Bastian SOLUTIONS
a TOYOTA AUTOMATED LOGISTICS company

Strategies for Food and Beverage Distribution

Strategy Guide

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EXECUTIVE SUMMARY

Food and beverage distribution is facing a dramatic shift as traditional supply chain models are being pushed to their limits. Retailers demand more variety, faster restocking, and reduced packaging, leaving manufacturers and distribution centers scrambling to keep up.

The rise of just-in-time ordering and a growing number of SKUs means space is tighter, processes need to be faster, and accuracy is more critical than ever. Automation is the game changer—enabling smarter, more efficient operations. From robotic palletizers to advanced storage systems, these innovations transform how products move through the supply chain.

This whitepaper uncovers the challenges and cutting-edge solutions shaping the future of food and beverage distribution.

01

THE CHANGING DYNAMICS OF FOOD AND BEVERAGE DISTRIBUTION

The food and beverage industry has experienced a supply chain evolution. Traditionally, food processors would manufacture bulk quantities of products at their discretion, store it at their plants, and ship single-SKU pallet loads out to distribution centers (DCs) where they were also stockpiled. The DCs would distribute these single-SKU pallets to retail outlets where they were kept in stock, ensuring that they had a continuity of supply until needed on the floor. This system has worked efficiently for decades in the packaged foods industry to move products from the manufacturer through the supply chain to retailers' shelves.

Bulk processing of SKUs has given way to the demand for smaller order quantities, with more varied packaging containers and just-in-time ordering requirements by food retailers.

But now, this distribution paradigm has shifted. Bulk processing of SKUs has given way to the demand for smaller order quantities, with more varied packaging containers and just-in-time ordering requirements by food retailers. This trend has tended to shift packaged foods and beverage distribution away from traditional pallet-based single-SKU loads toward multi-SKU layered pallets and single-case picks. Those single-SKU pallets of dairy products, snacks, soups, ice cream, sauces and dressings, baked goods, canned foods, ready meals, and chilled and frozen processed foods are more consistently being replaced by mixed-SKU pallet loads and roll cages when received at retail locations.

This trend is being driven primarily at the retail level. Consumers continue to demand more packaged food and beverage options, forcing retailers to carry more products. Retailers are trying to maximize their floor space to accommodate the growing number of SKUs, with less backroom storage space to stock items. Consequently, they need to re-supply their stores more frequently with smaller quantities. Some retailers have virtually eliminated backroom storage completely – as products arrive, they are immediately put out onto the floor.

Retailers are pushing their storage issues back to distribution centers and manufacturers, who are more closely looking at how to better manage their storage capability. Along with this growth in SKUs is an increase in the variability of primary and secondary packaging of food products. Packaging styles include boxes of all sizes, cans, and jars in cardboard trays, open and closed cartons for beverages and bags, and large tissue packages. Consumers, becoming more concerned about the environment, want less packaging on their products. This influences packaging rigidity and increases picking, pallet load building,and shipping difficulty.

There is little sign that the increasing number of packaged food and beverage SKUs will abate soon. According to Research & Markets' US Packaged Food Market Report 2023, the U.S. packaged food market size was valued at USD 1.03 trillion in 2022 and is expected to expand at a compound annual growth rate (CAGR) of 4.8 percent from 2022 to 2030. Contributing to this growth is the expanding SKU count.

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02
DISTRIBUTION CHALLENGES

Supply chain executives within the food and beverage industries face considerable challenges when balancing production runs, inventory volumes, and delivery schedules.

MANUFACTURERS

Food and beverage manufacturers are saddled with maintaining more inventory of diverse SKUs at the plant. Space utilization within production warehouses is at a premium, and they consistently run out of space. Finished products are frequently stacked on floors and aisles, contributing to increased fork truck accidents, spillage and damaged products, and lost and expired inventory. The continuous increase in the cost of land, construction, labor, and facilities has heightened demand on space utilization within these production warehouses.

A growing number of manufacturers are utilizing 3PLs or renting outside space to store manufactured products. But this presents a new set of issues. Although most contemporary 3PLs run highly efficient operations, transporting pallets of product to off-site storage incurs rental costs, increased transportation costs, and loss of last-touch product control, which can increase product damage and returns.

DISTRIBUTION CENTERS

The continually growing number of different SKUs with varied packaging and the growing need to deliver orders in more store-friendly formats has become increasingly difficult to manage with less than highly automated systems.

