PURE PLAY WIRELESS FOR NEXT-GEN NETWORKS

LAYING THE FOUNDATION FOR 5G SOFTWARE AND HARDWARE

TEAM
850+ Employees
in 15 Locations

TRACK RECORD
Proven Tier 1
Mass Deployment

EXPERIENCE
20+ Years of Software &
Hardware Experience

MISSION
4G & 5G Network
Densification

INNOVATION
Carrier Class,
Patent Supported

AWARD WINNING
5 Generations of
Radio Products

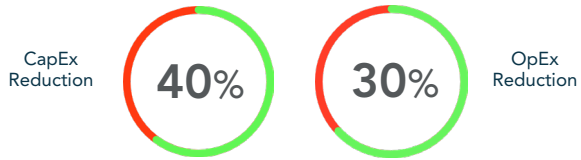
POSITIONED FOR 5G INNOVATION AND SUCCESS

Airspan Networks Holdings Inc. (NYSE American: MIMO) is a U.S.-based provider of groundbreaking, disruptive software and hardware for 5G networks, and a pioneer in end-to-end Open RAN solutions that are interoperable with other vendors. With over one million cells shipped to 1,000 customers in more than 100 countries, Airspan has global scale.

Airspan Networks utilizes an innovative, flexible approach that allows both public and private network operators to deploy 5G functionality incrementally, as user equipment and application requirements evolve. Airspan's standards-compatible, battle hardened, control, optimization, and orchestration layers can ride on Airspan equipment or be segmented with open standards-based API's that can be deployed on generic computing platforms and white box access equipment.

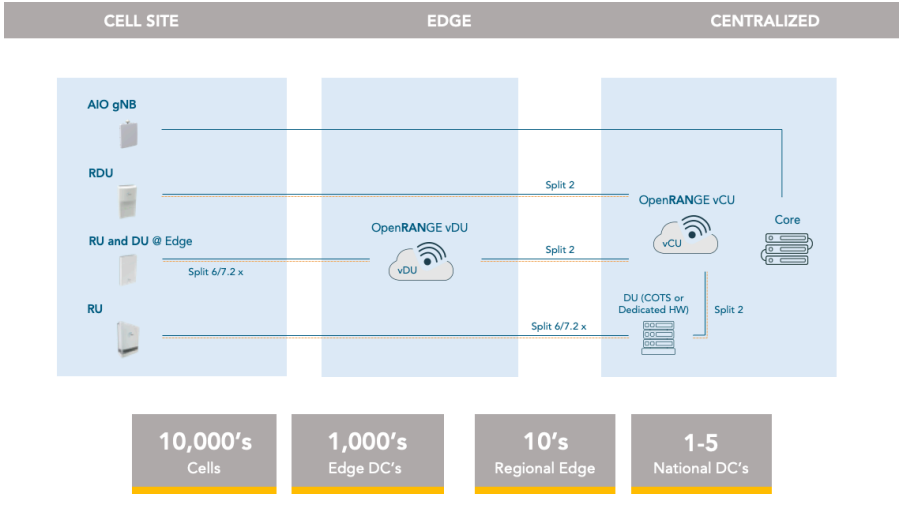
CLOUD-NATIVE OPEN ARCHITECTURE

Driven by operators and private networks globally, Airspan's disruptive open architecture delivers real 5G, real flexibility, and real peace of mind. One of the only 5G standalone, end-to-end solutions, the cloud-native software aims to accelerate the next generation of wireless networks. Open interfaces and open API's will allow interoperability and scalability—all while significantly reducing CapEx by up to 40% and OpEx by up to 30%, according to analysts at New Street Research (https://www.fiercewireless.com/wireless/analysts-confirm-rakuten-mobiles-network-saves-40-opex-site-basis).



