



CTO SPECIAL REPORT 2025

RECOGNISING INDIVIDUAL EXCELLENCE
AND ACHIEVEMENT IN THE GLOBAL
ADVANCED AIR MOBILITY MARKET

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INTRODUCTION



As Advanced Air Mobility accelerates toward commercial reality, the role of the Chief Technology Officer (CTO) has never been more critical.

In a sector defined by rapid innovation, regulatory complexity, and evolving public expectations, CTOs stand at the helm of technological leadership—shaping the future of flight through vision, precision, and resilience.

The eVTOL Insights CTO Special Report explores the pivotal contributions of these technology leaders across the AAM ecosystem. From driving the development of eVTOL aircraft to ensuring cybersecurity, software integrity, and sustainable design, CTOs are not just technologists — they are strategic architects navigating the intersection of science, safety and scalability.

In this year's publication, we shine a spotlight on the individuals who are transforming bold ideas into operational realities. Through exclusive insights, interviews, and analysis, we examine how today's CTOs are overcoming technical hurdles, forging industry partnerships, and charting a path toward a more connected and accessible airspace.

As the AAM sector matures, the voice and vision of the CTO will continue to shape its trajectory. This report captures that moment of transformation—and the minds leading it.

And on a separate note, you'll see there are more details about eVTOL Insights' upcoming events in 2025. First stop will be a Leaders' Lunch before the Paris Air Show this month, then we'll be heading to Munich for our Europe Conference in September, another Leaders' Lunch before the Dubai Air Show in November then concluding with our Asia-Pacific Conference in Brisbane, Australia in December.

Early bird tickets are already on sale for Munich and Brisbane, so please head to our website for more details. Speaker and sponsorship packages are also available, so please email sam.bromley@iigroup.global for more information.

JASON PRITCHARD
EXECUTIVE EDITOR,
eVTOL INSIGHTS

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STEVEN PHILPOTT
CTO, eVertiSKY



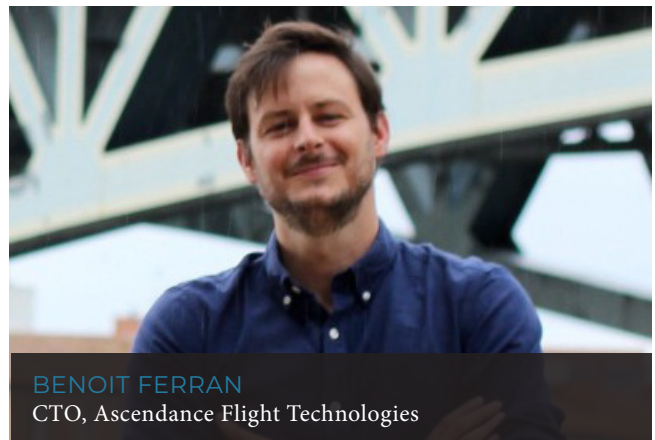
DR DAVID CHURCHILL
CTO, BETA Technologies



CHRIS TOWNSED
Team Member, BETA Technologies



TOM BRASSINGTON
CTO, Horizon Aircraft



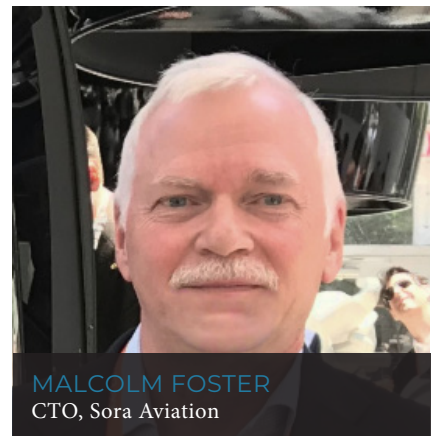
BENOIT FERRAN
CTO, Ascendance Flight Technologies



MATTHEW SMITH
Director of Certification &
Airworthiness, AIR EV



JONATHAN HESSELBARTH
Co-founder & CTO, Wingcopter



MALCOLM FOSTER
CTO, Sora Aviation



BENJAMIN STABLER
CTO, Heart Aerospace



DR. JOSEF KALLO
CTO, H2FLY



JEF GEUDENS
Head of Technology,
Skyports Drone Services



STEVEN PHILPOTT

CTO, EVertiSKY

While much of the AAM industry is only now converging on “sector-based” airspace models, Steven designed and operationalized these frameworks years ago—and his work continues to shape foundational AAM systems at both urban and federal levels.

