High-performance inflight connectivity for business aviation
Revolutionizing global inflight connectivity

For more than 20 years, Gogo has managed a mobile network to bring inflight connectivity to the sky for business and commercial aviation. Now, we’re proud to offer the next leap in our technology evolution, Gogo® 2Ku. Featuring a unique dual phased-array antenna and our proprietary modem, 2Ku provides superior performance – enabling new experiences for business aviation VVIP passengers and crew. With an open architecture that can leverage today’s Ku satellites as well as high-throughput satellites (HTS) and low earth orbit (LEO) satellites slated for launch in the near future, 2Ku is the best solution to deliver the reliable, redundant global coverage to private aviation operators today and well into the future.
The 2Ku antenna

Unprecedented antenna speeds of 70+ Mbps to aircraft

2Ku features a dual antenna – one for the forward link, which transmits data to the aircraft, and one for the return link, which receives data. This unique design delivers industry-leading efficiency and peak antenna speeds of 70+ Mbps, outperforming competing connectivity solutions in the market. When next-generation HTS and Low Earth Orbit satellites come online in the future, 2Ku will have the capacity to deliver peak antenna speeds of 200+ Mbps.

Built to deliver significantly more bandwidth to aircraft, our new modem minimizes service disruptions associated with beam switching, allowing faster satellite handoffs and a more consistent passenger experience. A dual demodulator within the modem simultaneously supports connectivity and IPTV, ensuring your passengers stay entertained. And since it’s designed with an open architecture, 2Ku is compatible with HTS, LEO, and other next-gen Ku satellites to deliver greater capacity and superior service as new technologies come online.

Greater throughput with 4x more surface area

2Ku’s antenna aperture is unparalleled in the IFC market. Compared to gimbaled antennas, 2Ku has quadruple the surface area, resulting in dramatically better performance in most operational scenarios. This larger surface area, combined with the new satellite modem, makes 2Ku the fastest inflight connectivity available.

CONVENTIONAL GIMBALED ANTENNA

SURFACE AREA

70 MBPS PEAK ANTENNA SPEEDS

200 MBPS PEAK ANTENNA SPEEDS WITH FUTURE KU SATELLITES

2KU ANTENNA
2Ku offers superior performance in equatorial regions

Conventional aero antennas project an oval shaped beam, causing satellite interference and diminished performance in equatorial regions. 2Ku’s unique antenna projects a narrow beam, which avoids adjacent satellite interference and delivers a more consistent connectivity experience on flights near the equator.

A typical south to north airline route will start out in a region with lower skew angle.

As the flight continues north toward the equator, the beam generated from the conventional aero antenna twists into the geoplane, causing the antenna to begin reducing transmit power.

Near the equator, the wide beam produced by conventional aero antennas interferes with adjacent satellites (shown in red). To avoid this interference, the conventional aero antenna lowers transmit power even further, reducing data rates both to and from the aircraft.

Other antennas suffer in equatorial regions

Due to oval-shaped beams, the performance of conventional aero antennas suffers in high skew angle regions (illustrated by yellow and orange in the map below).

With conventional aero antennas, long-haul flights that cross the equator, such as those shown below, operate with poor performance during a significant amount of the flight.

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Lower drag and reduced fuel burn

When it comes to next-generation satellite technologies, 2Ku is the most cost-efficient solution in the VIP aviation market - and we are proud to now offer it to VIP customers. 2Ku offers 50% less equivalent weight penalty than conventional aero antennas. With its low profile and streamlined radome, the 2Ku antenna reduces overall drag and fuel burn, generating up to $25,000* in savings per aircraft each year.

Reduced megabyte rates

By doubling the spectral efficiency of conventional aero antennas, 2Ku delivers more throughput at less cost - resulting in reduced data rates for VIP customers. High-throughput satellites, which are slated for launch in the near future, will further reduce overall cost per megabyte while significantly increasing bandwidth to the aircraft. This makes 2Ku a viable and sustainable solution, providing a solid foundation for a long-term, low-risk capital investment.

Less maintenance

2Ku has fewer moving parts - there are no traditional stepper motors, belts, pulleys, or gears - than conventional aero antennas, resulting in higher reliability and lower total cost of ownership.

At a glance

| Up to $25,000 savings per aircraft each year due to reduced fuel burn |
| 2X more spectrally efficient than conventional aero antennas |
| Fewer moving parts results in lower total cost of ownership |

*Based on the study "Aerodynamic Drag and Fuel-Burn Reduction of the GOGO GTO/2KU Radome Compared to a Representative Gimbaled Antenna Radome" by William C. Rose and David Lednicer.

Paulo Miranda
GOL Airlines

"2Ku is the better-prepared, most-leading technology in terms of addressing our concerns over the equator."

