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CASE STUDY:

How to Rev Up Efficiencies with Automotive Labeling

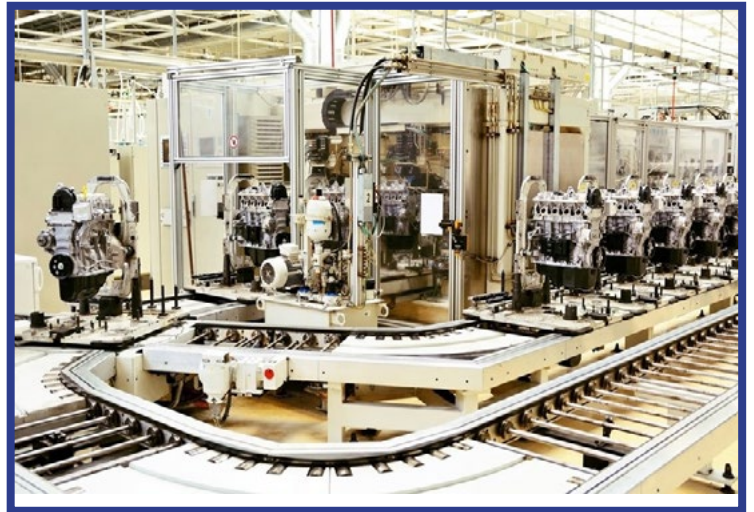
By Harald Desjarlais, Automotive Industry Specialist, Loftware, Inc.

Labeling today is complex; today's manufacturers and multi-tier suppliers are faced with a range of evolving requirements that complicate the process—and leave many companies accepting this process as the cost of doing business. But it doesn't have to be. Labeling can make a huge difference, enabling IT and supply chain decision makers to not just overcome challenges, but provide their company with a distinct competitive advantage. Here are five questions and responses outlining how right labeling solution can deliver significant, measurable results for you.

How Can Labeling Make a Difference in a Highly Complex Automotive Supply Chain?

The automotive industry has an intricate supply chain that's only growing more complex with a broad range of players, including OEMs, sub-tier suppliers, warehouse and transportation managers, distributors, retailers, and end consumers. At the core of this materials flow is the label, which serves as the identifier of the product, determines its destination, and carries a variety of data required to assure that it is successfully received and processed. Each step requires accurate barcode labeling for faster, more efficient processing as well as precise track and trace of so many parts and assemblies along the way.

Since the data carried on the label inevitably finds its way back into an inventory, WIP, or warehousing system, it is the crucial component in providing an accurate snapshot of present state inventory across the enterprise. The cost of label inaccuracy is significant, yet most companies do not measure it effectively. There are substantial gains in assuring label accuracy, and many companies might be surprised at the bottom line impact of not having this assurance. For example, recently a company determined that an accurate and ongoing perspective of the inventory in its supply chain—realized by the data gathered from its labels—would enable it to reduce safety stock conservatively by three days freeing up several million dollars of capital. An enterprise labeling system will be at the core of this solution.



At the same time, companies are dealing with customer-specific requirements that are increasing at a rapid rate. You're seeing more and more customers (whether they're OEMs, next-in-line suppliers, or resellers) demand that graphics, translated text, branding, and more be added to their labels. As a result, the burden of creating and maintaining compliant labels has become increasingly demanding and costly—with some companies managing a staggering amount of label templates to capture all these requirements.

Adding to this complexity is an ever-increasing amount of redundancy as companies rely on a variety of disparate labeling solutions across global locations, each providing identical label design and maintenance in a completely siloed, disconnected fashion. Some companies even use different labeling solutions for different purposes within the same facility: distribution labels for one, shop floor labels for another. This approach drains resources and flies in the face of trying to simplify processes and gain efficiencies in a complex global supply chain.

Which brings us to the inherent business benefits of a standardized enterprise labeling solution. By taking a holistic, integrated approach to labeling, automotive companies can respond quickly to new and evolving requirements, while

maintaining labeling consistency across the supply chain. Dynamic, data-driven capabilities allow OEMs, suppliers, and even warehouse distributors to take control of labeling— with fewer templates—and achieve dramatic reductions in overall maintenance and the costs associated with it.

How Can Labeling Help Me Stay Ahead Of Constant Change?

The impact of change is significant to an automotive business. When it comes to labeling, constant change—be it customer-specific label changes or branding requirements for distributors in a new territory or regulatory demands—can mean a manual, labor-intensive process. As mentioned, if you rely on multiple, non-standardized labeling products, more often than not, you're going to spin cycles creating production-ready label designs that are probably already done and available somewhere else in the organization. This obviously slows production and delays shipments. And because changes are not always captured earlier upstream in the process, there will be risk of errors, inconsistencies, and ultimately, lost revenue.

Alternatively, with a standardized, centralized, and integrated labeling solution, you can rapidly capture changes at the data source—whether it's in an ERP, MES, or other system—and apply these new data elements onto the appropriate labels. Change it once, apply it many times. And when you can provide access to the same labeling solution to multiple users at different locations, you can not only share templates and eliminate redundant efforts, you also have full visibility and control across the value chain.

An enterprise labeling solution will enable not only the foundation of a corporate-wide label catalogue for all valid production labels, it also provides a chronology of changes to the various templates by means of version controls. Properly implemented version controls also speed the labels' path to production. Many of our automotive customers have realized significant value in centralizing the labeling process to assure appropriate corporate governance and branding, while at the same time enabling remote locations to design and maintain their own labels within this common framework. The entire process can be integrated, yet decentralized as necessary.

What was once a costly, yet generally accepted practice of using a mix of disconnected labeling solutions is replaced with a unified, streamlined approach that manages change quickly to get product in the hands of partners and customers faster, and revenue in your hands faster.

Cost Reduction Is Paramount. What Can Labeling Do To Help?

A basic business principle applies here: If you can move product faster and more efficiently, you will save money—not to



mention increase productivity, improve customer satisfaction, and so on. Most companies we speak with have recognized the value of deploying a common ERP, WMS, or PLM system across the global business. They certainly have invested significant sums in both money and internal resources to achieve these benefits. Yet labeling has oftentimes gone unnoticed or “under the radar” in this regard, even though delays and mistakes—the direct result of improper labeling—happen at an alarming rate. What if an OEM wants a recently rebranded logo on a label? Or what if a supplier delivers parts with the wrong label? To solve these specific issues, you may lose several hours or, more likely, several days.

In a recent survey we conducted with about 200 manufacturing professionals, nearly half—47%—indicated they were experiencing costly downtime due to labeling disruptions. The reasons cited for these delays included dealing with customer-specific labels, product-specific labels, and slow label printing speeds, in that order. When you add up all of these isolated labeling issues occurring across different segments of your supply chain, you're looking at hundreds of thousands of dollars of lost productivity, impacting your bottom line.

As mentioned, an enterprise-wide labeling solution, tightly integrated with existing systems, unifies your entire labeling process. Errors are reduced because you're pulling data from sources of truth, be it SAP, Oracle, your WMS system, etc. And, if configured properly, you can also automate the process and drive label production from a back-end transaction. This further reduces the errors that occur as a result of manual data entry. Any customer-specific label changes that come in are handled systematically with secure access to a library of templates that can be updated as needed—while greatly reducing the number of templates you need to manage.

It's important to note that all of this occurs outside of your back-end business system and requires minimal input. No programming is required. Further, the system is designed for effective and rapid response to changing label requirements with visibility of the entire label printing landscape back to the business users. If a print job fails, or a printer goes down, the person who initiated the label or labels is immediately notified for quick response. At the same time, the integration

to the back-end system assures up to the minute accuracy of information.

And from a performance perspective, if you use a labeling solution that supports native print drivers, you greatly improve the speed of label printing. When you're talking about a high-output environment supporting thousands of labels a day, this too adds up to tremendous gains in productivity and cost savings. Elimination of downtime, increased velocity in label design and change, and a robust production capability all yield significant time savings, and as they say, time is money.

How Can Labeling Create Efficiencies At The Partner Level?

Just as you can leverage an enterprise-wide solution to create, share, and update labels across your organization, why not do the same thing with your trading partners? If you're like many automotive manufacturers, you rely on suppliers to deliver parts or components in a timely manner, but you experience costly hold ups in receiving as containers often need to be re-labeled before moving on to a specific production line. You could send suppliers your own pre-printed labels, but that has its own drawbacks as you're beholden to their process of storing and applying labels.

But now through secure, web-based access to your enterprise labeling solution—and templates you create—the supplier can simply run off your labels to their local printers. Again drawing from your data sources, the labels are already pre-populated with the information you need, so there are no delays when materials arrive. They are scanned and put into production right away. Believe it or not, this is a concept that few OEMs or tier 1 and 2 suppliers ever realized was possible.

Case in point: we recently visited the plant of a global maker of car sub-assemblies and noticed they had pallets and pallets of supplier parts in their receiving area. This was additional inventory that was waiting to be relabeled before it could move to the production line. They told us they stored two weeks' worth of safety stock to account for the relabeling process, which took about 80 man hours every month. They have 12 plants following a similar process. Quickly do the math and you're looking at about \$600K annually wasted on relabeling. That's not even considering inventory management costs.

The right labeling solution lets you share label templates with suppliers and other trading partners so incoming materials and components are labeled and formatted the way you want them with your data. We've seen some companies save upwards of millions of dollars in labor, materials and inventory

costs when switching over to an enterprise labeling solution.

How Can Labeling Help Us As We Grow And Expand Our Business?

