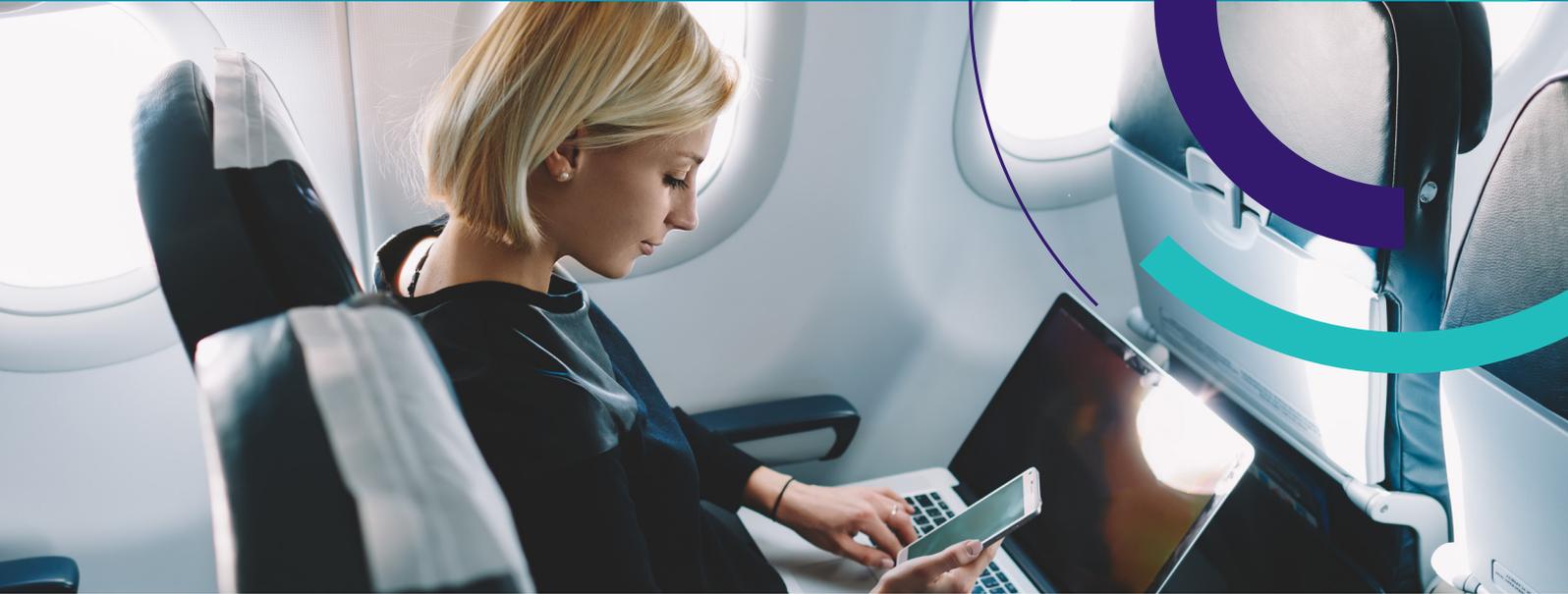




Solution Brochure

Full In-Flight Satellite Connectivity for Business and Commercial Aviation

Delivering affordable, reliable, and secure in-flight communication services demanded by today's air travelers



Benefits

- World leader in diverse SATCOM solutions and technologies
- Globally proven advanced SATCOM solutions for the aero industry
- Most comprehensive broadband solution for In-Flight Connectivity Service Providers (IFC SPs)
- Optimized for Ku and Ka bands, wide-beam satellites, HTS and Very High Throughput Satellites (VHTS), Software-Defined Satellites (SDS) and multiple orbit constellations
- Advanced Modems and IFC Networks, Transceivers (KRFUs) and ESA Antennas
- Highest reliability and superior user experience
- Highest proven MTBF

The growth in the adoption of In-Flight Connectivity (IFC) is being driven by the demand for an improved in-flight experience and its ability to enable innovative new applications. For most major airlines, connectivity has become a basic feature of their in-flight experience for passengers, as being connected at 30,000 feet is no longer a luxury but a requirement. According to Euroconsult in their 2022 report, approximately 9,900 aircraft were actively providing IFC services through more than 120 commercial airlines at the end of 2021. This number is expected to surpass 20,900 aircraft by YE 2031 representing 58% IFC penetration. This spectacular growth will be influenced by the new era of satellite communication, additional capacity from more efficient satellites, the different orbits available for aviation use, technological advancements and decreased satellite capacity prices.

With this increasing demand and passengers' expectations for high performance and uninterrupted connectivity regardless of the duration and location of their flight, IFC providers are re-evaluating their connectivity strategies and future-proofing their networks with new technologies to provide consistently high throughput levels to each passenger at a reasonable price. More specifically, IFC Service Providers require transparent switchover between beams, satellites and gateways – while maintaining user application sessions – ensuring seamless coverage so that passengers experience the highest quality, high-speed connectivity throughout their entire journey.

Gilat is the Leader in In-Flight Connectivity

Gilat believes in the right of all people to be connected and has been pursuing this vision for over 35 years. Gilat leads the global market with turnkey, end-to-end solutions and services in numerous vertical markets including mobility, cellular backhaul and enterprise as well as military and government.

As a long-time leading provider of satellite equipment for the aero industry, Gilat is well-equipped to offer the most comprehensive broadband solution for In-Flight Connectivity Service Providers (IFC SPs). The airborne components offer market-leading performance,

reliability and user experience and are currently deployed on Boeing, Airbus and other aircraft.

