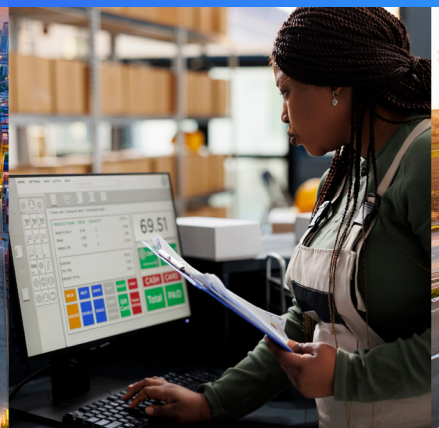
Loftware™

REPORT

TOP 5 TRENDS 2026



Building resilient and connected supply chains for a volatile world

Volatility has become the defining feature of today's global supply chains. Geopolitical shifts, regulatory pressures, and rapidly evolving customer expectations are testing the resilience of even the most sophisticated supply chain networks. Yet amid this turbulence, technology is creating new possibilities, ushering in smarter, more connected, and more adaptive supply chains that can turn disruption into an advantage.

Success in this complex landscape increasingly depends on the ability to establish connected trading networks, respond quickly to geopolitical and regulatory changes, leverage smart packaging to drive efficiency and engagement, ensure product authenticity through traceability, and deploy automation to strengthen operational resilience. Yet, according to Gartner, only 29% of companies are considered prepared for future supply chain challenges, underscoring the urgent need for strategies that enhance agility, connectivity, and performance. By building truly connected networks, trading partners can share insights instantly, anticipate disruptions before they escalate, ensure compliance, and create the foundation for sustainable growth in an unpredictable environment.

This report is based on our survey of over 400 professionals from organizations across all major industries and 55 countries. It provides actionable insights on:

Connected networks: Breaking down silos, securely sharing data and standards, and enabling faster, more effective collaboration

Geopolitical impacts: How tariffs and other global shifts are reshaping supply chains and labeling processes.

Smart packaging: Leveraging packaging as a strategic tool for consumer engagement, supply chain intelligence, and sustainability.

Authenticity and traceability: Using cloud-based platforms to ensure compliance, transparency, and brand protection.

Autonomous supply chains: Harnessing AI-driven insights and SaaS-based labeling platforms to enhance resilience and continuity.

TREND 1

Connected networks enable agile collaboration

As global supply chains grow more intricate and interconnected, companies are facing unprecedented pressure to respond rapidly to disruptions, shifting customer requirements, and evolving regulations. These challenges are compounded by the complexity of upstream supplier networks, where issues at early stages can ripple downstream. The ability to share data, communicate efficiently, and coordinate actions across trading partner networks is now a business necessity.

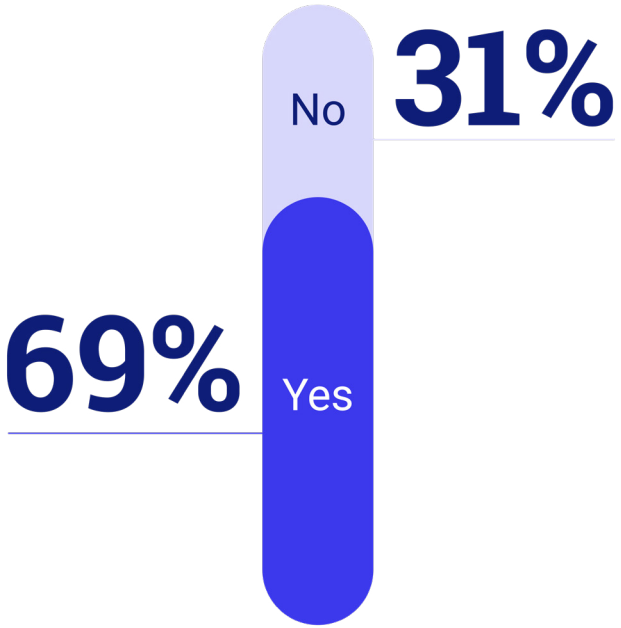
Connected networks — where suppliers, distributors, customers, and internal teams have shared access to label data, standards, and product information — are enabling organizations to collaborate more effectively and react with agility. This includes standardizing processes and data across internal teams, and ensuring consistency, accuracy, and efficiency throughout the enterprise. These networks help companies improve compliance, reduce errors, eliminate redundancies, minimize re-labeling, and speed the flow of goods to market, while also fostering stronger and more resilient relationships across the supply chain.

