



ZEBRA FOOD & BEVERAGE SOLUTIONS

# Integrating and Automating an Increasingly Complex Supply Chain

Easy to manage enterprise technology that optimizes outbound operations, enhances supply chain visibility and improves food safety compliance



## Modernize Your Supply Chain

Recent worldwide events have ushered in unprecedented demands on food and beverage companies and strained supply chains beyond their limitations. Warehouses are working overtime to fulfill traditional customer orders along with ever-increasing sales from ecommerce platforms. At the same time, organizations continue to wrestle with the seemingly unending challenge of hiring, training and retaining skilled workers to keep operations in motion.

It's a conundrum: How to do more with less? Forward-thinking warehouse leaders are embracing automation to increase visibility across the supply chain, streamline operations and better serve customers. Here's why.



### CONSUMER EXPECTATIONS ARE HIGHER THAN EVER

We're at a moment of transformation in the modern warehouse environment. In the food and beverage industry, consumer demand is heightened as new digital channels create more pathways for the flow of goods from manufacturer or retailer to the end consumer. Consumer palates for fresher, healthier foods are translating into shorter product shelf lives requiring higher levels of visibility and tighter inventory controls.



### SUPPLY CHAINS ARE GETTING MORE COMPLICATED

Suppliers are facing increased pressure to deliver products faster and at higher volumes. In food and beverage, companies are confronting the added challenge of ensuring food safety and complying with stringent regulatory requirements. The shift towards automation enables companies to handle the higher volume of SKUs passing in and out of the warehouse and through multiple fulfillment channels.



### FOOD SAFETY FIRST

Maintaining consumer trust with food safety and supply chain transparency is crucial. One public incident can have disastrous consequences for a business in the grocery or food service sectors. Intelligent edge solutions link warehouse management solutions with other enterprise systems, offering unrivaled visibility into the supply chain to ensure food safety compliance and enable full track and trace capabilities.



### EXCEED EXPECTATIONS

With the right solutions paired with the right task, warehouses can achieve higher productivity, better accuracy, and flawless fulfillment. Intelligent edge solutions infuse workflows with automated optimization and valuable insights, helping to keep workers engaged and decrease labor turnover.

In Zebra, food and beverage suppliers have a trusted advisor for improving operations throughout the supply chain. Serving more than just point solutions, Zebra's full suite of devices and intelligent-edge applications work together to create a more efficient supply chain ecosystem. This eBook focuses on ways leading warehouses are optimizing food and beverage operations and realizing stellar results.



**77%**

**77% of warehouse operators agree they need to introduce automation in the warehouse.**

Source: Zebra Technologies, "Warehousing Vision Study, Tech That Enhances Human Capabilities," 2019.



## High-Efficiency Picking at Your Fingertips

The growing on-demand economy is challenging warehouses to increase picking speed – without compromising on accuracy. In food and beverage, high efficiency picking requires automation and digital traceability at every level, from item to case to pallet, ensuring orders are correct and food safety compliance measures are met.

Zebra's devices and enterprise systems streamline the picking process. To increase productivity, hands-free solutions relieve workers who are juggling both gear and inventory while picking. Meanwhile, enterprise applications automate workflows to give workers the best route to fulfill their picklist, providing real-time visibility to the front line. Picking accounts for over 60% of all warehouse operating costs and is also one of the areas with the highest amount of employee turnover.<sup>1,2</sup> Modernizing the process with enterprise-class wearables and Android devices along with easy-to-use applications keeps employees engaged while speeding up onboarding for trainees.



### **XSLATE L10 RUGGED TABLET**

When paired with an extended range scanner, Zebra's durable mobile tablets allow lift-truck operators to access enterprise systems within the vehicle for more efficient pallet picking.



### **MC3300X MOBILE COMPUTER, HD4000 HEAD-MOUNTED DISPLAY**

Integrate voice and handheld scanning solutions for user-friendly, multimodal picking. With the head-mounted display connected, voice-directed picking solutions free up employees' hands to do more tasks in less time.



### **MC3390xR RFID HANDHELD READER**

Many food and beverage businesses are moving to RFID scanning for track and trace capabilities, allowing pickers to locate items with increased speed and accuracy.



