Why Optimizing Healthcare Assets is More Important Than Ever

By Rikki Jennings, chief nursing informatics officer, Zebra Technologies

In 2020, COVID-19 made it clear that having the right healthcare assets was critical to saving lives. As hospitals face severe shortages of ventilators, personal protective equipment (PPE), ICU beds and even healthcare staff, administrators have struggled to maximize resources and optimize clinician workflows.

Fortunately, optimizing asset utilization and workflows has never been easier, thanks to technology innovations that allow hospitals to manage assets and inventory better, maximize clinician efficiency and optimize room turnover times. Today, hospitals use a combination of barcodes, radio frequency identification (RFID) and real-time location systems (RTLS) to boost staff productivity, reduce costs and improve patient care.

Making the Most of Healthcare Regulations

Hospitals must manage a wide array of assets, ranging from wheelchairs to portable ultrasound equipment. Even before the pandemic, hospitals had difficulty ensuring they had enough available equipment. In fact, not having full visibility into healthcare assets leads to inventory waste that costs the U.S. healthcare system upwards of $765 billion per year.

Hospitals can take the first step toward improving inventory management and reducing waste by taking full advantage of the unique device identification (UDI) barcode labels that the Federal Drug Administration (FDA) requires on medical packages and devices. Specifically, these barcode labels can be used to improve inventory

management and reduce costs. UDI barcodes contain information that helps hospitals accurately manage inventory levels, automatically check expiration dates, comply with device or medication recalls and improve patient care.

The right barcode scanner can capture all the data contained in each UDI label with a single scan and appropriately parse the data into the respective hospital platforms. Armed with this information, hospitals know precisely how much inventory they have, which reduces over/under ordering. Scanning the UDI barcode allows healthcare workers to automatically flag medication and supplies when an expiration date is approaching, reducing the number of expired items left on the shelves.

UDI barcodes are especially helpful in product recalls. When a recall is issued, healthcare workers can quickly scan the affected product or medication to see if it is part of the recall. This results in a much faster recall process than manually checking each potentially affected item. The UDI can even be captured before a procedure to ensure that the right surgical tools are prepped and ready for the procedure.

Helping Nurses Find Necessary Equipment

In addition to inventory management struggles, hospitals also frequently have difficulties managing equipment used on patient floors.

That's where technologies such as RFID can help. RFID's ability to read and track multiple items at once makes it the ideal solution for locating equipment quickly. In many cases, healthcare facilities aren't actually running out of equipment, rather, they lack the tools needed to find where their equipment is located. With RFID solutions in place, hospitals can more easily track where their assets are moving throughout their facilities, as well as check when available devices are running low. Having access to this information goes a long way toward helping ensure nurses can quickly locate these high-value assets.

Taking Asset Tracking to a Whole New Level

Location technologies such as RFID and RTLS can be especially helpful when tracking a hospital's most important asset: its patients. RTLS in particular is designed to help hospital administrators identify and eliminate workflow bottlenecks throughout the entire patient treatment process. Using RTLS, hospitals can measure the exact time between when a patient enters a hospital and when treatment is complete. They can easily monitor data, such as how long it takes to transfer a person from the emergency department to radiology or to a hospital room for in-patient admission.

After using RTLS data to streamline workflows, one hospital reduced the average time between emergency room treatment and patient admission by 36 minutes.

And once a patient is admitted, hospitals can leverage RTLS technology to improve workflow in many areas. In fact, RTLS can help hospitals achieve up to 50% faster bed turnover times, up to a 15% reduction in patient wait times for tests and procedures, and up to a three-hour reduction in patient length of stay.

When it comes to patient care, hospitals must improve workflows and maximize the use of their existing assets. RTLS and RFID are sure to be popular choices as healthcare providers seek to avoid future supply shortages while providing a better patient experience.

To learn more about healthcare technologies that identify, track, locate and monitor the condition of patients, assets and staff, click **here**. *SCAN*

Cloud: A Solution for Manufacturers and Suppliers Alike

By Lee Patty, VP and GM, NiceLabel Americas

Accurate and efficient labeling is essential for any supply chain, as it plays a critical role in everything from avoiding errors to increasing visibility and ensuring goods move quickly from point A to point B. It's here that supplier compliance and cooperation are extremely valuable. But, as many who work with massive networks of third-party suppliers, contract manufacturers, re-packagers, re-labelers and more can attest, implementing a standard labeling approach across many stakeholders can be a daunting task.

