AIRSPAN NETWORKS BROCHURE

Private Networks

Empowering Critical Infrastructure with 4G/5G Innovation

Airspan

Best-in-Class Performance & Reliability

Airspan delivers robust, wireless network solutions tailored to the unique demands of critical infrastructure sectors including Utilities, Transportation, Oil & Gas, Air-to-Ground, Defense and Industry 4.0. Our advanced Radio Access Network (RAN) technology, paired with our expertise in Open RAN, provides scalable, secure networks designed to enhance operational efficiency and safety. From small cells to macro solutions, Airspan's comprehensive portfolio is built to ensure reliable, high-performance coverage across vast and challenging environments. With Airspan, critical infrastructure networks are future-proofed, resilient, and ready to meet the evolving demands of modern industry.

A U.S. BASED COMPANY
300 employees in 8 locations

END-TO-END SOLUTIONS
RAN solutions with trusted partner integration

INNOVATION, OUR DNA
Disruptive Technologies Backed by Patents

20+ YEARS OF EXPERIENCE
Multiple Genrations of Award-Winning Products

Awards and Recognitions

WIRELESS:
FIXED WIRELESS
(WITH PROSPECTA)

JUDGE'S CHOICE:
AWARDED TO INFINIG
(WITH AIRSPAN & COX)

ONGO NEUTRAL HOST ARCHITECTURE/ SOLUTION:
AWARDED TO KAJEET
(WITH AIRSPAN & DRUID)

OUTSTANDING CONTRIBUTION TO EMERGING TECHNOLOGY, ARCHITECTURE & OPEN NETWORKS

ONGO NEUTRAL HOST ARCHITECTURE/ SOLUTION:
AWARDED TO CTS
(WITH AIRSPAN & DRUID)

JUDGE'S CHOICE:
AWARDED
TO BEARCOM
(WITH ATHONET,
AIRSPAN, & BEC)

EXCELLENCE IN COMMERCIAL DEPLOYMENT BY A PRIVATE NETWORK

EXCELLENCE IN COMMERCIAL DEPLOYMENT BY A MOBILE NETWORK OPERATOR

OUTSTANDING CONTRIBUTION TO NEW SMALL CELL BUSINESS CASES

2X INNOVATION AWARDS WIINNER:
DIGITAL DIVIDE (FWA) &
PRIVATE NETWORKS

BEST MOBILE TECHNOLOGY BREAKTHROUGH

EXCELLENCE IN COMMERCIAL DEPLOYMENT
Open RAN

EXCELLENCE IN RESIDENTIAL DEPLOYMENT
Urban

EXCELLENCE IN RESIDENTIAL DEPLOYMENT
Urban

EXCELLENCE IN RESIDENTIAL DEPLOYMENT
Residential

Transforming Critical Infrastructure: Connectivity for a Secure and Efficient Future

Critical infrastructure sectors such as Utilities, Smart Energy, Oil & Gas, Transportation, and Defense face growing challenges. Aging systems, cybersecurity vulnerabilities, and the need for real-time monitoring are just a few of the pressing issues that threaten operational efficiency and safety. These sectors require reliable, secure, and scalable communication networks to overcome these obstacles and ensure continuous, resilient operations.

4G/5G technology delivers the solutions they need. With enhanced security, expansive outdoor coverage, and low-latency communication, 4G/5G networks are designed to modernize critical infrastructure, enabling real-time control, advanced analytics, and seamless connectivity, ensuring efficiency, safety, and future-readiness.

Solving Critical Infrastructure Challenges with 4G/5G Networks

Enhanced security

End-to-end encryption and secure network segments.

Modernization and efficiency

Modernizes infrastructure for better efficiency.

Reliable coverage

Continuous coverage in challenging areas.

Real-time monitoring

Enables real-time monitoring and control. graph.

Advanced data analytics

Supports advanced data analytics and decision-making.

IoT and smart technologies

Supports IoT and smart technology integration.

Enhanced worker safety

Improves worker safety with real-time tracking.

Simplifying Private Network Deployments for Critical Infrastructure

Key Markets

Utilities require extensive outdoor coverage to connect smart grids, substations, and infrastructure over large areas. 4G/5G technology ensures reliable, wide-area communication for real-time monitoring, efficient energy management, and rapid response.