Accelerating problem-solving across trading partner networks

In modern supply chains, challenges can arise at any point — from production delays upstream to compliance issues downstream. These challenges are particularly pronounced in upstream supplier networks, where delays or errors can cascade downstream. When trading partners operate in silos, these challenges often result in costly errors, fines, bottlenecks in production, and delayed shipments. A connected network addresses these challenges by providing all partners with access to consistent, standardized label data and rules. Manufacturers and OEMs can quickly adjust production processes, distributors can reconcile discrepancies without manual intervention, and retailers receive products that meet their specifications.

By enabling real-time visibility and collaboration, problem-solving is accelerated, operational friction is reduced, and the integrity of supply chains is maintained. The result is not just faster issue resolution, but also a more reliable flow of goods that enhances overall supply chain performance and elasticity.

Q. Do you believe sharing label data and standards with trading partners would help your company manage compliance and respond faster to supply chain disruptions?



Driving long-term supplier performance

Collaboration through connected networks enables suppliers to deliver more accurate, consistent, and timely product information, helping organizations maintain high operational standards across the supply chain. By aligning on data, labeling, and process requirements, suppliers can improve efficiency, reduce errors, and accelerate time-to-market. At the same time, internal alignment ensures that these outputs integrate smoothly across company operations, supporting consistent performance throughout the enterprise.

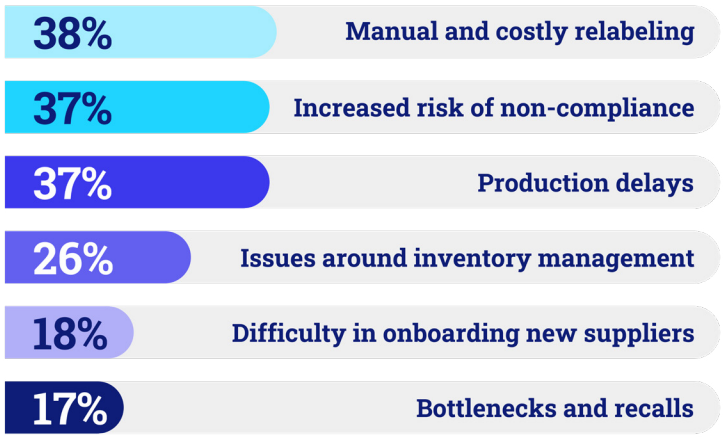
Over time, this drives higher quality, predictable outcomes, and stronger overall performance across the network. Encouraging standardization, clear expectations, and transparent reporting helps cultivate a culture of accountability, ensuring that both upstream and downstream partners consistently meet evolving business demands.

Fostering resilient supplier ecosystems

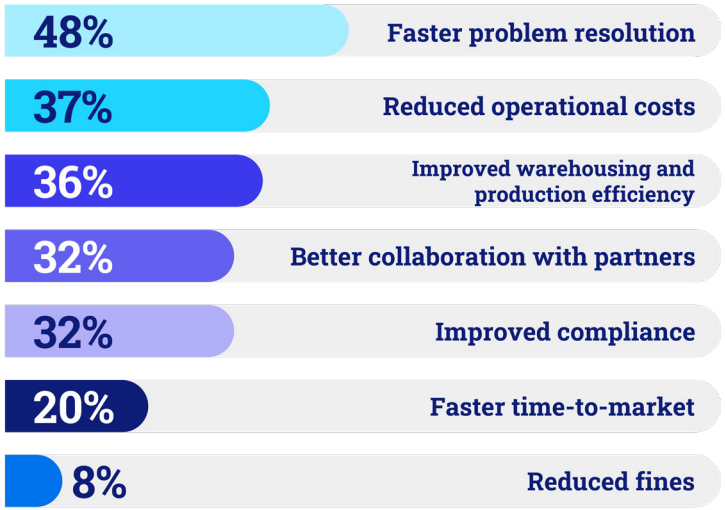
A collaborative and connected ecosystem breaks down traditional barriers between trading partners and encourages trust, communication, and mutual support. Effective onboarding of new suppliers ensures they are aligned with processes, compliance standards, and data requirements from the start, strengthening the foundation of the ecosystem. In resilient networks, companies and suppliers work together to anticipate potential disruptions, identify risks, and co-develop solutions.

