



# HOW TO COMBAT THE COMPLIANCE TRIPLE THREAT IN THE FOOD & BEVERAGE INDUSTRY

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## HIGHLIGHTS

### P1

The penalty for non-compliance in the food and beverage industry is severe and could lead to a harm in revenue, brand reputation and even complete shutdowns

### P2

Manufacturers have to remain compliant within a maze of industry requirements as well as prove procedures and processes are adhered to correctly

### P5

Food and beverage companies need a modular ERP system that keeps them free from litigation and validates industry requirements on audit day

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# HOW TO COMBAT THE COMPLIANCE TRIPLE THREAT IN THE FOOD & BEVERAGE INDUSTRY

**Manufacturing compliance is a prime concern in process manufacturing. It is a highly regulated industry, particularly in the food and beverage sector, where something as 'simple' as a cereal mix can contain upwards of 20 ingredients, often requiring a number of different processes to produce the final product.**

According to the Centers for Disease Control and Prevention<sup>1</sup> (CDC), each year 48 million illnesses can be traced to food bacteria, viruses and parasites.

The penalty for non-compliance is severe—one slip through the net in food and beverage can seriously harm consumers, reputation, profits and can ultimately lead to a shutdown in operations. A recent PricewaterhouseCoopers report<sup>2</sup> states that already in the food and beverage market this decade there have been hundreds of large-scale recalls typically costing \$10m to \$30m.

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Enterprise resource planning (ERP) becomes a vital tool in helping food and beverage manufacturers define and establish compliance procedures.

## THE COMPLIANCE MISSION STATEMENT

Every food and beverage organization will have its own set of unique compliance standards it operates within, but there are three basic areas each must adhere to in order to remain compliant:

- **First**—Processes and procedures must be defined, actioned and reviewed. Given the number and varying requirements of the different regulatory bodies involved this is not always simple.
- **Second**—Equipment Maintenance and Scheduling to ensure that equipment used to produce these defect-free products is well-maintained. Again, not a simple task, particularly where peanuts and allergens are concerned.
- **Third**—Employee Training to ensure that in a fluid employment market, staff producing defect-free products are always trained correctly on the processes and equipment they operate.

Enterprise resource planning (ERP) becomes a vital tool in helping food and beverage manufacturers define and establish compliance procedures. But of course, organizations must then be able to prove they are maintaining these standards when the auditors knock on their factory door. If they fail on one of the three aspects, the prospect of being shut down becomes a reality.

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<sup>1</sup> [www.cdc.gov/foodsafety/foodborne-germs.html](http://www.cdc.gov/foodsafety/foodborne-germs.html)

<sup>2</sup> [www.pwc.com/gx/en/food-supply-integrity-services/publications/product-recall.pdf](http://www.pwc.com/gx/en/food-supply-integrity-services/publications/product-recall.pdf)



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There's an 'alphabet soup' of compliance programs certifications and regulatory bodies in food and beverage—Good Manufacturing Processes (GMP), the Food and Drug Administration (FDA), Safe Quality Food (SQF)—among many others

It is key for food and beverage organizations to use an ERP solution that not only helps them manage these three compliance factors, but to also assist in demonstrating these on audit day.

## **COMPLIANCE FACTOR 1—PROCESSES AND PROCEDURES —IT'S NOT ALPHABET SOUP**

In compliance terms, the first thing a manufacturer must do is set out a declaration of what it wants to achieve. This involves clearly setting out and documenting its processes and procedures to reflect industry recommendations.

There's an 'alphabet soup' of compliance programs certifications and regulatory bodies in food and beverage—Good Manufacturing Processes (GMP), the Food and Drug Administration (FDA), Safe Quality Food (SQF)—among many others.

At their core they have the same requirements in common but the difficulty is that no two of these industry recommendations are exactly the same.

So first, how does a manufacturer plan to remain compliant though this maze of regulations and second, how does it then prove its processes and procedures are adhering to what was set out in the plan?