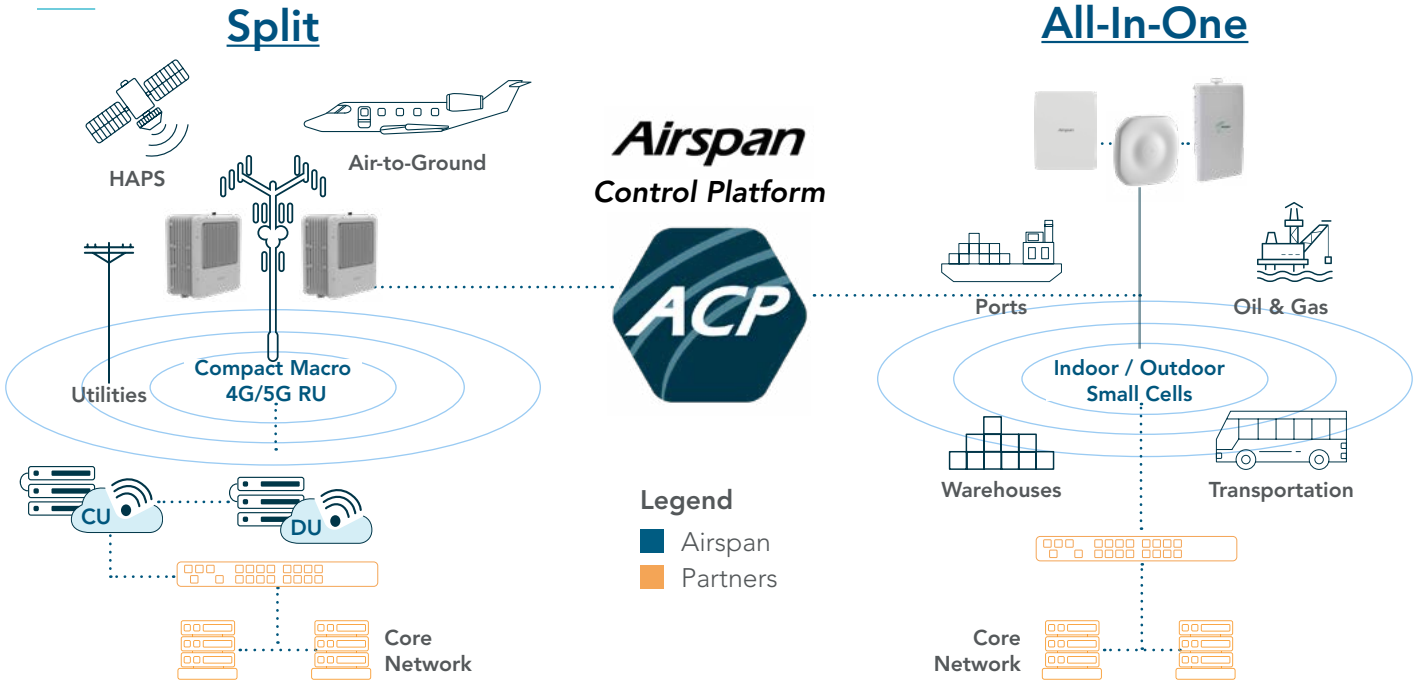
Transportation systems, from connected railways to ports, demand low-latency communication and seamless coverage. 4G/5G provides the connectivity needed to power autonomous vehicles, real-time traffic management, and safety systems.

Oil & Gas operations span remote locations, from drilling sites to pipelines and refineries. 4G/5G networks provide secure, long-range connectivity, enabling real-time monitoring, predictive maintenance, and safer operations in challenging environments.

Air-to-Ground Communications are essential for aviation, drones, High-Altitude Platform Stations (HAPS) and DoD. 4G/5G provides seamless connectivity for real-time data exchange, safety management, in-flight broadband, and unmanned vehicle navigation over long distances.

Industry 4.0 embraces automation, IoT, and advanced manufacturing. Cellular technology supports real-time data exchange, machine-to-machine communication, and smart factories, driving efficiency and innovation across industrial operations.

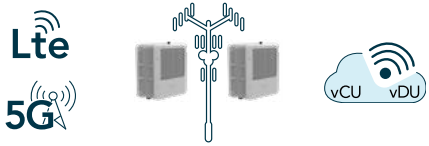
One Software Platform, Best Architecture Aligned For Each Market



Transforming Utility Operations with Open RAN Networks

RAN

- **Terrestrial Network:** High Power 2T4R **Macro** RU
  - O-RAN based architecture supporting:
    - LTE, Cat-M, NB-IoT
    - SW upgradability to 5G NR
- Non-standard channels support
- RedCap support
- Dynamic Spectrum Sharing (DSS) for simultaneous operation of LTE and 5G devices



Airspan PORTAL

E2E Service Management & Orchestration
Cloud-based portal

Core

- Fully integrated within Airspan management and orchestration solution

Devices

- E2E customization with GCT;
- Fully integrated within Airspan management and orchestration solution

Security

- Zero Trust architecture for Cellular IoT deployment
- Assets discovery, monitoring and segmentation
- Private SIM management

450 MHz Utilities Lab.
A Winning Team to Disrupt the Market.

The new Airspan Innovation Lab drives collaboration in the 450 MHz ecosystem, enabling the development and testing of cutting-edge, end-to-end solutions for critiical infrastructure and industrial IoT applicaitons. Read more.

