Revolutionizing mobility with innovative technology

Airspeeder is bringing flying cars to life through advanced aerial mobility powered by AI-driven technologies from Dell Technologies and Intel.

Business needs

Airspeeder set out to transform the future of mobility with its eVTOL vehicles — and a vision that demanded more than just bold ideas. To bring their high-performance aircraft to life, they needed robust, scalable technology capable of powering advanced simulations and digital twins, real-time telemetry, and complex multi-modal data analysis. This computing backbone was critical not only for overcoming the technical challenges of designing innovative flying vehicles, but also for ensuring precision, speed, and reliability in some of the most demanding environments imaginable.

Solutions at a glance

- Dell Pro Max high performance AI PCs with Intel® Core™ Ultra processors and Intel vPro®

- Dell PowerEdge XR-Series servers with Intel® Xeon® Scalable processors

Business results

Accelerates design cycles 5x with cutting-edge technology integration.

Delivers 75% lighter and 2x stronger components with generative AI design.

Enhances safety protocols through advanced data insights and real-time monitoring systems.

Achieves operational efficiency with scalable and sustainable tech solutions.

intel.

Airspeeder is pioneering a new era of sustainable mobility, aiming to bring flying cars from science fiction to racing reality. Their electric vertical take-off and landing (eVTOL) speeders are powered by electricity and produce zero direct emissions, reducing air pollution and promoting cleaner skies. These vehicles are not just environmental game changers, but innovation testbeds designed to accelerate the viability of airborne transportation for the future. Building safe, lightweight, high-performance vehicles while designing the complex infrastructure to support them was an extraordinary challenge.

Partnering for innovation and agility

To meet these challenges, Airspeeder partnered with Dell Technologies and Intel to deploy a comprehensive AI technology stack that allows them to focus on innovating at speed. From initial vehicle designs created with Dell Pro Max high performance AI PCs to real-time race day performance supported by ruggedized, short-depth PowerEdge XR-Series servers, Dell solutions have helped take Airspeeder's efforts from concept to competition.

"Flying car racing isn't as simple as designing the vehicles. The hard part is the infrastructure needed to keep them in the air," says Jack Withinshaw, co-founder and chief commercial officer at Airspeeder. "Dell and Intel have been integral partners in helping build that infrastructure layer."

Revolutionizing design and efficiency

The adoption of Dell Pro Max AI PCs with Intel® Core™ Ultra processors has allowed for rapid iterations in the vehicle design process. By leveraging generative AI design tools, Airspeeder was able to significantly reduce the weight of critical components like their landing gear, which shifted from carbon fiber to 3D-printed metal while achieving a 75% weight reduction and twice the strength.

"Using Pro Max and generative AI has transformed how we design. We achieved a week-long cycle from component design to field testing—a pace unheard of in aviation," Withinshaw adds.

Real-time performance and unmatched safety at the edge

On race day, the demands are as intense as the environments they conquer. Dell's ruggedized PowerEdge XR-Series servers powered by Intel® Xeon® processors thrive in extreme conditions like deserts to power the future of augmented reality racing. These cutting-edge
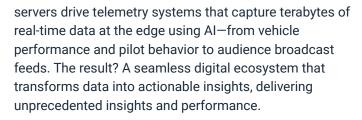
servers drive telemetry systems that capture terabytes of real-time data at the edge using AI—from vehicle performance and pilot behavior to audience broadcast feeds. The result? A seamless digital ecosystem that transforms data into actionable insights, delivering unprecedented insights and performance.

But it's not just about the thrill of racing; safety takes center stage. Airspeeder's groundbreaking AI-powered force fields, a revolutionary collision avoidance system, ensure that speeders can interact dynamically while staying physically apart. This innovation allows for high-speed and safe competition, boosting consumer confidence in urban air mobility. By integrating Dell's advanced technology solutions, Airspeeder has not only created a digital racetrack but also laid the foundation for safer skies in the cities of tomorrow.

"AI force fields are just the beginning," says Withinshaw of Airspeeder. "This partnership with Dell Technologies sets the foundation for safer mobility in the cities of tomorrow."

Accelerating a vision for the future

Airspeeder and Dell's partnership extends beyond today's races, shaping the future of transportation itself. Together with Intel, they are not just innovating in the present but also envisioning a future where the principles tested on the racetrack underpin urban mobility worldwide.

Reflecting on the transformative role played by Dell Technologies, Withinshaw concludes, "What began as a solution for racing is now revolutionizing clean air mobility, and it's clear we're only scratching the surface of what's possible."