$5,000,000	\$11,100,000	\$11,100,000	\$11,100,000	\$11,100,000
Depreciation	\$333,333.33	\$740,000.00	\$740,000.00	\$740,000.00	\$740,000.00
Accumulated	\$333,333	\$1,073,333	\$1,813,333	\$2,553,333	\$3,293,333
Net Value	\$4,666,667	\$10,026,667	\$9,286,667	\$8,546,667	\$7,806,667
Total Capex	\$5,000,000	\$6,100,000	\$-	\$-	\$-
Total Depreciation	\$333,333	\$740,000	\$740,000	\$740,000	\$740,000

Revenue Summary

	Year 1	Year 2	Year 3	Year 4	Year 5
Total Revenue	\$73,157,850	\$183,449,050	\$287,364,150	\$368,136,675	\$453,329,428
Gross Margin	\$20,969,460	\$52,808,990	\$82,325,190	\$110,126,905	\$115,698,098
Gross Margin %	29%	29%	29%	30%	26%
EBITDA	\$15,711,139	\$43,139,377	\$70,658,182	\$95,728,773	\$101,350,375
EBITDA %	21%	24%	25%	26%	22%
Net Income	\$12,302,245	\$33,919,502	\$55,934,545	\$75,991,018	\$80,488,300
Net Profit Margin	17%	18%	19%	21%	18%
Profitability					
Initial Investment	\$10,000,000	\$10,000,000			
Annual ROI	123%	170%	280%	380%	402%



Income Statement

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues					
Elliptical Propeller Revenues	\$835,200	\$1,151,700	\$1,699,100	\$2,247,100	\$3,172,000
Quick Disconnect Revenues	\$701,250	\$867,750	\$1,067,550	\$1,306,375	\$1,594,800
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Total Revenues	\$73,157,850	\$183,449,050	\$287,364,150	\$368,136,675	\$453,329,428
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Gross Profit	\$20,969,460	\$52,808,990	\$82,325,190	\$110,126,905	\$115,698,098
Operating Expenses					
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Rentals	\$42,000	\$60,000	\$61,800	\$63,660	\$65,570
Shop supplies	\$10,000	\$12,000	\$14,400	\$17,280	\$20,736
Launch Costs	\$334,975	\$300,000	\$-	\$-	\$-
Travel	\$108,000	\$129,600	\$155,520	\$186,624	\$223,949
Vehicle Expenses	\$7,800	\$9,360	\$11,232	\$13,478	\$16,174
Salaries	\$940,834	\$1,073,719	\$1,484,522	\$2,175,180	\$2,740,864
Business Licenses	\$2,500	\$2,875	\$3,306	\$3,802	\$4,373
Engineering and Design	\$2,813,387	\$6,211,444	\$7,398,544	\$8,820,426	\$7,051,255
Insurance	\$30,000	\$34,500	\$39,675	\$45,626	\$52,470
Banking Fees	\$2,400	\$2,760	\$3,174	\$3,650	\$4,198
Professional fees	\$246,750	\$424,665	\$543,662	\$663,804	\$1,148,793
Utilities	\$4,800	\$5,520	\$6,348	\$7,300	\$8,395
R&D	\$225,001	\$613,331	\$953,323	\$1,200,584	\$1,580,705
Total Operating Expenses	\$5,258,321	\$9,669,613	\$11,667,008	\$14,398,132	\$14,347,723
Operating Income	\$15,711,139	\$43,139,377	\$70,658,182	\$95,728,773	\$101,350,375
Depreciation	\$333,333	\$740,000	\$740,000	\$740,000	\$740,000
Pre-tax Income	\$15,377,806	\$42,399,377	\$69,918,182	\$94,988,773	\$100,610,375
Income Tax	\$3,075,561	\$8,479,875	\$13,983,636	\$18,997,755	\$20,122,075
Net Income	\$12,302,245	\$33,919,502	\$55,934,545	\$75,991,018	\$80,488,300