With competition as fierce as ever, automotive OEMs are in the process of building factories closer to new markets, such as China and India, and investing in production capacity in areas where the cost of labor is favorable, such as Mexico. They are also looking for closer collaboration with their supplier network and working with them to establish supply bases close to these new areas of production.

Deploying a new facility in a more favorable location is a challenging task when speed is of the essence. Part of the challenge is to deploy the necessary business systems to the new operations. How rapidly a company can deploy a workable labeling solution becomes crucial in this context. Multiple languages, different regulations, and a range of label content are all part of the challenge.

For example, certain customs information must be included on the label before it can leave the country of origin and, if it's being shipped to another country, then the same information on the label must also be in that region's local language.

When a specific regulation changes in a country that you're shipping a product to, can you make the necessary text changes to labels quickly without stopping the manufacturing line? We discussed the value of pulling data from sources of truth like SAP or Oracle, but a change like this may require programming which can take months to complete within the ERP or WMS application.

To overcome this challenge, look for enterprise labeling with built-in business logic that can be dynamically updated as needed without having to wait for changes or updates to your enterprise application. Business rules can be configured and customized within a standard user interface to update label specifications quickly and dynamically—be it language, branding, regional compliance—where they're needed.

Let's take that same example of the customs information on the label. Suppose you bring on a new OEM in Germany who needs product right away to meet a huge customer opportunity. With configurable business logic as part of the labeling solution, select users can quickly pull up the template and translate the text to German and add required import language without any delays. Product gets out the door within days versus weeks or months.

About the Author

Harald Desjarlais began his software career as an ERP application consultant at Xerox Computer Services. Subsequently he held Sales and Sales Management positions at ASK and Baan. He transitioned from ERP to the Supply Chain sector with positions at StreamServe and Kewill, and currently focuses on the Automotive vertical as Automotive Industry Specialist at Lofware. Email: HDesjarlais@loftware.com



Streamlining Label Processes Captures Efficiencies, Saves Time And Money

By using BarTender labeling software to manage variable data on their labels, a company was able to reduce their number of label files from 9,000 to 24.

The implementation of the Globally Harmonized System for Hazard Communication (GHS) has provided an incentive for the chemical industry to reexamine its labeling and data management practices. By restructuring labeling processes and eliminating redundancies in their data sources, chemical companies hope to save time and cut costs while achieving regulatory labeling compliance.

A specialty chemical manufacturer worked with Ohio-based Seagull Scientific partner Adaptive Data Inc. (ADI) to manage a complete overhaul to their compliance labeling system. By deploying BarTender®, the company was able to build a scalable, adaptable labeling solution that helps them comply with GHS and other industry regulations while also capturing cost-saving efficiencies as the company grows through acquisition of new businesses, brands and product portfolios.

The challenge - Regulation and growth

Like many in the chemical industry, the need to comply with OSHA's GHS mandate drove the complete redesign of the company's labeling system. They had simplified their labels by incorporating branding and transport and hazard information on one label, but the system that ran the production of those labels was complicated, difficult to use and expensive.

Managing variable data was also a big issue. The company focuses on a variety of specialized product lines including chemical manufacturing for a number of diverse industries, as well as production of industrial lubricants, cleaners, and sanitizers for the food industry. In many cases, the products they manufacture require different brand names for a single product, despite identical ingredients. In addition, several products' labels require certification information including toxicity spec numbers for chemicals, Kosher or Halal practices for food products or EPA's DfE stamp for industrial cleaning products.

Complicating labeling processes even further, the company had recently acquired nine different chemical companies, each with their own set of labeling needs, printers and processes in place.

An inefficient labeling system – wasteful and expensive

The first step was addressing weaknesses in the company's existing labeling system.

"The company was using the wrong equipment," said Mike Barker, Client Solutions Manager, ADI. "It was not suitable for printing on large pressure sensitive sheets. They experienced frequent media jams which stopped label production and wasted expensive label media." The company's print methodology was complex. For every single product and SKU, there was a file, with over 9,000 label files in the system. Because of the way the label formats and product data were stored, the print operator had to access four different software systems just to print a set of labels for one product. Using label stock preprinted with static as well as variable information, such as DOT hazard diamonds, often led to user error.

"We were producing labels four or five days in advance of a production run," said the company's Senior Regulatory Specialist. "If a shift couldn't find the labels they needed at production time, they'd just reprint new labels. And chemical blending is not a finite process – sometimes we had too many labels, which wasted material, and other times we had to stop and print a few more, which wasted time and labor. The preprinted stock we used was expensive, and the amount of media we were throwing away was unacceptable." As a result, the company often exceeded the volume they had contracted for with their printer vendor, and thus were required to pay considerable per-click charges.

"We asked ourselves, 'How do we do this better?'" the Regulatory Specialist said.

The solution

The need to meet the new GHS standards finally provided the motivation the company needed to fix their inefficient compliance labeling system. Because the company had previously owned another enterprise labeling solution, “and the experience wasn’t great, particularly the customer service,” the company proceeded cautiously, spending seven months carefully evaluating systems integrators and the labeling software available.

“We were able to present a comprehensive solution that takes advantage of the data they already had,” said Barker. “Using BarTender, we were able to build a user-friendly GHS solution that provided the company easy access to their existing product data. The system reduces media waste, and the company is realizing additional savings through the elimination of per-print click charges.”

Given the need to quickly assimilate data from the many and diverse systems of the company’s new acquisitions, BarTender’s industry-leading integration capabilities were a differentiator. ADI created a simple, graphical interface that allows centralized control of data and labeling. One action, whether job number, barcode scan, or alphanumeric key entry, gathers data from various places, populates the label, and sends the print job to any of several different printer types, sizes and brands at any of the company’s online facilities. The entry of one job number will typically produce two to four different labels, on up to four different printing devices

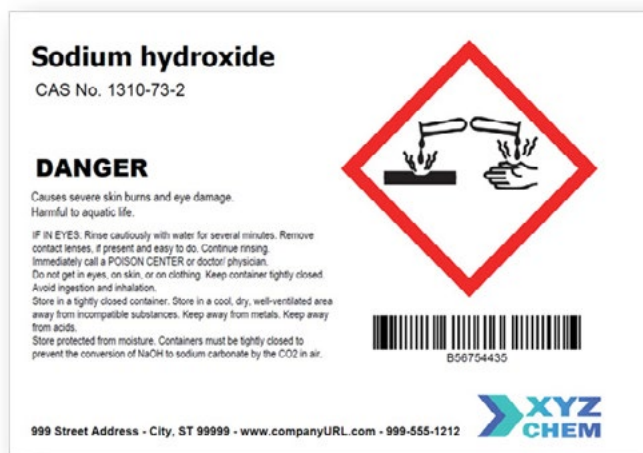
Intelligent Templates™

Initial estimates were that the company could reduce their 9000 label formats to 70 or 80. But after the initial deployment, the final tally was 24. BarTender’s Intelligent Templates™ and the layering capabilities that they provide allowed the company the adaptability to do so. Images required for industry certification, regulatory, product and branding information are housed in the label’s layers. Data gathered after the scanning of a job number or SKU triggers BarTender to turn on the appropriate layers for print. The dataset retrieved includes all information required for customer, GHS and / or DOT requirements, as well as the names and folder locations of all variable graphic elements.

Because only a small number of templates are required to print thousands of different labels, and since the operator creates the label out of existing product information through a forms-based point-and-click interface, the process is simple and secure.

Benefits

The new ADI / BarTender chemical compliance labeling system is running a much higher volume of labels than anticipated. The company has realized greater accuracy in labeling



