

# How to Achieve World-Class Quality and Safety in Food and Beverage Manufacturing

# Introduction

As the number of SKUs continues to expand and production runs get shorter, food and beverage manufacturing is only getting more complex. This challenge is compounded further as new processes and procedures are introduced, often across distributed facilities.



... of food and beverage executives say procedures to ensure food safety is the most effective action to mitigate food safety risks.

[Source: DNV GL – Business Assurance and The Global Food Safety Initiative \(GFSI\) study](#)

Specifically, there are significant gaps in knowledge and experience between those who **define** your food quality and safety procedures, and those who **execute** them. In many cases, those gaps are bridged by little more than risky leaps of faith on the part of your industrial workers and maintenance staff. And while everyone in your organization – from the C-suite to the cleaning team – is 100% committed to quality and safety, there are hundreds of potential points of failure in your processes that can significantly impact your productivity, bottom line and even company brand.

## Regulatory Compliance is More Complex Than Ever

The 2018 update of ISO 22000 (with its counterpart under the Global Food Safety Initiative, FS 22000) and the FDA's Food Safety Modernization Act (FSMA) Intentional Adulteration (IA) Rule are among the ever-increasing list of laws, regulations and standards that you have to comply with every day.

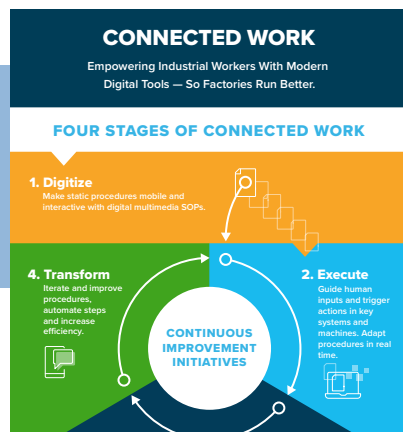
In particular, the FSMA IA Rule requires manufacturers to look below plant-level vulnerabilities to mitigate risk at each step of each procedure for each type of food made, handled, packaged and stored.

Beyond regulations, the public tolerance for any kind of food- or beverage-related health risk is at an all-time low. It takes just a matter of hours for a localized

outbreak of salmonella to turn into a national or international crisis, dragging down brand perception and even the financial health of a company.

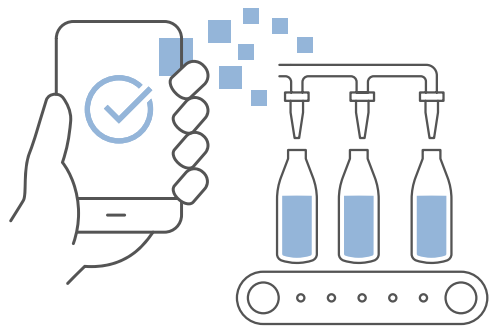
New [connected worker technologies](#) can reduce risk and facilitate regulatory compliance by closing the gaps between the definition of food quality and safety procedures, and the execution of those procedures.

With these technologies, standard procedures are always up-to-date in all locations. Work activity can be monitored and measured in real-time. And, inspectors and management have access to a digital record of performance over time, helping you demonstrate compliance, progress against SQDC KPIs, and alignment with corporate goals.



LEARN MORE

The Four Stages of Connected Work



Here are five ways  
connected worker  
technologies will  
help you achieve  
world-class food  
quality and safety

1

Transform static, paper-based documents into live information

2

Streamline quality assurance (QA), audit and certification processes

3

Improve traceability and response time when quality and safety incidents occur

4

Integrate proactive risk reduction into operations

5

Generate and update processes in real-time



Transform Static Documents  
Into Live Information

# Transform Static Documents Into Live Information

Traditional paper-based documentation can't keep up with today's frequent product, market and regulatory changes. Even the most dedicated quality and safety teams have a tough time getting the latest procedural updates and training aids to all the workers who need them across all plants. Connected worker technologies deliver an immediate productivity boost by converting static procedure documents into cloud-based, interactive digital workflows.

With connected worker technologies, when a procedure author hits "Publish," new or updated instructions are immediately available on a mobile app and accessible by everyone who will execute or oversee that work. This could be an entirely new end-to-end workflow, or a tiny detail of a step nested three levels down in an existing procedure – critical to the process, but easy to overlook. These changes are equally quick for pictures, audio and video – formats not available with paper-based procedures and record keeping.



## Live Information is Always Up-to-Date

As connected workers execute procedures, technology can prompt them to enter measurements and other information into a mobile app. Even better, more advanced solutions can pull data directly from sensors and bar codes, increasing the speed and accuracy of information capture. Automatic time stamping and execution monitoring can track production line activity and verify adherence to standard work.

Unlike static, paper-based checklists that are archived until an audit or recall – and eventually destroyed – this information stays alive and becomes a key input for performance analysis and process improvement.

