

SOLUTION BRIEF: Retail

Empowering Shopping Malls with Ubiquitous Cellular Coverage

Above: Pabellón M in Monterrey, Mexico is a world class complex with shops, restaurants, a hotel, a convention center, offices and an auditorium.

Mobile Connectivity is Key to Retail Success



RioMar Mall - Fortaleza, Brazil



Tereo Parque - Mexico City



SCS Vösendorf - Vienna

Today's malls are transforming. These mega structures not only include hundreds of stores, but many also house movie theatres, numerous restaurants, a playhouse, a hotel and parklike settings for resting during a busy day of shopping. Providing robust cellular coverage in such massive facilities visited by millions of shoppers every year is not an easy feat. It is becoming an increasingly difficult challenge as more and more customers use their smart phones to enhance their shopping experience. Furthermore, retailers and mall owners are utilizing the same in-building wireless network for a variety of applications that attract patrons and improve their in-store mobile experience.

The Evolving Shopping Experience

The shopping experience is evolving due to the deployment of in-building wireless networks. However, these networks have to overcome many challenges in order to provide the robust cellular connectivity shoppers enjoy, retailers expect and mall landlords guarantee. First, over ninety

percent of smart phone owners use their mobile devices while shopping¹. Many of these subscribers have unlimited cellular data plans; therefore, they do not look to offload their usage to the indoor Wi-Fi network. During their shopping trips these subscribers use their mobile devices to not only talk and text, but to share photos and videos on their social media pages too. Next, many retail employees nowadays are empowered with smart phones for productivity and security purposes. This wireless connectivity must extend from the merchandise floor to the back offices and stockrooms. Finally, mall landlords insist on powerful cellular communications throughout the mall because it provides a way to ensure seamless wireless coverage from outside to inside, keep the public safe, and furnish a valuable tool often used in lease negotiations.

All of these use cases can lead to another issue, densification. Densification is a term used to describe dense areas of mobile subscribers with a high demand for wireless connectivity. This can become a critical issue

especially during busy shopping times, such as the holiday season, or during large events like fashion shows or concerts that are now being held in malls.

Next, the mall structure itself presents an issue for wireless networks. Shopping complexes are constructed of concrete and steel, which are materials that impede wireless signals from the surrounding cellular towers. In addition, ensuring wireless coverage in underground parking garages, elevators, and the far reaches of the mall further compounds this issue.

Major malls in large cities, in particular, must house a wireless network that supports multiple bands and multiple operators. Not only will local residents visit a shopping complex, but business and pleasure travelers from all over the world may shop there as well. The optimal shopping experience can only be achieved with a robust wireless network that supports many different bands and a variety of cellular operators.

Finally, large venues, such as malls, must provide cellular capacity and coverage that is powerful enough to ensure every mobile user has connectivity during emergency situations. The wireless network must enable mobile communications for shoppers, retailers and first responders. Lack of connectivity can lead to mayhem, further worsen a critical situation, and tarnish a mall's image.

Multiple Solutions to Meet Wireless Demand

JMA Wireless, a global leader of wireless communications solutions, has vast experience in ensuring cellular coverage and capacity at large shopping malls around the world. The company offers a variety of wireless options for such large venues. Its modular Teko DAS (distributed antenna system) has proven time and again that it is the solution of choice for providing robust cellular connectivity even when thousands of mobile subscribers are using the wireless network simultaneously. The multi-band, multi-carrier Teko DAS platform is the ideal offering for supporting local as well as international shoppers. With only a single optical fiber, the Teko DAS distributes many frequency bands and multiple carriers from the rack mounted Master Unit to a Remote Unit, which can range in power from very high to low. Furthermore, the Teko DAS configuration uses up to 50 percent less fiber than competition offerings, making it a very cost effective and efficient solution.

An off-premise version known as C-DAS (centralized distributed antenna system) is another option for ensuring cellular coverage and capacity in shopping malls. With

C-DAS, valuable onsite real estate is used for revenue generating activities, not housing wireless infrastructure equipment. The key mobile processing elements are offsite while JMA Wireless' antennas are deployed throughout the mall. With C-DAS' capacity management feature, sector resources not used on the week-ends by surrounding office buildings can be leveraged for the mall to ensure robust wireless coverage on peak days.

Another JMA Wireless solution, the FUZE™ platform, also can be deployed at shopping malls. This offering combines DAS, Wi-Fi and digital electricity delivery into one solution. Since shopping centers have become so large, one of the key benefits of FUZE is its digital electricity capability, which can go longer distances – over a mile away. In addition, with digital electricity the necessity to run metal conduits is eliminated. This is a very tedious and expensive part of a deployment.

Source:

¹"More Than 90% of Consumers Use Smart Phones While Shopping in Stores", Glenn Taylor, [Retail TouchPoints](#), August 20, 2015



About JMA Wireless

JMA Wireless is the leading global innovator in mobile wireless connectivity solutions that ensure infrastructure reliability, streamline service operations, and maximize wireless performance. Employing powerful, patented innovations their solutions portfolio is proven to lower the cost of operations while ensuring lifetime quality levels in equipment and unrivaled performance for coverage and high-speed mobile data. JMA Wireless solutions cover macro infrastructure, outdoor and indoor distributed antenna systems and small cell solutions. JMA Wireless corporate headquarters are located in Liverpool, NY, with manufacturing, R&D, and sales operations in over 20 locations worldwide. For more information see jmawireless.com.

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