Gilat's widely deployed ground segment infrastructure is optimized for Ku and Ka bands, wide-beam satellites, HTS and Very High Throughput Satellites (VHTS), as well as Software-Defined Satellites (SDS) and multiple orbit constellations. Gilat optimizes utilization of the satellite space segment, reducing OPEX, with a fully transparent network interface to service providers' global network management systems. The built-in, automated network management system makes it easy for global IFC Service Providers to manage their services independently of the satellite network operator.



Gilat has successfully deployed a broad range of IFC solutions worldwide, which include:

- **Modems and IFC Networks**
- **Transceivers (KRFUs)**
- **Antennas**

Modems and IFC Networks

To meet the needs of next-generation satellite communications, named the New Elastix Space Era, Gilat developed our latest and most innovative ground segment platform to date. SkyEdge IV is a scalable, next-generation software-centric SATCOM ground system optimized for multi-orbit constellations and very high throughput satellites (VHTS). SkyEdge IV ensures unified operation with standard interfaces for network orchestration and seamless integration between the space and ground segments with the new Elastix-TotalNMS network management system.

SkyEdge IV Taurus is an ultra-high-performance modem for a comprehensive broadband IFC offering either as a Modman or a card to provide Wi-Fi internet and IPTV for passengers on commercial airlines, regional aircraft and business jets. SkyEdge IV Taurus is also backward compatible with SkyEdge II-c. This will enable IFC Service Providers to continue to deliver high-quality IFC capabilities and an enhanced user experience to their customers, as well as to make a strategic move to embrace new technologies, such as those offered in the SkyEdge IV platform. Gilat's SkyEdge IV Elastix Access Scheme enables high availability and superior operational efficiencies using adaptive transmission technologies to support a variety of IFC solutions using Taurus modems on different types of aircraft on a single network.

Gilat and Intelsat are long time strategic partners and Gilat provided the initial Gogo network, later acquired by Intelsat, unprecedented user experience. The global IFC network was initially powered by Gilat's SkyEdge II-c platform and Taurus modem enabling high throughput internet service to passengers on commercial flights. The relationship has been continuously expanded over the years, adding additional aircraft, airlines and geographic regions. These significant expansions to Intelsat's leading global aviation network provide an excellent demonstration of Gilat's upward compatibility from SkyEdge II-c to SkyEdge IV.

Transceivers (KRFU)

Gilat is expert in the design, verification, qualification and manufacture of both Ka and Ku airborne transceivers (KRFUs). Gilat's Wavestream AeroStream™ product line of transceivers offers unmatched efficiency and performance for the challenging airborne environment.

Our reputation for technical innovation and high standards for quality, reliability, performance and high-volume manufacturing capabilities has resulted in our continued growth and ability to offer our partners leading-edge technology, products and superior customer service to support mission-critical satellite communication systems anywhere in the world.

The Wavestream AeroStream™ incorporates Spatial Power Advantage™ technology to provide high power output with greater efficiency and reliability for airborne satellite communications system applications. There are now over 3,000 transceivers successfully operating on commercial and business aviation aircraft worldwide.

Gilat provides its Ka-band transceiver solution to numerous clients around the world, including Honeywell.

Antennas

Aircraft manufacturers are very focused on building planes with optimum aerodynamics, to reduce fuel burn and create the most efficient airframe possible. However, IFC solutions have often necessitated the placement of a mechanical antenna to the fuselage, increasing drag and in turn, fuel burn.

The more efficient solution is the Electronically Steerable Antenna (ESA). These small, flat panel, lightweight and low-profile antennas with no moving parts are capable of directing a narrow beam over a sector angle, giving coverage as good, if not better, than a sector antenna but all in a much smaller, more reliable package.

Gilat has developed a unique and most advanced Electronically Steered Antenna (ESA.) Gilat's technology has already been tested and deployed over GEO, MEO, and LEO in Ku and Ka bands, including dual operations in GEO/LEO and seamless switchover between beams and satellites. During testing, Gilat's high throughput and small form factor ESA operated continuously over GEO then instantaneously switched connectivity to operate on LEO when it came into view, and back to GEO after operating on LEO. Gilat's innovative design combines the benefits of ESA with the advantages of Ka-band, as highlighted by testing performance. The ESA terminal opens the market to low-latency real-time applications.

Gilat also has a strategic agreement with a service provider for the development and delivery of a highly reliable ESA terminal which will enable the service provider to deliver high throughput IFC for the commercial and business aviation markets over Ku-band on a LEO constellation.

Meeting the Demands of In-Flight Connectivity

In today's always-on world, airline passengers expect the same level of Internet connectivity in the air as they have on the ground. Commercial and private jet travelers around the world need to connect to one another and critical mobile applications, regardless of how many passengers or devices need to connect.

As such, in-flight connectivity services require sophisticated airborne satcom equipment, as well as the ground segment infrastructure needed for constant satellite coverage along a route under any conditions.

Gilat offers the most comprehensive broadband solution for IFC Service Providers. The airborne components include our cutting-edge Ku/Ka antennas, transceivers and Gilat's baseband equipment and high-performance aero modems, which offer market-leading performance, reliability and user experience and are currently deployed globally.

As innovators and experts in the field of mobility SATCOM with the highest proven MTBF, Gilat is uniquely placed to provide the most comprehensive, versatile and reliable solution to IFC Service Providers.