REDEFINING IN-BUILDING WIRELESS

HOW THE ANDREW ERA® DIGITAL DAS WITH O-RAN AND CPRI IS TRANSFORMING INDOOR CONNECTIVITY

ANDREW®
an Amphenol company

A NEW STANDARD FOR INDOOR WIRELESS CONNECTIVITY

Fast, reliable in-building connectivity is no longer optional — it's expected. From stadiums, airports and universities to hospitals, office buildings, factories and retail spaces, people now demand seamless, high-performance mobile service wherever they go. Meeting this expectation requires a solution that delivers exceptional digital experiences while reducing cost, complexity and environmental impact.

The ANDREW® ERA® Distributed Antenna System is redefining what's possible for in-building wireless — combining the proven advantages of an all-digital architecture with the added flexibility of Open RAN (O-RAN). Building on a foundation trusted by leading venues and mobile operators worldwide, the latest evolution of ERA introduces O-RAN support to enable even greater scalability, openness and integration with modern network architectures.

ERA supports public, private and public safety networks across both centralized (C-RAN) and on-premises deployments, giving facility owners and IT teams a simpler and more cost-effective path to robust multi-operator coverage. With native O-RAN support, ERA also accelerates mobile network operator (MNO) onboarding through plug-and-play integration. All with less infrastructure, lower energy use and the confidence that their network is built for what's next.

THE BENEFITS OF ERA®

SCALABLE FLEXIBILITY

- All-digital DAS with O-RAN scales and CPRI scales up and down to virtually any facility
- One solution supports public wireless neutral host (pre-4G, 4G, 5G TDD & FDD), private and public safety networks
- Supports low-, mid-, and high-power access points for tailored facility designs

DIGITAL PERFORMANCE

- Simplifies MNO onboarding via O-RAN and CPRI; compatible with all major BTS/O-DU vendors
- End-to-end digital signal path eliminates analog loss and boosts coverage and capacity
- Synchronization between MNO radios and ERA drives low latency and reliable performance
- Supports low-, mid- and high-power access points for tailored facility designs

OPTIMIZED OPERATIONS

- Software-driven deployment with automated hardware detection, zero-touch O-RAN configuration, dynamic routing and intelligent sectorization
- Advanced network intelligence and monitoring with real-time diagnostics, fault detection and PIM monitoring
- Built-in cybersecurity with a hardened software stack and compliance-ready protections

SUSTAINABLE INNOVATION

- Reduces head-end footprint by up to 90% and energy use by up to 55%
- Next-generation access points deliver up to 40% energy savings, extendable with advanced power features
- Fiber-efficient design eliminates PIM and improves signal quality
- Carrier-, band-, and technology-agnostic — supports 2G through 5G today, with a clear path to 6G
- O-RAN-compliant head-end and access points enable seamless evolution to next-gen networks

Built to scale, supports all network types

ERA is engineered to meet the demands of today's dynamic connectivity environments, delivering robust, high-performance wireless across facilities of any size or complexity. Its IT-aligned architecture supports both on-premises and centralized C-RAN deployments over standard fiber and CAT cabling. In C-RAN deployments, the baseband can be located miles away when connected via fiber, freeing up onsite space and enabling centralized resource pooling across multiple venues. ERA supports seamless multioperator service across a broad technology range, from pre-4G and 4G to 5G (FDD and TDD) and IoT protocols like LTE Cat M1 and NB-IoT. With a modular design that evolves to support private and public safety networks without duplicating infrastructure, ERA enhances performance, accelerates deployment and lowers total cost of ownership — while readying your network for what's next.. And with support for low-, mid-, and high-power APs, coverage can be tailored precisely to building layouts and user density without compromising signal quality.

Digitally improved performance

ERA delivers high-throughput, low-latency performance through a fully digital end-to-end signal path — eliminating analog conversions, coaxial cable losses and remote radio head (RRH) dependencies. With plug-and-play integration for O-RAN and CPRI interfaces, mobile network operators can onboard quickly and securely. End-to-end synchronization from the MNO through the DAS to the access point (AP) delivers optimal timing, reduced latency and reliable service continuity.