NO SILVER BULLET: SPLIT ARCHITECTURE OPTIONS

- Split architecture options, such as 2, 6, 7.2, or all-in-one gNB enable multi-vendor operation to future-proof TCO
- Based on open interfaces such as O-RAN, Small Cell Forum (nFAPI), 3GPP F1, and ONAP orchestration
- Breaks the chains of traditional supply chains, revolutionizing the way networks are built today



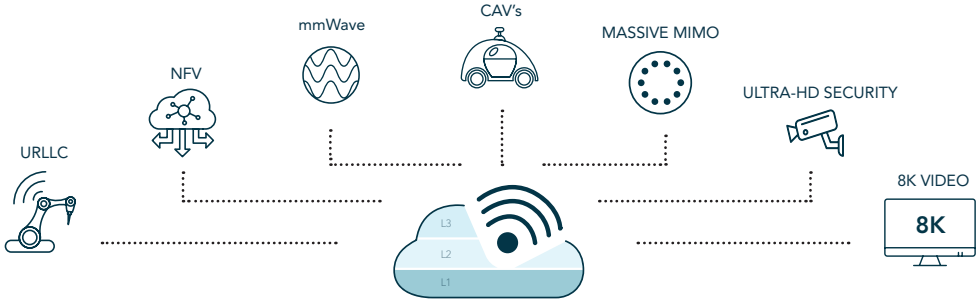
SMALL CELL FORUM

3GPP A GLOBAL INITIATIVE

O-RAN ALLIANCE

OPEN**RAN**GE SOFTWARE

Enabling cloud agility, Airspan's tried and true OpenRANGE (Open RAN) software boasts 18 generations of releases to continuously deliver innovation. With over 20 years of experience on all three layers of radio software, and over 1,000,000 cells deployed, nothing beats experience in the field—which we are excited to bring to the market for 5G. Airspan's standards-based OpenRANGE software solutions support splits 2, 6, and 7.2, as defined by 3GPP, O-RAN, and Small Cell Forum, which Airspan is proud to be a member of.



AWARDS AND RECOGNITIONS

EXCELLENCE IN COMMERCIAL DEPLOYMENT BY A PRIVATE NETWORK
Small Cell Awards
2022

EXCELLENCE IN COMMERCIAL DEPLOYMENT BY A MOBILE NETWORK OPERATOR
Small Cell Awards
2022

OUTSTANDING CONTRIBUTION TO NEW SMALL CELL BUSINESS CASES
Small Cell Awards
2022

INNOVATION AWARD: PRIVATE NETWORKS
Fierce Telecom
2021

INNOVATION AWARD: DIGITAL DIVIDE (FWA)
Fierce Telecom
2021

BEST MOBILE TECHNOLOGY BREAKTHROUGH
GLOMO Awards
2018

EXCELLENCE IN COMMERCIAL DEPLOYMENT
Small Cell Awards
2019/2020/2021

EXCELLENCE IN RESIDENTIAL DEPLOYMENT
Small Cell Awards
2018

USE CASE INNOVATION
5G Realised
2019/2020

INNOVATION ACHIEVEMENT
CANTO
2018

FIXED WIRELESS BROADBAND SOLUTION OF THE YEAR
Mobile Breakthrough
2018

WIRELESS NETWORK INNOVATION PRODUCT OF THE YEAR
Compass Intelligence
2018

4G/5G SOLUTIONS

DELIVER HIGH-SPEED DATA AND COVERAGE WHERE IT'S NEEDED

4G/5G SOLUTIONS

Airspan offers a flexible and modular 4G and 5G portfolio, including software (CU, DU, RIC) and hardware (RU) supporting several splits including all-in-one gNB, leveraging proven experience in deployment and operation automation of dense networks. Airspan's indoor and outdoor solutions simplify deployments and offers disruptive performance and innovation. Major challenges for the traditional business model have included speed of deployment, site acquisition, and excessive operating expenses. Airspan's innovations have changed the game and put these challenges to rest.