This collective approach reduces vulnerability, ensures continuity of operations during unforeseen events, and strengthens long-term business relationships. By investing in collaborative networks, companies create a more agile supply chain that can adapt to changing market conditions, regulatory pressures, and operational challenges, while building trust that benefits every partner in the ecosystem.

Q. What primary challenges do you face in regard to working with partners and suppliers upstream?



Q. Which benefits have you seen from connected networks in your supply chain?



TREND 2

Geopolitical shifts demand adaptive compliance

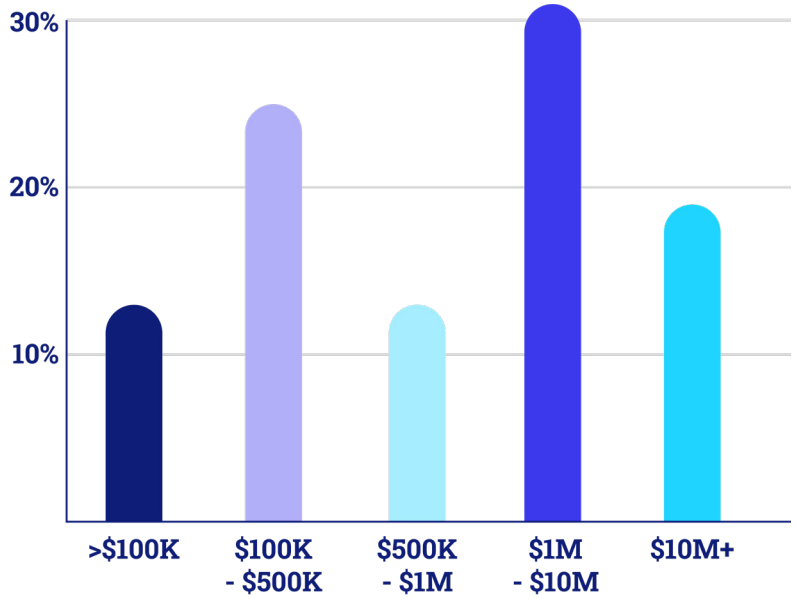
Global trade is being reshaped by constantly changing geopolitical dynamics. Tariffs, trade wars, sanctions, and shifting regulatory landscapes are squeezing margins, disrupting supply chains, and forcing companies to rethink how they manage costs, efficiency, and compliance. In this environment, product identification — labels, barcodes, and data — has emerged as a critical lever for maintaining operational efficiency, ensuring compliance, and managing broader trade and supply chain complexities. Businesses that can adapt quickly to geopolitical changes gain a decisive advantage, while those relying on rigid and manual processes risk delays, fines, and increased costs.

Efficiency squeezed by tariffs

Rising tariffs and import/export restrictions are creating financial pressures for companies across all sectors. Businesses must find ways to maintain productivity while minimizing the impact of margin compression. Traditional and manual labeling processes are often slow, error-prone, and ill-suited for rapid adjustments in response to new trade regulations.

By digitizing and streamlining product identification processes, organizations can ensure that products are correctly labeled for customs, regulatory audits, and partner requirements, and can rapidly update existing labels to reflect new tariffs, trade rules, or customer demands. This reduces the risk of fines, prevents costly delays at borders, and keeps goods moving efficiently, even as geopolitical factors change.

Q. What level of financial impact do you anticipate for your $1 billion+ company from tariffs or trade restrictions in the next 12 months?

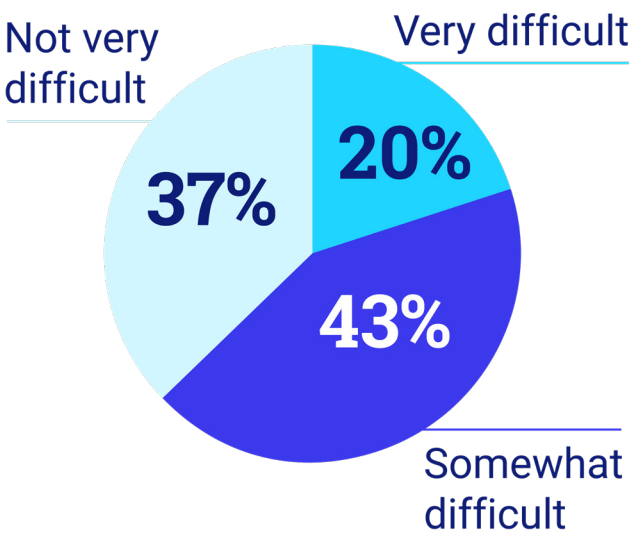


Agile supply chains built for tariff volatility

The ability to adapt sourcing and supplier strategies in response to shifting tariffs is essential. Companies increasingly rely on centralized labeling systems and connected supplier networks to ensure that any transition, whether reshoring production, nearshoring to alternative regions, or implementing multi-sourcing strategies, maintains strict alignment with regulatory standards.

