

# Debunking The Myths Of Airline Connectivity

## Five Need-to-know Facts for Making Future-proof Connectivity Decisions



The pace of technological change has many airlines wondering whether the investments they're making today will accommodate demand in a few years. The stakes are high, and industry noise around the different technologies has led to market confusion and conflicting information.

**It's time to set the record straight. Following are the five biggest misconceptions airlines are hearing about satellite connectivity, the reality behind these claims, and the bottom-line insight you need to make an informed choice.**

### 1 MYTH – IT'S ALL ABOUT FREQUENCY.

When you get into a discussion about bandwidth, it's easy to get lost in the technical weeds. Frequency spectrum is a common example – you can quickly be drawn into the debate about Ka- versus Ku-band and even non-GEO constellations like LEO and MEO. These debates may leave you wondering which solution is best for delivering the throughput speeds you'll need to stream video and other IP-based services.

**REALITY CHECK** It's about technology, not frequency. The performance of the connectivity depends on an intelligent blend of satellite, antenna and modem technologies. Frequency is just one of many factors that need to be taken into account when building a global, high-speed broadband service.

**BOTTOM LINE** *Technology and frequency should be selected with your digital strategy in mind. The right providers are aviation experts who have built modularity into their networks and can help you deploy the appropriate combination of technologies (which may or may not be satellite-based) from different vendors.*

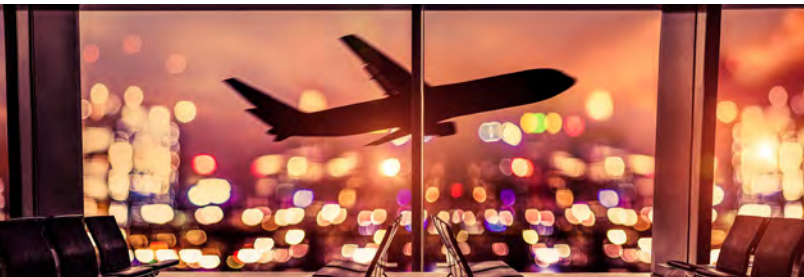
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## MYTH – SATELLITES: THE BIGGER THE BETTER.

You've probably heard some big claims about how much bandwidth some satellites can deliver, along with an enticing view of the future – with some providers projecting launches of 1Tbps satellites in a few years.

**REALITY CHECK** When designing satellite systems, there is a trade-off between maximizing aggregate throughput at the satellite or optimizing the end-terminal performance. Mega satellite designs put a limit on the end-terminal peak speed. While that may be the right design for consumer broadband, aviation requires connectivity that can scale over time to meet the ever-increasing demands of passengers.

**BOTTOM LINE** *Ultimately, having tons of bandwidth is useless if the pipe to the aircraft is capped. Your IFC solution must be focused on reliability and speed to the aircraft. This is better achieved via a network of overlapping satellites vs. one single satellite.*



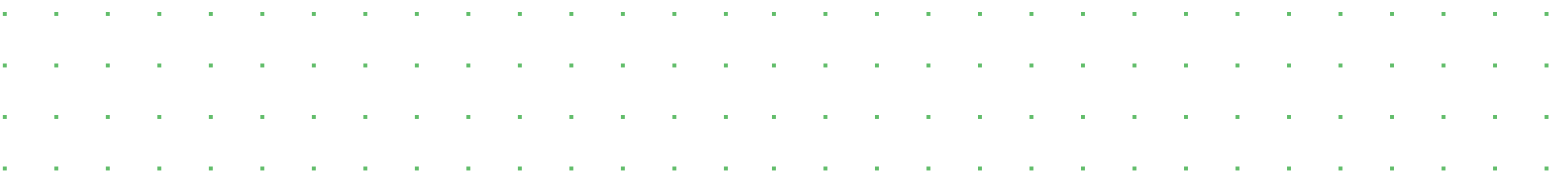
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## MYTH – YOU HAVE TO BET BIG ON ONE TECHNOLOGY.

There's pressure to make decisions today on certain IFC technologies – but installation can be time-consuming and costly. Without a full understanding of what your connectivity requirements might be later, how can you avoid buyer's remorse? .

**REALITY CHECK** You can't predict what new advancements will become available – and no single satellite, antenna or modem technology is "one-size-fits-all." The right providers are technology agnostic and offer modular solutions based on an open architecture that allows for the progressive increase of IFC performance without requiring a complete change of hardware on the aircraft.