OPEN RAN ARCHITECTURE

mmWAVE

Sub-6 GHz

vRAN

MASSIVE MIMO

5G CBRS

4G SOLUTIONS

AirHarmony

- Outdoor
- Mini Macro
- Wireline Backhaul
- Dual Carrier w/ 2CA
- Single or Dual Sector
- Supports CBRS
- Up to 2 x 20 W
- Up to 300 Mbps

AirSpeed

- Outdoor
- Pico Cell
- Wireline Backhaul
- Dual Carrier w/ 2CA
- Single or Dual Sector
- Supports CBRS
- Up to 4 x 5 W
- Up to 300 Mbps

AirStrand

- Outdoor
- Pico Cell (Strand Mount)
- Fiber/DOCSIS/ GPON Backhaul
- Dual Carrier w/ 2CA
- Single or Dual Sector
- Supports CBRS
- Up to 4 x 2 W
- Up to 300 Mbps

AirVelocity

- Indoor
- Small Cell
- 4x4 Antenna Array
- Dual Carrier w/ 2CA
- Single or Dual Carrier
- Supports CBRS
- Up to 4 x 320 mW
- Up to 2 x 150 Mbps

5G SOLUTIONS

Air5G 7200

- Outdoor
- Open RAN
- RDU
- mmWave
- MU-MIMO
- Integrated Antenna Array

AirSpeed

- Outdoor
- AIO gNodeB or Open RAN
- Sub-6 GHz
- Single or Dual Sector
- Single or Dual Carrier
- Supports CBRS

AirStrand

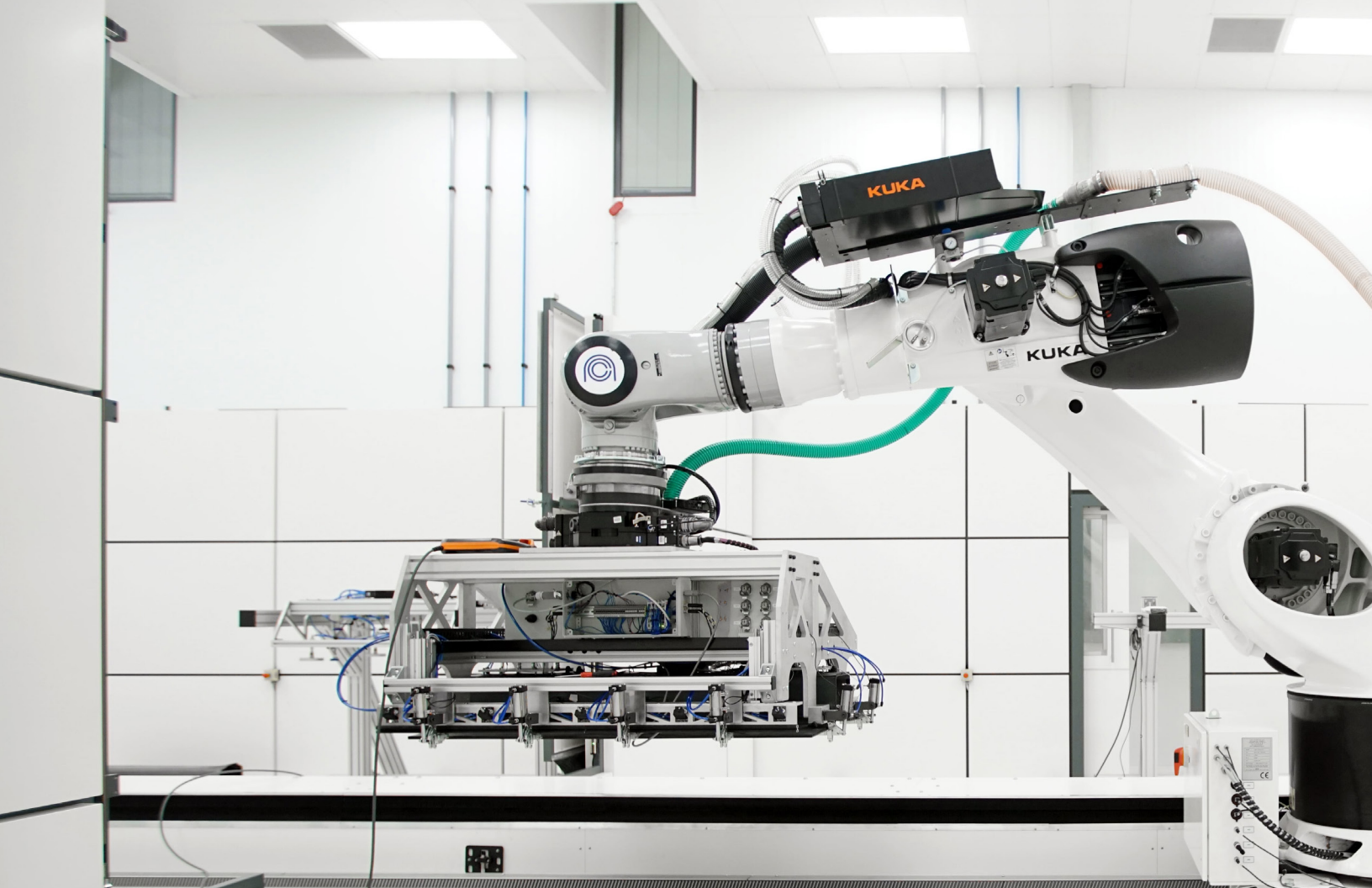
- Outdoor
- AIO gNodeB or Open RAN
- Strand Mount
- DOCSIS Backhaul
- Dual Sector
- Supports CBRS

