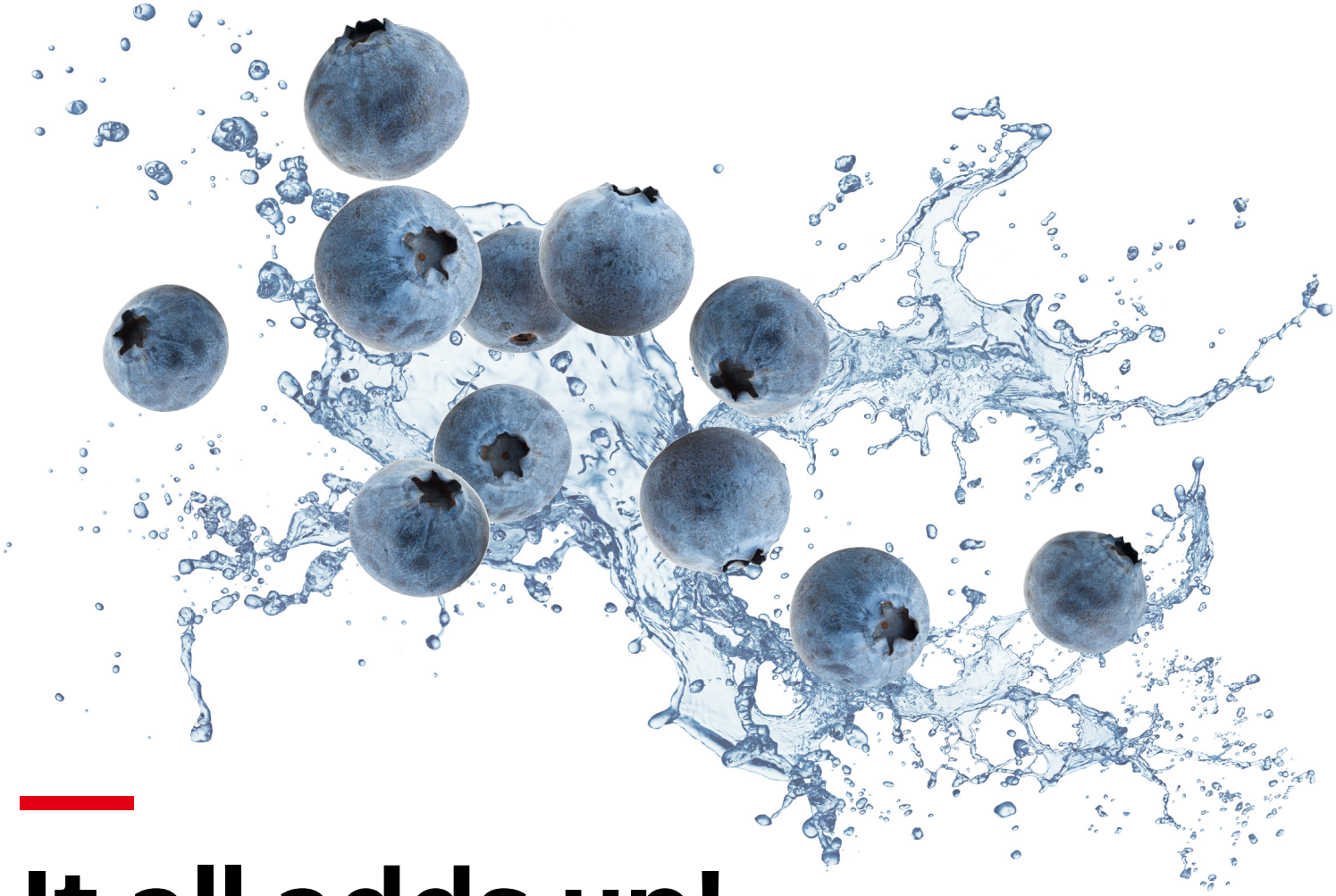


It all adds up!

The impact of recalls and outages in food & beverage production

ABB Safety Series
Food & Beverage
Installation Products Division

Preserving safety across the Food & Beverage production cycle

ABB Food & Beverage Safety Series

Preserving safety across the Food & Beverage production cycle

While the pandemic focused consumer attention on safety, including food safety, Food & Beverage (F&B) manufacturers were already working to **earn trust** amid tougher regulations, production pressures and recall threats.