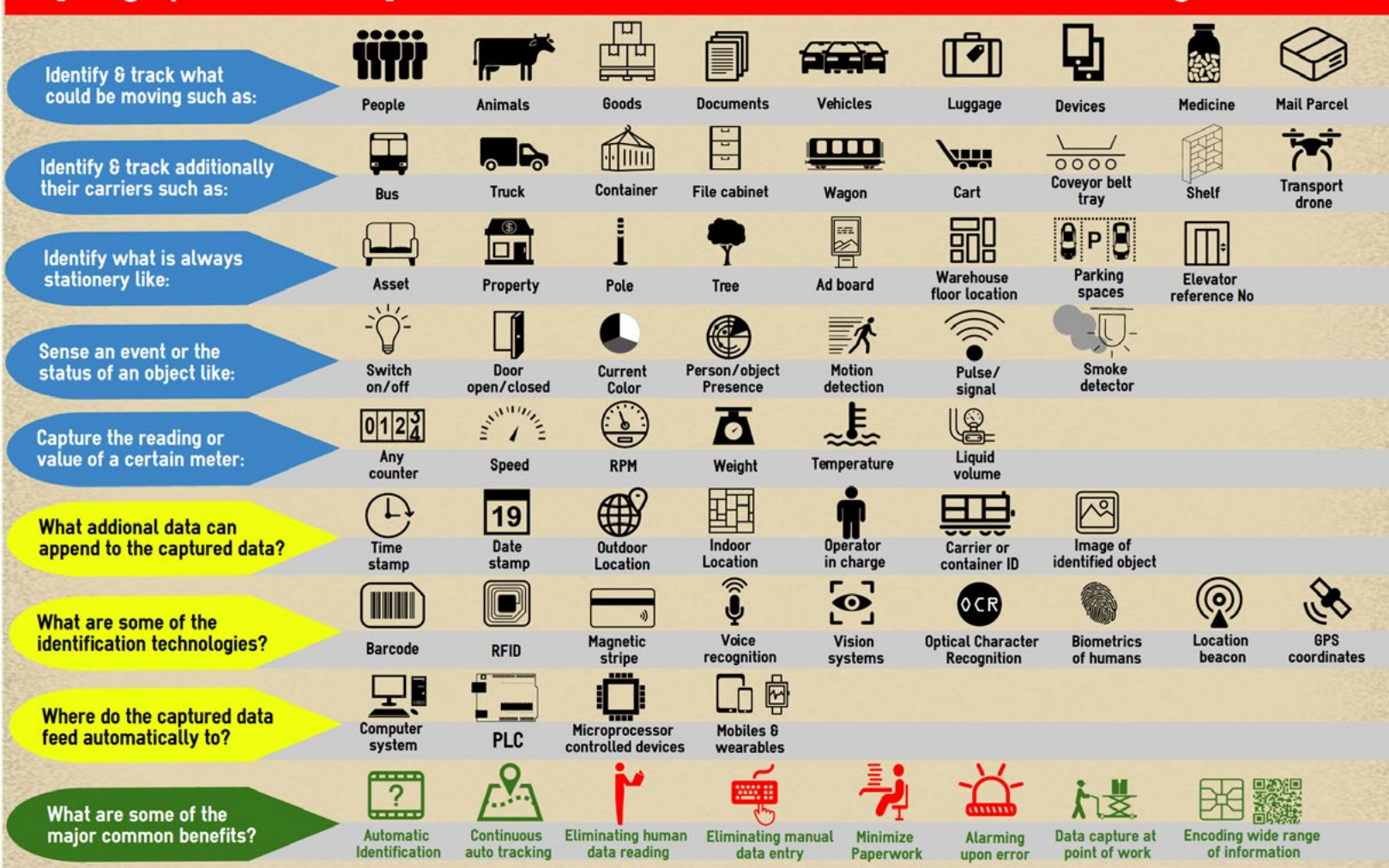
processes, reduced waste and gained process efficiencies, all translating into cost savings. The labeling system is scalable and adaptable to accommodate the company’s rapid growth — data for newly acquired companies and products are quickly incorporated into the label database, making new product labels accessible to the production line immediately. “It’s infinitely easier to get newly acquired companies up and running,” said the Senior Regulatory Specialist, “and the customer service we’ve received has been excellent.” Because the company is constantly folding in new product lines, the reduced effort required to manage formats and create new product labeling saves time and money. The company has reduced the number of label formats it requires from more 9,000 — that’s before integrating newly acquired companies into its system — to 10 across all of its current facilities.

“We’re now producing many more and different labels than one year ago, making it hard to calculate the net benefit,” said the Senior Regulatory Specialist, “but the process of making new labels is so much faster. For example, if a product was packaged and sold by the drum, but we wanted to add a new SKU and sell it by the pail, the labeling process had to start from scratch — the product information would be entered into a database by marketing, and information would be added the label by the regulatory group. A different person would create the label, and then send it through the approval chain. Now, we just enter key data like the new SKU and net contents into the database, a five minute job, and the label is done.”

About Seagull Scientific

BarTender® software by Seagull Scientific enables organizations around the world to improve safety, security, efficiency and compliance by creating and automating labels, barcodes, RFID tags, plastic cards and more. Hundreds of thousands of companies in manufacturing, chemicals, healthcare, food and beverage, aerospace, pharmaceuticals, supply chain/logistics and other industries trust BarTender with the labeling and marking processes that keep their businesses running. [Learn more by visiting their website.](#)

[Infographic Definition] Automatic Identification & Data Collection Technologies are to:



Simplified Diagrams of Automatic Identification, Data Capture & Mobility
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The [Infographic] Definition of Automatic Identification & Data Collection Technologies

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This diagram lays out the definition of Automatic Identification & Data Collection Technologies (AIDC) in an infographic form inspired mainly from the definition set by the industry association AIM's.

What is AIDC according to AIM?

Automatic Identification and Data Collection (AIDC) are the terms used to describe direct entry of data into a computer system, programmable logic controller (PLC) or other micro-processor-controlled device without using a keyboard. AIDC technologies provide a reliable means not only to identify but also to track items. It is possible to encode a wide range of information, from basic item or person identification to comprehensive details about the item or person.

AIDC includes a number of technologies which provide different solutions to data collection problems. These include: Bar Code, Radio Frequency Identification (RFID) and Data Communications, Magnetic Stripe, Voice and Vision Systems, Optical Character Recognition, Biometrics, as well as others. Each of the AIDC technologies has specific advantages and features which make it better suited for some applications than others. However, whether the need is to identify and track file folders on a lawyer's desk, shipping containers on a conveyor moving at 250 feet per minute, or rail cars travelling at 60 miles per hour, in all probability there is an AIDC solution for your specific application. AIDC technologies eliminate two error-prone and time-consuming activities: manual data collection and data entry. AIDC bypasses these two steps, providing a quick, accurate, and cost-effective way to collect and enter data.

For every paragraph above, there is somehow a line reflecting it in a graphical and exemplified manner. However, there are the following additions:

- Categorizing identified objects as whether they are steady or possibly moving.
- Focusing on the carriers of identified objects that move collectively (such as file cabinet carrying documents inside). Each carrier should be labeled and identified as well as its contents.
- Focusing on the data collection of meter/gauge readings or the status after identifying the objects.
- Considering that any captured data or identified object could have more data attached to it in the same database record, such as adding time stamps as to when it happened or collected.
- The benefits of AIDC are too many to list. It depends on the system functions and features.

The diagram lists some of the main technologies of identifications but does not list the devices used for the purpose, such as: Barcode scanners, Handheld terminals, Magnetic Card readers, RFID readers, fixed and portable, Digital Signage, Vehicle blackboxes, GPS tracker, Etc.

After identifying and data capturing, data is verified, trans-

mitted, stored, analysed and published internally or publicly. This can be expressed in the former diagram of The General Process of AIDC Systems where more benefits are listed.

Any Partially-Automatic AIDC?

According the above definition, "AIDC technologies eliminate two error-prone and time-consuming activities: manual data collection and data entry". There are many cases where it is not fully automatic. Here are two examples:

- A user is using a PDA for scanning barcodes of goods on the shelf for inventory. He can scan the item codes automatically but he has to count and to enter the quantity of the items manually.
- Any web form filled by customers to a supplier has the customers entering most of the data manually while the supplier gets all the data ready with nothing to enter at its side. This is quite common also in kiosks and digital signage forms.

The audience of this diagram:

- AIDC specialists who train, explain and sell these technologies to their teams.
- Any prospect who has no idea about these technologies before.
- Any specialized business or service domain that can extract from the diagram what fits its needs such as considering AIDC Technologies in Airports. As an example. It would list tracking travellers, the passports and their luggage.

Conclusions:

AIM definition can be phrased simply as "Tell me electronically, precisely, and instantaneously What, When, Where, Who, Which, How, How Much/many." And, in many cases you can add also "Remotely and securely."

It should be noted that AIDC technologies are advancing and expanding rapidly and are the cornerstone for any digital transformation, smart cities, big data and/or building the Internet of Things.

About myself and my writings:

I have been implementing automatic identification, data capture technologies, and mobility for 20 years in domains of business, government and security. The accumulated experience and continuous follow up on latest emerging technologies help me to contribute writings about current trends and highlight challenges. I try to bring up diagrams and infographics along each topic to clarify concepts in a simple way. I welcome all comments.

Mohammad Amer Shallah, Auto-ID Support,

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Barcode Labeling Case Study: Manufacturer Achieves Substantial Benefits



Situation:

LSI Industries Inc. (NASDAQ: LYTS) is a US-based world-class lighting, graphics and technology manufacturer that provides innovative solutions to commercial, industrial and multi-site retail customers throughout North and Latin America. Headquartered in Cincinnati, Ohio, LSI Industries Inc. has facilities in Ohio, Kansas, Kentucky, New York, North Carolina, Oregon, Rhode Island and Texas.

Since 2006, the LSI Industries Inc. Lighting Division has leveraged TEKLYNX' barcode label design software, LABEL MATRIX, to design and print labels in three of its facilities. As the lighting division continued to expand its product offering and customer base fueled by rapidly growing demand in Light-Emitting Diode (LED) lighting, it sought to make its labeling operations more efficient.

"Over the years, we had developed thousands of labels that required a serious commitment in time and effort to maintain," explains Tom Cantrell, Manager of Product and Manufacturing Support at LSI Industries Inc. "We were looking to reduce the time spent maintaining these files."

In addition to reducing costly file maintenance time, LSI Industries Inc. was looking for a labeling software solution that could integrate with its existing JD Edwards Enterprise Resource Planning (ERP) System while addressing its growing labeling complexities. Specifically, the LSI Lighting Division had the need to:

- Manage a vast and growing number of independent label files: the LSI Lighting Division had approximately 10,000 labels, 6,000 of which required individual file maintenance.
- Efficiently support a multi-user environment: up to six different employees were designing and managing labels while up to 12 different employees across various locations were responsible for accessing and printing them.
- Provide product traceability: continued sales growth meant it was increasingly important to have product visibility throughout the supply chain.
- Print labels from multiple locations: the LSI Lighting Division wanted to streamline operations across its facilities to be as efficient as possible.
- Proactively manage product safety and compliance requirements: ongoing and emerging compliance and safety requirements drove the need for an agile labeling environment.
- Comply with international shipping requirements: continued international growth required that its labels comply with a diverse and ever-changing list of international shipping requirements.