AirStar

- Indoor
- AIO gNodeB or Open RAN
- Sub-6 GHz
- Dual Sector
- Supports CBRS

AirVelocity

- Indoor
- Open RAN
- RU
- Sub-6 GHz/ mmWave
- Integrated or External Antenna Array
- Supports CBRS


KUKA
KUKA

SOLUTIONS FOR PUBLIC AND PRIVATE NETWORKS

SCALE DEPLOYMENTS FOR ANY USE CASE QUICKLY AND EASILY

RAKUTEN MOBILE IN JAPAN

Airspan's Open RAN platforms provide Rakuten Mobile with the flexibility to disrupt the economics of traditional network operators and lay the foundation for transformational 5G architectures. With 50,000 base stations under deployment for Rakuten, Airspan brings its proven disruptive economics to the fully virtualized Rakuten Mobile network.

> We are thrilled to partner with Airspan to build Japan's newest mobile network. Their innovative 4G and 5G solutions and form factor will allow Rakuten Mobile to rapidly scale our deployment.
>
> **Tareq Amin**, Chief Technology Officer of Rakuten Mobile

PROVEN END-TO-END CBRS LEADERS

In addition to an award-winning 4G and 5G portfolio, Airspan also has products that are specifically designed to provide a complete CBRS solution for fixed and mobile operators. Interoperable solutions give operators flexibility, opening them to the CBRS ecosystem to service their businesses. CBRS provides an opportunity for operators to expand access to spectrum for new business applications, as well as set up private networks that are separate from licensed and expensive spectrum.

AirSpeed

Pico Cell

AirStrand

Pico Cell

Air5G

RU

AirStar

RDU or
AIO gNodeB

AirVelocity

Indoor Small Cell

AirSpot

CPE

SOLUTIONS FOR BAND 41 (2.496–2.690 GHz)

This multi-purpose band is used in education, distant learning, telemedicine, tribal networks, rural coverage, and many more essential applications. Upcoming FCC auctions in the U.S., should likely open up more availability in this band. Airspan's band 41 solutions are ideal for WISP's, MSO's, and larger carriers.

4G

AirHarmony
Outdoor, long-range, mini-macro (dual sector and dual carrier)

AirSpeed
Outdoor pico cell (dual sector with integrated smartbeam antennas)

AirStrand
Outdoor, strand-mount pico cell (dual sector with DOCSIS backhaul and power)

AirVelocity
Indoor small cell (wireline backhaul)

5G

Based on Open RAN architecture, Airspan's end-to-end 5G outdoor and indoor portfolio include the radio unit (RU), as well as the software running on the central and distributed unit (CU/DU) which follow the latest standard releases from 3GPP and O-RAN Alliance.