The problem is magnified for DCs because of the significant growth of smaller, localized specialty foods manufacturers. Such companies tend to lack adequate automated end-of-line packaging and distribution capability within their own facilities. Non-standardized packaging and labeling, and lack of load tracking capability, especially with chilled and frozen food products, adds complexity to efficient handling in highly automated DCs.

Comprising tens-of-thousands of different SKUs in an assortment of package styles, packaged foods and beverages handled by DCs need to be stored, picked, and stacked on pallets or roll cages ready for outbound transport to retailers, with a very high level of efficiency to optimize labor usage and minimize operational and shipping costs.

RETAILERS

Grocery retailers are being challenged by significant shifts in consumer needs and purchasing habits. Consumers are demanding more choices, becoming more price conscious, and more willing to change brand allegiance to get better value. The shift towards fresh, simple, traditional, and ethically prepared foods continues to push brand diversification and specialty store formats.

The growing need for multi-channel methods for customer ordering and a diversity of options for the receipt of goods is paramount. E-commerce growth in grocery retailing continues to expand, and a multi-channel ordering capability is expected. To remain competitive, grocery retailers require a presence across multiple channels – stores, online, social networking, digital displays and mobile.

Retailers have attempted to keep pace with these market changes by:

a. Providing an escalating selection of prepared foods and beverages

b. Expanding specialty-format stores that cater to selected demographics

c. Offering consumers online ordering options

d. Expanded store pick-up and delivery services for customers

Implementing these changes has necessitated a modification in distribution methods and heightened the need for automation at the DC level to achieve desired cost efficiencies. To better manage the tens-of-thousands of SKUs in-store, retailers increasingly require replenishment from DCs to be sequenced in aisle-friendly pallets and roll cages, custom-built to store aisle and product group requirements. Only with automation can grocery products be delivered to retailers with this level of precision and cost-efficiency.

03

KEY FACTORS INFLUENCING FOOD AND BEVERAGE DISTRIBUTION

Escalating Volume of SKUs

The number of SKUs continues to grow as food and beverage producers introduce more variations of packaged foods – including frozen entrees, beverages, dairy products, meats, produce, deli items, and prepared ready-to-eat meals.

Speed of Order Processing

More frequent store deliveries require orders to be processed, picked, packed, and shipped with increasing speed at the distribution and manufacturer level.

Increased Need for Storage Space

As SKU counts increase, the need to more efficiently utilize space at the manufacturer, distribution, and retail levels is a progressively more critical issue.

Just-in-Time Ordering

Grocery retailers are replenishing their shelves with more frequent, smaller quantity orders. Just-in-time ordering necessitates shorter ordering lead times for distribution centers and manufacturers.

This has pushed a growing number of food and beverage manufacturers to bypass distribution centers and ship directly to retail stores to shorten delivery times.

Variable Store Formats

Food and beverage retailers are operating multiple store formats to target different consumer demographics – such as hypermarkets, supermarkets, club stores, big box discount stores, health food stores, specialty foods stores, convenience stores, and e-commerce fulfillment centers.

This requires fulfillment systems with greater flexibility to meet these different store replenishment profiles.

Fulfillment of Online Purchases

Increasingly, consumers expect grocery retailers to maintain an online interface for ordering products, with same-day delivery and at no charge. This presents logistics challenges as grocery retail stores are downsizing their inventory, so many SKUs ordered online may not be sufficiently stocked at the store level to provide same-day delivery.

Online ordering presents considerable inventory, picking, and distribution challenges for grocery retailers.

Worker Safety

A large percentage of goods handled by food and beverage manufacturers, grocery DCs, and grocery stores are case goods, which have a higher degree of biomechanical injuries compared to handling unit loads or piece-picking.

This is heightened in deep-freeze and chilled warehouses, where worker injury rates are increased. Ergonomics with workers plays an important role in reducing the incidence of injury.

Hiring and Retaining Warehouse Workers

High turnover rate is a continual issue with food and beverage warehouse workers, particularly in deep freeze and chilled facilities. Hiring, training, and retaining workers is especially critical when dealing with seasonal spikes in throughput.

Minimization of Secondary Packaging

Food manufacturers are reducing secondary packaging to cut costs and provide more sustainable containers. This makes pallet building more challenging because of increased package instability.

Energy Management

Refrigerated warehousing is not only an expanding sector, but also the most energy intensive, specifically deep-freeze facilities.

