



Global Speeds

Kerry Baker | April 28, 2026

# In Search of the World's Fastest In-Flight Wi-Fi



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# Airlines adopting Starlink are changing the customer experience on commercial airlines

Which airline offers the fastest in-flight Wi-Fi? It's a simple question with an increasingly important answer. As our lives become more "always connected," the frustration of poor or non-existent connectivity becomes more acute. We have reached a point where the quality of in-flight connectivity (IFC) can be a decisive factor for passengers choosing flights and airlines based on their digital experience. For airlines, providing high-quality Wi-Fi is no longer just a perk – now it is a critical driver of passenger loyalty.

## Key takeaways

- **The “LEO-Divide” is reshaping the competitive airspace:** A clear performance gap has emerged between the “haves” and “have-nots” of low-Earth orbit (LEO) connectivity. Airlines achieving over 90% speed consistency—such as airBaltic (98.3%), WestJet (95.8%), and Hawaiian Airlines (95.3%)—are almost exclusively serviced by Starlink. Carriers currently trapped below the 50% consistency threshold now face a distinct competitive disadvantage.
- **Starlink’s worst day vs. the competition’s best:** The scale of Starlink’s disruption is best seen in the 10th percentile data: Starlink’s slowest users still experienced faster internet than the average user on any other satellite network. In just two years, Starlink has captured nearly 48% of the commercial Speedtest sample share.
- **The performance “Rubik’s Cube”:** Solving for the world’s fastest Wi-Fi is a complex puzzle involving three moving parts: satellite backhaul, fleet-wide hardware mix, and internal router technology. Airlines must manage this end-to-end stack to avoid where superior satellite speeds are bottlenecked by older in-cabin hardware that constrains the Wi-Fi network performance.
- **Loyalty is the Ultimate Stake:** In-flight Wi-Fi has caught up to traditional airline service metrics in terms of passenger satisfaction. As airlines move toward free, high-speed models, IFC is no longer just a luxury perk—it is a powerful loyalty lever and a critical tool for digital engagement in a “churn-resistant” customer journey.

This article builds on research published in [Starlink Elevates In-Flight Wi-Fi Performance](#) and is based on Ookla® Speedtest Intelligence® data and airline Wi-Fi network names.

# Speed ingredients: a satellite, a Wi-Fi router and an airplane

Often a simple question — Which airline Wi-Fi is fastest? — needs a nuanced and complex answer. These are the key variables in the equation that predict the performance of the in-flight Wi-Fi network.

- **The satellite.** Using terrestrial internet for an analogy, DSL (digital subscriber line) is to GEO (Geostationary Orbit) satellite connectivity as fiber is to LEO (low Earth orbit). Starlink operates a LEO satellite constellation and more LEO competition is coming. Prior to Starlink's ascent, the connectivity for in-flight Wi-Fi service mainly came from GEO (Geostationary Orbit) satellites. When compared to an airplane cruising at 35,000 feet, a LEO satellite is just 50 times higher while a GEO is over 3,000 times higher. That's one reason for Starlink's performance advantage.
- **The router.** Just as cellular has 4G and 5G, Wi-Fi has technology generations, too. And, as we already intuitively understand, the newer technology generation has better performance than its predecessor. With our smartphones, we know we have a 5G phone and 5G connection — the phone shows us and the mobile provider marketers remind us. Yet, when we connect to Wi-Fi, *which Wi-Fi* is it? Some airplanes have older Wi-Fi routers and some have newer ones – this matters.
- **The airplane.** Performance is tied to the specific *airplane*, not the airline, because hardware (satellite providers and Wi-Fi router generations) varies among and within airlines. The airplane serves as the physical nexus for the IFC and Wi-Fi router. Although Speedtest data cannot isolate specific airplanes (network names are airline-specific), this hardware variability is an important performance factor.

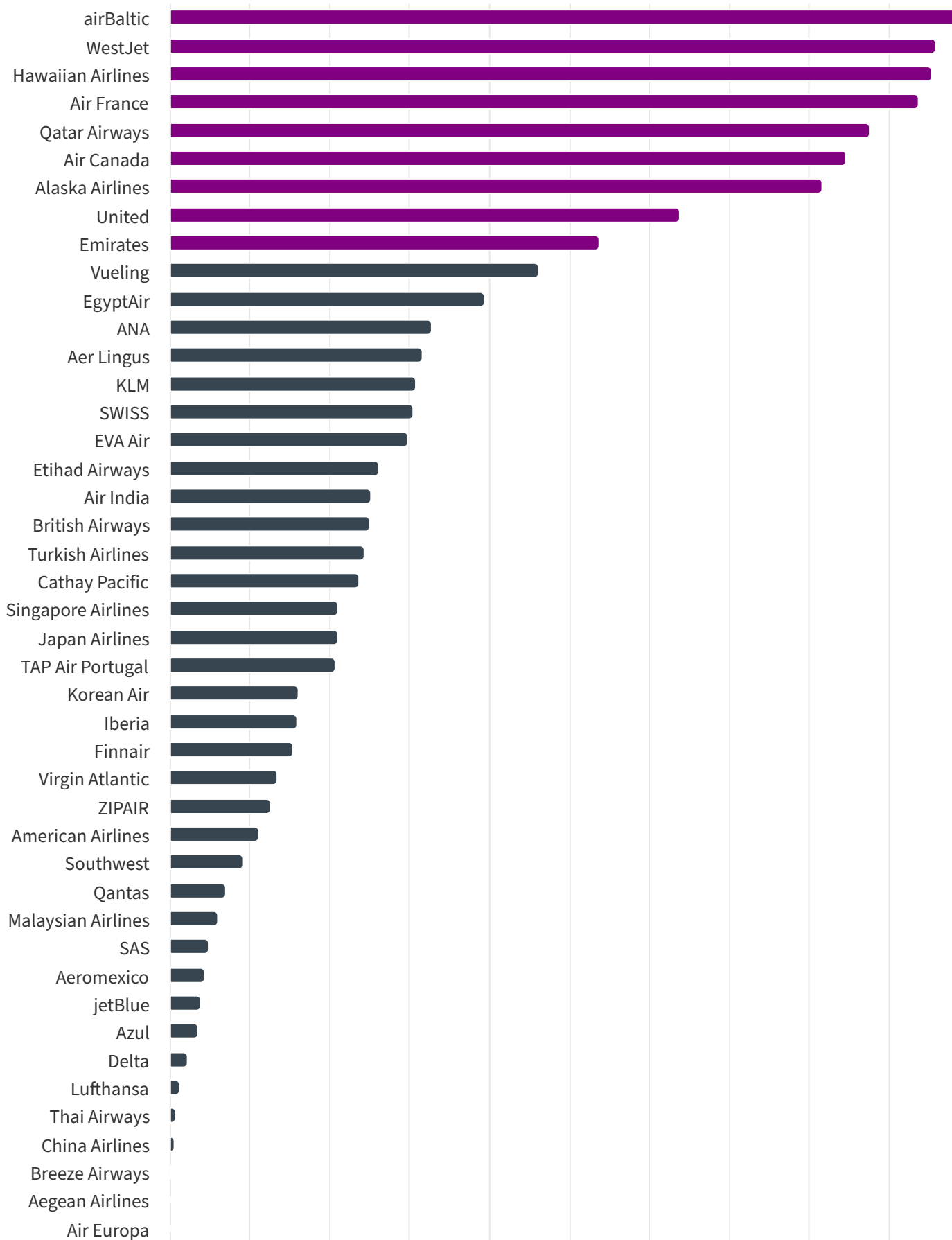
## Fast enough In-Flight Connectivity (IFC)

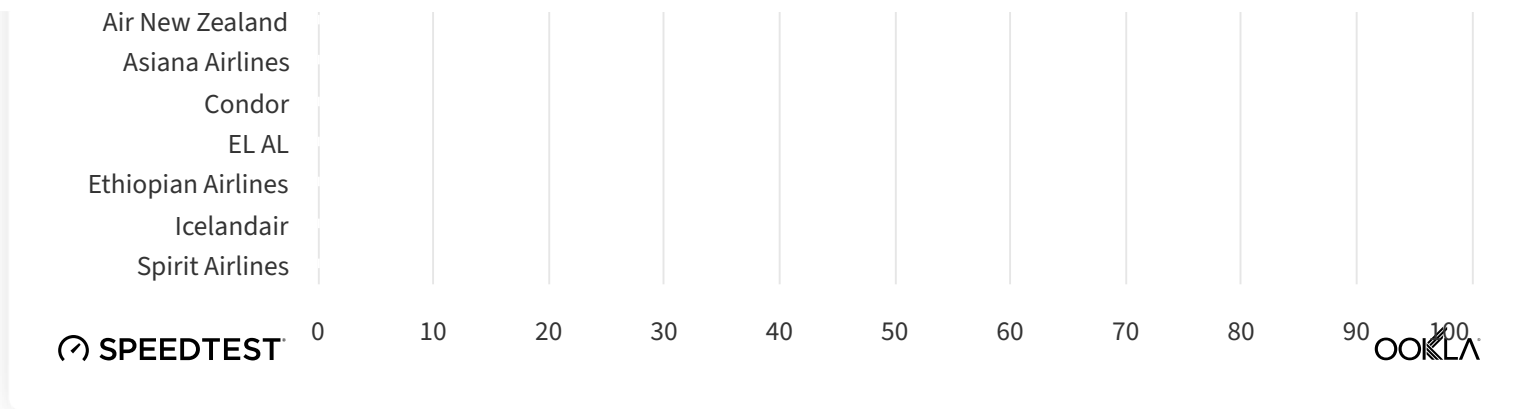
We analyzed more than 50 airlines for the consistency of their in-flight Wi-Fi service based on a dual-threshold of 25 Mbps download speed and 3 Mbps upload speed (25/3 Mbps) as the practical requirements for digital productivity and entertainment. Speeds above 25 Mbps supports a buffer-free experience for High-Definition (HD) video streaming, smooth loading of content-heavy web pages, and the reliable handling of larger email attachments. And a consistent 3 Mbps upload speed helps for maintaining responsive connections to cloud-based work applications like Slack and shared cloud drives.