PRIVATE NETWORKS

Offering higher capacity, increased coverage, and better security, Airspan's private networks are ideal for businesses looking for a faster, more reliable and secure network. Small footprint indoor and outdoor eNodeB's provide constant connectivity and ensures seamless wireless connections in high-demand environments that utilize technologies such as autonomous robots, augmented reality, internet of things (IoT), AI, machine learning, and more. Minimal latency allows real-time communication to boost production and drive growth.

colt
umlaut
COCUS
Department for Digital, Culture, Media & Sport
ICADE
5G-encode
siticom
we enable communication
Microsoft
Cologne Bonn Airport
Hewlett Packard Enterprise
NTT

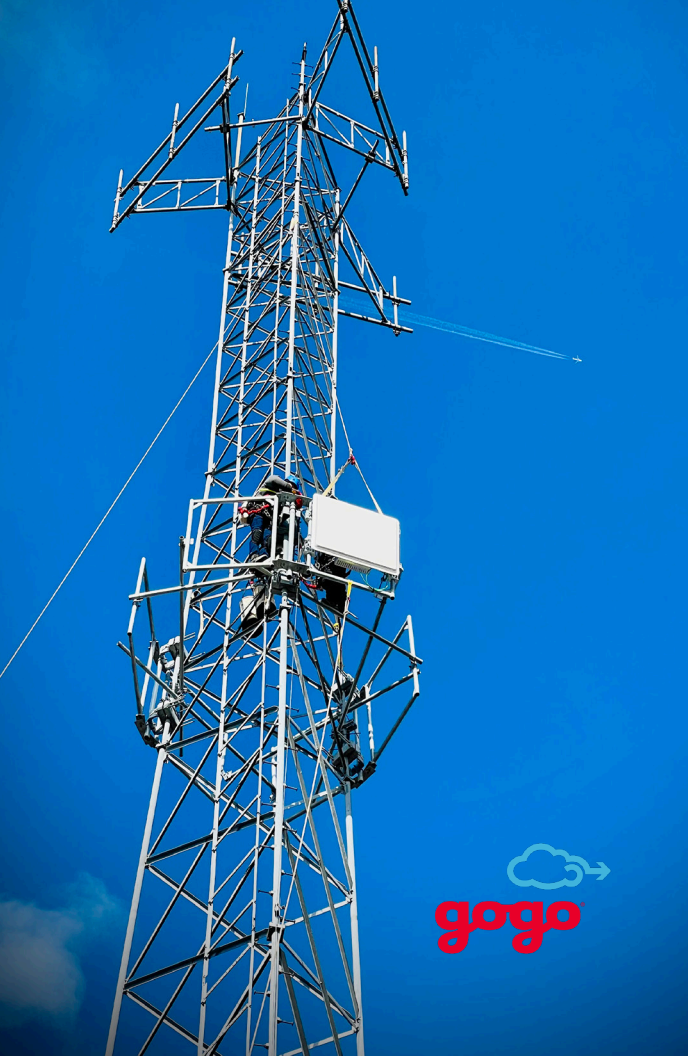
5G TRANSPORTATION CONNECTIVITY

HYPER-DENSE, ULTRA-FAST, CONNECTED TRANSPORT

AUTOAIR

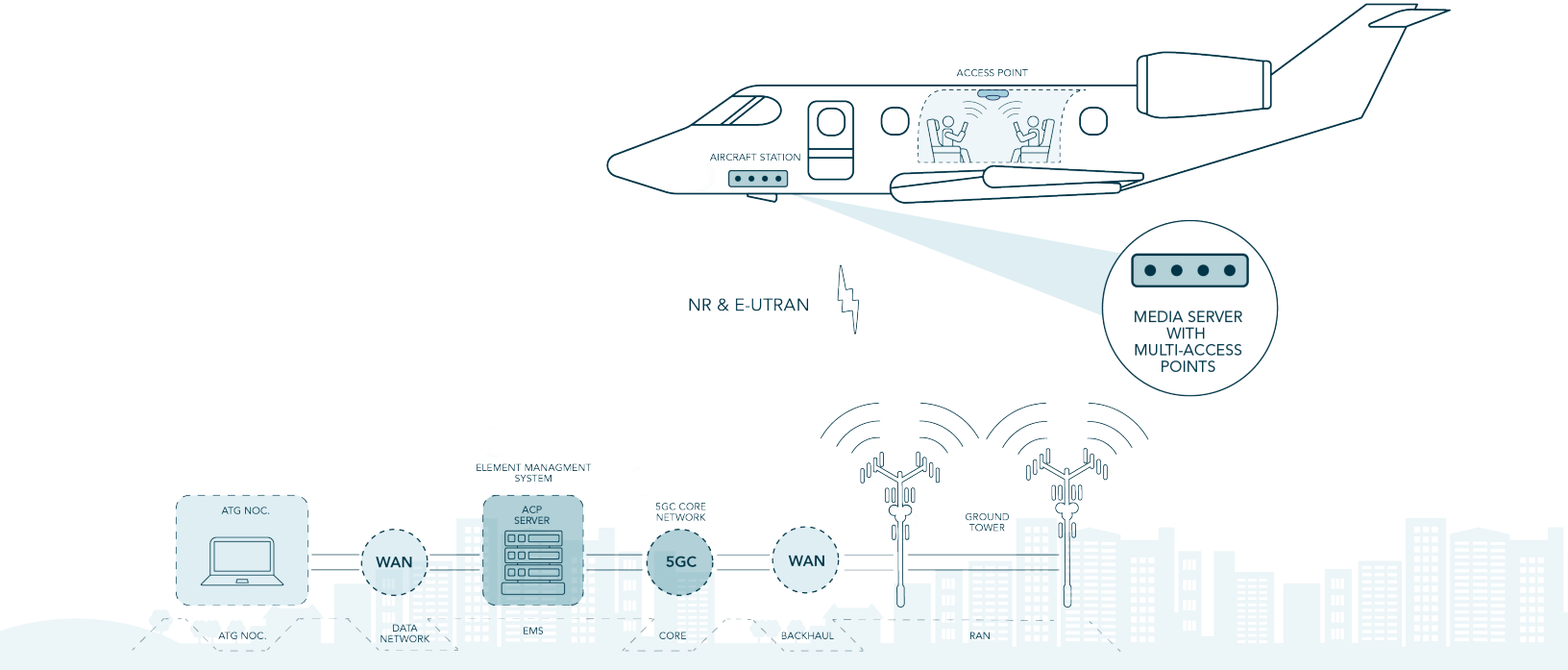
Airspan is part of the Dense Air-led project for connected autonomous vehicles (CAV's) that is hosted at UTAC, formerly known as Millbrook Proving Ground. It is a unique development program for 5G technology and is based on small cells that operate on a neutral host basis, in a dense area with ultra-fast speeds.

Other Partners in the consortium include Telefonica/O2, Atkins, Blu Wireless, Real Wireless, the University of Surrey's 5G Innovation Centre, and the R&D arm of motorsport racing team McLaren.



AIR5G AIR-TO-GROUND

Current inflight connectivity solutions have high installation and service costs, and even higher latency. They simply do not deliver the performance required to satisfy current demands. While satellite systems are the only method to provide connectivity for long, overwater routes, they are inherently limited in capacity over dense terminal areas. The Air5G air-to-ground (A2G) solution leverages a high-performance, 5G standalone system using state-of-the-art, vRAN base station technology and massive MIMO antenna arrays. Utilizing advanced beamforming and tracking techniques, the system is capable of communicating to an aircraft traveling in excess of 1200 km/h, at a maximum range of 300 km at enhanced mobile broadband speeds. The system is built on the same technology as the Air5G OpenRANGE product line, which is based on 3GPP, O-RAN standards. Gogo completed a seven-tower 5G testbed as part of the deployment of its nationwide 5G air-to-ground (A2G) network at the end of 2021. It is set to go live in 2022.

