



## Case Study

# Southern Fried Cotton

Successful EPC/RFID solution deployment achieves high levels of order accuracy and operational efficiency

### Challenge

Headquartered in Clemson, South Carolina, Southern Fried Cotton (SFC) is a small to mid-sized apparel brand with 30 employees. The company's popularity with consumers of all ages has significantly grown since its inception in 2012—doubling its retail operations, branching out to include a wholesale division, and increasing from 30 to 350 retail customers. When a major retailer requested that SFC uniquely identify its products, the company set out to make this happen—not only for its retailers, but also for the benefit of its own operations.

### Solution

Partnering with Avery Dennison, a [GS1 US® Solution Partner](#), SFC deployed an in-house Electronic Product Code (EPC®)-enabled item level RFID (Radio Frequency Identification) tagging solution that delivered a measurable return-on-investment and future-proofed its business. What began as a solution that would address the needs of retail customers, became a much more integral component in the company's overall growth strategy.

### Benefits

- **Customer satisfaction:** Not only is SFC now able to conduct business with large retailers with EPC/RFID tagging requirements, but it is also able to quickly fulfill custom orders and accurately deliver merchandise to all of its 350 buyers.
- **Accuracy:** Forsaking manual reckoning, paper-based records and other non-technological methods in favor of GS1 Standards-based barcodes and RFID tags, SFC's order accuracy, once a significant and costly problem, now tops 99.54%
- **Cost savings and Return on Investment (ROI):** Before deploying the EPC/RFID solution, SFC's inaccurate order chargebacks had reached a high point during an approximate two-year timeframe. After RFID deployment, chargebacks were reduced by 98.8%—improving accuracy, delivering a solid ROI and payback in less than eight months.
- **Increased productivity:** As order volume increases, SFC is able to confidently leverage EPC/RFID tagging and automated order fulfillment to improve productivity and customer satisfaction.
- **“Right size” scalability:** SFC was able to deploy the solution components it needed as it implemented RFID, taking a phased approach and enabling “digestible” investments.



## Branding the Southern Lifestyle

When its three owners created the Southern Fried Cotton brand in 2012, they did so after having spent more than two decades operating a graphic design and screen-printing company, producing collegiate-branded apparel sold through a single retail location in Clemson, South Carolina. The idea was to expand the product line beyond the campus to encompass the southern lifestyle the three men—all lifelong South Carolina natives—had lived. Within two years, SFC had two retail stores, an online presence, and was wholesaling to 30 other retailers in three states. That number has since grown to more than 350 retail customers across the Southeast, Southwest, and Midwest.

It's fitting that SFC's growth has been as organic as its cotton—it sources its own "blank" t-shirts on which it prints its own designs, then markets them through both its owned-and-operated retail and wholesale divisions. The relatively small company has unusual flexibility when staying abreast of trends, fulfilling retailer requests and satisfying custom orders. SFC's agility in the marketplace also gives it the ability to cater to a broad swath of consumers ranging from middle-school girls to grandpas who love to fish.

Just as the textile used by SFC is virgin cotton, the company was a newcomer to barcoding and other innovative supply chain technologies. In fact, SFC had not yet started using stock-keeping units (SKUs). Retail customers would apply their own barcodes onto blank tags supplied by SFC.

## Cotton to Current Practice

When a major retailer requested that SFC adopt GS1 Standards to uniquely identify each piece of apparel shipped, there was a steep learning curve to climb.

"I was barcoding illiterate at the time," says Traci Harrington, wholesale account executive at Southern Fried Cotton. "Yet, that is the beauty of being part of a company our size: There's no red tape to go through to get new ideas implemented."

SFC consulted with GS1 US, a not-for-profit organization that brings industry communities together to solve supply-chain problems through the adoption and implementation of GS1 Standards. The GS1 US team helped SFC sort out the precise path the company could follow to meet the retailer's needs. By starting with the experts at GS1 US, SFC may have avoided pitfalls and false starts that sometimes plague companies that go without guidance.

