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Autoflight's 'Prosperity I' is a significant milestone in eVTOL technology



Mark Robert Henning is Managing Director, AutoFlight Europe, where he spearheads the design and certification of the eVTOL aircraft, Prosperity I. With 27 years of experience in the aviation industry, Henning has built a formidable reputation as an aeronautical engineer, having graduated from Munich's Technical University. Throughout his career, he has been instrumental in the construction and certification of various aircraft types.

Henning's unwavering dedication and expertise continue to drive the progress of AutoFlight Europe, propelling the eVTOL industry forward and reshaping the landscape of urban air mobility.

As the aviation industry enters a transformative era, the rise of electric Vertical Takeoff and Landing (eVTOL) aircraft brings about exciting possibilities for transportation.

Brian Cartwright, Client Partner, Global Supply Chain Solutions, Pedersen & Partners, and a regular contributor for **Global Supply Chain**, recently spoke to **Mark Robert Henning, Managing Director, AutoFlight Europe**, a leading player in the eVTOL space.

In this exclusive interview, Henning shares insights into AutoFlight's groundbreaking 'Prosperity I', the challenges faced by aviation suppliers in adapting to this new development, the influence of automotive suppliers, and the crucial role of an efficient and scalable supply chain.

Global Supply Chain (GSC): AutoFlight has been at the forefront of eVTOL development. Can you tell us more about Prosperity I and its significance in the industry?

Mark Robert Henning (MRH):

The Prosperity I represents a significant milestone in eVTOL technology. It embodies advanced electric propulsion systems, cutting-edge autonomous capabilities, and an aerodynamically optimized design that prioritizes safety and efficiency.

With a range up to 250 kilometres and the capacity to transport up to four passengers and a pilot, it signifies the realization of our vision for sustainable urban air mobility and has the potential to revolutionize the way we travel.

GSC: With the rapid advancement of eVTOLs, what challenges do you anticipate aviation suppliers will face in adapting to this new development?

MRH: The aviation supply chain will undoubtedly encounter various challenges in this new era. One of the most critical aspects is the establishment of an efficient and scalable supply chain. As the demand for eVTOLs rises, suppliers must ensure timely and reliable access to components, systems, and raw materials.

The challenge lies in meeting increased production volumes, maintaining quality control, and optimizing costs, all while

adhering to stringent aviation regulations.

GSC: What can aviation suppliers learn from automotive suppliers in terms of mass production processes?

MRH: Automotive suppliers have excelled in streamlining their production lines to meet market demands. Their expertise in efficient manufacturing, supply chain management, and cost optimization is invaluable.

Aviation suppliers can draw inspiration from automotive practices to achieve faster production cycles, reduce costs, and ensure consistent quality across their operations. Collaboration between the two industries can foster knowledge exchange, driving innovation and expediting progress in the eVTOL sector.

GSC: With a global reach, how can the industry manage the supply chain and service locally to ensure efficiency and avoid delays or logistical challenges?

MRH: It is crucial to efficiently manage the global supply chain while providing localized services. Advanced supply chain management tools, such as blockchain technology, can enhance transparency, traceability, and efficiency across the supply chain.

At AutoFlight we are working on these projects and trying to learn from different industries. For example, learning from the telecommunications sector, where global companies maintain local service centres, can help address logistical challenges and ensure timely support for eVTOL operations.

GSC: Considering the challenges faced by the eVTOL industry, how can issues such as customer service and Maintenance, Repair, and Overhaul (MRO) be addressed to ensure timely delivery of replacement parts?

MRH: Customer service and MRO are great challenges as the global reach of the eVTOL operations will demand innovative solutions. The industry will need to work with advanced tracking and logistics systems to streamline part deliveries. Additionally, adopting predictive maintenance technologies and leveraging data analytics can enhance MRO operations, enabling proactive maintenance and

minimizing downtime.

Also, in these are eVTOL companies can learn from best practices in the automotive industry such as just-in-time manufacturing and after-sales support to streamline production. By establishing strategic partnerships with trusted suppliers and service providers, we can streamline the supply chain, expedite parts delivery, and maintain rigorous quality control standards to meet the needs of our customers.

GSC: In the aerospace industry, counterfeit or unapproved parts can be a concern.

How can the industry tackle the issue of bogus parts to maintain the highest standards of safety and reliability?

MRH: In the helicopter industry we encountered the issue of bogus parts. Being a new industry the eVTOL ecosystem might face similar challenges with counterfeit flight parts, which can only be talked about through a multi-level approach. This should include strict supplier vetting processes, including thorough audits and certifications.

Leveraging emerging technologies such as RFID tags or digital twins can enhance traceability throughout the supply chain. Finally implementing rigorous testing procedures for every part will be important to ensure the highest safety levels.

GSC: In light of the challenges and opportunities discussed, what do you see as the key to establishing a successful supply chain for the eVTOL industry?

MRH: Building a successful supply chain for the eVTOL industry requires collaboration, innovation, and adaptability. Suppliers must actively engage in partnerships, exchange knowledge, and embrace new manufacturing techniques.

It is crucial to establish robust quality control processes, optimize logistics and inventory management, and invest in advanced manufacturing technologies. Also, regional distribution centres and service hubs can help to reduce transportation costs, optimize inventory levels, and provide fast support to our customers.

GSC: AutoFlight recently achieved a world record in the eVTOL field. Could you share some details about this accomplishment?

ELECTRIC VERTICAL TAKEOFF AND LANDING (EVTOL)

MRH: Indeed, we are proud to have set a world record for the longest eVTOL flight. Our Prosperity I aircraft completed a non-stop, autonomous flight of 250.5km on a single battery charge in February 2023.

This achievement underscores the progress we have made in extending the range and endurance of eVTOLs. It not only paves the way for longer-distance urban air mobility applications but also

demonstrates the feasibility of electric aviation as a sustainable transportation solution.

GSC: Finally, as the industry evolves, do you see a shift from transportation of people to cargo logistics in the eVTOL sector?

MRH: Absolutely. While passenger transportation remains an exciting prospect

for eVTOLs, the cargo logistics segment holds immense potential. eVTOLs can offer swift and efficient delivery of goods, reducing road congestion and enhancing supply chain operations.

From medical supplies to urgent spare parts, eVTOLs have the capacity to revolutionize last-mile logistics and time-critical deliveries, making a profound impact on various industries.



Brian Cartwright is Client Partner, Global Supply Chain Solutions at Pedersen & Partners. He specialises in Board, CXO and Senior Executive Search, leveraging over 20 years of experience in business leadership, executive search, and strategic advisory.

He leads the firm's Global Supply Chain Solutions Practice, is a leading member of the Aerospace, Defence & Intelligence team and is a member of the Automotive & E-Mobility Practice Group.

Cartwright partners with listed and privately-owned enterprises, helping them build management teams that raise the bar to transform and improve supply chains and improve the organisations' capability, efficiency, and service levels across the entire value chain.