



VELOCITY

LOGISTICS SOLUTIONS FOR DISTRIBUTION CENTER MANAGEMENT

JANUARY 2020

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We are family



NEVER BEFORE HAS OUR COMPANY SLOGAN, “ONE PARTNER, Many Solutions,” meant as much as it does in 2020. We have been on this journey for 95 years as a family-owned business, and I am pleased to say that we have assembled a complete suite of brands and solutions for shippers and retailers.

We can tell our story from several starting points, but they all end in one place: Burris Logistics’ commitment to your needs and our industry. “How” we do business is at the core of our foundation and always will be. With every truckload, we deliver deep-rooted values, exceptional service, and a history of creating long-lasting relationships. Our customers and team members are family to us—this is reflected in team longevity and incredible expertise. We are pleased to partner with *DC VELOCITY* to create this special edition publication. We know “how” we conduct business will remain core to our operations. Through the voices of our peers and industry thought leaders, we believe it’s time to explain the full scope of “what” the Burris Logistics’ brands can do to solve your supply chain needs.

In 2019, Burris Logistics acquired freight transportation company Trinity Logistics. With this acquisition, we effectively increased our freight management capabilities tenfold, while welcoming a family business with similar values to our own. As a widely recognized brand in the industry, Trinity also brought a colorful culture to our business environment. Our goal of providing a complete solution for shippers and retailers is now fully recognized by the addition of the Trinity brand.

Trinity now joins PRW Plus, Custom, and Honor Foods, providing freight management capabilities to the partners who distribute, store, and fulfill through us. PRW Plus continues to be a scalable temperature-controlled storage solution. With direct-to-consumer programs we operate out of our warehouses, we collaborate with a variety of e-commerce partners, providing reliable service and delivery to the customer’s doorstep. Our Custom division still exemplifies a true partnership model. Through customized distribution, procurement, and warehousing, we adapt to complex needs and overcome logistical challenges. Honor Foods remains the critical link in foodservice redistribution. In the year ahead, our already substantial warehousing capabilities will grow—both in scale and reach—ensuring that schools, restaurants, and hospitals remain well-served with flexible minimums and responsive delivery.

We call this unity of Burris Logistics brands “OneBurris”; what once began as an internal cultural model is now how our businesses operate daily. While we have four distinct brands, our customers know that we have a multitude of solutions that can be adapted to serve their unique needs.

I invite you to learn more through the content on the following pages. I also invite you to visit any of our locations to learn more about our technology, capabilities, and unique culture. Our dock doors and minds are always open to new opportunities.

Sincerely,



Donnan R. (Donnie) Burris
 CEO, Burris Logistics


PRECISE

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COLLABORATIVE

SCALABLE


ONE PARTNER. MANY SOLUTIONS.

At Burris Logistics, we listen to your challenges to offer compelling and comprehensive solutions. Let’s collaborate on your end-to-end supply chain management needs.


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Open and honest communication

IN OUR COVER STORY, JOHN HAGGERTY, VICE PRESIDENT OF business development at Burriss Logistics, stresses the importance of communication when it comes to forging successful business partnerships. In my experience, open and honest communication is the foundation of any successful relationship. When looking for a third-party logistics service provider (3PL), finding a partner that offers the services you need is an essential component, of course; but I'd argue that finding a partner organization that has people with excellent communication skills and a company culture that values those skills is the true key to a productive partnership.

This is never more evident than when things don't go right, as often happens. Disruptions can and do occur in any business. One small glitch in a logistics operation can ripple throughout the entire supply chain. But when you have a partner with the ability to act swiftly and communicate effectively, it can make getting through the challenging times less painful.

So how do you go about finding trusted partners with the network of people who can work in harmony with your business and company culture? Ask the hard questions.

Recently, I was helping my oldest child with the college selection process. While you might not think of choosing a college and choosing a logistics partner as being one and the same, the processes really aren't that different. For my son, selecting a school that he could trust with his future forced him to look beyond the surface questions—Does this university have the degree I'm looking for? Do I like the size of the campus?—to more meaningful and thought-provoking questions—Have I found the space I need to not only grow, but thrive? Is this a good cultural fit for me? Does this institution have trustworthy people and systems in place if I should require support or assistance? Will I get a timely response to my questions?

As you begin evaluating possible partners, I urge you to do the same: Go beyond the surface questions—Does this provider offer the services I'm looking for?—to more meaningful questions aimed at determining whether the 3PL is likely to listen to your needs and work in harmony with your business and your customers. Taking the time to do your research, which often includes site visits and speaking with some of the provider's customers, is a time-consuming process, to be sure. But it's one that will bring a big payoff.



Diane Rand

Associate Editor



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Complex handling needs? Here's what to look for in an ideal 3PL partner

Complicated handling and transportation needs are prompting producers, shippers, and retailers to look for service partners that can help them optimize their supply chains. Here's what organizations should look for when evaluating potential third-party logistics service providers.

BY SARA SPECTER

IT'S AN ONLINE WORLD—AND PRODUCERS, SHIPPERS, AND retailers across every industry are feeling the effects. Specifically, the so-called “Amazon Effect.” That is, the expectation that with a simple click, a purchased item will arrive on the doorstep (or at the dock door) the same or next day. Indeed, consumers’ expectations are for lightning-fast execution, a trend that’s unlikely to abate anytime soon. According to research from third-party logistics (3PL) research and consulting firm Armstrong & Associates, e-commerce retail represents 9.8% of the total retail market in the U.S. and has grown at a compound annual growth rate of 14.9% over the last five years.¹

What does that mean for logistics? Greater complexity in handling and fulfillment needs, with an increased demand for speed to market, an explosion of product choices, and significantly reduced order sizes.

Furthermore, producers, shippers, and retailers’ warehousing and transportation needs have grown increasingly complex and, in many cases, multifaceted. Traditional big-box retailers now sell perishables in addition to apparel and household goods. Grocery stores offer shoes alongside edibles.

