

5 PROCESS IMPROVEMENTS WITH PRINT AND APPLY LABELING

COMPLIANCE, TRACKING, THROUGHPUT, BRANDING AND PRODUCTIVITY

» *A White Paper*



Executive Summary

Warehousing, logistics, distribution and manufacturing today are subject to compliance and regulatory requirements related to labeling of their products. These requirements are becoming more common and stricter as companies large and small must comply with these standards in a global economy. Businesses face many challenges when considering how best to approach these varying and evolving standards:

- Labeling can be labor-intensive, slowing throughput of manufacturing and packaging.
- Manual label information generation and placement application are prone to error.
- Products to be labeled can present their own logistical problems. Where a cardboard carton can easily be conveyed and labeled, a package of baked goods presents different handling requirements.
- Changing labels for varying products (changeover) is time consuming.
- Accuracy of barcodes and label content is critical, and the right label must be on the right product in the right place.
- Many standards, whether government mandates or customer-driven compliance initiatives, are very explicit in the format and placement of labels.



Labeling products is not unique to manufacturing industries. Consumer product manufacturers, retailers, produce growers and distributors, warehousing and shipping companies, and food product retailers all have requirements for creating and applying labels to their products. Complexity varies greatly, but each company must conform to legal and industry standards.

There are as many reasons to barcode and label products as there are products. Each business requirement for labeling brings not only challenges but opportunities to implement

effective solutions. Slow throughput, inaccurate barcodes and incorrect placement are just a few of the problems associated with manual and preprinted labeling. Print-and-apply functionality can provide solutions to these and other problems in cost-

effective ways. This paper will discuss five business processes high-speed print-and-apply technology can improve.

1. Compliance

Standards are extremely specific toward accurate placement of labels. If customers have to re-label goods — or worse, if the quality of labels is not acceptable — charge backs can impact profitability or even result in lost sales or lost customers. Using a print-and-apply methodology to perform this function ensures that placement is consistent, preventing charge

backs from customers who cannot accept mislabeled merchandise.

A major example is the Globally Harmonized System (GHS), which specifies labeling requirements for chemical manufacturers and distributors. Under this standard, every chemical manufacturer and distributor worldwide must label every chemical in the same way with the same information in the same place. This standard lets shippers and receivers know what chemicals they are handling. Such knowledge can be critical in the event of accidental spills or other exposure to chemical products that may present hazards to humans or the environment.

The GHS is intended to promote human health and the environment by providing users and shippers of chemicals with consistent information on the hazards of certain chemicals. This international standard improves identification of hazards, minimizing potential for exposure and resulting in safer use, handling and transportation of chemical items.

But to be successful, this standard must be applied appropriately, making compliance and enforcement critical. In the United States, the Occupational Safety & Health Administration (OSHA) has modified the long-standing Hazard Communication Standard (HCS) to adopt the GHS in order to improve international awareness of chemical attribute presence. The



revision to this standard requires compliance by chemical manufacturers, importers and distributors effective June 1, 2015. This also coincides with the EU timetable required for compliance.

Print-and-apply solutions can eliminate inaccurate GHS and barcode labeling and provide positive placement within customer and regulatory requirements. This produces higher levels of customer satisfaction with suppliers. Consistent, high-quality labels can be produced and applied correctly every time within customer-specified and regulatory requirements.

2. Tracking

With print-and-apply, barcodes are always accurate and readable. The barcode print engine, automated application equipment and software used in these functions are technologically advanced and industrial-quality for reliable, consistent performance.



Correct placement makes products easier to track en route within the manufacturing facility, through the transportation cycle, and at the final destination. Print-and-apply solutions ensure consistent positioning of all labels, meeting regulatory and customer requirements.

For example, the Produce Traceability Initiative (PTI) is an industry-specific schema intended to track produce items from “field to fork.” When the standard takes effect in late 2015, every

large container of produce must be labeled with the same data in the same way in the same place.

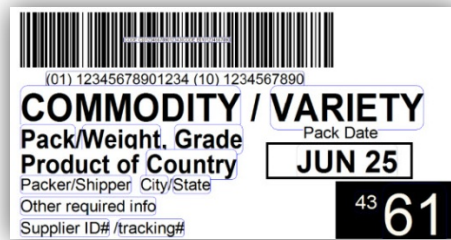
Failure to comply with the standard can result in lost sales, and because it concerns produce, spoilage and lost product. Already, several of the largest retailers have mandated that their produce suppliers be PTI-compliant or have approved exceptions before they will accept their products. Of primary concern for this initiative is consumer safety for fresh produce. If any item is suspected of contamination or other health concerns, it can be quickly and easily traced from the supplier to all destinations, recalled and recovered if necessary.