Centralized systems play a critical role in supplier compliance by ensuring that product data, labeling requirements, and certification documentation are consistent and up to date across all tiers of the supply chain. This visibility reduces the risk of non-compliance during supplier shifts and helps businesses verify that new or alternative suppliers adhere to market-specific regulations. Ultimately, ensuring that supplier relationships are both flexible and compliant allows businesses to sustain operational continuity, reduce the costs associated with disruptions or rework, and uphold consistent labeling standards globally.

Q. How difficult is it for your $1 billion+ company to adapt labeling and product data processes to meet new tariffs, trade restrictions, or regulatory changes?



Data-driven decision making

In volatile trade environments, access to real-time product and labeling data is crucial for making informed decisions. Connected networks and cloud labeling solutions provide visibility into supplier operations, product flows, and compliance status, enabling companies to anticipate bottlenecks, optimize sourcing, and manage costs more effectively.

Actionable insights derived from accurate and up-to-date data allow executives to plan for tariff changes, evaluate alternative sourcing options, and respond proactively to regulatory shifts. This data-driven approach not only reduces risk but also supports resilience, ensuring that the supply chain remains flexible and responsive in the face of geopolitical uncertainty.

TREND 3

Smart packaging drives engagement and sustainability

Consumers today expect more than a product; they expect an experience. At the same time, brands are under increasing pressure to meet sustainability goals and reduce operational inefficiencies. Smart and connected packaging, which combines cloud-enabled technologies with labeling and product identification, is transforming how companies interact with consumers while also improving supply chain performance.

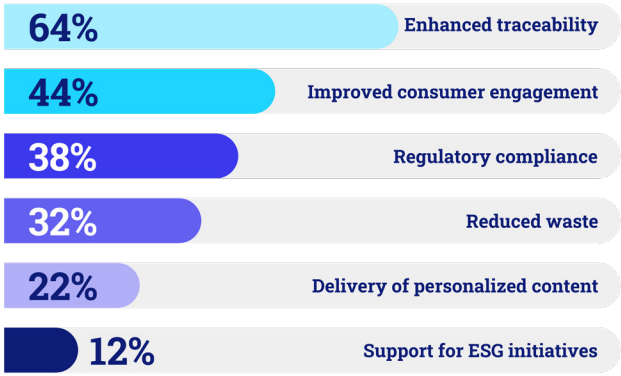
By integrating dynamic QR codes, real-time label data, and labeling solutions that enable traceability, organizations can deliver personalized experiences, enhance operational efficiency, and drive meaningful insights that support sustainability and business growth.

Dynamic QR codes power personalized experiences

Dynamic QR codes allow brands to create interactive and tailored experiences for consumers at the point of engagement. Unlike static labels, these codes can be updated in real time and personalized based on factors such as device type, location, language, or time. For example, a consumer scanning a product in one country can receive content in their native language, while another scanning the same product elsewhere sees a region-specific promotion or instructions.

This level of personalization fosters deeper consumer engagement, strengthens brand loyalty, and opens opportunities for marketing, loyalty programs, and education. By leveraging smart packaging technologies, companies can turn a simple product label into a dynamic touchpoint that drives interaction, feedback, and lasting consumer relationships.

Q. What do you believe are the primary benefits of implementing connected packaging?

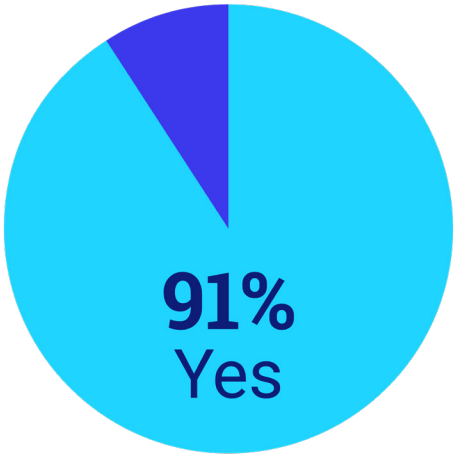


Real-time label data reduces waste and enhances efficiency

Traditional and outdated labeling processes often result in inefficiencies and waste due to errors, regulatory changes, or product updates. Smart packaging solves these challenges by enabling real-time updates to label content across the supply chain. Companies can correct errors, update ingredient lists, or reflect regulatory changes instantly, without the need for costly and time-consuming reprints.

