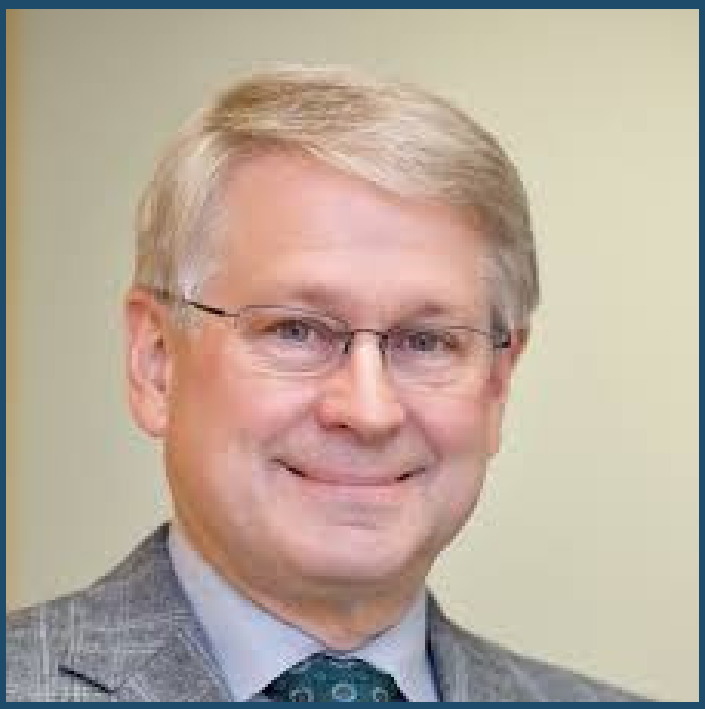
The FutureList

Electra

Innovation Memo

WWW.THEFUTURELIST.COM

Innovation In Words



A note from the Founder of Electra, John Langford

When we talk about Electra, a big part of what we are doing is opening up new places to operate out of

The FutureList

Electra

Mobility

Aerospace

www.electra.aero

Undisclosed

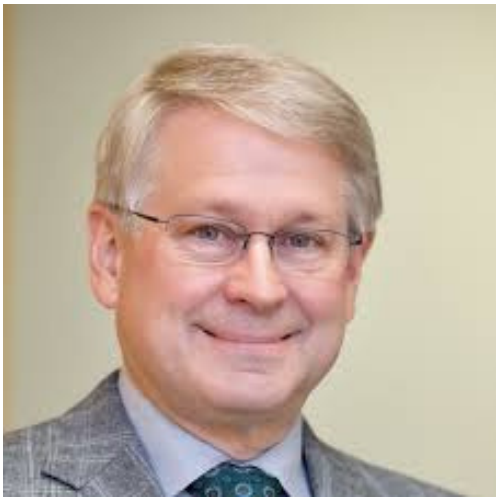
2020

Executive Summary

Electra is an aerospace company that is transforming regional air mobility with its innovative hybrid-electric, ultra-short takeoff and landing (eSTOL) aircraft technology. Positioned within a rapidly evolving aerospace sector landscape, characterized by increasing demand for sustainable air travel solutions, Electra leads with its groundbreaking eSTOL (electric Short Takeoff and Landing) aircraft. This innovative technology seamlessly blends the operational versatility of helicopters with the safety and efficiency of fixed-wing aircraft, catering specifically to distances within the 50-500 mile range to address the evolving needs of the aviation industry.

The market Electra operates in is highly regulated requiring aircraft certification and operational approvals from national regulatory bodies and city-level authorities. Despite these obstacles, the company is successfully addressing them through strategic partnerships with regulatory bodies including the FAA in the US, research institutions including MIT and the University of Michigan, and industry partners

By leveraging these collaborations, conducting thorough testing, and showcasing the safety and efficiency of its eSTOL aircraft, Electra has solidified its position as a frontrunner in hybrid-electric aviation solutions. As Electra continues to push the boundaries of innovation, its vision for the future is ambitious and far-reaching. Their commitment to sustainability and focus on reshaping air travel places them at a prominent role in the aerospace industry, creating a more sustainable future for aviation. By deploying its eSTOL aircraft globally, expanding its product offerings to include zero-emissions solutions, and exploring applications for large transport aircraft, Electra is poised for significant growth and impact. Leveraging external expertise, Electra seeks to accelerate progress, address market needs, and maximize the potential of its innovation.



