H55 BATTERY TECHNOLOGY HELPS POWER PROGRESS OF RTX HYBRID-ELECTRIC FLIGHT DEMONSTRATOR

News / Manufacturer

H55 announced continued progress developing the 200 kWh Energy Storage System for the RTX Hybrid-Electric Flight Demonstrator, since the project achieved the significant milestone of its first full-power system test conducted in June 2025. The demonstrator, led by RTX's Pratt & Whitney Canada and Collins Aerospace, aims to demonstrate up to 30% improvement in fuel efficiency for regional aircraft through a hybrid-electric propulsion architecture combining an advanced thermal engine, a 1-megawatt electric motor, and H55's battery system.

Pratt & Whitney Canada built on H55's battery architecture and safety mechanisms as the certifiable foundation for the demonstrator's propulsion system. H55's Energy Storage System — validated through extensive flight operations — provided the compliance and safety baseline that enabled the program to advance rapidly.

Commenting on H55's partnership with Pratt & Whitney Canada, Rob Solomon H55's CEO: "There's a meaningful distinction between being selected as a component supplier and being chosen as a certification foundation. Pratt & Whitney Canada didn't just purchase our batteries — they built their demonstrator's compliance baseline on an architecture that H55 has already flown for more than 2,000 hours without incident and validated through EASA test campaigns. That's

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what eight years of disciplined certification work makes possible: when a program at regional aircraft scale needs to move fast, they reach for the system that's already proven. This milestone — the first full-power ground test of a hybrid-electric propulsion system at this scale belongs to the entire team. Programs like this allow us to demonstrate that the same certifiable battery architecture developed for smaller aircraft can scale toward the regional aviation market. That transition represents a major step in unlocking the commercial potential of electric propulsion."

H55's ESS is engineered specifically for the requirements of aviation certification. The system is lightweight by design, modular to enable flexible aircraft integration and weight distribution, and based on a cell architecture that has already completed relevant European Union Aviation Safety Agency test campaigns.

The technology builds on H55's broader experience developing electric propulsion systems for aviation. The company has conducted extensive safety validation campaigns for its battery modules — an essential step toward certification of next-generation electric propulsion architectures.

On the importance of this development for H55, the company's CTO and Co-Founder, Sébastien Demont "This integration milestone represents a defining moment for H55 and for electric aviation as a whole. The certifiable battery architecture we developed for CS23 aircraft has proven its scalability: the same cell-level safety philosophy, the same engineering discipline, is now powering a battery system at the heart of a CS25 hybrid-electric demonstrator alongside Pratt & Whitney Canada. We are not adapting a concept, we are scaling a proven, validated platform. This is what it means to build technology that is certifiable by design."

H55 was born out of the pioneering Solar Impulse project, which demonstrated that electric propulsion could support long-duration flight. Building on that heritage, H55 has since developed and flown multiple electric aircraft platforms, accumulating operational experience that continues to inform the development of next-generation propulsion systems.

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With the RTX Hybrid-Electric Flight Demonstrator now progressing toward aircraft integration and flight testing on a modified De Havilland Canada Dash 8-100, H55's battery technology will support hybrid-electric propulsion validation at the regional aircraft scale.

The program also represents an important step in extending H55's technology from smaller electric aircraft platforms into the Part-25 / CS-25 category of regional transport aircraft. By supporting a hybrid-electric propulsion system operating at regional aircraft scale, the demonstrator allows H55 to further validate its Energy Storage System architecture in an environment representative of future commercial applications.

Entry into the regional aircraft category represents a significant expansion of the addressable market for H55's propulsion technology, as hybrid-electric architectures are increasingly considered for next-generation regional aircraft platforms. As aircraft manufacturers evaluate hybrid-electric propulsion to improve efficiency and reduce emissions, scalable battery systems capable of meeting aviation certification requirements are expected to play a central role in the architecture of future regional aircraft.

This milestone highlights the growing maturity of electric propulsion technologies and their role in enabling more efficient and lower-emission aviation. As hybrid-electric aircraft enter service, energy storage systems will also become a critical lifecycle component of aircraft operations, creating long-term opportunities for certified propulsion technology providers.

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