**BOTTOM LINE** *Ultimately, open architecture means never being locked in – your infrastructure can be as flexible as you need it to be as your requirements evolve. In fact, Ku-band has the most advanced, multi-vendor antenna ecosystem on the market. This includes new, electronically steered antennas that promise to dramatically reduce the cost of installation and improve the performance and reliability of the aero terminals. Providers who offer open architecture will have access to those developments.*



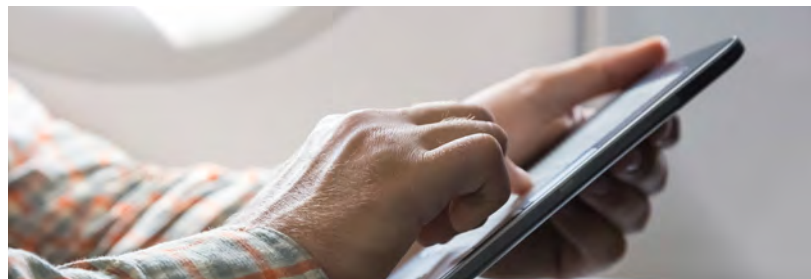
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## MYTH – “WE’VE GOT YOU COVERED (WITH THREE SATELLITES).”

Some will suggest that you need only three or four satellites strategically positioned around the globe to provide sufficient coverage. If only it were that easy...

**REALITY CHECK** With so few satellites, you’ll experience gaps of coverage, especially in high latitudes – and there is no way to ensure resiliency or reliability. What happens if a satellite fails? Do you need to install an L-band back-up system for your IFC? As airlines become increasingly reliant on real-time data to enable a multitude of in-flight services to crew or passengers, connectivity loss or downgrade will no longer be acceptable.

**BOTTOM LINE** *Work with a provider who can give you access to a constellation of satellites to deliver truly global coverage and redundancy. If a satellite fails, the backup is already in space – and you don’t need another antenna on your aircraft to access it.*



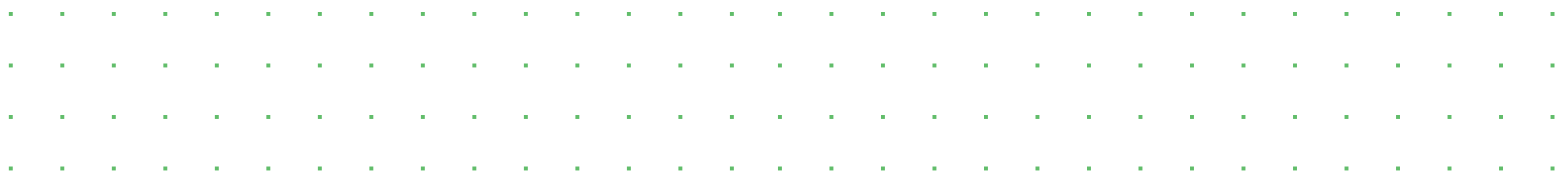
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## MYTH – “OUR SATELLITES EVENLY DISTRIBUTE CAPACITY.”

You may also hear how a homogeneous satellite network that evenly distributes capacity everywhere is the ideal model for delivering consistent and ubiquitous coverage.

**REALITY CHECK** This approach couldn’t be further from the truth. Homogenous networks offer the worst possible design because mobility demand is not evenly distributed. Airplanes tend to fly the same flight paths during similar hours. Homogenous networks become easily congested in high-traffic routes, making it impossible to deliver consistent, reliable service.

**BOTTOM LINE** *Look for providers with multi-layered networks that can match capacity density with broadband demand to ensure the same level of service everywhere, regardless of airspace congestion.*





## The Big Takeaway

Don't be confused by market hyperbole and unsubstantiated claims. Instead, future-proof your connectivity decisions by working with service providers who can offer a realistic and progressive path into the future. It will take an ecosystem to build connected aviation, and those who have chosen modular connectivity and are not tied to a single vendor's view of the world, are uniquely positioned to make this vision a reality.

To learn more about how Intelsat and its partners – including Gogo, Panasonic Avionics and Global Eagle Entertainment – can help you achieve the benefits of connected aviation, visit [www.intelsat.com/solutions/mobility/aviation](http://www.intelsat.com/solutions/mobility/aviation).



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