

CASE STUDY: MICHIGAN PLAZA

Premier Office Complex Deploys Industry Leading Solution



Michigan Plaza's two buildings provide premiere amenities, including unprecedented cellular coverage.

JMA Wireless Delivers Powerful Mobile Communications at Michigan Plaza

Overview: Delivering a Wireless Competitive Edge

Michigan Plaza, located in Chicago's East Loop, is a best-in-class office complex inspired by world-renowned architect, Ludwig Mies van der Rohe. Comprised of two buildings, 205 North Michigan Avenue (44 stories) and 225 North Michigan Avenue (25 stories), it boasts 2.2 million square feet of offices, retail and parking.

Industry leading in-building wireless systems integrator, Connectivity Wireless, was selected to enable mobile communications throughout this premier office complex. Because Michigan Plaza presented many cellular coverage obstacles, Connectivity Wireless turned to JMA Wireless, a global leader of wireless innovations, as a trusted vendor to provide the right product solution for the challenging

venue. JMA Wireless has proven repeatedly it can provide robust mobile communications in even the most demanding environments. Thanks to its TEKODAS (distributed antenna system) and ground-breaking FUZE™ platform, Michigan Plaza now offers powerful cellular connectivity throughout.

Situation: Addressing Mobile Communication Challenges

Michigan Plaza is a state-of-the-art green facility, recently receiving platinum LEED (Leadership in Energy and Environmental Design) certification. Illinois boasts the third largest number of LEED certified facilities in the country so it was key that Michigan Plaza offer this same level of environmental commitment.

A LEED certified building must provide energy efficiencies and reduce its carbon footprint. “Low-E” (low emissivity) glass is used in LEED certified buildings. It reduces operating costs and increases the comfort for tenants and visitors by transmitting visible light while controlling the amount of solar energy that enters the building. However, low-E glass also acts as a barrier to cellular signals entering and leaving Michigan Plaza, making reliable mobile communications a challenge.



Millennials are flocking to metropolitan areas nowadays, and Chicago is no exception. The city of Chicago is home to seven of the country's 14 most densely Millennial-populated ZIP codes in the country.¹ These Millennials not only live in Chicago, but they also work there. In addition, this young generation represents the highest number of mobile subscribers with 98 percent of them using smart phones, making powerful indoor cellular coverage a must.²

Michigan Plaza not only has many offices where these young employees work, but it also houses Argosy University classrooms, further adding to its daily Millennial population. Millennials, in particular, were not satisfied with the cellular connectivity that Michigan Plaza afforded.

Densification was another issue that had to be overcome. This is a term defined by cellular operators as a dense area of mobile subscribers with a high demand for cellular connectivity. Michigan Plaza not only experienced densification thanks to the high data using Millennial population, but overall the facility experiences 18,000 visitors on average per day.

Originally, the facility had an agreement with another system integrator that never materialized into an in-building network; therefore, it was critical that the DAS be built quickly and the carriers come on board just as fast. However, there were timing obstacles to building the DAS. It could only be worked on in the evenings and certain tenants even required it only be built during specific windows of time during the night.

Michigan Plaza also lacked space in its IDF closets, making placement of remote units (RUs) a challenge. It was critical that as few remote units as possible be used. Due to space limitations, it also was key that these RUs be as small as possible.

Michigan Plaza experiences many visitors from different countries thanks to being home to the Consulate-Generals of Argentina, Czech Republic, and France. However, this meant that support for multiple bands and multiple carriers was another critical factor. Furthermore, it needed to be future-proof so the latest technologies could be supported easily as well, only minimal downtime is allowable for upgrades.

Solution: Innovations Fulfill Tenant Needs

To cost-effectively and efficiently ensure mobile communications at Michigan Plaza, Connectivity Wireless deployed the TEKO DAS and the FUZE platform from JMA Wireless. The TEKO DAS is comprised of two main elements – the master unit (MU) and the remote units (RUs). The modular rack-based MU was the perfect solution to fit into the limited space available. Its footprint is 30 percent to 70 percent less than other competitive offerings. In addition, 31 high power tri-band remote units were deployed to provide coverage throughout the buildings. These RUs offer one of the smallest footprints in the industry. With just a single RU, multiple floors now experience robust wireless coverage. These two factors helped to resolve the space constraint issue in the IDF closets.

The four-sector system took a little over four months to install because of the limited window of time available to work each day. However, it would have taken even longer, but the innovative FUZE platform helped to streamline the deployment. AC power was not available to power the remote units located throughout the massive facility; therefore, FUZE's digital electricity capability was utilized. With FUZE, equipment up to 6,000 feet away from the main power source can be powered without the use of conduit and other electrical power requirements. Furthermore, each remote unit only uses a single composite fiber to power it and connect it back to the master unit, making this cost-efficient solution at least 50 percent less than competitive offerings.

The system currently supports two operators and the following LTE bands – 700, 2500, 2100 (AWS-1) and 1900 (PCS). As new bands and/or technologies are added to the in-building network, the future-proof TEKO DAS will be able to accommodate them with minimal downtime.

The TEKO DAS rack based master unit fits neatly onsite.

Result: Wireless Communication Success

Even though the TEKO DAS is a compact offering, it supplies powerful cellular communications to the thousands of mobile subscribers every day visiting, working or attending classes in Michigan Plaza. This cost-efficient solution easily overcame many challenges to supply Millennials with the type of wireless connectivity they desired. Michigan Plaza is labeled a premier property for many reasons. Its powerful cellular coverage and capacity has helped it to earn this status and will continue to do so in the future as it readily supports new cellular technologies and a growing population of mobile subscribers.



The compact JMA Wireless high-power remote units easily support multiple bands and carriers.





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 Connectivity Wireless

Connectivity Wireless is an industry-leading in-building wireless systems integrator. With more than 300 years of combined RF industry experience, and one of the first companies to break into the DAS industry, Connectivity Wireless has provided thousands of unique solutions to meet the wireless needs of venues and facilities since 2008. Having integrated systems across virtually every industry, Connectivity Wireless takes pride in matching each customer with exactly the right technology to ensure that its in-building wireless needs are met. For more information, please visit www.connectivitywireless.com.

Sources:

¹"Chicago: Land of the Millennials", James F. McClister, [Chicago Agent Magazine](#)

²"Millennials are Top Smart Phone Users", [Nielsen Insights](#)

“ We have found a true partner in JMA Wireless. Their employees’ level of knowledge and onsite support could not have been better. And, the company’s innovative solutions easily overcame every challenge Michigan Plaza presented to us.”

Greg Jacobs
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