The Food Safety Modernization Act (FSMA), enacted in 2011, gave the FDA the ability to set consistent standards and shifted the focus of the industry from response to prevention of foodborne illness. As the most significant food safety legislation in 70 years, the FSMA requires companies to put in place more rigorous food safety plans and actions to prevent contamination and also outlines steps to enforce a voluntarily recall of products when a potential public health threat occurs.[1]

Part of a series on electrification and safety in Food & Beverage processing

Why foods are recalled

Millions of pounds of food are recalled annually around the world, including fruits and vegetables, cereals and bakery products, meat and poultry, eggs, and herbs and spices. The **most common causes of food recalls** in the US and EU include:

Sources of recall information[3]: U.S Food and Drug Administration (FDA) issues recalls on other food, as well as pet food and animal feed.
Food Safety and Inspection Service (FSIS) of the U.S. Department of Agriculture (USDA) issues recalls on meat, poultry and egg products.
The European Commission **Rapid Alert System for Food and Feed** (RASFF).

Rise in recalls
of meat and poultry

The vast majority of F&B contamination and recalls involve human error.

1 Impact of recalls and outages

The FSMA applies to most of the US food supply, including commercial farms, packing operations, and food processing facilities. The implementation of these rules, along with increasingly sophisticated detection methods, have contributed to a rise in some types of recalls among food and beverage manufacturers. The highest increase is among meat and poultry products. A report from the PIRG Education Fund found the most hazardous meat and poultry recalls (Class I) have nearly doubled, with an 85% percent increase between 2013-2019. All meat and poultry recalls are up 65% during this same time period.[2]

Every touchpoint across food and beverage production is held to high standards of safety, from personnel and practices to preparation and packaging. Not only can downtime in F&B cost thousands of dollars per line per hour, it can result in significant food waste. Overlaying the entire operations are production schedules that factor in added or extended shifts, maintenance, and cleaning and sanitation, while assuring minimal downtime.

This uptick in recalls over the past decade is not necessarily a negative, as many are precautionary and underscore the value of the FSMA.

Here's how recalls are classified by the FDA to indicate the relative degree of health hazard presented by the product being recalled:

Class I: A situation in which there is a reasonable probability that the use of, or exposure to, a violative product will cause serious adverse health consequences or death.

Class II: A situation in which use of, or exposure to, a violative product may cause temporary or medically reversible adverse health consequences or where the probability of serious adverse health consequences is remote.

Class III: A situation in which use of, or exposure to, a violative product is not likely to cause adverse health consequences.

2 Quality & safety

The pandemic tested the F&B industry, which responded by demonstrating its commitment to keep food supplies and essentials on shelves. ABB found that many F&B processors significantly stepped up production and 24/7 schedules.

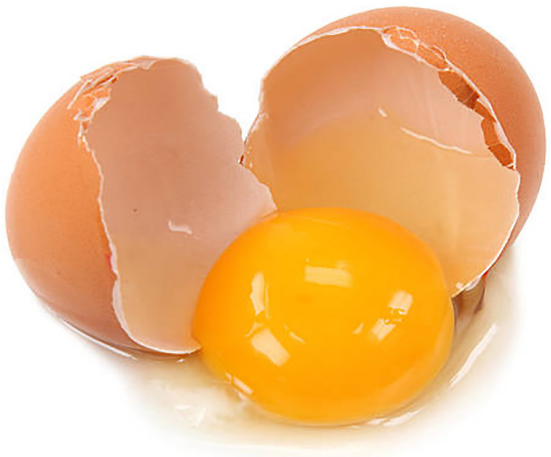
At the same time, they moved quickly to implement contingency plans in the event of positive COVID-19 cases among processing staff to minimize the impact, including social distancing, putting other controls in place to keep workers safe, and increasing cleaning and sanitation programs.

Intent on keeping up production to meet demand, manufacturers ran equipment longer and harder and often set aside preventative maintenance of food and beverage processing equipment and facilities. Add to this continued supply chain demands and the level of maintenance needed to keep production equipment performing optimally and reduce outages, and F&B manufacturers have many priorities.

Although the FDA adjusted its approach to oversight activities during the initial months of the pandemic, the return to regular inspection schedules and the introduction of new compliance standards are expected to trigger a rise in recalls and food safety violations. For example, the blueprint for the New Era of Smarter Food Safety was introduced in July 2020, outlining the approach the FDA will take over the next decade to enhance traceability, improve predictive analytics, respond more rapidly to outbreaks, address new business models, reduce contamination of food, and foster the development of stronger food safety cultures.[4]

To help achieve compliance, ABB Installation Products works with manufacturers to implement safety measures and increase uptime.
Some of the top safety and operational factors F&B businesses ask ABB to help them address include:

- Corrosion
- Liquid ingress
- Condensation
- Continuous operations
- Food safety and training across the facility
- People safety
- Washdown protection



$10M+

minimum average

in direct cost of a food recall. Add lost sales and consumer confidence and the impact can be significant

3 It all adds up

Industry experts estimate the financial impact of a food recall runs between $10 - $30 million in direct costs, and can be even higher based on complying with post incident requirements, lost sales, increased insurance, brand value and more.

