

Inflight Connectivity trends to watch

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The airline industry has connectivity on the brain these days. Nowhere is that more apparent than in Hamburg, site of the annual Aircraft Interiors Expo April 2-4, and APEX coming up September 9. Just how far our industry has come in using connected aircraft solutions to improve the flying experience for everyone involved. But in many ways, we've just scratched the surface - the best is yet to come. Here are five key trends to watch in 2019 and beyond.

Not Just About Inflight WiFi

Cabin connectivity is still a big driver of passenger satisfaction and loyalty. In fact a Honeywell study found three-fourths of flyers willing to change airlines for better Wi-Fi. But the carriers themselves have figured out that connectivity also lets them use advanced data analytics to crunch data packets from hundreds of sources and improve operational efficiency and bottom line performance.

"Packets to profits" is our shorthand for this jaw-dropping breakthrough, which is having a fundamental impact on airline operations and decision-making, from the flight deck to the boardroom and beyond. More and more airlines are using advanced data analytics, artificial intelligence and the Industrial Internet of Things to enable connected maintenance, flight efficiency, ground handling, flight planning and much more. I'm proud to say that Honeywell engineers are making connectivity breakthroughs every day.

A Resurgence In Air To Ground Services

Improvements in air-to-ground communications technologies give airlines another viable option for sending and receiving information while in flight. Carriers still want the bandwidth, reliability and availability that only satellite communications solutions provide on international and transoceanic flights and for high-demand applications like video streaming.

But ATG options work just fine for most voice and data transmissions on domestic flights, especially with the proliferation of 4G LTE networks using the 2.4 GHz frequency in North America. Compared to satellite-enabled connections, the cost of ATG is extremely attractive to airlines. Regardless of the type and size of the pipe, Honeywell specializes in getting data on and off airplanes in the most efficient and economical ways.

Distributed Networks Are Here To Stay

Monolithic aircraft networks are giving way to distributed networks, which combine the computing power of various on board processors into a single integrated system. By creating a single network on the aircraft, operators will be able to eliminate discrete, specialized routers and servers that consume power, generate heat, occupy space, add weight and reduce efficiency.

Honeywell's new GoDirect Router is a great example of distributed processing in action. For starters, it's smaller and more efficient than conventional on-board routers. But the real difference comes from its ability to enable distributed processing through the use of edge nodes – tiny (1x1x1.5-inch) computer nodes that provide wireless access points in the cabin and on the flight deck. We've got decades of distributed network experience, so we know that this trend is here to stay.

Data Uploads Will Become Easier

The clock is ticking on the traditional model for database uploading. Getting a new navigation, enhanced ground proximity warning system or flight management system database onto the airplane is kind of a big deal today. It involves the flight crew and maintenance team, requires extensive coordination and hands-on work, and takes hours of valuable time. Not for long.

We're already working with a number cargo haulers on a total re-engineering of the database loading process that enables us to push a new database to the aircraft using an air-to-ground connection. The new database is available before the aircraft has even landed and we let the director of maintenance and dispatch team know that it's available for loading before the next flight. Fast. Easy. Efficient.

Big Data Will Lead To Big Profits

Individual initiatives impact flight safety, fuel costs, on-time performance, maintenance downtime and other key airline metrics. But imagine the profitability engine we create by bringing all these things together and combining data from hundreds of sources into a single decisionmaking tool. You don't have to imagine. Those capabilities are here today, thanks to big data.

The availability of data and advanced analytics truly changes the game for the airlines. We can collect, aggregate and analyze all available data into a single database and display information impacting dozens of initiatives on a single dashboard. Think of it as a single pane of glass – on steroids – because Honeywell is the first to take things to the next level and provide airlines with a profit generator that lets decision-makers visualize the impact their actions have on the bottom line.

Airlines today are under enormous pressure to improve operations, deliver a better passenger experience and bolster their bottom line performance. At Honeywell, we're committed to applying our unique connected aircraft expertise to enable customers to achieve their operational objectives and become more profitable.