Balance Sheet

	Year 1	Year 2	Year 3	Year 4	Year 5
Cash	\$9,142,019	\$35,112,549	\$78,002,237	\$137,046,329	\$196,325,543
Accounts Receivable	\$3,657,893	\$12,830,345	\$27,198,553	\$45,605,386	\$68,271,858
Other Operating	\$5,000,000	\$8,900,000	\$8,900,000	\$8,900,000	\$8,900,000
Total Current Assets	\$17,799,912	\$56,842,894	\$114,100,790	\$191,551,715	\$273,497,401
Capital Expenditures	\$5,000,000	\$11,100,000	\$11,100,000	\$11,100,000	\$11,100,000
Depreciation	\$333,333	\$1,073,333	\$1,813,333	\$2,553,333	\$3,293,333
Total Fixed Assets	\$4,666,667	\$10,026,667	\$9,286,667	\$8,546,667	\$7,806,667
Total Assets	\$22,466,579	\$66,869,561	\$123,387,457	\$200,098,381	\$281,304,067
Accounts Payable	\$164,334	\$647,815	\$1,231,165	\$1,951,072	\$2,668,458
Total Current Liabilities	\$164,334	\$647,815	\$1,231,165	\$1,951,072	\$2,668,458
Total Liabilities	\$164,334	\$647,815	\$1,231,165	\$1,951,072	\$2,668,458
Shareholders' Equity					
APIC	\$-	\$-	\$-	\$-	\$-
Capital Stock	\$10,000,000	\$20,000,000	\$20,000,000	\$20,000,000	\$20,000,000
Other Financing	\$-	\$-	\$-	\$-	\$-
Retained Earnings	\$12,302,245	\$46,221,746	\$102,156,292	\$178,147,310	\$258,635,609
Total Equity	\$22,302,245	\$66,221,746	\$122,156,292	\$198,147,310	\$278,635,609
Total Liability & Equity	\$22,466,579	\$66,869,561	\$123,387,457	\$200,098,381	\$281,304,067



Cash Flows Statement

	Year 1	Year 2	Year 3	Year 4	Year 5
Operating Activities					
Net Income	\$12,302,245	\$33,919,502	\$55,934,545	\$75,991,018	\$80,488,300
Depreciation	\$333,333	\$740,000	\$740,000	\$740,000	\$740,000
Amortization	\$-	\$-	\$-	\$-	\$-
Subtotal	\$12,635,578	\$34,659,502	\$56,674,545	\$76,731,018	\$81,228,300
Accounts Receivables	\$(3,657,893)	\$(9,172,453)	\$(14,368,208)	\$(18,406,834)	\$(22,666,471)
Accounts Payables ¹	\$164,334	\$483,481	\$583,350	\$719,907	\$717,386
Increase in Inventory	\$-	\$-	\$-	\$-	\$-
Other Operating	\$(5,000,000)	\$(3,900,000)	\$-	\$-	\$-
Subtotal	\$(8,493,559)	\$(12,588,972)	\$(13,784,857)	\$(17,686,927)	\$(21,949,085)
Operating Cash flow	\$4,142,019	\$22,070,530	\$42,889,688	\$59,044,091	\$59,279,214
Capital Expenditures	\$(5,000,000)	\$(6,100,000)	\$-	\$-	\$-
Other Assets Spending	\$-	\$-	\$-	\$-	\$-
Cash after Investing	\$(5,000,000)	\$(6,100,000)	\$-	\$-	\$-
Other Long-Term Debt	\$-	\$-	\$-	\$-	\$-
Dividends Paid	\$-	\$-	\$-	\$-	\$-
Increases in APIC	\$-	\$-	\$-	\$-	\$-
Capital Stock	\$10,000,000	\$10,000,000	\$-	\$-	\$-
Other Financing	\$-	\$-	\$-	\$-	\$-
Cash after Financing	\$10,000,000	\$10,000,000	\$-	\$-	\$-
Beginning Cash	\$-	\$9,142,019	\$35,112,549	\$78,002,237	\$137,046,329
Cashflow	\$9,142,019	\$25,970,530	\$42,889,688	\$59,044,091	\$59,279,214
Year End Cash	\$9,142,019	\$35,112,549	\$78,002,237	\$137,046,329	\$196,325,543

¹ Includes a loan of \$164,334 from Western Economic Diversification Canada granted in December 2020.



