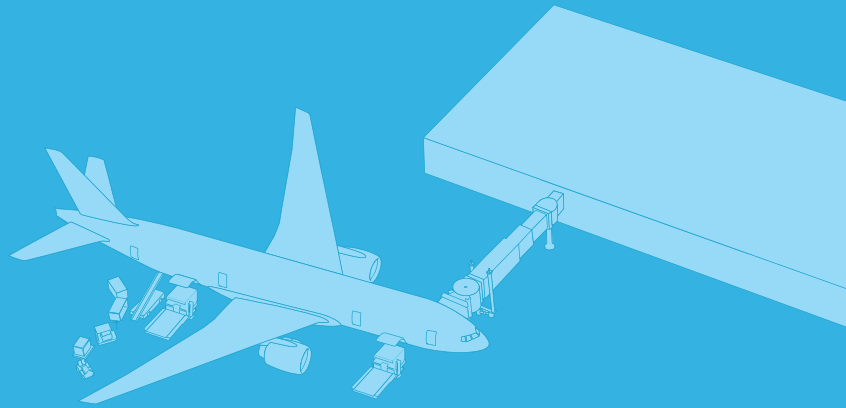# Gogo airline operational services
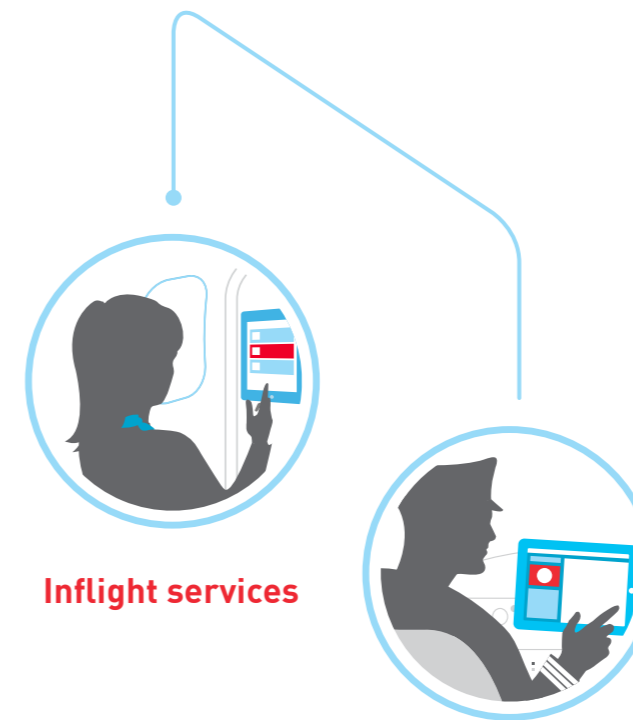
Innovative applications for connected fleets

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Gain a deeper understanding of your operations as you realize the exponential power of a connected fleet.

By putting Gogo's airline operational services to work, you can create an environment of continuous improvement – an intelligent datasphere where observations can be shared across your entire network of aircraft and personnel.
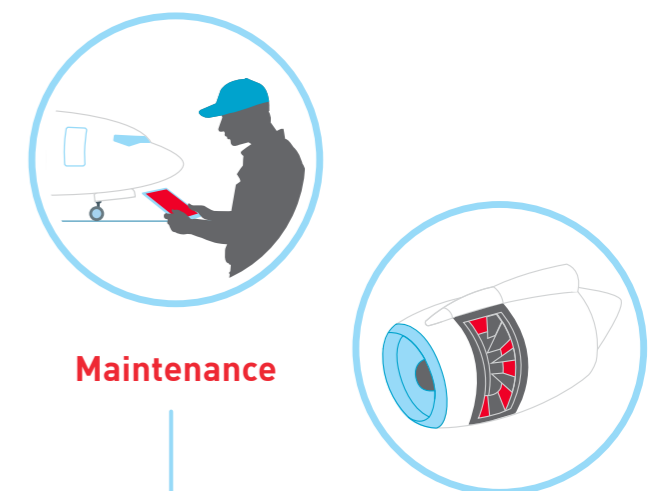
The possibilities Gogo enables aren't pipe dreams, but realities that are ready to be tapped today.

Inflight services

Flight operations

Gain new efficiencies in every area of operation

Maintenance

Aircraft systems

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Inflight services

Connecting both passengers and cabin crews has the potential to boost productivity and reduce costs, while also generating new revenue possibilities.