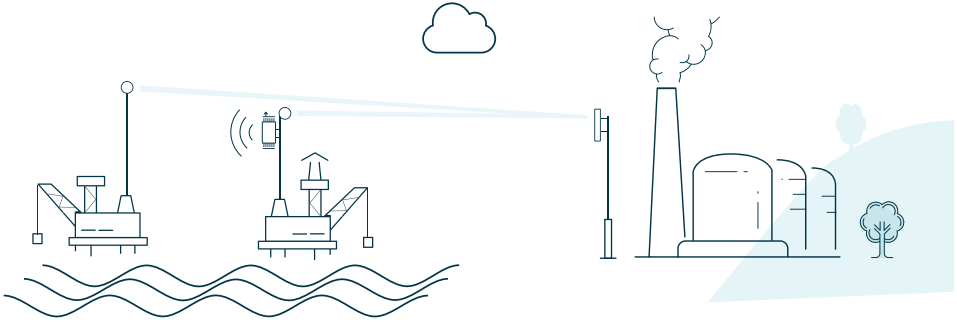

ACCESS POINT
AIRCRAFT STATION
NR & E-UTRAN
MEDIA SERVER WITH MULTI-ACCESS POINTS
ELEMENT MANAGMENT SYSTEM
ATG NOC.
ACP SERVER
5GC CORE NETWORK
GROUND TOWER
WAN
5GC
WAN
ATG NOC.
DATA NETWORK
EMS
CORE
BACKHAUL
RAN

FIXED WIRELESS ACCESS AND BACKHAUL

CLOSE THE CONNECTIVITY GAP WITH ULTRA-FAST SPEEDS

FIXED WIRELESS ACCESS AND BACKHAUL

Whether you are an internet service provider, a network system integrator or an enterprise customer, Airspan's reliable and cost-effective fixed wireless access and backhaul solutions allow you to connect and build your network. Managed through Netspan EMS, iBridge or Mimosa backhaul, access, and client radios can be deployed in a hybrid-fiber-wireless architecture, and engineered for both point-to-point (PTP) and point-to-multipoint (PTMP) links across a variety of applications. New Wi-Fi 6E, 802.11ax products will be available in 2022.



FIXED WIRELESS SOLUTIONS

mimosa by Airspan

CANTO INNOVATION AWARD

FIERCE INNOVATION AWARDS WINNER

MOBILE BREAKTHROUGH AWARDS

PTP Backhauls

B5 (5 GHz; Up to 1.5 Gbps)
B5c (5 GHz; Up to 1.5 Gbps)
B11 (11 GHz; Up to 1.5 Gbps)
B24 (24 GHz; Up to 1.5 Gbps)
B5x (5 GHz; Up to 1.5 Gbps)

C5c (5 GHz; Up to 700 Mbps)
C5x (5 GHz; Up to 700 Mbps)

PTMP Access Points

A6 (5 GHz; Up to 7 Gbps)
A5 (5 GHz; Up to 1 Gbps)
A5c (5 GHz; Up to 1 Gbps)
A5x (5 GHz; Up to 700 Mbps)

PTMP Client Devices (CPE's)

C6x (5 GHz; Up to 1.75 Gbps)
C5c (5 GHz; Up to 700 Mbps)
C5x (5 GHz; Up to 700 Mbps)

Antennas

N5-45x2 (5 GHz; Sector; 19 dBi)
N5-45x4 (5 GHz; Sector; 22 dBi)
N5-360 (5 GHz; 360°; 15 dBi)

N5-X12 (Horn; 12 dBi)
N5-X16 (Horn; 16 dBi)
N5-X20 (Dish; 20 dBi)
N5-X25 (Dish; 25 dBi)

WI-FI 6E TECHNOLOGY

The new fixed wireless A6 access point and C6x client radio sets a new standard in efficiency, performance, capacity, and interference handling for unlicensed PTMP deployments. New features such as OFDMA, 1024-QAM, 8-stream beamforming, and support for up to 160 MHz of bandwidth, deliver huge leaps in reliability and performance for the unlicensed band.