Taking the above complexities into consideration, the LSI Lighting Division's management team recognized an opportunity to re-visit its labeling software solution to better support its labeling environment. "Our primary goal was to eliminate the manual maintenance of a growing number of static label files," explains Cantrell. "We were hopeful that integrating our labeling software with our existing ERP system would reduce the labor required to support this process." TEKLYNX'

Enterprise Label Management Team immediately understood the challenges and set out to help the LSI Lighting Division accomplish its labeling goals.

Solution:

Cantrell and his team partnered with TEKLYNX and determined that the barcode label design software, CODESOFT, combined with the label printing automation solution, SENTINEL, would accomplish the lighting division's desired labeling improvements.

"We were eager to help our long-time customer LSI Industries Inc. update its labeling software. As companies grow and business needs change, so do labeling needs," explains Cory Catterall, TEKLYNX Enterprise Sales Executive. "We knew there was a tremendous opportunity for the LSI Lighting Division to realize benefits from integrating its labeling solution with its existing ERP system."

The two companies partnered throughout the implementation process including a proof-of-concept trial and custom development work to ensure that the barcode labeling software solution would not only meet the lighting division's operational intricacies, but also help the company work better.

One of the most critical components of helping the lighting division work better was successfully integrating TEKLYNX' software with LSI's existing JD Edwards ERP system. Integrating the two systems meant that LSI could eliminate static label files – along with the associated ongoing maintenance of those files – and replace them with database-driven templates. TEKLYNX worked hand in hand with the LSI team to make sure this integration was, in fact, seamless."

The TEKLYNX team's support throughout the implementation process was outstanding", states Cantrell. "They were both patient and responsive, which proved invaluable as it allowed our team to work through implementation at our own pace."

Results:

Labeling efficiency and control was the essence of what Cantrell and his team set out to accomplish. "We wanted to regain control of the process of printing labels and not be dependent on an outside process," states Cantrell. "Our implementation of CODESOFT and SENTINEL has allowed us to convert static files to database-driven templates that are linked to our ERP system. This has reduced our file maintenance, improved our processing speed and allowed us to standardize our process for multiple areas."

The LSI Lighting Division's successful implementation positioned it to gain efficiencies and control of its labeling process by addressing its challenges, leading to the following

improvements:

- Eliminated 6,000 static label files by replacing them with database-driven templates, reducing both ongoing label file maintenance by 80% as well as process time from days to minutes.
- Added ability to produce needed labels in-house reduced price per label and labor costs.
- Increased label printing speed by 10% by replacing a labor-intensive custom interface environment with a browser-based system.
- Access to over 100 barcode symbologies improved its ability to comply with industry standards.
- Ability to print labels to a virtually unlimited number of printers improved ability to support its multi-user, multi-facility environment and provided the necessary bandwidth to support future growth.
- Continued ability to integrate foreign language within label design to accommodate international shipping requirements.

The LSI Lighting Division's implementation of CODESOFT and SENTINEL led to a number of tangible benefits for the company, but the benefits extend beyond implementing best-in-class products. It's the people behind the TEKLYNX products that continue to make the difference for LSI Industries Inc. The personal relationships established through product implementation are invaluable to Cantrell, who finds the TEKLYNX team to be, "approachable, knowledgeable, and committed to our company's continued success."

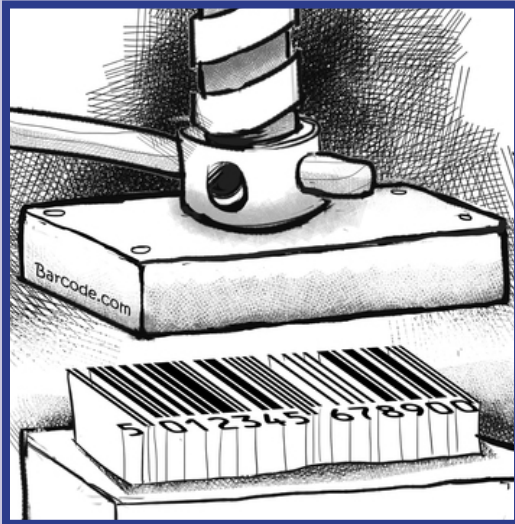
For TEKLYNX General Manager Doug Niemeyer, feedback like this is the ultimate measure of success. "One of our greatest assets is our ability to work in close partnership with our customers," states Niemeyer. "We're not simply providing software, we're partnering with companies to guarantee our integrated supply chain solutions make those companies work better."

ABOUT TEKLYNX INTERNATIONAL

TEKLYNX International is the world's leading barcode and RFID labeling software developer and solutions provider. An industry innovator for over 30 years, TEKLYNX helps companies operate smoothly and efficiently by implementing labeling solutions that streamline operations while staying ahead of industry-specific compliance and emerging regulations. TEKLYNX is world-renowned for its customer service, offering purchase options, unparalleled service and support, and a comprehensive product offering that grows with companies over time. With operations in the United States, Europe, Japan, China, and Singapore, more than 620,000 companies in over 120 countries look to TEKLYNX integrated software solutions for their standard of success. Learn more by visiting TEKLYNX.com.

MAKE A BARCODE

Create a free bar code or QR code using the free tools from our label sponsor



[CREATE BARCODE](#)



[Create a sheet of bar code labels with the Maestro Label Designer Software](#)

[Create a QR code for business cards and more](#)

BarCodesTALK

[Bar Codes Talk, LLC](#). has been in business since 1993. They offer commitment to excellence, reassurance, and speedy service to all their customers. Mostly anything you need done with bar coding, [Bar Codes Talk, LLC](#). can take care of for you.

Buying numbers to use on Amazon?

These numbers work perfectly for Amazon. Your choice of UPC or EAN when you complete your order at no extra charge!

Authenticity Guaranteed

Every Bar Codes Talk order includes a GTIN Certificate of Authenticity.

Lowest Price Guaranteed

If you find a lower price, [Contact Bar Codes Talk](#) and they will work out a deal!

Buy More, Save More!

Lowest Price Guaranteed

Quantity	Price	Savings
1 Bar Code	\$5.00 (\$5.00 each)	—
5 Bar Codes	\$10.00 (\$2.00 each)	Save \$15
10 Bar Codes	\$15.00 (\$1.50 each)	Save \$35
25 Bar Codes	\$25.00 (\$1.00 each)	Save \$100
50 Bar Codes	\$35.00 (\$0.70 each)	Save \$215
100 Bar Codes	\$45.00 (\$0.45 each)	Save \$455

[Purchase Authentic Barcodes Now! ▶](#)

GLOBAL DAIRY COMPANY REDUCES COSTS & Increases Accuracy By Standardizing Labeling Printing

NiceLabel, a world leader in the development of label and marking productivity software solutions, recently worked with Arla Foods that needed a standardized label management solution for all of its industrial printers. NiceLabel's next generation technology enabled this large food manufacturer to significantly reduce costs and increase label accuracy and productivity.

A critical part of Arla's brand identity is being able to guarantee freshness and provide their customers with accurate product information. However their unique set-up, as a company consisting of more than 70 dairies around the world, presented a range of challenges in their quest to provide accurately labeled products. The company needed a single solution with a standardized method of integration between each dairy's label and direct marking printers and the Manufacturing Execution System (MES).

Using NiceLabel's label management system, Arla was able to automate printing by implementing a standardized integration with the MES at each dairy. Now, master data flows directly from the MES to the printers, eliminating manual data entry errors, mislabeling and the associated costs. By introducing centralized label management, Arla have a more transparent label management process that helps them ensure accurate product and production data throughout the entire label printing process. The company's centralized IT team now provides 24x7 support to each site, rapidly addressing issues before they result in production downtime. In addition, Arla can remotely monitor all activity and diagnose errors.

"Our customers have come to rely on us for accurate labeling and quality product information. NiceLabel helps us to meet their high expectations and we no longer have to worry about lost revenue associated with mislabeling", said Torben Hattel, Senior Solution Architect at Arla Foods. "We've definitely seen an increase in productivity thanks to the solution. Our labeling systems run more efficiently. We no longer spend time mitigating manual data entry errors and we've been able to streamline support as well."



"The dramatic reduction in direct and indirect costs has more than offset Arla's initial software investment, and the company estimates these cost savings will only increase over time, as the centralized management system will enable them to respond more quickly to changing labeling regulations and increase time-to-market for new products," pointed out Janez Sodja, NiceLabel Enterprise Sales Manager.

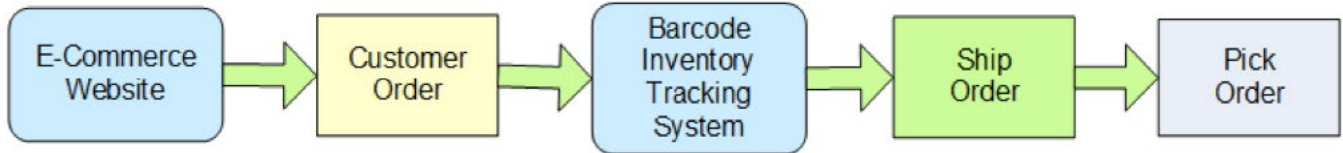
Detailed information on how Arla Foods reduced costs by eliminating labeling errors, increasing productivity, and minimizing the reliance on locally-developed IT integrations is available at www.nicelabel.com/food-beverage.