Both allow customers to order online for pickup at a store or have their purchase delivered directly.

Furthermore, customization, subscription services, and returns continuously vex e-commerce retailers. Requests for customized last-mile deliveries are becoming increasingly common. Order transparency and visibility are expected at all links in the supply chain. Certain industries require traceability and other regulatory compliance measures.

All of these challenges are prompting organizations to look outside their own pool of resources for service providers that can help them strategically optimize their supply chains.

“In logistics, what used to be a game of scale and cost is now a game of execution speed and agility to move smaller orders faster,” notes John Haggerty, vice president of business development at Burris Logistics. “Companies’ internal operations are finding it challenging to attain the faster execution rates they need to remain competitive in their markets. So much so that many organizations are supplementing their own supply chains with 3PL partnerships.”

Indeed, research from Armstrong & Associates shows that in 2018, the 3PL market grew by 15.8%. This figure is inclusive of growth in the non-asset-based domestic transportation management segment (freight brokerage) of 20.7%; international transportation management (air and ocean freight forwarding) of 15.4%; dedicated contract carriage of 15.8%; and value-added warehousing and distribution of 8.0%.

For operations with complex handling and transportation needs such as these, choosing the right 3PL service provider as a means to successfully and strategically manage some (or all) of these challenges can be the difference between success and failure. Beyond a proven ability to deliver higher rates of accuracy, efficiency, and productivity as well as cost savings in distribution and transportation, there are several key attributes to consider when evaluating potential 3PL partners. They are as follows:

CAPACITY FOR FLEXIBLE COLLABORATION

It may seem obvious, but the most critical key to a successful outsourcing relationship is a willingness on the 3PL’s part to work in harmony with its customers on an individual basis, says Burris Logistics’ Haggerty.

“The third-party service provider must continuously communicate with the customer to understand their business strategy and their key customer service objectives,” he says, noting that cultural compatibility between the two parties also contributes to a harmonious relationship. “To achieve a true partnership, the ideal 3PL is an extension of the businesses through people, technology, and processes—not solely transactional.”

In addition to establishing a collaborative relationship, the 3PL must also be dynamic and flexible in order to support a relationship that constantly evolves with each customer’s needs. That is, as a customer’s handling processes, inventory, volumes, throughput, and other variables change, so must the 3PL.

“There’s simply no place in the 3PL market anymore for rigidity,” Haggerty continues. “The ideal service partner for companies with complex challenges has to be able to respond both flexibly and creatively to ensure the customer’s success.”

ROBUST INFORMATION TECHNOLOGY RESOURCES

Data exchange between customer and 3PL has evolved far past end-of-day batch uploads via electronic data interchange (EDI). To truly establish and support a collaborative partnership with its customers, a 3PL must have a robust information technology (IT) department capable of leveraging, analyzing, managing, and sharing data in real time. It should also have a highly configurable operating platform that facilitates easy integration with each customer—regardless of their preferred application, says Burris Logistics’ CIO, Ed Krupka.

“To meet that need for speed and throughput expected by today’s consumers, a 3PL must be application-agnostic. That means it can support large customers that use SAP



all the way down to the little startup managing operations via a customized spreadsheet,” he explains. “At Burris, our mantra is ‘Get like the customer,’ meaning we utilize APIs—application programming interfaces—that make the exchange and integration of key data seamless, regardless of what flavor of tools our customers use.”

Unlike most 3PLs, Krupka adds, Burris Logistics offers customers access to a proprietary software program that enables them to both conduct transactions collaboratively and have full visibility throughout their supply chain with complete transparency to all partners. Likewise, Burris’ platform continues to evolve with the regular addition of more predictive analytics capabilities.

“That enables us to provide a value-added service that customers may not have been able to do internally, such as comparing the forecast to actual execution and making adjustments to more accurately estimate inventory replenishment needs, for example,” says Krupka, who adds that the company’s nearly 100 years of experience in the 3PL field continues to inform the programming behind the platform.

“We understand the business problems that are unique to the distribution logistics organization within a retailer, a wholesaler, a producer, and so on,” he continues. “That insight allows our internal team of software engineers and technicians to build, deliver, and deploy a platform that optimizes our customers’ supply chains.”

ADEQUATE INVESTMENTS IN ASSETS TO SUPPORT CUSTOMER NEEDS

Whether a company is exclusively an online retailer, a manufacturer of high-value heavy equipment, a national chain of grocery stores, or something in between, it’s important to consider the size of a potential 3PL partner. That’s because size does matter in terms of the 3PL’s ability to support its customers’ needs, says Haggerty.

“The larger the 3PL, the more resources it has to invest in and provide the depth of multilevel services companies need to meet the expectations of today’s consumers,” he explains.

Such investments in the latest software and automation technologies reinforce a 3PL’s commitment to staying ahead of the curve in making its customers’ warehousing, order fulfillment, value-added services, and transportation activities more efficient, accurate, and timely—ensuring service-level agreements are met consistently. Burris Logistics’ operations, for example, encompass nearly 2,000 team members, a network of 70,000 carrier partners, 700 transportation assets, 21 locations, and 275,000 pallet positions in warehousing storage.

That depth of assets enables the 3PL to serve more than 5,000 customers, ship 100,000 direct-to-consumer parcels, complete 15,000 store-level deliveries, and manage in excess of 35,000 freight transactions every month, Haggerty notes. “An important aspect of being flexible and responsive to changing customer needs is having the means and capacity to adjust accordingly.”

Making strategic investments in the technologies, automation, software, highly skilled team members, and other assets as a part of the company’s dedication to excellence and customer service has been a core value at Burris Logistics since it was founded in 1925 by his great-grandfather, says Donnie Burris, CEO.