# Wi-Fi Consistency by Airline



Speedtest Intelligence® | 2H 2025, % of samples at least 25 Mbps download speed and 3 Mbps upload speed





Note: For airlines with multiple IFC providers, a weighted average was calculated.

airBaltic (98.3%) ranked highest in delivering consistency in 2H 2025, closely followed by WestJet (95.8%) and Hawaiian Airlines (95.3%), with Air France (93.7%) joining the *over-90% consistency* leaders.

Qatar Airways (87.6%), Air Canada (84.6%) and Alaska Airlines (81.6%) comprised the second group of high-ranking consistency scores.

United (63.7%) and Emirates (53.7%) joined the club of airlines with over half of Speedtests above the 25/3 Mbps grade. Nearly all of these airlines with consistencies above 50% had something in common – Starlink. With the exception of Air Canada, which relies on Intelsat for its in-flight Wi-Fi service, every airline in this group had a meaningful proportion of its IFC provided by Starlink. Moreover, the top three airlines – airBaltic, WestJet and Hawaiian Airlines – were solely serviced by Starlink, while no airline below 50% had Starlink as its IFC provider. **United**, **Emirates**, **British Airways** (25.0%), **Southwest** (9.2%), and **SAS** (4.9%) are examples of airlines that are shifting their fleet’s IFC to Starlink in order to realize the speed and latency advantages of LEO. **Singapore Airlines** (21.0%) is also expected to follow suit. (Will Singapore Airlines’ rival Cathay Pacific (23.6%) follow the same flight path?)

Further, following the same LEO logic, **jetBlue** (3.8%) and **Delta** (2.2%) will be expecting to improve their consistencies, having both announced deals with Amazon Leo for 2027 and 2028, respectively. Amazon Leo (fka Amazon Project Kuiper), a subsidiary of Amazon, is in the process of launching a constellation of LEO satellites to provide broadband internet connectivity. For the **aviation industry**, Amazon Leo has touted its capabilities to deliver **gigabit speed** to the aircraft.

Besides airlines swapping out IFC hardware and services in existing fleets, manufacturers **Boeing** and Airbus modularly configure new airplanes coming off the line for IFC providers. For example, satellite connectivity company **Viasat will work more closely with Boeing** on hardware design and function, and **Air India recently selected Hughes** for its IFC supplied by **Airbus HBCplus** (*High Bandwidth Connectivity Plus*). These types of

deals between the airlines and the suppliers enable and accelerate the diffusion of better-quality in-flight Wi-Fi.

The skies are blue for the future of IFC consistency.

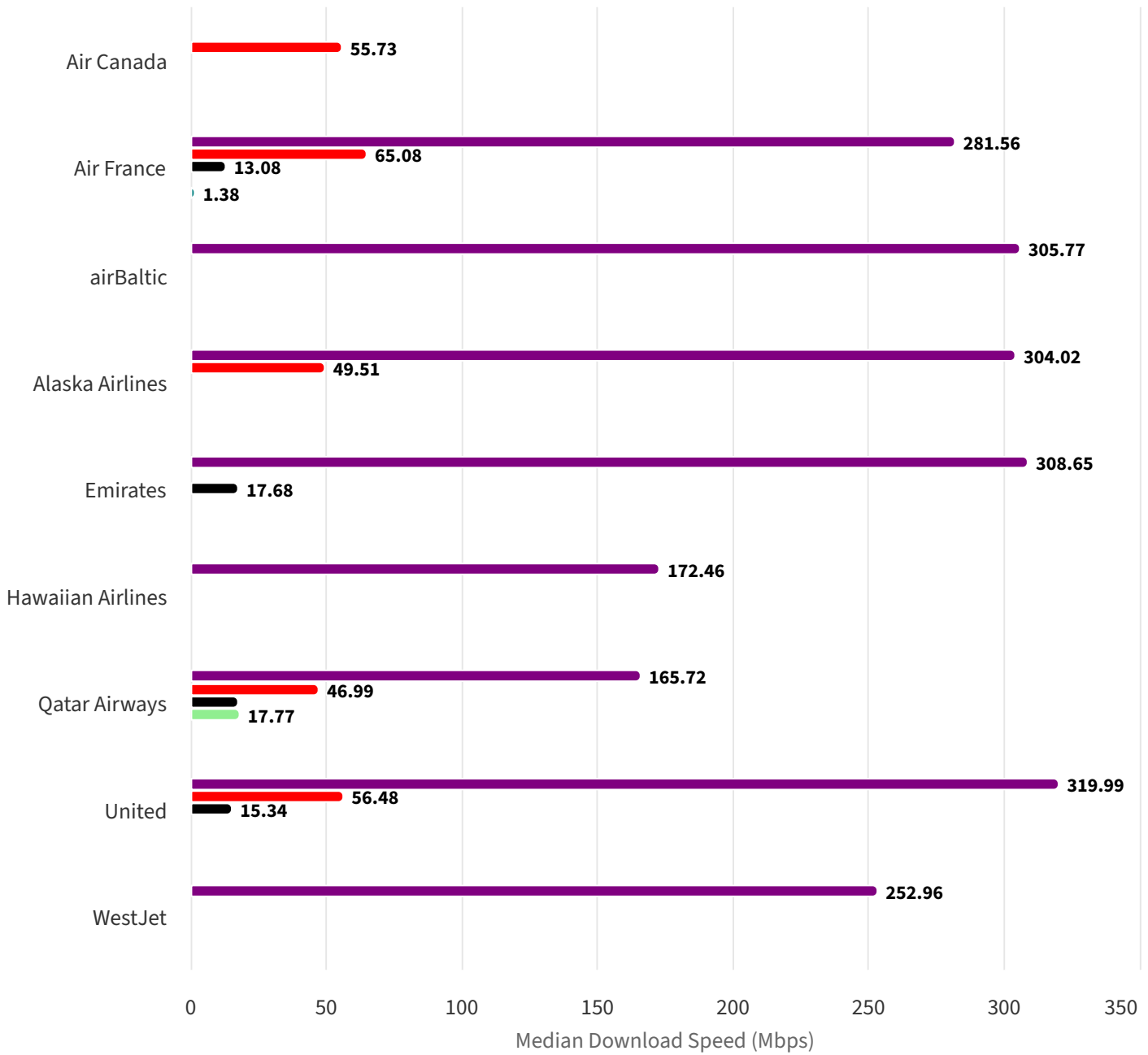
## Fast-break download speeds

Given all of these connectivity provider migrations happening and the mixed IFC provider picture, declaring a “fastest airline” is a blurry proposition. However, this transition and mix provides the opportunity for discrete analysis of the performance differences between the IFC providers behind the top consistency airlines in the simple terms of download speed.

# Speediest Airlines and Connectivity Providers Download Speeds



Speedtest Intelligence® | 2H 2025, median



● Starlink ● Intelsat ● Inmarsat ● Viasat ● Panasonic Avionics



Whereas the consistency metric is a minimum data-speed benchmark for a basic customer experience, the metric of median download speed reveals insight into the network capacity that is available to offer a good or great customer experience for everyone on the flight.

As with the highest consistency IFC airlines, Starlink stood out for its speed. Of over 50 airlines evaluated, the eight airlines that exceeded 100 Mbps median download speed and half of those clocking over 300 Mbps in 2H 2025 (see chart) were served by Starlink. No other IFC provider approached triple-digit speeds. Conversely, no airline with Starlink was below 100 Mbps median download speed.

Intelsat (46.99 – 65.08 Mbps) and Viasat (56.84 Mbps) demonstrated good median download speeds among the top consistency airlines, well above the consistency metric minimum of 25 Mbps. (Intelsat is owned by satellite company [SES](#). [Viasat acquired Inmarsat](#) in 2023, and both appear separately in Speedtest data.)