Steven is the originator of the 4D Trajectory Reference Block (4DTRB) model—a geospatial reference and digital airspace construct used for routing, real-time airspace command and control, compliance, billing, and API-available microservices such as public safety and microclimate integration. The 4DTRB acts as the adapter between UAM-enabled regions and informed capacity and trajectory management.

This framework is implemented in eVertiSKY’s eSkyBridge and CityAPI platforms—commercial deployments based on NASA’s UTM architecture, designed to scale rapidly across city infrastructure.

Each standard 4DTRB—typically a 3 square mile, 500-foot high volumetric cell—is populated with stakeholder- and mission-driven attributes. The 4DTRB is quite literally the building block of urban-scale infrastructure for vertiports, active digital twins, and UAM airspace commercialization.

Steven works within advanced aviation engineering teams including the ASTM/NASA UTM API Working Group, which is defining the global interoperability standard for drones and eVTOLs.

The group is scheduled to vote on the initial set of rules governing how aircraft, municipal systems, and traditional aviation platforms communicate safely and consistently. When efficiently implemented within city systems, this standard will become the foundation for global AAM scalability.

Steven’s contributions extend well beyond system design. His block-by-block approach to digital airspace management supports broader economic development through intelligent infrastructure.

eVertiSKY backs real-world testbeds that combine airspace operations with urban mobility zones—advancing workforce opportunities, community engagement, and public-private transparency. In effect, Steven has pioneered the integration of UAM into cities as a digital utility, moving AAM from a hardware-centric vision to infrastructure-ready execution.





DR. DAVID CHURCHILL

CTO, BETA TECHNOLOGIES

David is the Chief Technology Officer at Beta Technologies and leads the engineering team. Before joining Beta, he was the Engineering Director for the Sensing Systems business unit of LORD Corp.

While there he led research and development efforts resulting in innovative new product lines including energy harvesting systems and inertial sensors for aerospace applications. He began his career as a young engineer carrying out R&D for the V-22 Osprey program at Boeing Helicopter Co.

He subsequently earned a Ph.D. in composite materials targeted for use in Total hip and total knee replacement implants. He joined the faculty at the University of Vermont in the Orthopaedics Department where his group carried out key research leading to highly successful knee replacement designs. David earned his private pilot's license while at Beta and has over 300 flight hours.



CHRIS TOWNSEND

TEAM MEMBER, BETA TECHNOLOGIES

Chris leads the team responsible for the flight control system for ALIA. Before joining BETA, he served as the Vice President of MicroStrain, a sensor company that was acquired by a leading aerospace company, LORD Corporation.

During his tenure at MicroStrain, Chris played a pivotal role in overseeing the development of several product lines, including the company's wireless sensing division. Subsequent to the acquisition by LORD, he took on the leadership of the embedded sensing team.

After LORD, Chris was at Asic North, Inc., where he led a team that successfully developed an ARM microprocessor-based integrated circuit specifically designed for processing sensor data. Chris holds over fifty patents in sensing systems and fly by wire (FBW) flight controls.

He obtained a degree in Electrical Engineering from the University of Vermont.





TOM BRASSINGTON

CTO, HORIZON AIRCRAFT

Tom is an exceptional technology leader driving innovation in Advanced Air Mobility (AAM) through his visionary work on hybrid-electric propulsion systems and real-world eVTOL design.

As CTO of Horizon Aircraft, Tom leads the development of the Cavorite X7, a revolutionary hybrid-electric eVTOL platform designed for practical, safe, and scalable regional air mobility.

