

Distributed Antenna System (DAS): CELLULAR DISTRIBUTION

COMMUNICATIONS CABLING NETWORKING

- Over 15 years of experience in cellular service
- IB Wave Professional Design certified staff. Expertise in data gathering equipment for measuring RF (Anite, Nemo, Walker-Air, Anritsu)
- Partnership with leading DAS equipment suppliers including SOLiD, Commscope, Advanced RF Technologies, LGC Wireless and Corning.



Our seal of commitment is your assurance that CC&N will Design, Implement and Manage custom solutions that are reliable, cost-efficient and founded in best practices. We integrate leading technologies to help drive performance and focus on accelerating your business results.



Comprehensive and Reliable RF Repeaters for Cellular Signal throughout a Building.

There are an estimated 2 billion smartphone users globally, with an estimated 80 percent of mobile traffic originating or terminating within a building. With the infiltration of mobile devices in the business environment over recent years, the demand for strong, reliable voice and data connection indoors has become critical for day to day operations. In fact, according to a case study developed by CommScope, 75% of respondents cited that in-building mobile connectivity is an "important" or "very important" factor in any property. In the same study, half of the respondents admitted having no control over the in-building cellular coverage in their buildings, but wished they did.

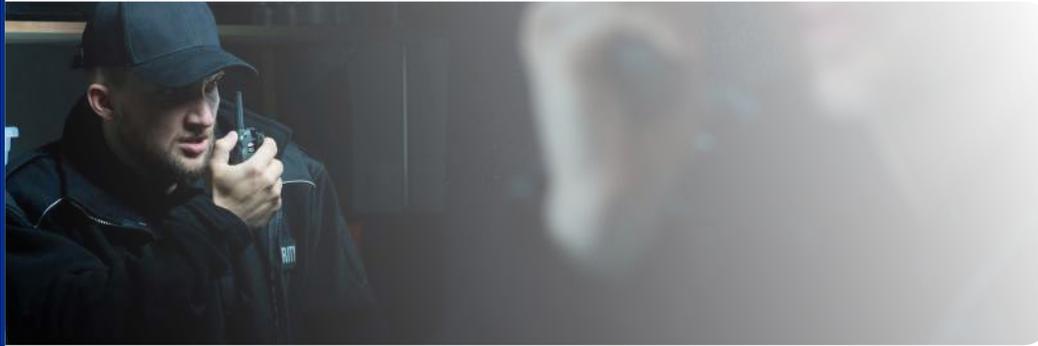
Despite the importance that respondents placed on the continuous cellular connectivity, fewer than half of architects across the globe plan and design buildings with dedicated in-building cellular networks in mind. Even worse, less than 2% of commercial buildings have dedicated technology to ensure strong and reliable mobile coverage indoors.

KEY SIGNAL CHALLENGES SOLVED

There are many ways for cell signal to be interrupted. A company that had perfect signal through their building, can easily lose signal if a new building is built next to them. Other interruptions could stem from building materials used including Low E Glass, Cement Walls or Metal framing. Even more likely, internal rooms or basements can lose signal due to their location in relation to the cell tower.

CC&N's DAS solutions provide amplified cellular signal throughout a building enabling a continuous connection. This provides strong and reliable cellular coverage for carriers despite the building materials used or location within a building. If signal is interrupted due to lack of availability, solutions are available to distribute amplified coverage for a location to increase availability.

COMPREHENSIVE DAS SOLUTIONS



KEY BENEFITS EXPLAINED

Smart phones and wireless devices have become the normal way of communicating for business and personal purposes. Wireless communications have been embraced to reduce capital expenditures and operational expenditures for buildings in almost every vertical market, from real estate to education.

Key benefits for building owners and operators that decide to invest in DAS include:

- Operations efficiency
- Fast response to tenant calls
- Improve security and safety for tenants, employees & visitors
- Support wireless sensors for smart building/sustainable design
- Offer the next-generation amenity (lure new tenants)
- Reduce Insurance Costs

IMPLEMENTING A DAS FOR YOUR FACILITY

The main purpose of a Distributed Antenna System is to support desired wireless services, which may include commercial cellular and public safety.

The two main objectives for a DAS system solution are:

Coverage: CC&N will define and understand your wireless communication needs in terms of critical, important and nice to have coverage areas. The total square footage has direct impact on the overall cost (equipment and installation of the DAS).

Capacity: CC&N will coordinate with cellular service providers for the repropagation of their signal into the building(s) required. Depending on signal availability there are solutions to amplify the signal if desired signal strength cannot be obtained.

TURN-KEY INTEGRATION

CC&N is Wisconsin's local DAS integrator. We provide customer specific DAS solutions that focus on the customer's:

- Location Size
- Required Frequencies
- System Capacity
- Budget
- Time frame

REFINED DAS PROCUREMENT PROCESS

CC&N has a refined DAS procurement process that provides our customers with:

1. Initial consultation followed by a rough budgeting proposal for the requested system
2. A design proposal to engineer a site specific DAS - meeting the customer's individual needs
3. Coordination of retransmission agreement with cellular service providers and our customers for approval of DAS installation.
4. A firm quotation of requested DAS equipment & services based on accepted Design Proposal.
5. Dedicated Project Management to coordinate communications, set up progress meetings, and scheduling to keep the install on track and accountable to our customers.
6. DAS procurement and installation services
7. DAS engineers, equipment technicians, and structured wiring installers to provide end-to-end system installation without subcontracting.
8. DAS system commissioning and tuning to ensure the proposed signal levels are achieved.



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