About NiceLabel:

NiceLabel, established in 1993, is a leading global developer of label and marking productivity software solutions that help SME and large enterprises reduce complexity and mitigate risk while meeting compliance requirements and increasing productivity, quality and agility. NiceLabel's design, print and management solutions are modular, easily configurable and scalable so they enable best practice labeling processes to be implemented quickly. This provides significant ROI over the lifetime of their use. NiceLabel is a Microsoft Gold Certified Partner, Oracle Gold Partner and SAP partner. As the world's leading developer of Microsoft Windows drivers for thermal and direct marking printer technologies, NiceLabel software is shipped by the world's largest printer manufacturers and used by the majority of Fortune 500 companies. Through its headquarters in the EU (Slovenia) and global offices in Germany, USA, Singapore and China, NiceLabel serves and supports its clients around the world with technology at the forefront of market demand.

Using Barcodes to Reduce E-Commerce Picking Errors



Introduction

If you resell large quantities of kitchen scales over the Internet then the best thing that you can do is to let Amazon or a similar organization handle the picking, packing and shipping of your products. But what if you are one of the myriad of small E-Commerce organizations that sell custom or semi-custom products such as:

- T-Shirts in many different colors and sizes with custom graphics silk-screened onto the T-shirts.
- Kits of medical supplies, tailored to the needs of individual patients, and shipped on a regular basis.
- Delivery of meals made to order or kits of food shipped to home chefs
- Kits of fishing lures tailored to the needs of each customer.
- then the situation becomes much more complicated.

In each of these, and many similar cases, each order is different and is not easy to restock (unlike boxes of kitchen scales). So it is important to get the order right in the first place. Each of these cases is critically dependent on picking the correct materials in response to each customer's order.

While an organization such as Amazon can afford to use advanced techniques such as picking robots, pick to sound or light, and wave picking, these are typically out of reach of the smaller E-Commerce organizations in terms of cost and complexity. In this article, we look at how to use barcodes to dramatically improve kit picking accuracy without spending a lot of money or time on systems maintenance.

Pick Orders

In order to correctly pick the correct materials for an order, we start with the customer's order which will probably have come from an E-Commerce website. This order is then sent to a barcode inventory tracking system, such as the BellHawk BITS system where it is converted into an order to ship products to the customer. The ship order is then used to generate a Pick Order listing all the items to be picked for that order.

This Pick Order can then be used to generate a barcoded Picking Sheet on an office printer, as shown below:

PICKING SHEET

Pick Order # P00004
 Ship Order # S00001
 Customer Name ABC Company
 Customer Order # CO9876
 From Facility Production
 To Facility Production
 To Location F1
 Issued By: Green, Eric

Date Wanted 05/09/2017
 Description Test Shipment

Shipping Instructions:

Item Number / Description	Quantity Ordered	Quantity Shipped	Quantity Picked	Quantity To Be Picked
Hat	1 ea	0 ea	1 ea	0 ea
Hat	2 ea	0 ea	2 ea	0 ea
Goggles	1 ea	0 ea	0 ea	1 ea

Suggested Location: A11
 Suggested Location: B21
 Suggested Location: C13

This picking sheet has a pick order barcode (1) and a barcode (2) for each of the items to be picked as well as a suggested location from which to pick this item (3).

The picking sheet will direct the user as to what items to pick but, in order to prevent picking mistakes we must:

1. Pick the correct items, which requires accurately tracking materials.
2. Put the items into the correct shipping box or tote for the customer order.

Tracking Materials

In order to ensure picking the correct items, we need to track materials in a number of ways:

- By putting these materials as "loose" material on a shelf or rack location with a "location" barcode, such as shown

at right, that can be used to uniquely identify the materials on each shelf.

- By putting a unique tracking barcode on bins into which the materials are placed. In this case, each bin only holds a single type of item, such as a small, yellow T-shirt or an extra-large blue T-shirt, in a specific style.
- By putting a unique tracking barcode on each box or other container of materials and then recording where it is put away by scanning the barcode on the container and the location barcode for the shelf or rack where the container is stored. In this case each box or other container only holds a single type of material.
- By putting a unique tracking barcode on each item with a serial number so this can be scanned to identify the item. The location of the item is recorded by scanning the barcode on the item and the barcode of the location or bin where it is placed.

The tracking barcodes applied to bins, boxes, and individually barcoded items can be printed out on barcode label printers. Alternately, for simplicity, they can be purchased as pre-printed rolls of uniquely numbered “license-plate” tracking barcodes, such as shown at right, which can simply be peeled off and applied to the boxes, bins, or individual items to be tracked.

When bins are set up, the barcode of the bin is scanned together with the location barcode for the shelf on which the bin is placed. In this way the system knows the location of each bin.

When loose materials, such as stack of small yellow T-shirts in a specific style, are entered into inventory then their location is recorded by scanning the barcode on the rack or bin onto/into which they are placed and then the type of items and their quantity is recorded using a mobile device.

When boxes of material or individually serialized items are received then a tracking barcode can be applied to each box and/or serialized item and the data is recorded about the items and the quantity in each box. The location of these materials is then recorded by scanning the tracking barcodes on the boxes or item, along with the bin or location barcodes in which they are placed.

Ensuring Pick Accuracy

When picking items for a specific order, the pick order barcode is scanned from the barcoded picking sheet. Then, for each item to be picked, the item barcode is scanned from the sheet, typically using a wireless mobile device with an integral barcode scanner. The user will then be directed to the location and/or bin from which to pick the selected material in FIFO order.

The user will then scan the “source” barcode on the shelf, bin,

box, or item that uniquely identifies the item being picked and the barcode tracking system will warn the user if they are about to pick the wrong item.

The next step in making sure that the materials are being placed in the correct shipping container or tote for the customer order. To achieve this, a tracking barcode can be applied to each shipping carton which is designated as being for a specific customer. Alternately we can use totes with permanently attached metal barcodes and designate the totes, temporarily, as being for a specific customer order.

Once the user of the system has scanned the “source” barcode they can then scan the barcode on the “destination” carton or tote and are warned if this container is not designated to receive the order being picked.

In this way we are able to ensure that the correct items are being picked into the correct shipping containers or totes from which they will be subsequently processed.

This does not solve the problem of picking the correct quantity but, for many applications where only one or a small number of each item is being picked, it solves the major problem of accidentally picking a look-alike product or shipping an item to the wrong customer.

Practicalities

There are many variations on this theme, such as allowing for mixed parts on a shelf or in a bin and differentiating between then by scanning the GTIN or UPC barcode on the item. But the same basic principles apply. Picking using barcoded picking sheets works well when a limited number of large items are being picked. For picking many small parts, the use of a picking sheet can become cumbersome and systems like BellHawk use a paperless picking methodology for this case.

In paperless picking, the user is directed by their mobile device to different zones in a warehouse and are then directed to efficiently pick different items within the zone. For each item all the user has to do is to scan the source and destination barcodes for each item they are directed to pick from and to. This is to enable the system to warn the user if they are picking the wrong item or putting the picked items into the wrong shipping carton or tote.

This zone picking can be extended to allow the directed picking of multiple orders at the same time to multiple cartons or totes on a picking-cart, which can make for more efficient picking. With the use of powered picking carts, weighing scales can also be incorporated under the cartons or totes to do a weight check on the quantity picked. *(Continued on inset - next page)*



3 Essential Asset Tracking Tips for Schools and Educators: Automate, Plan and Collaborate with IT

by Nicole Pontius of [Camcode Durable Barcode Solutions](#)

Schools of all kinds must accurately track their assets to comply with the Governmental Accounting Standards Board (GASB) standards and the Financial Accounting Standards Board (FASB) standards in addition to being accountable to their stakeholders. As schools rely more heavily on funding and endowments from outside sources, they must manage and track their assets in a responsible manner to justify expenditures to those stakeholders. But, schools have so many assets that are spread across campuses, facilities, classrooms, and administrator, teacher, and student homes that it can be nearly impossible to track assets accurately. There are a few ways schools can improve their asset tracking practices.

1. Streamline and Automate Asset Tracking

If schools are to learn anything from the Los Angeles Unified School District's computer inventory debacle in 2014, when nearly \$200,000 in devices had been stolen or were missing, it is that adopting asset tracking best practices is critical to avoiding errors and a costly loss of equipment.

School districts and other educational institutions that adopt asset tracking best practices and streamline and automate their processes pass audits with flying colors and track their assets much more easily than those that rely on tracking assets manually. Teachers and administrators also appreciate the amount of time saved in checking assets in and out when the process runs seamlessly with an asset tracking solution that utilizes barcodes and asset tags for accurate scanning.

If your school district or educational institution is relying on Excel or another manual process for tracking assets, you are costing employees hours spent updating individual assets' records over their lifespan. Manual systems also are much more

likely to involve confusion and errors that can result in lost, damaged, or stolen equipment before anyone realizes there is a problem. And, manual processes do not hold people as accountable as automated processes.

In fact, large school districts and higher educational institutions have an incredibly difficult time tracking their assets, much like the LA Unified School District. Colleges and universities often report losses in the tens of thousands to millions of dollars, and those losses can be minimized and virtually eliminated when institutions adopt asset tracking systems. Effective asset management technology solutions utilize barcode scanners to reduce the chances of human error and to keep real-time, accurate records in a database.

2. Work with IT Teams to Track Laptops and Mobile Devices

When schools begin a one-to-one technology initiative that involves loaning a laptop, tablet, or iPad to students, they run the risk of losing a great deal of money when assets become lost or damaged. IT professionals in educational institutions realize that the initiatives require extensive planning and lead the charge in implementing asset tracking systems prior to handing out devices to students. Managing the devices can become a full-time job for IT teams when their educational institutions do not invest in an asset tracking system.