The PTI standard gives retailers the ability to accurately and effectively rotate inventory, ensuring quality and reducing waste and spoilage. For example, a major US citrus cooperative that has already adopted PTI executed a mock recall. This exercise demonstrated that particular products could easily and quickly be traced back to their origin, and the final destination determined for potential recalls.

Why was this recall a success? The citrus cooperative implemented a print-and-apply labeling solution as part of its enactment of PTI. This meant that it could create labels as needed and amend information when it became relevant. Customized labels created on the spot for each container provides total transparency from point of origin to final delivery.

Print-and-apply labeling also helps distributors settle claim disputes that may arise related to such issues as incorrect size and product grade.

Food and other processing companies that are not covered by PTI have their own requirements. Most consumers would think twice about purchasing meat or poultry at their grocer if the label was not correctly applied or looked suspect in any way. Even worse, if a label is missing or appears to be incorrect, of it buyers cannot identify sell-by dates, that package may be returned to the case where they picked it up. Labeling correctly, uniformly and in the right position is critical.



This presents another excellent opportunity for print-and-apply solutions. These labels are also critical for the supermarket staff for use in rotating stock, making markdowns for items nearing end of life, or for

prompt removal of items that are no longer sellable.

3. Throughput

Print-and-apply barcode labeling is faster and reduces errors and rework. By automating this process, uniform barcodes are generated and placed correctly on each item. Fewer errors result in less downtime in the packaging and distribution processes. Gains in productivity can be significant; consistency and quality are ensured.

Print-and-apply improves efficiency, increasing throughput in the material handling cycle. When workers are able to use more automated

and efficient methods, morale is improved as well.

Automated labeling solutions, a variation of print-and-apply, reduce or eliminate manual processes of label printing and application. This can reduce complaints of repetitive motion hazards, further reducing downtime and lost time from injuries.

Print-and-apply can improve throughput in a couple of ways:

- Changeovers — By utilizing an integrated print-and-apply solution, a single label format is used for numerous labels, simply by entering different data on the computer that drives the label printer. This results in stocking fewer label forms, and greatly reduces time spent in changing label forms.
- Reduced packaging inventory — Through the use of labels generated by print-and-apply solutions, customers can reduce or eliminate use of preprinted labels or preprinted packaging materials such as boxes and other preprinted packaging.

A real-life illustration of the benefits in throughput involves a large meat packing company. This company had multiple people per shift hand-labeling boxes and carrying them to the packing areas for use. This was a labor-intensive operation with plenty of margin for error, combined with significant cost. It also meant some packing lines ran out of labeled boxes periodically due to the ebb and flow of the workload. When they did not have labeled boxes, production was halted on those lines, waiting for labeled boxes.

By adopting print-and-apply functionality for the labeling, the company was able to improve

accuracy while saving labor costs. A single operator can now feed the packages through the printing operation, and then on to the next step in the process.

4. Branding

Automated labeling creates a more professional appearance. Consistency in placement and quality of labels can improve the image of any business large or small.

Improved accuracy means customers are more satisfied and remain loyal to their suppliers. Reduction in disputes and complaints means less time wasted.

Uniformity of label placement and print quality and lay-down are important not only to the retailer receiving the products, but especially to the end consumer, who wants and expects the items they purchase to look perfect. When that's not the case, a sale can be lost.



A battery company recently found out how print-and-apply functionality can benefit its brand. This company had to declare battery rating information on each package of batteries while maintaining its brand colors and images.

With print-and-apply, the company used a decorative preprinted label with a blank area for the variable information and the barcode in

a consistent location. With most of the label preprinted, the print-and-apply function generated the battery rating information in the provided space on the label, leaving the preprinted brand information consistent for all batteries. The result is uniform content on an attractive label placed consistently and accurately on all products, while also ensuring regulatory compliance.

Branding issues are (or should be) important to all companies. Many customers expect or even require their vendors to ship products labeled with specific barcode formats and content, positioned on cartons per their exact specifications. This is often due to automated conveyor systems or other material handling equipment at their receiving points that have scanners positioned to read the expected labels in specific locations.

Failure to recognize the barcode label formats can cause time delays. Customers do not respond well to these situations and often levy penalties in the form of charge backs or even returned goods. Frequent or repeated incidents can result in loss of business for the offending supplier. Significant reduction of such circumstances can be provided through introduction of print-and-apply solutions.

