



Whitepaper

Food and beverage traceability

Understanding food and beverage manufacturing compliance and traceability

Sage

Table of Contents

Page 3

Surviving a total recall—your biggest threat to food and beverage profitability

Page 4

The importance of traceability

Page 5

How technology can improve traceability

Page 6

What to do in the event of a food recall

Page 8

Compliance is crucial



Surviving a total recall—your biggest threat to food and beverage profitability



There are good reasons for recalls

Food safety is at the heart of every successful food and beverage manufacturer. These businesses are responsible for producing safe food and drink that contain the ingredients and nutrition they promise. It's of particular importance to production, because consumers must trust that the products they've bought are totally safe.

Giving consumers accurate information allows them to make informed choices about what they consume. No surprise then that throughout the world there are regulatory bodies and food standards that ensure food and beverage businesses do right by consumers.

Necessary regulatory pressure

Food and beverage businesses have high regulatory pressure because of the repercussions food contamination can bring from customers and the media. Public authority punishments are also harsh, and include seizures, product recall or destruction, fines, and even criminal charges. Consumers might be the biggest factor driving this change. For example, many millennials want the businesses they buy food and drink from to be socially responsible and ethical. Thus, they're asking more questions about where products are produced, and how.

The importance of traceability

It is one of the biggest nightmares for a business in this industry to have products contaminated by an unknown source.

In 2024 there was a number of recalls including the latest of an E.coli outbreak in organic carrots resulting in a number of hospitalizations.

This event highlights the importance of traceability for food and beverage manufacturers, which need the ability to trace products as they pass through the often long and complex supply chain. Modern Enterprise Resource Planning (ERP) gives it full transparency—crucial for documenting and reporting on compliance.

Traceability allows businesses to verify the history and location of a product through documented, recorded verification, and it helps manufacturers significantly improve their operations. Leaders with traceability are four times more likely than followers to monitor for regulatory compliance, which gives them an ability as process manufacturers to recall products.

With the vital information traceability provides, food and beverage manufacturers can also:

- Promote efficiency and improve decision making.
- Manage materials and logistics smarter.
- Arrange better supplier terms.
- Achieve optimal demand planning.
- Ensure fresh product, while keeping costs low.



How technology can simplify traceability

There are new and emerging technologies that allow your food and beverage businesses to log in transactional and product data. The insights that come out of this data are at the core of traceability.

Here are three ways to achieve traceability as an objective:

1. The Internet of Things

Through the Internet of Things (IoT), devices can be connected anywhere, at any time. Using labeling technology such as radio-frequency identification (RFID) and quick response (QR) codes allow data to be collected that tracks your product's full journey through the supply chain. Anything can be recorded—from the temperature during transport to the source of ingredients.

2. Big data analytics

Using big data analytics, your food and beverage businesses can see where a problem has occurred and stop it from continuing through the supply chain. With unplanned events and potential crises such as contaminated products in the supply chain, you can respond quickly, having identified, tracked and traced everything.

3. The cloud

Your food and beverage businesses can now take advantage of cloud solutions, with software managing aspects such as system infrastructure, operating system, database and applications. This allows you to spend less time and energy on repetitive admin-heavy tasks and focus more on important operations.

Traceability equals visibility

To achieve full visibility of traceability in the supply chain, IoT, big data analytics and the cloud must be integrated into your ERP systems. They should be designed with the food and beverage manufacturer in mind—broad enough to log transactions across the supply chain, yet deep enough to offer you industry-specific functionality. These include logging of source materials, results analysis, a way to conduct preventative actions, and adherence to strict regulations.



What to do in the event of a food recall

Legislation has given government agencies more power to intervene with a food and beverage manufacturer's operation. Demanding consumers can react quickly and publicly if they are unsatisfied through communications technology. As a result, product recalls have become more commonplace in the food and beverage industry.

Here are five supply chain tips for dealing with a product recall:

1. Stay on top of changing regulations

Product safety regulations are complex, vary among different countries, and change frequently—almost always becoming stricter. This means that when your food and beverage business expands into different countries, compliance burdens will grow, as well as the likelihood and complexity of product recall.

Modern ERP with a central regulatory repository must support food and beverage businesses to comply with existing regulations and to implement new ones. This will provide a solid frame of reference to keep you on the right side of the law, wherever you operate.

2. Maintain strong, up-to-the-minute supply chain visibility

When a product is identified as defective, whether by consumers or higher up in the supply chain, it's essential that you identify the potential extent of the contamination, asking these questions:

- Which product batches were faulty?
- What raw materials were involved?
- Which other batches shared the same raw material, or passed through the same production facilities?
- Is this problem new, or has it been happening for some time?

Having up-to-the-minute data to answer these questions, you can quickly identify exactly where the problem lies, and address the issue with confidence, provide market reassurance and mitigate recall cost.



To gain data access in real time, you must store data centrally, allowing data to be tracked from the furthest reaches of the supply chain, through the production process, and from customers.

Sometimes, food and beverage businesses don't have lot codes that are specific enough. Rather than break up production into discrete lot codes so the scope of recalls is limited, they run the same lot code for many production runs.