Those that do implement asset tracking systems appreciate the time and cost savings they realize by automating asset tracking processes and knowing at any time who signs devices in and out, whether they are damaged, which parents have purchased insurance, and which have been lost. Many of these systems use barcode scanners linked to student and employee IDs and device serial numbers so there cannot be any question about who signed out a device. Some IT professionals in educational institutions prefer to invest in



advanced asset tracking technologies that include reporting functions and give their entire team the ability to track and view device information in real-time

3. Create an asset management plan

Most schools have an IT team that can track their devices, but even those that do not understand the value of creating an asset management plan for all of their assets. Public school districts especially require an effective asset management program because assets are purchased with taxpayer dollars or grant money in most cases. And, many public schools have limited funds and need to maximize asset lifecycles as a result. The best way to ensure that assets are being tracked properly is to create an asset management plan.

Specifically, asset management plans for educational institutions take into account all assets, from HVAC systems, to buildings, to hardware. Because many schools do not have the money needed to purchase new assets to replace older ones, they rely on an asset management plan to determine which to repair and when. Asset management plans also entail preventive maintenance to keep assets in good shape for as long as possible. The best case scenario is to marry an asset management plan to an asset tracking system to have one complete record of all assets, their maintenance schedule, and their tracking information.

Schools must track their assets properly in order to comply with GASB and FASB standards and to be accountable to their stakeholders. To improve asset tracking practices and hold tight to the bottom line, educational institutions must streamline and automate asset tracking, work with their IT teams to track laptops and mobile devices, and create an asset management plan.



Using Barcodes to Reduce E-Commerce Picking Errors (Continued)

Barcode inventory tracking systems, such as the BellHawk BITS system, are available for use over the Internet on a subscription basis for a few hundred dollars a month, making the application of these methods cost-effective for all but the smallest E-Commerce retailers.

Commentary

In order for these methods to work, it is important that the barcode tracking system is able to track materials using “license-plate” container tracking methods. This container tracking of materials is very different from the way most ERP, accounting, or warehouse management systems track inventory, which is to track quantities of material at fixed locations. Barcode inventory tracking systems, such as BellHawk, which do license-plate container based tracking of inventory, are uniquely suited to inexpensively solving picking accuracy problems.



About the Author

Dr. Peter Green is the CTO for BellHawk Systems Corporation. He is an expert in using barcode, RFID, and Artificial Intelligence technologies to solve operations tracking and mistake prevention problems for manufacturing, industrial, medical, and other organizations.

How Do You Test a Barcode?

Written by John Nachtrieb

Maybe the first question should be, why do you test a bar code — and why is it necessary?

Here's my take. It is necessary to test a bar code because when it doesn't work right, it causes huge problems and potentially huge liability.

Bar codes hold the retail supply chain together and make it possible to track the movement of food, consumer goods, chemicals, pharmaceuticals, health care products and devices; bar codes are integrated into manufacturing processes, security systems, access control devices, identification systems and myriad other applications. When bar codes fail, it can be more than inconvenient. It can cost a lot of money, and it can cost lives.

How do you test a bar code?

You test it against several measurable attributes including its reflective and color contrast performance and how accurate it is both in terms of its image integrity and its data structure. Image integrity includes such things as the edge quality and widths of its bars and spaces as well as how precisely bars and spaces are positioned relative to each other.

In order to test a bar code, you need a device that can detect and measure these qualities in the bar code image.

A bar code scanner won't do that—it is designed only to decode the bar code image and extract from it the embedded data.

Scanners from various manufacturers do this in different ways. That means some scanners are more aggressive and tolerant of problems in the bar code image; others are less error-tolerant. Using a scanner to gauge the accuracy of a bar code is meaningless since no two scanners perform exactly alike. How do you test a bar code with a scanner? You don't.

How do you test a bar code with a scanner? You don't.

Scanners cannot test the reflective and contrast properties of the bar code because they are positioned at a predictable distance and angle from the bar code. It is important to test reflectivity and contrast because it is an essential quality in any bar code, and if fails to meet minimum standards, the bar code becomes a liability.



How do you test a bar code?

With a verifier.

Only with an ISO-compliant bar code verifier can you test all of the essential attributes of a printed bar code image and grade it in order to predict how that bar code will perform at the intended destination, whether that's on a nurse's crash cart in a hospital, making sure the patient is getting the right medications, tracking inventory movement and doing price look-up for a grocery product in a supermarket, or allowing a legitimate employee to enter a secured zone in a restricted area.

Only a verifier will tell you when bar code quality is changing over time during the printing operation, and tell you how the bar code quality is degrading and why. This gives you the time and the tools to adjust the printing process, giving your customers confidence in your product and giving you protection against potentially damaging bar code performance liability.

How do you test a bar code?

Only with a verifier.

About Barcode-Test

A 30-year veteran of the bar code industry, John Nachtrieb and his company Barcode-Test help provide solutions for customers' bar code quality challenges. He assists product managers, package printers, and suppliers by managing bar code related risk, and supporting bar code integrity over the long haul. You can find more of his writing on bar code quality at the Barcode-Test blog.



CHANGE AHEAD

Recent Updates to ISO 15416 for Linear Barcodes

Written by John Nachtrieb

Once again we have evidence that the only thing that doesn't change is change itself. Recently there has been an update to the ISO 15416 specification for 1D or linear barcodes, and it could make a difference in the final verification grade for a barcode. Two recent changes have been made and updated in the ISO 15416 specification.

The first recent change seems simple enough—the reported grades for Symbol Contrast, Modulation, Defects and Decodability will now be measured and reported to one decimal place. Decode, Minimum Reflectance and Minimum Edge Contrast will continue to be reported as Pass/Fail (either 4.0 or 0.0) parameters. Yes this is the “fine print” but it can make the difference between a passing or failing grade when a parameter is marginally passing or failing.

The second recent change to ISO 15416 is a bit more subtle. It effects how the parameter Defects is calculated, or more precisely where the defect is located in the barcode and how it impacts the grade for this parameter. Without going into the decode mathematics, here is what has changed:

- The former decode calculation resulted in a large error being reported when the defect is near the edge of a bar or space—even when the error had a relatively small effect on reflectance.
- The successor calculation corrects for the exaggeration in the old methodology and will improve grades for this type of defect.

When two verifiers don't agree on grading it can be a vexing problem. Which one is truthful—are either of them truthful? How do I settle the disagreement? Where do I begin? With

these changes in the ISO specification, one can see how important it is for a verifier to be diligently updated: changes are published not only to the manufacturer's software but also to the ISO parameters. Re-calibrating a verifier for reflectivity on a regular basis is not enough to ensure that your verifier is up to date. Go to the manufacturer's website or contact your reseller to check if there have been software updates.

Known updates to the ISO specification are an opportunity to substantiate whether or not your verifier is truly ISO compliant. Some data sheets are more oriented toward marketing than honest reporting of technical information. If your verifier brand “never requires calibration” that is a failing marketed as a feature. Due to design considerations, it is nearly impossible and/or very expensive to update some verifiers, so the manufacturers may be less than eager to report ISO updates that should result in verifier updates.

Whether you are researching the purchase of a new verifier or inquiring about a verifier you already own, ask how ISO updates and software updates are done. Listen for—and insist on—a simple, direct answer.

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About the Author

Mr. Nachtrieb has 30+ years of hands-on experience in barcode technology. His team imaged the film master for the first commercially scanned barcode in North America (1974). His specialty is barcode quality. He created and hosts a highly customized barcode quality seminar which has been presented to 100's of companies, reaching thousands of quality-concerned people, helping them to avoid barcode problems and manage barcode-related risk.



FOX Broadcasting Company Collaborates with Zebra to Optimize Its VIP Event Registrations

Customer:

FOX Broadcasting Company, Los Angeles, CA

Industry:

Hospitality

FOX Broadcasting Company is part of 21st Century FOX and broadcasts primetime programming, late-night entertainment programming, major sporting events, and weekend news shows.

FOX Broadcasting coordinated a VIP event at a large sporting event and needed to print nearly 1,000 VIP badges before the event. The badges helped communicate multiple aspects on-site including attendee identification, check-in times, gift bag distribution and access levels. All of this information is fed into a tracking system to give event organizers Solution real-time operational visibility and insight for future planning.

Challenge:

Preparing for an event with upwards of 1,000 attendees can be daunting as it takes an extensive amount of planning, coordination and preparation. In addition to showcasing the right artwork and advertiser logos, the VIP badges are critical to event organizers to ensure the right people are at the event, the attendees have correct access to levels at the event and ultimately, the badges serve as a souvenir after the event. FOX used a fulfillment house for badge printing in the past. This meant they created an attendee list and sent it to the fulfillment house weeks before the event. That's where the badges were printed and laminated, and then shipped to FOX at the event site.

Unfortunately, the badges could not be changed on-site to

accommodate any last-minute changes. To remedy this, the team brought a basic label and card printer on-site to print any new or updated badges. However, the quality suffered compared to the badges printed before the event. This was a problem because names and advertisers changed, errors were found, and new attendees were added. Pre-ordered batches also led to overages and unused badges went to waste.