In order to avoid drowning in the compliance alphabet soup, enterprise resource planning systems with 360-degree operational visibility come into play.

### **Traceability: Painful paper-based processes**

Currently a large number of food and beverage manufacturers are still employing paper-based records of processes and procedures. It's generally mandated that to ensure complete compliance, manufacturers must keep five years' worth of records—that is a lot of paper for even a moderate-sized facility.

Manually recorded efforts make accuracy difficult, paper can be lost and storage alone can be a challenge. Paper-based audit trails involve heavy document management in order to be able to demonstrate compliance. Take recalls and traceability for example. When an auditor asks a food and beverage manufacturer to demonstrate a scenario of a product recall, some manufacturers must rifle through a filing cabinet just to find the lot code of a product.

With the increasing complexity of ingredients and supply chain in the food and beverage industry, even drilling down into the recipe to find a faulty ingredient can take a significant amount of administration time.

Once this has been established, then the subsequent distribution of what could be 100,000 products with that particular lot code must be manually mapped—a large logistical challenge. Due of the lack of clarity provided by paper-based process management, the likelihood is that a much larger 'safety net' will have to be cast, making the recall more wide-spread and expensive than necessary.



An auditor will ask this to be done live, taking time and a large amount of manpower to provide an answer. Those few days can add up to a fail in the eyes of a compliance auditor.

### **ERP: Time, cost and compliance savings**

Food and Beverage organizations benefit when traceability is built-in to their ERP solution. Automated updates should be inputted by the different modules within the ERP system. As material comes in with a lot code, the user then only needs to issue the correct material lot—the structure of the process is built automatically as the material moves through the supply chain.

This data visibility provided by the ERP solution then provides the downstream capability to get to the raw material in question at the bottom of the manufacturing process, and the upstream traceability to discover every touch point in the manufacturing and distribution process. A few days can become a few minutes, if a food and beverage organization is using an ERP solution that allows them to create and access the information on-demand.

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Manufacturers need to establish the correct sequences to minimize contamination, so types of products are grouped in order—from non-allergen, to milk, to peanuts. However, efficiency also needs to be factored in.

## **COMPLIANCE FACTOR 2—EQUIPMENT MAINTENANCE AND SCHEDULING—THE PEANUT EFFECT**

Complex production and measuring equipment needs to be maintained periodically. If this equipment develops a fault, or is calibrated incorrectly, then food safety compliance becomes compromised and puts manufacturers at risk.

### **The allergen and process balancing act**

Of course allergens are one of the key considerations when it comes to food and beverage compliance. Following the ingestion of a food allergen, a consumer can experience severe and life threatening anaphylaxis. According to the FDA anaphylaxis is the cause of 30,000 emergency room visits and 2,000 hospitalizations every year.

‘May contain nuts’ is not acceptable when it comes to equipment maintenance, processing and clean-outs. The policy in compliance terms needs to unequivocally be ‘does not contain nuts’.

### **Scheduling and sequencing have to be right**

Sequencing is a particular area with potential for allergen contamination. Machines run numerous products in sequences. Manufacturers need to establish the correct sequences to minimize contamination, so types of products are grouped in order—from non-allergen, to milk, to peanuts. However, efficiency also needs to be factored in. For example, two separate sequences may yield the same end product, but based on cleaning time between ingredients, the time taken could differ drastically.



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A solution such as IFS Applications integrates the maintenance and supply chain, removing the barriers between the two silos of information.

Incorrect machine scheduling, especially without the required clean-out time, can be dangerous. The most extreme example being the product that runs after a recipe including peanuts. If that product supposed to be allergen-free and the clean-out wasn't performed properly because not enough time was scheduled, then the potential exists to introduce peanut residue into an allergen free product.