What sets Tom apart is his rare combination of deep technical expertise and pragmatic engineering leadership. His approach is grounded in real-world constraints—payload, range, safety, certification—and informed by more than a decade of experience in advanced aerospace systems.

Under his guidance, Horizon has moved from concept to the development of a full-scale piloted demonstrator with impressive speed and discipline, navigating the complex intersection of aerodynamics, electric propulsion, flight controls, and systems integration.

Tom's leadership is especially evident in the way Horizon has tackled one of the most critical bottlenecks in eVTOL development: energy and power system limitations.

By championing a hybrid-electric approach with a strong focus on system redundancy, maintainability, and certification viability, Tom has positioned Horizon's technology as one of the few credible paths toward near-term piloted operations.

Importantly, Tom's leadership extends beyond the engineering lab. He's an effective communicator and advocate for the responsible advancement of AAM technologies.

Whether engaging with regulators, investors, or the broader aerospace community, Tom consistently represents the kind of grounded, systems-level thinking the industry needs to achieve safe and certifiable eVTOL flight.

In a field often marked by hype, Tom Brassington's disciplined, systems-based approach stands out. His work is not only accelerating the timeline for real-world eVTOL deployment, but also helping define what a mature, certifiable AAM platform should look like.





BENOÎT FERRAN

CTO, ASCENDANCE FLIGHT TECHNOLOGIES

Benoît Ferran is Co-founder and Chief Technology Officer (CTO) of Ascendance, a French aerospace startup dedicated to pioneering sustainable aviation solutions.

With over a decade of experience in electric and hybrid propulsion systems, Ferran has been instrumental in advancing cleaner alternatives to conventional aircraft.

He subsequently contributed to various roles emphasizing electric propulsion, including positions at ACS Aviation, Zodiac Aerospace, and notably Airbus, where he served as the E-FAN Flight Performance Leader. The E-FAN project was among the first all-electric aircraft initiatives, marking a significant milestone in sustainable aviation.

In 2018, Ferran co-founded Ascendance Flight Technologies alongside three former Airbus colleagues. The company is developing Atea, a five-seat vertical takeoff and landing (VTOL) aircraft powered by Sterna, their proprietary hybrid-electric propulsion system. Atea aims to reduce carbon

emissions by up to 80 per cent and noise levels by a factor of four compared to traditional helicopters, targeting applications in passenger transport, logistics, emergency services, and surveillance.

Beyond aircraft development, Ferran is a co-inventor of ten patents related to electric and hybrid propulsion technologies. His work at Ascendance encompasses both technical leadership and strategic direction, guiding the company through design, certification, and industrialization phases.

Under his leadership, Ascendance has garnered recognition, including the Les Essaimés Prize from Airbus Développement in 2024, acknowledging its innovative contributions to the aerospace sector.





MATTHEW SMITH

DIRECTOR OF CERTIFICATION & AIRWORTHINESS, AIR EV

Matthew brings more than 30 years of invaluable aerospace experience and has played a pivotal role in the FAA certification of many new and novel aircraft.

Prior to joining AIR, Matthew managed the certification of multiple Department of Defense (DOD) aircraft, directed the engineering department at Gulfstream Aerospace, and served as the lead FAA Organizational Delegation Authorization (ODA) administrator on the certification of numerous aircraft.

He was also a key figure in certifying groundbreaking aerospace innovations, including the first high-speed internet aboard a commercial aircraft, the world's first synthetic vision system for an aircraft, and the first FAA Technical Standard Order (TSO) Class III Electronic Flight Bag.

At AIR, Matthew has been integral in advancing the company's eVTOL technology. After successfully completing all phases of flight testing and delivering the first aircraft to a customer, AIR is now shifting operations and R&D efforts to the United States.