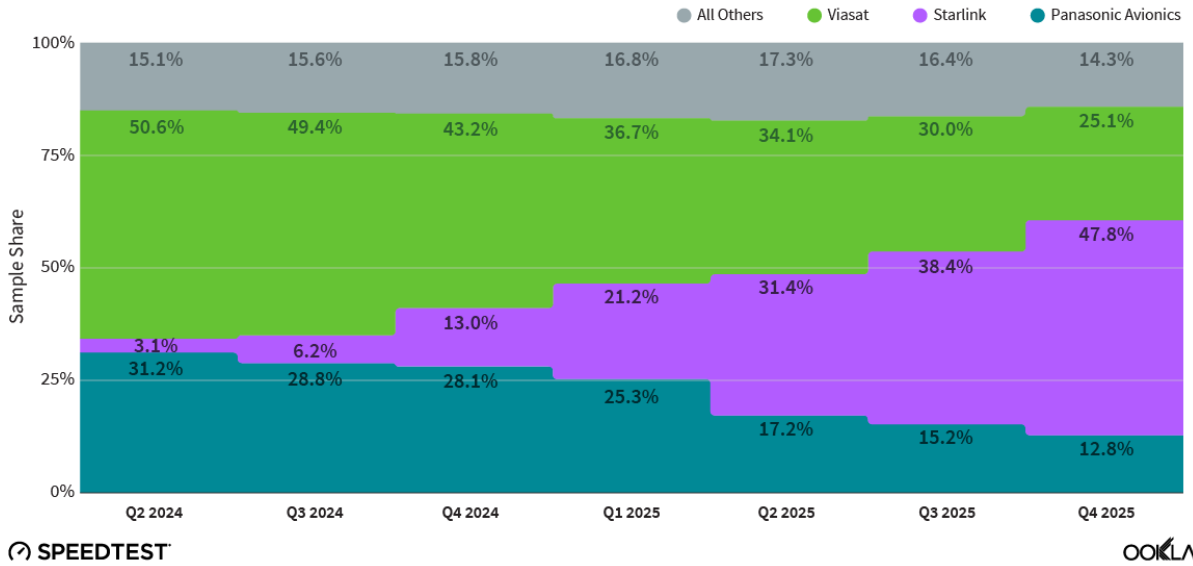
The median download speeds for SITA (a [ground-to-air solution](#) only found on Qatar Airways in Speedtest data), Inmarsat, Panasonic Avionics, and Deutsche Telekom (also a [ground-to-air based network](#)) all performed poorly by this measure. (Panasonic Avionics is not a satellite operator. Rather, it provides in-flight Wi-Fi service and entertainment solutions via the connectivity of its partnerships with Eutelsat OneWeb and Spacesail.)

## A rising Starlink

The consistency and download speed performance results of Starlink's IFC are game changing. And, not coincidentally, numerous airlines are, or are planning to, upgrade their IFC to Starlink (including: [United](#), [Emirates](#), [British Airways](#), [Southwest](#), and [SAS](#)).

## Speedtest Sample Shares by Inflight Wi-Fi Provider

Speedtest Intelligence® | Q2 2024 – Q4 2025



Starlink started offering commercial in-flight Wi-Fi when Hawaiian Airlines first deployed it in **February 2024**. In just two years, Starlink captured almost half of the commercial airline passenger Speedtest sample share (47.8%) by Q4 2025.

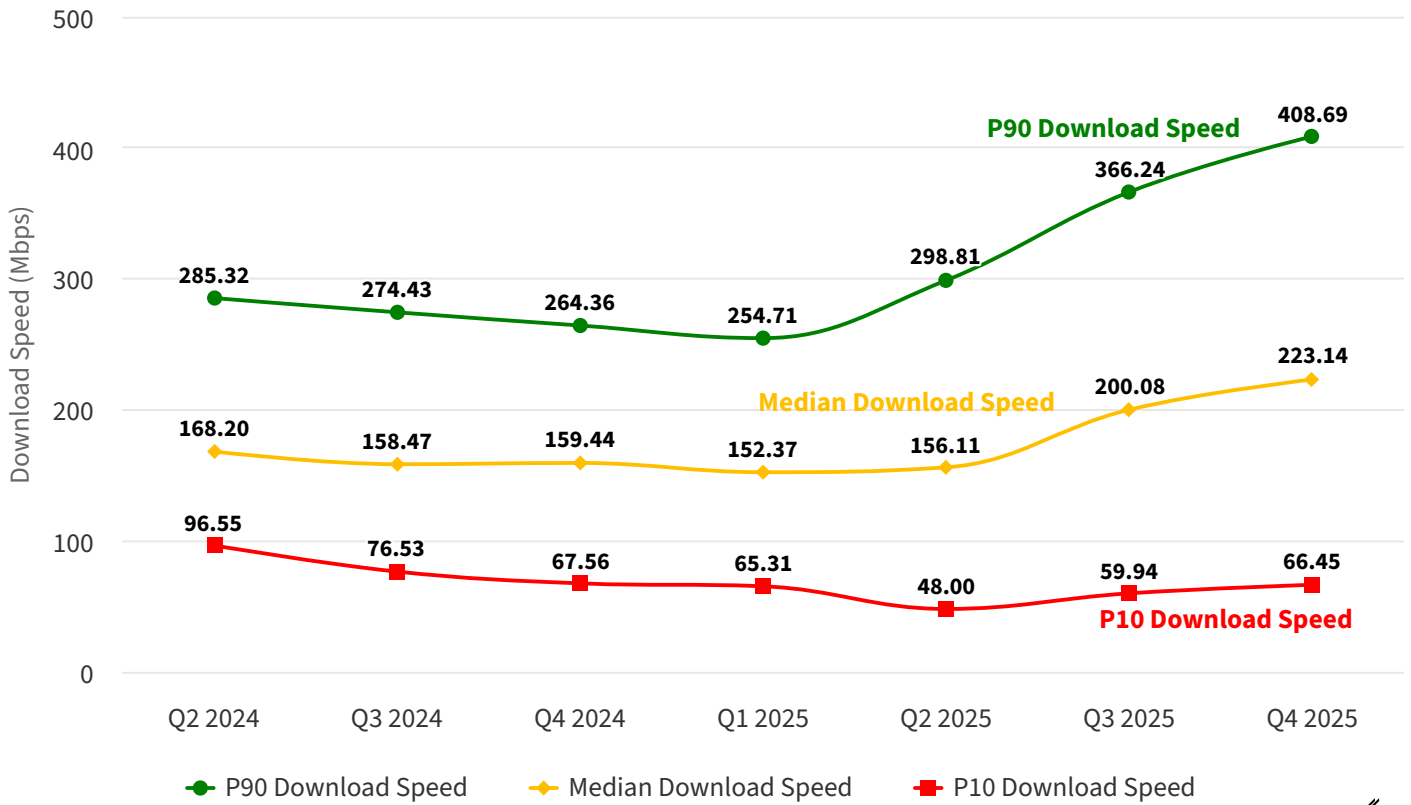
Viasat (25.1%) and Panasonic Avionics (12.8%) held the second and third largest share. Inmarsat and Intelsat were the next two largest providers according to Speedtest samples with 3.2% and 3.0% shares, respectively, part of All others (14.3%).

Not just *taking* share, however, Starlink's increased availability allowed it to gain its share leadership by growing the overall total number of Speedtest samples. Airlines and passengers are realizing that in-flight connectivity is loyalty lever and service expectation, driving its proliferation.

### No slowing down

# Starlink In-Flight Wi-Fi Speeds

Speedtest Intelligence® | Q2 2



Change data set

Download Speed (Mbps)