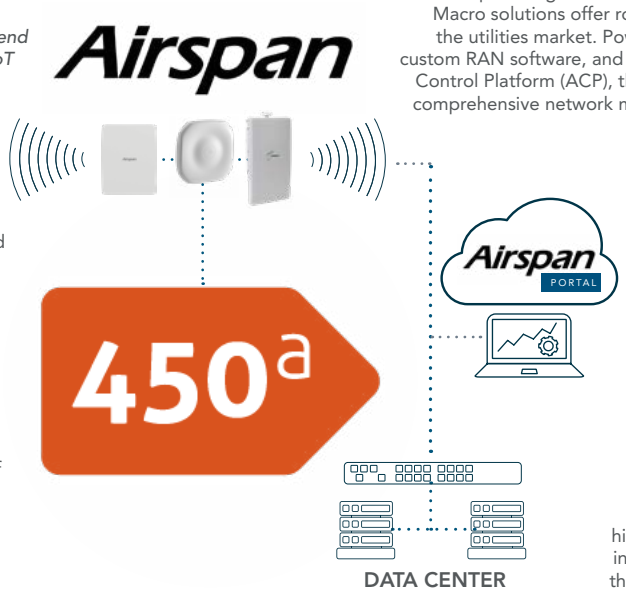
CYRUS RUGGED MOBILITY

Cutting-edge devices from Cyrus Technology, supplying high-quality rugged phones and industrial devices, renowned for their durability and performance in demanding environments.

FREQUENTIS

3GPP aligned MCX/MCS (Mission Critical Voice or MCPTT, Data and Video) from Frequentis, enabling utility operations to move away from silos of proprietary narrowband critical communication solutions & gradually transitioning towards a modular and interoperable ecosystem of 3GPP compliant applications and backend services they can shape and adapt with minimum effort based on their evolving operational needs.

VISIT OUR LAB TODAY



Airspan's High Power Small Form Factor Open RAN Macro solutions offer robust, scalable connectivity for the utilities market. Powered by 3GPP-compliant and custom RAN software, and managed through the Airspan Control Platform (ACP), this integrated offering ensures comprehensive network management and optimization.

GCT

GCT Semiconductor's high-performance solutions, developed in partnership with Airspan, offering advanced LTE and 5G state-of-the-art RF modules designed for a broad range of devices tailored for the utilities market, enhancing operational efficiency.

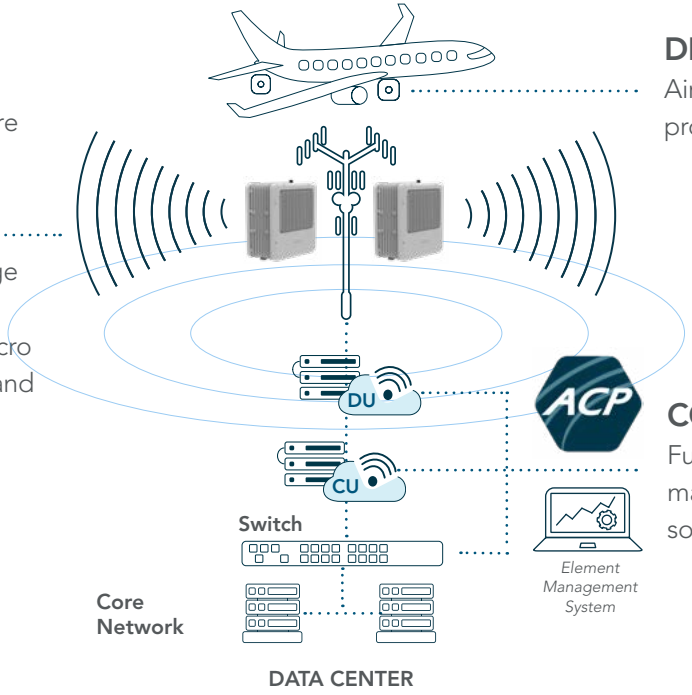
COCUS

Cutting-edge devices from Cyrus Technology, supplying high-quality rugged phones and industrial devices, renowned for their durability and performance in demanding environments.

