TCM Introduces RFID-based Medicine-Dispensing System

The Southeast Asian RFID systems provider is offering Intelli-MDS to help health-care providers track pharmaceuticals and monitor dosages.

By Beth Bacheldor

May 22, 2007—The Corporate Machine (TCM), an RFID systems provider with offices in Singapore and other Southeast Asian countries, has introduced RFID-enabled products designed to help health-care providers track pharmaceuticals and monitor when those drugs are administered so correct doses are given.

TCM's intelligent medicine-dispensing system, or Intelli-MDS, combines RFID tags and readers, workflow software, electronic medical records (EMRs) and a central database in an integrated solution so nurses and doctors can view patient records, update them in real time, and double-check prescription dosages at the moment they administer them. The system can also automatically send pharmacists prescriptions.

The system was designed with patient safety in mind, says C.E. Tan, consultant with TCM, pointing to statistics that indicate thousands of people die annually due to medical errors, including incorrect dosing. In addition, the system is designed to help hospitals and other health-care organizations leverage EMRs, something the Singaporean government is pushing, says Tan. In March, the Singaporean government unveiled plans to introduce an EMR system that will consist of a centralized database of patient records and data. The initiative, which will occur in phases, is tagged with the slogan "One Singaporean, One EMR."

TCM's Intelli-MDS consists of the Physician, Pharmacist and Dispensing modules. The three modules run on handheld mobile devices and communicate with the back-end Intelli-MDS software, which is Web-based and includes built-in security and encryption. TCM will design the system to suit the needs of the health care institution, including deciding which RFID tags and readers to use. The system is commercially available now to hospitals in Asia, mainly Singapore. A public hospital in Singapore is piloting the system in its surgical department. Tan has declined to release further details because the hospital has asked not to be identified.

To use Intelli-MDS, a physician could employ a handheld mobile device with a built-in RFID reader to scan RFID-enabled patient wristbands or tags that have been assigned to patients. Each RFID tag's unique ID number would be associated with a patient's record in the Intelli-MDS back-end software. The physician could pull up the patient's electronic record, and input new information into the handheld, including prescriptions.

Similarly, pharmacists in the hospital's pharmacy could employ handhelds to wirelessly access patient records and any new prescriptions that have been written. They could complete the order by scanning RFID-tagged drug bottles, which would document that the correct drug was being prepared, and include any medical information about dosages, drug interactions and other data.

Finally, nurses could use the handhelds to ensure they are administering the right drugs at the right times. In

fact, the Intelli-MDS Dispensing module walks nurses through five checks: right time, right drugs, right patient, right dose and right method of administration.

In addition to the Intelli-MDS system, TCM also introduced two new products that leverage RFID and Wi-Fi. The RFID Intelli-Trolley is a self-powered, battery operated mobile cart that has RFID interrogator that reads RFID tags on drugs placed on the top two shelves to record whenever drugs are removed from the trolley or placed back on. An 802.11 access point on the bottom shelf can communicate tag data back to the Intelli-MDS central database.

RELATED_ARTICLES The RFID Automate Table is a mobile fixture designed for warehouses, storage rooms and other areas and consists of an RFID reader mounted to it that moves from one side of the fixture to the other. The RFID Automate Table can be wheeled to a position in front of any shelf (the reader can also be adjusted according to height) within a warehouse or storage room, and turned on to scan RFID-tagged items on the shelf. A built-in speed controller lets companies determine how fast the reader should move from side to side. "With the RFID antenna moving slowly in front of the shelves, you are able to get the best reads," Tan says.

TCM's other offerings include the RFID Inventory Tracking System (RITS), which is being used by Mitsubishi Electric Asia so it can more easily document incoming and outgoing inventory (see Mitsubishi Electric Asia Switches On RFID).