

2014

TOP 5 TRENDS IN ENTERPRISE LABELING

This year's review of the Top 5 Trends in Enterprise Labeling reflects evolving supply chain themes and technological advancements that compel businesses to look at labeling differently in 2014. These trends are based on discussions with leading global companies and the '2013 Enterprise Labeling Survey.' This survey polled respondents from over 250 organizations, across all major industries to ask them about the key labeling drivers that are impacting their business now and in the future.

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REGULATIONS IMPACT LABELING AT AN UNPRECEDENTED RATE



48% OF ALL $1+ BILLION COMPANIES
HAVE REGULATORY AND COMPLIANCE INVOLVED IN LABELING

Labeling regulations are on the rise across all industries. From the medical device industry's UDI (Unique Device Identification), chemical's GHS (Global Harmonized Systems), and electronics' RoHS (Restriction of Hazardous Substances), to pharmaceutical's ePedigree and food and beverage's GS1 Standards, evolving regulations are compelling companies to change their supply chain processes and adopt new labeling standards. It's a matter of complying or facing the consequences, including hefty fines and loss of business.

Here is a look at some of the major regulations and standards that are shaping the face of labeling:

ePedigree – A standard that is impacting the pharmaceutical industry, which initiated in California but has rippled throughout the world, is ePedigree. It calls for the ability to track and serialize unit level saleable packages (e.g. bottle of pills) not just cases or pallets throughout the supply chain. The main mechanism for implementing this traceability is using barcode and RFID technologies.

GHS - The GHS (The Globally Harmonized System of Classification and Labelling of Chemicals) is a system for standardizing and harmonizing the classifica-

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tion and labeling of chemicals. Two important GHS related dates are approaching in 2015. The first is June 1, 2015 where chemical manufacturers, importers, distributors and employers must comply with all modified provisions of the final GHS rule and the second is December 1, 2015 where distributors cannot ship containers labeled by chemical manufacturers or importers unless it is a proper GHS label.

GS1 – The GS1 Systems of Standards applies to multiple industries ranging from Food and Beverage, to Healthcare and Retail. From a Food and Beverage perspective the implementation of Global Trade Identification Numbers (GTIN), Global Location Number (GLN), and GS1 128. Barcodes are implemented to support safety initiatives and to enable quick and efficient reaction to product recalls. The Milestones in the Foodservice GS1 US Standards Initiative can be found at www.gs1us.org.

RoHS – The directive on restricting the use of certain hazardous substances in electrical and electronic equipment (RoHS) was adopted in 2003 by the European Union and took effect on July 1, 2006. To indicate whether electronic products contain hazardous substances, many manufacturers are adding marks to indicate compliance with RoHS standards.

UDI - The Food and Drug Administration (FDA) has released a final rule requiring that most medical devices distributed in the United States carry a unique device identifier, including Class III medical devices, which must meet UDI requirements that also include submission to the GUDID by September 24, 2014.

BLACK MARKET COMPETITION

97%

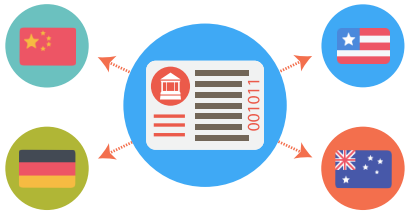
of the more than 10,000 online sites selling prescription medications are operating illegally

*National Association of Boards of Pharmacy (NABP), July 2013

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CENTRALIZATION OF LABELING IS IMPERATIVE



67% OF $1B+ COMPANIES
PLAN TO CENTRALIZE THEIR LABELING INFRASTRUCTURE IN THE FUTURE

Businesses are centralizing barcode labeling across multiple locations and geographies as a means of improving consistency across their supply chains. Centralization is also essential to supporting business continuity in the face of natural disasters and lowering the IT cost of maintaining multiple labeling systems. Moving to a centralized labeling model is strategically important and is much easier with recent innovations in enterprise labeling technology.

There are three important drivers behind the push to centralize:

1) Enabling Labeling Consistency: In order to improve efficiency within the supply chain, organizations are looking to make sure that all of their locations produce labels that adhere to corporate standards from a formatting and data content perspective.
At the same time, Marketing departments are becoming increasingly involved in making sure that corporate brand standards are realized. Centralizing ensures that labels adhere to corporate standards and can be produced throughout an organization's global supply chain.