### **ZQ600 SERIES MOBILE PRINTERS**

On-the-spot printing saves time and energy as workers assign labels to orders throughout the fulfillment process. For refrigerated or frozen goods, mobile printers operate in cold storage areas as well.



### **DS3608/DS3678 ULTRA RUGGED SCANNERS**

Precise and durable scanners ensure pickers are capturing the correct information as they fulfill multiple orders while moving through the warehouse.



### **INTELLIGENT EDGE SHOWCASE**

**Zebra FulfillmentEdge™**  
Powered by Zebra Savanna™

Zebra's FulfillmentEdge technology supercharges existing WMS without costly upgrades to the entire system, allowing warehouses to drop the dated "green screen" technology and instead leverage the capabilities of Zebra's Android devices. Dynamic workflows help employees pick up to 24% more orders, taking into account their location to save precious time spent walking around the facility.

<sup>1</sup> Georgia Tech, "Importance of Ordering Picking."

<sup>2</sup> F. Curtis Barry & Company, "10 Tips to Manage Labor More Effectively in Your Supply Chain Logistics," 2021.

## Streamline Staging with Intelligent-Edge Applications

Optimized staging operations can prevent mistakes at the outbound operations level, avoiding disruption to store delivery and potential customer dissatisfaction. What's more, advanced technology can confirm each order is complete before ever leaving the warehouse, helping to quickly locate any missing pallets, packages, or items. A highly efficient supply chain enables suppliers to scale up as demand increases.

Working together with intelligent edge applications like MotionWorks Warehouse, Zebra's Android-powered devices can account for outbound shipments in real time, in each staging location, making sure goods are always loaded onto the right trailer with the right carrier. Getting goods onto the correct truck every time is particularly important when working with climate-sensitive food and beverage.



### **MC3300X MOBILE COMPUTER**

This versatile Android device supports various use cases with four different form factors, three keypads, and the possibility for hands-free use. The MC3300X helps workers ensure staging goes off without a hitch, directing pallets and confirming movements before loading.



### **ZEBRA IQ COLOR LABELS AND ZQ600 SERIES MOBILE PRINTER**

Mobile printers and color-coded labels keep goods organized, highlighting essential information for each carton as it heads off to its next destination.



### **DS3608/DS3678 ULTRA RUGGED SCANNERS**

Wireless scanners allow workers to move about staging zones freely, guaranteeing accurate asset tracking without the threat of a dying battery holding them up.



### **ATR7000 RTLS READER**

This advanced RFID reader can monitor assets' status and location throughout the supply chain, using real-time data from passive RFID tags to optimize product flow.



### **VC8300 ANDROID VEHICLE-MOUNT COMPUTER**

Mounted Android devices optimize forklifts operations, enabling drivers to move larger goods around the warehouse with ease and efficiency and complete data capture without leaving the vehicle.



### **INTELLIGENT EDGE SHOWCASE**

## **Zebra MotionWorks® Warehouse**

Powered by Zebra Savanna™

MotionWorks Warehouse tracks the location, path, and status of assets and inventory – whether stationary or in motion – enabling food and beverage companies to quickly fulfill growing demand by streamlining workflows, boosting efficiency, and increasing accuracy. Optimized for handling large volumes of assets rapidly, MotionWorks transforms warehouse operations from receiving and replenishment to picking, packing, and shipping.

## Digitize Your Packing Process

Create a comprehensive shipping environment using Zebra's state-of-the-art products and systems. Today's shoppers have more options than ever, and companies must keep up with shifting expectations. Disruptions across supply chains have pushed suppliers and retailers to embrace a new, agile approach to innovation. In an age where warehouse operations extend to ghost kitchens, micro-fulfillment centers and online grocery delivery, modernizing the packing process becomes an even more crucial step in delivering accuracy and customer satisfaction.

Wearable devices are light but powerful, never slowing workers down as they pack and verify orders before staging. Systems can instruct employees which cartons and materials to use for packing each product, creating the ideal shipping environment for everything from shelf-stable bottled beverages to refrigerated produce. This process trims time ordinarily spent on decision making and helps ensure products don't get damaged or compromised along their journey.



