



## Gogo Announces Partners For 5G Network and Onboard Systems

October 22, 2019

### U.S.-based companies Cisco, Airspan Networks and FIRST RF will play key roles in Gogo's 5G network development and deployment

LAS VEGAS, Oct. 22, 2019 /PRNewswire/ -- (NBAA-BACE) -- Gogo (NASDAQ: GOGO), the leading global provider of broadband connectivity products and services for aviation, today announced three strategic partners which will play key roles in Gogo's development of its 5G system and network. A true 5G experience requires every piece of the network and the onboard system hardware, software and antennas to be 5G capable.



"When we announced we were going to build a 5G network for aviation, we stated that we would leverage the expertise of U.S.-based companies to help us bring it to life," said Sergio Aguirre, president of Gogo Business Aviation. "The three partners we're announcing today are on the leading edge of wireless network technology and together we will bring the most capable network and systems in aviation."

Cisco, Airspan Networks, and FIRST RF Corp. each will provide necessary elements to Gogo's 5G solution for aviation.

#### Cisco

Cisco will provide core network solutions that will power Gogo's nationwide air-to-ground (ATG) 5G network. Cisco was selected for its expertise in providing 4G/5G solutions for some of the world's largest wireless telecommunications networks. Cisco's innovation in network technologies is ideally suited for the advancements Gogo's ATG network requires. Together, Gogo and Cisco will redefine the inflight entertainment and connectivity experience with a high throughput, low latency nationwide 5G network.

Cisco will offer Gogo a cloud-to-client approach for its 5G network, resulting from Cisco's investments and commitment to developing cloud applications and services, to help customers unify multi-vendor solutions into a single, standards-based architecture, which will be critical to the Gogo 5G network.

#### Airspan

The Gogo 5G system will use the same carrier grade technology as the Airspan Air5G product line. The Air5G platform will provide state-of-the-art 5G; virtualized-RAN base station technology that uses Massive MIMO antenna arrays for increased capacity. It also features advanced beamforming and tracking techniques, capable of communicating with an aircraft travelling in excess of 750 miles per hour, at long range, all while providing an enhanced mobile broadband 5G experience.

#### FIRST RF

FIRST RF will bring its extensive advanced antenna and RF systems technology portfolio to deploy a solution that pairs Gogo's existing 3G and 4G networks as well as the new 5G network. FIRST RF will provide belly-mounted airborne multi-band antennas that will connect Gogo's onboard 5G system to the Gogo 5G network on ground. This technology will include complex multiband apertures, advanced beamforming technology, and phased arrays. FIRST RF provides government and commercial customers with premier performance and reliability while maintaining efficiency and responsiveness that is required in the modern marketplace.

#### Gogo's 5G Network

Gogo's new air-to-ground (ATG) 5G network will be designed for use on business aviation aircraft and commercial regional jets operating within the contiguous United States and Canada. Gogo expects the nationwide network to be available in 2021.

Gogo will build the 5G network on its existing infrastructure of more than 250 towers and will use unlicensed spectrum in the 2.4GHz range, along with a proprietary modem and advanced beamforming technology. Gogo's 5G infrastructure will support all spectrum types (licensed, shared, unlicensed) and bands (mid, high, low), and will allow Gogo to take advantage of new advances in technology as they are developed. Similar to how wireless carriers provide redundancy across their networks, Gogo will continue to employ its 3G and 4G networks throughout the continental U.S. and in

Canada that will provide backup to the 5G network when needed.

When compared to satellite technologies, ground-based network technologies in general deliver operational advantages – specifically lower cost of operation, symmetric bi-directional throughput, and lower latency. Gogo is committed to provide easy upgrade paths to 5G for existing Gogo air-to-ground customers.

#### **About Gogo**

Gogo is the Inflight Internet Company. We are the leading global provider of broadband connectivity products and services for aviation. We design and source innovative network solutions that connect aircraft to the Internet and develop software and platforms that enable customizable solutions for and by our aviation partners. Once connected, we provide industry leading reliability around the world. Our mission is to help aviation go farther by making planes fly smarter, so our aviation partners perform better, and their passengers travel happier.

You can find Gogo's products and services on thousands of aircraft operated by the leading global commercial airlines and thousands of private aircraft, including those of the largest fractional ownership operators. Gogo is headquartered in Chicago, Ill., with additional facilities in Broomfield, Colo., and locations across the globe. Connect with us at [gogoair.com](http://gogoair.com) or [business.gogoair.com](http://business.gogoair.com).

#### **About Cisco**

Cisco (NASDAQ: CSCO) is the worldwide technology leader that has been making the Internet work since 1984. Our people, products, and partners help society securely connect and seize tomorrow's digital opportunity today. Discover more at [newsroom.cisco.com](http://newsroom.cisco.com) and follow us on Twitter at @Cisco. RSS Feed for Cisco: <http://newsroom.cisco.com/rss-feeds>

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#### **About Airspan Networks Inc.**

Airspan (OTC PINK: AIRO) is a leading 4G and 5G RAN solution provider, with over 1000 customers in over 100 countries. Airspan is regularly recognized as a leader and pioneer in RAN and innovative Backhaul solutions. Airspan has an expansive product portfolio, which includes indoor and outdoor small cells, and all-outdoor, compact Micro and Macro base stations, a variety of user devices and network optimization products. These connectivity solutions operate in bands from Sub-6GHz to Millimeter wave. [www.airspan.com](http://www.airspan.com)

Airspan is not subject to the informational reporting requirements of the Securities Exchange Act of 1934 and, accordingly, does not file reports, financial statements, proxy statements, information statements or other information with the Securities and Exchange Commission. This press release may contain forward-looking statements. For information about forward looking statements visit [www.airspan.com/fls](http://www.airspan.com/fls).

#### **About FIRST RF**

FIRST RF is a fast-growing, multi-discipline, privately owned small business focused on engineering and manufacturing of advanced technologies - specifically in antennas and radio frequency (RF) systems. We are an energetic team empowered with world-class facilities and resources. We promote a culture which prioritizes innovation and responsiveness. By making bold investments in the development of groundbreaking technologies, FIRST RF has fielded award-winning products ranging from revolutionary passive antennas to highly complex, active antenna systems.

#### **Cautionary Note Regarding Forward-Looking Statements**

Certain disclosures in this press release include "forward-looking statements" that are based on management's beliefs and assumptions and on information currently available to management. Most forward-looking statements contain words that identify them as forward-looking, such as "anticipates," "believes," "continues," "could," "seeks," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "projects," "should," "will," "would" or similar expressions and the negatives of those terms that relate to future events. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this press release, and Gogo undertakes no obligation to update or revise publicly any such forward-looking statements, whether as a result of new information, future events or otherwise. These forward-looking statements are based on estimates and assumptions by Gogo's management that, although Gogo believes them to be reasonable, are inherently uncertain. Important factors that could cause actual results, developments and business decisions to differ materially from these forward-looking statements include the uncertainties described under the heading "Risk Factors" in Gogo's Annual Report on Form 10-K filed with the SEC on February 22, 2019.

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