Enhancing buildings' value and user experience through Indoor Wireless

Walking the corridor whilst calling on the phone and … gone is the call. Attempting to make a call from the canteen, yet …. no coverage. Having to be standing close to the window with ones smartphone in order to be able to receive a mail… Familiar situations ? These conditions prevail more and more often in offices and corporate buildings, but equally in shopping centres, event venues, hospitals, etc.

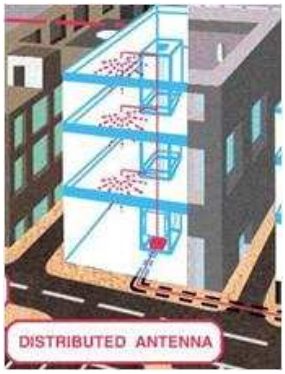
Communication used to be 'nice to have' but in today's world has become 'need to have'; we can't function without it any more. Operators of mobile networks are experiencing the same: due to the paramount success of smartphones, PDA's, laptops and tablets, their networks all of a sudden run out of capacity to cope with the exploding demand for data traffic. This trend is also visible in developments such as 'mobile only' or 'bring your own device' that organisations are now witnessing or implementing. The need for always on, always connected communication in today's trend towards flexible working is eminent both outside as well as inside buildings. Already now, 50 – 80% of mobile traffic is generated from within buildings.

Buildings however, do not always allow for wireless signals to travel through them all that easily. Often, signals are hampered by steel, thick walls or isolating windows with metal coating on them. Good thermal isolation usually also leads to severe isolation for wireless signals !

These wireless developments inside of buildings can be facilitated however ! For all those environments where communication is an essential facility – such as offices and the examples mentioned – there are solutions to propagate any wireless signal from outside networks to an inside network inside the building. These solutions are generally addressed as *indoor wireless* solutions. They typically comprise an antenna network, a distribution network and some signal sources such as repeaters. Such a network then forwards the signals of all operators and all types of mobile networks (GSM, data, etc) into the building. Likewise, such a system can also be deployed to distribute signals of proprietary systems such as private radio's, corporate GSM, nurse call systems or devices for the company's own emergency services.

Typical cases are offices, shopping centres, stadiums, hospitals, stations, exhibitions, hotels, etc

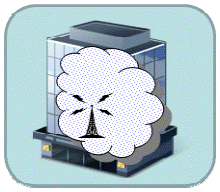
Such an indoor wireless network can easily be regarded as a next generation of building utilities or facilitating infrastructure. In addition to lighting, ventilation, sanitary and HVAC facilities the building can just as well comprise wireless communication facilities. Likewise, they can easily be embedded in an integral facility management environment or service contract .



To enable the *indoor wireless* facility inside a building, a landlord or facility manager has multiple options:

1. Address your operator, with whom you have a corporate subscription. This operator may facilitate an indoor wireless solution, however is likely to do so on his own terms and demand compensation within the mobile contract (tariff, duration). If the building deploys multiple users or multiple operators (multi tenant situations); then one has to rely/depend on the one operator to also cater for the signals of the other(s).

2. Install your very own system. Like with any other building infrastructure, the landlord or property developer procures, can install, own and deploy an *in building wireless* facility for his tenants. This puts him at the controls of what is provisioned, how and under what terms. Having a system inherent to the building allows you to switch operator, facilitate visitors and 3rd parties' operators, cater for any service tenants may require or implicitly deem present, cater for the connectivity of a multitude of tenants in one building. In this model, one has to deal with the mobile operator(s), as they purchased the frequencies of their services and they are the only ones allowed to use them.



3. Engage Neutral Hosting. Here, an *indoor facility* is installed as well; however the Capex and the network are provided by a 'Neutral Hosting' service company. The landlord merely acquires the *indoor wireless* usage as a fully managed service at an agreed fee and has no concern whatsoever of the installation, technicalities, maintenance or even dealing with the mobile operators.

If the building happens to be subjected to the obligation of providing wireless coverage for the public safety forces (C2000, Astrid and BDBOS in rep NL, BE and DE), then an indoor wireless network will also cater for the distribution of those obligatory signals and those of any other private network.

With an *indoor wireless* facility, a building becomes more appealing to tenants, had this little extra value in comparison with others and becomes entirely up to standard for 21st century usage! In addition, it is then prepared for any public safety obligations that may soon arise.
So indeed:

providing ultimate wireless mobility !

For more: www.ulwimo.com

Koen Mioulet, feb. '13