Maintaining these warehouses comes at a hefty energy cost. Consequently, manufacturers and DCs are paying closer attention to better manage their power draw and streamline energy utilization.

Rising Transportation Costs

Rising fuel costs influence transportation from the manufacturer to the distribution center and retail outlets, pushing the need for more optimized order consolidation and better trailer loading to improve density.

This is particularly critical with the growth of just-in-time ordering, requiring more frequent deliveries to stores.

Track-and-Trace Requirements

More real time visibility about product movement and location is required to optimize the supply chain.

Food and beverage executives from manufacturing through distribution, and at the store level, need to know exactly where every pallet and case is located. Manufacturers of food and beverage products are required to date stamp and code production lots, as well as pallets and cases, for tracking and to manage first-in/first-out (FI/FO) in storage, and with some fresh products source tracking data is required.

In addition to managing each pallet and case through the supply chain, track-and-trace measures support product quality and identification in the event of product liability or a recall.

Store-Ready Distribution

Products shipped to grocery stores need to be more aisle-ready to reduce in-store labor requirements and cut the time it takes to restock shelves.

Increasingly, mixed-SKU pallets, roll cages and dollies must arrive at stores pre-sorted by aisles and grouped by product family. High-volume, fast-moving SKUs targeted for store floor promotions need to be moved in and out of the DC quickly, either cross-docked or temporarily floor staged in the DC before shipping to the grocery outlets. When received at the store, the pallets can be rolled right out onto the floor for positioning.

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TEMPERATURE-CONTROLLED DISTRIBUTION

CHILLED FOODS

Few consumer food products require more demanding time and temperature controls from production through distribution to their arrival on retailers' shelves than dairy and packaged meat products. Where most ambient temperature packaged foods and frozen food products can be stored for months after being produced, dairy and meat products must be distributed within days. And once in the stores, they have a shelf life of no more than five days. This is a very short sales window before date expiration, which can result in waste or marked down pricing. Couple this with the need for a continuously chilled environment at a temperature between 35° to 39° F throughout the entire supply chain, and the need for highly precise product handling becomes critical.

Dairy is unique in the food industry because of the varied containers used to store and transport its products, which include plastic crates for fresh milk and cream, cases, roll containers, and pallets. Each of these formats requires specialized handling with automated storage and picking approaches.

Improved throughput productivity, combined with the ability to deliver more SKUs in store-friendly formats with increased speed and accuracy, while maintaining product traceability, are crucial to successful dairy and packaged meats distribution.

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PRODUCE

Consumer demand for more wholesome, nutritious, and convenient foods continues to fuel the expansion of packaged fresh produce options at retailers, with food retailers supporting this trend by providing an ever-widening array of new selections. Food retailers and foodservice providers, keen to this dynamic market shift in fresh foods, have expanded their packaged fruit and vegetable offerings to provide higher quality products, with a particular focus on organic and locally grown produce.

Prioritizing quality in produce extends to food safety and the ability to track and trace fresh produce lots in the supply chain,

Most produce inspections within distribution facilities are still conducted with clipboards and Excel forms, manually transcribing lot and case numbers, temperatures, product damage, and taking photographs with cell phones. All of which is then manually input into a database and emailed or otherwise transferred between interested parties – i.e. suppliers, retail and foodservice operators, and distributors. The process is labor-intensive and time-consuming. Produce has, by its very nature, a short shelf life. Anything that delays fresh fruits and vegetables from reaching retailers' shelves quickly, while not kept within the ideal temperature range, adds to the spoils.

Produce suppliers and retailers are finding it necessary to interact with new technology in the supply chain. Compliance with food safety regulations, an increasing need to manage produce quality, and more timely demands for tracking just-in-time product movements are driving them to seek new solutions. These include embracing real-time, cloud-based visibility of the produce quality, inventory and movement, from producer to final delivery at the retailer. Off-color produce, bruising, damaged packaging, mold decay, temperature, lot serial number – all of this information should be immediately visible to interested parties in real-time.

Automating the inspection process, combined with robotic pick-n-place and specialty conveying systems designed for handling sensitive packaging like clamshells, affords a higher guarantee of sustaining produce quality by the time it reaches the retailer.

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FROZEN FOODS

Frozen food has been one of the fastest-growing categories in the packaged food products space over the past 40 years and is projected to expand at a rate of 5.7 percent CAGR annually through 2034, according to Conagra's 2024 Future of Frozen Food report.

