



Putting Wi-Fi to Work: WLAN at Razel

The harsh environment of the construction industry, a world of steel, concrete, machines, noise and dust, would seem like the last place for a wireless LAN (WLAN). But more and more, the industry is harnessing Wi-Fi's operational flexibility to bring enhanced data and voice communications directly to the job site. This move is not a "nice to have" initiative, but rather something that achieves bottom-line cost reductions. In an industry with tight profit margins, anything that provides a competitive advantage can mean the difference between success and failure.



French engineering firm Razel was eager to harness the potential of WLAN, both in their internal operations and on the job site. What they needed was a system that could be quickly deployed, enable site-wide mobility, and provide robust, resilient performance. Their final choice was an Extricom WLAN.

A Challenging Setting

Construction sites present a very challenging environment for wireless. The presence of large amounts of concrete and steel, as well as the constant movement of large construction machines, make for poor wireless signal propagation. In addition, conventional WLAN solutions require a lengthy planning and RF survey process, but construction projects with their relentless schedules usually don't have the luxury to accommodate this.

If Wi-Fi adoption has received little notice in the construction industry, however, it's not because of a lack of need, but rather a lack of effective solutions to these challenges. Construction is in many ways an ideal environment for demonstrating the business value of wireless applications. The workforce is highly mobile and in the field, requiring maximum flexibility of access.

Making the Most of a Technological Opportunity

Construction projects also involve transmission of large amounts of data between the building site and the back office in the form of architectural drawings, project specifications, labor timesheets, and progress reports. Manual transmission of this data on paper and feedback from on-site construction workers to engineering firms about design-implementation problems can be slow and inefficient. Converting this process into an

electronic format would enable transmission and processing of information in real-time, potentially cutting days off project timeframes.

Using Wi-Fi-enabled mobile applications, such as Voice over WLAN (VoWLAN) phones and bar code scanners provides another source of operational value. Wireless voice is one area where construction and engineering industries have been early adopters, first with walkie-talkies and now ubiquitous push-to-talk cell phones. The use of VoWLAN phones for site to back office communication and bar-code scanners to track building materials can bring real cost-reductions to an industry that is constantly on the lookout for incremental savings.

Finally, construction sites are in constant flux, which makes the accelerated deployment and re-deployment timeframes of wireless highly convenient.

Building Out the Office Network

Razel, a well-established French construction and engineering firm based in Paris, is always looking to improve operations through astute use of new technologies. The firm understood the possibilities of WLAN, both for its back-office applications and its potential on-site uses. Razel, however, had not yet seen a WLAN solution that could work effectively in their business setting. As Hicham Allouche, Director of Networking and Development, noted, "It was easy enough

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Hicham Allouche -
Director of Networking
and Development
Razel

Project Scope

Provide network coverage to ensure guest access and enable mobile access for 3,000 square meter headquarters facility.

Solution

- Three EXSW-800 8-port WLAN switches and 24 EXRP-20 Dual-Radio UltraThin™ APs.
- Capacity, coverage, and security optimized through multi-layer channel blanket topology.

Results

- Simple deployment enables network access to meet project requirements.
- Provides platform for possible integration of advanced applications such as VoWLAN.
- Continuity of infrastructure basis for expanded rollouts to other office facilities and construction sites.

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to install wireless on a job site.... getting applications to work effectively and reliably was a much more difficult matter.”

A project to provide mobile connectivity at Razel's headquarters provided an opportunity to test out Extricom's innovative WLAN solution. The Razel IT department needed to provide network access to contractors, vendors, and other on-site visitors, a business requirement which had proved problematic both for reasons of security, since guests could not be allowed to simply plug in to the cabled infrastructure, and mobility and capacity, since the high-density, mobile user environments of conference rooms would overwhelm the wireless hotspot-like layout of traditional Wi-Fi products.

Supporting All Requirements

Extricom WLAN technology, based on the innovative “channel blanket” in which all APs transmit on the same channels to form blankets of uniform coverage, high capacity, and seamless mobility, resolved all the drawbacks that Razel had previously experienced in conventional cell-based WLANs. In the Extricom system, users associate directly with the Extricom switch, rather than an individual AP, thereby avoiding the AP-to-AP handoff problems that make cell-based WLAN a poor choice to support mobile applications such as PDAs and barcode readers.

In addition, Extricom's architecture eliminates the co-channel interference and channelization problems that make cell-based solutions so difficult to implement, and allows APs to be deployed in any density, wherever needed to meet coverage and capacity needs. In a further value-add, Extricom's topology is well suited to the challenging conditions of the construction environment. Uplink AP diversity ensures that wireless clients are heard by every access point within range, and the Extricom switch determines on a packet-by-packet basis the best AP to transmit data on, ensuring session resilience in unstable environments.

Razel deployed a comprehensive Extricom WLAN system to cover a 3,000 square meter, four-floor building. The implementation required

minimal planning and no post-install optimization. This meant a simple and rapid install.

The Extricom Differentiator

The firm was impressed by the system's deployment simplicity. Among the many competing WLAN solutions on the marketplace, the Extricom WLAN provides the fastest rollout time possible and can be deployed and maintained by virtually any level of IT staff without requiring wireless expertise or extensive training. This makes it ideal for an industry whose focus on costs makes it leery of overly complex solutions with hidden support costs.

In the end, the system successfully provided network access for Razel's 250 employees, as well as guest access for visiting contractors and vendors. The Extricom network's guaranteed performance without tradeoffs ensured both coverage in a closed office environment and capacity in crowded meeting rooms. As Allouche simply stated “We were able to position APs to get signal everywhere for everyone who needed it, no problem. That was the starting differentiator for the Extricom system. The rest flowed from that: mobility without handoffs, high bandwidth for all users, and no interference issues.”

Ensuring Continuity

Razel continues to expand its footprint in France and the rest of Europe. As it does so, the Extricom WLAN figures to be a key element of the company's IT strategy. The system's versatility is a perfect fit for the diverse and challenging scenarios of both the construction site and the back office, providing continuity of infrastructure between two very different environments. As Allouche summarized, “The Extricom WLAN's simplicity makes it a logical choice for us. That, in my opinion, is what separates it from other solutions.”