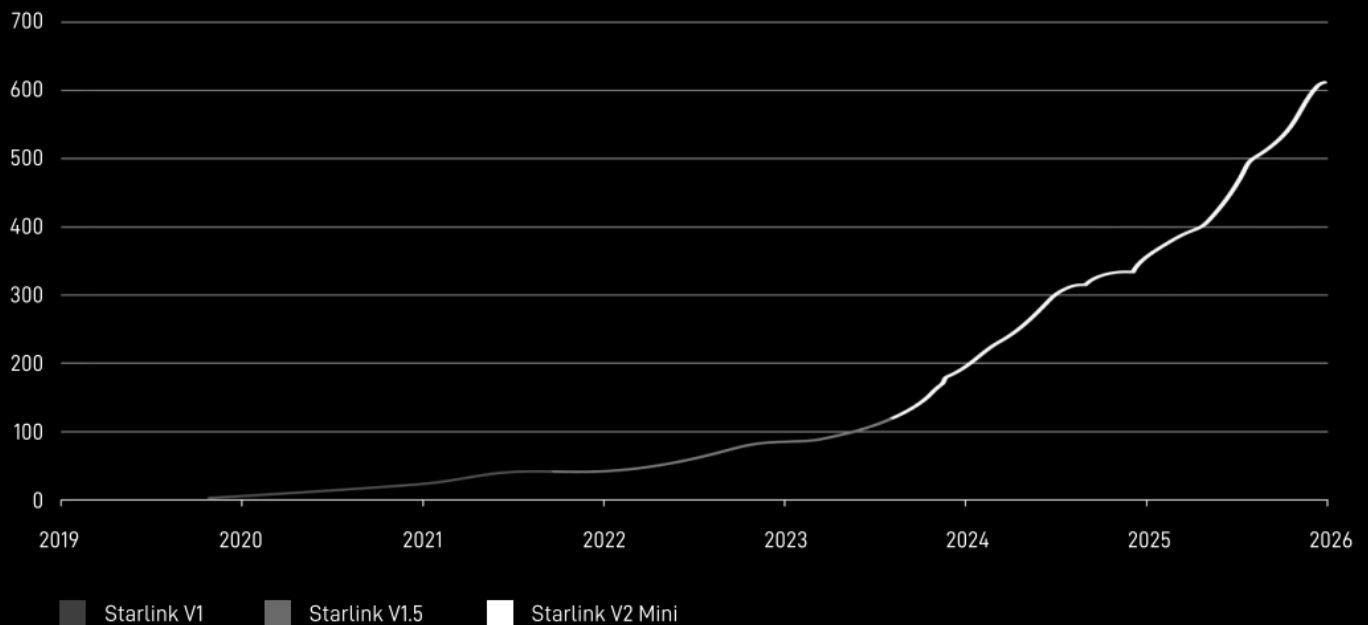
Upload Speed (Mbps)

Recall that the threshold for the consistency metric is 25 Mbps download speed and 3 Mbps upload speed. Starlink's 10th percentile download speed – that is, 90% of Speedtest samples were faster – only got as low as 48.00 Mbps in Q2 2025, and stayed around twice as fast as the 25 Mbps threshold every quarter. Likewise, its 10th percentile upload speed was consistently around 10 to 13 Mbps, more than triple the 3 Mbps mark.

Sometimes when wireless networks experience rapid growth, the increased number of users and larger volume of data traffic can result in slower speeds for everyone. This has not been the case for Starlink. Over the past two years, it has maintained a solid minimum speed performance on the slower end of in-flight Speedtest samples (10th percentile) while increasing its median (50th percentile) and top-end speeds (90th percentile). This reflects Starlink's broadband performance trends [found globally in Ookla Research reports](#).

## STARLINK CAPACITY LAUNCHED

CUMULATIVE CAPACITY (TBPS)



*(Source: Starlink Progress Report 2025)*

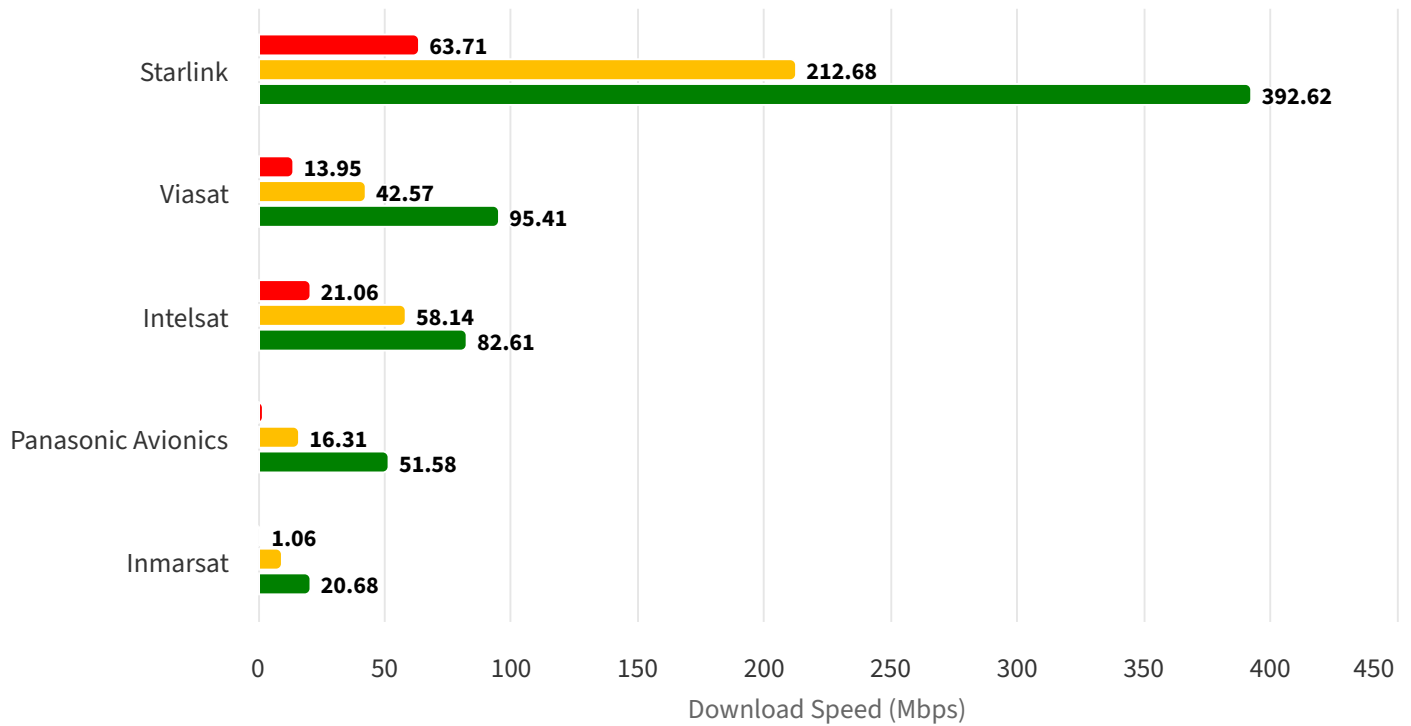
Starlink's satellite constellation has grown along with its capacity, keeping up with, or even ahead of, its customer growth. This tightly correlates with the data we see in our Speedtest sample growth and data speed performance.

### Reaching for the Starlinks

## In-Flight Wi-Fi Provider Performance | Speeds and Latency



Speedtest Intelligence® | 2H 2025



● P10 Download Speed ● Median Download Speed ● P90 Download Speed

SPEEDTEST

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Change data set

- Download Speed (Mbps)  Upload Speed (Mbps)  Multi-Server Latency (ms)

Digging deeper into the individual in-flight Wi-Fi provider performances does little to change the Starlink-led narrative.

Starlink was so much faster than its competitors that even its worst performance was better than their typical service. For download speeds, Starlink's slowest users still got faster internet (63.71 Mbps at the 10th percentile) than the average user on any other satellite network. This lead was even greater when it came to upload speeds; Starlink's bottom 10th percentile (11.73 Mbps) were nearly as fast as the top users on Intelsat's network (13.84 Mbps) and were significantly faster than everyone else. Essentially, Starlink on its worst day was better than its rivals on their best day.

Despite the gap to Starlink, Intelsat still provided usable Wi-Fi even at its 10th percentile download (21.06

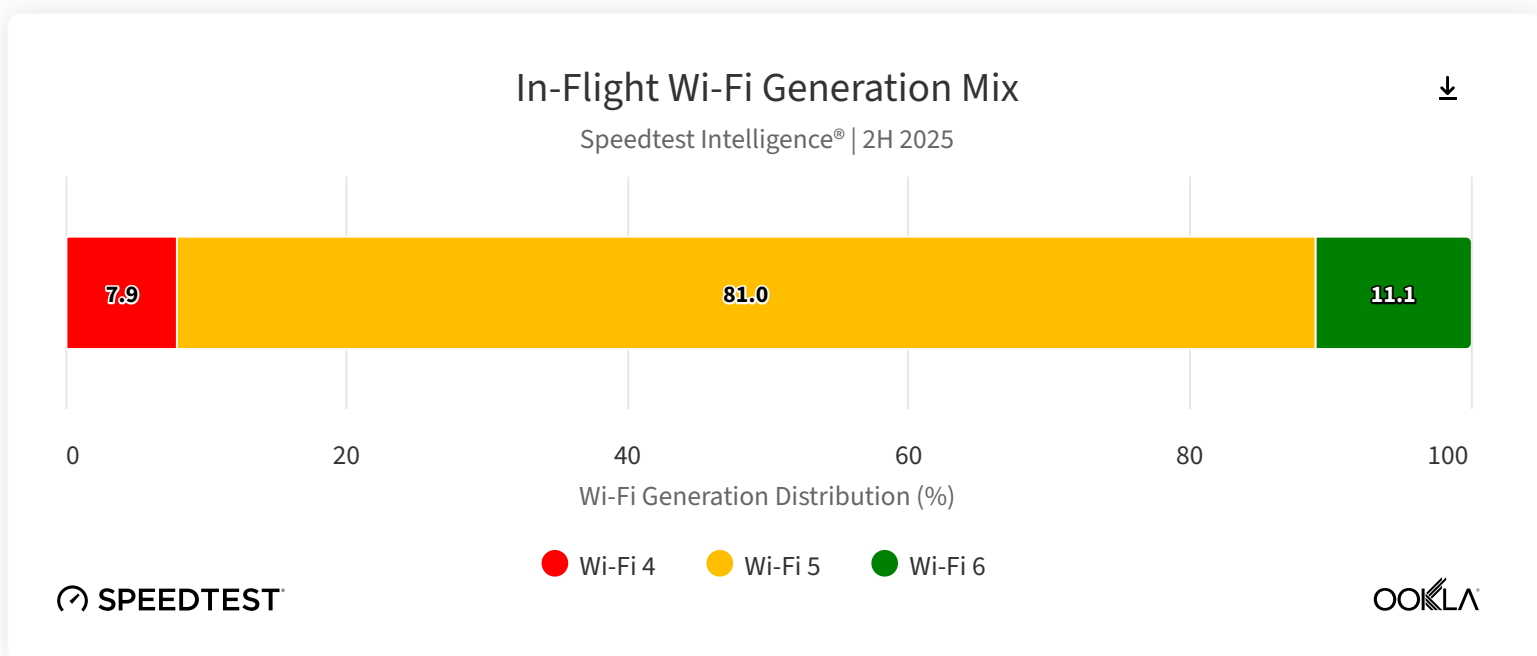
Mbps) and upload (4.13 Mbps) speeds. Viasat, too, for its download speed, mostly delivered usable Wi-Fi connectivity with a 10th percentile at 13.95 Mbps.

