



# L'illa Diagonal Revamping Connectivity for a Smarter, More Sustainable Mall

L'illa Diagonal, one of Barcelona's most iconic shopping centers, has embarked on a €35 million renovation to enhance visitor experiences through cutting-edge technology. Spanning 35,000 square meters, the complex features over 170 retail stores and restaurants, two four-star hotels, schools, a sports center, a ballroom, a conference venue, office spaces, a public park, and parking for more than 2,400 vehicles. As part of this transformation, L'illa Diagonal has introduced a 1,100 m<sup>2</sup> digital ceiling in collaboration with Lumalia Studio and Lighting Artec, alongside a complete upgrade of its Wi-Fi network with Cambium Networks' advanced Wi-Fi 6 solutions.



With a strong commitment to innovation and customer experience, the mall has long partnered with Air-Fi, a leading integrator specializing in high-performance networks for retail, education, healthcare, hospitality, and large-scale events.

## The Challenge

To maintain its status as a premier shopping destination, L'illa Diagonal faced several key challenges:

- High-Density Connectivity Needs – The previous network struggled with congestion, leading to slow speeds and connectivity issues for thousands of daily visitors.
- Energy Efficiency Goals – The mall aimed to reduce power consumption while maintaining superior network performance.
- Support for IoT and Smart Systems – With a growing number of IoT devices, digital displays, and security systems, the network needed to support real-time data transmission without bottlenecks.



## The Solution

To meet these challenges, L'illa Diagonal partnered with Air-Fi to deploy a high-performance, energy-efficient Wi-Fi 6E network. Key components of the solution include Cambium Networks Wi-Fi 6E Access Points:

- XE5-8, XE3-4 and Wi-Fi 6E APs – High-density, tri-radio access points designed for peak performance in crowded environment.
- cnPilot Outdoor APs – Ruggedized access points ensuring seamless connectivity across indoor and outdoor spaces.
- Intelligent Network Management cnMaestro™ Cloud Platform – A centralized management system for real-time network monitoring, optimization, and security.
- Smart Energy Optimization
- Target Wake Time (TWT) – A Wi-Fi 6E feature that reduces device power consumption by allowing devices to schedule when they connect to the network.
- OFDMA Technology – Enhances data transmission efficiency, reducing congestion and improving overall performance.

## Field Results

- 30% Reduction in Energy Consumption – The new Wi-Fi 6E infrastructure significantly lowers power usage, benefiting both the network and connected devices.
- Seamless High-Density Performance – The upgraded network ensures fast, uninterrupted connectivity, even in the busiest areas.
- Enhanced IoT Integration – Smart sensors optimize lighting and climate control based on real-time visitor traffic, reducing energy waste and improving sustainability.

"We chose Cambium Networks for its focus on efficiency and reliability. Their Wi-Fi 6E solutions offer high performance, intelligent management, and advanced security, allowing us to ensure seamless connectivity for L'illa Diagonal. This infrastructure not only meets current needs but is also ready for the future of smart retail."

– Representative of Air-Fi

## Business Value

The next-generation Wi-Fi network at L'illa Diagonal delivers tangible business benefits:

- Enhanced Visitor Experience – “For our customers, high-quality Wi-Fi is a key differentiator that creates premium experiences, leading to greater satisfaction and improved service,” says Lluís Pichel, Technical Director at L'illa Diagonal.
- Future-Proof Technology – “The new Wi-Fi 6E network introduces additional frequency bands, providing higher data capacity and minimal interference. The built-in Bluetooth antennas also enable better IoT device management,” notes Air-Fi.
- Operational Efficiency – “This ambitious project showcases how Cambium Networks’ Wi-Fi solutions automate multiple control systems, optimizing security, lighting, and climate management,” explains David Tajuelo, Regional Sales Manager, Iberia at Cambium Networks.

With Cambium Networks and Air-Fi, L'illa Diagonal has set a new standard for retail innovation, creating a digitally connected, energy-efficient shopping experience that meets the demands of modern visitors.



## About Cambium Networks

Cambium Networks enables service providers, enterprises, industrial organizations, and governments to deliver exceptional digital experiences, and device connectivity, with compelling economics. Our ONE Network platform simplifies management of Cambium Networks’ wired and wireless broadband and network edge technologies. Our customers can focus more resources on managing their business rather than the network. We make connectivity that just works.