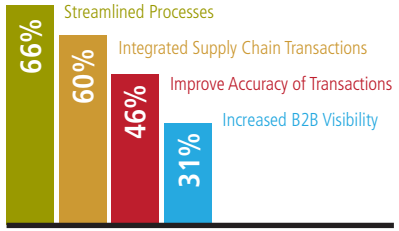
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2) Ensuring Business Continuity: A centralized approach to labeling gives organizations more flexibility to support business continuity in the face of natural disasters and geopolitical unrest. By centralizing labeling, global organizations are empowered to rapidly shift labeling from one facility to another to support continuous operations. At the same time, centralization removes the risk of not being able to replicate labels that may be facility or region specific.

3) Reducing IT Maintenance Costs: IT organizations find it increasingly difficult to manage multiple, different labeling solutions across global operations, especially as they try to reconcile the increasing complexity of labeling. Advances in enterprise labeling solutions have changed the game, enabling IT decision-makers to deploy a single, centralized solution for labeling. By doing so, organizations dramatically reduce IT maintenance costs while allowing the business to meet customer and regulatory labeling requirements.

4 ACTIONS SUPPLY CHAIN LEADERS HAVE TAKEN TO IMPROVE VISIBILITY



*Supply Chain Consortium 2011 Core Benchmarks Report

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CUSTOMERS DEMAND ADHERENCE TO LABELING REQUIREMENTS



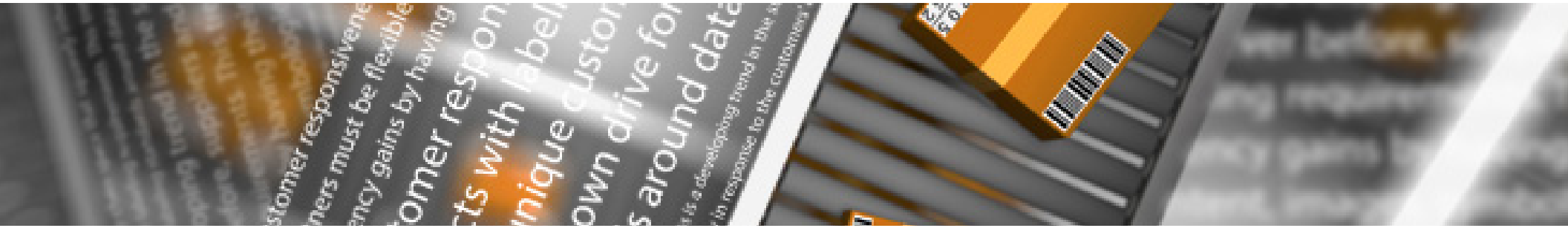
72% OF $1B+ COMPANIES
PRINT LABELS IN 5 OR MORE LANGUAGES

Customer responsiveness is a developing trend in the supply chain space that squarely intersects with labeling. Like never before, suppliers and partners must be flexible enough to meet unique customer labeling requirements. This trend is largely in response to the customers' own drive for efficiency gains by having their providers meet their own labeling standards around data content, images, symbologies, and languages. Advances in enterprise labeling are enabling companies to increase their top line by quickly onboarding new customers and differentiating themselves by being more responsive to the labeling needs of their existing customers.

Customer responsiveness in labeling typically centers on meeting the following expectations:

1) Including Specific Data Content: Customers are asking for unique data attributes to be placed on labels provided by their suppliers. This data may include transactional data like quantities, lot numbers or expiration dates to actual data from the customer's enterprise applications, including product codes or purchase order numbers. Customers demand this data on their supplier labels to streamline their processes and limit relabeling when goods are received.

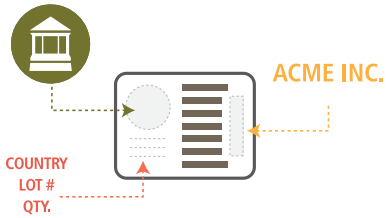
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2) Meeting Formatting Standards: Driven by their desire to control label formatting across multiple suppliers, the increasing importance of brand consistency and the need to simplify the receipt of goods, customers are demanding that their preferred label format is delivered by suppliers. Customers are specifying where data elements must appear, the images that should be used and the specific barcode symbologies required. By having suppliers meet these requirements, customers receive goods that align with their internal labeling standards while enabling support for downstream processing.