### **WT6300 WEARABLE COMPUTER, RS5100 RING SCANNER, HD4000 HEAD-MOUNTED DISPLAY**

Packing is the last chance to check order accuracy. Hands-free wearable devices give workers the freedom to complete tasks efficiently, even in a high-velocity environment.



### **ZT610 INDUSTRIAL PRINTER**

Industrial printers allow facilities to process a higher volume of orders without falling behind or sacrificing print quality. Labels are crisp and clear for effective tracking of every carton.



### **DS3608/DS3678 ULTRA RUGGED SCANNERS**

With rugged exteriors, Zebra's handheld scanners are designed to stand up to virtually any challenge, including cold chain conditions, or reading barcodes that are far away, partially obscured, or damaged.



### **FX9600 FIXED RFID READER**

Enabling enhanced supply chain traceability, fixed RFID readers guarantee an updated status for each outbound shipment going by as it leaves the warehouse.



### **L10 ENTERPRISE TABLETS**

With larger screens and reliable Wi-Fi and Bluetooth connections, Zebra tablets help workers verify shipment contents, packing instructions, and correct labeling.



### **ZEBRA Z-SLIP**

Zebra's all-in-one packing slip replaces the need for extra steps like folding or inserting, saving up to 29 seconds per carton and preventing the opening and closing of potentially temperature-sensitive packages.



### **INTELLIGENT EDGE SHOWCASE**

## **Zebra Workforce Connect™**

Powered by Zebra Savanna™

This powerful application enables employee communication and collaboration, empowering frontline workers and providing visibility across the warehouse. With all workflows — from picking to packing and everywhere between — and communications consolidated in one place, processes are streamlined and workers can solve problems quickly and effectively.



## Load Shipments Quickly and Correctly

Hyperconnected warehouses are the new reality. Zebra's Warehousing Vision Study found that 43% of organizations plan to implement real-time location systems (RTLS), enabled in part by RFID tagging and Bluetooth technology like beacons. These systems give warehouse managers a bird's eye view of operations, allowing for real-time cross-checking of assets' actual locations.

The loading dock is the last touchpoint between the warehouse and the products' destination, and automation allows workers to ensure goods get on the right truck in the right order. Zebra's products help reduce the carbon footprint of distribution and increase shipping schedules' efficiency, loading and sending out more orders without unnecessarily increasing fleet or headcount.

Rugged handheld scanners, mobile computers and fixed industrial readers combine with enterprise software applications to efficiently load trucks and successfully maintain tight delivery schedules.



### **XSLATE L10 RUGGED TABLET, VC8300 ANDROID MOUNT COMPUTER**

These powerful devices are mounted inside forklifts, giving drivers clear instructions and necessary information to access every loading door. Zebra's MotionWorks solution empowers drivers to process real-time notifications for increased efficiency.



### **DS3608/DS3678 ULTRA RUGGED SCANNERS**

Equipping drivers and workers on the loading dock with rugged, cordless scanners is essential for confirming key information about a shipment as it leaves the warehouse, including its contents and destination.