CONVENTIONAL AERO ANTENNA 30-40 CM

2KU 17 CM

50%* less weight penalty than conventional aero antennas
Gogo’s Ku network

Reliable and redundant global coverage

Gogo 2Ku leverages our existing Ku network, delivering reliable, redundant coverage around the globe. Unlike other providers who rely on only a handful of satellites, the Gogo network relies on the Ku ecosystem of 180+ satellites, offering built-in redundancy. As demand for capacity increases, Gogo can leverage the rapidly growing network of Ku satellites to ensure supply and keep VIP customers connected worldwide.

Dedicated to aviation

While our competitors’ networks share capacity, Gogo’s Ku network is fully dedicated to aviation – resulting in greater capacity for our airline partners and VIP customers.

Fit for the future

With an open architecture, Gogo 2Ku offers unrivaled adaptability. Since the 2Ku antenna can leverage any Ku satellite, including HTS and LEO satellites coming online in the future, aircraft with our modem won’t need to upgrade existing equipment. This means zero downtime and no lost revenue.

Our partnership with global satellite operators gives Gogo access to HTS satellites, which will deliver increased bandwidth across most of the world’s flight routes, ensuring an improved customer experience for less cost per megabyte. Further, after signing the largest deal in industry history with satellite operator SES, we can ensure capacity, strengthen our network, and continue to outperform the competition.
Gogo 2Ku leverages our existing Ku network, which features:

- Consistent satellite handoffs, which lead to minimal interruption in service for VVIP passengers and crew
- Regulatory approvals obtained in 200+ countries
- Ability to add capacity with future Ku satellites, slated for launch in 2017

![Future Ku coverage](image-url)
Support and services

At a glance

24/7 network monitoring ensures reliable service on flights worldwide

20+ years experience managing a network

Around-the-clock global monitoring

Along with all of our connectivity technologies, Gogo 2Ku is backed by 20+ years of experience and our Network Operations Center (NOC). We employ hundreds of engineers and information technologists in our NOC to monitor satellite performance, global teleports, and data centers 24/7 to ensure reliable service on flights around the world.

Innovative products and services

Gogo offers a comprehensive suite of products and services to delight flyers. For passengers, this means groundbreaking products that elevate the inflight experience, including new passenger connectivity services and our IPTV solution, Gogo TV and Gogo Vision services. We’ve also built an open digital platform, where, with help from our partners, we’re developing products that continue to advance aviation. With industry-leading speeds, a future-ready network, and gate-to-gate* availability, Gogo 2Ku is the best IFC solution for your VIP customers – both today and into the future.

*Where permitted by regulatory authorities.
Technology leadership

Innovating connected flight

Unlike other providers, we’re focused solely on superior inflight connectivity and wireless entertainment solutions. That’s why we’ve been the industry pioneer for over 20 years.

Through superior engineering, we’ve developed cost-efficient solutions to deliver more bandwidth to aircraft – and we’ll continue to do so in the future.

Bringing the best-performing IFC solution to life

After evaluating other next-generation Ku solutions on the market, we found them deficient in one area or another. That’s why our engineers spent thousands of hours developing our proprietary 2Ku solution.

With unprecedented antenna speeds, superior performance, and forward compatibility, Gogo 2Ku vastly exceeds other IFC technologies available today.

*Speeds made available with next-generation modem

Above: Gogo’s Engineering Lab
Equipment

Gogo 2Ku Terminal

1. 2Ku Antenna
   Two large aperture phased-array antennas

2. MODMAN
   Device used to host the next-generation modem, which modulates and demodulates L-band signals

3. KANDU
   Provides power to the satellite antenna and uses aircraft navigational data to control its movement

4. KRFU
   Converts L-band to Ku- or Ka-band frequencies from the modem to prepare for transmission to the satellite; governs this process in reverse as well

Gogo In-Cabin Network

5. Gogo ACPU-2
   Head-end server unit with solid state storage, integrated terrestrial modem, and Wi-Fi client

6. Gogo In-Cabin WAP
   Wireless Access Points provide the Wi-Fi signal to devices in the cabin. They support the latest 802.11 standards, including 802.11ac

7. Wi-Fi Antennas
   Devices that generate the in-cabin Wi-Fi signal; antenna placement is optimized for each aircraft type
In flight today

The only next-generation satellite solution in the sky

With Gogo 2Ku already in flight on aircraft around the world, the connectivity revolution has begun.

Award-winning IFC
Awarded “Best Achievement in Technology” at the 2015 APEX Passenger Choice Awards

Gogo 2Ku partners

Aer Lingus
AEROMEXICO
AIR CANADA
American Airlines
BRITISH AIRWAYS
AIRFRANCE
DELTA
GOO
IBERIA
JTA
Virgin Atlantic
2Ku is proven and tested, and offered superior speeds and performance.

Reuben Arnold
Virgin Atlantic
Find out what you can do with Gogo

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