AIR's growing list of strategic partnerships, including with the US Air Force's Agility Prime, is

key to demonstrating the increasing demand for AIR ONE across multiple sectors. Additionally, AIR's partnership with Nidec, a global leader in electric motors, ensures that AIR's aircraft benefit from motor technology that meets performance and safety standards, further enhancing reliability and capabilities.

Matthew has also played an instrumental role in the development of AIR ONE Cargo, the unmanned variant of AIR's eVTOL, which opens up significant opportunities for commercial sectors like logistics. By expanding the potential of eVTOL technology, AIR has showcased Matthew's leadership in reshaping the air mobility landscape.

His work has been critical in helping AIR create a new category of aircraft that blends aerospace and automotive technologies to simplify air travel. The growing waitlist for AIR ONE and its \$17M in cargo unit purchase orders further demonstrate the demand for AIR's innovative solutions.





JONATHAN HESSELBARTH

CO-FOUNDER AND CTO, WINGCOPTER

With a lifelong passion for aviation and innovation, Jonathan has been instrumental in developing Wingcopter's proprietary tilt-rotor technology, which enables drones to combine the vertical takeoff capabilities of multicopters with the efficiency and speed of fixed-wing aircraft.

He spent much of his youth at airfields and began building and flying drones during his school years. While studying mechanical engineering, he joined the Akaflieg aviation club, where he collaborated on prototypes of aircraft capable of vertical takeoff and forward flight.

His early work led to the creation of a drone with a two-meter wingspan and four rotors, capable of transitioning from hover to fast gliding flight—a design that would become the foundation for Wingcopter's technology.

In 2017, Hesselbarth co-founded Wingcopter alongside Tom Plümmer and Ansgar Kadura. The company has since developed drones like the Wingcopter 178 and the Wingcopter 198, the latter featuring a unique triple-drop delivery system and advanced detect-and-avoid capabilities.

These innovations have positioned Wingcopter as a leader in drone-based logistics, with applications ranging from medical supply deliveries in remote regions to commercial parcel distribution.

Under Hesselbarth's technical leadership, Wingcopter has achieved significant milestones, including setting a Guinness World Record for the fastest remote-controlled tilt-rotor aircraft and securing partnerships for humanitarian missions in Africa and the South Pacific. The company's drones have been deployed to deliver critical supplies in challenging environments, demonstrating the practical impact of Hesselbarth's engineering expertise.

As CTO, Hesselbarth continues to drive innovation at Wingcopter, focusing on enhancing the performance, safety, and scalability of drone technology to meet the growing demands of global logistics and emergency response.



WINGCOPTER



MALCOLM FOSTER

CTO, SORA AVIATION

Malcolm has more than 40 years' experience in aircraft & helicopter design. He started his career at Piper on the Mojave before moving to Beech to work on the Starship 2000.

He then went to Bell and started on the V-22 followed by a 20 year career at Bell, where he ended up as the Chief of Product Definition and was heavily involved in the preliminary design of the 609 tiltrotor, the Quad Tiltrotor and what later became the 429 helicopter.

Malcolm then moved to AgustaWestland as a Programme Manager before then moving to GKN where he ended up as the Director of Special projects.

He was GKN's Chief Engineer on the Eviation Alice project, the Chief Aircraft Designer for the UK Aerospace Technology Institute's FlyZero programme and also has a lifetime achievement award from the Vertical Flight Society.

Most importantly, Malcolm uses his wealth of aircraft design experience to ensure the next generation of engineers are equipped with the knowledge and tools to continue innovating new solutions.





BENJAMIN STABLER

CTO, HEART AEROSPACE

Benjamin is Chief Technology Officer (CTO) at Heart Aerospace, a Swedish aerospace company pioneering hybrid-electric regional aircraft.

Appointed in May 2024, Stabler brings extensive experience in developing advanced transportation technologies, including leadership roles at SpaceX and as co-founder of Parallel Systems.