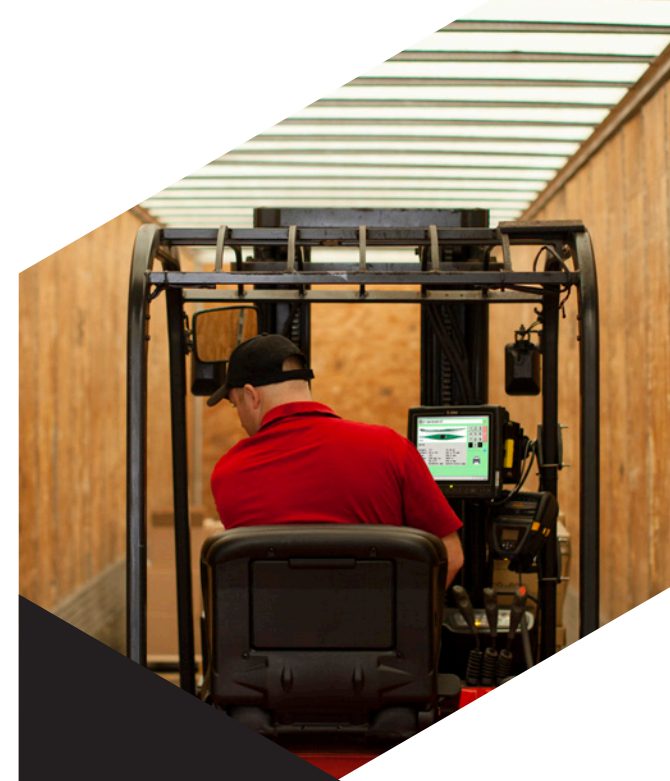
### **FX9600 FIXED RFID READER**

Fixed RFID readers reduce the need for item-based scanning. Instead, RFID readers instantly cross-check pack lists and confirm each order's accuracy as pallets are loaded onto trailers.



### **MB4000 RUGGEDIZED BLUETOOTH BEACON**

Perhaps most importantly for food and beverage shipments, these location beacons are waterproof and ruggedized to last many years, even in harsh in-vehicle environments like refrigerated trucks. The MB4000 beacons help ensure the right parcel gets on the right trailer and reduces expensive misloads.



### **INTELLIGENT EDGE SHOWCASE**

## **Zebra SmartPack™ Trailer**

Powered by Zebra Savanna™

Analyze dock operations in real time, with a detailed view of the staging and loading process. Using SmartPack Trailer, warehouse managers can more efficiently manage each truck's packing and departure and better prepare for the next shipment.

## Take Direct Store Delivery to New Heights

The modernization journey continues beyond the warehouse. Once the loading process is complete, Zebra's technology solutions enable better service at every stop. Workforce Connect powers seamless communication between drivers and hubs, offering push-to-talk and enterprise messaging, as well as automated vehicle inspections and notifications of issues like route changes and weather delays. Mobile computers quickly process invoices and orders on the spot, tallying and confirming data for better recordkeeping and management.

Optimize direct store delivery operations with devices built for the long haul. Consumer-grade devices can't stand up to rigors encountered during the delivery process. Zebra's enterprise-grade devices have a long lifecycle, are more secure, and cost up to 50% less over five years than consumer devices. Batteries have a longer life cycle and can be quickly swapped for freshly charged ones, providing non-stop power for drivers.



### **TC57, TC77, TC26 TOUCH COMPUTERS**

These rugged handheld devices help automate the delivery process, enabling better service at every stop. Intelligent data capture confirms proof of delivery, using images to comply with planograms. Additionally, the devices' Android interface is intuitive and familiar to use, simplifying deployment and enabling quicker onboarding.



### **ZQ521, ZQ630 MOBILE PRINTERS**

With mobile RFID and barcode printers, drivers can create labels and invoices quickly and easily. For quick service on the go, Zebra's mobile printers offer the highest level of connectivity in addition to a high-capacity battery.



### **ETX, L10 RUGGED TABLETS**

Rugged tablets mounted in the cab of a truck can withstand extreme temperatures, shock and vibration to maintain operational reliability along the journey.



### **INTELLIGENT EDGE SHOWCASE**

## **Temperature Sensing/ Monitoring**

Meeting today's standards for food safety requires the ability to monitor and track the temperature of goods at every step of the journey from picking to delivery. New wireless and Bluetooth-enabled labels and sensors allow for up-to-the-minute temperature readings of an individual shipment without opening the packaging and potentially compromising its contents.



## Serving Up the Right Solutions for Your Unique Supply Chain

At Zebra, we lead the development of intelligent, enterprise-technology solutions that provide unrivaled visibility into what is happening in your food and beverage operations and recommend the next best move or action. Our vision is to mobilize operational data from devices and applications, analyze it and drive smarter, faster workflow decisions by users anywhere, anytime.

For every stage of the outbound fulfillment process, Zebra has the technology to maintain productivity and ensure safety and traceability, meeting today's rapidly growing demand without increasing warehouse headcount.

Learn how Zebra can help optimize your food & beverage operations today, visit [zebra.com/warehouse](https://zebra.com/warehouse)



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