Creating and supporting point-of-sale is a key component of an airline's ancillary revenue opportunity. Connectivity can also furnish a wealth of passenger information to cabin crews, who can use ground-based CRM applications to bolster customer loyalty. Cabin crews can also report onboard maintenance issues, which crews on the ground can see in real-time, leading to quicker recovery times and minimizing impact to passengers.

Delta Air Lines uses 19,000+ mobile devices to support purchases and customer service

Enhance customer service and empower your cabin crew

Ancillary revenue

› Minimize fraud risk with real-time credit card transactions

› Create onboard seat-upgrade opportunities

Personalized service

› Integrate loyalty programs into crew-issued tablets

› Increase customer loyalty and personalized service

› Provide crews with passenger-specific information (e.g. meal preferences or allergies)

› Enable unique entertainment options for your high-value customers

Onboard maintenance reporting

› Reduce repair delays by reporting maintenance issues inflight

› Increase maintenance crew preparedness

Flight operations

With tablet-based EFB programs already streamlining flight operations, it's clear that reliable cockpit connectivity is becoming essential.

Not only are current operations able to gain efficiencies, but new applications can ultimately help reduce delays and improve comfort for airline crew and passengers.

Enable better decision-making and new efficiencies

Flight route and performance optimization

› Provide actionable fuel- and time-savings opportunities

› Identify more efficient routes using real-time data inputs

Electronic flight folder

› Operate optimally when connected

› Utilize the most current flight information

› Eliminate paper

Turbulence mapping and real-time weather

› Make decisions based on the latest data

› Increase safety and comfort for your crew and passengers

› Reduce unscheduled maintenance by avoiding turbulence

Automated aircraft reporting

› Maintain positioning by tracking airline assets (e.g. airplanes, crew, etc.)

› Obtain an alternate feed for the Aircraft Situation Display to Industry (ASDI) input

› Enable geo-fencing notifications of airplanes crossing virtual geographical boundaries

Crew / Operations Center communications (including AOC)

› Reduce legacy ACARS dependencies

› Introduce modern interface and new communication features such as sent verifications, read notifications

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Maintenance

For maintenance organizations, access to up-to-date aircraft-related information is essential.

To allow for better access to accurate data, airline maintenance organizations are adopting tablets so personnel can access required documentation, heightening task efficiency.

Sensor data, enabled by the connected aircraft, can be used to feed predictive maintenance algorithms in near real-time. This functionality promises to save airlines significant expenses related to delays, cancellations, and overall maintenance costs.

Gogo® Ramp Connect uses the connected aircraft as a secure terrestrial Wi-Fi hotspot.

Provide accurate information to maintenance and tech ops teams

Predictive maintenance

› Feed sensor data into predictive maintenance algorithms

› Track aircraft health and usage management

› Preempt failure events with component repair or replacement

Connected electronic logbook

› Optimize parts and resource management

› Facilitate electronic task cards

› Access more data faster with paperless documentation

Aircraft turn time improvements
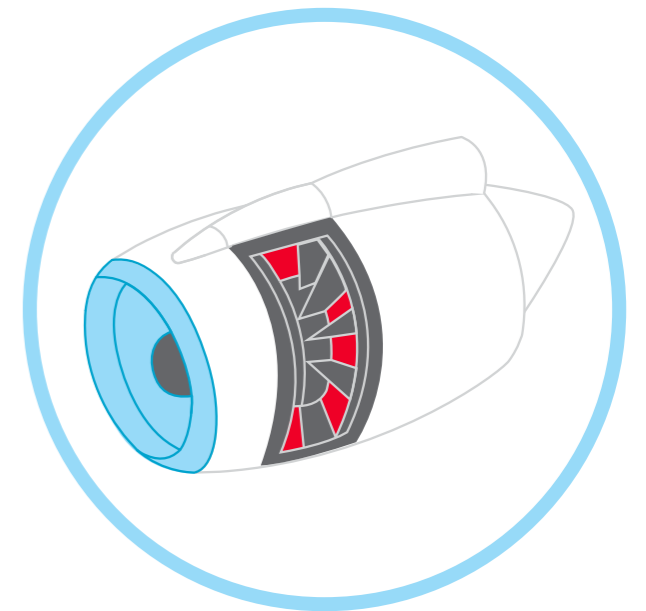
› Increase maintenance team preparedness with inflight communication from flight crew

› Streamline maintenance documentation processes with an electronic logbook

Aircraft systems

Harnessing data from aircraft systems and equipment

The internet of things is beginning to make its presence known in aviation. New aircraft include an unprecedented number of smart, connected components, such as the engine of the Boeing® 787, which can generate more than 500 GB of data over the course of a single flight. These components are equipped with sensors that can provide valuable insight into what's happening throughout the aircraft at any given time.

