Industry Success Stories

How CBRS is Driving Wireless Innovation for Enterprises and Service Providers

CBRS is gaining momentum in the US. The innovative shared spectrum methodology is being used more and more in a variety of industries, including education, manufacturing, and utilities. The number of Citizens Broadband Radio Service Access Points has skyrocketed from zero in early 2020 to approximately 300,000+ by the end of 2022.

CBRS offers enterprises and service providers valuable mid-band spectrum at little or no cost, allowing users to ramp up with minimal upfront expenses.

CBRS has come to be used in a variety of formats, including neutral hosts, public and private networks, and fixed wireless access. With CBRS, enterprises and Wireless Internet Service Providers (WISPs) can accomplish things they were not able to do previously, either technologically or cost-effectively.

This eBook highlights how some industry verticals are benefitting from CBRS-based cellular network deployments.

170+
Members of the OnGo Alliance (MSPs, SIs, WISPs, Vendors, Telcos)

> 450
Devices authorized by FCC to operate in CBRS-spectrum

300K+
CBRS Access Points deployed in the US

> 4,000
Professional Installers are CBRS Certified

900
Different operators using GAA license

5G
5G-NR Ready

Industry 4.0 is changing the way companies manufacture their products. Factories are using new technologies to make their operations run more efficiently. Machine learning, AI, video analytics, IoT, and cloud and near-edge computing are all helping manufacturers use digital automation to bring their businesses to new heights.

Factories have found an impressive array of uses with CBRS-based broadband networks, including HD-video for quality assurance, collaborative robots, AGVs, drones, PTx, IoT, smart glasses, and the use of real-time data analytics to reduce downtime and help operations run more smoothly.

Foxconn uses LTE and CBRS to operate smart factory

CBRS Network Use Cases

- Operates AGVs & robotics
- Connects automation units, factory stations, a data center, lab space and a parts room

Read more

"This has demonstrated the orchestration of LTE over CBRS as a functional, reliable and economical solution for automating smart factories."

Eric Stonestro, *Airspan CEO*

Foxconn operates a 100,000 square foot smart manufacturing park in Wisconsin.

MxD deploys CBRS and LTE for Smart Factory

CBRS Network Use Cases

- Addition of CBRS to existing mmWave network provides members with additional testing options

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"As manufacturers look to adopt cellular, there is no one size fits all solution that they will all choose. MxD wants to ensure that we demonstrate and offer a selection of options at our facility for members and visitors. Our current installation focuses on 4G and 5G using private mmWave spectrum, and Betacom expands this by providing 4G and 5G using public CBRS spectrum."

Berardino Baratta*, MxD VP for Projects and Engineering*

MxD is an innovation center with a 22.000 square foot factory floor and over 300 partners.

Large venues have the population of small cities for a few hours at a time, with populations in the tens of thousands. Attending a concert or sporting event today is a participatory experience, with selfies and videos shared online in real-time. It requires a serious throughput to keep customers satisfied. CBRS provides the bandwidth for contactless ticketing and concession stands, in-seat ordering, expanded monitoring, HD video cameras for enhanced security, digital signage, IoT, and Push-to-Talk/Video for employees.

Dignity Health Sports Park

AEG

mobilitie intelligent infrastructure

Digital Health Sports Park, home to LA Galaxy, installs Private LTE network

CBRS Network Use Cases

- Remote parking lot surveillance
- Mobile ticket scanning
- Mobile media
- Mobile Point of Sale

Read more

"The expanded private [CBRS] network at Dignity Health Sports Park will ultimately enhance the operational technology and help ensure all of our new touchless enhancements, security measures and digital media have the secure connection to work seamlessly as we welcome fans back to our stadium."

***Katie Pandolfo**, General Manager of Dignity Health Sports Park*

The 125 acres sports complex has multiple stadiums, seating nearly 40,000 fans. It hosts world-class professional, collegiate athletes, and 5-time MLS cup champions: LA Galaxy.

