



Advancing the automation journey for marking and coding

Digital all-in-one platform provides enhanced productivity
and new operational efficiencies

 **Loftware™**

White Paper



Today's global supply chain requires innovation and agility

Manufacturers need to be agile to navigate today's dynamic market, which is being shaped by supply chain challenges, ever-evolving regulatory updates, and increasing consumer demands.

To keep pace with these trends, global manufacturers are recognizing the importance of moving away from their disparate marking, coding, and labeling applications and adopting a centralized and cloud-based print solution. An all-in-one digital platform enables them to drive all their print devices from one software solution, including marking and coding production devices, supply chain label printers, mobile printers, and document printers. By interfacing with a range of printing technologies, this automated and streamlined approach provides manufacturers with greater agility and the ability to scale. In addition, manufacturers do not have to spend time swapping out their production lines or replicating data - saving both time and resources.



Marking and coding emerges as a crucial technology

Given today's volatile markets, companies of all sizes are looking to expand their digital transformation programs to optimize costs and gain a competitive advantage as they look ahead to 2024 and beyond. As part of this, manufacturers are seeking an all-in-one digital ecosystem that can bring products to market quickly, efficiently, and more competitively. Within this context, marking and coding is emerging as a crucial technology for modern businesses.


Marking and coding devices are used at every level of product packaging to print batch codes, batch numbers, QR codes, MRP, manufacturing dates, expiry dates, and more. However, most of the solutions deployed today are siloed with operators often manually entering codes. Product changeovers are typically manual changeovers, with a high dependence on manual input, and are therefore prone to errors.

According to [VDC research](#)¹, the three leading contributors to marking and coding errors are: incorrect coding and marking data, a lack of clarity on coding and marking-related processes, and inconsistent processes across distributed locations. These lead to a loss of brand equity and consumer confidence – amounting to a loss of business – with organizations incurring expenses due to waste generated from rework and scrap, production line downtimes due to wrongly coded products, and regulatory penalties and fines for non-compliance.

Furthermore, as noted in Loftware's annual '[Top 5 Trends' report](#)², which surveyed almost 500 professionals across industries in 55 countries, 78% of business leaders believe that requirements for marking and coding technology will increase over the next three years, while 96% see an advantage of using a single platform to support thermal transfer as well as direct marking and coding.

The key benefits of marking and coding

Marking and coding devices are deployed across a range of sectors, including food and beverage, pharmaceutical, and consumer packaged goods. Ultimately, the purpose of marking and coding is to keep everyone in the supply chain informed about a product by providing details on its source, legitimacy, and freshness. There are several important benefits that come with this.




First, marking and coding helps manufacturers meet traceability requirements – a capability that is crucial should products need to be recalled and during times of supply chain disruption. When a complaint arises over an individual product, manufacturers can quickly retrace the steps of the product to identify shipments and lots that may also need to be recalled. As companies face growing pressure from governments, consumers, and stakeholders to share accurate information about the origin of materials and ingredients in products, the traceability afforded by marking and coding has become even more of a necessity. Traceability also helps businesses to meet their sustainability targets. When you can trace products both upstream and downstream, you're able to better manage the end-to-end product lifecycle and ensure sustainable sourcing.

Secondly, marking and coding can be used to prove the authenticity of a product, which is particularly relevant across the medical device, pharmaceutical, and luxury goods sectors. Retailers, customers, and anybody else in the supply chain can easily trace the product back to its place of manufacture to ensure that it is authentic and safe for use, sale, or transportation thanks to marking and coding. Combatting counterfeit items is critical for brands as they seek to prove the authenticity of their products. In 2021, Amazon alone identified, seized, and appropriately disposed of [over 3 million counterfeit products³](#) targeted for sale to consumers. Counterfeits are a risk to e-commerce players, manufacturers, and consumers alike, and the global anti-counterfeiting packaging market is expected to [grow by 45% between 2018 and 2026⁴](#).

Thirdly, and perhaps most recognizably, marking and coding provides information on the freshness and expiration date of a product. This is clear in the food and beverage sector, where “best before” and “use by” dates are used by customers to know whether a product is safe to consume. In this capacity, marking and coding assists consumers in getting the most out of their shopping basket and aids with decreasing food waste

Embrace technology to future-proof your business

The Fourth Industrial Revolution, otherwise known as Industry 4.0, is having a significant impact on companies and their manufacturing operations. Manufacturers are starting to integrate new technologies, including the Internet of Things (IoT), cloud computing and analytics, and artificial intelligence and machine learning into their production facilities and throughout their operations.



When it comes to printing on the production line, far too many businesses still rely on closed-loop systems that have disconnected, purpose-built software for different devices, resulting in manual and error-prone marking and coding operations. Loftware's research revealed the scale of this issue, as 69% of businesses reported using multiple vendors for marking and coding at their facilities, while 41% said that label errors driven by manual processes are one of the biggest challenges in their current marking and coding environment.

However, the marking, coding, and labeling software space is undergoing an exciting transformation. Manually operated, disconnected printers are becoming connected, integrated, and controlled by intelligent systems as part of a drive toward smart factory transformations. Now companies can utilize a standardized and centralized platform for all their labeling requirements. These advanced solutions offer integration capabilities to manage output for all their devices from thermal and color laser printing to marking and coding devices, visual inspection systems, serialization solutions, and more. By adopting such a solution, businesses will gain printing flexibility, accuracy, and efficiency to improve their bottom line and support global growth.

Loftware offers all-in-one centralized cloud-based labeling solutions that redefine how enterprises create, manage, and print codes, dates, serial numbers, and labels across the supply chain. By deploying Loftware's solutions, businesses of all sizes can seamlessly implement, deploy, maintain, and easily scale all their labeling, marking, and coding operations across multiple plants from a unified platform. They also can eliminate the costly and time-consuming issues brought on by manual intervention and mislabeling on the production floor while simultaneously benefitting from global oversight capabilities and enabling local autonomy.

References

[1] [RICHA GUPTA, VDC ANALYST PERSPECTIVE: CODING & MARKING AUTOMATION GAINING MOMENTUM, LOFTWARE BLOG, JULY 13 2022](#)

[2] [LOFTWARE 2024 TOP 5 TRENDS IN LABELING AND PACKAGING ARTWORK, JANUARY 2023](#)

[3] [AMAZON BRAND PROTECTION REPORT](#)

[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

No matter what the challenge – digital transformation, time to market, or brand authenticity – Loftware can help you make your mark. We understand how global supply chains work and know that each item you produce, and ship is an expression of your company's brand. We can help you improve accuracy, traceability, and compliance while improving the quality, speed, and efficiency of your labeling. Our end-to-end cloud-based labeling platform helps businesses of all sizes manage labeling across their operations and supply chain and our solutions are used to print over 51 billion labels every year. Loftware also fosters supply chain agility and supports evolving customer and regulatory requirements, helping companies save over \$200 million in fines annually. And with over 500 industry experts and 1,000 global partners, Loftware maintains a global presence with offices in the US, UK, Germany, Slovenia, China, and Singapore making us a trusted partner for companies in automotive, chemicals, clinical trials, consumer products, electronics, food & beverage, manufacturing, medical device, pharmaceuticals, retail/apparel and more.