"I attended a presentation about RFID technology at a vendor summit—and realized instantly how its use could eliminate many of the error-prone difficulties that we were having in our operations," recalls Harrington. "Since we were still new in the wholesale world, we had options to explore about how to automate our business, making it better for everyone. I thought, 'Why shouldn't we implement GS1 Standards and RFID technology? It makes sense!'"

## SFC's GS1 Standards Journey

Starting as they did with no supply chain technology, GS1 US<sup>®</sup> supplied SFC with:

1. A GS1 Company Prefix, a unique company identification number that becomes part of every barcode, every universal product code (U.P.C.) and every Global Trade Item Number<sup>®</sup> or GTIN<sup>®</sup>.
2. Next, SFC would select GTINs for its apparel – codes that uniquely identify products at all item and package levels. These, too, appear in the barcodes scanned throughout the manufacturing-to-retail sales process. A GTIN consists of the Company Prefix, item reference, and a check digit.
3. SFC opted for Radio Frequency Identification—RFID—tagging, Electronic Product Codes (EPCs) that do not require line-of-sight scanning to capture data and because they are digitized to communicate readily over Electronic Data Interchange (EDI).

Prior to implementing EPC/RFID tagging, employees in the warehouse would receive an order, pick-and-pack, and turn orders around by highlighting with paper and pen, what had been picked and packed—a somewhat labor-intensive process. Invoicing was based on this non-technology-based system using manual reckoning and paper-based records.

Adoption of newer methods was not entirely painless. Mistakes in the manufacturing operation included using the wrong tags on the wrong shirts, or shirts getting mislabeled in shipping boxes. These were not insurmountable problems, but they needed addressing before they became endemic.



## About GS1 US Solution Partners



By working with a GS1 US Solution Partner, retailers, brand owners, manufacturers, and suppliers can be assured that they are partnering with a qualified solution provider that can support the adoption, enablement, and implementation of GS1 Standards.

Whether looking for hardware, software, labels, or support services, GS1 US Solution Partners can reduce your risk of implementing GS1 Standards with their experience, expertise, and involvement with GS1 US.

Locate the right solution provider: [www.gs1us.org/solutionpartnerfinder](http://www.gs1us.org/solutionpartnerfinder)

### Solutions that Stick

During the retailer summit, Harrington had met with a representative from Avery Dennison, a GS1 US Solution Provider. “Avery Dennison brought to the relationship a breadth of experience and expertise about the use of GS1 Standards in UHF technology,” says Harrington. “Both of our organizations are built on trust and transparency, so it was a great fit from the start.”

Acting on Avery Dennison’s counsel, Harrington decided to take a phased approach to implementing EPC/RFID tagging. “To start the tagging process, we created RFID labels for SFC to apply on their in-house tags,” says Daniel Lusty, market development manager at Avery Dennison. “But ordering the right number of labels took a measure of clairvoyance—guessing which RFID stickers might be needed for apparel not yet produced, for sales not yet made.”

Clearly, if the company could create and produce its own labels on-site and on-demand, the operation would be more efficient. And for a company accustomed to doing everything under one roof—its art department creates art that is then sent to its printing department where its printed on-demand before reaching its warehouse with its own business-to-business online system accessible to the sales force—creating its own labeling system was in keeping with its end-to-end control.

Even though the decision to go with an EPC/RFID solution grew out of a single retailer’s request for standards-based tagging, SFC was experiencing tremendous growth throughout its business and was having difficulty keeping up with incoming purchase orders. They needed a faster, simpler, more accurate way of packing orders that EPC/RFID could address.

### Bringing the Solution In-House

To truly deploy the EPC/RFID solution, Avery Dennison provided a team that included Lusty as the subject matter expert, a systems engineer to design the hardware, a project manager, and various technicians that helped set up the system.

Lusty and the team helped Harrington realize what was possible with onsite EPC/RFID tagging. Instead of applying an outsourced adhesive RFID label onto a hang tag, SFC set up an Avery Dennison Tabletop RFID printer (ADTP1) to produce EPC/RFID hang tags in-house, saving one critical step.

