



COULSON AVIATION DEVELOPS SAFEFUEL, THE FIRST ONBOARD FUEL QUALITY ASSURANCE AND PROTECTION SYSTEM

News / Airlines



Coulson Aviation has developed SafeFuel, the aviation industry’s first onboard system designed to verify fuel quality and detect contamination during refueling. The innovation comes amid growing safety concerns following multiple fuel-related incidents in military and commercial aviation, and recent Navy aircraft accidents under investigation.

Britt Coulson, President & COO of Coulson Aviation commented: “We’ve spent decades designing aircraft to survive any emergency, but none of that matters if the fuel itself isn’t safe. As the industry transitions to Sustainable Aviation Fuels and complex global supply chains, the risks multiply and even small deviations can have catastrophic consequences. When only a few gallons of off-spec fuel can bring down a \$100 million aircraft, it’s time for aviation to recognize that fuel is the final unmonitored frontier. SafeFuel closes that gap permanently.”

Coulson Aviation’s aircraft often operate in remote environments around the world, where the risk of contaminated or off-spec fuel is heightened. Over years of operations, the company has encountered issues ranging from water-laden Jet A and microbial growth to cross-contamination,

while the industry has seen increased fuel issues, including contamination from DEF (Diesel Exhaust Fluid) and SAP (Super Absorbent Polymer) from aging filter separators. One such incident resulted in one of Coulson's jets having an engine flameout during an overwater ferry flight, a near-disaster that underscored the absence of onboard fuel technology across aviation.

Developed and patented by Coulson's in-house team, SafeFuel integrates directly into an aircraft's single-point refueling manifold and analyzes fuel during refueling. The system verifies key parameters in real time and automatically notifies the flight crew and can halt fueling if contamination or out-of-spec readings are detected before fuel reaches the tanks. Each fueling is digitally recorded, providing traceability and a verifiable chain of custody for operators, OEMs, and regulators.

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