



Driving pharmaceutical supply chain resilience

Cloud-based labeling enables compliance, minimizes product recalls, and improves supply chain visibility



Overcoming labeling challenges

In recent years, the pharmaceutical industry has experienced seismic shocks. During the pandemic, an increased demand for products coincided with severe restrictions on movement and operations. Whilst we may feel operations have returned to “business as usual” there are new challenges that pharmaceutical companies must grapple with. Economic headwinds and geopolitical tensions have led to ongoing supply chain disruption, product shortages, and increased cost pressures. In just the last year, [Resilinc](#)¹ found that some European drug manufacturers have seen prices increase tenfold due to rising electricity costs.

It is no surprise that, within this context, business leaders are being forced to assess their current supply chains and find new ways to reduce costs, improve their operations, and become more resilient. Though often overlooked, labeling is central to addressing the prevalent issues facing the pharmaceutical supply chain today. Acting as a product’s passport, the label effectively ensures the seamless and secure passage of a product through the supply chain. It facilitates greater visibility, enables regulatory compliance, and reduces the likelihood of costly recalls.

And yet, in continuing to use legacy and outdated labeling solutions, pharmaceutical companies waste valuable time and resources. This often results in large-scale product recalls with high associated costs and detrimental media coverage that may harm brand reputation. As a matter of fact, [Gartner](#)²



research indicates that non-declared allergens, mislabeling, and inaccurate packaging graphics continue to be a leading cause of product delays and recalls. To further this, compliance violations in the pharmaceutical industry have exceeded \$50 billion since 2000, while the average cost of non-compliance has grown by 43% over the past nine years. To gain a competitive advantage and stay ahead of the curve, pharmaceutical companies must review how they go about labeling their products.

Drawing insights from almost 500 professionals across various industries in 55 countries, Loftware's recent '[2023 Top 5 Trends in Labeling and Packaging Artwork](#)³' report sheds light on how forward-thinking companies are improving their labeling practices and enhancing the efficiency of their operations. The report highlights key trends that can enhance pharmaceutical labeling practices.

Cloud becomes a preferred deployment method

The first trend noted by Loftware's survey is the rising importance of cloud-based labeling solutions. According to 71% of surveyed professionals, the cloud or hybrid will be the preferred deployment method for labeling within the next three years. With its agility, quick deployment time, and low upfront cost, the cloud has become increasingly attractive across industries and functions over the last few years.

A core motivation to adopt the cloud are the cost-saving benefits it brings. In the past, on-premise enterprise software systems were too expensive for small to mid-sized organizations to afford. Cloud technology has eliminated these obstacles and provided even small to medium sized companies access to a world-class enterprise system, regardless of limited resources. By adopting cloud technology, pharmaceutical manufacturers can enjoy financial predictability by eliminating the need for extensive upfront investments, reduce the demand for internal IT infrastructure, and lessen the workload for IT teams, which translates to significant cost savings. For the pharmaceutical industry, which is currently experiencing inflationary pressures, cost crunches, and widespread component shortages, these cost-saving benefits could prove to be critical.



There are several other benefits of shifting labeling operations to the cloud: 44% of survey participants noted ease of deployment as a key benefit and 42% cited reduced maintenance. Those within the pharmaceutical industry will no doubt appreciate how the cloud enables organizations to quickly manage corrections, eliminate bottlenecks, and speed up time to market while also ensuring regulatory compliance.

Traceability assumes greater importance

Seventy percent of Loftware's respondents pointed to global traceability as a priority for their business. For the pharmaceutical industry, traceability is of vital importance – when managed well, the label works alongside stringent regulation to identify and remove counterfeit drugs and ensure customer safety. In this sense, the label can improve quality control and reduce risk.

Improved quality control

According to Loftware, 49% of business leaders believe an inability to effectively manage recalls is the biggest risk of not being able to track products through the supply chain. For pharmaceutical companies, the stakes are high – mislabeling has a direct impact on consumer safety, and product recalls need to be managed quickly to avoid harm. Fortunately, advances in technology now mean we can trace products through the supply chain with greater ease. The label carries important product information, including serial numbers, certificates of origin, and batch information, throughout the supply chain and thereby establishes a vital link between the digital and physical aspects of the product. In essence, the label enables a complete audit trail from its raw ingredients to its manufacturing and distribution to the end-user and is therefore a critical component when it comes to product traceability. By improving their label management, pharmaceutical companies can improve quality control, better mitigate risk, and avoid unnecessary recalls resulting from label and print errors.

Minimized risk of counterfeit drugs

The risks posed to customer safety and potential damage to brands from falsified goods and counterfeit products entering the market are particularly significant for the pharmaceutical industry. With the global anti-counterfeiting packaging market projected to grow by [45% between 2018 and 2026](#)⁴,



brands need to clearly authenticate their products. By allowing manufacturers to trace an individual item back to its point of origin, the label facilitates greater supply chain visibility, meaning companies can confidently confirm the authenticity of their product by pointing to the digital trail generated by its label. Real-time monitoring of the product's location and status reduces the potential for human error in tracking and tracing, particularly in critical areas like pharmaceuticals. This level of automation provides greater visibility and control over the supply chain, preventing counterfeiting and diversion of products. By capturing data at every stage of the product's journey from production to the end-user, manufacturers can ensure authenticity, prevent diversion, and avoid grey market sales.

