








# The Impact of 5G on Inflight ENTERTAINMENT




Gogo is in the process of building a 5G cellular network – AVANCE™ L51 – specifically for aviation applications. They intend to launch this new air-to-ground connectivity solution in 2021 for a variety of aviation clients, including:

-  Private business aircraft
-  Charter carriers
-  Small regional airlines

## How Is 5G Different Than 4G?<sup>2</sup>




-  **Speed:** 5G is up to 100 times faster than 4G
-  **Latency:** 5G latency would be an estimated 1 millisecond compared to 200 milliseconds for 4G
-  **Spectrum:** 5G runs on high-band spectrums, which is both good and bad news for air travel
-  **Bandwidth:** 5G is estimated to have five times the bandwidth

## High-Band Spectrum:

-  Can't travel great distances
-  Struggles to get through walls or hard surfaces
-  Has trouble passing through windows






Companies like Gogo and Cisco have embarked on large infrastructure projects to overcome high-band spectrum challenges for inflight 5G, including the construction of a 250-cell tower network. Developing high-band spectrum delivery solutions is the biggest hurdle to delivering reliable 5G to air travelers.

## How It Works in the Air<sup>3</sup>

-  An under-the-plane antenna is installed on aircraft
-  5G is beamed from cell towers
-  An aircraft's onboard 5G system connects to the nearest transmitting cell tower as the plane moves and turns it into Wi-Fi for passengers

Gogo promises 10 times faster speeds than current inflight Wi-Fi can deliver. Although it's not the 100 times faster 5G advertised by some on-ground service providers, it's still a massive improvement.

## How Would 5G Change IFE and Business Travel?<sup>4</sup>

-  Everyone on a flight can watch, listen to or play what they want
-  Even if connectivity is spotty the improved download speed means super-fast buffering and preloading content
-  Less time waiting for content to load and more time enjoying content
-  Business requiring connectivity can be done more reliably in air
-  Better streaming and gaming stability

## Overcoming the Challenges

5G has the potential to revolutionize inflight connectivity, but there are still stability and cost challenges to overcome. Companies like Rosen Aviation are ready to partner with other industry leaders in IFE and aviation technology to develop solutions to improve reliability and inflight implementation of new and exciting technologies like 5G.

Learn More About Rosen Aviation  
Call **888-668-4955**

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<sup>1</sup><https://business.gogoair.com/technology/north-american-broadband-network/gogo-g/>  
<sup>2</sup><https://www.thalesgroup.com/en/worldwide-digital-identity-and-security/mobile/magazine/g-vs-g-whats-difference>  
<sup>3</sup><https://newsroom.cisco.com/feature-content?type=webcontent&articleId=5933206>  
<sup>4</sup><https://www.raconteur.net/technology/g-vs-g-mobile-technology/>