WHY TRACEABILITY IS THE CORNERSTONE OF FOOD & BEVERAGE QUALITY

eBook
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**BOTTOM LINE**

- Food and beverage customers want organic, non-GMO, and hormone/antibiotic free foods, and this trend is supported by federal labeling directives, making traceability the cornerstone of food and beverage quality.

- Struggling to meet customers’ demands for all-natural foods based on reformulations, new sourcing channels, and increased compliance requirements, track-and-trace is essential for operating a food manufacturing operation today.

- Food & beverage manufacturers are wasting over $175B a year on unnecessary product recalls that could have been averted with better supplier quality and traceability in place according to a recent NAM study.

- Food & beverage manufacturers who scale track-and-trace deep into their supply chains to control quality are averting recalls and costly retrofitting of products already sold to customers who are using them daily.

Supply chains are the lifeblood of every food and beverage business. Reducing and eliminating risks while increasing supply chains’ speed and scale is how track-and-trace applications help manufacturers stabilize and strengthen operations over time. The goal of this ebook is to serve as a strategic roadmap to food & beverage manufacturers looking to see how traceability can make greater contributions to their business.

The food & beverage industry is at an inflection point with time, cost, supply chain, and visibility constraints working together to reshape and redefine the industry. Real-time process and product monitoring are the new normal. The greater the visibility and supply chain coordination achieved using traceability technologies, the easier it becomes for food & beverage manufacturers to overcome the following constraints: short lead times, high volumes, low margins, greater forecasting accuracy, process manufacturing, shelf life management and quality regulations.

Track-and-trace adoption is also accelerating quickly in food and beverage manufacturing as a result of costly product recalls, quality incidents caused by a lack of supply chain visibility, and unethical production practices including the creation of counterfeit food and beverage products. The need for greater supplier control, improved product and process quality, and faster track-and-trace speeds to minimize the impacts and costs of recalls are all contributing to soaring adoption rates across all industries. Markets&Markets research firm predicts that the global market for track-and-trace technology solutions will increase from $1.65B in 2018 to $3.93B in 2023, attaining a Compound Annual Growth Rate (CAGR) of 18.9%.
TRACEABILITY HELPS FOOD & BEVERAGE PRODUCERS REDUCE RISKS AND IMPROVE COMPLIANCE

Regulatory requirements in the food and beverage industry now require track-and-trace compliance and reporting to government agencies on an ongoing basis. Traceability provides food & beverage manufacturers with the data, insights, and information they need to stay in compliance with many of the most demanding compliance requirements in manufacturing today. FDA 21 CFR Part 11 Compliance (Doc Control, Quality Level 1), Receipt Management compliance reporting requirements, Batch & Ingredient Tracking, and the wide variety of customer-driven compliance and reporting requirements need the data track-and-trace systems provide. Market leaders use these compliance requirements as fuel to drive even greater levels of production and process efficiency throughout their multiple plant locations. A recent informal survey of manufacturers found that the majority believe that by 2021, 40% of countries will either have enacted legislation requiring track-and-trace and product authentication or have compliance legislation in final approval stages.

Balancing supplier risks, compliance requirements, and ongoing delivery of customer orders is a challenge for any manufacturer. The greater the regulatory requirements for reporting track-and-trace in a given industry, the more challenging it gets for a food and beverage manufacturer to grow. That’s why track-and-trace systems are so essential for the growth; they break down the barriers that compliance can create by automating reporting so production teams can do what they do best: delivering customer orders. Standardizing track-and-trace integration across a supplier network, defining a clear set of KPIs, and measuring progress on shared goals with suppliers is a strong, proven catalyst for growth.

The essence of track-and-trace is designed to minimize and manage variable, unforeseen risks to suppliers, distributors, food manufacturers, and most importantly, customers. The goal of any track-and-trace solution needs to first focus on how to attain greater supplier control, quantify and measure product quality, and have a reliable system of record to track to the lot or container level. Finally, all track-and-trace solutions need to combine speed and scale to solve time-sensitive problems quickly. Real-time speed and scale are especially important in pharmaceutical supply chains where serialized packaging needs to support full traceability, product integrity, supply chain security, and patient safety.
TRACEABILITY IMPROVES FOOD & BEVERAGE SUPPLIER CONTROL, QUALITY, AND SCALE

Every food and beverage manufacturer needs greater supplier visibility to mitigate risks, and together with more stringent compliance requirements, track-and-trace is getting embedded deeper into food and beverage supplier networks than ever before. Advances in integration platforms that enable real-time data monitoring are making it possible to attain both scale and speed across diverse, globally distributed supplier networks.

Improving supplier collaboration and visibility using track-and-trace reduces many supply chain risks, including improving order fulfillment accuracy and resolving potential quality problems early before they escalate through supplier networks. Track-and-trace improves quality by improving demand visibility from food and beverage manufacturers to suppliers, averting incorrect and low-quality orders. Most importantly, track-and-trace brings exceptional speed and scale to minimizing and reducing risks across supplier networks, protecting customers by providing real-time responsiveness to recall, product quality, and counterfeit product risks. The following are how track-and-trace improves supplier control, quality, and scale:

- **Track-and-trace is reducing the risks, expenses, and impact of product recalls by providing accurate product genealogies in real-time while contributing to more accurate recipe management.** Food and beverage manufacturers can save millions of dollars by minimizing the impact of inferior supplier quality issues, which often lead to costly product recalls. This can be done by tracking to the lot, batch, or bin level from which a defective material originated. Product genealogies are priceless; they are the roadmaps that help avert recalls from spreading. Using track-and-trace systems that support real-time genealogy search, it’s possible to discover how and where a defective ingredient was first introduced into production. These data and insight alone are invaluable in averting more costly and widespread recalls. With a given ingredient’s genealogy tracked and traced, it’s possible to isolate food and beverage products at risk and make more informed decisions regarding how best to handle the products already with customers.