Next, SFC procured an onsite RFID reader. “We could pick shirts labeled with our EPC/RFID tags,” Harrington says, “And the reader would read the GS1 identifiers encoded in the tags—telling us exactly what shirts and how many were in the stack.”

Harrington remained incredibly focused on the end goal to correct pack accuracy. “A major benefit of the EPC/RFID solution that we have today is that it’s scalable and being leveraged for other things,” says Harrington. “Yet, initially, we focused on what was most important—to fix the accuracy problem.”

Lusty adds, “We knew that if we were able to help solve SFC’s number one pain point—which was reducing their chargebacks and increasing their pack speed—we would have a successful deployment.”

Regardless of the size of the client, Avery Dennison takes a measured approach. “The smaller the brand, the shorter the runway,” Lusty says. “It’s about looking at the business from a holistic perspective and saying, ‘What can we do next?’ We don’t let distractions get in the way or get stuck with analysis paralysis when making decisions.”

As for incorporating GS1 Standards, Lusty of Avery Dennison calls that “the easiest part:” “GS1 EPC Gen2 Standards allowed SFC to deploy and leverage RFID technology for their manufacturing and distribution process while passing that benefit onto their wholesale partners.”

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“GS1 Standards make what could be a very complicated process extremely easy. It takes out the noise or any confusion in how we’re going to encode each shirt’s identifier into the RFID tag,” Lusty continues. “For any retailer or brand, we always [recommend] adhering to GS1 Standards that can be leveraged throughout the garment manufacturing process, all the way to when it walks out the front door of the store.”





## The Shirt Off One's Stack

SFC advanced from identifying its shirts with EPC/RFID tags—not just for one major retailer, but for all of its retail customers. As new efficiencies were realized, SFC moved to a carton audit solution—the Avery Dennison High Density Read Chamber (HDRC)—that would allow SFC to pack and verify its carton-pack accuracy while automating each carton's Advance Ship Notice (ASN) documents.

"We needed to be able to have a full-box of shirt tags read," Harrington says. "We literally put a box in the chamber, and it reads the identification of all shirts that are in the box."

Before EPC/RFID technology, Harrington and the SFC shipping manager would pull the one retailer's order that required barcodes. As they packed, they would handwrite with a Sharpie marker on the outside of a box the number of shirts that were packed in that box.

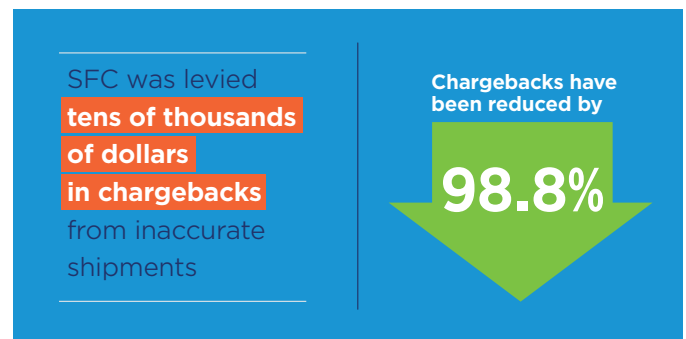
"An average order was 20 boxes. Using a legal pad, I would record what was in each box—number one through 20," Harrington says. "I would return to my computer, log into the electronic data interchange (EDI) system, translate what I had written down into the EDI system to create a shipping notification. It was a tedious, very manual process."

Today, the shipping manager packs the boxes and records all contents on the outside of the box. ("It's just a habit," Harrington says. "It's a double-check.") Harrington places each box in the EPC/RFID tag reader, clicks "go," and the box contents—all shirts' identification numbers—are listed within seconds. A flash drive connected to the reader is then popped

into her computer where printed reports for boxes number 1 through 20 are generated. The lists generated by the reader are easily translatable into the EDI system. For retailers using EDI transactions, the reader lists of the shirts' identifiers form the basis of the ASN sent to the receiving retailer.

