

Aviate, Navigate, Communicate

Infight Connectivity Guide for Pilots

Introduction

In an era where information moves faster than ever, pilots are discovering the transformative power of staying connected in the sky.

Inflight connectivity – once a luxury – is now an essential tool that enhances decision-making, improves safety, and streamlines operations. This guide explores how inflight connectivity equips pilots with real-time tools that once seemed impossible above 10,000 feet.



The Evolution of Inflight Connectivity

Inflight connectivity began as a passenger convenience – email access and light browsing.

But as air-to-ground and satellite technology have advanced and broadband coverage expanded, the cockpit itself became a connected hub. Today, connectivity is integral to aviation, offering capabilities tailored to pilots' needs rather than just passengers'.



Types of Inflight Connectivity Solutions Available Today

How has Gogo succeeded in keeping business travelers connected at 40,000 feet?

By leveraging the best available technology to deliver seamless, high-performance inflight Wi-Fi. The two primary solutions—satellite and air-to-ground (ATG) connectivity—each play a critical role in ensuring superior coverage, reliability, and operational safety for pilots.

Satellite Connectivity: Expanding Global Coverage



Satellite technology enables aircraft to stay connected even over oceans, remote regions, and areas beyond the reach of ground-based towers. By transmitting signals between aircraft and orbiting satellites, this solution provides near-global coverage, making it ideal for international and long-haul flights. However, additional steps—such as sending data to and from space—can impact latency and bandwidth, making network efficiency a key consideration.

There are multiple types of satellite networks providing connectivity. There are Geostationary Earth Orbit (GEO), Medium Earth Orbit (MEO), and Low-Earth Orbit (LEO) networks. The two most used satellite configurations are LEO and GEO. Both have their advantages and use cases. Traditionally, only larger aircraft have had the opportunity for satellite connectivity with GEO networks. Today, every size aircraft can leverage satellite connectivity with Gogo Galileo. In fact, some airframes and operators leverage both LEO and GEO for redundancy and service availability.

ATG: A Ground-Based Solution for North American Fleets

ATG, which equips most North American fleets, operates similarly to a cellular network. Aircraft communicate with ground stations, ideally within a target range and line-of-sight bearing. These stations serve aircraft as they pass through their airspace, much like a cell phone connects to different towers while in motion. While ATG offers strong performance and lower latency, its coverage is limited to land-based regions.





Choosing the Best Solution

Whether leveraging satellite, ATG, or a hybrid approach, key factors in selecting an inflight connectivity solution include network capacity (both today and in the future), the number of available towers or satellites covering flight routes, and connectivity redundancy. By choosing a leader like Gogo in inflight connectivity, operators can ensure superior performance, keeping pilots connected wherever they fly.

Core Benefits of Connectivity for Pilots



REAL-TIME WEATHER UPDATES

Slow connections can lead to frustration, especially for passengers who rely on the internet for work or business-related matters.



DYNAMIC FLIGHT PLANNING

Pilots can reroute based on weather, airspace restrictions, or traffic. Integration with EFBs (Electronic Flight Bags) allows mid-flight updates that are reflected across devices.



ENHANCED COMMUNICATION

Beyond standard ATC comms, connectivity enables text, VoIP, and email communication with dispatch, FBOs, or support staff. This reduces misunderstandings and delays on the ground.



SAFETY AND EMERGENCY MANAGEMENT

In an emergency, being able to contact maintenance control, medical support, or operations teams in real time is critical. Connectivity also allows transmission of engine and avionics data for diagnostics.



PASSENGER COORDINATION

Pilots can coordinate with passengers or their teams – adjusting arrival times, handling last-minute changes, or notifying of delays without relying solely on air traffic channels.



OPERATIONAL EFFICIENCY

Pilots can receive updated NOTAMs, fuel quotes, customs notifications, and ground handling logistics – all during flight – leading to smoother turnarounds.

FlightDeck Freedom: Your Co-Pilot in the Clouds

While inflight Wi-Fi is becoming more and more popular among pilots, there are other advanced systems that directly enhance operational awareness, communication, and safety.

One standout solution in this space is Gogo's FlightDeck Freedom – a powerful platform designed specifically for the connected flight deck.

FlightDeck Freedom is a secure, global data link service that delivers real-time flight deck communications and connectivity. Designed for business and military aviation, FlightDeck Freedom integrates with all major avionics and airframe manufacturers to enable seamless, end-to-end flight operations management.



In addition to the information pilots can access with inflight Wi-Fi, with FlightDeck Freedom pilots can:

- Manage distribution lists for takeoff/landing reports, Calibrated Air Speed (CAS)/Central Maintenance Computer (CMC) reports and engine trend reports
- Set up short codes to simplify sending of messages from the aircraft
- Select unique service features including automatic Pre-Departure Clearance uplink, automatic receipt of service advisories and other aircraft specific features
- Access Aircraft Performance Group (APG) calculations for runway analysis and emergency procedures
- Support Departure and Oceanic Clearances (DCL and OCL) and digital ATIS



As pilots, we're always looking down the road, checking weather, communicating with the office, our scheduler, maintenance – you name it. The instant ability to communicate is just a game-changer."

– Gary Stone, Assistant Chief Pilot

Common Scenarios Where Connectivity Saves the Day

- Medical Diversion Avoided: A pilot receives real-time guidance from ground-based medical staff, managing a passenger issue without diverting unnecessarily.
- Storm Navigation: Using live radar via satellite connection, a flight reroutes around a fast-developing storm cell over the Rockies.
- VIP Itinerary Shift: A last-minute change in a CEO's schedule prompts rerouting and ground team adjustments mid-flight, all coordinated through onboard Wi-Fi.





Implementing Connectivity Solutions

Equipping an aircraft with inflight connectivity involves more than just selecting a provider.

Pilots and operators must evaluate the aircraft's mission profile, technical compatibility, operational needs, and passenger expectations. Implementation is a multi-stage process requiring collaboration between flight departments, maintenance teams, and certified installation partners.

Pilots and operators considering onboard connectivity should:

- Assess mission profiles (domestic vs. international)
- Consult with avionics specialists
- Factor installation weight, power, and space
- Choose EFB apps that integrate connectivity features

Connect with one of our partners today to begin your journey to unparalleled inflight connectivity and customer support.



Conclusion

Inflight connectivity empowers pilots – not just passengers. In aviation, where flexibility, safety, and precision are paramount, staying connected isn't just a convenience – it's a competitive advantage. Pilots who embrace connectivity are better equipped, more efficient, and more confident in the air.



Ready to fly connected?

Get in touch with a Gogo connectivity expert today.

CONNECT