Latency comparisons are overwhelmed by the physical distance difference of LEO and GEO. (For an airplane at cruising altitude, LEO is 50 times higher while a GEO is over 3,000 times higher). Starlink's slower 10th percentile (133 ms) multi-server latency was still quicker than the better 90th percentile latencies of most other providers. Interestingly, Intelsat and Inmarsat exhibited better 90th percentiles (144 ms, 83 ms), possibly evidence of MEO (medium earth orbit) or LEO partnerships.

## The opportunity in Wi-Fi routers

Along with the airlines (and airplanes) and the IFC providers, the generation of the Wi-Fi router adds another layer of complexity to our examination of the world's fastest in-flight Wi-Fi.

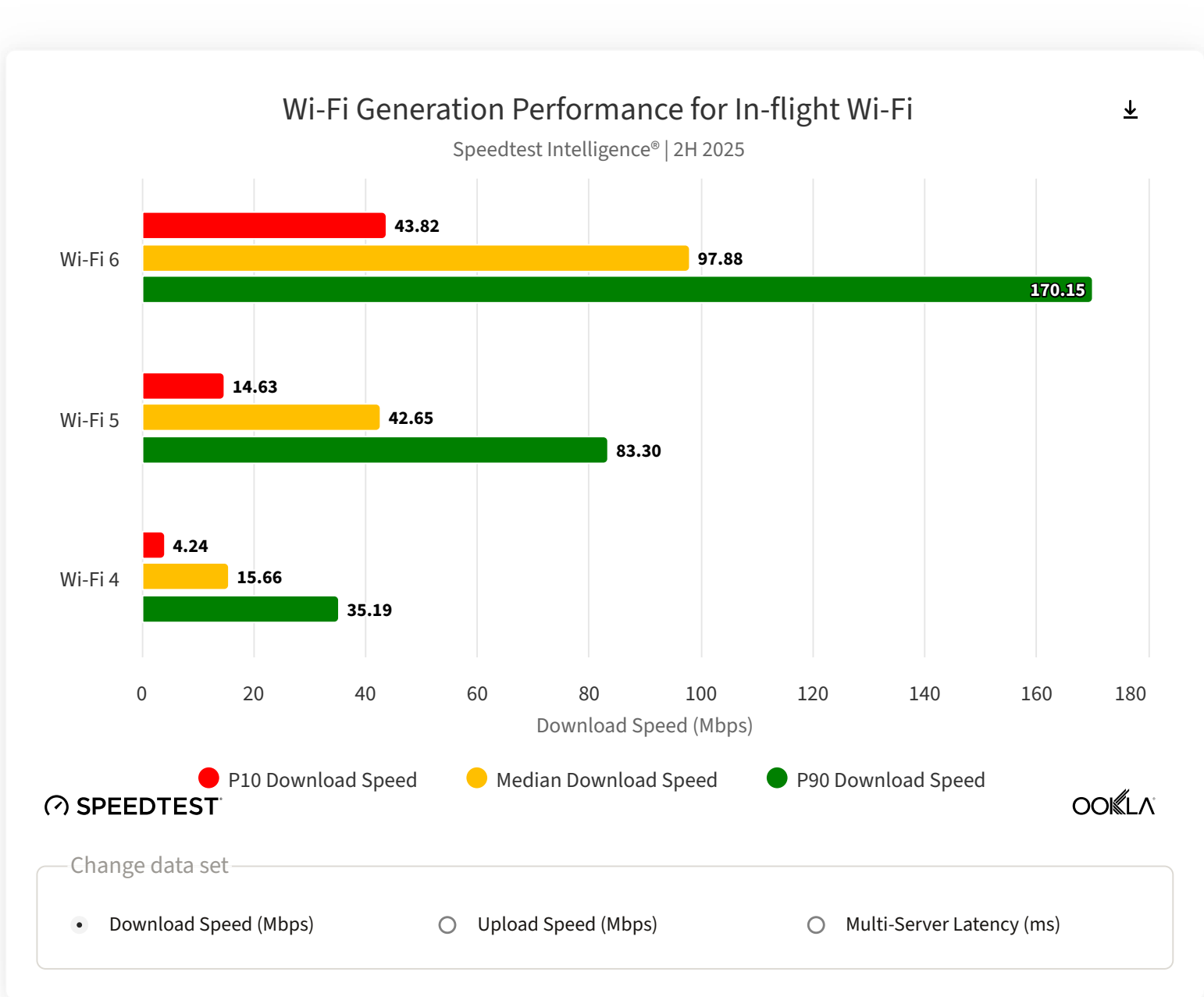
We found that Wi-Fi 5 had the majority share of Speedtest samples at 81%, followed by Wi-Fi 6 a little over 11% and legacy Wi-Fi 4 lurking with nearly 8%. Wi-Fi 5 came around in the early years of 4G LTE as it was taking off for the mobile operators. Wi-Fi 6 arrived just as 5G was launching. Wi-Fi 4, on the other hand, dates back to just prior to 4G LTE – yes, 3G.



Wi-Fi 7, introduced in 2024, is the latest generation commercially available today. However, relative to the

time and expense of upgrading fleets of airplanes, no Wi-Fi 7 was expected and none was found among our Speedtest data. (Indeed, Wi-Fi 7 adoption in the consumer residential environment is just underway in many regions that Ookla Research has examined: [Europe](#), [Middle East](#), [Latin America](#), [United States](#) and [Canada](#).)

A mix of Wi-Fi generations across IFC providers and airlines can get complicated. These multiple input variables are a virtual Rubik's Cube in trying to solve for the best experience. To simplify, the cheat code is – maybe this is obvious – Wi-Fi 6 and LEO provide the best results; Wi-Fi 4 and GEO the worst.



The difference in the performance of Wi-Fi generations is clear and consistent across the Speedtest sample

