



Bringing Mobility
Inside the Office Building
*Making the Case for In-Building
Wireless Systems*



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It's clear—we are all part of the Mobile Age. Cell phones, PDAs, laptops, and any number of other gadgets have reshaped the way we work, the way we communicate, and the way we live.

That is, until we reach the building where we spend the majority of our day and where most of our interactions occur. Despite the ever-growing need for always-on connectivity, many commercial buildings have yet to convert to wireless hook-ups. Without a signal, we're bound by cables, and rely on wishful thinking to make the magic handset bars appear or keep calls online.

It's not just individual productivity that takes a hit when buildings are ill-equipped to handle the new-generation requirements. Public safety officials and first responders are also affected by inadequate people-locating services and poor emergency communication coverage, both of which could potentially lead to compromised life-saving planning and rescue operations. Building owners, too, face a double whammy. They risk losing tenants who refuse to sign leases without WiFi capabilities, and they have difficulty tracking and consolidating data about in-building energy consumption, security, or other feeds that require frequent monitoring but reside on different IT platforms.

Isn't it time to change these scenarios? Doesn't it make sense to have commercial buildings wired in such a way that all who have access to it can be wireless, safe, and...mobile?

The In-Building Wireless Alliance (IBWA) thinks so.

 **i-BW Alliance**
Stay Connected. Everywhere.

Challenges vs. Opportunities

Indeed, there are inherent challenges facing wide-scale in-building wireless deployment.

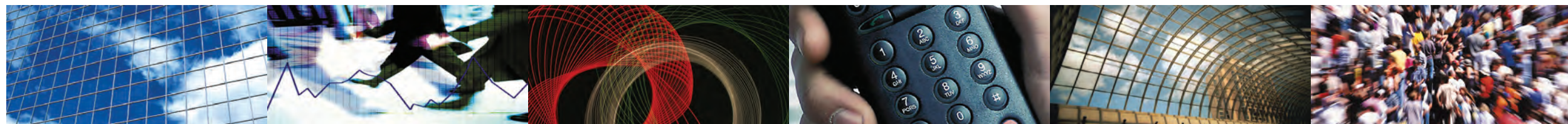
First and foremost, questions about the total cost of ownership, who pays for system upgrades, and how much they should pay raise many eyebrows around board of directors' tables. Then, there's the physical location of the building and whether it's in cellular tower range or has been constructed with materials that allow radio frequency transmission. And, of course, a lack of uniform city, state, and federal regulations about how commercial buildings should be protected from natural or man-made disasters bring a host of other problems.

But, as the IBWA has discovered and is continuing to study, the benefits of rolling out an in-business wireless strategy could outweigh the risks, or at least make the challenges more bearable.

Some of the most obvious rewards include:

- **STRONG FINANCIAL RETURNS.** While the installation of wireless capabilities comes with a price tag ranging between 40 cents to \$2 per square foot depending on the system's complexity, the return on investment stands to be substantial. Initial estimates suggest a 5x to 10x ROI, falling somewhere between \$5 and \$26 per square foot.
- **LESS DROPPED CALLS AND MOBILE DEVICE INTERRUPTIONS.** A decade ago, a majority of mobile calls placed on cellular networks originated or terminated from vehicles. Now, the majority of calls come from office buildings. Improved in-building wireless networks provide seamless car-to-office coverage and keep the mobile workforce rolling.

- **HAPPIER TENANTS MEAN HAPPIER PROPERTY OWNERS.** WiFi is one of the most popular building amenities requested by tenants, according to Black's Guide, which follows real estate trends. Logic holds, then, if building owners make this service available, they may be able to carve out more favorable lease terms and longer rental contracts.
- **IMPROVED PUBLIC SAFETY OPERATIONS.** The faster first responders can assess an emergency situation, the faster lives can be saved. Having a reliable and comprehensive communication system makes it easier for public safety officials to quickly assign safety resources and follow through with evacuation efforts.
- **REDUCED ENERGY COSTS AND BETTER MONITORING FUNCTIONS.** With energy costs accounting for about 38% of building expenses, knowing how to best light, heat, or cool a property could yield significant savings. For example, sensors could link to wireless networks and automatically determine if heating, cooling, or lighting systems should be adjusted. The same concept can be applied to other monitoring systems, and information can be bundled into one feed, which ultimately reduces overall IT costs.
- **ENHANCED MULTI-DEVICE COMMUNICATION CAPABILITIES.** With in-building wireless technology, users can access cell phones, pagers, PDAs, two-way radios, or anything else that can run on an IP network.



IBWA's Role

Issues as complex as in-building wireless are difficult to tackle single-handedly. Cost pressures, a limited bigger-picture perspective, and a lack of resources are the likely culprits in delaying technology-related improvements.

That's where the IBWA can help.

Backed by companies such as Akridge, ADC, Sprint, LGC Wireless, Motorola, and management consulting firm PRTM, the IBWA is leveraging its cross-industry strength to collectively:

- Create awareness about in-building wireless initiatives;
- Collaborate on the development of universal solutions or standard configurations that will not only expand adoption, but remain flexible enough to meet specific building requirements;
- Encourage business and government organizations to incorporate in-building wireless concepts in public safety policies and legislation;
- Exchange ideas about protecting buildings in emergency or disaster situations, and, of course, improve life-saving rescue operations; and
- Measure ROI and suggest costs- and benefits-sharing practices among all building stakeholders.

If you are a commercial property owner, infrastructure provider, wireless carrier, or public safety specialist, in-building wireless will impact your organization. Through the IBWA, you will have access to market thought leaders, influence in-building wireless trends, and shape the evolution of this leading-edge technology. Be part of the discussion. Play a bigger role in the Mobile Age.

For additional information please visit www.ibwalliance.org

"The IBWA's mission is to accelerate the adoption of in-building wireless as a means of unlocking value to all stakeholders of communication and information within a building."

Dr. Anand K. Iyer
President and COO of WellDoc Communications
IBWA President

Founded in 2006, the IBWA, a cross-industry consortium representing commercial real estate firms, public safety organizations, wireless carriers, and infrastructure providers, aims to accelerate the adoption of in-building wireless technology and unlock the value to all communication and information stakeholders within a building.

The In-Building Wireless Evolution

Given the broader consumer market push to make nearly all aspects of life compatible with the increased desire to be mobile, it's only natural that the ripple effects would reach places where people spend a good portion of their day: their offices.

Certainly, there are multi-faceted needs to be met, and many of them can now be addressed in ways never before thought possible due to back-end communication network improvements:

- Tenants, now more than ever, are demanding WiFi in the buildings they lease to step up workforce productivity, which, in turn, drives higher profits;
- Building visitors and everyday employees want to work, communicate, or access data everywhere—in elevators, in the garage, in meeting rooms, or even sitting at their desks, using whatever device they choose;
- Commercial property managers need to get a handle on energy-consumption costs, better monitor security functions, and more effectively analyze cross-system data feeds; and
- First responders could use wireless access to retrieve building blueprints, plan rescue and recovery strategies, evaluate risks, and determine appropriate communication links while in transit to the scene.

Although compared to emerging markets, such as India, China, and Dubai, where building construction is booming and new property developers are more inclined to integrate "smart" technology from the getgo, the U.S. has lagged behind in adopting similar measures.

But, that's starting to change. U.S. real estate firms and commercial property developers are quickly getting schooled on the advantages of having their buildings WiFi ready, and they are beginning to understand that in-building wireless network conversion can translate into big financial gains.