This capability not only improves operational workflows but also supports sustainability initiatives by reducing paper and material waste. By supporting reuse and minimizing resource consumption, smart packaging contributes to the circular economy, helping companies close material loops and design more sustainable packaging processes. In addition, real-time label updates help prevent mislabeling that could lead to product recalls, non-compliance, or even health hazards — ensuring that consumers receive accurate information while companies maintain efficiency, accuracy, and cost control.

Q. Do you believe real-time label data helps to reduce waste, errors, or improve operational efficiency?



Traceability provides actionable insights

Traceability is a critical component of connected packaging, enabling end-to-end visibility across the supply chain. GS1 Digital Link, an evolution of the traditional barcode, connects physical products to digital information through a single, scannable code. This shift is part of GS1's global "Sunrise 2027" initiative, which requires all retailers and brands to be capable of scanning 2D barcodes at the point of sale by 2027. With GS1 Digital Link-compliant labeling, products can be tracked from production to the point of sale, providing actionable data for inventory management, demand planning, and recall response. By capturing detailed information on product movement, expiration, and usage patterns, organizations gain insights that inform strategic decisions and operational improvements.

Traceable packaging also reinforces consumer trust, demonstrating transparency in sourcing, production, and sustainability practices. For brands committed to reducing environmental impact, the ability to monitor product flows and minimize waste adds significant value both operationally and reputationally.

TREND 4

Authenticity and traceability are non-negotiable

Ensuring product authenticity and traceability is essential for maintaining trust, compliance, and operational integrity. Consumers, regulators, and trading partners increasingly demand verifiable information about products - from ingredients and sourcing to manufacturing and distribution. This also helps combat counterfeiting by verifying that products are genuine. Any gaps in transparency can lead to regulatory fines, reputational damage, and even lost business.

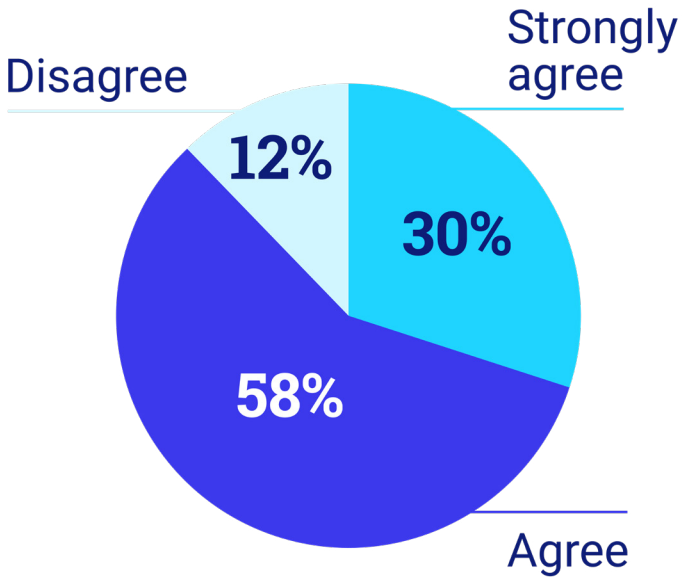
Cloud-based labeling solutions, through the centralization of important data, allow companies to provide accurate, consistent, and trustworthy product information while strengthening operational efficiency and safeguarding brand integrity across global networks.

Regulatory compliance and product integrity

Regulatory requirements for labeling, safety, and product information are becoming more stringent and vary across regions, making consistency and accuracy critical. Cloud-based labeling platforms enable companies to maintain a single source of truth for product information across all facilities, suppliers, and markets.

These platforms reduce errors from manual processes, simplify audits, and ensure labels, certifications, and ingredient information are accurate and up to date. By standardizing product data and enabling secure access for all stakeholders, organizations can minimize the risk of fines, protect brand reputation, and guarantee that consumers receive reliable and authentic product information every time.

Q. To what extent do you agree that cloud-based labeling solutions help ensure accurate product tracking, traceability, and authenticity across your supply chain?