Programmable 5G Networks for Air-to-Ground, HAPS & Defense

RAN

- O-RAN based architecture supporting:
  - Speeds higher than 500Km/h
  - Extended Cell Range
  - Fast Hand Overs
- mMIMO High Power Macro
- Software capable of 4G and 5G



DEVICES

AirCards connected to airplanes provided by Airspan

CORE

Fully integrated within Airspan management and orchestration solution

Optimizing Industrial & Critical Infrastructure with 5G Solutions

RAN

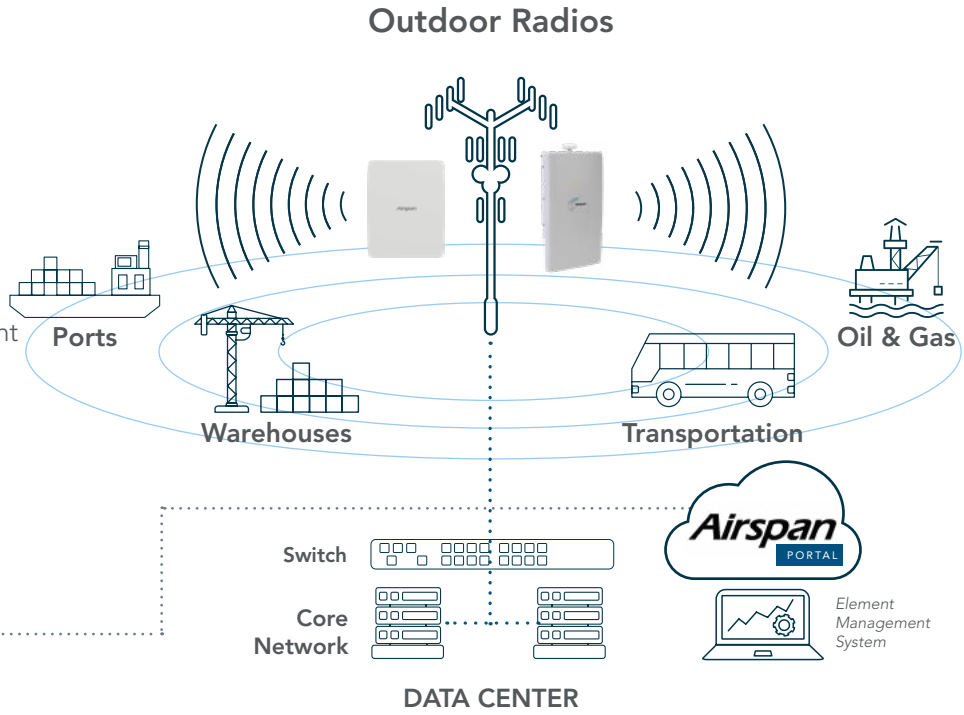
- Small Cell All-In-One Architecture
- Indoor/Outdoor 4G and 5G options
- Plug and Play SW. Easy to install and to manage
- Airspan Portal for multi-tenant management

DEVICES

Vast integration with most common device vendors

CORE

Airspan partner or bring your own core



Products

5G Hardware Solutions

AiRU

- Outdoor
- O-RAN RU
- Sub-1GHz & Sub-6GHz
- High Power Macro
- Single/Multi-band

Air5G 7200/9200

- Outdoor
- mmWave
- MU-MIMO
- Integrated Antenna Array

AirSpeed

- Outdoor
- All-in-One
- Sub-6 GHz
- Single or Dual Sector
- Single or Dual Carrier
- Integrated or External Antenna

AirVelocity

- Indoor
- All-in-One
- Sub-6 GHz/mmWave

4G Hardware Solutions

AiRU

- Outdoor
- O-RAN RU
- Sub-1GHz & Higher Bands
- High Power Macro
- Single/Multi-band

AirSpeed

- Outdoor
- All-In-One
- Dual Sector
- Integrated Backhaul
- Integrated or External Antenna

