AiRISTA FLOW

Case Study

Ohio State University Medical Center Saves over $300,000 Annually and Boosts Productivity

Wi-Fi RTLS Leveraged for Asset Tracking and Temperature Monitoring

With a mission to support research, education, and patient care, the Ohio State University Medical Center (OSUMC) has grown to encompass six hospitals in Columbus, Ohio. For their largest hospital, managing hundreds of mobile equipment assets across multiple properties covering more than 5 million square feet was complex yet critical. The task of finding equipment had grown complicated over time, so much so that Chad Neal, OSUMC's director of technology, said the nurses were often referred to as the "hunters and seekers." This reference came to-be because the nurses were forced to spend so much time looking for IV pumps, wheelchairs, and other mobile medical equipment needed to care for patients and follow procedures.

Improving caregiver productivity was only one challenge that required a solution; a significant cost was associated with missing or misplaced equipment. In some cases very expensive pumps costing upwards of $10,000 were accidentally thrown away while rental expenses increased as owned equipment inventory was frequently misplaced. Additionally, the perioperative services needed to eliminate delays associated with medical equipment tracking in order to reach their goal of scheduling more surgeries each day.

OSUMC Benefits Long-Term from Wi-Fi Network Designed for RTLS

The hospital began investigating the use of Wi-Fi-based real time location systems (RTLS) that could meet the granularity required for asset tracking applications.

"We built our network to be twice as dense as the typical Wi-Fi network needed at the time, to meet our basic voice and data needs," Neal noted. Not only was OSUMC preparing for a future Wi-Fi RTLS deployment, its IT staff were also planning to install 2,000 wireless Voice over Internet Protocol (VoIP) phones and video translation services that would operate over the wireless network. "We wanted to engineer a wireless network that would support us for the next 10 years," he said. "RTLS was part of that equation, and other technologies we were looking at also benefited from the same design."

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>
> - Chad Neal, Director of Technology

After the network infrastructure was established, OSUMC decided to assess Wi-Fi-based RTLS in a live trial, comparing two leading vendor solutions including AiRISTA Flow featuring Ekahau. OSUMC had an easy decision:"Ekahau RTLS gave us the results we were looking for – locating items with an accuracy of under three meters," Neal said. "The other vendor couldn't match that performance; it had floor separation issues and couldn't locate items within a few meters."

First-Year Savings Unraveled

OSUMC deployed the AiRISTA Flow featuring Ekahau RTLS solution, which included Wi-Fi-based asset tags and AiRISTA Flow Vision™ software. AiRISTA Flow Vision tracks and maps the real-time location of 3,000 pieces of equipment and also provides other intelligence such as historical utilization reports.

The AiRISTA Flow RTLS solution was first used by the material systems division, responsible for maintaining the large inventory of medical equipment across all five hospitals, then by the perioperative services group. From a time savings perspective, the ease of using AiRISTA Flow RTLS to find a tracked asset has shaved 20 minutes of "hunting and seeking" off each person's workload during every shift, which can now be devoted to patient care.

Right away, AiRISTA Flow RTLS delivered significant savings for the hospital's material systems department, which estimates they had a $20,000 reduction in rental expenses by preventing the accidental disposal of equipment, Neal noted. The perioperative services group uses AiRISTA Flow RTLS to ensure that temperatures are maintained in operating rooms and refrigeration units. The 70 AiRISTA Flow temperature tags, located primarily in the operating suites, generated over $48,000 in workflow savings in the first year.

Additionally, the material systems group gained visibility into utilization rates for deep vein thrombosis (DVT) pumps; the hospital realized that more than half of these devices were under-utilized, and thus they were able to reduce their inventory accordingly.

AiRISTA Flow temperature tags are also used to alert staff of refrigeration issues and help keep sensitive materials from expiring at OSUMC. These tags alarm staff of HVAC and humidity related issues in the operating rooms, preventing potential surgery scheduling delays for patients.

With approximately $365,000 in savings in the first year of AiRISTA Flow RTLS deployment, including $89,000 in savings from rental expenses, $20,000 in savings from accidental disposals, $48,000 savings in workflow improvements, plus savings through other process and resource utilization improvements, OSUMC is considering additional uses for AiIRSTA Flow RTLS applications.

Such additions include location-enhanced dispatch for the transportation services group, which moves patients, stretchers and wheelchairs around the hospital. OSUMC is also considering location tracking of high-risk patients, such as those with dementia or those in the emergency department.

"Not only has Ekahau RTLS given us real, tangible results in terms of time and money savings, it's also helped raise the visibility and value of the IT department, since they don't usually see us unless there are problems," Neal concluded. "Our initial deployments, and the potential new RTLS-supported applications, have a high 'cool' factor. The business units involved have been very appreciative of how we have helped them work more efficiently and cost-effectively."

AiRISTA Flow, Americas
913 Ridgebrook Rd. |Suite 110 |Sparks, MD 21152
Tel: 1-410-878-2700
info@airista.com

AiRISTA Flow, Finland
Hiilikatu 3 |00180 Helsinki, Finland
Tel: +358-20-743 5910
info@airista.com

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