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Customer success story [Holt Cat]

Hands-Free RFID Tool Tracking System Delivers Rapid ROI

The RFID-based solution provided Holt Cat's Service Assets Department with an automatic view into which worker was using a particular tool, and for how long

The Holt Cat® Service Assets Department had to manage tens of thousands of tools and found a barcode approach inefficient and labor intensive.

By moving to an RFID tool tracking system, the company saw an ROI in less than eight months with ongoing cost savings and rapid employee acceptance.

Holt Cat is the authorized Caterpillar® heavy equipment and engine dealer for 118 counties in South, Central, North, and East Texas. Established in 1933, Holt Cat sells, services, and rents Caterpillar equipment, engines, and generators for construction, mining, industrial, petroleum, and agricultural applications. Holt Cat also sells Caterpillar used equipment worldwide and fabricates its own line of custom engineered products including root plows and water tankers.

The Problem

The Service Assets Department of Holt Cat's Machine Division manages tens of thousands of tools used in the maintenance and repair of heavy industrial equipment out of its 16 facilities across the state of Texas. Tracking the movement of those tools—from sockets and drill bits to \$18,000 particle monitors—has become increasingly necessary to limit losses and maintain productivity.

A barcode-based “virtual tool room” system previously deployed to track Holt Cat tools provided initial benefits but ultimately proved inefficient. Like most companies with a large tool inventory,

Holt Cat employed a staff member to manage each of its tool rooms and track the movements of tools. The dealer's staff utilized a paper-and-pen-based system in which an employee manually wrote down his or her name and the serial numbers of the tools being removed from the tool room, after which the staff member keyed that data into the company's back-end system, to be tracked on an Excel spreadsheet.

The labor-intensive system cost the company, on average, \$10,000 a month per site in lost man-hours due to the time required to locate misplaced or stolen tools. In some cases, Holt Cat employees spent hours on the job searching for tools, or simply didn't get a task completed because the necessary tools were missing. In early 2006, the company determined the need for a new solution.

The Challenge

Beyond the escalating costs of unproductive man-hours (as well as the costs to replace lost tools), the barcode-based system was not meeting the day-to-day requirements of Holt Cat's employees. They voiced the need for a “hands-free, no-sweat system” that could foster productivity while enabling the efficient tracking of company tools.

Led by Service Assets Supervisor Mark Pavuk, the Holt Cat team began to research workable alternatives to its barcode-based system.

Early on in the two-year process, RFID emerged as a likely “hands-free” solution. However, obstacles remained. Most notably, the presence of metals in Holt Cat's tool room environments—90 percent of the tools are all-metal, the tool room shelving is all-metal, and there are even metal shavings in the cement of the flooring to increase the square footage capacity for heavy equipment. Those metals cause serious signal interference between RFID tags with conventional dipole-based antennas and RFID readers.

Following its initial research, Holt Cat contacted OnAsset Intelligence—an asset management integrator also based in Irving, Texas—to support Holt Cat in its efforts to test an appropriate RFID solution. Due to the on-metal requirements of Holt Cat's tool room environments, OnAsset recommended that Holt Cat test 915 MHz EPC Gen2-compliant passive RFID tags from Omni-ID. Unlike conventional RFID tags, Omni-ID tags provide complete immunity from metals, thereby delivering near perfect on-metal accuracy.

“Our people wanted a tool tracking solution that would enable them to walk into the tool room, grab their tools, and walk out—and that's what we gave them. It's seamless.”

Mark Pavuk,
Service Assets Supervisor, Holt Cat



Omni-ID™ passive UHF RFID tags are an integral part of the tool tracking solution at Holt Cat's main facility in Irving, Texas. The elimination of previously wasted man-hours enabled the solution to deliver a total return on Holt Cat's initial \$76,000 investment within just eight months.

The Solution: RFID Tool Tracking

The RFID-based solution provided Holt Cat's Service Assets Department with an automatic view into which worker was using a particular tool, and for how long. In fact, once the system was deployed at the Irving facility, physical management of the tool room by a Holt Cat staff member was no longer necessary.

Now, Holt Cat knows exactly who is using tools and can track tool movement between repair facilities. This visibility enabled Holt Cat to see a return on its initial \$76,000 investment in less than eight months. Additional savings were created through improved inventory control and the ability to share high-value tools between facilities, rather than purchase one tool for each. Equally important was the positive response to the system by Holt Cat's employees.

Employees carry ID cards, each of which contains a passive HF RFID tag encoded with a unique identification number. As an employee passes the tool room portal, RFID reader antennas capture the individual's ID number, while UHF readers and antennas capture the ID numbers encoded to tools via UHF tags—including Omni-ID Prox™ and Omni-ID Flex™. When a technician leaves the tool room with tools, the UHF tags are interrogated along with the badge's HF tag, associating that employee with those tools in the system.

The initial deployment of the RFID-based solution proved so successful that Holt Cat installed the system at its San Antonio facility six months after completing the Irving installation. (ROI was achieved at that second facility in just four months.) The system is also being installed at another eight Holt Cat facilities in the coming months. By December 2009, the system is expected to be up-and-running at a total of 12 of the company's 16 facilities.

Beyond its own successful implementations, Holt Cat has since realized a new market opportunity to gain additional ROI and future sales. The company has launched AccuTRACKER, a wholly owned business entity involved in the deployment of tool tracking systems for CAT dealers and other companies nationwide.

Tool Tracking Solution Benefits

The RFID-based tool tracking solution developed for

Holt Cat has provided multiple benefits:

- Overall reduction of lost and stolen tools
- Increase in accountability and traceability of company assets
- Increase in revenue (first deployment ROI achieved in eight months; second deployment ROI achieved in four months)
- Elimination of "hands-on" human/compliance element from tool tracking system
- Elimination of lost man-hours
- Increase in sharing of high-value tools between separate Holt Cat facilities eliminated the need to purchase tools for each facility

Since equipping its own facilities with the Omni-IDbased RFID system, Holt Cat realized that the need for tool tracking extends beyond its own company.

AccuTRACKER, a wholly owned subsidiary of Holt Cat was launched in 2008 to provide tool tracking systems for commercial businesses. The total solution provider—which offers keyless entry and barcode systems in addition to RFID technology—expects to achieve approximately \$1 million in sales in 2009.



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Omni-ID is the leading supplier of passive, low-profile UHF RFID solutions. Through our patented technology, Omni-ID "cracked the code" to overcome the problems traditionally associated with RFID, enabling a broad range of new applications that improve accuracy and efficiency in asset tracking, supply chain management and work-in-process. Our family of versatile RFID tags works reliably in the harshest environments, including on, off, and near metal and liquids and excels in solving tracking and identification challenges with unprecedented accuracy. With offices in the USA, UK, Asia and India backed up by a purpose-built manufacturing facility in China, our mission is to drive the widespread adoption of RFID and wider IoT technologies as the optimal tracking and identification devices.

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