AirVelocity

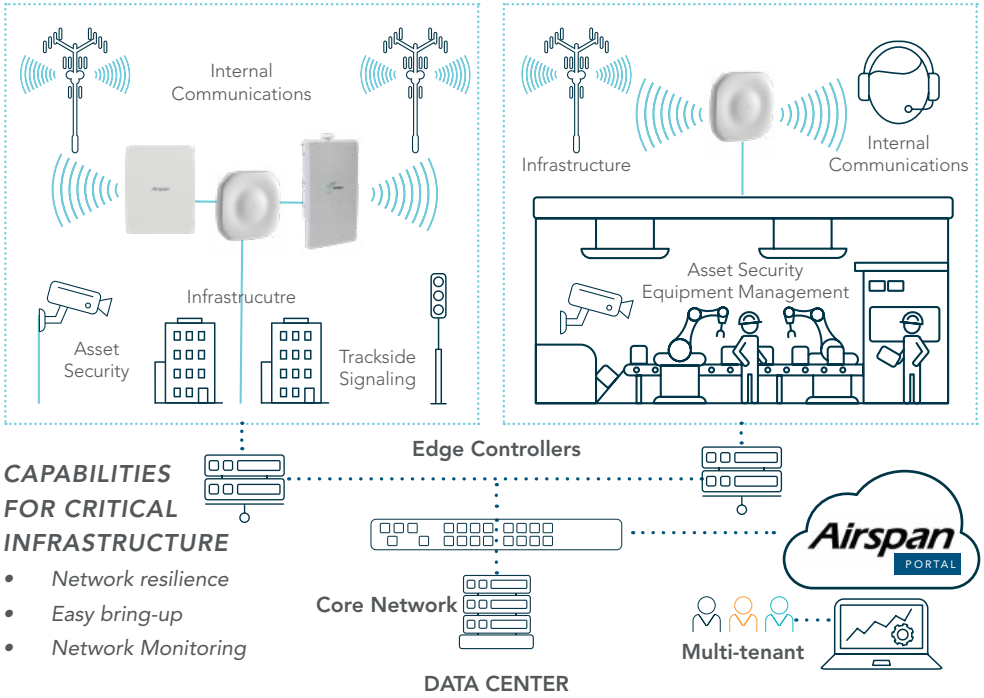
- Indoor
- All-In-One
- Wireline Backhaul
- Wall/Ceiling Mount
- Single or Dual Carrier

Airspan Portal: Simplifying Connectivity & Network Control

AIRSPAN PORTAL GENERAL FEATURES

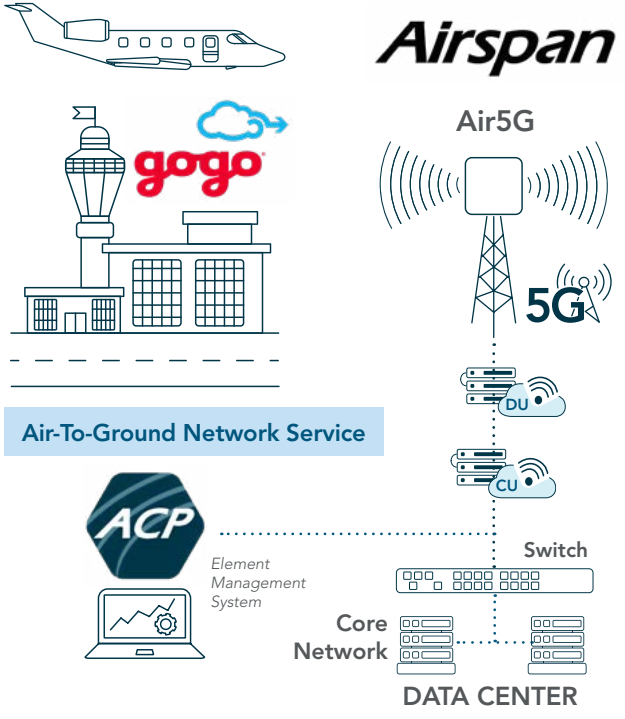
The Airspan Portal is a cloud-based platform for centralized network management while Edge Controllers integrates RAN, Core and SIM management on-site. Together, they enable seamless network deployment and control.

- Multi-Tenant
- Hosted on the Cloud
- WiFi-like Simple Management
- Automated Bring-Up
- Network-Oriented
- Views and Analytics
- Full CBRS Support



Reference Use Cases

Private Business Aviation - Gogo



Overview

Airspan has deployed a cutting-edge 5G Open RAN network to deliver seamless, high-speed Air-to-Ground (ATG) connectivity across North America. Covering the contiguous United States and parts of Canada with around 1,000 ground stations, this solution ensures continuous 5G coverage for business and commercial aviation. With custom-designed Aircards installed on the belly of aircraft and high-gain mMIMO antennas, Airspan's solution provides passengers with office-like internet speeds, enabling them to stay connected at high altitudes and speeds beyond traditional network limits.