INNOVATIVE SERVICES THAT ACCOMMODATE COMPLEXITY

Producers, shippers, and retailers with complex handling and transportation requirements need more than transactional “Point A-to-Point B” 3PL services. Instead, they need a partner who can interface with and support them

at multiple levels and with a variety of service options that can be mixed and matched to create the ideal solution. For companies seeking maximum flexibility to address today’s fulfillment challenges, these services might include the following:

- Management of temperature-sensitive direct-to-consumer shipments—such as grocery, pharmaceuticals, meal kits, and more—with value-added services including cold storage and freezer warehousing, picking, insulated packaging with dry ice or gel packs, sealing, labeling, tracking, and verification of last-mile delivery services.
- Ability to perform temperature-controlled hauling from growing regions to consumption areas for farm-to-table perishable food chains with multiple stops on both pickups and deliveries, while maintaining proper, safe handling conditions.
- Cold chain assessments and consulting to help customers improve upon the intricacies of frozen and perishable food handling.
- Procurement services, including purchasing on behalf of customers in a manner that replicates their buying style and pricing approach, as well as managing, receiving, and holding the inbound inventory in 3PL-owned facilities.
- Redistribution services to support the food-service industry, including bulk buying of slow-moving inventory by the truckload and reselling it in less-than-truckload quantities to distributors.
- Advanced transportation and freight management services for secure movement of complex, high-value oversized equipment—including heavy, wide-load, and oversized machinery and manufacturing components.

SUPPORT FOR COMPLETE DISTRIBUTION OUTSOURCING

Some companies, particularly retailers, prefer to focus on their core competencies and outsource their distribution management entirely. For those organizations, it’s critical to partner with a 3PL capable of dedicating specific resources exclusively to one customer. That enables inventory to be purchased, managed, and transported solely for the retailer.

Burris Logistics’ version of this service is called “Custom Distribution,” which CEO Donnie Burris describes as a unique collaborative solution that provides all the benefits of self-distribution while eliminating the headaches and enabling the customer to remain highly competitive in its marketplace.

“Historically, retailers have really had only two viable choices for distribution. One is receipt of deliveries via a wholesaler, but control is limited and the true cost of product and distribution can be a little cloudy. Alternately, they could put together a self-distributing supply chain, but that requires the resources to assemble the knowledge, systems, physical infrastructure, and—in the case of food handling—the regulatory compliance expertise needed,” Burris explains.

As an alternative, Burris Logistics’ Custom Distribution service allows the 3PL to create dedicated, highly customized supply chain solutions that put the retailer completely in control and provide clear visibility for both product and distribution costs, he continues. “This frees up the retailer’s financial and human capital to focus on creating a compelling shopping experience for the customer while Burris handles the procurement, warehousing, and transportation responsibilities.”

DEEP EXPERIENCE IN TRACEABILITY AND COMPLIANCE

Any operation handling and shipping sensitive, perishable, hazardous, or high-value products that are subject to government requirements, regulations, or the need for enhanced security should look for a 3PL with extensive experience navigating those areas. In temperature-sensitive food handling, for example, the right partner understands that mistakes, delays, or errors can not only violate food safety regulations—they can also endanger customers’ health, reduce shelf life, and contribute to food waste.

Because the company takes proper food handling so seriously, Burris Logistics has obtained Safe Quality Food (SQF) certifications for all of its food-handling facilities. Common to food manufacturing facilities, SQF certification is somewhat rare in public refrigerated warehouses. Having independent, third-party validation of safe food-handling practices—including proper storage of products with allergens in a manner that prevents cross-contamination with other food items in the warehouse—allows a 3PL to assure its customers of its commitment to safety.

Further, should a product recall be required, the 3PL’s

warehouse and inventory management systems must be able to support prompt and accurate identification of potentially problematic lots and shipments. The third-party service provider should also be intimately familiar, and in compliance with, the rules and regulations associated with the Food Safety and Modernization Act (FSMA).

For companies seeking transportation management of hazardous materials, such as chemicals or petroleum handling, it’s critical to partner with a 3PL who understands the Department of Transportation’s (DOT) complex regulatory requirements associated with moving those materials, including 49 CFR Parts 171-177.

EXPERTISE IN MULTIPLE MARKETS

Whether a company’s transportation and distribution needs fall into a single market category or cross multiple types of inventory, partnering with a 3PL with expertise across multiple industry segments brings a heightened level of insight when solving a range of handling challenges, says Burris Logistics’ Haggerty.

“Collaborating with a 3PL that covers multiple industries fosters greater innovation in developing unique solutions that meet the needs of unique customers,” he explains.

For example, Burris Logistics has a long history serving traditional retail supermarkets. That expertise informs its service offerings for alternative-channel food and beverage retailing, including club and discount formats, multi-unit food-service operations such as free-standing restaurant chains, food distributors, growers of fresh produce destined for immediate consumption or ingredient use, and more.

“We’ve also leveraged our expertise in temperature-controlled storage and transport to support importers and exporters of environmentally sensitive industrial ingredients, and we’ve applied our ability to navigate complex government regulations and requirements associated with food handling to other industries—such as hazmat handling,” he explains. “Our customers benefit from partnering with a 3PL whose cross-market knowledge yields innovative improvements in productivity, efficiency, and accuracy.”

By evaluating a potential 3PL through the lens of these seven key attributes, operations with complex handling and transportation needs are more likely to secure strategic success in managing today’s fulfillment challenges. Consider keeping this list of guidelines in hand when searching for the right 3PL service provider partnership. □

Notes:

1. Cheri Grabowski, “How Amazon Logistics Is Changing Markets and Potential Growth Scenarios,” Armstrong & Associates Inc. (January 31, 2019), <https://www.3plogistics.com/how-amazon-logistics-is-changing-markets-and-potential-growth-scenarios/>

Sara Specter is a contributing editor for DC VELOCITY.



