



## 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, to make sure correct doses are administered.

TCM's intelligent medicine-dispensing system (Intelli-MDS) combines RFID tags and readers, workflow software, electronic medical records (EMRs) and a central database in an integrated solution. This enables nurses and doctors to 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 prescriptions to pharmacists.

The system was designed with patient safety in mind, says C.E. Tan, a consultant with TCM, who points to statistics indicating thousands of people die annually due to incorrect dosing and other medical errors. In addition, Tan says, the system is designed to help hospitals and other health-care organizations leverage EMRs—something the Singaporean government is presently pushing. In March, the Singaporean government unveiled plans to introduce an EMR system consisting 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 three modules: Physician, Pharmacist and Dispensing. These 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, such as deciding which RFID interrogators and readers to use. The system is commercially available now to hospitals in Asia, particularly in Singapore. A public hospital in that country is piloting the system in its surgical department, though 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 interrogator to scan RFID-enabled patient wristbands or tags 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, such as prescriptions.

Similarly, hospital pharmacists could employ handhelds to wirelessly access patient records and any new prescriptions that may have been written. They could then complete the order by scanning RFID-tagged drug bottles to document that the correct drug was being prepared, as well as note dosage data, drug interactions and other medical information.

Finally, nurses could use the handhelds to ensure that they administer the proper 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 leveraging RFID and Wi-Fi technologies. The RFID Intelli-Trolley is a self-powered, battery-operated mobile cart with an interrogator that reads RFID tags on drugs placed on the top two shelves. This enables it to record whenever drugs are removed from the trolley, or placed

back on. An 802.11 access point on the bottom shelf can then communicate tag data back to the Intelli-MDS central database.

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

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

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