Challenges

Deploying 5G ATG connectivity for aviation presented several critical challenges:

- **High Speeds:** Jets regularly exceed 500 km/h, surpassing the speed capabilities supported by standard 3GPP specifications.
- **Extended Range:** Aircraft often operate far beyond typical cell range, requiring a network that can extend signal coverage over vast distances.
- **Rapid Handovers:** Fast handovers are necessary for aircraft traveling between ground stations at high speeds, requiring a solution that ensures uninterrupted connectivity.
- **High Throughput and Low Latency:** Passengers expect high-speed internet for video conferencing, streaming, and business applications, which demands high throughput and low-latency connectivity in-flight.

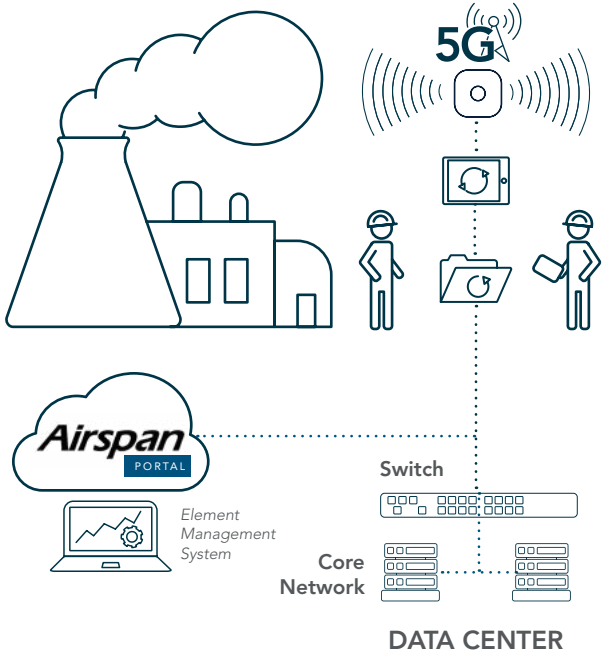
Benefits

Airspan's 5G Open RAN macro tower solution, equipped with high-gain mMIMO antennas and custom-designed Aircards, addresses these challenges and transforms the inflight connectivity experience:

- **Enhancing the Physical Layer (L1) to support the unique characteristics of airborne connectivity:** By improving the L1 physical layer to exceed standard 3GPP specifications, Airspan ensures stable connectivity at speeds beyond 500 km/h, extends the signal range to cover long distances, and enables seamless, fast handovers between ground stations. This allows aircraft to maintain uninterrupted high-speed connections throughout the flight, even in challenging environments.
- **Delivering High Throughput and Low Latency:** With custom-designed Aircards installed on the belly of the aircraft, the 5G network provides high-throughput, low-latency connectivity. Passengers can enjoy smooth video conferencing, media streaming, and other bandwidth-intensive applications, creating an office-like experience in the air.
- **Seamless Coverage:** With approximately 1,000 ground stations across NorthAmerica, the network ensures continuous 5G coverage from takeoff to landing, keeping passengers connected throughout their flight.
- **Scalable and Future-Ready:** Built on Open RAN architecture, the solution is scalable and adaptable, allowing for easy upgrades and expansion to meet future demands in aviation connectivity.out its nationwide Air-To-Ground (ATG) network.

Click the link to resource.

Energy - Korea Hydro & Nuclear Power Co.



Overview

Il-shin EDI, a product supplier for subways, railways, power, petro chemical and steel plants collaborated with Eruon to develop the world's first multi-band wireless communication system of Korea Hydro & Nuclear Power Co., Ltd. It is a disaster safety communication network which requires (PS)- LTE, 5G and 5G Wi-Fi services. One of the key factors for the success in this project is the use of Airspan solutions.

Challenges

The project aims to provide a robust and highly secure and wireless communication during disasters, utilization of 5G services and equipment and realignment of its network infrastructure to Wi-Fi 6 and Industry 4.0 requirements which may involve wireless sensors, robotics, drones and augmented reality.