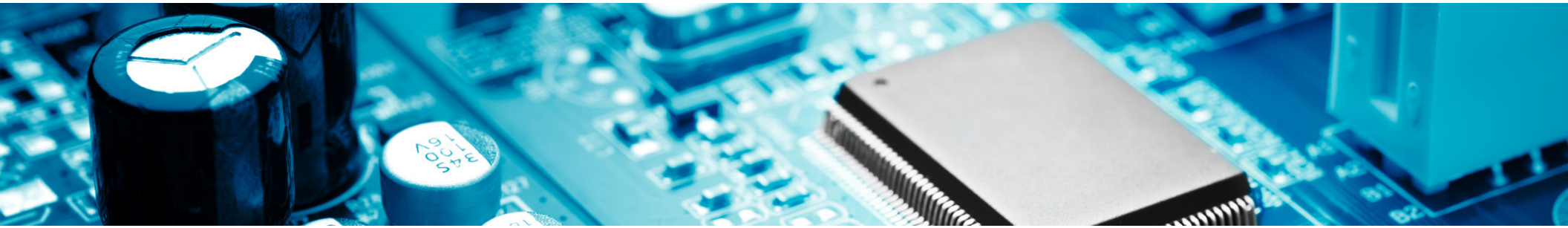
3) Regulations: New standards dictate which languages need to be applied to labels, based on where goods are traveling through the global supply chain. Standards like GHS (Global Harmonized System) in the chemical industry require that hazard and precautionary statements are translated and applied to labels based on a material's destination. Rather than relabeling goods upon receipt, customers are demanding that their supplier and partners include the necessary data in the appropriate language for subsequent local processing.

MEETING FORMATTING STANDARDS

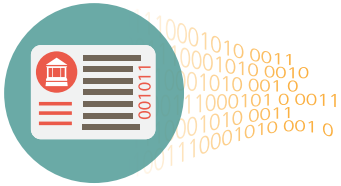


CUSTOMERS ARE SPECIFYING WHERE DATA ELEMENTS MUST APPEAR

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LABELING IS BOTH INTEGRATED AND DATA-DRIVEN



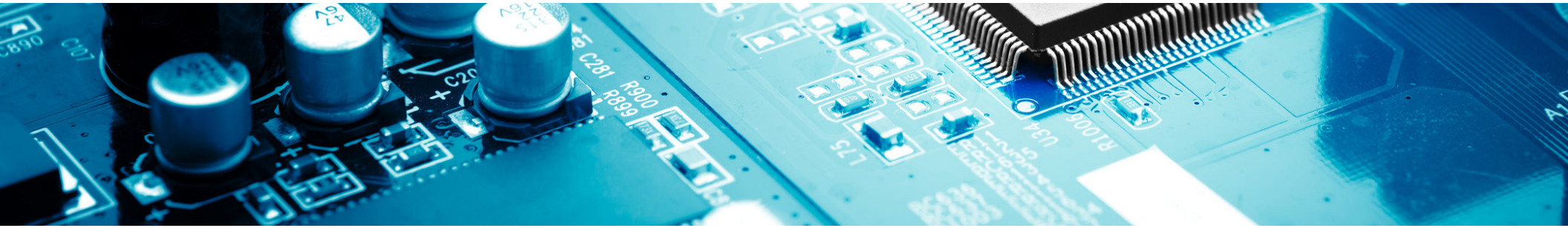
83% OF $1+ BILLION COMPANIES
HAVE TWO OR MORE ERP APPLICATIONS
INTEGRATED TO DRIVE LABELING

Integrating labeling with enterprise applications to improve operational efficiency is not a new concept. But the growing demand and critical need for label accuracy further drives the importance and the adoption of automated, transactional-based labeling. Embracing a 'Data-Driven' approach to labeling is enabling companies to replace thousands of static label templates with a few dynamic templates that dramatically simplify maintenance, enable mass changes, and ensure label accuracy.

There are three import considerations behind the move towards 'Data-Driven' labeling:

1) Integrated Labeling is becoming the norm: Although, the need to generate labels on-demand through scanning and keyboard entry is not going away, integrated labeling is becoming the norm. Most companies have accepted the value of having enterprise systems serve as the source of truth for label data, and are embracing the best practice of initiating labeling from their transactional system. As technology has made integration simpler, more companies are replacing manual labeling processes with automated, integrated labeling.

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2) Big Data Meets Labeling: The amount of information on labels driven by internal systems, regulations, and customer specific requirements has exploded over recent years. As technology advances and the amount of data on a label increases, using fixed content for many values on a label has become impractical. Labels now have their own 'Big Data' challenge, which commonly results in the creation of myriads of templates to handle all the possible data combinations that could appear on a label. A data-driven approach to labeling enables support for all labeling permutations by making fields on a label dynamic and variable. This means that a universal change (like a logo modification) can be made by making a single update that is applied to all labels without necessitating changes to countless templates.