Convenience is driving frozen food market sales. Consumers are looking for healthy, but less time-consuming meals, according to the report. Frozen ready meals, pizza, fish/seafood, fruit and vegetables, bakery and desserts, and potato products continue to fuel the growth.

In the face of this continually rising demand, the need for more efficient frozen foods warehousing has become a focal point for food processors and DCs to streamline throughput and improve cost efficiencies. These facilities pose definite challenges – maintaining a high throughput rate in -4°F to 3°F temperature range is a much more difficult task than in an ambient temperature or chilled warehouse. Advances in warehouse automation, which have enabled tremendous improvements in order picking, order accuracy and speed of throughput, are critical material handling systems for frozen foods distribution. These systems enable a truly optimized capability for maintaining high-throughput production coupled with smart energy management.

DEEP FREEZE

Compared to ambient temperature, chilled facilities and frozen foods warehouses, manually operated deep freeze warehouses functioning at temperatures between -13°F to -22°F, have a higher incidence of missed product rotation and wrong item fulfillment. They also have heightened facility, equipment, and product damage, primarily caused by manually operated forklifts impacting racks and doors. The extreme environment makes for difficult working conditions for personnel, increased safety issues, and staff recruitment and retention problems.

With OSHA and international standards, workers in deep freeze typically require shortened exposure times to the deep freeze environment. Recovery periods between exposure can range from 20 – 100 percent time out of the environment compared to the time in the environment, based on the temperature range.

Automation of deep freeze and frozen foods facilities has been embraced as an ideal solution to these difficulties. Automation not only increases efficiency but also increases worker protection from unique dangers.

The most streamlined cold storage warehouses today are highly automated sites, with maximized high-density storage, robotic picking, smart modular conveying, and sophisticated warehouse management systems (WMS). These warehouses maintain precision product identification and rotation, provide rapid throughput at over 99.9 percent accuracy levels, and are considerably more energy efficient than their manually-operated predecessors.

05
BEVERAGE DISTRIBUTION

WINE & SPIRITS

The primary distribution method in the wine and spirits category is full- and mixed-case pallets. However, split cases are in demand for distribution to restaurants, which requires conveying and sortation systems capable of managing individual bottles.

Prior to distribution, however, end-of-line packaging – particularly with spirits – requires precision and flexibility in handling a wide range of product types, diameters, and heights in virtually any package style and format. Automated case packing, for example, is required to maintain high-speed throughput with a zero-defect rate. To achieve this, automated singulation, bottle gapping, and input registration sort, orient, and position the bottles in a precise manner for packaging after being filled and labeled upstream.

The nature of alcohol products also lends itself to additional, unique damage to automation equipment if the product creates a spill. This requires extra design efforts to ensure the safest handling of the product at the highest rate of efficiency.

BEER, SOFT DRINKS, TEA & WATER

Many DCs that distribute beer, including a growing number of craft and microbrews, also carry an inventory of wine coolers and non-alcoholic beverages, such as carbonated soft drinks, iced teas, energy drinks, and waters. The DCs, beverage manufactures, and bottlers, rely heavily on pallet load movement through distribution and storage.

Their distribution is characterized by the predominant lack of a fixed SKU location scheme within the warehouse. There is usually little racking, and most of the product is floor stacked in two- or three-pallet-high format. The flow of product through the DC is extremely dynamic. The SKUs and their pick locations are in constant movement.

Beer distributors typically handle fewer SKUs compared to packaged food DCs. A relatively small number of fast-moving SKUs can account for 80 percent of a beer DC's case volume.

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06

AUTOMATION IS KEY – FLEXIBLE AND INTERCONNECTED

To manage this diverse mix of product SKUs, packaging variations, full- and layered-pallet loads, packaged food and beverage manufacturers and DCs best function with an integrated composite of automated systems to handle this throughput efficiently and cost effectively.

Systems with the flexibility to adjust to market conditions very quickly and accurately, like for increases in SKU range and shortened lead times, are better equipped to get product to market cost-effectively

An essential part of any distribution operation is having an overall and systemic integration of all the distribution systems being operated, both upstream and downstream, and not viewing these systems as just stand-alone, discrete functions. Technology advances in automated distribution have enabled a more integrated approach for the operation of material handling systems, which, in turn, have provided significant advantages for increased throughput, system uptime and a better ROI.

