Boeing Takes New Technologies Out of the Lab and Onto ecoDemonstrator Flying Test Bed

Program to test innovations to enhance safety, sustainability and the passenger experience.

777 will serve as the sixth test airplane in the ecoDemonstrator program.

SEATTLE, July 1, 2019 /PRNewswire/ -- Boeing [NYSE:BA] is launching its latest round of flight-testing to assess new technologies that could address real-world challenges for airplane operators and passengers — from enhancing safety and sustainability to improving the flying experience. The company is debuting a Boeing 777 that will serve as the 2019 flying test bed for 50 projects.

"This is the latest addition to our ecoDemonstrator program, where we look at how crew and passengers can have a better experience and how technologies can make flying safer, more efficient and more enjoyable," said Mike Sinnett, vice president of product strategy and future airplane development at Boeing Commercial Airplanes. "Using the 777 flying test bed lets us learn faster and move forward on improvements much quicker and with greater fidelity in defining their value."

Among the technologies being tested on this year's ecoDemonstrator program are:

- Sharing digital information between air traffic control, the flight deck and an airline's operations center to optimize routing efficiency and safety.
- An electronic flight bag application that uses next-generation communications to automatically provide rerouting information to pilots when weather conditions warrant.
- Connected cabin technologies that make galleys and lavatories smart, and monitor cabin conditions such as temperature and humidity to facilitate automatic adjustments.
- Cameras to provide more passengers with a view outside the airplane.

Boeing's ecoDemonstrator program first took to the skies in 2012. Five airplanes — a 737-800, 787-8 Dreamliner, 757, Embraer E170 and 777 Freighter — have tested 112 technologies through 2018. More than a third of the technologies have transitioned to implementation at Boeing or by program partners. Nearly half remain in further development while testing on the other projects was discontinued after learnings were accomplished.

Among the technologies now in use are iPad apps that provide real-time information to pilots, enabling them to reduce fuel use and emissions; custom approach path information to reduce community noise; and a camera system on the 777X that will help pilots avoid ground obstacles.

A key part of the ecoDemonstrator program is collaboration with industry partners to jointly test technologies and share learnings that advance aviation. More than a dozen partners are participating in the 2019 program, including an industry consortium developing a connectivity standard for networked cabins of the future known as iCabin.

Flight tests will be conducted this fall. The flights will include a trip to Frankfurt Airport in Germany, where the ecoDemonstrator's technology mission will be presented to government officials, industry representatives and STEM students to help inspire the next generation in aerospace leadership. A majority of the test flights will fly on sustainable aviation fuel to reduce carbon dioxide emissions and demonstrate the fuel's viability.

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