Regulators will expect you to connect ingredients and customers through complex, multi-production processes. The result of not having these processes in place can be a massive recall that could bankrupt a company.

3. Be totally transparent

Information travels fast. Consumers can access potential food and beverage product problems as quickly as anybody publishes it. A badly handled product recall can damage the reputation of your business—sometimes irreparably—so you need to control the narrative.

The safest and best strategy is for your food and beverage business to communicate with authenticity that you're in control of the situation, and that you have the right solutions in place. So as not to lose consumer trust, never make statements that you don't know for certain to be completely true, especially when the pressure is on during a product recall.

It's here where having strong visibility of your supply chain is crucial, because it allows you to be authentic about the potential extent of problems and quickly pinpoint the cause, essential to protecting your reputation.

4. Reduce the risk and impact of a product recall

Prevention is better than cure, and while it's impossible to eliminate the chance of a food and beverage recall entirely, there are steps to reduce its likelihood and mitigate consequences:

- Streamline and thin product lines and packing options.
- Be ultra-precise and narrow with the lot coding system.
- Hold on to samples from product batches to quickly test for defects.
- Reduce batch quantities to make it easier to isolate faulty products.
- Maintain strong communication with everyone in your supply chain.
- Continually analyze and improve supply chain processes to minimize risk.
- Monitor customer feedback, including social media, to identify defects immediately.
- Maintain a dedicated crisis management team.

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5. Have an emergency-ready crisis management plan

Time is of the essence with a food and beverage product safety issue. It's also advisable, and very possibly legally necessary, to have a pre-determined crisis management plan in place to ensure you are permanently crisis ready.

- Determine the severity of the risk.
- Identify the extent of contamination, and isolate affected batches.
- Notify distributors and retailers as quickly as possible.
- Put tried-and-tested product recall procedures into action.
- Report the product issue to the relevant authority.
- Publish transparent information on the recall to customers.

Compliance is crucial

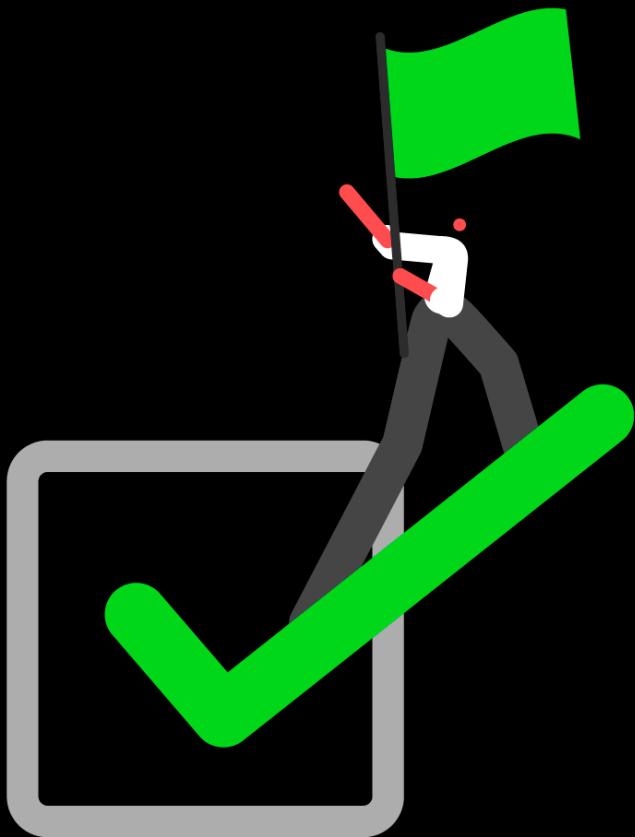
In the US and EU, reviews of certain aspects of consumer product recall systems have taken place.

For example, in the UK, the Food Standards Agency is engaged in a major review of food withdrawal and recall processes, while in the US, there's been concerns about manufacturers not giving timely notice to the authorities upon discovering possible product defects. This has resulted in multi-million-dollar fines. The compliance bar's been raised in many countries. In the US, there's the Food Safety Modernization Act (FSMA), which has significantly lifted the levels of compliance, performance, and quality that businesses need to achieve.

To avoid a compliance nightmare your food and beverage businesses can:

- Build compliance and traceability into your processes.
- Implement a central repository of relevant compliance laws and regulations to stay current with regulatory changes, accessible to employers, regulators and partners.
- Digitize document management processes to keep up with regulations, which provide timely, unified information to decision makers.
- Implement enterprise systems that build the foundation for process control and automation, and ensure they're integrated and interoperable to avoid data silos.
- Keep software tools up to date, so they can handle regulation reporting requirements and ensure compliance.

Having one version of the truth is crucial. This will make sure your whole business works to current requirements with tightly integrated and interoperable systems. This is where ERP comes in.



Keep solutions up to date, so they can handle regulation reporting requirements and ensure compliance.

Critical food and beverage manufacturing capabilities. An ERP provides essential capabilities that allow leading food and beverage manufacturers to deal with a challenging regulatory outlook.