Improved distribution productivity at the manufacturer, the DC, and the retail store level are key benefits of this integrated automation.

07

TECHNOLOGY SOLUTIONS FOR FOOD AND BEVERAGE DISTRIBUTION

Distribution challenges can be solved with a diverse spectrum of technologies applied to receiving, storage, picking, and shipping.

Such systems could encompass a range of fully-automated and/or semi-automated options managed with software such as WES and WCS capable of integrating these automated processes.

AUTOMATED GUIDED VEHICLES

One of the major causes of inventory damage, misdirected orders, and facility damage in warehouses stems from manually-operated forklift trucks moving pallet loads through warehouse operations. Automated-guided vehicles (AGVs) have emerged as an option to remedy this condition, while delivering more predictable movement of pallets throughout the warehouse.

AGVs interact with floor- and conveyor-positioned pallets, transporting them between receiving, manufacturing, palletizing, stretch wrapping, labeling, storage, picking, staging locations for shipping, and truck and railcar loading.

The latest AGVs enable warehouses to optimize for system flexibility, modularity, and scalability, permitting 24-hour operation at continuous throughput, even with lights-out operation. Natural features navigation with LiDAR eliminates the need for additional infrastructure and allows routes and missions to be easily changed. The LiDAR scanners and cameras are used to identify structures in the environment and match their locations to a virtual map that has been programmed of the facility. This allows the AGV to calculate its own position and follow its programmed path.

AUTONOMOUS MOBILE ROBOTS

Autonomous mobile robots (AMRs) can be used to move cases, bins, and totes into position for automated mixed-case palletizing in the warehouse, and to support manual picking of totes for store replenishment in roll cages for products such as dairy.

AMRs have the flexibility to quickly adapt to changes in conditions, such as product heterogeneity, volume, and performance. They utilize a fleet-manager control center to coordinate the interaction of the robotic vehicles. Dynamic route planning and integrated power management make it possible to optimize order handling.

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UNIT-LOAD AS/RS

High-bay automated storage and retrieval (AS/RS) remain at the core system of highly automated warehouses, especially those handling packaged foods. These systems continue to meet the growing demand for high throughput and full and layered pallet storage distribution, particularly at the manufacturer level.

They permit unit loads to be moved quickly, safely, and precisely within the warehouse. High bays optimize space, and those warehouses that are the most cost efficient have achieved a high density of space utilization. This means they have a space configuration allowing the maximum number of pallet positions to fit into the facility.

The latest AS/RS cranes have become very energy efficient. They reduce energy consumption by operating at variable speeds depending on the demand load in the warehouse. They can also generate electricity by lowering their lift carriages and using their motor as a generator. The power gained is used to aid horizontal travel. Additionally, they can contribute energy when braking during horizontal travel to aid vertical motion.

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ROBOTIC PALLET SHUTTLES

Robotic pallet shuttle systems are designed for deep-lane storage of high-volume palletized SKUs. These fully-automated systems provide a comparable alternative to crane-based AS/RS, delivering an attractive ROI for companies with small, medium, and large storage needs.

Highly configurable in size and shape, they can integrate into existing brownfield facilities with low ceiling heights to maximize density and efficiency within beverage, packaged foods, and cold storage warehouses. These shuttle systems employ low-footprint pallet lifts, instead of aisles, and enable storage locations up to 20 pallets deep.

Additionally, 4-way shuttle systems increase density and potentially reduce equipment needs with shuttles capable of moving throughout the entire racking. This means any shuttle can be used for any retrieval or storage mission, with the optimally positioned shuttle assigned the task dynamically. System redundancy is maximized, as well.

Their system energy efficiency is not determined by energy recuperation or sharing, but rather by the inherent low-energy requirements of their robotic shuttle vehicles, which are powered by 5 HP motors, compared to 50 HP motors on AS/RS cranes.

MINI-LOAD TRAY PICKING

Mini-load crane systems of various configurations and capabilities are equipped to pick and move totes and crates of packaged meat, dairy, and general grocery products. Employing lightweight, high-speed cranes, they support automated mixed-case palletizing and manual fulfillment for store replenishment in roll cages.

Mini-load systems, for example, can receive crates filled with milk, teas, and juices from storage or upstream production, then select and release the crates to fill pick orders for shipping. The storage and retrieval functions are performed completely automated, without the need for direct human intervention. Product can be retrieved in any sequence to build customized pallet loads.

