ABOVE: (from top, l/r) flatwork items move on a shuttle at the Halifax plant, which has fitted a wide range of flatwork and garment items, such as aprons, with radio frequency identification (RFID) tags. Production information is displayed on a bank of monitors. RFID tracking software helps Halifax ensure accurate deliveries. Goods move in slings to the next stage of the production process on Halifax's overhead rail system.

AUTOMATED IDENTIFICATION—

STRIVING TO DELIVER PERFECTION THROUGH RFID

Halifax Linen's 15-year, $15-million RFID project has delivered ROI, plus ample 'data exhaust' that they're now seeking to leverage

By Jim Pomeranz

Author's note: On June 1, I received an email from Preston McElheney touting radio frequency identification (RFID). McElheney, the president of single-plant Halifax Linen in Roanoke Rapids, NC, wrote: "Here's an example of why RFID is a good thing for this industry! One-hundred-forty-three consecutive working days (and) not one shortage! This represents greater than 6 million lbs. served over the period." That's nearly 29 weeks with no shortages since mid-November 2020. Since then, it's been much the same. If McElheney has his way, especially with a 15-year, $15 million-plus remake of his 75,000-square-foot (6,968-square-meter) plant, customer shortages will be a distant memory. Earlier this year, I met with McElheney in his office to discuss the transformation of a small (primarily) healthcare textile supplier into a multi-product company relying on computers, RF readers and—most importantly—ultra-high frequency RFID tags to track more than 95% of everything processed and provided to its customers. Aside from table napkins and bar towels, every item in the plant is tracked by RFID tags and packed for delivery by exact counts. The interview below is less about the different stops and machinery throughout the plant and more about how McElheney and his team went from man-readable label to a fast-and-accurate checks-and-balances system for textiles. His remarks were edited for brevity and clarity.

So, let's start with those 143 consecutive days without a shortage. Is that the longest you've gone without a shortage?

The amount of work that went into this radio frequency process got us here. We came from a world where shortage was the norm. It's just the nature of textile rental. If you don't have accountability of merchandise, then you're at the

whim of your service department, what they think they need, and the customer, what they think they need, and the plant, what they think they can produce. When you add all that together, there was no equation there to work out to success.

When you started the RFID project, what was your goal?

We acquired some of National Linen's accounts (in Fayetteville, Wilmington and Raleigh) in 2006 and took on a substantial piece of food and beverage (F&B) business mainly, and some medical. No matter how much textiles we purchased each month, it was 100% guaranteed we would have a shortage. The biggest item was bib aprons. We could not keep bib aprons in the house. I had a good friend who had put in an automated sorting system on garments, patient gowns. He was barcoding them, treating a patient gown, as if it was a shirt or pants. There was no difference, to him. If it could go on a hanger, he wanted to put a barcode on it. Our problem was bib aprons. I said, "Well, I can do the same thing." But we were never a company that used a barcode. We went straight from man-readable, to radio frequency. We never embraced a barcode. We just leapfrogged. I said, "If he's barcoding a patient gown, I can chip an apron." My dad (Charles McElheney) said it was too expensive to do it. I just knew, we couldn't run it the way we were with shortages. I was such a numbers guy; the numbers said to me, "This is going to be a long-term problem. What is the easiest thing that I can do right now?" The chip was the only thing that I could think about; I obsessed about it.

You started with the round disk RFID, reading a single piece at a time.

No bundling. We tested a royal blue bib apron, and next thing you know, we've got royal blue aprons coming out of our ears. And it was a low count SKU; it wasn't going to cause problems on the garment sort system. We put it on a hanger and counted it. Then we took it off the hanger, packaged it for the specific customer, and out it goes. That was our first step into packaging customers in the plant." Chipping that apron was very successful. So, we began the process of picking an item, making a small purchase, and chipping. If we could put it on a hanger, send it through a garment sort system, we were good. We did that from 2006 to 2011. We were hanging stuff like crazy, just to turn right around and de-hang it, and package it for the customer, an exact count. If the customer gave me 23 aprons, I'm giving 23 back. In 2011, we were just overrun on the garment sort system. We needed help.

You partnered with Alliant Systems in Irving, TX, to

ABOVE: (l/r) Goods in the soil area are scanned in using RFID tracking software. Slings loaded with soiled goods await movement to the wash aisle for processing.

develop the software, the program?

We spent three days at Alliant explaining the process of how to bundle a package, get it to a customer, get it back to the plant, handle the shortage, handle the reject of product, the shortage from the customer, so all the bells and whistles in the system, to make the whole thing work. It took a year to develop the software, the system. We put a bunch of UHF scanners in the plant. And at that point we're bundling, and we're not having to hang them on a garment-sort system anymore. So that went live in 2012. And at that point, we had chipped maybe a fifth or a sixth of the products that could be chipped. With the price of the chips slowly coming down, we just kept picking off one to two SKUs at a time, and it would take about a month to work through those issues.

When you were doing that, did you wait to initiate what you wanted to do with that SKU?

Our commitment to bundling was based on a SKU. Not a customer; not a route. By 2016, we'd chipped everything except napkins and bar towels. We even chipped washcloths.

Do you plan to chip napkins and bar towels?

Bar towels will always be an eight turn and done, item. I don't see any way that you could chip a bar towel at the price point of the chip, compared to the return of a week to yield off the product. The yield of that investment is everything. The napkin is questionable. So far the answer is no. It'd be something fun to toy around with, I'd love to just theorize a test on it. But that would be difficult.

Is everything here rental or do you have some customer owned goods (COG)?