- **Excelling at FDA 21 CFR Part 11 compliance while reducing manufacturing costs with track-and-traceability is the path to profitable growth for all food & beverage manufacturers today.** Reducing manufacturing costs, staying in compliance with 21 CFR Part 11, and gaining greater accuracy and speed in supply chains is dependent on having a proven track and traceability framework in place. The future of food and beverage compliance is being defined by the advances made with traceability today.
• Having quality and traceability data available at all production locations increases manufacturing efficiency quickly. Improving the accuracy and speed of track-and-traceability information across all production locations enables greater collaboration and knowledge sharing company-wide.

• Prioritizing track-and-trace as a foundational part of any supply chain management (SCM) and manufacturing strategy mitigates risk and reduces fines for non-compliance, litigation costs, and possible class-action lawsuits. Food and beverage manufacturers who prioritize track-and-trace as a core part of their SCM and manufacturing operations gain the immediate benefits of being able to reduce the risks of litigation and class-action lawsuits by having real-time access to product genealogy data. Access to this data is invaluable in meeting regulatory filing dates to government agencies for all the nations a given manufacturer is operating in or does business with.

In the most stringent industries, track-and-trace is proving to be invaluable in reducing non-compliance errors and eliminating costly legal fees and fines.

• Increasing inventory accuracy and forecasting, enabling production planning to optimize manufacturing schedules, and improving supplier collaboration are all made more accurate with real-time track-and-trace insights. A track-and-trace system that can scale quickly across an entire supplier network is essential in ensuring high levels of inventory accuracy and forecasting precision. Knowing the specific levels of inventory and their relative status across a supply chain is invaluable in attaining higher production rates in each manufacturing center as well. Also, track-and-trace systems generate data sets — over time — that tend to show patterns, making it possible to anticipate shifts in demand. This insight contributes to greater forecast accuracy and the potential to optimize manufacturing schedules.
TRACK AND TRACE IMPROVES FOOD AND BEVERAGE PRODUCTION EFFICIENCY

Food and beverage manufacturers pursue their passion for excellence by delivering high quality products that win new customers. From the shop floor to the top floor, this commitment to quality permeates every process workflow, supply chain interaction, production plan, and finished product. Choosing to excel at track and traceability is the cornerstone of many market-leading food and beverage manufacturer’s success:

- **They are improving order accuracy by enabling food and beverage manufacturers to deliver high-quality products on time to customers when they expect them.** Track and traceability makes it possible for food and beverage manufacturers to improve order performance by providing accurate data regarding when ingredients will arrive to complete orders. The most challenging aspect of consistently delivering perfect order performance is visibility into logistics-based data. Track and traceability bridge this gap, making perfect order performance more consistently achievable.

- **Reducing scrap and rework by screening-out defective ingredients before production of the final products.** When track and traceability workflows are integrated with inbound inspection and quality management, it’s possible to stop entire lots of defective ingredients before they enter the warehouse. As more data is collected over time, it’s possible to also predict patterns in quality by the supplier, further reducing scrap and rework.

- **Reduces inventory shrinkage and theft due to greater visibility and reporting that quickly catches inconsistencies in inventory levels.** When a track and traceability system is managing all inbound shipments to the batch, lot, and container level, it’s easy to see at what point inventory is lost or stolen.

- **Avoiding damage to a food and beverage manufacturer’s company reputation and brand.** Manufacturers can stop defective products from reaching customers by using genealogies to find and eradicate low quality ingredient suppliers, often strengthening their reputation as a result. Using track and trace is an investment manufacturers make to help deliver on the promise of consistently providing the best possible products to their customers.

CONCLUSION

Improving supply chain visibility, contributing to optimized inventory and expiry management, providing higher quality data that drives better forecasting, reducing inventory shrinkage throughout the supply chain are a few of the many benefits of automating track-and-trace. Track-and-trace systems are designed to capture their contribution across a supplier network, providing metrics and KPIs on dashboards accessible on any Internet-capable device anywhere, anytime.

Track-and-trace immediately contributes to production scheduling by providing greater visibility into products and ingredients across an entire supplier network. Having this data averts stock-outs and can stop allocations before they begin. Over time track-and-trace also increases customer satisfaction with timely and accurate order status information. Where track-and-trace provides its greatest competitive strength is in being able to isolate and identify finished goods associated with a recall by lot number, serial number, and other identifiers as they move up and down the supply chain. Having this level of detailed data is averting recalls that would otherwise cost millions of dollars. Track-and-trace is also indispensable in troubleshooting product quality problems. By combining quality management and track-and-trace systems, manufacturers can predict patterns in product quality and deliver the highest quality food and beverage products they are capable of.

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