The latest mini-loads are extremely energy efficient. Not only reducing energy consumption by operating on low energy requirements while maintaining excellent weight to payload ratios, but also equipped with energy recuperation modules to generate and store electricity from the lifts and shuttles while in operation.

ROBOTIC MIXED-CASE PALLETIZING

Packaged food suppliers faced with the increased demand for less than full pallet deliveries can achieve a first level of automation with robotic layer picking. The robot can efficiently build layers of different SKUs on a pallet in the exact order quantities and delivery sequences required by retailers. The system can operate with a high level of flexibility and error-free picking.

Stacking criteria is modified by a number of factors, including case size and shape, crushability, stability factors, volume of cases per layer, number of layers, the layer pattern, and family group rules unique to stores, departments, aisles, and aisle sections.

The computer-aided determination of the palletizing sequence also increases the pallet density. It builds cube- and volume-optimized pallets with a 90 percent-plus density, compared to the typical 70 to 80 percent density of manually produced pallets. The software calculates the packaging contact surfaces and determines the layering of the individual packages, these are critical to producing a stable palletizing pattern.

Customized end-of-arm-tools attached at the end of the robot's articulated arms can handle most standard types of packaging, including boxes of various sizes, cardboard trays, open or closed cartons, bags, and large unstable containers with minimal stopping and fewer changes of tooling, fewer changes of tooling.

Extremely accurate, fast, and reliable, the latest automated high-volume, mixed SKU palletizing systems can handle a vast array of SKUs, potentially producing hundreds of mixed SKU pallets per hour.

To process and palletize mixed cases at these high-speed rates with such high accuracy, inventory needs to be fed into the system in a sequenced format. This requires intelligent software supporting an integrated-automation upstream solution consisting of delayering incoming single-SKU pallets, storage, picking, and case buffering. The latest mixed-case palletizing units integrate with both high-speed AS/RS and pallet shuttles. When functioning as a sub-unit of a larger automated order assembly system, these automated palletizers can rapidly build cube-optimized, store-ready/aisle-ready pallets.

MODULAR CONVEYORS

Transporting case and unit loads throughout the manufacturing plant and DC, with optimum flexibility and efficiency, requires a modular conveyor system capable of continuous operation in ambient, chilled, and deep-freeze environments.

Modular conveyor systems provide a unique flexibility for integrating automated systems within the warehouse into a continuous fluid throughput. In addition to connecting major material handling systems like AS/RS, mini-loads, and palletizing systems, modular conveyors enable a unique flexibility of configuration with associated components like chain conveyors, roller conveyors, transfer units, turntables, and vertical conveyors within various sections of the warehouse that allow conveyance of product, case, and pallets.

These modular systems can integrate with profile gauges to measure pallet dimensions and weight without stopping the load and can be used at entry points to prevent incorrectly loaded units from entering the system. They can also be frequency controlled for high-speed operation and gentle load handling.

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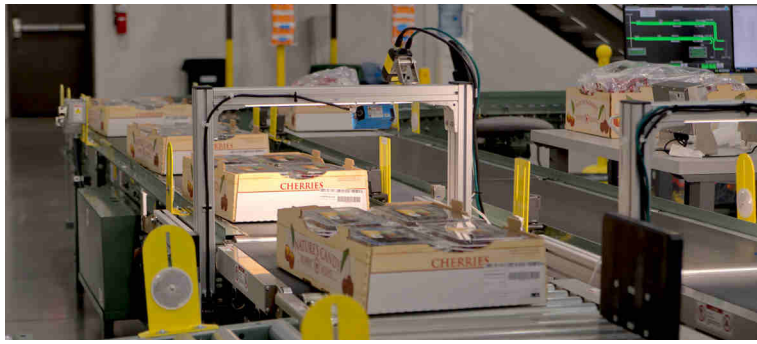