FirstEnergy

celona

lower.com FIELD

Haslam Sports Group deploys Private Wireless at two stadiums – First Energy Stadium & Lower.com Field

CBRS Network Use Cases

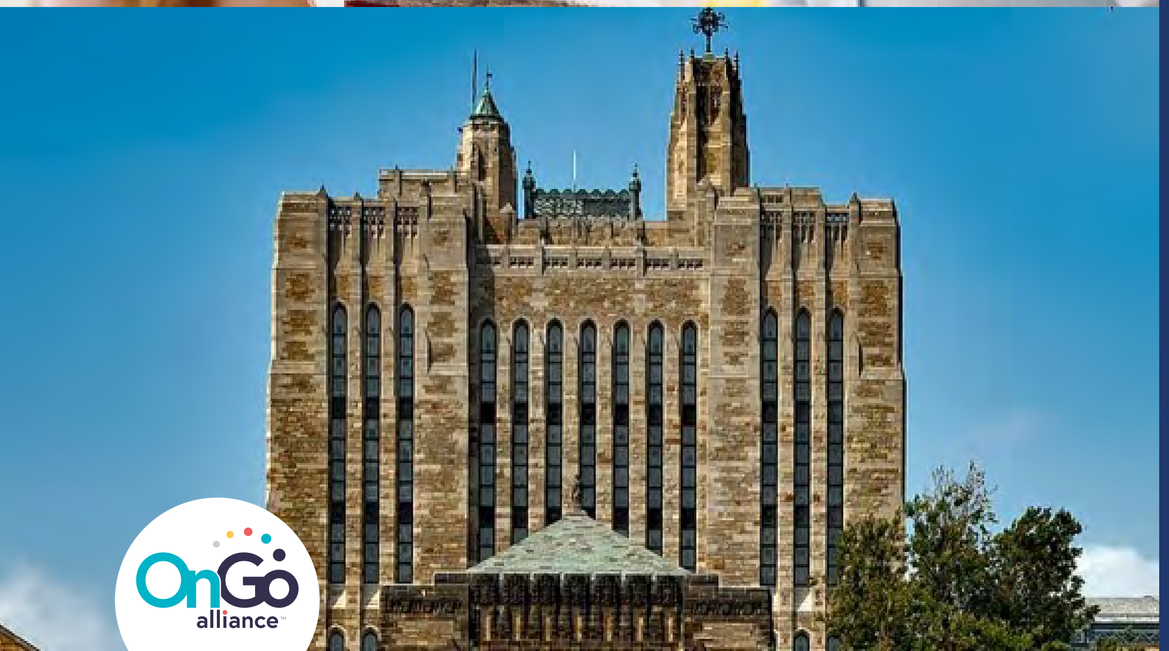
- Facial authentication for ticket entry
- Automate turnstiles
- Enhanced concession sales

Read more

"Getting Wi-Fi to those distances would have been extremely challenging and a very expensive proposition. The infrastructure installed worked very well because it was only a couple CBRS antennas, and it was minimal. The flexibility they had was well beyond what Wi-Fi or a public carrier service could ever offer."

***Brandon Covert**, VP of Information Technology for Haslam Sports Group (HSG)*

First Energy Stadium seats 70,000 and Lower.com Field seats 20,000 fans.



K-12 schools have provided CBRS-based broadband access to students who had challenges attending online classes and doing their homework, which has moved increasingly online. Lowering the ‘homework gap’, enabling vehicle and asset tracking, and enhancing safety and security are prime use cases in schools.

Universities have also found benefits from a CBRS network, expanding coverage with far fewer access point than Wi-Fi over entire campuses as well as in classroom buildings, dorms, athletic centers, and sports arenas. Innovation hubs have been created on campuses to solve industry challenges. CBRS can also be used for backhaul and to track equipment that is often moved from classroom to classroom or from building to building.

K-12 schools and universities are continuing to find innovative ways to use their CBRS networks, with digital billboards and facial analysis for safety.

HOWARD UNIVERSITY 1867 SAMSUNG amdocs

Enhanced Campus Connectivity with CBRS Across Howard University

CBRS Network Use Cases

- Secure and enhanced broadband connectivity to students, faculty, and local residents traveling the university's campus

Read more

"We're pleased that Samsung's CBRS technology was able to quickly deliver secure and reliable wireless connectivity for the students, faculty and visitors of Howard University."

***Imran Akbar**, Vice President and Head of New Business Team, Networks Business, Samsung Electronics America*

The 256-acre campus of Howard University is host to nearly 9.000 undergraduate students.

