

Hartzell Propelling the Future of Electric and Advanced Air Mobility Aircraft

It is not an embellishment to say that this current moment represents the dawn of a new era in aerospace and aviation. Innovations in electrification, materials, manufacturing and more are enabling aircraft designs that promise to create new markets and transform existing ones. Hartzell propeller, the global leader in advanced propeller design, manufacturing and certification, is investing to bring the future of Advanced Air Mobility aircraft more quickly, and safely, to the skies.

Will we ever see these new aircraft fly consistently?

The aircraft industry has long held itself to the highest standards, rightfully so, as the responsibility of transporting people and goods throughout the airspace above us requires safety and assurance.

The advanced air mobility marketplace will undoubtedly create many successful aircraft, but certification in aviation can be challenging, capital-intensive, and with long horizons. The promise of advanced air mobility (AAM) hinges on numerous fresh technologies as well as regulatory, infrastructure, and public acceptance requirements. *“It’s closer than we think,”* says Hartzell president JJ Frigge.

“Advanced Air Mobility is an aviation evolution; not a revolution. As a 105-year-old global technology company with hundreds of airworthy certified propellers, we’ve become the most trusted name in aircraft propellers and have always lead the way in innovation.”

Society’s global footprint

Globally, aircraft account for around 2.5% of CO2 emissions, and while aviation’s impact on the environment can’t be ignored, neither should its contributions to local and global economies. Aviation plays a vital role in connecting businesses and industries, as well as providing a transportation lifeline to remote communities around the globe.

While hybrid-electric, all-electric and hydrogen powered aircraft are more environmentally-friendly, flight hours also become more affordable. Small(er)

aircraft, in particular, are expected to offer significant cost-savings on shorter trips when powered by these emerging propulsion systems.

Tracking the OEM's

Keeping our fingers on the pulse of the burgeoning next frontier of aviation, Hartzell currently tracks hundreds of developing advanced air mobility programs.

Leveraging our established record of custom engineering design and support, we've already provided test hardware on some of the most promising development projects around the globe. While we can't identify all of our partner OEM's projects, we can share our partnership with Eviation and their Alice aircraft.

Eviation Aircraft launched its all-electric "Alice" with the delivery of the first electric propulsion unit supplied by its sister company, magniX. Designed from the ground up for electric flight, "Alice" is equipped with components from world-class aviation partners, including custom-built, 5-blade structural composite Hartzell propellers.

"Alice' is the epitome of the future of air transportation. All-electric by design, taking advantage of light-weight, powerful, and reliable propulsion systems," said Roei Ganzarski, former CEO of magniX, in a release. *"Together, we will enable a great flying experience – zero emissions, quieter, lower cost, all from and to airports closer to more communities."*

Investing in aviation's next generation

Propeller blades for this new generation of aircraft are invariably composite because of their need to be lightweight, and Hartzell has extensive experience building composite propellers dating to the 1970's. But performance at Hartzell Propeller is a moving target, so when a better solution is sought, we design it.

Hartzell is working closely with several OEM's to fine-tune their propeller applications, and after significant investments, the development of a shank-less system to reduce propeller weight is set to debut in the next year. Hartzell has dedicated tens of thousands of engineering hours to electric and hybrid aircraft

since 2019, and continues to make advancements in tooling, manufacturing processes, and materials. And in order to remain the global leader in aircraft propellers, Hartzell has made several hires for these emerging technologies including strategists, technologists and engineers.

Getting to the skies safer and more reliably

Hartzell Propeller is uniquely qualified to assist in the creation of custom solutions for next-generation aircraft.

Our industry leading team of mechanical, aerodynamic, and structural engineers have guided the aerospace industry for more than a century. Using an innovative blend of sophisticated engineering analytics, and holding an Organization Designation Authorization (ODA) from the FAA, Hartzell produces and certifies a wide range of products that utilize both lightweight, advanced structural composites and aerospace-grade aluminum alloys.

Most importantly, partners of Hartzell have received hundreds of certified propeller designs, so we know what to expect from the governing bodies. We pride ourselves on working closely with our partners through the entire process, from conception, design, and development to testing, certification, and beyond.

We know what it takes to turn ambitious ideas into reality. Our propeller technology is behind some of the world's most revolutionary aircraft designs. Whether you're working on an all-electric airplane, a hybrid-electric retrofit, or an eVTOL advanced air mobility design, we look forward to partnering with you to propel us all into the future ([learn more here](#)).