Solution:

The FOX Broadcasting leadership team decided to optimize its process by printing the VIP badges on-site and create a simpler, more efficient and effective process for badge distribution. FOX worked with Zebra Technologies to find the right printer to meet the specific needs for this event. Zebra recommended the ZC10L large-format card printer. The printer was in a pre-production phase at the time and FOX agreed to test it at the event before the public launch.

Designed specifically for the hospitality market and events like FOX's VIP gathering, the ZC10L produces color cards with edge-to-edge printing in one simple process. Event organizers can customize cards on the spot for each guest, finalize card designs up to the start of the event, print the entire side of a card in one pass and add guest instructions or fine print on the back of the cards. Zebra's ZC10L also prints photo quality graphics and images that include high-quality designs, rich colors, text and barcodes. This worked well because FOX didn't want to sacrifice quality by printing on-site since the VIP badges are kept as a souvenir for many attendees.

Results:

- Printed 1,000 badges in total
- Efficient event registration table

- Flexibility for last-minute changes
- Improved VIP guest experience

FOX and Zebra understood there could be challenges using pre-production prototype printers at a big event. The Zebra ZC10L didn't perform flawlessly, but Zebra was on-site to troubleshoot and guide the event team through the issues.

FOX and Zebra documented the challenges and took those learnings back to the product design team to ensure they are incorporated before the public launch.

Designed specifically for the hospitality market and events like FOX's VIP gathering, the ZC10L produces color cards with edge-to-edge printing in one simple process.

“In the past, many of the badges were tossed because of name switches, new attendees or no-shows.”

Veronica Kelley, FOX Broadcasting's Event Director

Heading into the week, FOX needed to print about 1,000 badges for the event. Event organizers could modify the attendee list right up to registration day which gave them flexibility on-site. FOX printed 855 badges before registration day based on the confirmed attendee list. Thursday and Friday were two days when the printer would really be tested. Those days included walk-ins and late registrants for the event. FOX successfully printed an additional 80 badges Thursday, 50 badges Friday and about 10-15 on Saturday and Sunday bringing the total to approximately 1,000 badges.

“In the past, many of the badges were tossed because of name switches, new attendees or no-shows,” FOX Broadcasting's Event Director Veronica Kelley said. “Having the Zebra ZC10L on-site gave us flexibility to print crisp, professional badges as changes happened.” This resulted in an efficient registration table leading into the VIP event. The Zebra ZC10L produced high-quality VIP badges in a high-pressure situation for FOX Broadcasting. It improved and optimized the VIP badge printing process, improving the overall guest experience.

“Having the Zebra ZC10L on-site gave us flexibility to print crisp, professional badges as changes happened.”
Veronica Kelley, FOX Broadcasting's Event Director

For more information, visit www.zebra.com

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SUMMARY

Customer



FOX Broadcasting Company
Los Angeles, CA

Industry Hospitality

Challenge

- On-site printing for VIP badges
- Advertisers and attendee names change at last minute
- Quality suffered

Solution

- Zebra® ZC10LTM large-format card printer
- 5 Rolls of YMCO ribbon (400 cards per roll) and blank PVC cards
- 3 Rolls of Black Monochrome Ribbon (2,000 cards per roll)

Results

- Printed 1,000 badges in total
- Efficient event registration table
- Flexibility for last-minute changes
- Improved VIP guest experience

How to Buy, Order, and Print the Best Product Labels: Answers to Your 10 Most Commonly Asked Questions

If you're launching a new product, one of the first tasks you'll need to tackle is purchasing and printing barcode labels.

Barcodes enable your business to sell products in a variety of different point-of-sale scenarios, and through a multitude of different vendors, opening your horizons to an abundance of sales opportunities.

For many new businesses, the process of purchasing barcode labels can seem confusing. Today we'll provide the answers to the top 10 most commonly asked questions about purchasing and printing barcode labels.

How to Purchase Barcodes

Before you can print out your point-of-sale labels, you'll need to purchase barcodes- with an associated UPC (Universal Product Code), or EAN (European Article Number). This will allow retailers to track the sales of your products, and gain an understanding of inventory levels so that they know when to purchase more.

What's the difference between a UPC and EAN?

A UPC is a 12-digit barcode used primarily in Canada and the U.S.

An EAN is the type of barcode used outside of North America. Some retailers accept both, and other retailers have specific needs, so it's best to consult your desired retailers first before purchasing.

All barcodes must originate from GS1. GS1 is the global organization responsible for developing standards for busi-

ness communications across the world. Manufacturers may choose to purchase barcodes directly from the GS1, but prices tend to be lower when purchased through a third party vendor.

Tips for choosing a barcode vendor:

- Look for reviews and testimonials- choose a vendor who supplies the highest quality barcodes.
- Choose a vendor who joined the GS1 prior to 2002 to avoid annual renewal fees.
- Choose a vendor that does not require any minimum purchase.

How to Print Bar Code Labels

Now that you've purchased barcodes for your products, you'll need to begin printing out labels. Allow us to provide some answers to your most commonly asked questions about the process:

What types and sizes of labels are available, and which are right for me?

There are three main types of labels: Label Rolls, Laser Sheets, and Tags. They come in a variety of sizes- Laser Sheets range from 1.00" x 0.50" to 2.625 x 1.00" and rolls range from 1.50" x 0.50" to 4.00" x 2.00".

Label Rolls

- Used when rapid printing is required, for instance, in inventory management.

Laser Sheets

- Used in desktop printers. Features: Matte surface and single

use, permanent adhesive.

Tags

- Printed on thicker card for sturdiness, and most commonly found on clothing retail. Features: Application hole centred at the top of the label.

How are labels printed?

There are two main methods of printing labels: Conventional printing and digital printing.

Conventional Printing

Conventional printing is completed on a traditional printing press- that big machinery that comes to mind when you think about a print job.

Advantages: Highly customizable, with precise colour matching of logos and brand visuals.

Disadvantages: Large, costly equipment requiring specialized knowledge.

Offset Printing

Offset printing is a type of conventional printing which is slightly more cost-effective when priced per 1000 labels. Though it yields a high quality result, it does produce excess waste, and still requires skilled professionals to facilitate printing.

Digital Printing

Digital Printing is the most common type of printing today due to its efficiency and cost-effectiveness. Types of digital printing include thermal printing and laser printing.

Advantages: Low set-up costs make this technology accessible for a wider range of businesses. No minimum print number, and lots of room for customization of data.

Disadvantages: Printing is done in CMYK, and not pantone matching. Colour results are less precise.

What information should I put on my label?

Generally speaking, the mandatory information includes scannable barcodes, UPC numbers, SKU's, a brief product description, price, and/or sale price information. Also important is branding, including your logo.

How do I order labels?

First, choose an online vendor, and determine the size and shape that's right for your products. If you require a size that's difficult to find, many vendors will accommodate custom orders. From there, place your order and have it shipped to your

facility.

Can I buy pre-printed labels?

Absolutely! Pre-printed labels can be purchased on laser sheets, rolls, and tags. If you're in a hurry, most vendors also offer rush services.

Is there a minimum or maximum order size?

This will depend on your vendor. Generally speaking, orders of all sizes can be accommodated, but exceptionally large orders may require special ordering dependent on the size and complexity of the requirements.

How much do labels cost?

Pricing will depend on the size, shape, colour, and stock quality. As a rough guide:

- Laser sheets can vary from \$3 for 100, to around \$368 for 2500.

- Rolls can range from \$3.50 for 100, to about \$890 for 2500.

Should I print my labels in-house, or should I outsource?

Most small businesses tend to outsource printing, since the up-front cost for equipment is so high, and the printing process requires specialized team members.

Many medium sized businesses have a budget large enough to purchase their own equipment and print in-house. That being said, for labels with more complex requirements, they may still outsource to ensure the job is done right.

Large businesses almost always do their printing in-house, having hired a dedicated team of printers able to handle high quantity and complex prints.

About Bar Codes Talk

A family-owned and operated business with a loyal customer base of over 50,000 companies. We provide high quality and affordable bar codes and labels. Our wide range of bar code label options are certain to meet any commercial retail requirements. www.barcodestalk.com

Enterprise Barcode Labeling Software A Key Component For Global Food Supply Chain

By Douglas Niemeyer, TEKLYNX Americas General Manager

Barcodes are a necessity for the food and beverage industry - but given new and pending food safety regulations such as the Produce Traceability Initiative (PTI), Food Information for Consumers (FIC), and Food Safety Modernization Act (FSMA), enterprise barcode label management software solutions reach beyond necessity and are quickly becoming a n asset to, and key component of, the global food supply chain. To drive improvements in supply chain efficiency, security, product traceability, and compliance, it is vital to choose a browser-based, integrated label software solution which integrates with food manufacturers and suppliers to help streamline barcode labeling operations.

Because most food manufacturers and processors operate multiple facilities, implementing a solution that allows companies to centrally manage hundreds of printers in multiple facilities from a browser-based interface is key. This also increases traceability critical to recall regulations required by FSMA. Risks associated with food (processing, shipping, manufacturing, growing, etc.) and regulations required by FSMA traceability and workflow enforcement are critical to streamline root cause analysis, but also in assisting with mitigation of risk.

TEKLYNX' enterprise solutions have resulted in the successes at many companies in the food and beverage industry, including Tyson Fresh Meat's implementation of an enterprise barcode labeling system to support the labeling of its premium beef and pork products. Tyson Fresh Meats has experienced increased traceability and speed-to-market, a substantial reduction in manual labeling errors, and reduced shipping costs.