## Simplicity in Design

"The beauty of what Southern Fried Cotton has deployed is in the simplicity of the solution. They remained hyper-focused on solving the issue they had at hand, which was increasing the speed of the wholesale order fulfillments while significantly improving the accuracy of their shipment packs," Lusty says. "The solution that's being used today is not overly engineered. It's not riddled with proprietary algorithms, yet it's designed in a way that's flexible. The solution has significantly driven down the cost of entry, but also yielded an extremely high return and results for the brand."





The improved accuracy in order fulfillment is in stark contrast to what was once the case: In two years using the previous manual system, SFC was levied tens of thousands of dollars in chargebacks from inaccurate shipments to just one retailer. Since using EPC/RFID tagging in a similar timeframe, the chargebacks have been reduced by 98.8 percent. In fact, the same retailer now calculates SFC's accuracy rate at 99.54 percent, a huge factor in retailer satisfaction. The ROI speaks for itself.

"Right now [at our major customer]—once a company achieves over 99 percent accuracy—the retailer doesn't check the brand's boxes, saving the retailer time and money. Based on \$100 charge per box, more or less, our high level of accuracy adds up to significant savings for our company, too," Harrington says. "With the savings from using EPC/RFID tagging, the initiative has definitely paid for itself."

In calculating the true savings in both time and money, one need only consider the other retailers within SFC's ecosystem. Now, with all products uniquely identified with EPC/RFID tags, accuracy is an across-the-board benefit for everyone and the time-savings nearly incalculable, especially during peak seasons when sales result in shipments of 100 boxes a day or more.

"The RFID solution has made my life easier," says Harrington. "And we have saved money by being more accurate in our shipments. Honestly, when I first heard about the benefits of RFID discussed, I thought, 'Why would anybody not want to do this?'"

Harrington points out that EPC/RFID is a solution that can be tailored to a company's needs. A large apparel manufacturer's needs are vastly different than what SFC needs, as are the investments for both. Fortunately, scalability is built-in.

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**Traci Harrington**  
Wholesale Account Executive, Southern Fried Cotton

## Brand Enhancement

"What I love about EPC/RFID technology are the benefits realized regardless of the size of the retailer or brand, big or small," Lusty says. "Brands can basically create a unique digital ID for each garment or product—a virtual birth certificate."

Lusty cites the younger generations' increasing thirst for knowledge about the products they use. "With millennials and Gen Z consumers, who like to interact with the products around them, there is a huge opportunity for new growth brands to rethink the way in which they interact with consumers using this technology."

Using EPC/RFID technology provides a high level of inventory visibility, but it can also act as a brand engagement vehicle. It opens the door to offering consumers unique experiences that are very strategic and targeted. "Brands put money where the audience is, and if I were a new growth brand, this is where I would focus," adds Lusty.

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**Daniel Lusty**  
Market Development Manager, Avery Dennison

## Threads Woven into the Whole

SFC has grown its use of the technology on an incremental basis, and the ability to do so is of great value to small and mid-sized companies with growth strategies to pursue. In the apparel and general merchandise industries, even conducting business-as-usual may depend on the adoption of EPC/RFID solutions. Benefits continue to accrue to its users.

For instance, in the future, SFC will tie its inventory system into its EPC/RFID system as needs dictate. Presently, an online retail sale is handled by one of SFC's two retail stores. Eventually, individual internet orders will be pulled at the warehouse level, just as the large wholesale orders are. Although SFC enjoys a low rate of returns, the EPC/RFID system can also help them manage restocking returned merchandise. In addition, the partners in SFC have created two more brands to its portfolio. With a broader mix of products, solid inventory management will become imperative.



“We’ve experienced such rapid growth, we’ve had trouble keeping up with our inventory. When we use the RFID implementation to help with inventory, it will be huge. That’s a big deal: anytime supply-and-demand is impacted.”