### **Production and maintenance—compliance match made in heaven**

Often production and maintenance act as two separate organizations within a factory, each having competing interests. A solution such as IFS Applications integrates the maintenance and supply chain, removing the barriers between the two silos of information. Scheduling of production and maintenance can be managed around the need for sequencing in an integrated process, while at the same time provides full visibility across factory operations.

A supporting ERP system should tell the strategic planner exactly how much time is required for a specific process depending on the order of the production schedule. This enables planners to define the clean-out/maintenance process, detailing the workforce, tools, and work orders required to properly execute an equipment clean-out and repair. Planners can then assess their 'make-span'—how long it will take to run the processes to manufacture the final product.

This opens up better opportunity for food safety because the effective maintenance and workforce scheduling is dynamic, with the right engineers and staff working on the right machine at the right time. Equipment remains well maintained and operated by the correct staff.

The bottom line is that the organization can save time, money and, crucially, remain compliant.

## **COMPLIANCE FACTOR 3—EMPLOYEE TRAINING STANDARDS—THE HUMAN FACTOR**

So an organization may have its processes and procedures, equipment scheduling and maintenance under control, but compliance is compromised if the staff executing these tasks are not qualified.

### **Alphabet soup 2.0 of skills and qualifications**

Training and certifications are central to food and beverage compliance—employee records are the first things an auditor will ask to see. There are a vast number of training courses in the F&B industry—each has a direct effect on what job employees can carry out, for example HACCP to prevent hazards during food and beverage manufacturing and FSPCA for animal food controls.



But when talking about production, it is also about scheduling. Skills-based workforce scheduling is necessary to put the right person with the right skills, on the right job to meet regulatory standards. For example, if a job is set to begin and there is not an employee on the factory floor with quality assurance skills, then this becomes a compliance issue that can threaten the whole production operation. Additionally, with staffing resource issues that many companies face, scheduled jobs can be held up, which in turn can create a quality control problem and jeopardize food safety.

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Skills-based workforce scheduling is necessary to put the right person with the right skills on the right job to meet regulatory standards.

### **Scheduling for capability, not just availability**

With powerful resource management modelling capabilities, supporting software solutions should allow food and beverage organizations to keep track of employee skills and certifications, as well as management training.

The software will use this functionality to model processing schedules based on both certifications and skills prior to production. The system will ‘shut-out’ an employee from being scheduled to work on a particular day if they do not meet the criteria to carry out a certain process.

This enables manufacturers to ensure they are covered from both an availability, and a training and skills standpoint—thereby maximizing efficiency and minimizing compliance risk. Again, because visibility and traceability is key, lot codes can be traced back to show auditors that the correct staff were assigned to a job or project.

With full visibility into staff training, there is the added value of manufacturers realizing where there may be skill shortages within the organization. This then provides the platform for decision-makers to invest in training programs or recruitment to fill the gap.

### **There’s a solution for that**

When considering how best to stay compliant in the complex regulatory environment of food and beverage manufacturers, it is crucial to consider how your ERP system can work for your organization. With no two compliance certifications or factory requirements identical, the modular nature of IFS Applications means it acts as a ‘tool-set’ to keep manufacturers free from litigation.

IFS Applications enables organizations to achieve the three stages of the compliance mission statement. IFS Applications starts by defining the processes and procedures that ensure the acquisition and production of defect-free products, in an environment free of hazards, using well-maintained equipment and well-trained people. It then helps food and beverage manufacturers validate this mission statement on audit day.



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## ABOUT IFS

IFS is a globally recognized leader in developing and delivering enterprise software for enterprise resource planning (ERP), enterprise asset management (EAM) and enterprise service management (ESM). Founded in 1983, IFS brings customers in targeted sectors closer to their business, and helps them be more agile and prepare for what's next in their industry. IFS's 2,800 employees support more than 1 million users worldwide from its network of local offices and through a growing ecosystem of partners.

For more information about IFS, visit [IFSworld.com](http://IFSworld.com)

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