At SpaceX, Stabler led hardware and software teams on the Crew Dragon program, contributing to the development of safe and high-performing spacecraft. He later co-founded Parallel Systems, a company focused on creating automated, battery-electric freight rail vehicles, showcasing his commitment to sustainable transportation solutions

In his role at Heart Aerospace, Stabler oversees the technical development of the ES-30, a 30-seat hybrid-electric aircraft designed for regional travel. The ES-30 aims to offer a fully electric range of

200 kilometers and an extended hybrid range of 400 kilometers, targeting reduced emissions and operating costs.

Based in Los Angeles, Stabler leads Heart Aerospace's U.S. Research and Development hub, collaborating closely with the company's headquarters in Gothenburg, Sweden. His leadership is instrumental as the company enters a new phase of hardware testing, with plans to demonstrate fully electric flight in the near future .

Stabler holds a Master of Science in Electrical Engineering from Stanford University . His career reflects a consistent focus on advancing sustainable and innovative transportation technologies.





DR. JOSEF KALLO

CTO, H2FLY

H2FLY is a Stuttgart-based company pioneering hydrogen-electric propulsion systems for aviation. With a background in electrical engineering and a passion for sustainable flight, Dr Kallo has been instrumental in advancing zero-emission technologies.

His career began with a focus on fuel cell electric vehicles at General Motors. He later joined the German Aerospace Center (DLR), overseeing electrochemical systems integration, including fuel cells, batteries, and propulsion for aircraft.

In 2014, he became the Institute Director for Energy Conversion and Storage at the University of Ulm. Combining his academic and industry expertise, Kallo co-founded H2FLY in 2015, aiming to develop and commercialize hydrogen-electric propulsion systems for aircraft.

Under Kallo's leadership, H2FLY achieved significant milestones, including the world's first piloted flight of an electric aircraft powered by liquid hydrogen in September 2023. The company also developed a high-performance fuel cell system for Joby Aviation's hydrogen-electric eVTOL aircraft.

In 2021, H2FLY was acquired by Joby Aviation, further solidifying its position in the sustainable aviation industry.

As CTO, Kallo continues to drive H2FLY's technological advancements, focusing on early-stage technology development and strategic partnerships. He is also involved in collaborative projects, such as the BALIS 2.0 initiative, which aims to upscale H2FLY's H2F-175 powertrain to 340 kW, serving as a foundation for megawatt-class propulsion systems.

Beyond his role at H2FLY, Kallo remains active in academia as a professor at the University of Ulm and serves as the Principal Investigator at the Helmholtz Institute for Electrochemical Energy Storage. His work continues to shape the future of sustainable aviation, emphasizing the potential of hydrogen-electric propulsion systems to revolutionize air travel.





BENJAMIN STABLER

CTO, HEART AEROSPACE

Jef Geudens is the Head of Technology at Skyports Drone Services, a global leader in complex BVLOS (Beyond Visual Line of Sight) drone operations across diverse sectors including B2B delivery, infrastructure inspection, and surveillance.

Joining Skyports in 2018 as one of its first employees, Jef played a pivotal role in shaping the company's early trajectory. He led the development of its first prototype medical drone delivery service, secured initial BVLOS regulatory approvals, and established Skyports' foundational flight operations framework. His efforts culminated in the UK's first medical drone delivery flights for the NHS in 2020 - a national milestone.