Easy to deploy and manage

Wireless infrastructure commissioning and maintenance shouldn't require a team of RF engineers. The software-driven ERA architecture simplifies setup and upgrades with automated hardware detection, zero-touch O-RAN configuration, dynamic routing and intelligent sectorization. Once deployed, the system provides full into performance with advanced network intelligence that delivers real-time insights into system health, fault detection and even PIM. Cybersecurity is built into the ERA platform, with a secure software foundation and compliance-ready protections to safeguard network integrity and user data.

Better for the planet, good for business

Visitors, employees and tenants increasingly expect sustainable wireless networks — and facility operations depend on sustainability to manage long-term costs. ERA is engineered to minimize energy use and space requirements by eliminating RRHs, coaxial cabling and bulky passive infrastructure, shrinking the head-end footprint by up to 90% and cutting power and cooling needs by as much as 55% compared to traditional DAS. The all-digital architecture uses less fiber and eliminates passive cabling altogether, removing PIM at the physical layer and improving signal quality through a simplified design. ERA's next-generation APs consume up to 40% less energy — and these savings can be extended further with advanced features like traffic-aware power management and deep hibernation.
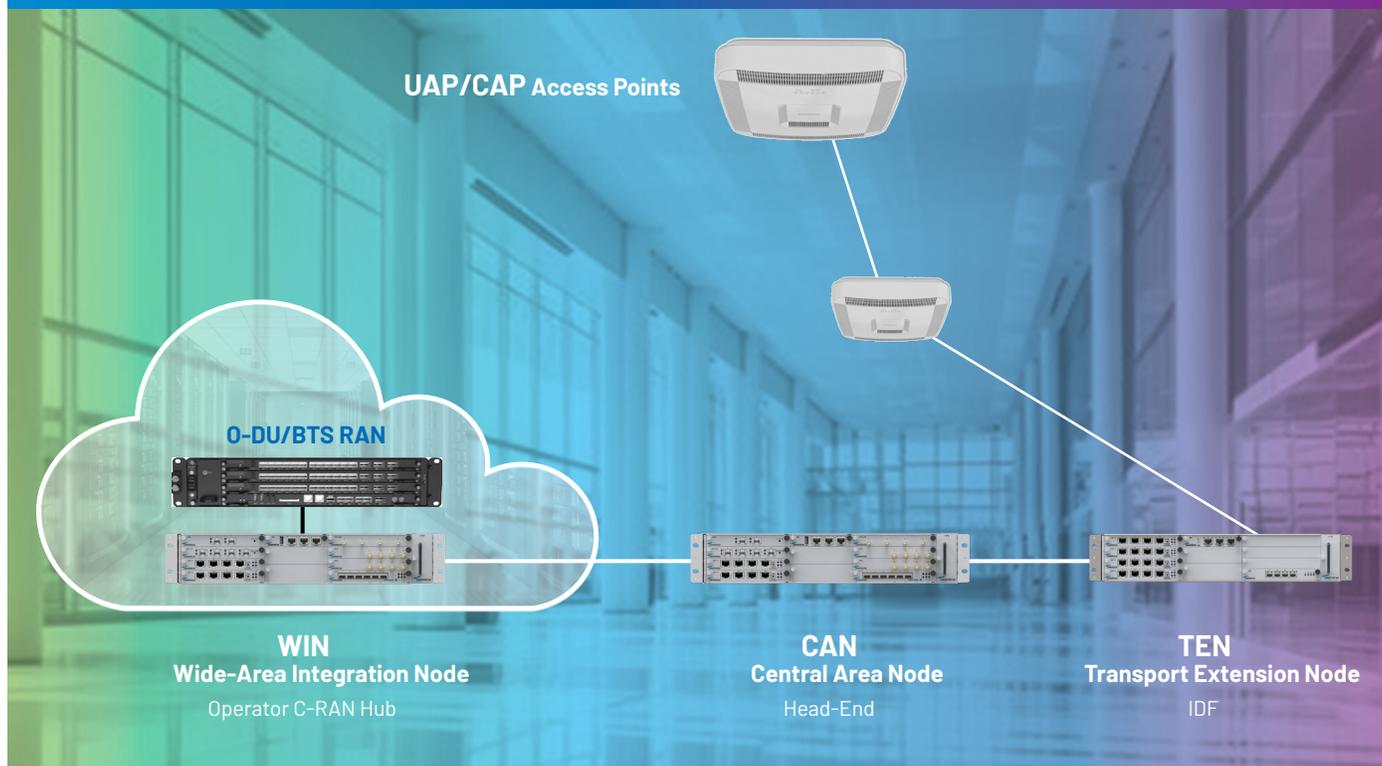
ERA brings together simplicity, performance and sustainability, setting a new benchmark for indoor wireless in the 5G era and beyond.