Supporting evolving regulation

According to Loftware's global trends report, 84% of respondents found today's regulatory demands to be more complex than ever before. Regulations within the pharmaceutical manufacturing sector are particularly complex and can be burdensome to manufacturers. Certainly, the increased costs associated with compliance, combined with medical device shortages across Europe, have led to price increases for medical devices. The prospect of the EU's MDR, which aims to improve the safety and performance of medical devices while ensuring greater transparency and accountability, presents a further challenge and costs for manufacturers.

By deploying a centralized enterprise labeling solution, pharmaceutical companies can easily implement global label changes across all templates, improving accuracy and reducing the risk of errors, discrepancies, or non-compliance. They can thereby avoid the weighty penalties levied for non-compliance and the cost of product recalls. It becomes far easier to track changes, ensuring labels are up to date with evolving regulations and can be amended in a timely and cost-efficient way.

Sustainable sourcing for a better tomorrow

The recent IPCC report, produced by leading scientists and experts around the world, was a wakeup call, underscoring the urgent need to reduce greenhouse gas emissions and limit the impacts of global warming. The report called on governments, businesses, and individuals alike to take immediate and ambitious action to transition to a low-carbon economy. As corporates begin to recognize the urgency with which they need to act, sustainability has risen to the top of corporate agendas. It is therefore no surprise that 76% of companies surveyed by Loftware said they already have a strategy in place to meet their environmental targets. With climate concerns weighing heavily on



the minds of both manufacturers and consumers, pharmaceutical business leaders need to “green” their operations. Again, the label, though often overlooked, can help companies achieve these sustainability objectives.

First, we must not underestimate the role of modern labeling solutions in ensuring products are produced, shipped, and delivered to the correct location. The label can help to reduce a company’s global footprint by allowing for the better management of inventory and the minimizing of loss and waste due to labeling errors.

As previously discussed, digital traceability and intelligent supply chains allow pharmaceutical companies to manage and track the entire lifecycle of a product. From a sustainability perspective, this is important as it means pharmaceutical manufacturers can authenticate a product at every stage, ensuring the sourcing of raw materials is responsible, before monitoring its flow both upstream and downstream.

The future lies in the cloud

The pharmaceutical industry has been facing a myriad of challenges in recent years. With these challenges set to continue, it is imperative for pharmaceutical companies to consider the adoption of a centralized, cloud-based labeling solution. Such a solution is easy to deploy, facilitates compliance with regulatory requirements, improves visibility throughout the supply chain, and reduces the risk of errors and recalls. With the cloud, companies can easily manage and update labels, collaborate with stakeholders, and access real-time data from anywhere. By leveraging the power of cloud technology, pharmaceutical companies can enhance their operational efficiency, mitigate risks, and ensure the seamless passage of their products through the supply chain. It is an essential consideration for any pharmaceutical company looking to optimize its labeling practices while improving the bottom line.

Loftware offers all-in-one centralized cloud-based labeling solutions that redefine how enterprises create, manage, and print labels. Our solutions enable pharmaceutical companies to seamlessly implement, deploy, maintain, and scale labeling operations across the entire global network while enabling customers to meet rigorous regulatory requirements. Available in the cloud or on-premise, Loftware provides a comprehensive digital platform which integrates with business applications to offer unrivaled performance, and ensures accuracy, consistency, and compliance.



References

^[1] [RESILINC, SPECIAL SUPPLY CHAIN REPORT, THE LIFE SCIENCES INDUSTRY, NOVEMBER 18 2022](#)

^[2] [GARTNER RESEARCH, UNDERSTANDING THE LABELING AND ARTWORK MANAGEMENT SOFTWARE MARKET, APRIL 6 2023](#)

^[3] [LOFTWARE 2023 TOP 5 TRENDS IN LABELING AND PACKAGING ARTWORK, JANUARY 2023](#)

^[4] [FORTUNE BUSINESS INSIGHTS, ANTI-COUNTERFEITING PACKAGING MARKET FORECAST, 2019-2026](#)



The world's largest cloud-based
Enterprise Labeling and Artwork Management provider



White Paper

Loftware is the world's largest cloud-based Enterprise Labeling and Artwork Management provider, offering an end-to-end labeling solution platform for companies of all sizes. Maintaining a global presence with offices in the US, UK, Germany, Slovenia, China, and Singapore, Loftware boasts over 35 years of expertise in solving labeling challenges. We help companies improve accuracy, traceability, and compliance while improving the quality, speed, and efficiency of their labeling. As the leading global provider of Enterprise Labeling and Artwork Management, along with Clinical Trials Labeling and Content Management, Loftware enables supply chain agility, supports evolving regulations, and optimizes business operations for a wide range of industries. These include automotive, chemicals, consumer products, electronics, food & beverage, manufacturing, medical device, pharmaceuticals, retail, and apparel.