3) Greater Integration with PLM and CMS Systems: The drive to data-driven labeling is closely associated with the increasing demand to integrate PLM (Product Lifecycle Management) and CMS (Content Management Systems) with enterprise labeling solutions. While transactional data continues to be sourced from enterprise systems including ERP, WMS, and SCM applications, PLM and ECM systems have become the definitive source for much of the data that can appear on a label. Best practices in enterprise labeling call for the label to be considered as part of the product and treated as a component of its BOM (Bill of Materials). Organizations are putting label templates under the same product versioning and approval workflow. At the same time, certain key objects that may appear on a label, including product information, warning statements, language variations, and images, are all being stored and controlled in PLM or CMS applications. As the "source of truth" for much of this important product data, a data-driven integration with an enterprise labeling system is paramount. By taking the latest approved content from the PLM or CMS system, the enterprise labeling solution can ensure that label content is accurate and up-to-date without requiring a massive exercise to manage changes across thousands of labels.

20%
OF $1+ BILLION COMPANIES



HAVE 6 OR MORE ERP APPLICATIONS

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SUPPLIERS ASSUME A LARGER ROLE IN LABELING



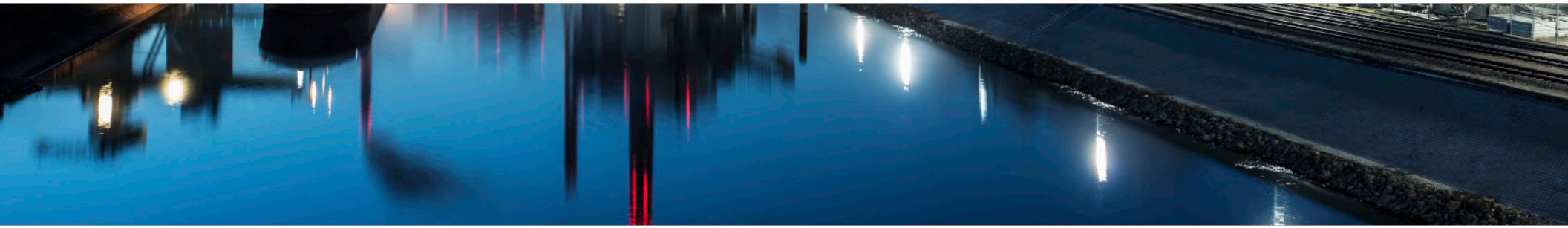
45% OF $1B+ COMPANIES
VIEW ENABLING SUPPLIER AND PARTNER LABELING AS "VERY IMPORTANT."

Expectations of suppliers and partners are changing as supply chains become more global and interconnected. Companies are looking beyond simply meeting standards internally. They are now including and depending upon suppliers and business partners to meet their labeling requirements as well. This practice is being adopted not only as a means of cutting costs, but also to enhance supply chain collaboration and streamline operations throughout. By extending enterprise labeling systems to suppliers and partners, companies can ensure accuracy and immediate deployment of label changes.

Three important considerations behind this trend are:

1) Cost of Relabeling: Companies spend millions of dollars relabeling goods that are received but lack the necessary label information and formatting required downstream in the supply chain. While the relabeling process ensures that the proper barcode symbologies, images, branding, and data content exist to support subsequent processing, it is a very costly process. Ensuring that suppliers adhere to corporate labeling standards means costly relabeling is avoided and compliance is guaranteed.

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2) Successful Supply Chain Collaboration: The trend of increased supply chain collaboration is leaving its mark on labeling as well. Customers, suppliers, and partners are leveraging technology to collaborate on everything from forecasting, to inventory level management and on-time delivery rates. As collaboration efforts show tangible benefits, companies are more prone to evaluate how extending labeling to supply chain partners can provide a similar benefit.

3) Reducing Labeling Errors: The notion of requiring suppliers to adhere to standards is not a new concept. However, the risk of suppliers failing to properly label goods and meet standards can have wide reaching implications that include the cost of returns, downstream processing errors, and issues with brand consistency. Companies have traditionally combatted this challenge with hefty fines and threats of lost business. But now, enterprise labeling technology is helping to guarantee consistency and enable seamless changes to labels by requiring the supplier to use their labeling solution to print labels that are guaranteed to be current and accurate.

CUSTOMER FINES



IMPROPER LABELING CAN TAKE 2-3 TIMES LONGER AND COST MILLIONS IN REVENUES

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MORE RESOURCES ON ENTERPRISE LABELING

To stay up to date on the latest developments in Enterprise Labeling, visit www.enterpriselabeling.com, an exclusive blog, sponsored by Loftware, devoted to labeling issues that affect your business in an ever-changing global economy.

"Loftware is the clear market leader, particularly when it comes to enterprise labeling. There's no question about it. From the research we've done—whether that be end-users in this space or their peers—they're the recognized leader. They deliver rock-solid products, robust customer service & support."

— Mike Liard, Vice President, AutoID & Data Capture, VDC Research

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