End-to-end supply chain visibility

Traceability extends beyond regulatory compliance and into the operational and ethical performance of the supply chain too. Digital Product Passports, for example, provide visibility from raw materials through to production, distribution, and final sale, allowing companies to monitor sourcing practices, verify ethical compliance, and maintain audit readiness.

This end-to-end insight ensures that products are authentic at every stage of the supply chain, helps manage recalls quickly, and allows organizations to respond proactively to disruptions or compliance requirements. By making every movement of a product traceable, companies can maintain operational control, enhance supply chain efficiency, and demonstrate accountability to important stakeholders.

Proactive risk management

Monitoring supplier and production processes continuously is critical for detecting inconsistencies, preventing counterfeiting, and ensuring overall product integrity. Cloud-enabled labeling platforms allow companies to spot anomalies, enable real time verification, and act before minor issues escalate into major operational or reputational problems.

Proactive risk management also strengthens relationships with trading partners, providing confidence that standards are consistently met and supporting long-term supply chain resilience. By embedding monitoring and verification tools into daily operations, organizations can maintain control, reduce errors, and protect the integrity of every product they deliver.

Q. Which benefits have you seen from improving authenticity and traceability?

Q. Is end-to-end supply chain visibility helping your company manage risk, prevent counterfeiting, or maintain brand integrity?

TREND 5

Autonomous supply chains transform operations

Global supply chains are increasingly dependent on real-time data and intelligent automation to maintain continuity across suppliers, production facilities, and distribution networks. SaaS-based labeling platforms, combined with AI-driven insights and connected systems, form the backbone of autonomous supply chains, enabling organizations to detect disruptions early, automate responses, and ensure consistent and compliant product information across all trading partners.

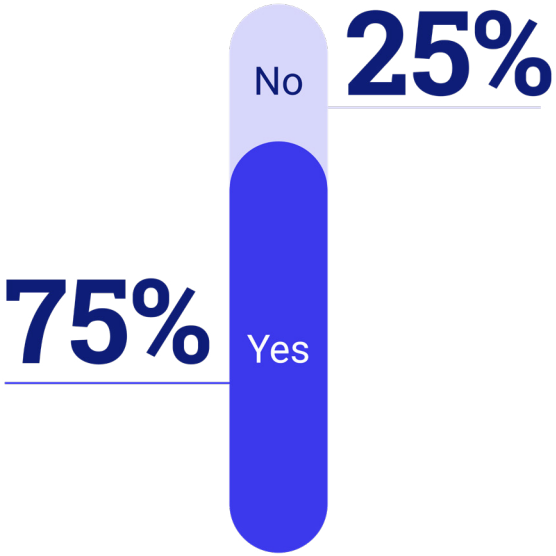
This transformation moves operations from reactive, manual processes to proactive, adaptive workflows, thereby enhancing efficiency, resilience, agility, and collaboration while supporting faster decision-making, improved compliance, and greater overall supply chain visibility.

Resilient operations at every step

SaaS-based labeling platforms provide the backbone for autonomous supply chains, delivering continuous access to accurate product and labeling data across global operations. This always-on environment allows companies to detect potential disruptions early, reroute resources as necessary, and maintain operational continuity even during unexpected events.

Centralizing and automating labeling processes reduces errors, accelerates workflows, and ensures all trading partners receive consistent, compliant product information. Beyond resilience, SaaS models offer rapid scalability, enabling organizations to expand or adapt quickly as business needs change. They lower total cost of ownership by eliminating infrastructure investments and simplifying maintenance. Regular updates ensure access to the latest innovations and security standards, while cloud-based collaboration supports remote teams and global partners. With robust security, compliance, and disaster recovery built in, SaaS platforms empower businesses to protect margins, maintain productivity, and keep goods flowing smoothly across complex networks.

Q. Do you currently use SaaS-based labeling platforms to help your company maintain operational resilience and continuity?