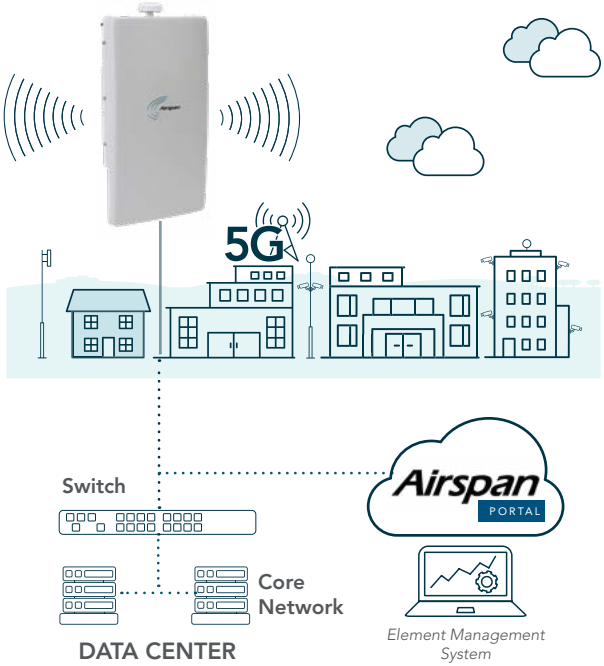
Solutions & Benefits

The upgraded wireless communication system improved the nuclear power plant operations and cyber security. It allows video conferencing between managers and operators on site and downloading of files such as technical diagrams and SOPs especially during emergency or system outage.

Il-shin EDI remained compliant with the nuclear power plant's standards even during the upgrade.

Click the link to resource.

Smart City - Sunderland



Overview

Boldyn Networks (Boldyn), a global leader in shared communications infrastructure, partnered with Airspan to advance Sunderland's Smart City initiative. Sunderland City Council aims to create a digitally connected and sustainable urban environment, driving business efficiency, economic growth, and employment opportunities. Achieving this vision required a comprehensive 5G network infrastructure to serve as the foundation for future development.

Challenges

The Sunderland Smart City project encountered several critical challenges during the 5G network deployment. Site acquisition and zoning was a major obstacle, as identifying suitable locations for small cell installations and obtaining necessary approvals in urban areas presented delays. Additionally, lack of fiber connectivity in certain regions of Sunderland made it difficult to establish reliable backhaul for the 5G network. Lastly, the integration with existing infrastructure posed a challenge, as the new network architecture needed to seamlessly coexist with the legacy systems in place across the city.

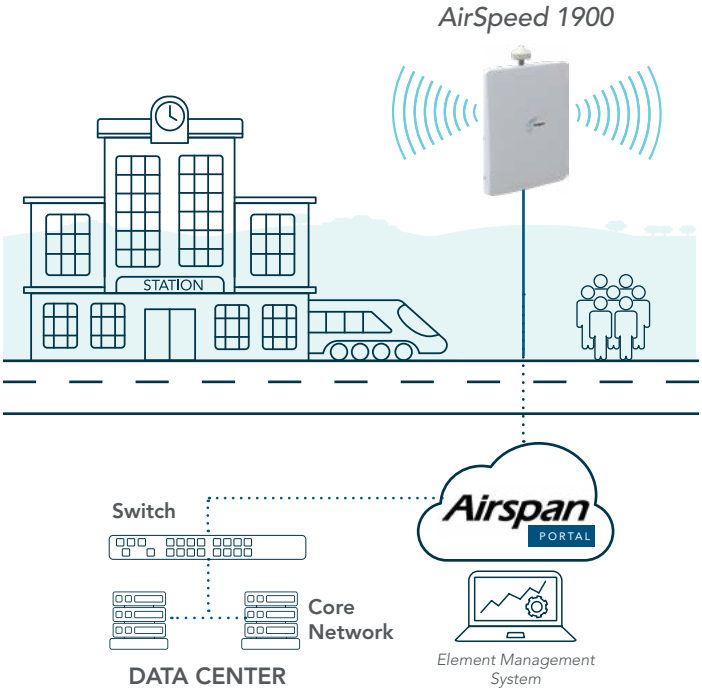
Solutons & Benefits

Airspan addressed these challenges by offering a flexible network design that utilized both fiber, copper and point-to-point microwave antennas, ensuring reliable connectivity even in areas where fiber infrastructure was limited. To overcome site acquisition and zoning challenges, Airspan provided compact, discrete solutions that could be integrated into existing urban environments without significant disruptions. The AirSpeed 1900 was selected for its unobtrusive design, allowing it to blend seamlessly into street furniture while providing high-performance 5G connectivity.

The successful deployment of 5G in the first phase of the project has laid the foundation for Sunderland's Smart City ambitions, supporting advancements in areas such as smart homes, workforce digital skills, and alignment with Industry 4.0 initiatives. By overcoming the key challenges, Sunderland is positioned to achieve its vision of a connected, future-ready city.