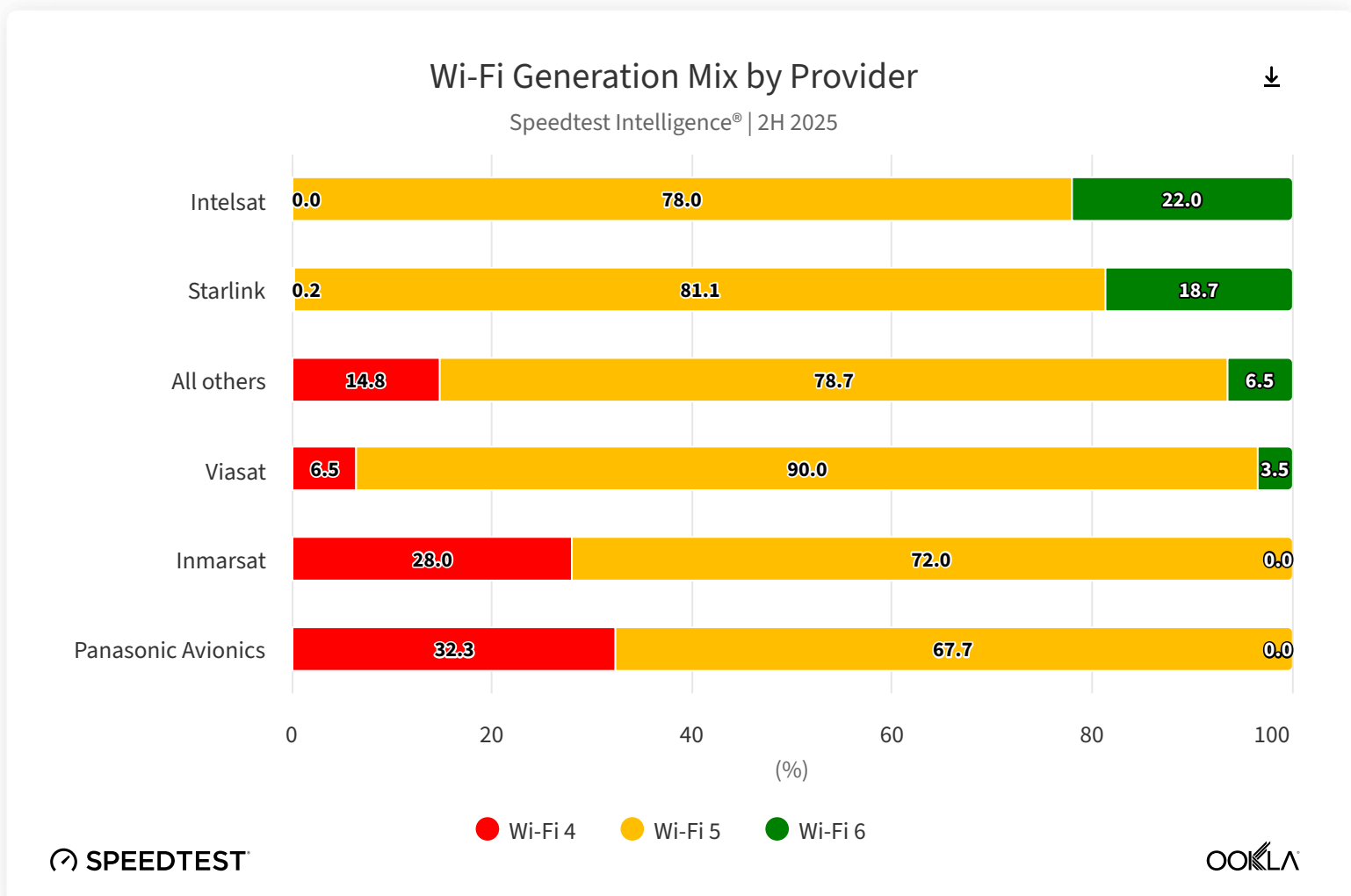
results. In each metric, the progressions in speeds and latency follow the Wi-Fi generations. The median download speed on Wi-Fi 6 is over six-times faster than on Wi-Fi 4. The median upload speed is over four-times faster; and the median multi-server latency is less than half.

## In-flight Providers and Wi-Fi Generations

Returning to the metric of *consistency* (where the Speedtest samples are faster than 25 Mbps download and 3 Mbps upload speeds), the percentages crossing this threshold by Wi-Fi generation were:

- **Wi-Fi 4 = 14.9%**
- **Wi-Fi 5 = 28.8%**
- **Wi-Fi 6 = 56.9%**

The IFC provider is foundational to the performance underlying the Wi-Fi router, and each provider has a different mix of Speedtest samples on each generation.

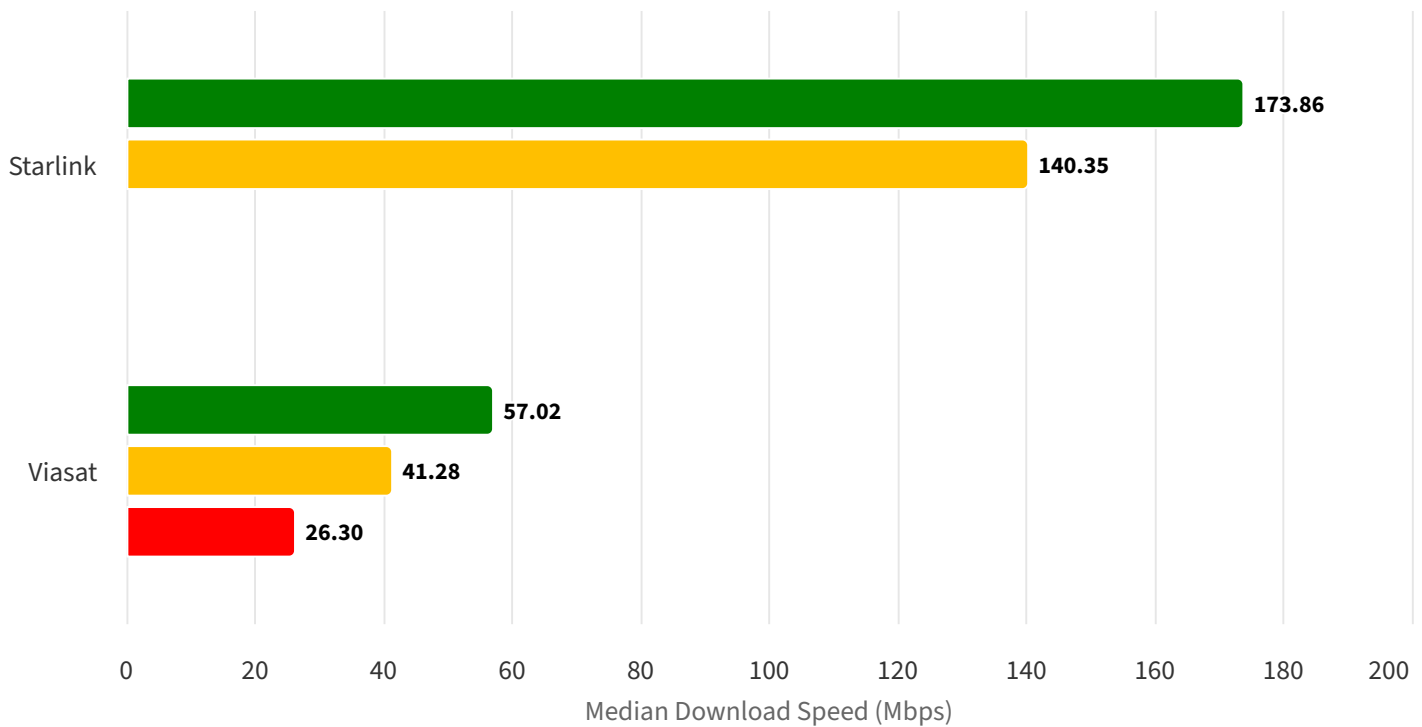


Intelsat (22.0%) and Starlink (18.7%) had the most in-flight Wi-Fi Speedtest samples on the faster Wi-Fi 6 generation gear. Conversely, Panasonic Avionics (32.3%) and Inmarsat (28.0%) had the most Speedtest samples on slower Wi-Fi 4.

To understand how older Wi-Fi generation equipment hinders the customer experience, we examine the download speeds for Starlink, where the “pipe” is wider such that the Wi-Fi performance differences are challenged; and Viasat with a robust mix of Speedtest samples across Wi-Fi generations on a single provider.

### Starlink and Viasat Download Speeds by Wi-Fi Generation

Speedtest Intelligence® | 2H 2025



SPEEDTEST

● Wi-Fi 6   ● Wi-Fi 5   ● Wi-Fi 4

OOKLA

Change data set

- Median Download Speed (Mbps)
- P10 Download Speed (Mbps)
- P90 Download Speed (Mbps)

In both IFC provider cases, the Wi-Fi generation makes a difference in download speed. Moving from Wi-Fi 5 to Wi-Fi 6 increased Starlink’s median speed by approximately 24% (from 140.35 Mbps to 173.86 Mbps).

Viasat showed a steady climb from Wi-Fi 4 (26.30 Mbps) to Wi-Fi 6 (57.02 Mbps). Moreover, the 10th percentile user experience floor for Starlink was 39% higher, and for Viasat going from Wi-Fi 4 to Wi-Fi 6 more than doubled this measurement (from 11.15 Mbps to 25.64 Mbps).