New advancements are rapidly changing this dynamic, however, and with cloud technology, organizations can effortlessly extend a consistent, centralized labeling process to internal stakeholders and third-party suppliers. Below are a few reasons why this is needed and possible.

The Impact of Unstandardized Labeling Across Suppliers

A lack of supplier compliance with labeling standards will likely cause a slew of issues. Here are just a few common problems:

- When suppliers don't use consistent labeling or don't label things at all, warehouse staff

may need to manually identify inbound products themselves or even open boxes to see what's inside. This is an expensive and risky method for processing goods-in.

- If warehouse staff does not identify a product correctly, they will have inaccurate stock data. This could mean missed production deadlines.

- Inbound goods may have to be relabeled at different sites.

- Extra processing time means stock turnaround times will be longer, and businesses will need more warehouse space and staff to house and manage goods.

- Suppliers may use labeling methods that make it difficult for the manufacturer to adhere to traceability requirements and regulations.

The bottom line is that a decentralized approach to labeling causes increased labor costs, slower time-to-market and a more inefficient supply chain.

Working with Suppliers to Improve Labeling

While it can be frustrating when suppliers don't follow a certain labeling standard, effective supplier management is about maintaining good relationships, not forcing suppliers to comply with a preferred approach. For this reason, many manufacturers have chosen to print their own labels rather than struggling with their suppliers over control of the labeling process. This is not ideal, especially when many suppliers wish they could comply with a customer's labeling requirements but do not have the tools to do so.

Suppliers may have nonexistent or sub-par IT infrastructures, or they may think they would be drowning in software programs and label templates if they adopted the labeling standards of every customer. Yet, some will still spend days, weeks or even months before realizing that, in many cases, compliance just isn't feasible. This is where a cloud-based approach can help.

Improving Supplier Labeling with a Cloud-based Approach

A successful method for supplier labeling revolves around making labeling easier for both manufacturers and suppliers alike. Cloud-based tools can help make this possible by enabling organizations to store and manage labels centrally. This makes it easy to extend standardized labeling approaches to suppliers over the Web.

Here are just a few benefits from using the cloud:

- The cloud offers instant deployment, so suppliers get up and running quickly.

- The cloud comes with zero IT burden and enables suppliers to access the most up-to-date versions of label templates instantly.

- The cloud can enable the same label output, no matter what printer or technology a supplier uses. This allows for consistent, compliant labeling, and suppliers get to keep using their existing IT environments.

- The cloud reduces IT burden and security risks from unauthorized access because IT does not have to spend time granting suppliers access to an organization's internal labeling infrastructure.

By using technology to make complying with labeling standards easy, you get more consistent labels and improved supplier relationships. This means less time spent unloading trucks, better oversight and control over inventory, significant capital savings and faster times to market.

Looking to the Future with Cloud-based Labeling

Cloud-based label management makes the process more efficient and easier for manufacturers and suppliers alike and sets organizations in a position to harness new trends. For instance, data is becoming essential to driving success, and those who manage labeling in the cloud can gain better control and insights into their data. This means, on many levels, the cloud is becoming a more effective tool for labeling than ever before. So, if you haven't started using it yet, why wait? *SCAN*

4 Reasons It Could Be Time for a Barcode Verifier Upgrade

Barcode verifiers, which evaluate 1D and 2D barcodes to confirm they meet industry standards, ensure accurate scans through a supply chain and, ultimately, efficiency and productivity. However, the barcode verifier and verification processes your customers are currently using may be overdue for an upgrade. Here are four reasons:

1. Failure is not an option.

Poor barcode quality, whether due to the substandard quality of the image itself or of the data, can lead to higher costs and lower productivity. Bad reads can lead to wasted products, packaging and time, or a high volume of shipping returns.

Statistics reported at the 2019 GS1 Connect conference show poor barcode quality can:

- Cost 25 percent more in labor;

- Stop 86 percent of consumers from buying a product again due to inaccurate product information;

- Lead to a 50 percent failure rate in buy online pickup in store (BOPIS) operations.

Barcode verifiers designed for specific use case (i.e., barcode size, the material they're printed on, the shape of the product or packaging, etc.) ensure quality, contributing to greater efficiency, accuracy, and happier customers.

2. A barcode scanner is not a barcode verifier.

If current verification processes involve scanning to confirm a good read, you aren't meeting your customers' expectations for barcode verification.