Gogo can provide an IP network to collect and store this sensor data onboard – even route it automatically using predefined parameters. This provides critical visibility, while also eliminating complex, time-intensive resources for manual data retrieval.

Access data from nose to tail

New interconnected optimization

› Track aircraft and engine health

› Route data intelligently

› Reduce resource allocation for basic auditing of aircraft components

› Eliminate aircraft "touches" to retrieve data

Airline system operations centers

› Monitor teams across connected fleets

› Obtain real-time snapshots of aircraft and crew readiness

› Improve overall interaction with flight crews

OEMs & Supply-chain partners efficiencies

Interconnected efficiencies open the door for Software as a Service (SaaS) opportunities. SaaS are connectivity-enabled applications that eliminate the costly and cumbersome need to buy, install, and manage software on individual devices.

To optimize performance, your OEMs and other partners can monitor and evaluate the performance of their equipment in real-time. This can lead to to accelerated refinement and innovation in engineering.

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Gogo's operational applications

Gogo® Crew Connect

Gogo Crew Connect is a mobile voice and Over-The-Top (OTT) messaging communication solution for airlines, optimized for the Gogo network. Gogo Crew Connect keeps crews connected with airline operations and dispatch – while inflight and during layovers – improving communications to help mitigate the impact of irregular operations.

Gogo Crew Connect is enabled with Wi-Fi, both on and off the plane. Crew members stay connected to important flight-specific information from the comfort of crew lounges, hotels, or anywhere with a wireless internet connection. With Gogo Crew Connect airlines may also see significant cost savings compared to global roaming and long-distance fees.

Key features:

› Wi-Fi calling and OTT messaging via any connection, including home, hotels, crew rooms, etc.

› Dynamic call grouping, which allows airlines to send communications to an entire aircraft, region, or fleet.

› Status notifications such as "message read" or "on aircraft"

› Hot button calling to airline-designated sites such as dispatch, scheduling, and maintenance

Gogo® Ramp Connect

Gogo Ramp Connect is a secure network. It leverages the Gogo network to transform the aircraft into a secure Wi-Fi hotspot, providing connectivity in and outside the aircraft, in the hangar, on the ramp, and at the gate.

Key features:

› Leverages existing aircraft infrastructure
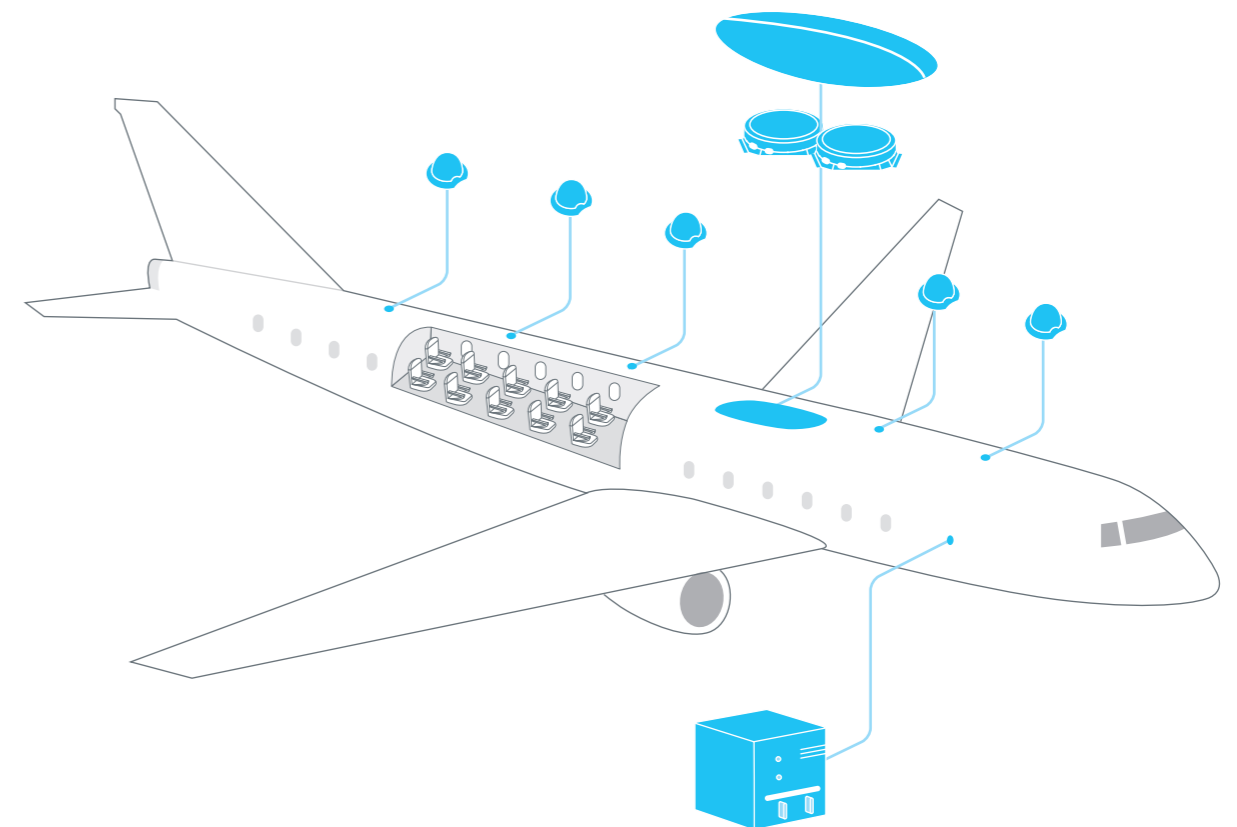
› Secure, approved domain access

Gogo's operational connectivity

Operational connectivity through an in-cabin network is fundamental to enabling Gogo Crew Connect and Gogo Ramp Connect applications. Gogo's next-generation airborne central processing unit, ACPU-2, powers connectivity to help you achieve operational efficiency.

Key features of the ACPU-2 onboard server include:

› Plug and play: compatible with all of Gogo's commercial airline connectivity technologies including ATG, ATG-4, Ku, 2Ku, and Global Xpress

› Exclusive usage: access domains exclusively for operational use with dedicated SSIDs

› Content filtering: request or restrict access to certain websites

› Network key rotation: improve security with non-discoverable wireless networks and rotating the network keys

› Billing flexibility: MB billing system facilitates departmental billing

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Support

Like the rest of our IFEC offerings, Gogo's airline operational services are backed by our full service and support to ensure the smoothest performance possible – both on the ground and in the air.

We leverage a sophisticated system of security and troubleshooting elements, including comprehensive bandwidth management, security software and procedures, real-time monitoring, and data redundancies.

Unmatched service and reliability

Around-the-clock network management and monitoring

› Security ensured with firewalls, access controls, secure key authentication, centralized login management, regular security software uptades, and system security audits

› Our network operations center (NOC) troubleshoots and provides continuous network triage

› Redundant data centers provide failsafe information coverage

› Allocate bandwidth to crew and cockpit with traffic shaping

Testing and quality control

› New products are lab-tested

› Live inflight testing beginning soon on our 737 commercial test plane

Certification and regulatory compliance

› 75+ Supplemental Type Certificates

› Our experienced teams help you execute a regulatory compliance plan

Account support

› A team is dedicated specifically to your account

› Available 24/7/365

Gogo can work with your airline to allocate and secure the appropriate bandwidth to support these new applications of connectivity. In fact, 50,000+ crew members are already using Gogo's airline operational services.

By connecting not just your fleet, but your operations, you can realize new efficiencies, all while delivering a consistent and exceptional customer experience.

Using Gogo's airline operational services, you can build an environment of innovation that continuously produces new IFC possibilities and solutions, yielding unforeseen benefits well into the future.

Gogo is a leading global aero-communications service provider to the commercial and business aviation markets,

offering inflight internet, entertainment, text messaging, voice, and a host of other communications-related services. Our reliable, flexible, and innovative offerings include connectivity applications to support airline operational services, enabling new opportunities in every facet of aviation.

Find out what you can do with Gogo.

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gogoair.com/connectedfleets