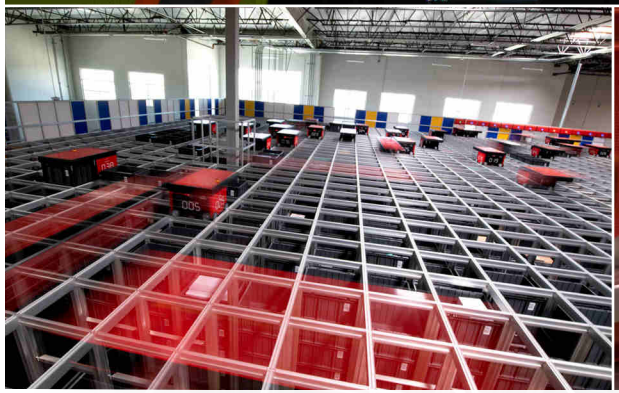
INVENTORY TRACKING

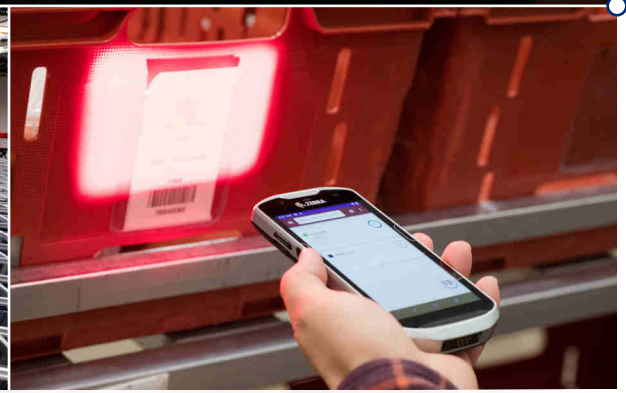
Packaged foods and beverage warehouses are ideal candidates for the precise and efficient tracking of inventory because of their highly automated and computer-controlled systems. The warehouse's WMS and/or WES combined with optical scanning, are capable of monitoring batch numbers, production dates, and weight as the unit loads, cases and individual SKUs are stored and moved through the facility. This enables automating a much more stringent and accurate following of FIFO requirements for ensuring the highest levels of food safety and quality.

Additionally, ERP systems are increasingly being integrated between retailers, manufacturers and distributors. Packaged foods are now almost always produced to order and streamed straight through the supply chain.

With chilled and deep-freeze products, temperature data loggers and/or radio frequency identification (RFID) tags help monitor the temperature history of the product in storage at the manufacturer, through the DC, and until the shipment is received at the retailer.

This level of supply chain analytics allows packaged food and beverage warehouses to maintain precise control of their products through every stage of the supply chain handling, from manufacturing through storage, picking, shipping, and receipt of inventory at the retailer.





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08
HOLISTIC APPROACH

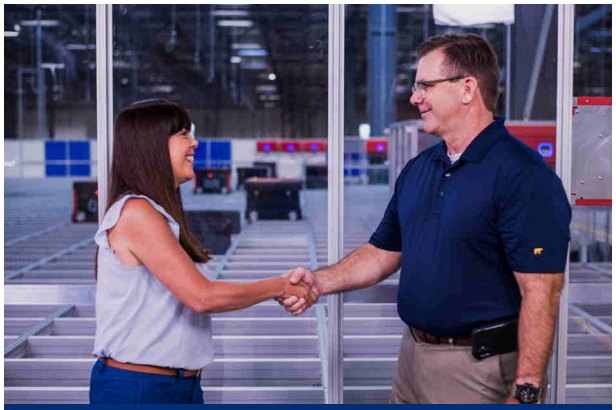
Taking a holistic approach, Bastian Solutions' team of automation professionals strive to determine the best long-term configuration for your greenfield or brownfield distribution facility, assessing its economic and operational viability to meet your company's vision for the future.

Bastian Solutions' will develop an end-state facility design and phased implementation plan to achieve your vision, developing budgets, business cases and staffing plans as appropriate

A key component of this plan is our computer emulation analysis, which helps to visualize changes in your layout and processes, as well as answer what-if questions before implementing automation technology, information management systems or procedural changes.

Emulation models can be used to help evaluate potential new automation investments or changes to your current operations. Results of an automated system simulation can help determine throughput rates, staffing levels, design enhancements and system capacities. Emulation can also help identify and resolve potential system performance issues before the first piece of equipment is installed. This can reduce both time to install and time to commission, getting your system up and running faster.