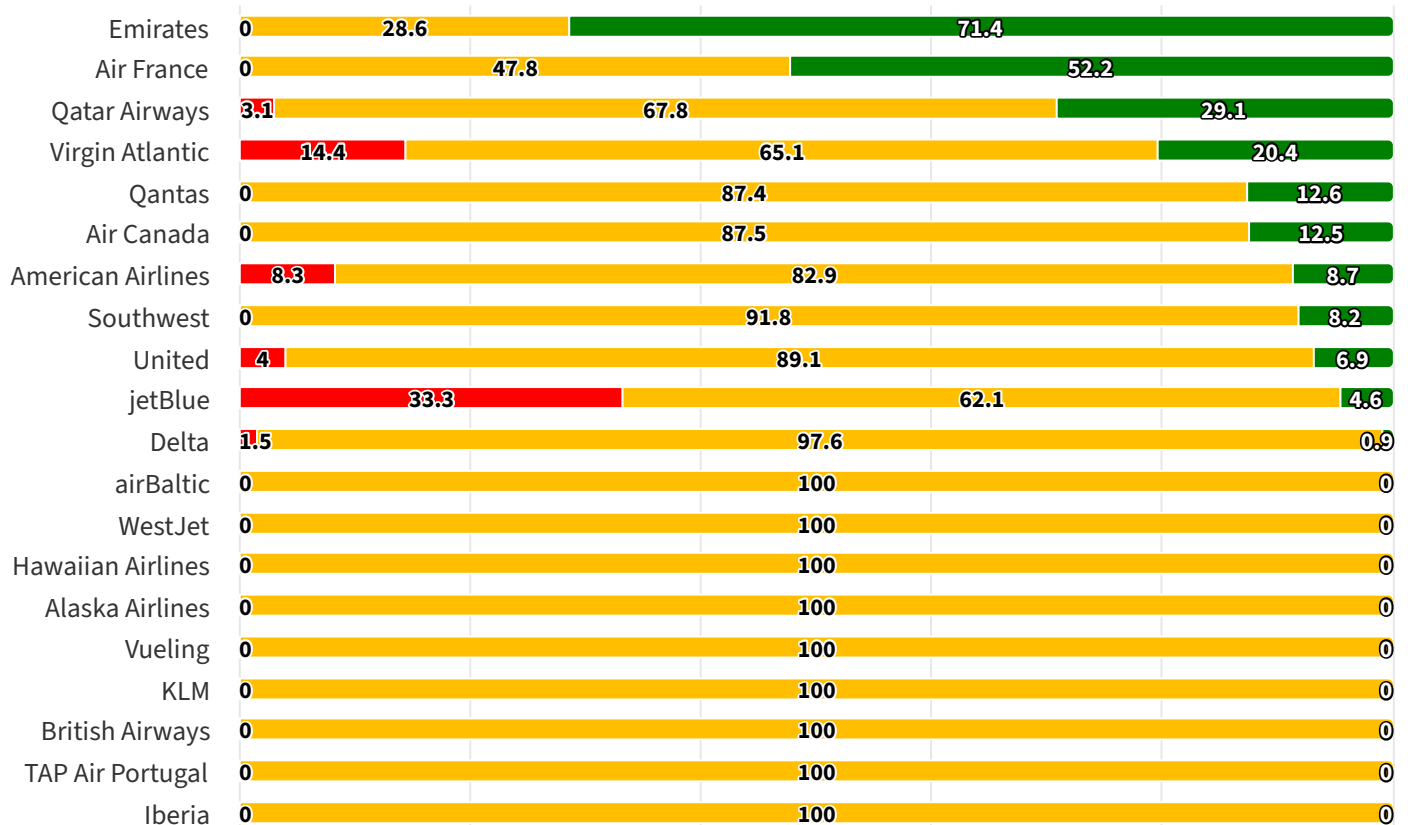
## Airlines and Wi-Fi Generations

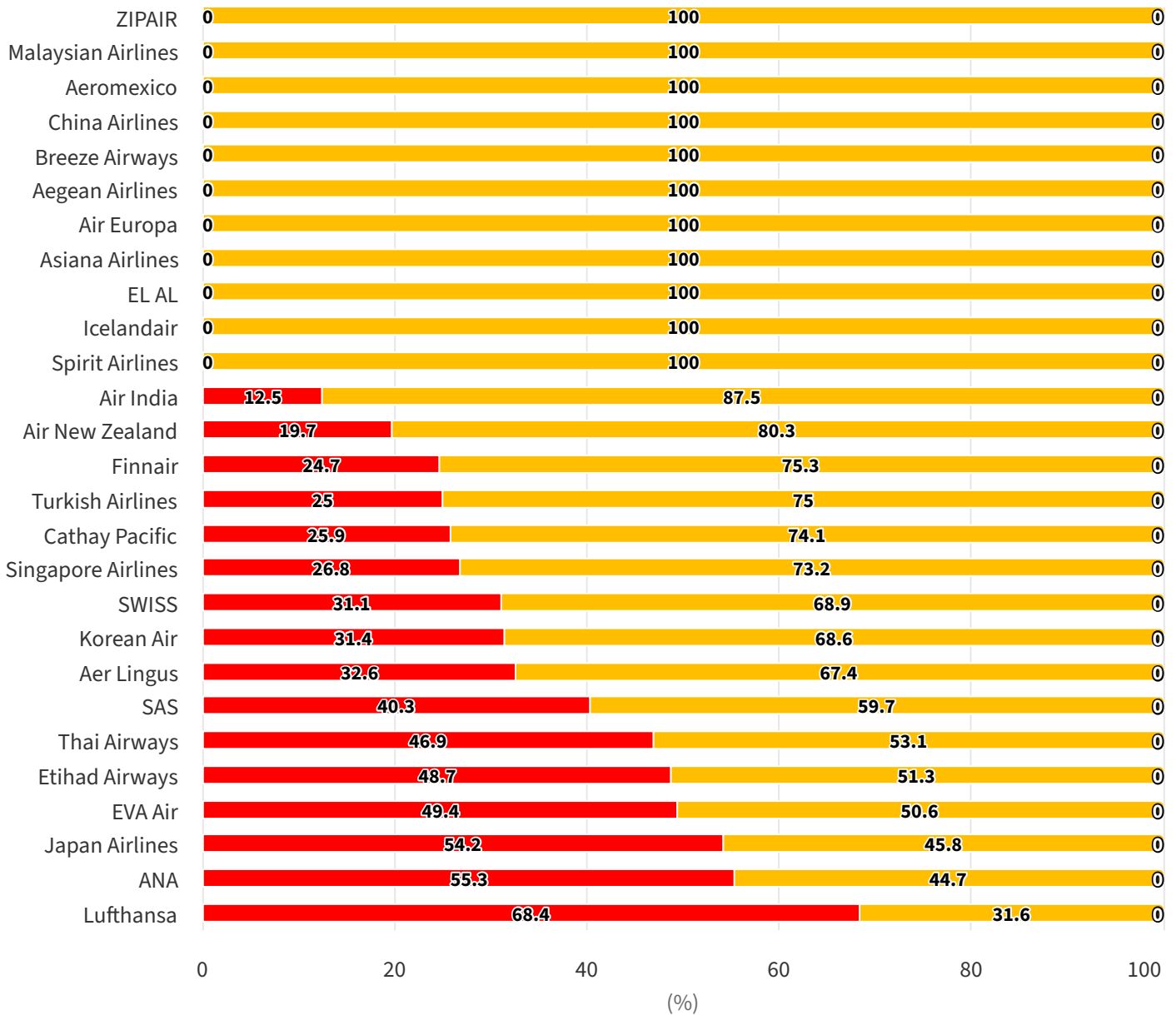
Returning to the *Consistency* metric once more:

- In airlines where **Wi-Fi 4 is at least one-third** of samples, overall Consistency averaged **15.0%**
- In airlines with **any Wi-Fi 4** Speedtest samples, the overall Consistency averaged **22.1%**
- For **all Wi-Fi generations**, the overall Consistency averaged **27.0%**
- In airlines with **any Wi-Fi 6** Speedtest samples, the overall Consistency averaged **39.1%**

### Airline Speedtest Sample Mix by Wi-Fi Generation

Speedtest Intelligence® | 2H 2025





SPEEDTEST

● Wi-Fi 4 ● Wi-Fi 5 ● Wi-Fi 6

OOKLA

Lagging behind many of the **cruise lines'** Wi-Fi generation mix, there is a range from where some airlines have a majority of Speedtest samples on Wi-Fi 4 while others have a majority on Wi-Fi 6. Wi-Fi 4 replacement is an opportunity to improve the customer experience, which is likely to happen in concert with changing the IFC provider.

## Game changed: from a connectivity to customer loyalty

Competition to Starlink is coming, but the aforementioned Amazon Leo IFC won't appear until next year.

Existing providers are **making deals and improvements** to respond – these take time as well. Is there time?

Difficult to say, but whether due to Starlink’s growth or other providers’ improvements, passenger satisfaction with in-flight Wi-Fi is catching up to other customer experience factors. As we **noted last year**, in-flight Wi-Fi ranked lower than the proverbial lowest bar of airline food. Now, in the **latest travel study** from the American Customer Satisfaction Index, “Customer-facing technology like in-flight Wi-Fi and enhanced flight information systems show notable gains.”

