

CC&N INSIGHT – Wireless Network Design & Installation

Industry Specific Wireless Network Applications

Manufacturing:

The Manufacturing industry has been slow to adopt Wi-Fi as a primary Ethernet access service, but Wi-Fi as primary access service is rapidly becoming the norm in all industries. The challenge of using a Wireless network in manufacturing spaces is not only providing reliable coverage, but also providing the needed traffic capacities. Various manufacturing embedded, machinery sensors and low powered, Wi-Fi enabled hand tools (torque wrenches, test equipment) are particularly difficult to integrate into a manufacturing wireless network. Tight spaces, large machines and materials, RF (radio frequency) noise, and mixed Wi-Fi access point models and vendors are just a few of the challenges for Wi-Fi in a manufacturing environment.

Warehousing & Distribution:

Warehousing and Distribution can be challenging. In the past, coverage and connectivity was the only issue. Coverage has been solved, but connectivity is more challenging than ever. Device densities have increased dramatically and roaming of fast moving devices (fork lift trucks and spotter trucks) continues to plague many facilities. The trend to imbedded antennas in handheld devices and terminals is making connectivity even tougher. Sleeping devices such as handheld scanners and label printers continue to work improperly. A reliable, but not overly dense network can be a challenge when AGVs (Automated Guided Vehicles) systems and VNA (Very Narrow Aisle) storage systems are added.

Healthcare:

Healthcare, as an industry, has one of the highest access points per square foot ratios. If done correctly, real time location services (RTLS), Nurse Call systems, Voice over Wi-Fi (Cisco, Vocera, Spectralink), EHR/EMR (Electronic Healthcare/Medical Records), and patient BYOD will all work together. If done incorrectly, these critical services will falter or even fail.

Higher Education:

Colleges and Universities have a very diverse environment for Wi-Fi. Each student and staff member probably has at least two Wi-Fi devices with them at all times creating a moderately high device density in most areas. Lecture halls and dorm rooms have the highest device densities. 200 to 500 seat lecture halls are not uncommon. 2 student dorm rooms may have as many as 6 or more devices per room, Wi-Fi TV, and a gaming device. Since cellular services are sparse at best in dorms and campus buildings, the students are using Voice over Wi-Fi on their smartphones.

Corporate Business:

Corporate offices have been using Wi-Fi for a while. But today it is no longer just an added benefit, it is now a primary Ethernet network, used by all with reliability and capacity is expected. But most



offices have issues with slow services and interrupted connectivity. Today's offices, from a high rise office building to a small office in a strip mall are all experiencing higher user densities and increased demands for bandwidth. Adding to the issues are multiple wireless networks and non Wi-Fi devices vying for the same RF (radio frequency) space. Wi-Fi device densities have skyrocketed with increased staff densities and multiple devices per staff member. Also, corporations may have separate Wi-Fi devices for conference room AV systems (Click-Share, Extron, Crestron, etc.), localized single purpose networks, and digital signage that add to the RF spectrum usage.

Expert Design. Experienced Installation