Verifiers make sure the barcodes comply with American National Standards Institute (ANSI) and ISO standards, far beyond merely reading the barcode as scanners do. Barcode verifiers evaluate:

- **Edge determination:** This test makes sure that barcode scanners will see edges the way a human does. Does it recognize the contrast between a line and a space, or does an ink smear or other defect cause errors?

- **Minimum reflectance:** Bars must be darker than the background under red light; the darkest bar needs to be at least half as reflective as the background.

- **Symbol contrast:** The darkest possible part

of the barcode printed on a white background should have 100 percent contrast. Not all barcodes are printed on white, but the highest possible contrast will enable scanners to distinguish the lines from the spaces.

- **Minimum edge contrast:** This analysis checks the edge contrast against a space.

- **Modulation:** Barcode scanners can read narrow spaces to be less white than wider spaces, and narrow bars can look grayer than wide bars. Ink spread can intensify this problem.

- **Defects:** Printer errors such as voids or spots can cause bad reads.

- **Quiet zone:** UPC symbol design requires a quiet zone, an area around the code that has uniform contrast. Printing in this area does not meet standards.

- **Decode:** Verifiers will decode a symbol and its guard pattern to confirm it is correctly encoded.

- **Decodability:** This metric aligns with how accurately the symbols are printed overall.

A barcode scanner may be able to read a code, but it usually cannot tell you exactly how you can fix the problem if it fails. A barcode verifier can.

3. No one wants to lose customers or pay fines for noncompliance.

Whether required by B2B customers, such as in grocery or retail, or by government regulation for medical devices or hazardous materials shipping, barcode verification is becoming a requirement for compliance.

Barcode verifiers "grade" the quality of the code or mark, and regulations may specify the minimum grade in production and after the product has moved through the distribution channel. For example, Unique Device Identifiers (UDIs) must have at least a "B" grade in production and at least a "C" when it reaches the end user.

Ensure you can provide customers and government agencies with the information that shows your barcoding complies with their standards.

4. A new barcode verifier could pay for itself.

Considering the errors that barcode verifiers catch, the waste they prevent, the insights they provide on how to correct problems, and their ability

to keep you in compliance, it's easy to see the potential for return on investment.

You can go a step further, however, and estimate cost savings more precisely. Take the number of poor-quality barcodes an organization tracks over a specific period and then multiply it by the cost to resolve those issues. That figure will give you a clearer picture of how soon a customer can expect ROI—and for operations plagued by errors, it can be short.

Teams that work in operations without reliable barcode verification methods may see it as adding time and steps to their workflows. However, barcode verifiers can save time and money overall. Evaluate your customers' operations and the costs they incur due to poor barcode quality and noncompliance—and upgrade their technology as needed. *SCAN*

Loftware Shares 2021's Most Impactful Trends

2020 was a year unlike any other and 2021, despite hope of vaccine relief and economic recovery, is shaping up to be quite unique. To help identify the latest, most significant trends, *SCAN:DCR* recently spoke with Josh Roffman, VP of product management for Loftware. Below are the highlights from the conversation:

SCAN:DCR: What are the biggest threats facing data capture solution providers in 2021?

Josh Roffman, VP of product management, Loftware: Keeping up with shifts and requirements brought on by massive changes to the traditional supply chain. There is a greater need for customers to embrace supply chain agility as they deal with the pandemic and its lingering effects on a company's global operations. Companies are looking to rapidly shift production between facilities, create new products, onboard new suppliers and modify long-standing processes in reaction to shifts in their supply chains. The challenge is for existing labeling and data capture technology to meet these changes and do so quickly. This means thinking about labeling differently by adopting cloud-based labeling technology to deploy labeling design, management and print capabilities where they are needed instantly. It also means extending labeling to supply chain partners to enable rapid supplier

onboarding and ensure consistency for labeling across global operations.

SCAN:DCR: What are the biggest opportunities facing data capture solution providers in 2021?

Roffman: The most significant opportunity for data capture and labeling solution providers is adopting cloud-based technologies. The demands of the pandemic have highlighted the challenges of on-premise software. This includes difficulty in adapting to shifts in supply, manufacturing and distribution that are desperately needed. Having installed software at individual locations and facilities highlights the challenges of a siloed or decentralized approach to labeling. By embracing the cloud, companies have proven more responsive, with less reliance on scarce IT resources, while enabling the ever-elusive desire to centralize and standardize on a single approach or solution.

SCAN:DCR: What are some complementary technologies or services should solution providers offer customers in 2021?