AIRSPAN CONTROL PLATFORM (ACP)

A VIRTUALIZED AND COMPLETE NETWORK FUNCTION CONTROLLER AND MANAGER

ACP OVERVIEW

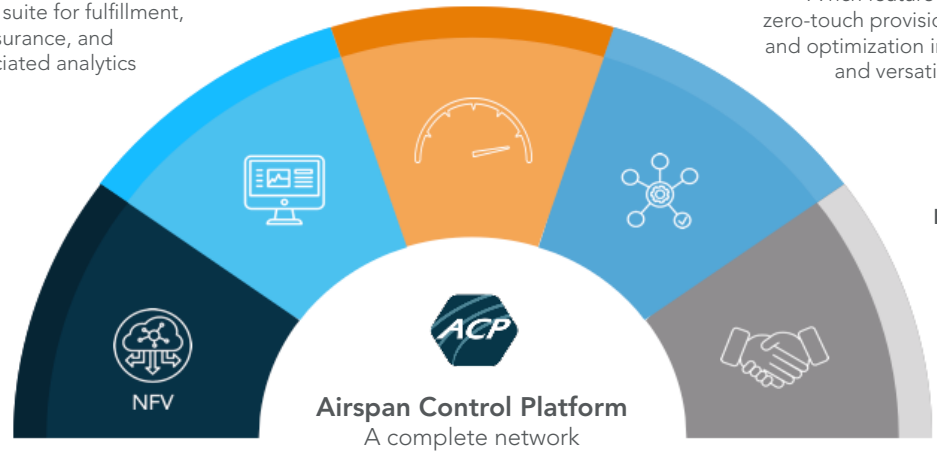
Single Pane of Glass
One solution to control Airspan's 4G, 5G, CBRS, and backhaul portfolio, including O-RAN compliant 5G vRAN

Fulfillment & Assurance
Complete suite for fulfillment, assurance, and associated analytics

Rich Feature Set
A rich feature set, including zero-touch provisioning, automation, and optimization in a highly-scalable and versatile platform

Service Design & Orchestration
Service design and orchestration of virtual network functions

Industry Alignment
Align to industry standards



Airspan Control Platform
A complete network function controller and manager

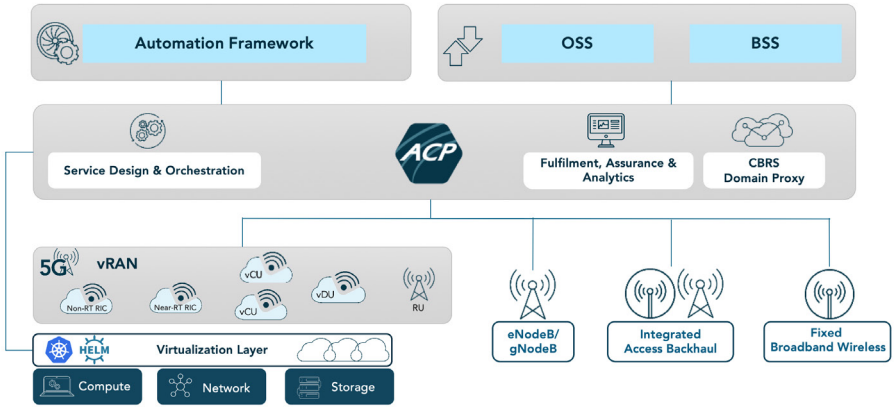
ACP – 5G ARCHITECTURE

Airspan Control Platform (ACP) is based on several application modules for flexible operation and scalability across various customer scenarios.

Wireless Domain Controller
ACP's WDC is an SDN-R compliant controller that runs the FCAPS capabilities of Airspan's vRAN solution.

CBRS Domain Proxy
ACP's CBRS DP is a WInnForum compliant solution for managing grants and authorization with SAS—a vital component of CBRS solutions.

Orchestration
ACP's orchestration is a vRAN dedicated orchestration layer to promote full life-cycle management of Airspan's vRAN solution.




SMALL CELL AWARDS
SCF
2020

For more information about our any of products or solutions, please visit **airspan.com** or contact **sales@airspan.com** to get in touch with a representative from one of our offices.

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