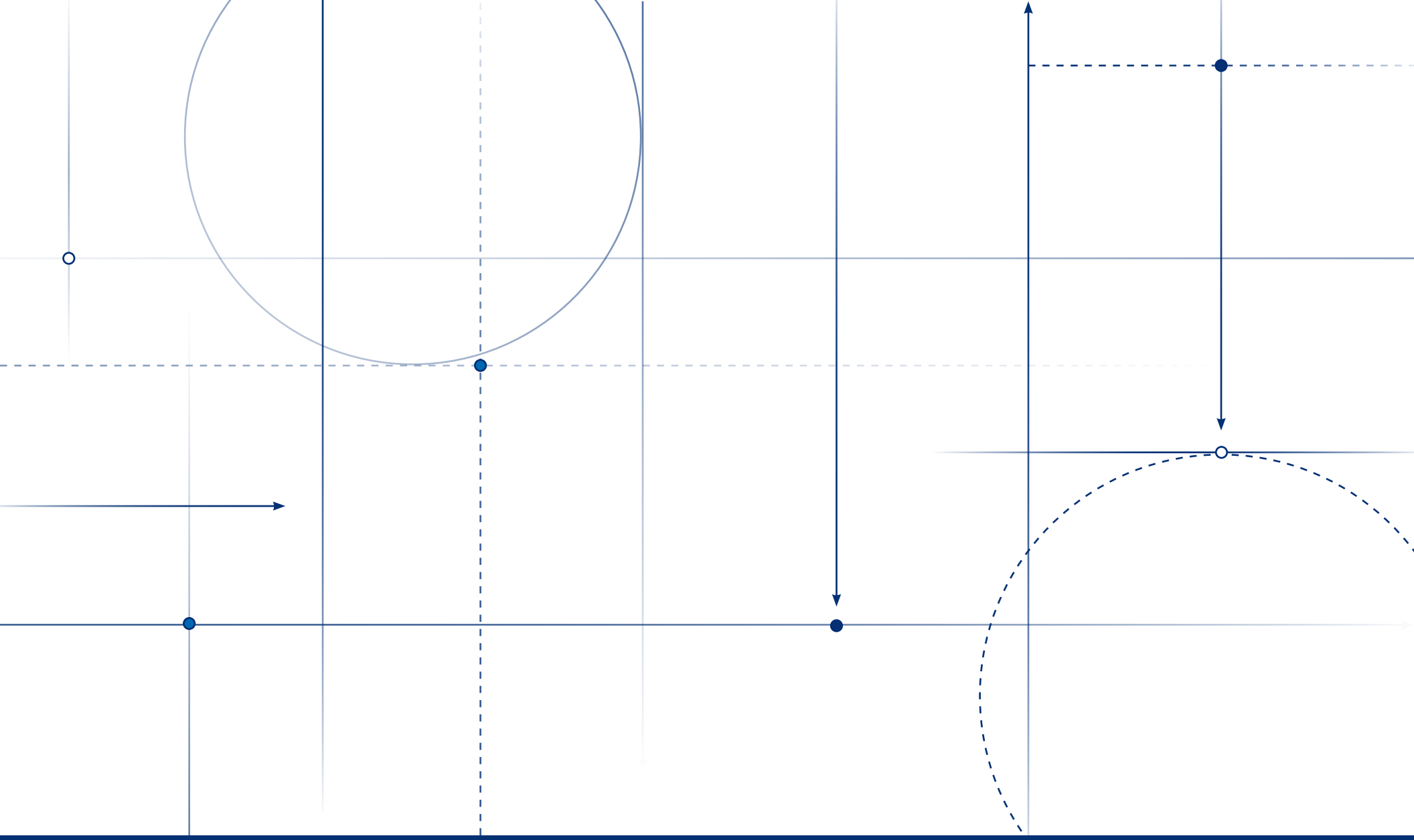
Leveraging years of experience with a variety of clients and system sizes in food and beverage distribution, Bastian's team in the U.S., Mexico, Canada, South America and India provide strategic insight into your operational needs. Bringing together project planning, system design, supplier sourcing and project implementation, we deliver a unified execution that exceeds expectations, maximizes your investment, and ensures a successful, on-time system delivery that meets your business objectives now and into the future.



ABOUT BASTIAN SOLUTIONS

Bastian Solutions, a Toyota Automated Logistics company, is a trusted supply chain integration partner committed to providing clients a competitive advantage by designing and delivering world-class distribution and production solutions.

At the end of the day, it comes down to a positive customer experience. Bastian Solutions experts work to understand, design, test, install, and support to ensure that customers meet their business objectives. Using advanced technologies and the expertise of Bastian Solutions engineers, we combine data-driven designs, scalable material handling systems, and innovative software. Bastian Solutions helps clients across a broad spectrum of markets become leaders in their industries.



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