Click the link to resource.

Transportation - England's Connected Heartland Railways



Overview

The England's Connected Heartland Railways (ECH-R) project, a major initiative backed by the UK government's 5G Innovation Regions program, is revolutionizing rail and rural connectivity. With the aim of delivering a high-performance 5G solution, AWTG selected Airspan as its RAN partner to lead this project. Through the deployment of Airspan's

AirSpeed 1900 Outdoor Small Cells, the initiative will provide seamless mobile broadband coverage for passengers, enhance efficiency for operational teams, and extend trackside connectivity for rural communities.

Challenges

One of the core challenges of the ECH-R project was ensuring reliable, high-speed connectivity within the complex environment of a major transport system. Traditional mobile networks often struggle to provide low-latency, high-bandwidth service in crowded and dynamic settings, especially where real-time monitoring, onboard diagnostics, and seamless communication are critical.

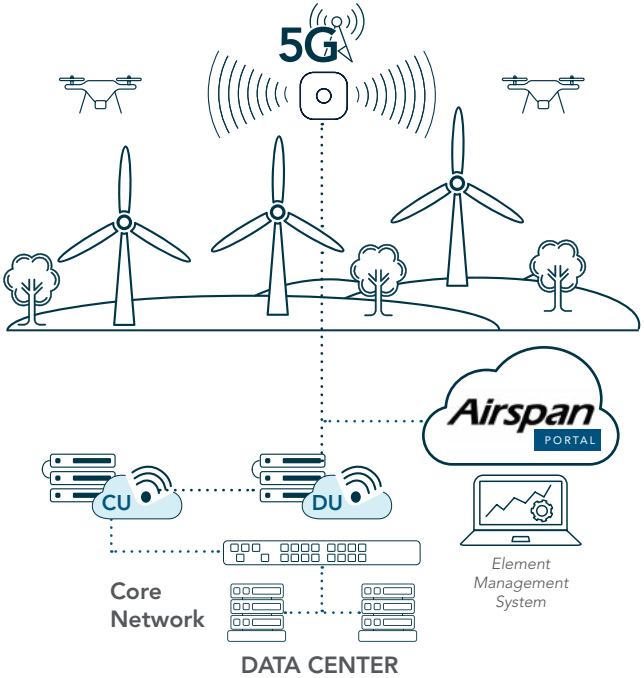
Additionally, extending broadband access to underserved rural communities required overcoming significant infrastructure gaps.

Solutons & Benefits

The deployment of Airspan's AirSpeed 1900 Outdoor Small Cells offers a transformative solution that meets the diverse needs of the ECH-R project. This advanced 5G network ensures fast, uninterrupted connectivity for travelers while optimizing operational efficiency through real-time data and communication systems for railway teams. Moreover, the network extends coverage to rural communities along the rail line, providing Fixed Wireless Access (FWA) that helps bridge the digital divide. In all, this 5G network enhances the travel experience while also supporting the project's broader goal of advancing wireless connectivity to drive innovation and economic growth within the region.

Click the link to resource.

Utilities - Semco Maritime



Overview

Semco Maritime, a renowned system integrator with extensive experience in offshore and maritime solutions collaborated with Airspan to bring state-of-the-art connectivity solutions to the forefront of wind turbine technology to ensure safety and operational excellence.

Challenge

The wind turbines measure with tower bases reaching up to 6 meters (20 feet) in diameter, heights of over 100 meters (328 feet), roughly equivalent to a 30-story building. These massive towering structures must be monitored and managed which requires reliable, secure, and mobile 5G connectivity.

These requirements were achieved by using Airspan's small cell radio units which allows real-time performance monitoring, fault detection, and enhances safety protocols for workers.

Solutions & Benefits

Airspan and Semco Maritime conducted a live demo showcasing several use cases utilizing 5G Airspan radios. These include connecting new safety devices, such as a defibrillator, enabling immediate communication with onshore doctors, demonstrating critical communications using MCX software for UEs MCPTT (Mission Critical Push-To-Talk communications, and deploying drones to monitor wind turbines. These scenarios highlight the critical role of reliable connectivity through Airspan solutions to ensure operational efficiency and safety within wind turbines.

Click the link to resource.

NOTES

NOTES

NOTES

"Elevate your wireless connectivity with Airspan.
Visit airspan.com and let's create a network that empowers your future."

A MEMBER OF

 ABO-0003-12 2302 www.airspan.com @airspannetworks