John Langford

Founder & CEO

John is an aerospace entrepreneur who founded Aurora Flight Sciences in 1989, Athena Technologies in 1998, and Electra.aero in 2020. He is a member of the National Academy of Engineering and the immediate past-president of the American Institute of Aeronautics and Astronautics (AIAA).

Diana Siegel

CFO

Diana holds a Master of Science degree in AeroAstro from MIT and a Bachelor degree in Electrical Engineering from the University of Queensland. Her experience with eVTOL technology convinced Diana of the need to find a much more energy-efficient and cost-effective solution than vertical lift aircraft, to truly achieve sustainable air travel.

Innovation Spotlight

a) Core Functionality/Features:
Central to Electra's innovation is its pioneering blown lift technology, a sophisticated aerodynamic technique that enables the eSTOL aircraft to achieve safe takeoffs and landings at remarkably slow speeds of just 35 mph. This innovation multiplies lift, facilitating operation from spaces as compact as a soccer field, thereby granting access to locations previously inaccessible by conventional aircraft.

Additionally, the eSTOL aircraft has ultra-short takeoff and landing capabilities, eliminating the need for extensive runway infrastructure and expanding its operational reach to remote or underdeveloped regions. By flying on the wing from takeoff to landing, Electra's eSTOL provides operational flexibility comparable to a helicopter (or VTOL aircraft), but does so at the cost and energy-efficiency better than a fixed-wing aircraft.

b) Design and User Experience:
Electra's eSTOL aircraft is engineered with simplicity and operational ease in mind. Featuring fixed wings and streamlined aerodynamics, the aircraft eliminates the complexities associated with tilting or rotating elements, ensuring straightforward flight operations from takeoff to landing. The incorporation of blown lift technology further enhances user experience by providing a seamless transition between ground and air operations, without the need for hover or transition phases. Piloted by standard fixed-wing pilots, the eSTOL aircraft offers a familiar and intuitive cockpit environment, facilitating clear communication and efficient navigation

c) Performance Metrics:
Electra's eSTOL aircraft delivers exceptional performance that underscore its efficiency, accessibility, and sustainability. Electra's eSTOL offers unparalleled cost savings, with air mobility services available at a 70% lower cost than traditional helicopters or eVTOLs. This significant reduction in operational expenses opens doors to affordable air travel options for a broader demographic, enhancing accessibility and mobility across regions.

Moreover, Electra's eSTOL aircraft offers unmatched access capabilities, reaching locations that are currently inaccessible with conventional fixed-wing aircraft. By leveraging blown lift technology and ultra-short takeoff and landing capabilities, Electra's aircraft can operate from compact spaces, expanding air travel options to remote or underserved communities. This accessibility revolutionizes regional air mobility, bridging gaps in transportation infrastructure and facilitating connectivity where none existed before.

The eSTOL aircraft also significantly reduces emissions compared to conventional aircraft and rotorcraft. With a 30% reduction in emissions compared to today's conventional aircraft, and a 70% reduction compared to rotorcraft, Electra's eSTOL presents a sustainable flying solution that aligns with global efforts to combat climate change and reduce carbon footprint.

d) Safety, Compliance, and Sustainability:
Safety and sustainability are at the core of Electra's values, exemplified by the attainment of a Special Airworthiness Certificate from the FAA, authorizing piloted flight tests. Clear certification pathways under FAA's FAR Part 23 and EASA's CS-23 further underscore Electra's dedication to regulatory compliance and operational excellence. Moreover, Electra's focus on decarbonizing aviation aligns with broader environmental objectives, minimizing carbon emissions and fostering a cleaner, greener future for air travel.

e) Innovation in Business Model:
Electra's innovative business model transcends traditional aerospace paradigms, challenging conventional notions of aircraft design and operation. Blown lift technology and hybrid-electric propulsion represent groundbreaking innovations that redefine the boundaries of urban and regional mobility, addressing market gaps and unlocking new opportunities for growth and expansion. By leveraging modern ideas and disruptive thinking, Electra aims to reshape the future of aviation and propel the industry towards a more sustainable and efficient trajectory.

f) Scalability of the Innovation:
Electra's innovative eSTOL technology exhibits inherent scalability, paving the way for its widespread adoption and application across various aviation sectors. By virtue of its efficient design and versatile capabilities, Electra's eSTOL aircraft can be scaled to meet evolving transportation needs.

