The 3-million-square-foot facility is adding Ekahau's Wi-Fi-based tags and Conexus' Plexus software to its new 200-bed tower, scheduled to open next month.

By Claire Swedberg

Oct. 14, 2011—Two months after installing a real-time locating system (RTLS) to track thousands of items within its facility, the Brooke Army Medical Center (BAMC), in Fort Sam Houston, Texas, is preparing to expand its use of the solution to its new 200-bed tower, slated to open in November 2011. The hospital is employing the Plexus Asset Tracking System, provided by Conexus, as well as Wi-Fi-based tags from Ekahau. The data is integrated with the center's Depot Maintenance Legacy Systems (DMLS) asset-management software platform.

BAMC consists of the San Antonio Military Medical Center (SAMMMC), as well as four other treatment facilities located in San Antonio. The largest military hospital in the United States, it spans 3 million square feet and contains 450 beds. During the next few weeks, the health-care center plans to open a new 750,000-square-foot tower housing an outpatient pediatrics clinic, an expanded emergency and trauma department, and psychiatric nursing units, in addition to an expansion of the U.S. Army Institute of Surgical Research (USAISR) Burn Center, which will be fully equipped with the same Plexus wireless solution.

Conexus has a 12-year history working with the U.S. Department of Defense (DOD), says Blakely Clauson, Plexus' product manager. Since 1999, the company's software has been used to manage the DOD's Aero-Medical Evacuation Patient Movement Items, by means of bar-coded labels applied to medical equipment sent to other hospitals treating injured soldiers. The system, intended to address the loss of equipment transported from one medical facility to another, is currently still in place, with approximately 20,000 items being tracked by the DOD. According to Clauson, $40 million worth of medical equipment was lost during the Gulf War.

In Texas, BAMC sought an RTLS solution that could be integrated with its own equipment-management software, thereby enabling employees to continue using that system, while sharing its data—such as descriptions, serial numbers and maintenance history—with the Plexus RTLS software. In that way, says Amy Sheehan, the chief of BAMC's equipment-management branch, new materials received and input into BAMC's existing management system would automatically appear with the appropriate nomenclature in an RTLS solution.

Due to its vast size, BAMC required a technology solution that could help staff members locate high-value equipment in need of maintenance or inspection, as well as items required simply to treat patients. For "a facility of this magnitude," Sheehan explains, "[RTLS] will give us the ability to complete monthly inventories and preventative services efficiently." Previously, she says, searches for equipment within the large facility were accomplished by walking through the rooms in which those assets were expected to be stored, and confirming whether they were, in fact, at those locations. If any equipment was missing, a procedure was required that included investigating the missing items and filling out...
The RTLS installation began within BAMC’s older sections on Aug. 1, 2011 (see RFID News Roundup: Ekahau, Conexus to supply RTLS to Brooke Army Medical Center). The facility also acquired a Motorola Solutions MC9090 RFID handheld reader in the event that it uses passive RFID tags or bar-coded labels on some equipment—though the hospital has not yet done so. To date, Sheehan says, between 3,200 and 4,500 assets have been tagged with Ekahau T301A RTLS tags, which work in conjunction with the Brooke Army Medical Center’s existing Cisco Wi-Fi nodes.

Each asset’s tag transmits a unique ID number that is received by the Wi-Fi nodes, which then forward that ID to Conexus’ Plexus Vision software (along with the embedded Ekahau RTLS positioning-engine data). The software displays that item’s location on PC screens for staff members, and also runs reports indicating where specific equipment is located, as well as when it was serviced.

If a worker needs to maintain specific assets, he or she can request a list that names all the equipment due for maintenance, and also indicates each item’s location. In this way, because the location data is provided in real time, the hospital’s staff is spared the lengthy process of searching for equipment and filling out paperwork explaining where it was most recently located.

What's more, Sheehan says, the hospital is utilizing the system to perform monthly inventory counts. Thus far, most of the assets tagged have consisted of infusion pumps and other high-value mobile equipment. The Ekahau tags, she adds, are robust enough to withstand washing and heat from sterilization processes, though the adhesive has not proven to be as durable as the tag itself. Therefore, BAMC plans to use a different adhesive to attach the tags in the future.

According to Sheehan, once the system has been in place for at least six months, the Brooke Army Medical Center intends to conduct research into the amount of time and cost savings it has achieved, if any. The hospital plans to expand the system’s use to track as many as 20,000 assets across all of its facilities, she says.