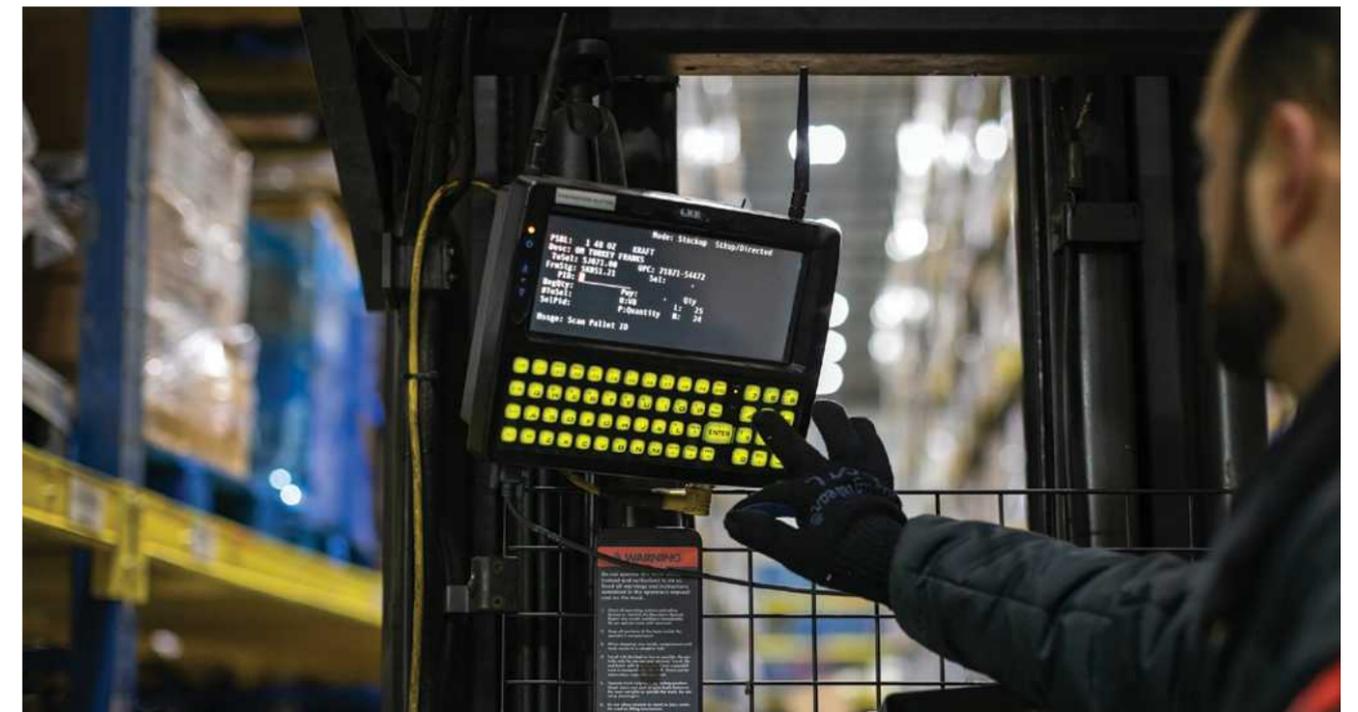
COLLABORATIVE

In response to national trends, Burris Logistics offers a single point of contact for nationwide direct-to-consumer (D2C) fulfillment needs. Fully scalable, our growing network supports reliable service and premier frozen/refrigerated delivery solutions so you can focus on what you do best, and trust us with the rest.



Strategic Temperature-Controlled Warehousing

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Looking to the cloud for real-time produce visibility

As consumer demand for fresh produce grows, so do the distribution challenges for suppliers and retailers. Third-party logistics specialists with advanced produce monitoring and tracking capabilities can help ease the pain.

BY JIM MCMAHON

CONSUMER DEMAND FOR MORE WHOLESOME, NUTRITIOUS, AND convenient foods continues to fuel the expansion of fresh-food options at retailers. Witness the explosive growth of prepared chilled foods, encompassing soups, salads, sandwiches, entrées, sauces, and beverages, with food retailers supporting this trend by providing an ever-widening array of new selections. But as popular as these chilled prepared foods are, it is fresh produce that is the biggest draw for consumers both in stores and in foodservice venues.

According to the *2018 U.S. Grocery Shopper Trends Report*, sponsored by the Food Marketing Institute (FMI), 80% of respondents ranked high-quality fruits and vegetables as the most important attribute when selecting a primary grocery store. Compare this with 53% of respondents who indicated that freshly prepared deli foods were their prime draw.

Clearly, fresh, quality produce is top of mind with health-conscious consumers. And particularly with millennials who, according to the USDA's Economic Research Service, devote a larger percentage of their grocery bills to fruits and vegetables than Generation X and baby boomers. Indeed, fruits and vegetables are not only healthy options, they can often be consumed with minimal to no preparation, which fits into the lifestyle of all age groups.

Food retailers and foodservice providers, in response to the growing



demand for fresh foods, have expanded their fruit and vegetable offerings to provide a higher-quality product, with a particular focus on organic and locally grown produce.

This market trend is supported by the recently released *Power of Produce 2019*, sponsored by FMI. According to Rick Stein, vice president of fresh foods at FMI, “The study suggests a need for a renewed focus on strategies for continued growth, including organic, locally grown produce; value-added produce for time-starved customers; produce-based beverages; and private-branded produce.”

But prioritizing quality in produce extends beyond offering organic and locally grown options. Food safety and the ability to track and trace fresh produce lots in the supply chain is more critical than ever in maintaining produce quality.

As expressed by Ed Treacy, vice president of supply chain and sustainability at Produce Marketing Association, “I don’t care if you’re shipping to a small convenience store, a one-store grocery chain, or to Walmart, everybody growing and packaging fresh produce should be doing it properly from a food-safety perspective. Traceability is part of all food-safety programs and practices.”

PRIORITIZING QUALITY ASSURANCE IN PRODUCE INSPECTION

Providing this higher quality of produce within retail stores is necessary to remain competitive in retail food markets, but maintaining this requires prioritizing quality-assurance inspections at the retailers’ receiving distribution centers.