In addition to centralized repository and automatic notifications, ERP will also support standardized processes, manufacturing alignment with product design, and full visibility into quality data.

A quality ERP acts as your assistant

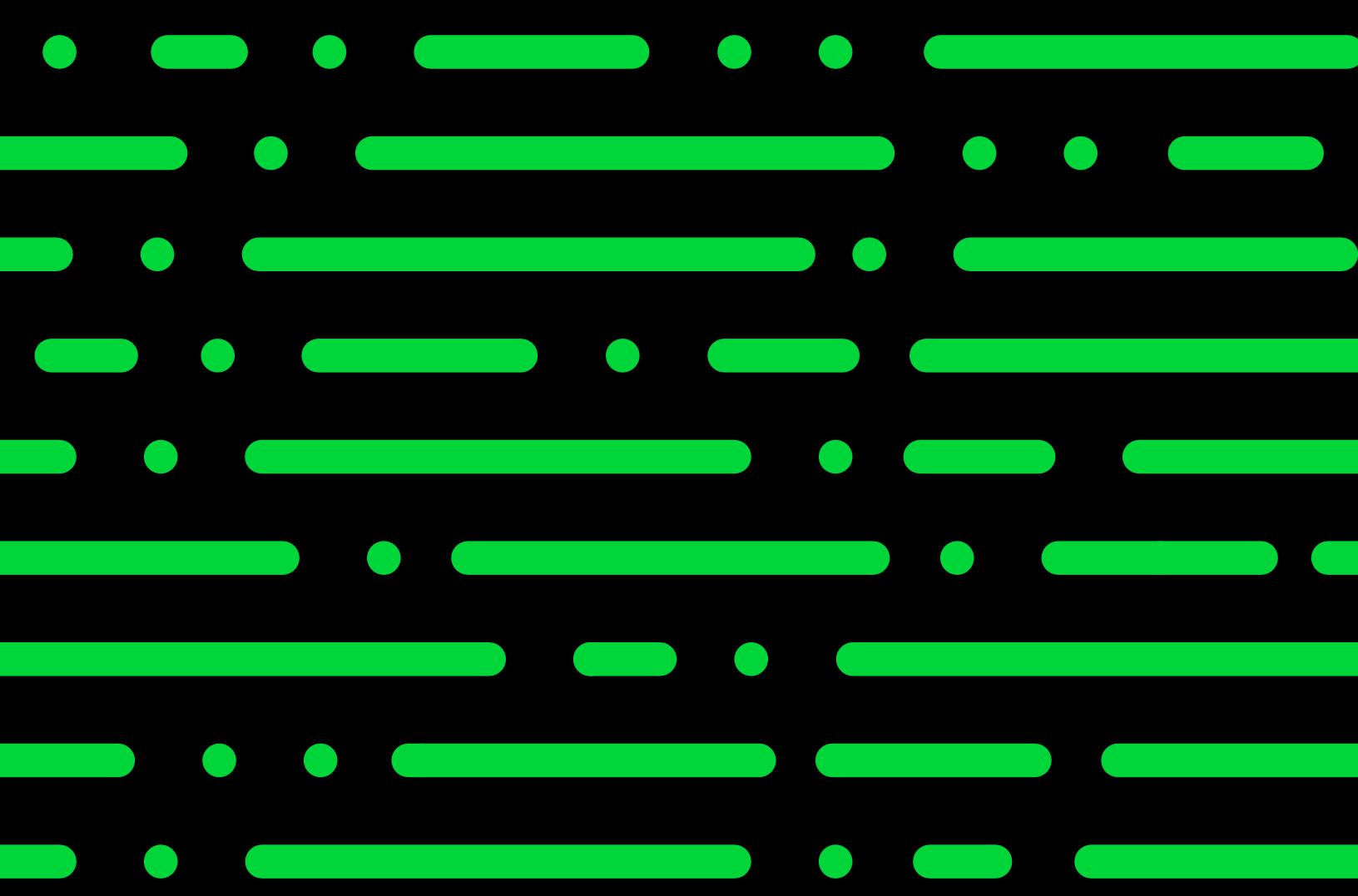
Maintain the same composition and flavor of products. Your businesses should minimize, and ideally eliminate, any unknown variables that might affect compliance. Standardization breeds consistency across the organization, leading to automation opportunities when processes are documented and standardized.

Integrate Manufacturing operations with product design. This can cut costly processes that require customized equipment and controls to manufacture the product and maintain consistent quality levels. Innovation can be fostered from both sides of your product development process, from design to manufacturing, and back again.

Quality Management throughout your business. Having full visibility into all data can provide an early warning to potential deviations or out-of-tolerance conditions at the equipment or product level, potentially avoiding a quality problem. Having visibility in real-time requires system integration between all your enterprise applications.

Full visibility into quality data. When records are maintained manually, it becomes very difficult to manage recalls properly. ERP systems need to keep records in a central database that allows easy updating and automated data collection. For example, dynamic documentation would update records automatically in the event of a change in supplier or ingredient.





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