While barcodes require line-of-sight reading, RFID can wirelessly identify products on the warehouse shelf, in the shipping box, on the shipping dock or on the retail floor. Lusty of Avery Dennison agrees that GS1 Standards and RFID technology will continue to deliver benefits: “[SFC has] a much higher level of visibility and accuracy for where its products ‘live,’ what’s going out and what’s still in its warehouse. The track-and-trace capability has really improved from where they were before, having to manually go around and look for things or scan something through a traditional barcode.”

Other plans include removing steps in the creation of the ASN. In the future, when the shipping label comes out of the printer, it will electronically signal the retailer through EDI that the order is packed and about to be shipped, removing yet another manual step within the process.

“I feel there’s a enormous opportunity here for Southern Fried Cotton to leverage EPC/RFID technology to strengthen their omni-channel and online presence through unique digital identity,” Lusty says. “It’s a bit further out on the horizon for them, but there’s significant potential for them as a growing brand to turn their GS1 Standards into digital identities that then, in turn, can be used to drive more traffic to their online store and more brand awareness for them.”

## Retail’s Changing Challenges

Today, barriers to entry into the apparel industry are virtually non-existent, as retailers struggle to differentiate themselves through their merchandise—both trusted brands and unique product lines. Anybody can sell, but the challenge exists in staying ahead of what’s trending. What’s next?

Southern Fried Cotton gained entry with its unique product line but has stayed successful by being nimble. When a customer demands supply chain technology, SFC enthusiastically met the need. When a customer requests custom product not found in the wholesale catalog, SFC’s art department comes up with winning alternatives. By using its in-house EPC/RFID resources, little time is lost in fulfilling the specialty order.

“One of the biggest challenges for brands is speed-to-market,” Lusty says. “It’s one of the most significant evolutions we’ve seen in the last five years.” Automated supply chain solutions redound to the supplier (manufacturer) as well as the supplied (retailer). And with the increasing demand for customized products, “how they adapt and deliver on extremely short build-times has to be considered.”

Another question plaguing the industry is the longevity of the bricks-and-mortar store, especially the big-brand store. Online shopping has exploded. E-commerce is expected

to remain the leviathan it has already proven to be. Just like the internet, the use of barcodes, RFID—in fact many of the available GS1 Standards-based solutions to conduct business—are doing more than creating a level playing field for small companies to compete. These technologies are allowing companies to play on every playing field whether its traditional bricks-and-mortar retail or e-commerce, whether it’s boutique or big box, whether it’s catering to children or elders.

Lusty also raises the issue of transparency. “As the lines between the digital and physical worlds continue to blur and growth in cross-channel sales rise, clearly defined standards within the apparel industry will continue to be crucial for retailers and brands as they look to connect these channels along with unique, highly engaging personal experiences,” says Lusty. “GS1 Standards allow these channels to seamlessly be connected.”

## Advice Fit to a T

**Know what you don’t know.** “I think the moral of the story is that it’s a learning curve. Figure out what is going to work best and invest along the way,” Harrington says. “I have learned that the options of what you can do are so limitless, you must figure out what you need as you go.”

**Speed, focus and simplicity.** Using SFC as the example, Avery Dennison’s Lusty points to these three attributes as the ones leading to success when deploying EPC/RFID solutions.

**Talk to those who have gone before.** “Consult with another company that has implemented an EPC/RFID solution, and hear what they have done, what their successes have been,” Harrington says. Lusty also recommends consulting with GS1 US: “We bring them in to talk with customers, because it’s a great independent voice—the standards body that’s unbiased and can confirm the most appropriate way to deploy or implement a standard.”

**Budget accordingly.** Don’t close yourself off to the idea of spending money because it seems expensive, because there are different levels of solutions and different ways of leveraging the investment.

**Take the wins as they come.** “It’s a process. It’s a journey. That’s why it’s imperative to attack the low-hanging fruit so you have some short-term wins,” Lusty says. “What are small pockets where you can make some huge impacts to your omnichannel? That gets the enterprise onboard? Find short-term wins and then go after the other product categories that you want to enable.”

**One scalable step at a time.** As Southern Fried Cotton grows, so can the solution, the business, and use cases for EPC/RFID technology. The solution significantly drove down the cost of entry but also yielded an extremely high return and results for the brand.

