OMNI HELICOPTERS INTERNATIONAL

OHI Perspectives

Developing Brazil´s Low Altitude Economy- What It Takes to make "Back to the Future" a Reality.

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The rise of electric vertical take-off and landing (eVTOL) vehicles promises to revolutionize transportation by offering a cleaner, faster, and more efficient means of commuting. These futuristic aircraft, capable of taking off and landing vertically, are designed to reduce congestion, particularly in urban areas, by operating in the skies rather than on congested roads. They are part of what is known as the "Low Altitude Economy" which refers to the economic activities and industries centred around civil manned and unmanned aerial vehicles operating at low altitudes, typically below 1000 meters. For this to take off, eVTOLS play an important part as they need to move from concept to widespread commercial use meaning that an entire ecosystem needs to be developed. This ecosystem must encompass regulatory frameworks, infrastructure, technological innovation, operational standards, and public acceptance. At OHI and in particular Revo, we are committed to supporting the development of this new ecosystem that will revolutionize urban mobility in megacities.

At the heart of the eVTOL ecosystem are the vehicles themselves. eVTOLs rely on advancements in several key technologies, including electric propulsion, battery technology, automation, and lightweight materials. The design and functionality of these aircraft are vastly different from traditional helicopters or fixed-wing planes due to their reliance on electric motors and batteries for propulsion.

For eVTOLs to become commercially viable, there must be a robust regulatory framework that ensures the safety and airworthiness of these new aircraft. Regulatory bodies, such as the Federal Aviation Administration (FAA) in the United States and the European Union Aviation Safety Agency (EASA) and ANAC in Brazil are currently working on adapting existing rules for fixed-wing planes and helicopters to accommodate the unique requirements of eVTOLs. These regulations must cover a range of concerns, including pilot certification, airspace management, noise regulations, and battery safety standards.

In addition to safety regulations, Advanced Air Mobility (AAM) presents a novel challenge in terms of air traffic management. Revo is well positioned to support the development of new technologies to address this issue using its relevant accumulated experience operating in São Paulo´s dense helicopter space with our door-to-door shuttle services. Traditional air traffic control systems will need to adapt to manage the volume and complexity of hundreds or

thousands of eVTOLs operating in dense urban environments. Thus, new systems that incorporate automation, artificial intelligence, and real-time data from eVTOLs must be developed to ensure safe and efficient airspace management.

Infrastructure is another critical aspect of the eVTOL ecosystem. Unlike traditional aircraft that operate from airports, eVTOLs require vertiports – specialized landing pads located in strategic urban and suburban locations. These vertiports need to be integrated into existing transportation hubs, such as train stations, airports, or even rooftops of large buildings, allowing for seamless transitions between ground and air travel. Furthermore, the infrastructure needs to include charging stations capable of rapidly charging eVTOL batteries between flights. To support the widespread use of eVTOLs, cities will need to plan for multiple vertiports and associated facilities like maintenance depots, ensuring that eVTOL services can scale efficiently.

Public acceptance is key for the adoption of this new technology. While the idea of flying cars has long captured the imagination of the public, real-world implementation brings concerns about safety, noise, cost, and convenience. For example, potential passengers may have concerns about the safety of new, unproven aircraft technologies, especially those that involve automation.

To foster public confidence, stakeholders need to engage in outreach campaigns that emphasize the safety and efficiency of eVTOLs. Clear communication about the regulatory oversight, safety redundancies, and environmental benefits of eVTOLs will be crucial in building trust, much alike to what we have been building on for Revo. Furthermore, as eVTOL technology becomes more affordable and widespread, companies will need to offer pricing models that make these services accessible to a broad customer base, rather than being seen as a luxury service for only the wealthy.

eVTOLs are marketed as a cleaner alternative to traditional transportation, given their reliance on electric propulsion. This positions them as a potential solution to reduce the carbon emissions associated with urban traffic. However, to realize their full environmental benefits, eVTOLs must run on electricity generated from renewable sources. In Brazil most of the electricity comes from renewable sources, positioning the country to be able to maximize the positive environmental impact of this solution.

The development of an ecosystem for eVTOLs represents an exciting opportunity to transform urban transportation, offering solutions to congestion, pollution, and inefficiency. This transformation is contingent on the successful integration of technology, regulatory frameworks, infrastructure, and public acceptance. Each of these components must work in tandem to create a seamless, safe, and sustainable eVTOL ecosystem that can scale globally. The potential for a cleaner, faster, and more connected future is driving rapid advancements in this space, and we are proud to contribute to bringing the reality of advanced air mobility closer!