Electra's technology can be scaled by optimizing and refining its core components, such as blown-lift technology and hybrid-electric propulsion systems. Through continuous research and development efforts, Electra can enhance the performance, efficiency, and reliability of these systems, thereby improving the scalability of its eSTOL aircraft to accommodate larger payloads, longer distances, and diverse operational environments.

Horizontally, Electra's technology can be scaled by diversifying its product offerings to address a broader range of market segments and applications. While initially focusing on regional air mobility, Electra can explore opportunities in other sectors such as cargo transportation, emergency services, and military operations. By tailoring its eSTOL technology to suit different use cases and customer requirements, Electra can penetrate new markets and expand its reach, further solidifying its position as an industry leader in aviation innovation.

Moreover, Electra's proactive approach to designing its aircraft for future upgrades, such as hydrogen propulsion and autonomy, underscores its commitment to scalability. By incorporating modular and adaptable features into its aircraft architecture, Electra ensures seamless integration of emerging technologies, allowing for swift upgrades and enhancements without compromising operational efficiency or safety. This forward-thinking strategy not only future-proofs Electra's innovation but also enables the company to stay ahead of the curve and remain competitive in an ever-evolving industry landscape.

The eSTOL technology possesses inherent scalability, which, coupled with strategic planning and forward-thinking initiatives, positions the company for long-term success and growth in the aviation sector.

Market Impact & Future Outlook

Electra's innovative eSTOL technology has already begun to make a profound impact on the regional air mobility market, reshaping the landscape of aviation connectivity and accessibility. By deploying its initial product offerings to regional air mobility operators globally, Electra has introduced a new era of air travel, providing connectivity and opportunities to numerous underserved locations. This strategic deployment has not only expanded Electra's market reach but has also significantly enhanced accessibility and mobility, catalyzing economic growth and development in diverse communities.

Looking ahead, Electra envisions further disrupting the market by expanding its product portfolio to include a fully zero-emissions solution with a hydrogen propulsion system. This evolution underscores Electra's unwavering commitment to advancing sustainability in the aviation industry, offering cleaner and more efficient air travel options to passengers worldwide. By embracing hydrogen propulsion technology, Electra aims to continue reducing carbon emissions and mitigating environmental impact, aligning with global efforts to combat climate change and promote sustainable practices in aviation.

In addition to its current achievements, Electra is exploring the application of its eSTOL technology to low-emissions large transport aircraft, signaling its ambition to address long-term concerns about emissions and environmental impact in the aviation sector. By leveraging its expertise and innovative solutions, Electra seeks to lead the way in offering cleaner and more sustainable air travel solutions, setting new standards for the industry.

Despite the potential for disruptions or changes in the industry, Electra remains optimistic about its future outlook. By proactively designing its aircraft to be upgrade-ready for hydrogen propulsion and autonomy, Electra ensures its relevance and adaptability in a rapidly evolving market. With a steadfast commitment to innovation, sustainability, and accessibility, Electra is well-positioned to capitalize on future opportunities and continue driving positive change in the regional air mobility sector, transforming the way people travel for generations to come.

Societal Impact

Electra's commitment to decarbonizing aviation goes hand in hand with its dedication to societal and environmental well-being. By introducing clean, quiet, and environmentally friendly aircraft, Electra not only reduces carbon emissions but also minimizes noise pollution, contributing to quieter and more sustainable communities. The accessibility afforded by Electra's eSTOL technology enhances mobility and connectivity, empowering individuals and communities to access essential services, employment opportunities, and educational resources.

Moreover, Electra's focus on sustainability extends beyond its products to encompass its operational practices, fostering a culture of environmental stewardship and responsibility within the aerospace industry.

Potential Roadblocks & Risks

T**echnology Implementation Risks**: Electra anticipates potential challenges in implementing blown-lift technology using distributed electric motors and hybrid-electric propulsion.

To mitigate these risks, Electra will conduct thorough testing and validation processes to ensure the reliability and performance of the technology. Additionally, close collaboration with engineering partners and suppliers will enable timely troubleshooting and refinement of technical solutions.

Infrastructure Adoption Challenges: Electra recognizes the possibility of resistance or skepticism from stakeholders regarding the adoption of eSTOL infrastructure, particularly in existing heliport facilities.