Most produce inspections within distribution facilities are still conducted with paper and spreadsheets, with workers manually recording lot and case numbers, temperatures, and product damage, and taking photographs with cell phones. All of which is then manually entered into a database and emailed, or otherwise transferred between interested parties (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 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 in the supply chain, and demands for tracking product movements in real time 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. Automating the inspection process, accordingly, affords a higher guarantee of produce quality.

REAL-TIME CLOUD-BASED PRODUCE INSPECTION IS KEY

To meet these heightened requirements, retailers are increasingly turning to third-party logistics service providers (3PLs) that offer temperature-controlled distribution services. However, not all 3PLs have the facility, experience, or operational agility to track the movement of produce in the supply chain with real-time cloud-based visibility. Of those that do, even fewer have the facilities to provide quality inspections of produce shipments in real time, directly linking the visibility of the product quality with the supplier and retailer.

One 3PL that is uniquely equipped to provide the latest technology in real-time cloud-based produce inspection is Burriss Logistics. A fifth-generation family-owned enterprise, Burriss operates a network of temperature-controlled warehouses and distribution centers from Massachusetts to Oklahoma, and as far south as Florida. The company provides logistics, transportation, and supply chain solutions, coast to coast, encompassing custom distribution, refrigerated warehousing, freight management, and foodservice redistribution.

In brief, Burriss focuses on highly customized services for retailers and club stores. It is continually expanding its suite of custom services to support its temperature-controlled offering to food-industry retailers. Supporting this is Burriss’ commitment to cloud access to its analytics at all points within the ordering, fulfillment, and delivery functions. These “edge input” points integrate with the company’s ERP (enterprise resource planning system), WMS (warehouse management systems), and shipping programs to deliver an Industrial Internet of Things (IIoT) cloud-enabled capability for its customers. This capability enables it to access ordering, fulfillment, and shipping information anytime, anywhere.

When integrated with produce inspections for its retail customers, this highly connected capability permits a level of flexibility and outcomes that exceed industry benchmarks for supply chain visibility and retailer control over the inspection process. Providing clear product-quality insights to both vendor and buyer in real time simplifies and speeds up an already complex and time-consuming process. Informed and documented business decisions on produce quality, and its acceptance or rejection, can be made quickly

“From the supplier to the buyer, and ultimately to the recipient of the produce at the retail level, our customers are able to see, track, and trace the product by case as it comes through the supply chain.”

between retailer and supplier, resolving perishable quality issues before the produce reaches the retail stores.

SUPPLY CHAIN VISIBILITY

Quality assurance in produce inspection starts well before the load arrives at the distribution center.

“From the supplier to the buyer, and ultimately to the recipient of the produce at the retail level, our customers are able to see, track, and trace the product by case as it comes through the supply chain,” said Ed Krupka, chief information officer at Burriss Logistics. “If a load of strawberries is coming from California to one of our distribution centers on the East Coast, in real time the supplier can see exactly what we are seeing as we are unloading the truck and capturing data relating to temperature, quality, and quantity of product. At the same time, the intended recipient of the load, the retailer at the other end of the supply chain portal, can see exactly what we are seeing.”

Although complete supply chain visibility via the cloud is a capability shared by many temperature-controlled distribution facilities handling produce, making this information available to its retail customers in real time is not. Burriss, however, provides a comprehensive supply chain portal to help retailers manage their inbound and outbound shipments, and do demand planning.

“The company recently developed a customer-specific produce inspection application within its supply chain portal to help with the processing of inbound produce inspection for its customers,” added Krupka. “This allows for real-time sharing of information, pictures, grading, and feedback for all fresh produce being brought into its buildings and facilitates clear, concise, and immediate feedback between shippers and receivers.”

MULTIMODAL FLEXIBILITY SIMPLIFIES PRODUCE INSPECTIONS

Produce distributors are beginning to employ software applications that permit product data to be manually input into a mobile device as the produce is being inspected in the distribution center, with cloud connectivity for real-time sharing between parties. Although this is an obvious

improvement over clipboards and Excel spreadsheets, it still requires manual data entry and independent uploading of produce images (photographs) from an external device, like a cell phone, all of which is time consuming.

State-of-the-art systems like the one deployed by Burriss do away with all that. “The platform that Burriss chose for our produce inspections is one that Honeywell developed specifically around inspection types of applications,” Krupka said. “It is a multimodal platform that permits interaction with the system via voice, touchscreen, and typing. This data is being uploaded to the cloud as it is being entered in real time.

“As the inspectors are going through the produce inspection process, they can use a headset to listen to options but also tap on the screen to input information,” Krupka explained. “Or they can speak something, then read the screen to see what they have just recorded. The system permits a tremendous amount of flexibility for inspectors to input and verify inspection data.”

The device used by inspectors to record information is like a miniaturized tablet that has an onboard camera that syncs directly with the recorded data. So the photographed images are time/date stamped in direct reference to the produce item being inspected.

Off-color produce, bruising, damaged packaging, stacking shifts during transport, mold decay, temperature, serial number, other electronic data on the temperature recorder ... all of this information becomes immediately visible to interested parties that have access to that particular purchase order in real time.

ENSURING AVAILABILITY OF QUALITY PRODUCE

Logistics technology transforms not only the way Burriss manages temperature-sensitive products, but also the way it fulfills the needs of its customers, company leaders say.

The sooner an inspector knows about the quality of a produce load and the issues that need to be resolved, the more latitude he has to seek out alternative solutions. That extra time gained may be just enough to source product from another supplier, keep his inventory stocked, and stay one step ahead of his competition. □



Jim McMahon is chief executive officer at corporate communications firm ZebraCom Inc.

