By Jeff Markman

RFID has been an alternative for textile maintenance companies for at least 20 years. Companies that have successfully implemented RFID have been able to take advantage of it to improve their top lines, bottom lines and provide better service—all with a changing technology.

Twenty years ago companies installed LF 125 KHz proprietary technology. There are still many companies using that successfully. The primary advantage over barcode is that no line of site is needed, so scanning one piece at a time is faster with LF than barcode.

Ten years ago we saw the introduction of HF 13.56 MHz technology conforming to standards. This is the primary solution that’s now in use in the U.S. This technology allowed for similar 10-to-20-inch read ranges that were available with LF, but provided for the added benefit of bulk-tracking capability. The bulk that can be read is restricted by the read range and the speed of reading.

CHIPPING LINEN NOW FEASIBLE

At about the same time that companies began installing HF in our industry, the general supply chain and others began looking at UHF technology. Significant investments were made in these systems, which provide for reading 10 times as fast as HF at 10 times the distance for reading. As with LF and HF, the primary hurdle to using that technology in a laundry is the packaging needed for it to survive the processes that include heat, liquids, chemicals and pressure.

During the last three years, several companies have introduced UHF Laundry tags. As with prior technologies, some are more durable than others and the tolerances have improved along with warranties to withstand those tolerances.

So what’s so great about UHF? From our perspective, it answers the question that everyone who visited us at Clean 2001 asked us. Can we scan a whole cart? At that time our answer was, “No, the physics of HF won’t support that.” The recent advances in reader and antenna technology allow us now to safely answer, “Yes, you can scan a whole cart, and you can scan it quickly and with extremely high accuracy.”

To date, most implementations of RFID have been in uniforms and mats. The implementations and processes to take advantage of RFID...
have been built around the limitations of HF. UHF allows you to take advantage of enormous new opportunities. Companies that have tagged their linen with HF are quickly moving to retag with UHF. Linen rental companies and hotels that own linens are beginning to tag linen at an exponential rate.

**PRECISION TEXTILE MANAGEMENT**

Now that you can scan soil in carts, or on existing conveyors without serious modifications and you can scan bundles quickly, linen textile maintenance companies are actively investigating the use of RFID. The increases in the cost of linen, and the desire by many to use better products that cost more, also have added to the desire to track product.

When asking linen companies about loss, damage and replacement, as well as costs for new business, you get a wide range of values and sometimes wide variances within the same companies. Not every company counts soil. There are companies that use even exchange, delayed even exchange, par levels and a mix of many of these methods. The fact is that linen is being lost, destroyed, stolen and misplaced at a rapid rate and at a cost of tens of millions of dollars per year, much of it ending up in landfills. No matter what billing and delivery methods are used, no counting system can come close to matching UHF.

What are people looking for when they decide to install RFID in linen? Primarily, they want to reduce the amount of product that they need to inject in order to maintain an account. The software they use needs to allow for tracking the life of bulk product and assigning and reassigning as needed. By tracking what they’re delivering, what’s returned soil and what’s at the accounts, you can determine where the inventory is building. When you know where the inventory is building, you can take corrective actions to reduce that building, or loss of inventory, that requires the injection of new product as well as audit to remove inventory that isn’t turning.

When you have the ability to track inventory, you have the data you need to understand each account, the profitability of that account, and you are able to educate your customers on usage. There are many anecdotal reports of accounts using massive amounts of linen and refusing to pay for lost textiles. When you have the hard data regarding what was delivered, what was picked up and what is still at the account, you have
the information needed to price for service, charge for loss and even determine if you want to maintain an account. The relationship with the customer evolves into a true partnership, once the customer understands that you have their best interest in mind and that you aren’t guessing, or relying on a gut feeling to address the problems. Having this ability is a huge competitive advantage for textile service companies. Educating your customers on the capabilities you have to service them based on this knowledge, provides for a winning customer/supplier relationship.

Another byproduct of individual asset tracking is that you have a complete history of each piece. You know the day you put it into service, how often it turned, how many times it turned and how long it lasted. Some of the things you can do with this information include:

- Instituting inspection cycles where you look at a product more closely every five or 10 times.
- Suggesting the ragging out of an item, or extending its life at a certain cycle count.
- Gaining a more precise understanding of how long a product actually lasts.

**ENHANCED CAPABILITIES**

Knowing the true useful life of a product can enable you to increase the quality of the product offered, or in rare instances, reduce it. Why carry a high-end product if it’s only in service for half of its expected life due to high loss and damage? With the loss rates that most companies experience today, longevity may not be as important. If you can greatly reduce loss and get the full life out of a product, longevity should matter more. You will be able to determine if a product that’s sold to last 50 cycles is actually lasting 50 cycles. If you have a defective lot of product where seams are coming undone, you will know exactly when that occurs.

UHF allows for much greater read ranges with handhelds than what was available with HF. HF handhelds only read a laundry tag from a distance of about five inches. A UHF handheld can read UHF tags at a distance of several feet. How does this help? It’s possible to read soil in bulk when it’s picked up, clean in bulk when it’s dropped off, and you can take inventory at a customer location without touching, or counting each piece.

Getting the most out of UHF is not a simple technical task. Think about how RFID is used in other industries and in the supply chain. You typically see the scanning of 100 uniformly packed items in a case. You might see reading 25
You can carry additional SKUs in your core product mix with the confidence that you can keep them segregated from similar, but different items.

You can scan at a customer’s facility to help find product that’s not turning and proactively assist the customer in avoiding potential loss charges.

COMPETITIVE ADVANTAGE

The next few years will be an exciting time in our industry. The advances and uses of RFID are coming at a rapid pace. The ability to know the true life cycle of a product will provide benefits for our industry, your customers, your customer’s customers and the environment with less product waste.

The innovators in our industry are now taking advantage of UHF and using it enhance their competitiveness. Will your company be one of them? TS

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tagged cartons on a pallet. In textile maintenance you will see 300 or 400 soiled items in a sling bag or up to 1,000 or 2,000 items packed in a P72 cart. Using available technology, you might be able to achieve a read rate of 90%–95% with some effort. The time it takes to get 98, 99, 99.9% is significant, but these high read rates are now possible as well thanks to advances in technology. Meanwhile, the cost of tags purchased in high volumes is dropping. The fact that so many industries are using UHF means that the cost of readers is less than with prior technologies (LF, HF).

Our customers have told us that the benefits of RFID are:
- You can control your inventory.
- You can deliver what you and your customer expect to be delivered.
- You can count with no additional labor.
- You can save on labor.
- You can track and bill for losses and damage caused by a specific customer, rather than creating an arbitrary fee based on guesswork.

- You can carry additional SKUs in your core product mix with the confidence that you can keep them segregated from similar, but different items.
- You can scan at a customer’s facility to help find product that’s not turning and proactively assist the customer in avoiding potential loss charges.

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