

CASE STUDY: RIOMAR SHOPPING MALL



The Connected Shopping Experience

The RioMar Mall is home to hundreds of stores, many restaurants, and other types of entertainment venues.

The Upscale RioMar Mall Turns to JMA Wireless for Mobile Communications

Overview: Achieving Company Goals with Powerful Cellular Coverage

Grupo JCPM, a real estate and communications conglomerate, has been trying to improve the shopping experience since 1935 when it opened its first grocery store in Serra do Machado - Sergipe. Eighty years later this still rings true with the company's primary goal for its real estate business being the development of projects in which technology and modernity are incorporated to benefit the surrounding communities. Recently, JCPM developed the massive RioMar Mall in Fortaleza, Brazil. In order to accomplish its goal of blending technology and modernity the company turned to JMA Wireless. It knew JMA's Teko DAS (distributed antenna system) could enable

extraordinary cellular coverage for its retailers as well as for the millions of customers that visit this impressive facility during the year. Since opening its doors on October 29, 2014, the mall has been providing robust mobile communications, and the peak holiday shopping season has been no exception.

Situation: Providing an Extraordinary Shopping Experience is not an Easy Task

Fortaleza is the fifth largest city in Brazil with 2.5 million citizens and is also home to the RioMar Mall. This enormous shopping center houses 385 stores, including

15 megastores, 70 restaurants, a playhouse, 12 movie theatres, an arcade, and a bowling alley. With over 300,000 square meters of retail space and parking for almost 7,000 vehicles, it stands as one of the largest malls in Latin America and is a showcase venue in the Grupo JCPM real estate portfolio. With a public facility this large the owner knew that a robust wireless network would be required to ensure mobile communications.

JMA Wireless and its integration partner, HUBER+SUHNER, were brought in to provide cellular coverage and capacity throughout the mall, and its outdoor parking garage and lot. Such a large venue requires careful planning and an experienced team. The team realized there were many concerns that had to be taken into consideration. First, the wireless network had to be able to support all four mobile operators, CLARO, OI, TIM and VIVO. Next, as a public venue with local as well as international customers, it required coverage for 2G, 3G and 4G bands, and various technologies. Additionally, the network needed to easily support new technologies by leveraging the existing infrastructure. It could not be down for extended periods of time for network upgrades.

The steel and concrete construction of the shopping mall had to be taken into consideration too when deploying the system. These types of materials naturally impede cellular signals from the outside. Powerful coverage is not only necessary in the mall, but in the extensive surrounding parking areas as well.

The RioMar Mall offers a mix of luxury brands and technology to provide an exceptional shopping experience.

Due to the proliferation of smart phones, more and more retailers are implementing push notifications, especially during the busy holiday shopping season. According to a recent article titled "How Usage of Retailer Mobile Apps Evolved In Holiday 2014" retailers sent 34 percent more push notifications during 2014 than the previous year. Furthermore, during the 2014 holiday season customers' engagement rate with these notifications doubled compared to the prior year.¹ Additionally, shoppers are using their smart phones to compare prices, redeem mobile coupons, and share photos and/or videos of their purchases. Retailers are utilizing the network to process credit card transactions via mobile card readers.

Densification or dense areas of mobile subscribers with a high demand for cellular connectivity is another issue that must be overcome in shopping malls such as RioMar. This concern is magnified during the holiday season or other peak shopping times during the year.

Finally, it is particularly important that today's wireless networks in public facilities, such as a shopping mall, have the necessary cellular capacity and coverage to ensure mobile connectivity during emergency situations. The system must be able to provide coverage for first responders as well as for customers and employees in times of crisis. During such situations people immediately reach for their cell phones to share text, voice and video messages, which can overload the wireless network. Lack of connectivity can leave first responders without proper



communication channels during critical situations, which in turn places the entire mall at risk.

Solution: The Teko DAS Fulfills RioMar's Wireless Needs

Grupo JCPM invested R\$600 million in the RioMar Mall; therefore, the company wanted to ensure it had a stellar wireless network to support this showcase venue. Integrator, HUBER+SUHNER, selected the Teko DAS solution from JMA Wireless for many reasons. From opening day the multi-band, multi-carrier DAS was able to easily provide coverage for the four wireless carriers, CLARO, OI, TIM and VIVO. Previously, this type of cellular connectivity had never been achieved by a venue in Brazil on its first day.

Next, being a multi-band solution, the Teko DAS easily supports the 850 MHz, 1800 MHz, 2100 MHz and 2600 MHz frequency bands. Just one optical fiber was used to distribute the multiple frequency bands and carriers to the 24 Very High Power Remote Units. Eight of the Remote Units are multi-band, supporting 850 MHz, 1800 MHz and 2100 MHz while 16 only support 2600 MHz. Complete 2X2 MIMO (multiple input, multiple output) coverage for the LTE2600 MHz was achieved with the system too. The minimal amount of optical fiber needed to support the Teko DAS is 50 percent to 75 percent less than competitive offerings in the market today, making it an extremely cost effective and efficient solution.

Additional savings have been achieved with the system's future proofed rack mounted Master Unit (MU), which

leverages existing equipment to support new bands and technologies. The architectural design of the unit minimizes a system's footprint and saves 30 percent to 70 percent of valuable onsite property, which can be used for additional revenue generating businesses.

Furthermore, the Multiband Spectrum Analyzer (MSA) enables an IT department to remotely monitor and optimize the Quality of Service (QoS) delivered by the Teko DAS components. It easily addresses any uplink and downlink signal quality issues, and the RF spectrum is measured and recorded for each sector and Remote Unit. Performance-degrading interference is identified quickly to ensure the system always is operating optimally, which is especially critical during peak shopping times.

Result: Taking the Shopper Experience to the Next Level

The JMA Wireless Teko DAS has helped the RioMar Mall take the shopper experience to the next level. On opening day company executives, politicians, customers and businesses experienced a robust cellular network that enabled all four carriers, CLARO, OI, TIM and VIVO, as well as supported 2G, 3G and 4G technologies. With the modular Teko DAS, the mall will be able to easily support 5G technology soon too. Whether inside the mall or outside in the parking area, mobile users enjoy data rates of 80 Mbps normally, with peaks of up to 130 Mbps. The wireless system is receiving its share of activity, and keeping up with it quite nicely according to customers and retailers.

“ The project has been a huge success. The work with the Brazilian operators went smoothly. Our client, JCPM Grupo, who owns the mall has been very satisfied with the outcome, and the Teko DAS from JMA Wireless was easy to install.”

>> Alberto Teixeira, RF and Project Manager from HUBER+SUHNER

The multi-band, multi-carrier DAS was able to easily provide coverage for the four wireless carriers, CLARO, OI, TIM and VIVO, and the 850 MHz, 1800 MHz, 2100 MHz and 2600 MHz bands.

This is the first time ever such coverage was provided on opening day by a venue in Brazil.

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.

About HUBER+SUHNER

The global Swiss company HUBER+SUHNER installs, develops and manufactures components and system solutions for electrical and optical transportation of data and energy. The company serves customers in the communication, transportation and industrial markets with cables, connectors, cable systems, antennas and other passive components relying on its expertise in radio frequency, fiber optics and low frequency technologies. HUBER+SUHNER maintains close relationships with its customers in more than 60 countries as the result of its global production network, own group companies and sales offices, as well as numerous distributors. For more information see hubersuhner.com.

Source:

"How Usage of Retailer Mobile Apps Evolved In Holiday 2014" by Brent Hieggelke, January 8, 2015, Marketing Land



The multi-band, multi-carrier Teko DAS easily supports the mall's many businesses and shoppers.

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