While food manufacturers and suppliers drive towards supply chain efficiency, security-related label concerns top their list because these issues can result in costly production downtime, shipping delays and revenue loss. Such concerns led Canada-based Oakrun Farm Bakery, a subsidiary of international specialty food business ARYZTA AG, to implement an enterprise barcode labeling system for its labeling opera-



tions. The bakery needed a new labeling solution that could support a growing number of users, increase label security and the efficiency of its label printing process, while ensuring continued compliance with new and emerging international food labeling regulations. The solution was able to eliminate Oakrun Farm Bakery's leading cause of downtime, labeling errors.

Facing a growing number of industry regulations including the August 2016 enactment of the FSMA Preventive Controls for Human Food rule, food manufacturers often require a barcode labeling solution that seamlessly integrates with their existing Enterprise Resource Planning (ERP) system, particularly when it comes to addressing food safety measures such as properly listing allergens and, when needed, executing a seamless food recall plan.

Sartori Company, a world renowned, award-winning cheese manufacturer struggled to generate labels with a single solution that would seamlessly integrate with its JD Edwards ERP system. The enterprise barcode labeling system that was implemented was able to fully integrate with Sartori's ERP system, significantly reducing errors and ensuring absolute label accuracy. Full integration has also increased manufacturing



productivity while significantly improving communication between quality control and warehousing teams who now share information through the system effectively.

More and more food and beverage companies are turning to enterprise barcode labeling software to streamline labeling operations to meet industry specific regulations now and into the future.

About TEKLYNX:

TEKLYNX Americas is a division of TEKLYNX International SAS, a fast-growing organization with barcode label design software implementations in more than 75 percent of Fortune 500 companies including some of the most preeminent companies in the food industry including Tyson Fresh Meats, Inc., Nestle, and Kraft Foods. Under Doug Niemeyer's leadership as General Manager, TEKLYNX has extended its reach in the enterprise market as a global leader in barcode labeling software and a provider of solutions designed to help businesses increase efficiency and streamline operations while minimizing costs and mitigating risk due to manual process errors.

About the Author

Doug Niemeyer, TEKLYNX Americas General Manager, is responsible for the success of TEKLYNX Americas' business, its employees and resellers, while spearheading ongoing development of industry-leading solutions to help customers within the food logistics supply chain, and beyond, successfully run their businesses.



BARCODE RESOURCES

HISTORY OF BARCODES



The bar code, also referred to as a UPC (Universal Product Code), although that is just one type of bar code, was invented for inventory tracking purposes in stores. [Learn more >>](#)

ALL ABOUT 1D BARCODES



Have you ever looked at the black and white symbol on your grocery product packaging, or on the cover of a book that you just bought or even a department store receipt and wondered how the information is encoded in those bars and spaces? [Read more >>](#)

HOW TO GET A BARCODE



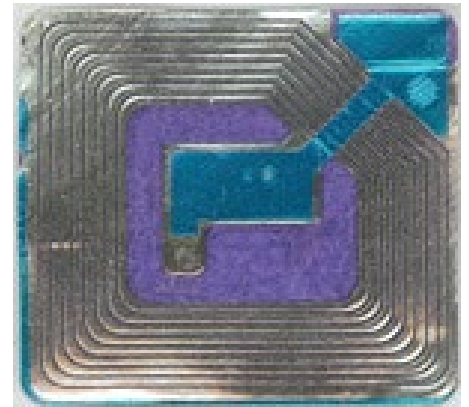
So, you have a product, and you want to be able to sell it through retailers. Now you're wondering how to get a bar code, or more specifically, a Universal Product Code (UPC). [How to get a barcode >>](#)

HOW TO CHOOSE A BARCODE READER OR BARCODE SCANNER



There are many considerations when choosing a type of barcode reader or scanner. [Learn more >>](#)

RFID RESOURCE ARTICLES



RFID (radio-frequency identification) is constantly being applied in new and exciting ways. These are links to some of our most popular articles about RFID. [See articles >>](#)

WHAT TO CONSIDER WHEN BUYING A BARCODE SCANNER



Think about how your business will be using barcodes before making an investment—but know that the flexibility of most barcode-based systems helps many of these scanners take on a variety of tasks, in case your business pivots or changes its operations. [View list >>](#)

BARCODE SOFTWARE VENDORS

TEKLYNX International

TEKLYNX International is the world's leading developer of barcode labeling software solutions. Their products feature the widest range of device and driver support in the industry. More than 600,000 companies in 120 countries rely on TEKLYNX integrated software solutions for supply chain automation, warehouse management, shipping and receiving, inventory control, and asset management.



NiceLabel Software

NiceLabel is the leading global developer of label and marking productivity software solutions that help SME and large enterprises reduce complexity and mitigate risk while meeting compliance requirements and increasing productivity, quality and agility. NiceLabel's design, print and management solutions are modular, easily configurable and scalable so they enable best practice labeling processes to be implemented quickly. This provides significant ROI over the lifetime of their use. NiceLabel is a Microsoft Gold Certified Partner, Oracle Gold Partner and SAP partner. As the world's leading developer of Microsoft Windows drivers for thermal and direct marking printer technologies, NiceLabel software is shipped by the world's largest printer manufacturers and used by the majority of Fortune 500 companies.



BarTender by Seagull Scientific

The most trusted software to create and automate labels, barcodes, RFID tags, plastic cards and more. BarTender® software by Seagull Scientific enables organizations around the world to improve safety, security, efficiency and compliance by creating and automating labels, barcodes, RFID tags, plastic cards and more.



Loftware Inc.

Loftware's Enterprise Labeling Solutions bring label design resources, native print capabilities, and built-in business rules functionality to integrate barcode labeling with any organizations existing business processes in order to help drive topline revenue, increase customer satisfaction, and maximize supply chain efficiency.





BARCODE / RFID TRADE SHOWS



August 15-18, 2017 - eTail East

Born in 1999, eTail is where the top minds at America's most successful retailers meet and learn. eTail is a global series with major events serving the United States, Europe and Asia throughout the year.

[Learn more >>](#)



August 16-18, 2017 - IOTE 2017

Since 2009, during the past 9 years, the scale of this expo has expanded fast with its influence far reaching. The event attracted 450 exhibitors and more than 50 000 visitors in 2016, visitors are from 20 countries.

[Learn more >>](#)



July 23-25, 2017 - NRFtech 2017

NRFtech 2017 is a 2.5-day event that offers retail CIOs, CMOs and senior IT executives a unique opportunity to discover and explore the latest retail technology while networking with peers in the industry.

[Learn more >>](#)



September 26-27, 2017 - Exchange / The Supply Chainers' Conference

EXCHAIiNGE explores the themes of digitization, compliance, and supply chain finance - delivering clear answers and highlighting real-life approaches that empower you to drive and shape the future.

[Learn more >>](#)

If you know of a trade show or event that should be listed here, [please contact us](#).



POS Magazine

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POINT-OF-SALE

Point-of-Sale RESOURCES

Do you work with retailers?

Find useful information on Point-of-sale systems and technology at www.Pointofsale.com

Visit our central page for point of sale resources (POS resources) - which includes some of our most popular articles about POS hardware and POS software, articles and videos about getting started with POS, how-to articles, and more.



We welcome suggestions and ideas from our readers about point of sale resources that you would find helpful. Our goal here at The Point of Sale News is to be the “Go-To Site for everything Point of Sale™.”

[VISIT PAGE](#)

Careers in Barcoding, RFID, Supply Chain



Time for a new job? The Barcode and RFID industry is a dynamic and exciting place to work. These technologies continue to grow and penetrate every nook and cranny of businesses all over the world! Consider a career in a growing industry that adds value to everything it touches. This page lists [technology careers](#) that were either submitted to us, or that we have come across, and are subject to change without notice. We make no representation as to actual availability or consistency with the title and accept no liability whatsoever. Job seekers must conduct their own due diligence.

Coridian Technologies (MN, IL, WI, FL) Sales Support, Inside Sales, Outside Sales - <https://www.coridian.com/careers>

Boone NC - Manatee Works is searching for the best in sales, marketing, web and low-level programmers. Email us at jobs@manateeworks.com.

Symbology Enterprises, Inc Branchburg NJ - Inside Sales Rep - Printer software / Data collector - [click to email resume](#)

Stratix Corporation (Norcross, GA) Verification Sales Associate - <http://www.stratixcorp.com/company/careers/jobs>

ScanSource.com - (SC, FL, AZ and elsewhere) assorted - finance, marketing, merchandising, sales - <http://www.scansource.com/en/careers/job-board>

BlueStarInc.com (KY and worldwide offices) - assorted - business development, sales, warehouse - <http://www.bluestarinc.com/nl-de/about-bluestar/careers.html>

Zebra (IL, GA, CA, MO, NY, RI and others) (about 60 openings posted) - <https://www.zebra.com/us/en/about-zebra/work/careers.html>

GS1 - <http://www.gs1.org/careers>

Sato America (IL, NC, NJ, CT, others) - <https://www.satoamerica.com/careers.aspx>

Honeywell, Intermec (world wide - over 3,000 job openings posted) - <http://www.careersathoneywell.com/en/job-search-results/>

Motorola Solutions (world wide - over 260 jobs posted) - <http://careers.motorolasolutions.com/>

Barcoding, Inc - (MD, GA, OH, MN, KY, MA, MI) - http://www.barcoding.com/about/barcode_employment.shtml

Identiv.com (CA) - <http://www.identiv.com/careers>

RMS Omega Technologies - <http://www.rmsomega.com/careers/>

Want to post a job listing here? [Please email us.](#)

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