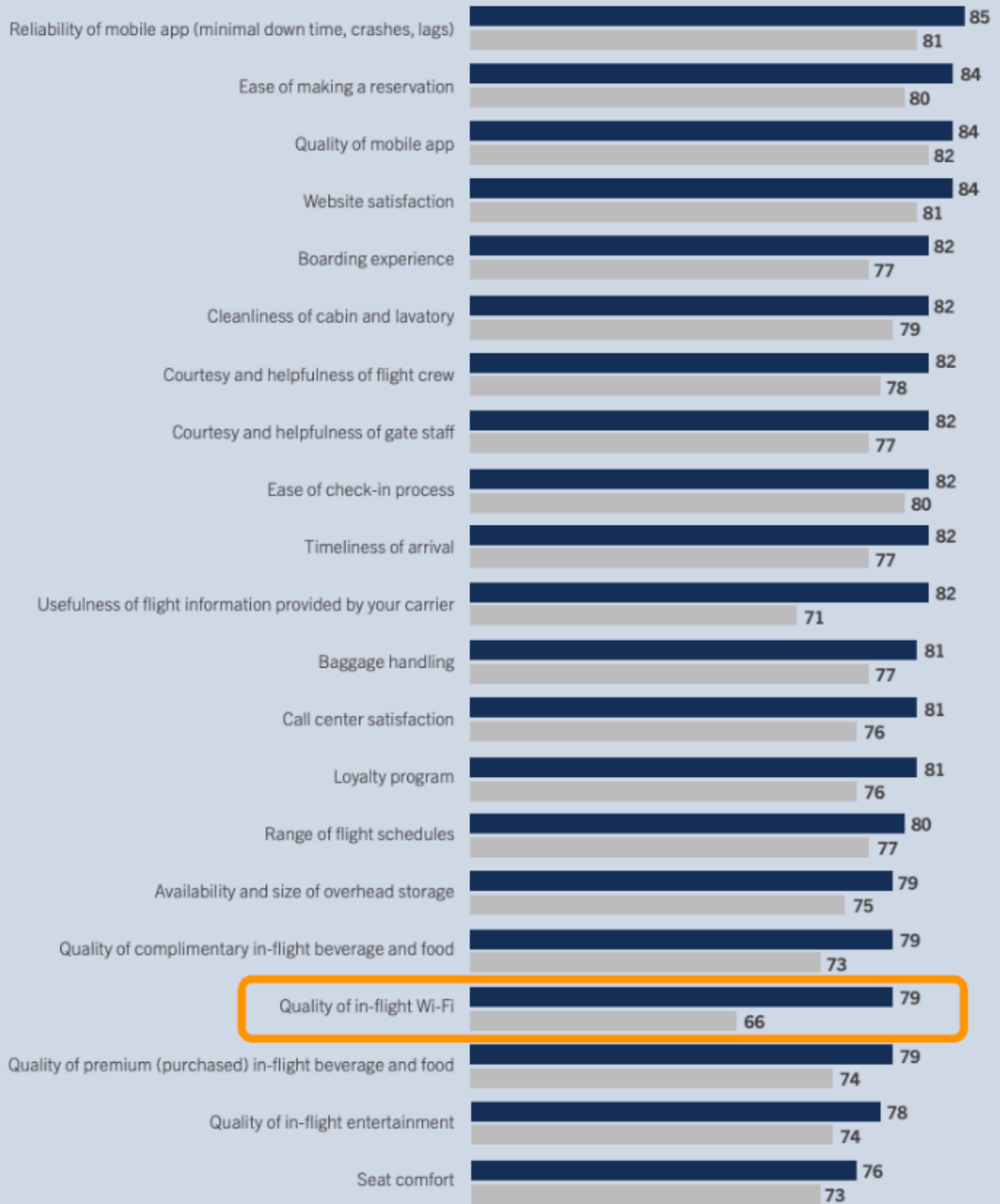
AMERICAN CUSTOMER SATISFACTION INDEX

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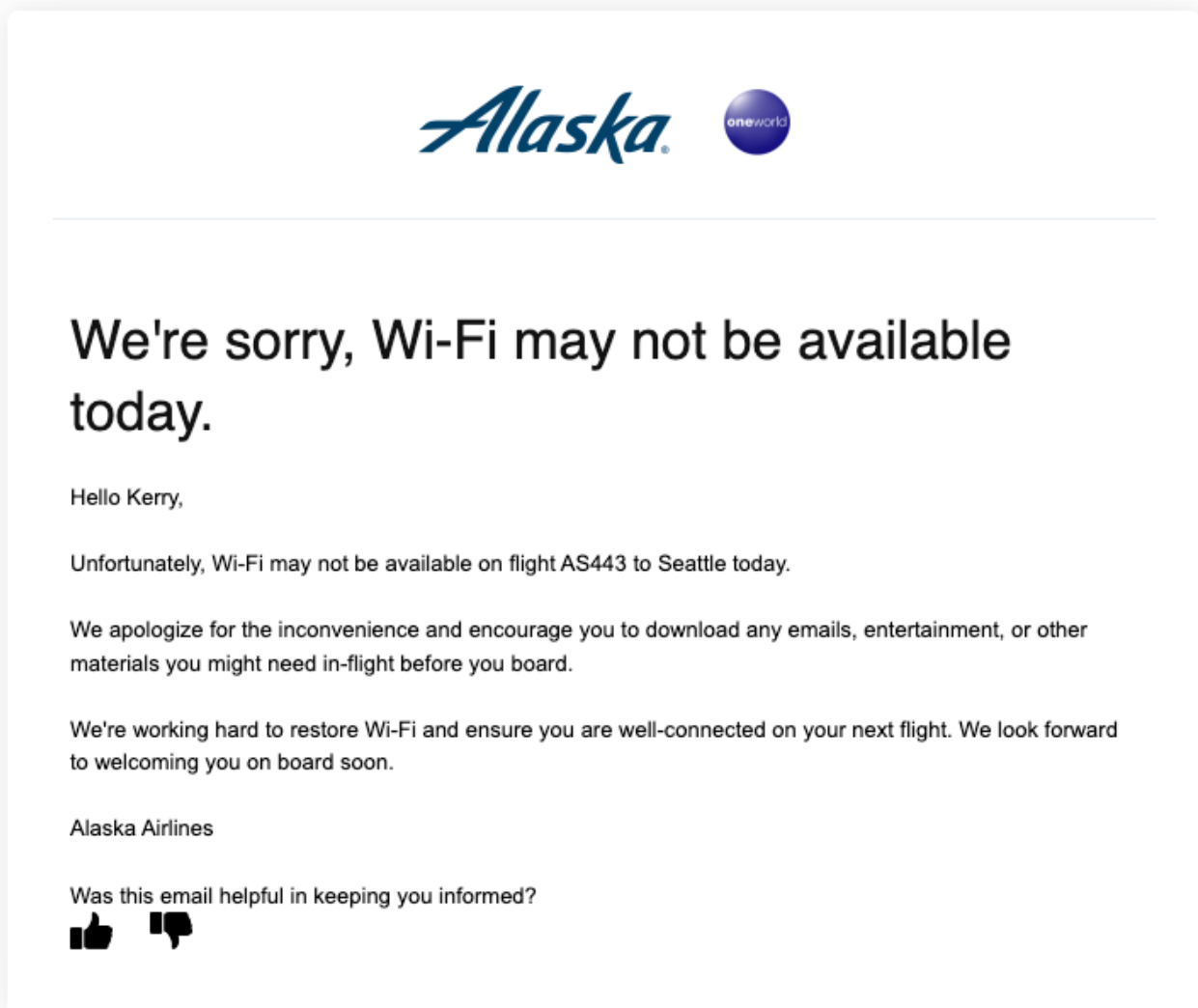
2026 2025



(Source: ACSI Travel Study 2026. © 2026 American Customer Satisfaction Index LLC. All rights reserved)

Customer satisfaction with *in-flight Wi-Fi* (79) is now on par with *in-flight beverage and food* (79), but at least is beating *seat comfort* (76). (And, passengers with higher quality in-flight Wi-Fi will have their own options for *in-flight entertainment* (78).)

In-flight Wi-Fi is now a customer loyalty lever. This experience with a recent Alaska Airlines flight illustrates a deliberate, proactive management of the customer journey of communications and technology touch points.



(Source: Alaska Airlines <no-reply@notifications.alaskaair.com>)

The above email was received by the passenger well-ahead of the flight (morning email; evening flight),

informing that the Wi-Fi might not be working on the flight. This offered plenty of time to download any entertainment or prepare for offline work before the flight. In fact, it turned out that Wi-Fi was available.

In-flight passenger Wi-Fi, just recently a *nice-to-have* and now a *requirement*, makes for sticky, churn-resistant customers for airlines. (And for mobile consumers alike – for example, mobile operator **T-Mobile** has supported free in-flight Wi-Fi as a perk for its customers on select airlines, including Alaska Airlines, for many years.)

Airlines know this. United, for example, even ran a **Super Bowl ad** for “Wi-Fi that actually works.” The in-flight Wi-Fi is an opportunity to not only provide a quality connectivity service, it is also a vehicle for higher customer engagement. The passenger signing into the airline’s Wi-Fi is now a more-valuable, virtual captive audience, as well as a literal one. But if the experience is poor and there are other choices in flights or airlines, passenger loyalty will be tested.



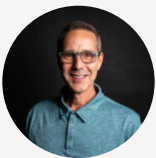
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Global Speeds

Airline Wi-Fi Speeds

In-Flight Connectivity

## About the author



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Kerry Baker leads Ookla's research and content efforts in North America. He has over 20 years experience in the telecom industry, primarily at T-Mobile studying network performance benchmarking and customer experience. Kerry also has founder's experience with four technology-related startups. Kerry holds masters degrees from the University of Washington in Business and International Political Economics.

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