To address this, Electra is engaging in proactive stakeholder outreach and education initiatives. This includes providing comprehensive information on the benefits and feasibility of eSTOL operations and offering support for infrastructure modifications as needed to accommodate eSTOL aircraft.

Market Awareness and Investor Perception: Electra acknowledges the challenge of raising awareness and garnering investor interest in the eSTOL concept, which may still be unfamiliar to the general public and investor community.

To overcome this, Electra will prioritize targeted marketing and communication efforts aimed at educating stakeholders about the potential of eSTOL technology. This includes leveraging media channels, industry events, and demonstration flights to showcase the capabilities and advantages of eSTOL aircraft.

Regulatory Compliance and Certification: Electra is aware of the rigorous regulatory requirements and certification processes associated with introducing new aviation technologies.

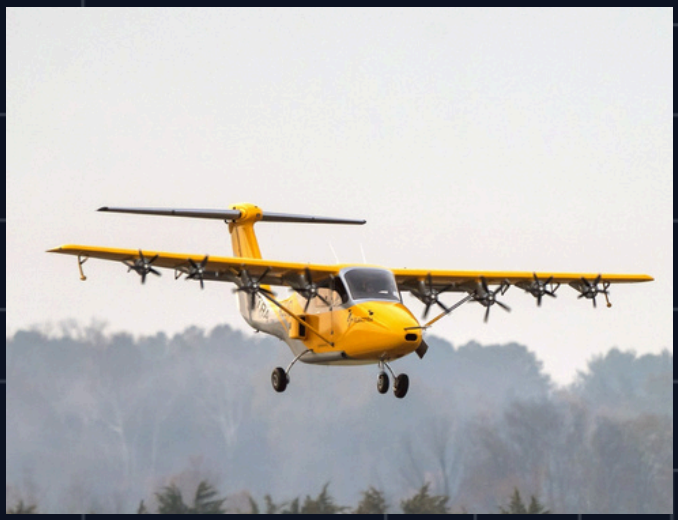
To mitigate risks related to regulatory compliance, Electra will maintain close collaboration with aviation authorities and regulatory bodies throughout the development and certification phases. By proactively addressing regulatory concerns and ensuring compliance with safety standards, Electra aims to streamline the certification process and expedite market entry for its eSTOL aircraft.

Conclusion

In conclusion, Electra's eSTOL aircraft represents a paradigm shift in the aviation industry, offering a transformative solution to urban and regional mobility challenges. With its pioneering blown lift technology, hybrid-electric propulsion systems, and commitment to sustainability, Electra is poised to revolutionize air travel, making it more accessible, efficient, and environmentally friendly. Despite potential roadblocks and risks, Electra remains steadfast in its mission to decarbonize aviation and advance urban and regional mobility on a global scale. As the company continues to innovate, collaborate, and expand its presence in the aerospace industry, the future outlook for Electra is one of immense opportunity, growth, and positive impact.

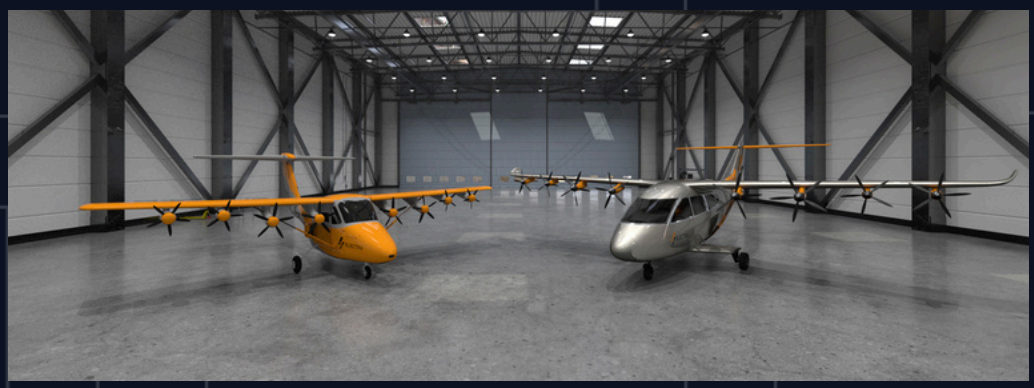
Innovation In View

How **Electra** brings innovation to life



Electra leverages innovative eSTOL technology and hybrid-electric propulsion systems to revolutionize regional air mobility.

