

The importance of highly accurate identification of genetically modified animals kept in care facilities and used for medical research cannot be understated. A new frontier for RFID?



Identifying lab animals

by Bob Scher,
Dynasys

Animal care facilities are trusted by medical research investigators to track and trace every step involved in the housing and care of thousands of genetically engineered rodents. They play a central role in testing for potential cures for diseases and predicting the effects of new pharmaceuticals on humans.

For obvious reasons, this testing is highly regulated by the federal government. To ensure the utmost accuracy and meet the standards of the

government, Principal Investigators and grant funding agencies, the animals under your care have to be regularly accounted for and the procedures they undergo have to be verified and documented.

This is a common problem facing hundreds of Animal Care facilities that deal with thousands of genetically altered, extremely important and valuable mice every day. How do these facilities eliminate discrepancies and ensure complete accountability in performing the care and

tracking of these animals? It is a problem that one such facility, the University of Florida Animal Care Services, solved through the use of a revolutionary RFID technology solution.

A laboratory breakthrough

A few years back, Dr. August Battles of the University of Florida Animal Care Services recognized that RFID technology would serve as an ideal means for tracking and tracing lab animals. The Uni-

University of Florida contracted Dynasys, a leading developer and manufacturer of automatic data collection devices, to develop an RFID-based solution to track their animal census. This system utilized UHF EPC Generation 2 tags that are applied directly onto each metal cage's card holder, while the associated RFID tag ID is inducted into the database. At a Reader Induction Station, an Intermec RFID reader encodes the tag and assigns a destination location. The cage is then filed and verified to its assigned location using an Intermec IP4 hand-held RFID scanner.

Subsequently, at periodic cycle counts, a Mobile RFID Cart Reader is rolled through the aisles, where it reads the tags and provides a complete inventory cycle count. The census is reconciled in real time through a WiFi connection with the main database server. Any missing or misplaced cages are noted, and corrective action is taken.

It is at the point when a cage is removed from inventory and its tag is placed at the "check-out" station that a portable printer from Extech Data Systems comes into play and the necessary documentation is created.

Documenting success

The Extech 3750THS Series printer provides a formal documentation of each 'check-

out' transaction. The printed transaction report includes all the necessary information for complete accountability. It includes a record of the specific animal or animals being checked out, as well as the unique protocol guidelines for this particular project.

The robust three-inch (80mm) portable receipt printer is available with multiple wireless communications options. The S3750THS uses thermal print contrast control to produce high-speed, high-resolution printouts. It is powered by a 2.2 amp lithium battery for more printouts per charge, and is built to withstand the rigors of mobile computing applications. The printer supports all Windows font sets and has print utilities for most mobile operating systems. It features a lot of power and functionality in a compact package (4.75 inches wide, 6 inches long and 2.25 inches high), which makes it a practical and unobtrusive choice for potentially space-strapped lab environments.

Identifying results

Prior to utilizing the Dynasys RFID system, University of Florida Animal Care facility employees used mobile barcode readers to scan cage numbers. Human error – cages misplaced or skipped and misrecorded written data – led to serious inaccuracies and incomplete invoicing.

With the implementation of the Dynasys Animal Care Warehouse Management System (Dacwms) about a year ago, the inaccuracies have all but disappeared.

The University of Florida facility has been testing and expanding its Dynasys RFID system for over a year now, and currently tracks about 6,000 cages of lab rats and mice with plans to track all 11,000 cages (35,000 rodents) in its custody. Functions of the Dacwms include tracking veterinary health care, breeding activities, purchasing, financial accounting and tracking transgenic genotyping.

The complete animal management solution can find application in a range of industries including universities, pharmaceutical companies, government agencies and private medical research facilities.



A portable wireless printer provides a formal documentation of each 'check-out' transaction for complete accountability

A Mobile RFID Cart Reader is rolled through the aisles, where it reads the tags and provides a complete inventory count. Any missing or misplaced cages are noted, and corrective action is taken