From farm to plate:

A strawberry's journey

A strawberry's end-to-end supply chain journey might seem simple when production occurs in a home garden—plant, pick, consume. But keeping delicious, quality products in homes year-round is much more complex. It requires a competent and trustworthy partner with the talent, digital infrastructure, and solutions to deliver the goods. Here's a snapshot of a strawberry's journey from production to consumption:



Growth

Moderate climates with warm days and low humidity are ideal for growing strawberries. That makes the U.S. and Mexico two of the top strawberry producing countries. To harvest quality berries, growers must follow three steps:

- Soil is tested to ensure proper berry growth
- Strawberry plants are placed in the fields
- Plants are irrigated using a drip system, which allows water to go directly to the root of the plants



Harvest

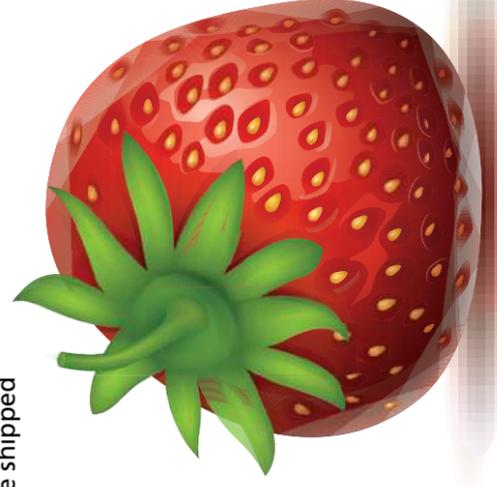
Due to the delicate nature of strawberries—they bruise easily and are susceptible to temperature change—the plants are often picked by hand.



Plant processed, packaged, and chilled

Once picked from the field, the berries are sent to cooling facilities near their growing regions (Mexico, California, or Florida), where they are gently cleaned to remove dirt and other debris and then packaged. During the packaging process:

- Strawberries are placed in individual plastic containers
- Plastic containers are placed in corrugated boxes, and the corrugated boxes are wrapped in plastic to ensure the lowest risk of decay and infection
- Suppliers review customers' purchase orders through their enterprise resource planning system
- Boxes are placed on refrigerated trucks—the strawberries are kept at 34–35 degrees Fahrenheit to preserve them—and sent to distribution centers
- Advanced shipping notices (ASNs) are generated when the strawberries are shipped



Visibility

Once the strawberries have been loaded onto trucks from their growing region, they make their way to regional distribution centers. While the strawberries are in transit, several important steps take place:

- Produce is monitored in transit
- Drivers schedule appointment times with the DC to coordinate delivery
- Strawberries physically arrive at the DC, where they are unloaded



Unloading and inspection

In order for strawberries to end up on the shelves of any store, they must meet a number of regulations and standards. For instance, at the DC, strawberries must pass three inspections:

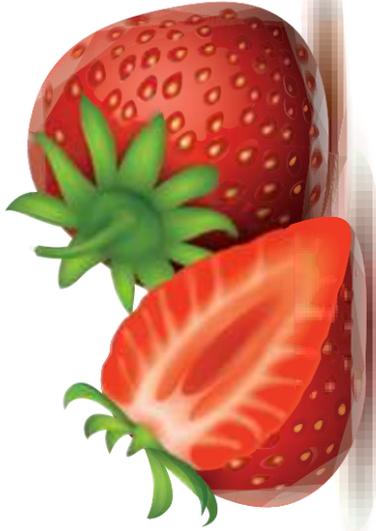
- Each batch of strawberries is required to have grower liability insurance. In order for a store to sell the strawberries, the farmer must have the proper insurance to make sure that if anything were to happen to a customer due to the strawberries, the store would not be at fault.
- Farmers and facilities holding produce for human consumption must comply with several U.S. Food & Drug Administration produce laws.
- Grading and inspection standards set by the U.S. Department of Agriculture have to be met to allow strawberries to be sold in stores. Real-time inspection tools can be used at the DC at the time of delivery to make sure all standards are met.



Receipt and distribution

Once the berries are inspected, a physical receipt of the strawberries is logged, a warehouse location is assigned, and the strawberries are put away on racks in a temperature-controlled DC. Other steps in the distribution chain include:

- Retail-level orders are electronically transmitted
- Truck routing is configured
- Order selection takes place
- Quality-control checks are administered



Customer and consumer

The trucks are dispatched from the distribution center, and retail-level deliveries are made. Once the strawberries arrive at the store, a store-level receipt is generated and the product is stocked and shelved and ready for purchase.

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New breed of 3PLs help frozen-food e-tailers get chill

For e-retailers marketing chilled and frozen food products, speed, quality, and accuracy are just the starting points. They're now finding it takes highly customized—even personalized—fulfillment service to keep customers happy. A new breed of 3PLs can help them do that.

A PROBLEM THAT ALMOST ALL E-COMMERCE retailers grapple with at some point in their evolution is how to adapt their fulfillment processes to meet the exponential growth of online sales. This is particularly true with small and mid-sized e-retailers, which account for roughly 90% of all internet retail suppliers.¹

The real conundrum is that this e-commerce growth is somewhat unpredictable. Some internet retailers are reaching their five-year goals within two years and 10-year goals within five years, having completely outgrown their warehouse space and order-fulfillment processes. This unpredictability is compounded by fulfillment challenges that virtually all e-commerce retailers are attempting to deal with, such as:

- Continuous stock-keeping unit (SKU) growth driven by

new-item releases and the need to stock both fast-moving and slow-moving items;

- The small number of order lines per order;
- Under-stocking, influenced by seasonal and trend spikes in product demand;
- High returns from customers due to mis-ordering, misspicks, and shipping damage;
- Customer-driven demand for the fastest delivery at the lowest cost; and
- The necessity for real-time cloud-based visibility of inventory and order movement.

Essentially, e-commerce retailers are realizing it's incumbent on them to develop a better understanding of their customers' needs—and then come up with innovative ways to meet those needs—if they want to gain and retain their busi-

BY JIM MCMAHON



ness. From the moment the online order is placed to when it is picked, packed, and shipped, every step in the process must be handled efficiently, consistently, and cost-effectively. In e-commerce, it is the fulfillment center that provides the most pivotal customer experience. Simply delivering the goods on time is no longer an adequate mission for the fulfillment center. Today, consumers demand more. They want flexibility, and they want options. They are expecting different levels of service. And increasingly, consumers are gravitating to e-commerce suppliers that can deliver a more customized, even individualized, fulfillment experience.