Electra's use of AI-powered carbon accounting dashboards ensures accurate measurement and reduction of carbon emissions, contributing to environmental sustainability.



Contributors

The FutureList

Della Asiko
Climate & Mobility Research Analyst

Eric Kamande
Research Specialist

Electra

Diana Siegel
CFO

John Langford
Founder & CEO

The FutureList

Notes
on our methodology

About The FutureList

The FutureList is dedicated to identifying and linking innovative technology companies with the investors, talent and strategic growth partners they need to rapidly scale their innovation. The FutureList leverages its network of local Innovation Scouts, a comprehensive online platform, and curated events to rapidly spot and match opportunities. The FutureList network has already profiled over 6,000 innovative companies, investors and partners globally.

We scout across a broad range of sectors in tech, aiming to identify the most innovative startups globally. This includes everything from AI to biotech, renewable energy, and more. The 10 categories we currently focus on are: Agriculture (farming, food, beverages, crops, forestry, aquaculture, livestock, irrigation, veterinary, etc.), Climate (electricity, energy, environment, renewables, recycling, circular economy, carbon credits, cleantech, etc.), Education (e-learning, school management, assessments, upskilling, tutors, languages, etc.), Enterprise (legal services, AI, cyber security, market research, recruitment, HR, customer success, consulting, SaaS tools, business analytics, etc.), Finance (banking, capital, trading, lending, personal finance, insurance, crypto, real estate, etc.), Health (medicine, biotech, medical equipment, pharmaceuticals, public health, digital health, hospitals, health records, wellness, fitness, beauty, etc.), Infrastructure (architecture, materials, computer networks, safety, law enforcement, construction, data centers, machinery, telecom, wireless internet, manufacturing, etc.), Media (marketing, influencers, animation, arts, gaming, fashion, content, platforms, music, publishing, translation, editing, etc.), Mobility (delivery, transportation, etc.), and Supply Chain (e-commerce, warehousing, logistics, retail, etc.)

About Our Innovation Scouts

Our Innovation Scouts are experienced professionals from diverse sectors with a keen eye for groundbreaking technologies and business models. They undergo rigorous training to ensure they provide maximum value to the startups they work with. They conduct their research on a volunteer basis. We have strict ethical guidelines in place. Any Scout with a potential conflict of interest is recused from the process to ensure fairness and objectivity.

About Our Innovation Memos

Innovation Memos provide a comprehensive profile of an innovator, whether its a startup, hub, investor or more established corporate, highlighting technological and business model innovations. The Memo is written in direct consultation with a verified representative from that entity, and also outlines suggestions around how to rapidly scale their innovation further through use of The FutureList's network. Once published, the Memo accessible to our network of investors, partners, and the general public for free on our platform. The Memo process is completely free for the companies featured as well. The entire process, from initial contact to publishing the Innovation Memo, typically takes about 4-6 weeks, but this can vary based on the startup's availability and responsiveness. Our goal is to promote and scale innovation globally. The FutureList platform and events are sponsored by partners.

Scaling Innovation

How **The FutureList** identifies and scales innovation globally

Ecosystem and sector mapping

Our Innovation Scouts identify the most innovative early-stage and growth-stage tech companies across key sectors in tech hubs around the globe.

Innovation memos and platform profiles

Our Innovation Scouts interview founders and tech executives to publish innovation memos and create a comprehensive company profile on our public online platform.

Introductions to strategic opportunities

Our Innovation Scouts share company profiles with relevant investors and strategic growth partners across our global ecosystem, and facilitate warm introductions where requested.

Private dinners and fireside chats

Our exclusive evening events bring together founders, tech executives and other special guests for networking and interactive discussions around technology and innovation.

Global summits & learning trips

Featured companies will be invited to larger annual events held at the regional and global stage that connect the most innovative companies with opportunities for further visibility.

Sponsor

The FutureList platform and events are sponsored by partners.

Sand Technologies, a global technology services company with presence across Silicon Valley, France, the UK, Romania, and several emerging markets, is at the forefront of supporting scale-ups worldwide in overcoming the challenges of rapid growth. We're currently aiding businesses in the United States, New Zealand, Denmark, the Netherlands, the UK, the UAE, South Africa, Kenya, and numerous other locations in developing scalable technology products, constructing world-class tech teams, enhancing revenue generation, and elevating customer satisfaction.

Learn more at www.sandtech.com

The FutureList

www.thefuturelist.com