JOINT UNIFIED SCHOOL DISTRICT DOS PALOS-ORO LOMA EST. 1993 NOKIA

CBRS private wireless bridges the digital divide for students' homes in rural California

CBRS Network Use Cases

- Secure, fast connectivity to students' homes

Read more

"We are pleased to help close the digital divide in the Dos Palos-Oro Loma school district. For many rural areas of the US, it's not commercially viable to build out networks, and often families on the lowest income suffer. We can enable the delivery of much needed internet connectivity to students in the area"

***Matt Young**, Head of Enterprise for North America at Nokia*

The predominantly rural Dos Palos Oro Loma school district of California serves five campuses, 5,000 residents, and 2,400 K-12 students.

Utilities are using CBRS to securely create their own private networks, which can be used for machine-to-machine communication, advanced metering infrastructure, smart grid applications, and to provide broadband coverage to areas where traditional communications networks are not available. Additionally, CBRS can be used for high-speed, low-latency communications, allowing utilities to reduce operational costs, increase reliability, and improve customer service.

First Electric Cooperative

ERICSSON

Illinois Electric Cooperative to connect undeserved rural communities with CBRS

CBRS Network Use Cases

- Fixed Wireless Access
- Improved capacity & coverage
- Better user experience

Read more

"Illinois Electric Cooperative is taking a major step towards expanding connectivity and broadband services in areas where they are unavailable."

***Matt Haverfield**, Network Operations Manager for Illinois Electric Cooperative There are*

Founded in 1936, the IEC provides electricity and Internet service to 14,000 rural accounts across the state.

SDGE

NOKIA

San Diego Gas & Electric starts private LTE build with CBRS spectrum

CBRS Network Use Cases

Planned use cases

- Metering
- Faulted circuit indication
- Mission critical push-to-talk
- Supervisory control and data acquisition

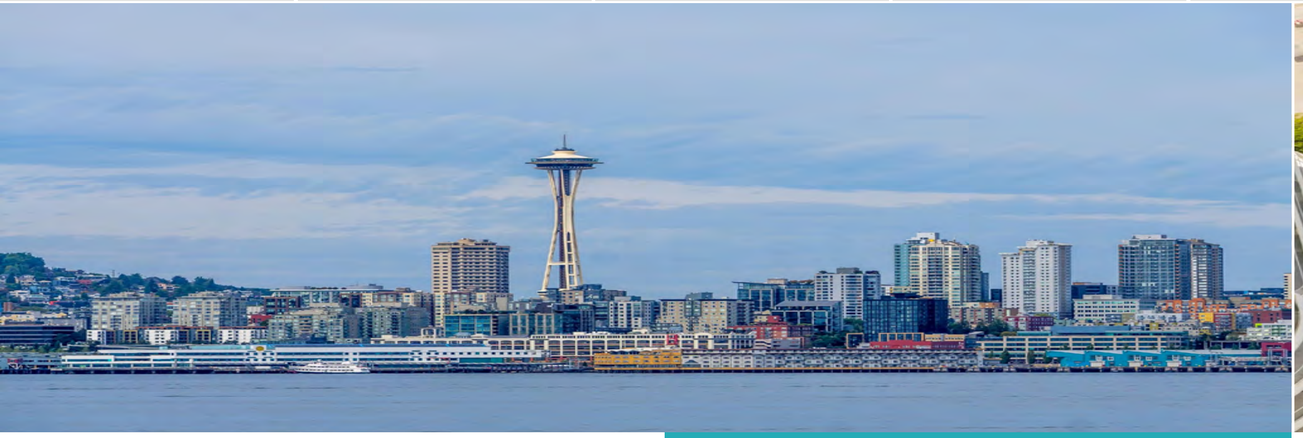
Read more

"Private LTE really does change the landscape for utilities that go down that path. It helps us as a whole, as a country, as a community, to have that reliability and sustainability of our power systems."

***Bruce Albright**, Burns & McDonnell's company's 5G solutions manager (Contractor supervisor for SDG&E project)*

SDG&E provides energy to over 3 million customers in southwestern California over 4,100 square miles.

Hospitality is comprised of a wide swath of people-pleasing industries, including hotels, casinos, cruise ships, and tourism. They are using CBRS to provide guests with reliable, high-speed their internet access, improve internal operations such as point-of-sale systems, security cameras, contactless check-in, room notifications, and streaming entertainment.