Break-even Analysis

	Year 1	Year 2	Year 3	Year 4	Year 5	Average
Revenues	\$73,157,850	\$183,449,050	\$287,364,150	\$368,136,675	\$453,329,428	\$273,087,431
COGS	\$52,188,390	\$130,640,060	\$205,038,960	\$258,009,770	\$337,631,330	\$196,701,702
Fixed Costs	\$4,265,672	\$8,368,814	\$10,432,554	\$12,920,373	\$12,591,053	\$9,715,693
Variable Costs	\$992,649	\$1,300,799	\$1,234,454	\$1,477,759	\$1,756,671	\$1,352,466
EBIT	\$15,711,139	\$43,139,377	\$70,658,182	\$95,728,773	\$101,350,375	\$65,317,569
BE %	21.4%	16.2%	12.9%	11.9%	11.1%	14.7%
Break-Even	\$15,621,482	\$29,805,958	\$36,970,217	\$43,778,191	\$50,094,990	\$35,254,168

Ratio Analysis

	Year 1	Year 2	Year 3	Year 4	Year 5
Liquidity Ratios					
Working Capital	\$17,635,578	\$56,195,079	\$112,869,625	\$189,600,643	\$270,828,943
Current Ratio	108.32	87.75	92.68	98.18	102.49
Profitability Ratios					
Net Profit Margin	16.82%	18.49%	19.46%	20.64%	17.75%
Return On Assets (ROA)	54.76%	50.72%	45.33%	37.98%	28.61%
Operating Income Margin	21.48%	23.52%	24.59%	26.00%	22.36%
Return On Equity	55.16%	51.22%	45.79%	38.35%	28.89%
Gross Profit Margin	28.66%	28.79%	28.65%	29.91%	25.52%
Financial Leverage Ratios					
Debts To Assets	0.73%	0.97%	1.00%	0.98%	0.95%
Debt To Equity	0.74%	0.98%	1.01%	0.98%	0.96%
Debt To Working Capital	0.93%	1.15%	1.09%	1.03%	0.99%
Efficiency Ratios					
Cash Turnover	8.00	5.22	3.68	2.69	2.31
Sales To Assets	3.26	2.74	2.33	1.84	1.61
Fixed Asset Turnover	14.63	16.53	25.89	33.17	40.84



Sensitivity Analysis

Sensitivity Analysis 1	
Revenue	110%
COGS	100%
Operating Expenses	100%
Revenue	\$80,473,635
COGS	\$52,188,390
Operating Expenses	\$5,258,321
Operating Income	\$23,026,924
Operating Profit %	28.61%

Sensitivity Analysis 3	
Revenue	100%
COGS	90%
Operating Expenses	90%
Revenue	\$73,157,850
COGS	\$46,969,551
Operating Expenses	\$4,732,489
Operating Income	\$21,455,810
Operating Profit %	29.33%

Sensitivity Analysis 2	
Revenue	100%
COGS	110%
Operating Expenses	110%
Revenue	\$73,157,850
COGS	\$57,407,229
Operating Expenses	\$5,784,153
Operating Income	\$9,966,468
Operating Profit %	13.62%

Sensitivity Analysis 4	
Revenue	110%
COGS	90%
Operating Expenses	90%
Revenue	\$80,473,635
COGS	\$46,969,551
Operating Expenses	\$4,732,489
Operating Income	\$28,771,595
Operating Profit %	35.75%

Valuation

In March 2021, EA engaged Alvarez & Marsal Valuation Services, LLC ("Alvarez & Marsal") to conduct a valuation analysis. Utilizing the Discounted Cash Flow method, Alvarez & Marsal concluded that

the fair market value of EA is estimated to be **US\$50 million**, as of March 31, 2021, on a marketable basis.



APPENDIX

Appendix



UAV Classification

SPAC DEALS IN AVIATION & AEROSPACE 1

Category	Size	Maximum Gross Takeoff Weight (MGTW) (lbs)	Normal Operating Altitude (ft)	Airspeed (knots)
Group 1	Small	0-20	<1,200 AGL*	<100
Group 2	Medium	21-55	<3,500	<250
Group 3	Large	<1,320	<18,000 MSL**	<250
Group 4	Larger	>1,320	<18,000 MSL	Any airspeed
Group 5	Largest	>1,320	>18,000	Any airspeed

*AGL = Above Ground Level

**MSL = Mean Sea Level

Note: If the UAS has even one characteristic of the next level, it is classified in that level.

¹ "Eyes of the Army" U.S. Army Roadmap for UAS 2010-2035.



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