A COOL CHALLENGE

Nowhere is meeting this high level of consumer expectation more challenging than in temperature-controlled e-commerce fulfillment operations. This sector of the food industry has seen consistent growth in both chilled and frozen products, necessitating commensurate expansion and improvement of fulfillment and distribution operations. A study published by the International Association of Refrigerated Warehouses (IARW), “The IARW Global Cold Storage Capacity Report,” shows that 10 million cubic feet of refrigerated space were added to North American warehouses from 2014 to 2016, representing a 2.3% annualized growth rate, approximating the annual growth rate in purchased chilled and frozen food products.

Every aspect of refrigerated and deep-freeze warehousing is moving faster. The consumption of temperature-controlled products, primarily frozen, has increased dramatically, with faster turnover compared with their ambient-temperature counterparts, with an increasing number of products in the -10 degrees Fahrenheit to 38 degrees Fahrenheit range. Maintaining a high throughput rate in controlled environments, along with inventory and fulfillment accuracy, is a much more difficult task than in ambient-temperature warehouses.

Many e-commerce companies providing chilled and frozen food products, particularly mid-sized and smaller e-retailers, do not have the in-house expertise or resources to implement adequate fulfillment models at the speed that the market is demanding. E-retailers must accommodate specific shipment-compliance labeling requirements, order-shipment documentation requirements, manifesting rules, and where applicable, government-mandated track-and-trace regulations. This is in addition to the need for real-time cloud-based visibility of inventory and order movement, as well as overnight- and two-day guaranteed delivery. Further, food e-retailing is a sector where clients are particularly likely to request customized fulfillment services.

To meet these heightened requirements for tempera-

ture-controlled goods distribution, e-retailers are increasingly turning to third-party logistics service providers (3PLs) that are equipped to handle the fluctuating and demanding requirements of online chilled and frozen food fulfillment.

RAISING THE BAR

As e-commerce expands and these e-fulfillment demands escalate, the bar is continually being raised for e-retail logistics executives, who lean on 3PLs to provide solutions. In fact, the use of 3PLs is growing rapidly, expanding at a rate of 12% to 15% annually corresponding to the growth in e-commerce. And to no small degree, this growth includes e-retailers that provide chilled and frozen food products requiring temperature-controlled fulfillment.

Not all 3PLs have the facilities, experience, or operational agility to deliver highly specialized and customized temperature-controlled e-commerce fulfillment services. However, there is a new breed of agile 3PLs that do. One of these is Burris Logistics, a Milford, Delaware-based contract logistics company with a strong presence in the temperature-controlled e-fulfillment market.

“A successful temperature-controlled fulfillment implementation for food e-retailers of any size requires carefully planned processes, scalable operations, and highly efficient systems to address its inherent challenges,” said John Teixeira, senior vice president, custom retail distribution, for Burris Logistics.

Burris, a fifth-generation family-owned enterprise, operates an expanding network of temperature-controlled warehouses and distribution centers from Florida to Oklahoma to Massachusetts. The company provides logistics, transportation, and supply chain solutions coast to coast, encompassing custom retail distribution, public refrigerated warehousing, freight management, and food-service redistribution.

“Both food e-retailers and traditional brick-and-mortar retailers are looking for e-fulfillment solutions,” added Teixeira. “But they may not have the systems in place to provide the data, the analytics, and the visibility they need to have a more efficient and profitable e-fulfillment operation. We can provide those services with whatever level of customization they need.

“Smaller and mid-sized e-retailers, particularly, are adept with their product manufacturing and marketing, but don’t necessarily have the supply chain understanding to get their order fulfillment executed in a way that is timely and cost efficient,” Teixeira explained. “Consequently, they see a dramatic change in speed to market once we have implemented a 3PL fulfillment program for them.”



FROM ORDER RECEIPT TO DELIVERY

To meet the heightened demands of e-commerce, Burris provides its e-commerce customers with fast and flexible fulfillment options. Such demands require having a streamlined, interconnected system in play, one that fulfills and tracks inventory in real time throughout the entire e-retail fulfillment process. This same system should facilitate order processing by assessing the parameters and delivery options for each order placed and initiate an optimized solution for fulfillment and delivery in real time.

“Managing online fulfillment successfully requires multiple interrelated activities, which are possible only because of sophisticated software engines that capture orders on the front end and process these orders on the back end through fulfillment and shipping,” said Ed Krupka, chief information officer at Burris Logistics. “Leveraging this technology, Burris has expanded its service offerings to provide a comprehensive mix of integrated fulfillment options for its online clients.”

On the front end, with the handling of e-commerce orders, this can include managing the web portal, the website, and updating website content, as well as supplying telephone call centers with live operators who take orders, dispense product information, and provide tech support.

Because of the digital nature of e-commerce, its infrastructure permits the integration of this front-end order management information with systems across the entire e-fulfillment and distribution network. From inventory management through picking, packing, shipping, and delivery, Burris’ sophisticated warehouse management system allows it to record the relevant details of each item inventoried and each order being shipped. Shipments can be tracked through UPS or FedEx, and deliveries quickly confirmed, permitting Burris to analyze transportation costs and performance, and negotiate the best shipping rates and improve service for its e-commerce customers.

“In addition to fulfillment, Burris provides a very comprehensive supply chain portal to help its e-retailers manage their inbound and outbound shipments and do demand planning,” Krupka added. “By helping them to manage their inventory flow into our facilities, we can better service them and their customers.”

This in-depth level of supply chain visibility and customer control is virtually unheard of in e-commerce 3PLs. But it helps to mitigate the problem faced by all e-commerce retailers—having the right quantities of products stocked in the warehouse to fill orders.

