



Danish ‘Super’ Hospital AUH Deploys Zebra Technologies’ RFID

ABOUT AARHUS UNIVERSITY HOSPITAL (AUH)

AUH, the new university hospital in Aarhus, is the first of several super hospitals that will be built in Denmark over the next 5 to 10 years. Constructed to extend the existing hospital, the new site will cover 100 hectares and will be the largest hospital in Northern Europe, with 9,500 employees and a capacity for 4,000 patient visits daily. AUH is designed to offer all the latest technology and state-of-the-art equipment to keep up with constantly evolving healthcare systems. And one of its key requirements was the installation of a fully automated solution to provide visibility of the location of its resources – including staff, medical equipment, medications and patient samples.

Challenge

AUH’s staff were spending too long trying to locate resources such as equipment, medications and people. In keeping with the visionary ethos of the hospital, it set out to find a better way to track and locate staff, medical equipment, samples and medications.

SUMMARY

Aarhus Universitetshospital 

Customer

Aarhus University Hospital (AUH), Denmark



SYSTEMATIC

Partners

- Lyngsoe Systems – Lyngsoe Live Logistics™ platform and hardware / software deployment
- Systematic – Columna Service Logistics

Industry

Healthcare

Challenge

AUH wanted to be able to locate resources such as equipment, medication and people more quickly

Solution

- Zebra FX7500 fixed RFID readers
- Zebra AN480 RFID antennas
- Zebra cables

Results

- Successful pilot of the new RFID system; roll out will continue to 2020
- Time savings in locating staff and equipment
- Improved productivity as staff spend less time looking for items
- Enhanced patient care – best qualified staff and equipment are located easily
- Reliable, fail-safe system for optimised performance
- Reduced risk of error

Solution

Following an extensive search and pitch process from a number of IT providers, Det Nye Universitetshospital i Aarhus (DNU), who were responsible for the extension of the hospital, commissioned Zebra Technologies and its partner Lyngsoe Systems to deploy a new RFID solution throughout AUH. The decision was based on the accuracy and reliability of Zebra's products and Lyngsoe's experience in RFID systems, which spans 3,200 installations in 60 countries. The implementation of RFID is part of a larger logistical solution provided by Systematic. As a partner and subcontractor to Systematic, Lyngsoe showed how its solution would interface with Systematic's solution Columna Service Logistics used at AUH.

The hub of the new system is the Lyngsoe Live Logistics™ platform. The platform manages and ensures consistent data capture from all the RFID readers and antennas in real time. It has a scalable, five-layer architecture and is designed according to EPC Global Network Architecture and GS1 standards.

The first layer relates to the identification of the resources. This is achieved through the attaching of RFID tags: whether a tag embedded within an employee badge, or attached to a wheelchair or medicine packaging, for example. Due to the extreme variance in resources that needed to be tagged, Lyngsoe Systems helped DNU select circa 20 different RFID tags, best suited to the size and material of each item used at AUH.

Tags are read by Zebra's FX7500 Fixed RFID Readers as the resource moves around the hospital. Each reader has two AN480 RFID Antennas to ensure optimal scanning performance and has been positioned in a strategic location to ensure reliable data capture. The RFID data is

captured and filtered by Lyngsoe's EDECS RFID Integration Software, which has been installed on AUH's central servers. EDECS also contains a Reader Management module and Network Management System, which controls the RFID readers, to ensure the system is operating optimally. These stages incorporate layers two and three of the platform.

Layer four comprises sharing and exchanging the data collected with Systematic's Columna Service Logistics. Hospital personnel access the Columna application on their mobile phones, computers and tablets – layer five – and can locate the nearest equipment, medication, resource or best qualified member of staff.

Results

The RFID solution from Zebra Technologies, Lyngsoe and Systematic has proved successful during the intensive pilot stage; the new system has cut the time spent finding items such as beds, medical equipment, trolleys and medication significantly. Most importantly, staff can quickly find colleagues such as the nearest specialised doctor to ensure the best patient care in an emergency.

The FX7500 RFID Readers are reliable and accurate, with their next-generation reader platform ensuring excellent reader sensitivity and interference rejection, so personnel know they can rely on the data they are seeing on Columna Service Logistics. In addition, the tracking of patient samples minimises the risk of error and contributes to a solution that's improving patient care and helping staff optimise productivity.

"We now have a reliable, high-performance system in place, which allows our staff to locate our resources quickly and accurately. Their feedback during the pilot has been excellent. We are looking forward to exploring many more uses of the RFID system as the roll out continues."

Lars G. Knudsen,
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