## Going Paperless

A CPG manufacturer that deployed Parsable's Connected Worker Platform achieved these results:



Operations are now 100% paperless



10,000 new data points captured for analysis every month



55% increase in form completion vs. paper



# 2

Streamline QA, Audit and  
Certification Processes

# Streamline QA, Audit and Certification Processes

With traditional methods, QA processes may appear to be working well, and yet the number of production and consumer issues are still higher than your target levels.

The reality is, it's too easy for workers to “pencil-whip,” skipping steps in the QA process or filling in data from memory at the end of their shifts. More critically, the data from those paper-based QA sheets is often not available for analysis until well after the shift, if at all.

With connected worker technologies, you're continuously capturing, measuring and verifying data. You can analyze it in real-time to ensure actual quality aligns with expected quality. And when an auditor or certification authority asks you for proof, **you have easy access to detailed evidence.**



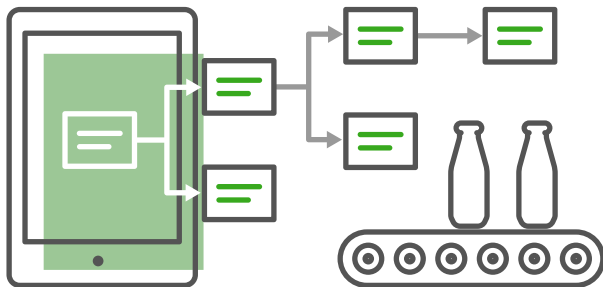
## FOOD FOR THOUGHT:

“When you're dealing with something as sensitive and important as food, certain things need to happen – every time. Parsable is our backbone. We use this data to not only operate efficiently, it insures we are ready for any compliance or health and safety audit.”

– Director of Operations  
Major CPG Manufacturer

## Fast and Efficient Response to Audits

Let's say you need to pull data on two randomly selected batches produced during the past two months. If you've fully implemented a solution across your supply chain, meeting that request means simply opening the batch numbers via your connected worker software. Every detail and measurement related to those two batches – about suppliers, ingredients and operator training, as well as all the steps in manufacturing, packaging, storage and shipping – are available in one place.



When an auditor leaves you with “homework,” connected worker technologies help you earn top marks for compliance by:

- making and distributing mandated process changes faster.
- automatically tracking work, compiling data and capturing visual proof – at the level of micro steps and granular details – to prove that workers are following the changed procedures
- demonstrating you're using ongoing operational data to continuously improve your food quality and safety processes above and beyond the homework list.

# 3

Improve Traceability and Response Time

## Improve Traceability and Response Time

Despite your best efforts to increase quality and safety, there will always be the ever-present specter of health risks from food-borne pathogens.

In the United States, the Centers for Disease Control and Prevention (CDC) investigated more food contamination outbreaks in 2018 than in any year of the previous decade.<sup>1</sup> In the European Union, progress in reducing salmonella outbreaks has stalled.<sup>2</sup> As our ability to identify contamination risks increases, the need to address issues quickly and proactively also is heightened.

When something goes wrong, it's disastrous. Every recall makes the news, and notoriety spreads at social media speeds. The time it takes to navigate all the elements of sourcing, production and distribution to troubleshoot what went wrong is never fast enough.

If you're reliant on paper records and manual retrieval processes it can take weeks — dragging down your brand and your revenue.



Food recalls in the U.S. increased  
10% between 2013 and 2018.

Source: [Public Interest Research Group](#)

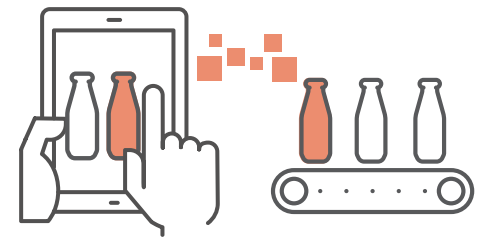
<sup>1</sup> "What do recall and outbreak numbers really mean?" *Quality Assurance and Food Safety*, April 2019

<sup>2</sup> "Statistics show mixed results on progress against foodborne illness in the EU," *Food Safety News*, December 2018

## Find the Source and Fix the Problem — Fast

With connected worker technologies, full traceability puts all the information about any particular batch right at your fingertips. You'll have granular data on the execution of every step of every process, enabling you to identify and analyze any deviations from your quality and safety procedures. And you'll be able to tell if this is a one-off, or a systemic issue that will necessitate additional monitoring, controls or training.

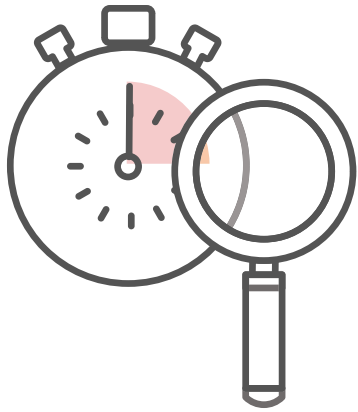
“There are flaws with safety systems that rely largely on paper and pencils. Most notably, it’s impossible to integrate and analyze critical data when using paper. It can be challenging – in the event of a security breach or possible recall – to locate specific paper records.”