THE SOUND HOTEL

COMCAST BUSINESS

Ballast

Seattle's Sound Hotel Adds Private CBRS Network

CBRS Network Use Cases

- Environmental sensors
- Improved staff communications
- AI and ML powered video surveillance

Read more

"The Sound Hotel blends Seattle's creative bedrock with its innovation boom. We strive to provide our guests with a truly unforgettable experience – and connectivity is central to that."

***Barry Baxter**, General Manager, The Sound Hotel*

The Sound Hotel in Seattle offers 142 attractive rooms in the beautiful Belltown neighborhood.

FAENA HOTEL MIAMI BEACH

Quantum wireless

TRILOGY

Faena Hotel Deploys CBRS Network on Miami Beach

CBRS Network Use Cases

- Neutral Host Network
- Improved coverage
- Enhanced wireless capacity

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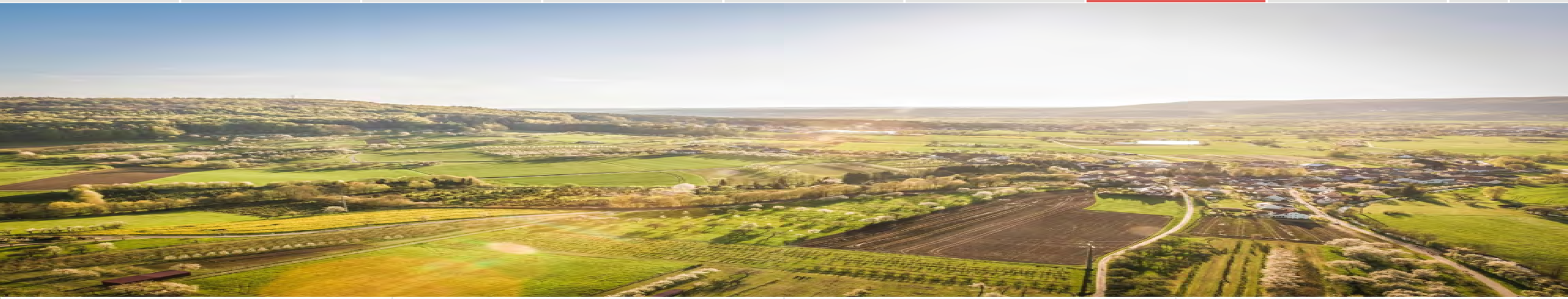
"The Faena Miami Beach is a perennial award-winning luxury resort, known for its VIP clientele and events. Their guests are accustomed to superior service, and we are proud to enable superior mobile connectivity for Faena guests, staff and visitors. We are thrilled to have been chosen to support the Faena's technology needs with ... this ground-breaking new CBRS technology."

***Dan Harkness**, CEO of Quantum Wireless*

The Faena Hotel in Miami Beach was the first hotel to receive the Forbes five-star rating the year it opened.

Wireless Internet Service Providers (WISPs) are the early frontrunners in the use of CBRS, finding it an excellent pairing with Fixed Wireless Access (FWA) to offer high-speed access to consumers and businesses in rural areas. The business cases for many companies have been helped with the aid of federally funded plans to bridge the digital divide, offering financial assistance to those able to provide broadband to areas where it's often financially impractical unserved areas.



NextLink Brings Broadband to America's Heartland

Read more

Nextlink is an ISP that delivers broadband internet and voice services in Illinois, Iowa, Nebraska, Texas, Oklahoma, and Kansas to residences and businesses.

Surf Air Wireless Fills Last Mile With CBRS

Read more

Surf Air Wireless is a Fixed Wireless provider that offers broadband service in Illinois, Indiana, and Michigan.

How a Kansas ISP Swiftly Leveraged CBRS to Connect a Rural Community

Read more

Velocity is a Kansas-based ISP under the Butler Electric Cooperative which serves roughly 7,500 residential and commercial sites.

Farmers Use CBRS to Increase Yields

Read more

Trilogy Networks is a private company based in Boulder, Colorado, that supplies a hybrid multi-cloud network that accesses over 1,000 rural operators.

- Rural broadband
- Improved coverage and capacity
- Reduced cost of network infrastructure

About OnGo Alliance™

The OnGo Alliance™ is a coalition of 185+ member companies, including mobile operators, cable operators, managed service providers (MSPs), mobile virtual network operators, enterprises, and more. The mission of the OnGo Alliance is to evangelize 4G and 5G OnGo technology, use cases, and business opportunities while simultaneously driving technology developments necessary to fulfill the mission, including multi-operator capabilities.

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