We have two types of COGs in this company. We have your traditional, per pound service, and we have customers that need help with inventory. Our theory is, as long as we can put a radio frequency chip in it, then we can probably accommodate it. But it has to fit within a general scope of our business. We do a tremendous amount of curtains, here. It's very streamlined for us to process; it fits right into the scope of the radio frequency. And we can report back to that customer, where does it go? How many times have we touched it? When's the last time we touched it? How many times has it been washed? So, we give them that report back, every time we serve one. That's a powerful tool.

In the RFID world, we've really moved from what I described as the execution of the plan. Let's just call it what it is. So that might be plant equipment, that might be software writing. That might be more SKUs. We're past all of that at this point. Where we are today is the data. We'll just call it the "data exhaust. And I think that's such a powerful tool for us, as a company, that we are learning how to manage the data exhaust. And we're learning very quickly how to manage it. We're learning about textile life, max wash, the life cycle of any item, when we say we have exhausted the opportunity of that item. We have that set on every item that runs through this plant. So, we know the life cycles, and the max wash. What we have learned about that is just...well, you scratch your head in a little bit of frustration, because it's been happening to you all along and you just didn't know it.

What about the customers? did they ask, "What are you doing?" Have they accepted this change?

It's an easy thing to answer, looking back on it. In the moment, it would have been difficult, but looking back on it, it's very simple. We didn't know what we were doing. When we chipped the first apron, we were just blind as a

bat as to what we were doing. We kind of stepped into it, and we hemmed and hawed through with the customer, but it was so slow. It was one item. So, it was easy. Then the second item. By the time you get to about the 10th item, you've hit a general mix of product, so that most of your customers are receiving something of those SKUs. They got used to it very softly. It wasn't thrown at them, "Tomorrow. Here's our system." This happened over 15 years. Not one year. We made some mistakes along the way that cost us some good business because, there was no book on how to do this. We were just trying to accommodate the customer. We were rewriting the software each quarter or each six months.

Is there constant scanning from soil through delivery?

There's so much redundancy in the system. I was sitting in a meeting this morning on a system we're looking at, in the soil room. And it's a slick, very automated system for very pure sorting of textiles. And they were talking about the read rate of RFID. And they said, "Our system reads 100%." And I busted out laughing. Radio frequency is not a 100% game. But what we did in all of the steps of the software is, it is a redundant scan of the previous scan, first. Step after step. But whether it be the scanner in the soil room, or the final bundle verification scanner, right before going in the cart to the customer, clean, they all start with the primary soil first. And in a world of data, you're talking about milliseconds, but it creates a 100%. Because I'll never believe that radio frequency will be 100%, redundancy is the key. Every scan process has a backup redundant process, that can override the scan that it is supposed to be doing, with soil first. To give that customer credit.

As a 'numbers guy,' how did you evolve?

When I came into the company after college, I thought I was going to be a CPA. I didn't think I was going to be a laundry guy. And so, I came out with an accounting degree and immediately stepped in the company. We went from a straight, per pound to healthcare, old school, traditional customer owned, to bringing in (more) food and beverage. The radio frequency chip was an integral part of our success. It just sort of happened. I was frustrated. You've got a family business sitting here. You're so driven. You know what your capability is, and you feel like you got one arm tied behind you back, because you cannot figure out how to create sustainable, marginal profitability within this business. I'm so fortunate that (his father, Charles McElheney) had the faith to allow me to go down this crazy path.

How has the system helped with customer retention?

Our Vice President of Service Ernest Addington has done a phenomenal job of building a culture of customer-facing. That has been a critical role that he has been trying to develop and build as a team, and especially the past year and a half to two years, he has done an outstanding job. We track retention based on 100% in January, what percent is left in December. So, in essence, you're dropping from January. You lose a little restaurant that closes. And so, I believe this year's target is about 95%.

What's your competition is doing with RFID?

I don't mean this to be rude, but I don't care. I know what it has done for this company. This is fun, right now. We've got an executive team that is dialed in on this thing to the numbers, to the results. A stable customer base. They get it. They understand Halifax is a radio frequency company. It's just who we are. We don't aggressively market it today. Customers don't really care. They just want stable service. Now, if we use radio frequency to do that, great. I know what has worked for this company.

You're happy with the way RFID is working. What's next?

I'll put it to you this way. And I've used the word before, and this is something that we're very neck deep in right now: data exhaust. The data exhaust off of everything that we're doing, we want to learn from it, and we want to leverage it. And we want to duplicate it. But we want to be sure when we duplicate it, round two, that we don't have near the struggles that we had the first time. It took me 15 years, the first time. 2005 to 2020, literally 15 years, non-stop, committed. What's the next programming change? What's the next SKU? What's the next piece of equipment? What's the next procedure with the customer? We're through all of that. So, we're sort of in the evaluation phase, right now. Evaluate the data exhaust, and then let's make that move.

What have you invested in terms of dollars, so far?

From 2005, to get to where we're at today? Oh good golly. Easily, $15 million. Maybe $20 (million). And that's in a single-plant operation. That's the chips, the technology, the software, the equipment.

What about return on investment?

I'm such a numbers guy. I didn't care. I knew it. I felt it. I could see it. And I honestly did not focus on what that ROI was. And I'm so glad I didn't, because I would have never imagined it being where it is today. I would have short-sighted it. I would have underestimated it. And no, I'm not going to share that number. But it outranks most of the industry, I can assure you of that. And I don't say that big headed. TS

JIM POMERANZ, Cary, NC, is a freelance writer and consultant with a background in sales, including table linens, as well as garment storage and sorting systems for linen, uniform and facility services companies. He served on TRSA's Board of Directors from 2001-'02, representing Cascade Fibers, Sanford, NC. Contact him at 916.656.2920 or *jim.pomeranz52@gmail.com.*