Roffman: It seems clear that there are many common requirements with labeling and packaging artwork and companies are beginning to look for providers to address these combined needs. Frequently the content on a label mirrors that included on product packaging. As a matter of fact, it's quite common that labels and packaging artwork utilize the same content, images, warnings, translations and phrases. However, using a combined digital platform eliminates redundancies while addressing common challenges and creates new efficiencies providing a competitive advantage.

Another way solution providers can help is to empower companies by offering a way for them to better assess where they stand and how they compare to their peers while providing a framework for continuous improvement.

For instance, the Maturity Model for Enterprise Labeling provides a framework for improvement in the area of labeling throughout an organization. It highlights capabilities and processes over five specific stages of maturity, offering a road map for improvement and providing a clear picture of the areas which need to be addressed for continuous progress. The organization can assess technologies and existing methods through a diagnostic tool, which allows them to measure the current effectiveness of labeling and determine what capabilities are needed to increase labeling efficiencies and enable business transformation.

This mechanism, which helps evaluate current effectiveness, also provides a guide for the key steps required to progress. It also serves as a vehicle for collaboration with internal teams regarding optimization and next steps and a blueprint to support investment for required services and solutions.

SCAN:DCR: Which vertical(s) hold the greatest opportunity in 2021?

Roffman: The life sciences industries hold both the greatest opportunity and challenge in 2021. The supply chain's demands to support the distribution of COVID-19 drugs to far the corners of the world make the life sciences industry the industry to watch. The supply chain and all technologies in that space, including data capture and labeling solutions, need to be ready to meet logistical complexities never imagined as billions of doses of vaccines move through a cold chain to the furthest reaches of the world. The opportunity here is to ensure that the solutions are ready to meet this once-in-a-generation type of strain on global supply chains. *SCAN*

Supply Chain Visibility Continues to Evolve

By Doug Niemeyer, General Manager, TEKLYNX

The supply chain. This is a term you hear so much from so many, and quite honestly, it should be front and center in everyone's minds, from consumers to manufacturers and suppliers. In the world of continuous innovation, all of us have come to expect accuracy with time estimates when "things" we make, ship, or buy will arrive or be complete. Still, we also expect those things will be of the best quality and at the best possible price. How is this attainable most of us ask?

The ideas of quality and price have been at odds with each other for a long time. As consumers, we want quality, but most times we also want the best price. This does not change within business either. Even within business, raw material is still consumed to create a finished product for the purpose of making money. In any business ecosystem, there are sometimes several organizations working in concert to create what ultimately will be delivered as a part

of something or be sold as a product. Business grows based on successes within an efficient supply chain BUT also based on a positive customer experience where customers feel cared for, listened to, and informed throughout the entire process. Speed, transparency, and commitment lead to getting things fast with the highest quality at the best possible price.

While the world has become smaller (figuratively speaking, of course) in terms of communication and pace of commerce, it has also become more visible by way of technology. Customers of all kinds within all industries have come to expect understanding the origins of the things they buy, quality of the material, the process by which they are made, how they are delivered, how they might be returned, and how long they will last. How is this attainable?

With demand for visibility comes the expectation of "customers" surrounding transparency and will require a commitment to communication throughout the supply chain. Visibility is not a new topic, nor is it something that will subside. To succeed in an ever-visible world, transparency is the key word and best described as INSATIABLE.

New commitments from organizations seeking a sustainable business model must be made, ensuring that customers will be kept aware of all phases within the supply chain. These commitments range in complexity and magnitude but include lean processes, enhanced technologies around manufacturing, planning, scheduling, shipping, receiving, barcoding, warehousing, finance, and procurement, to name a few. This all leads to exponentially increased data needing to be captured and analyzed, increasing the need for advanced artificial intelligence relative to data-driven decisions.

According to insights from many experts, investment in technology leading to more visibility within the supply chain will continue to evolve, but customers NEED to KNOW. *SCAN*

Q&A: Zebra Highlights Supply Chain Visibility Trends

SCAN:DCR: How would you describe the demand for supply chain visibility from customers?

Deanna Self, industry strategist for logistics and distribution, Zebra: The desire to achieve increased visibility is high right now. When you think about the risk of disruption, whether it's a pandemic or even a snowstorm, data is key in planning for the right demand, keeping operations running as efficiently as possible, and ensuring customers are satisfied. It can be difficult to do this well and at a cost-effective price when you don't have the right visibility of your goods and assets. As a result, we're seeing more customers investing in location services to capture this visibility and in analytics to bring the story together.