“Tech Solutions are Elevating Food Safety,”  
*Manufacturing QA*, December 2018

# 4

Integrate Proactive Risk-Reduction  
Into Operations



**30,000+ new data points captured and analyzed every day**

**Within weeks of deploying Parsable's Connected Worker Platform, a global CPG brand had data-driven insights into its operations like never before.**

## **Integrate Proactive Risk-Reduction Into Operations**

While faster response to quality and safety events is critical, avoiding them in the first place is the ultimate goal.

With connected worker technologies, you get ahead of potential risks. If a temperature value or machine tolerance, for example, is drifting toward a quality threshold, a line operator can be prompted to add a simple preventive maintenance step to the normal work process.

For more critical issues, technology can automatically generate a tag, alerting your maintenance team and providing contextual information – all without waiting for an operator to intervene. Early warnings like these help you fix potential problems before they become serious issues – and avoid more costly line stoppages, cleaning and spoilage.



## Drive Continuous Improvement

By regularly analyzing data captured by connected workers, you can also proactively seek out ways to improve your operations. Comparing data across plants, lines and shifts, for instance, helps identify procedures in need of tightening and workers in need of more training to improve quality and increase safety of both the product and the employees themselves.

You'll also discover performance high points: Analyzing what an outstanding team is doing differently at a detailed level will help all teams up their game.

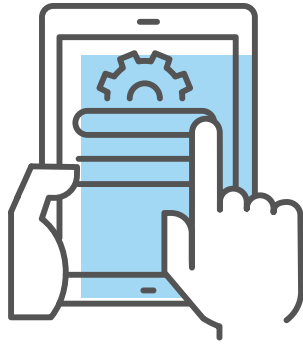


Food industry workers have a 60% higher rate of occupational injury or illness than workers in other industries.

Source: [Emory University study](#)

# 5

Generate and Update  
Processes in Real-Time



## Generate and Update Processes in Real-Time

In traditional paper-based environments, it can take weeks or even months to fully implement procedural changes in support of new products, or in response to new retailer packaging requirements or regulatory changes.

With connected worker technologies, you not only have real-time visibility into what's happening in production, you also have the ability to change it in real-time.

Quality teams can easily modify any step of any procedure electronically. Using a common repository of procedural elements — such as steps, thresholds and alerts — means they're instantly available for use by all plants. Since the technology keeps track of where every element is currently being used, a single update refreshes all instances.

## Act Local, Think Global

Additionally, authorized employees on the factory floor or in-region – those closest to the actual manufacturing processes – also have the ability to make changes, increasing the pace of optimization.

In large, globally-dispersed manufacturing environments especially, a connected worker platform is really the only way to manage procedure steps as you ramp up production speed, scale and complexity. It maintains a full change history of each element, and keeps track of where elements were previously used and their lineage (if modified from pre-existing elements). For global brands, this ability to track, monitor and modify process elements is essential for quality and consistency.

“If you’re not capturing that data available to you from the workflow, you’re missing a huge opportunity to learn a lot about your manufacturing process.”

John Childs

*Director of Operations, Strategy & Technology, Green Chef*



Learn how meal-kit delivery service Green Chef successfully leverages the Parsable Connected Worker Platform across its facilities at [www.parsable.com/green-chef](http://www.parsable.com/green-chef)

# Conclusion: Your QMS and EHS Standards Drive Business and Brand Performance

You have people committed to quality and safety throughout your organization. Connected worker technologies give them the means to operationalize that commitment.

Organizational communication and cooperation rise to a new level when work is consistent, transparent and dynamic. Everyone can see what they're doing individually and within their team, and understand how it ripples out to impact other teams and the achievement of common objectives.

When everyone in your organization is doing their measurable, provable best for quality and safety, you're moving the needle not only on KPIs like uptime and Overall Equipment Effectiveness (OEE), but on productivity, consumer satisfaction, inventory management efficiency and profitability. Quality and safety shifts from being a cost center to a business performance enabler.

In this environment, quality and safety processes have the power to transform your entire organization.

## Transformational Value

A CPG manufacturer that deployed Parsable's Connected Worker Platform achieved:



65%

decrease in size  
of procedures



50%

decrease in start-up,  
shutdown and  
changeover times



4%

increase in OEE

# About Parsable

Parsable empowers industrial workers with modern digital tools to improve productivity, quality and safety. The Parsable Connected Worker Platform transforms static, paper-based procedures into mobile and interactive work instructions, enabling workers to leverage multimedia formats and collaborate in real time. With Parsable, companies gain unprecedented insight into human work by capturing essential data to improve their operations. A member of the World Economic Forum's Centre for the Fourth Industrial Revolution, Parsable is trusted by top global companies in the manufacturing, energy, consumer packaged goods, chemical, aerospace, industrial equipment, automotive and packaging industries. Learn more at [www.parsable.com](http://www.parsable.com).

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