The Food and Agricultural Organization (FAO) of the United Nations defines a recall as the action to remove food from the market at any stage of the food chain, including that possessed by consumers.[5]

The CDC estimates that each year roughly 1 in 6 Americans or 48 million people experience illness, 128,000 are hospitalized, and 3,000 die of foodborne diseases.[6]

Nationally, the total cost of foodborne illness each year is between $55.5 billion to $93.2 billion, based on state-by-by state data calculated by Ohio State University professor Robert Scharff.[7]

Add to this brand damage, lost sales, and in some cases, associated fines and criminal charges that may also extend to CEOs. It's also important to consider that a recall is an intensive process and becomes the top priority for a business – interrupting other programs and requiring critical communications and everyone involved to make sure the product is accounted for and destroyed to help ensure consumer safety.

Recall prevention

is key for food and beverage makers given the intense scrutiny by consumers, combined with the use of social media and online platforms to globally spread awareness of recall rumors and product claims.

Impacts of a recall can add up and include:

Brand deterioration

- **83%** can name the recalled brand
- **55%+** temporarily or permanently discontinue use

Increased cost

- **$10-30M** per recall average
- **$350M** spinach recall costs
- **$1B** peanut butter recall

Market shrinkage and share loss

Spinach recall

- **20-35%** market size reduction
- **20%** feel food is safe

Loss of life[6]

- **3,000** deaths per year
- **128,000** hospitalizations annually

4 Communications

Communications is critical during a recall. Not only for the company to issue information internally and externally, but to correct misinformation and engage with consumers to address questions and concerns.
Despite the use of digital channels for companies to mitigate damage by quickly disseminating recall information, instructions and scientific data, the potential for extensive reputational harm is huge.

While F&B manufacturers absorb the cost of a recall, consumers who purchased the risky product must take action to read the communication, return the recalled items in a timely manner and obtain a satisfactory replacement. This burden can create a lingering negative perception and reputational damage that may lead to long-term avoidance of the product and overall brand.

Risk factor
In addition to the threat of recalls, downtime is another costly and often preventable risk factor. As an industry that is heavily reliant on electricity, outages can cost F&B companies millions of dollars annually in lost inventory, productivity and safety.

Considering many F&B processing facilities run **16-20 hours** a day, costs can add up quickly when faced with even a minor interruption.

5 Preparation and prevention

Facing growing production demands and greater scrutiny by regulators and consumers, F&B manufacturers must proactively address reliability and preventative maintenance programs, recall and crisis management, and technology.
Food traceability is the ability to follow the movement of a food product and its ingredients through all steps in the supply chain. Traceability involves documenting and linking the production, processing, and distribution chain of food products and ingredients.

In the case of a foodborne illness outbreak or contamination event, efficient product tracing helps government agencies and those who produce and sell food to rapidly identify the location of the manufacturing or processing facility and the source of where contamination may have occurred.

Considering human error is a leading cause of contamination in a facility, especially as overtime and extended shifts fill labor shortage and supply gaps, process automation and digitization reduce risks and need to be an integral part of planning.

Preventing lost time and safety issues may not be top-of-mind when selecting products. That's why ABB works with F&B manufacturers to help maximize safety and uptime.
ABB leverages expertise across the entire food and beverage processing spectrum to help support plan development and focus on matching the correct product to the correct application. This assures solutions meet required ratings, training and certifications, principles, and guidelines. ABB's antimicrobial products that resist bacteria growth and other robust solutions help minimize the impact a simple error can have on equipment.

6 Application

Food & Beverage production safety is all about the correct product for the correct application. From materials that hold up to high pressure and caustic cleaning and environmental demands such as T&B™ Liquidtight Fittings and stainless steel conduits, to solutions that provide easy visual detection, deliver corrosion resistance and have antimicrobial properties.
ABB works with food and beverage partners to assess and address a wide range of needs including:

- Continuous operation and asset optimization
- Corrosion and condensation protection
- Washdown protection
- Liquid and dust ingress protection
- Hazardous location
- Food safety and contamination
- People safety and training
- Machine safety

The Food & Beverage industry is constantly changing, and manufacturers are looking for ways to produce products faster, safer and more profitably. At the same time, recalls are likely to rise given enhanced inspection standards and traceability, the prospect of new regulations, and advances enabling easier identification of contaminants.
The good news is F&B manufacturers have more prevention options than ever before to consider, including new technology, automated processes, and innovative materials that make it easier to reduce and potentially eliminate recalls and outages.

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About ABB Installation Products

ABB Installation Products Division, formerly Thomas & Betts, is a global leader in the design, manufacture and marketing of products used to manage the connection, protection and distribution of electrical power in industrial, construction and utility applications. With more than 200,000 products under more than 38 premium brand names, ABB Installation Products solutions can be found wherever electricity is used.

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