SCAN:DCR: Is this a B2B trend as well as a B2C trend? How do solutions for each differ?

Self: In terms of visibility, the need applies to both B2B and B2C, but the solutions can look very different in each scenario. This is especially true in the warehouse as picking and packing operations vary greatly when you think of shipping in large quantities, such as cases or pallets, to a business versus shipping single units to a consumer. Depending on the type of products being sold and the velocity, there can be several solutions ranging from a variety of different robotics, to using hands free, heads up display glasses or even voice picking. All of these solutions offer great benefits; it's just a matter of choosing the right solution based on the applications it's being used for to ensure the best return on investment.

SCAN:DCR: What is an ideal solution that provides visibility of orders once they leave the distribution center?

Self: Some of the most common questions customers want to be answered are their products' current location, if they can be sent faster, and if there's a more economical way to send them. An ideal solution would help address these questions and provide hardware combined with software to capture this information. Yard management solutions in this area help provide details on when trucks arrive and confirm what products are packed on those trucks. There are also location solutions that are task-oriented and can tell the user what their 'next best move' would be. These solutions

help provide users with the right level of visibility to help them make the most informed decisions for their operations.

SCAN:DCR: What are some of the innovations on the horizon for supply chain visibility solutions?

Self: In the future, the industry can expect to see an increase in the use of technologies such as artificial intelligence (AI) and machine learning, which help take the guesswork out of processes and ensure a higher quality of product is being delivered. Any innovations that support more connected workers will also be popular solutions in the supply chain industry. Although already popular, the demand for solutions like sensor-based technology will continue to grow and provide companies with an inside view of their manufacturing processes. Having this level of visibility can help improve manufacturing processes and future-proof operations against disruptive, unplanned events. Holistically, more businesses will look at their overall supply network and invest in collaborative solutions to improve overall workflow from suppliers down to distributors.

SCAN:DCR: What advice can you offer people ready to invest in a new solution?

Self: Make sure you're addressing the right problem, as perception isn't always reality. Second, don't design a solution around business processes that exist today. Any time you implement a new solution, it's an opportunity to step back and re-evaluate all the processes connected to the solution and figure out how you can eliminate steps for today as well as anticipate future needs. Finally, ensure you think about the employees' training needs who'll be using or supporting this new technology and select solutions that offer ease of use to simplify training requirements. *SCAN*

Is AIDC Education Lacking?

By Steve Halliday
President, High Tech Aid

Back in 2009, I wrote a column for this newsletter about the poor job of education that the industry has done. Back then I cited an example of an environmental clean up company that had no idea about any of the AIDC technologies and what it could do for them. They had no inventory system, no way of tracking their stuff, and no idea that they could be more efficient.

I am not sure if that company adopted any of the suggestions I made to improve their efficiency, but back then it was just one example of what I thought was a problem for our industry. Today, I think that knowledge has improved, but maybe not as much as we would like.

In our current situation with no face-to-face meetings, I can only believe that the education that we need to be doing is suffering. I have attended a couple of "webinars" recently that made me think again about this issue. Several of the webinars were really no more than thinly veiled selling opportunities for the company. While I am disappointed in this, I cannot be too upset with a company using a webinar as a means to sell product. I did attend one that was much more an educational effort, and I really appreciated the chance to listen to some experts explaining more about the issues that face us and the work that is happening to solve these issues.

How do you feel about this? Are we doing all we can do to educate people about our technologies? What is missing? Drop me an email (**steve@ hightechaid.com**) with your thoughts.

In this vein, last month I mentioned that AIM and RAIN and looking at hosting another virtual event in the April/May time frame. The dates have been selected—the week of 3 May, with the main event probably being 5 and 6 May. The event will include member only sessions before and possibly after the main meeting. The event will include presentations, a few exhibits, and member only workgroup meetings. If you have interest in speaking, exhibiting, or sponsoring the event, please reach out to me (**steve@rainrfid.org**) as soon as possible.

Standards meetings are still all scheduled as virtual through May 2021, and I expect this to continue later into the year. ISO and others are reviewing the situation continually and updating monthly on their decisions.

Is your company keeping up with the changes in international standards that relate to AIDC? Are you aware of how the Internet of Things will affect your business? High Tech Aid can provide detailed, customized reporting, monitoring, and meeting attendance for your company needs. Email **steve@hightechaid.com** *for more information.* *SCAN*