5. Productivity

Print-and-apply and automated labeling solutions minimize human intervention. Through the ability to change label content dynamically from a computer, changeovers of label types are reduced or entirely eliminated. This saves time and improves process throughput.



Ordering an excessive variety of preprinted label stock adds significant operational cost. The same ability to alter label information when necessary can reduce the number of actual label types needed. In addition, not having to reload label stock can reduce errors and wasted labels. Use of the correct label stock can positively impact compliance issues.

Accuracy of printed labels improves since labels can be changed as production needs change, and labels are only printed as needed, not in advance. Changing of label information is quick and easy. Software controls for data printed on labels improves accuracy and ensures quality results of printed labels. This is another case where reduced errors results in reduced cost.

Another productivity gain is lack of employee downtime. Manual labeling and application is highly repetitive in nature, and over time, can result in medical issues from these activities. Lost time and employee morale issues can result from repetitive motion injuries, which can also lead to increased medical costs to the business. Automated print-and-apply functions can reduce or eliminate such injuries, while improving employee satisfaction at the same time. Higher job satisfaction generates more productive workers.

In practice there are significant productivity improvements found through implementation of a print-and-apply label process. At one metal fabricating company, seven employees were hand-labeling metal corner beads used for drywall installations. The labeling process became a major bottleneck in the

manufacturing and delivery processes. Through adoption of a print-and-apply solution, labor time was significantly reduced, allowing a single employee to perform that function. This resulted in labor savings of 42 person-hours daily. With a labor savings of approximately \$250,000/year, the solution has been extremely cost-effective, providing an extremely fast return on the print-and-apply investment with an overall ROI of approximately eight months.

How Do You Get Started?

Print-and-apply methodology can contribute to business compliance with the Produce Traceability Initiative, Globally Harmonized System, and other industry and customer compliance standards for barcode labeling. Benefits can be realized in companies of all sizes, across many industries and activities — including manufacturing, distribution, warehousing and retail sales. The five main points in this paper point out key areas where print-and-apply technology can add value to business processes.

While almost every business can identify areas where print-and-apply functions may benefit their particular business, consulting with experts in barcode labeling and print-and-apply technology can be the best approach. The experience and expertise to help businesses increase their productivity and throughput while also reducing costs will be required. With the implementation of print-and-apply, labeling productivity and accuracy are greatly improved, and compliance is ensured.

Various label application methodologies are custom engineered for each unique product or package to be labeled in your business. Integration with other business software can be provided as part of system implementation. Labeling systems are custom-designed to the specific needs of your business. Print-and-apply

is much more than printing barcode labels. This is a complete business solution that generates a high-quality printed label and positions it where needed consistently and accurately. The result is reliability, productivity and compliance.

About the White Paper

This white paper was prepared by Supply Chain Services with support from Zebra Technologies, global leaders in delivering on-demand thermal barcode printing, barcode scanning, and rugged mobility solutions.

About Supply Chain Services

Supply Chain Services can assist companies to achieve operational excellence with best-in-class barcoding solutions. The result is quick, reliable integration into your business, with fast return on your investment (ROI). With thousands of customers nationwide, we understand operations processes and can provide effective designs which will deliver cost-effective solutions to improve those processes. Supply Chain Services provides your business with end-to-end services from assessment and design, through integration, installation, and post-implementation support.

Sales and technical consultants provide quality and consistency for your print-and-apply functions, improving worker uptime and productivity. As your company needs grow or you expand your use of print-and-apply to additional areas, your business will have the confidence that Supply Chain Services can meet those needs and address them in a timely and cost-effective manner.

About Zebra Technologies

Zebra® provides a complete line of thermal printing solutions, including the widest range of barcode smart label printers and media, label design, connectivity tools and wired and wireless networking products. More than 90 percent of Fortune 500 companies rely on Zebra® labeling solutions.

Resources

<http://www.producetraceability.org/>

<http://www.epa.gov/pesticides/international/globalharmon.htm>

<https://www.osha.gov/dsg/hazcom/ghs.html#1.6>

<http://www.producenews.com/the-produce-news-today-s-headlines/9-news-section/story-cat/10798-is-it-difficult-to-become-pti-compliant>

<http://freshcut.com/index.php/food-safety/entry/pti-progress-retailers-begin-implementation-of-traceability-plan>

<https://www.zebra.com/us/en/products/printers/printer-engines.html>



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