

Direct Connection

New device transfers airplane data quickly to help airlines evaluate and monitor the health of their fleets

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High-speed, high-bandwidth data communication between airplanes and ground operations is no longer an option — it is a necessity.

Airlines constantly monitor the health of each aircraft, checking its onboard data and running diagnostics to make sure the airplane is ready for its next flight. Flight hours, weather conditions and other factors create wear and tear on airplanes, just as mileage affects a vehicle's performance.

To optimize maintenance schedules and plan fleet operations, operators check an airplane's performance data after each trip. Proactive management informs the airline's schedule decisions, as the data indicates when an airplane will be ready for its next departure.

A new Aircraft Interface Device (AID), designed and built by Boeing AvionX, now enables operators to pull real-time aircraft data over Wi-Fi and 4G LTE cellular networks, informing operations decisions for entire fleets.



CROWN JEWEL

Mounted in the crown of an airplane, the Boeing AID provides operators onboard and offboard connectivity.

IMAGE: BOEING



Without an AID-type device, maintenance teams physically walk to the airplane and offboard the data manually. With an AID, operators can read an airplane's data from the back office as soon as the airplane lands and connects over Wi-Fi or a cellular network. The AID conveniently supports software updates and requests for data for an entire fleet.

On some airplanes, a single AID consolidates the off-board Wi-Fi and 4G LTE cellular functionalities that had been provided by two separate units. As 3G networks phase out around the world, the AID will replace those older devices to provide 4G LTE connectivity.

IT'S WHAT'S INSIDE THAT COUNTS

The AID connects to an antenna on the exterior of the airplane and to the hub of airplane data. The array of black cooling fins counters the heat in the crown of the airplane.

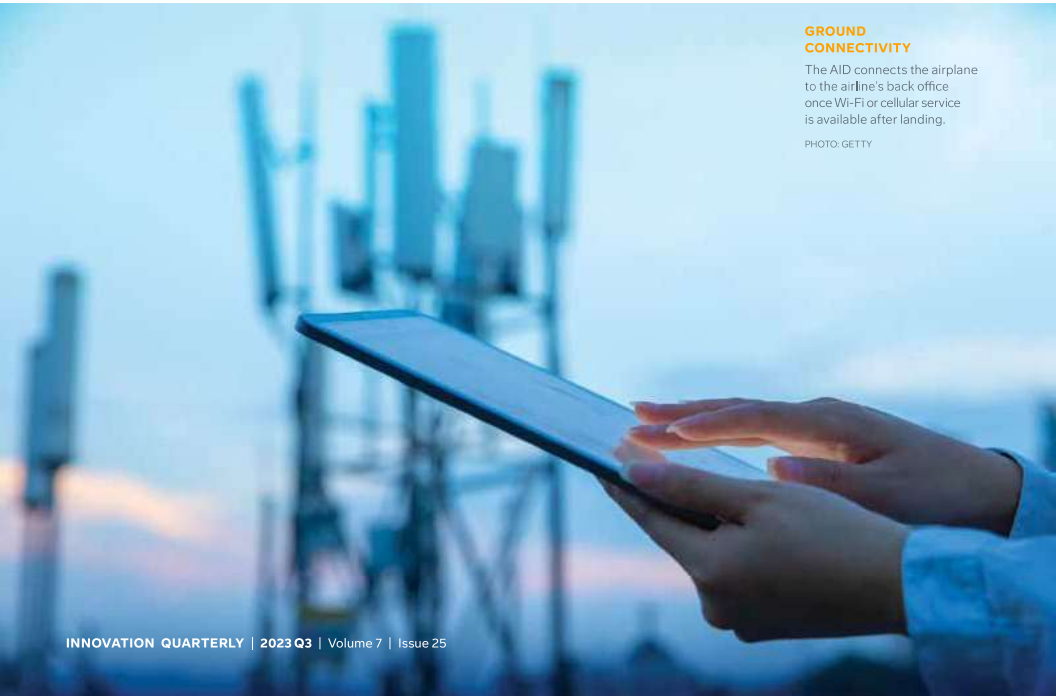
PHOTO: DEAN PIERETTI/BOEING



IN THE BAG

The AID makes onboard connections to electronic flight bags using Wi-Fi.

PHOTO: BOEING



GROUND CONNECTIVITY

The AID connects the airplane to the airline's back office once Wi-Fi or cellular service is available after landing.

PHOTO: GETTY

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**PER BEITH,
VICE PRESIDENT,
BOEING AVIONX**

With Wi-Fi connectivity, the AID enables pilots and mechanics to connect their wireless personal electronic devices or electronic flight bags, connect maintenance laptops to transfer aircraft data, and use apps like those for weather and navigation.

Airlines can configure the AID software to suit their needs for onboard and offboard connectivity, depending on the aircraft model.

Boeing has produced more than 1,400 of the devices, which are made in Smithfield, Pennsylvania. More than 400 devices have been delivered on Boeing airplanes, and the AID will be standard on all in-production commercial airplanes. The AID also will be available to add to Boeing commercial airplane models already in service.

“Airlines will reduce maintenance tasks by receiving data faster to make decisions faster, and that means more efficient airline operations,” said Per Beith, vice president of Boeing AvionX. “The AID expands Boeing’s ability to design and produce avionics products to support our commercial airplane programs.” **IQ**