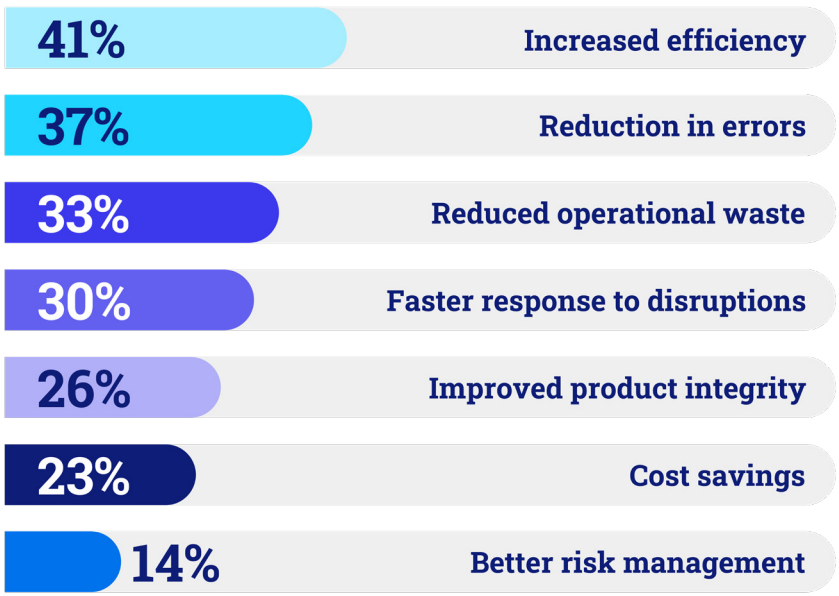


AI-driven risk and disruption management

Continuous monitoring of product and label data, combined with AI-powered predictive analytics, enables companies to anticipate disruptions before they occur. By analyzing trends, patterns, and anomalies across suppliers, production lines, and distribution channels, organizations can optimize logistics, reallocate resources efficiently, and minimize operational waste.

This predictive capability supports better scenario planning and proactive decision-making, allowing supply chain leaders to balance cost, risk, and efficiency in real time. AI-driven insights ensure that the supply chain can respond rapidly to changing conditions without compromising compliance or product integrity.

Q. Which benefits have you observed from autonomous (AI, IoT, Cloud platforms, Smart, etc.) supply chain initiatives?

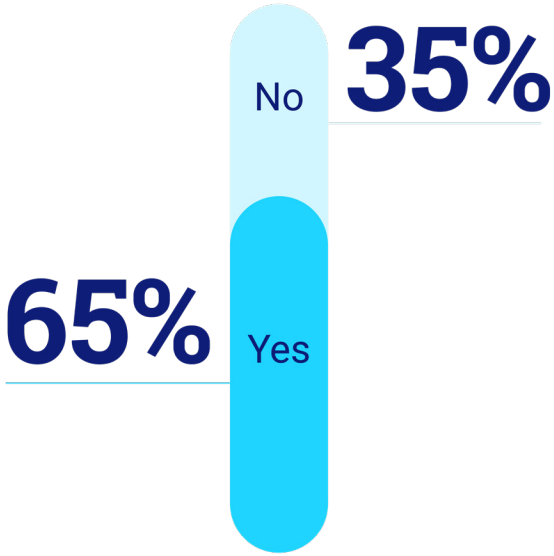


Integrated supply chain intelligence

Integrated data flows across suppliers, production facilities, and distribution networks are critical for autonomous operations. Connecting labeling platforms with business applications such as ERP systems (SAP and Oracle), WMS, PLM, and other enterprise software provides complete visibility into product movements, inventory levels, and compliance status.

This level of integration ensures that data integrity is maintained throughout the supply chain while supporting agile and informed decision-making. By centralizing labeling workflows and synchronizing data across systems, organizations can ensure that product information remains accurate and consistent in real time. Unified access to real-time data allows companies to quickly adapt to shifts in demand, regulatory requirements, or operational disruptions, thereby reducing errors, improving efficiency, and strengthening overall supply chain performance.

Q. Are SaaS-based labeling platforms helping your company maintain operational resilience and continuity?



Loftware is the global leader in product identification, empowering businesses of all sizes to collaborate in real time, meet regulatory standards, enhance authenticity, and achieve end-to-end supply chain traceability. Our centralized, cloud-based solutions connect teams, partners, and systems — from new product development and supplier onboarding to manufacturing, warehouse operations, and consumer engagement — streamlining processes and accelerating time to market.

Our scalable, data-driven labeling and packaging technologies — spanning barcode labeling, artwork management, intelligent short links, GS1 Digital Link, and Digital Product Passports — help brands boost speed to market, maintain compliance, and bridge physical products with digital experiences.

With offices in the US, UK, Slovenia, China, and Singapore, Loftware supports diverse industries including automotive, chemicals, clinical trials, consumer goods, electronics, food & beverage, medical devices, pharmaceuticals, and retail/apparel.

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