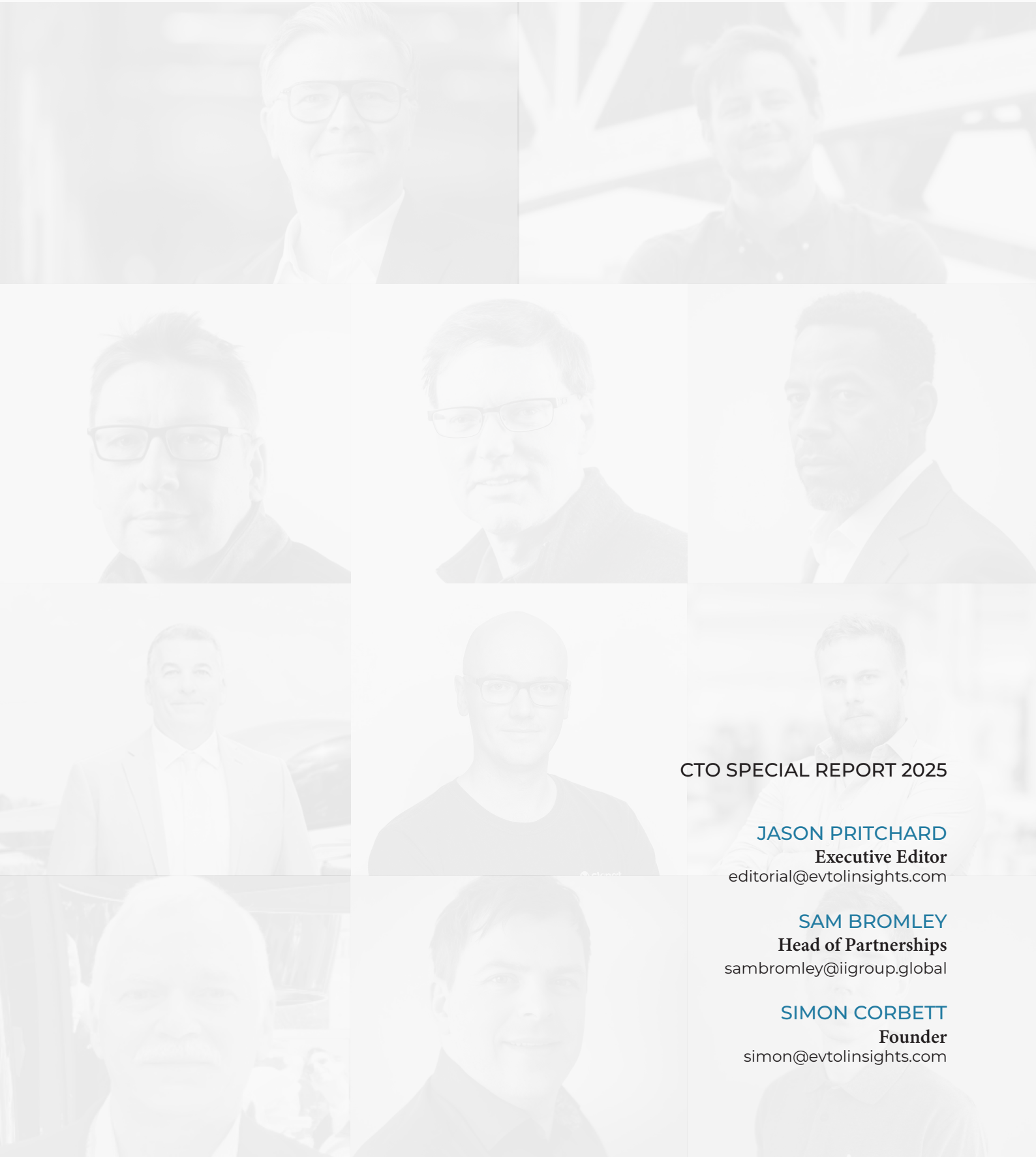
Jef has since overseen major advancements in commercial drone logistics. Under his leadership, Skyports became the first to conduct routine offshore delivery flights to oil & gas platforms for Equinor in the North Sea, and to launch a ship-to-shore drone logistics capability in Singapore. He

has represented Skyports in several government-led innovation projects, contributing to the evolution of an integrated airspace CONOPS.

Today, Skyports holds BVLOS approvals in over 14 countries and operates a fleet ranging from sub-25kg multirotor UAVs to the world's largest fully electric fixed-wing cargo drone.

Prior to Skyports, Jef was an aviation management consultant with ICF International, managing strategy, M&A, and market intelligence engagements for aerospace OEMs and private equity clients. He holds both Bachelor's and Master's degrees in Aerospace Engineering from Delft University of Technology in the Netherlands.





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