# Benefits



Customer Satisfaction



Accuracy



Cost Savings



Increased Productivity



Scalability

**Working together.** “With RFID, you’re talking technology, so make sure everything is interoperable,” says Harrington. “You shouldn’t be scared of technology; it will definitely help you and it can save you a lot of money, and a lot of headaches.”

**Trust the upside.** “It obviously works to [retailers’] benefit, but we were selfish too because it worked so well for us,” Harrington says. “Despite the requirements of the retailer that set us on the path to standards and supply chain technologies, we opted in to do this for our own sake.”

**Get started.** “If you’re a small or mid-sized company or someone new to wholesale operations, I would say implement early and use it from the start. I love being able to create our own tags in-house. Because then what happens when you’ve got a dozen shirts that you need to ship out, but you don’t have a dozen tags to put on them? Do you lose the sale because you can’t tag your merchandise?”

**It’s inevitable.** “I think you’re going to see more and more retailers, especially the bigger retailers, are going to require this,” says Harrington. “After all, the proof is in the numbers, in the success rate, and in accuracy improvement.”

To learn more about GS1 Standards and EPC/RFID tagging, visit [www.gs1us.org/rfid](http://www.gs1us.org/rfid).



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All information contained in this paper, unless otherwise noted, has been provided by the Southern Fried Cotton and Avery Dennison.

## About the Companies

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### About Southern Fried Cotton

More than 25 years ago, three South Carolina natives partnered to form a graphic design and screen-printing company devoted to offering collegiate branded apparel through a local retail store. In 2012, branching out to encompass products reflecting a Southern lifestyle, they created the Southern Fried Cotton brand, which eventually opened an eponymous retail location. Within two years, interest in the SFC brand resulted in the creation of a wholesale operation that grew to serve over 350 retailers. Today, the company also operates the MG Palmer and American Trademark brands. [southernfriedcotton.com](http://southernfriedcotton.com)



### About Avery Dennison

Avery Dennison Corporation is a global materials science and manufacturing company specializing in the design and manufacture of a wide variety of labeling and functional materials. The company's products are used in nearly every major industry. Headquartered in California, the company employs approximately 30,000 employees in more than 50 countries. Reported sales in 2018 were \$7.2 billion. [www.averydennison.com](http://www.averydennison.com)



### About the GS1 US Apparel and General Merchandise Initiative

The GS1 US Apparel and General Merchandise Initiative is a retail industry group that is committed to defining business challenges and opportunities, and organizing members to explore solutions and create adoption plans. More than 100 suppliers, distributors, retailers and logistics providers are participating members in Initiative activities, focused on improving inventory accuracy, exchanging standardized product data and achieving traceability with GS1 Standards. More information about the GS1 US Apparel and General Merchandise Initiative is available at [www.gs1us.org/ApparelGM](http://www.gs1us.org/ApparelGM).



### About GS1 US

GS1 US®, a member of GS1® global, is a not-for-profit information standards organization that facilitates industry collaboration to help improve supply chain visibility and efficiency through the use of GS1 Standards, the most widely-used supply chain standards system in the world. Nearly 300,000 businesses in 25 industries rely on GS1 US for trading-partner collaboration that optimizes their supply chains, drives cost performance and revenue growth while also enabling regulatory compliance. They achieve these benefits through solutions based on GS1 global unique numbering and identification systems, barcodes, Electronic Product Code-based RFID, data synchronization, and electronic information exchange. GS1 US also manages the United Nations Standard Products and Services Code® (UNSPSC®). [www.gs1us.org](http://www.gs1us.org)



### About the GS1 US Solution Partner Program

The GS1 US Solution Partner Program is a network of companies with services, hardware, software, business intelligence and database applications to help companies implement GS1 Standards. The program provides education, certification and marketing opportunities to reach over 300,000+ U.S. companies in 25 industries currently using GS1 Standards. [www.gs1us.org/becomeasolutionpartner](http://www.gs1us.org/becomeasolutionpartner)

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