Stay future ready

As wireless technology continues to advance, infrastructure must be ready to support whatever comes next. ERA has a proven track record — supporting 2G, 3G, 4G, and 5G (TDD and FDD) — and is purpose-built for the future with a fully digital, O-RAN-compliant architecture. Its carrier-, band- and technology-agnostic design facilitates your evolution toward 6G and beyond — without rethinking your infrastructure.

A NEW ERA ARRIVES

UAP/CAP **Access Points**

O-DU/BTS RAN

WIN
Wide-Area Integration Node
Operator C-RAN Hub

CAN
Central Area Node
Head-End

TEN
Transport Extension Node
IDF

Centralized Access Node (CAN)

The CAN is the central control point of the ERA system. It connects to mobile network operators using digital O-RAN or CPRI interfaces (or traditional RF) and can be located on-premises or remotely in a C-RAN hub, even miles away. It digitizes and distributes baseband signals over standard fiber or CAT cabling.

Wide-area Integration Node (WIN)

WINs provide local MNO integration in distributed or multi-site deployments. They allow remote buildings or campuses to operate independently or in coordination with a centralized CAN, enhancing scalability and design flexibility.

Transport Extension Nodes (TEN)

Transport extension nodes relay digital signals from a CAN or WIN to expand coverage throughout large or complex facilities — without degrading performance or adding unnecessary infrastructure.

Access Points (APs)

UAP and CAP APs convert digital signals to RF for over-the-air transmission. Available in low-, mid- and high-power versions, they support up to 10 bands and can be tailored to diverse floorplans and capacity requirements.

AIMOS Management Software

AIMOS is the centralized ERA management platform. It provides full network visibility, automates configuration and fault management, and integrates with third-party systems using SNMP, SOAP and XML, all of which helps to streamline operations and reduce manual effort.

OPPORTUNITY THROUGH CONNECTIVITY

INDUSTRY USES

Stadiums, arenas and entertainment. ERA delivers the reliable connectivity that large, crowded venues need to optimize safety and fan experiences.

Transportation and hospitality. From airports and train stations to hotel properties, ERA keeps individuals connected and vital operations and communications uninterrupted.

Campuses. ERA enhances learning, engagement, automation, security and maintenance across large corporate and academic campuses.

Healthcare. ERA facilitates the highly reliable hospital connectivity needed to support medical staff, patients and devices, improving safety and care.

Commercial real estate. ERA helps to increase occupant satisfaction, building capacity and property value for offices and mixed-user buildings.

Retail. A strong, omnipresent indoor wireless signal elevates shopper experiences and improves operational efficiency for malls and big-box retail stores.

Manufacturing and warehousing. Reliable, high-capacity connectivity is vital to supporting critical operations, automation and safety protocols in industrial environments.

Since 1937, ANDREW, an Amphenol company, has driven the evolution of wireless technology. Trusted by mobile network operators and enterprises globally, we work closely with our customers to deliver innovative solutions that enhance connectivity experiences both outdoors and indoors. Our dedicated global team is committed to advancing the industry, fueled by the vision that a better-connected future is possible.

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