Burris’ integrated supply chain analytics capabilities allow it to maintain precise control of its e-retail clients’ orders, their inventory, and their shipments, through every stage of the supply chain and provide the heightened service levels that e-retailers and consumers increasingly expect.

Jim McMahon is chief executive officer at corporate communications firm ZebraCom Inc.

BUILDING THE FUTURE

To prepare for the future, Burris is continually looking to capitalize on technologies that will take its service offerings to the next level. Some of its ongoing initiatives include:

- **Leveraging the IIoT**—Burris is committed to providing cloud access to its analytics at all points within the ordering, fulfillment, and delivery functions. These “edge input” points integrate with the company’s enterprise resource planning system (ERP), warehouse management system (WMS), and shipping programs to deliver an Industrial Internet of Things (IIoT) cloud-enabled capability for its customers, enabling them to access information on their ordering, fulfillment, and shipping activities anytime, anywhere.

- **Cold Chain Blockchain**—Burris’ IT group is currently exploring options for incorporating blockchain technology into its cold chain e-commerce services as another way to enhance security for its e-retail customers. The company has secured the domain www.blockchaincoldchain.com and is looking at initiatives involving digital marketing authentication, loyalty programs, customer identity, and use of cryptocurrency.

- **Next-Day Delivery to 87 Percent of U.S. Population**—Adding to its dedicated e-commerce fulfillment sites in New Castle, Delaware, and Jacksonville, Florida, Burris has opened its third dedicated e-commerce fulfillment facility in Oklahoma City, Oklahoma. In addition, Burris leverages an e-fulfillment facility in California. Combined, these fulfillment sites give the company the capability of offering its e-commerce customers expedited next-day delivery to 87% of the U.S. population.

PERSONALIZED E-COMMERCE FULFILLMENT

In the ultimate example of customized e-fulfillment supporting temperature-controlled food products, Burris has charted new territory by providing specialized and personalized messages and packaging for many of its customers’ individual orders. This custom service has now become a “standard” offering for Burris’ e-commerce customers wishing to maximize their personal touch in their fulfillment.

“This highly customized service, along with our full suite of e-commerce fulfillment services, is part of four complementary business units that we have developed over the past 90+ years,” said Donnie Burris, president and chief executive officer of Burris Logistics. “They are united by one driving principle: to be the very best at everything we do to service our customers.” □

Notes:

1. “Global Business Technographics Data and Analytics Survey,” Forrester Research (June 2017), <https://www.forrester.com/Global+Business+Technographics+Data+And+Analytics+Survey+2017/-/E-sus3671>

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Blockchain and the fresh-food supply chain

Seven supply chain industry experts weigh in on blockchain, sharing their unique perspectives regarding challenges and adoption, with a focus on the fresh-food supply chain.

ON JANUARY 4TH, 2011, PRESIDENT BARACK OBAMA SIGNED INTO law the Food and Drug Administration's (FDA) Food Safety Modernization Act (FSMA). One provision of the Act stated that the "FDA will have access to records, including industry food safety plans and the records firms will be required to keep documenting implementation of their plans." The intention of this mandate was clearly to safeguard the health and safety of the American public.

But there is a problem here. These records are stored all over the country on paper in file cabinets located in thousands of places. Currently, if there is a serious problem of contamination with, say, romaine lettuce, it can take the FDA anywhere from 45 to 60 days just to locate the records, with potentially thousands of farms under review for contamination. If these records were accessible through blockchain, the potential contaminated farms would be whittled down from thousands to less than 10, and identified within a matter of seconds.

Scenarios like this make a strong use case for blockchain, and it is why food supply chain industry leaders are focused on establishing a universally accepted blockchain platform, with particular focus on the fresh-food supply chain.

Building a blockchain ecosystem for the fresh-food supply chain is a seemingly insurmountable challenge to many of us in the industry. Luckily, there are people who do have a keen perspective on blockchain, with not only an optimistic view of it, but solutions as well. I recently had the opportunity to interview seven key supply chain thought leaders on the subject of blockchain and the fresh-food supply chain. Here's what they had to say.

BY JIM MCMAHON



JOHN HAGGERTY

Vice President Business Development, Burris Logistics

Burris Logistics operates an expanding network of temperature-controlled warehousing and distribution centers from Florida to Massachusetts, and west to Oklahoma. The company provides logistics, transportation, and supply chain solutions coast to coast through four distinct business units: Custom Distribution, PRW Plus (Public Refrigerated Warehousing), Trinity Logistics (freight management), and Honor Foods (a redistributor of foodservice products). (www.burrislogistics.com)

“Producers, distributors, and retailers of fresh produce 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 product movement in real time are driving them to seek new solutions.

“In support of this initiative, Burris Logistics recently introduced a cloud-based, real-time produce inspection capability, incorporating a suite of multimodal options such as voice recognition and integrated real-time image capture. Designed to simplify and speed up produce inspection and the negotiation process for produce procurement professionals and suppliers, it enhances product quality outcomes for both retailers and consumers.

“This produce inspection capability was designed from the onset to be blockchain-enabled. It can be digitally integrated into the blockchain when the time is right.

“Burris also designed one of the most customer-interactive digital supply chain portals in the temperature-controlled distribution industry, which retains a tremendous amount of data relative to our customer base and their shipments throughout the United States. This portal is also

ready to be digitally integrated, when the time is right, with the blockchain.

“There are systems of data exchange already in place in the fresh-food supply chain that support blockchain. For example, the GS1-128 bar code used in the meat industry provides a global standard for exchanging data between different companies, enabling serialization and expiration information to be encoded.

“We are constantly testing ourselves and readying ourselves to partner with those vendors and customers who want to integrate with blockchain. But as a solution provider, we are a participant in the process. We are blockchain-ready, but those suppliers producing the products and those retailers receiving the products need to be the initiators of blockchain.

“Utilizing blockchain to validate temperature-controlled services and product integrity is an extremely valid and attractive option. But only a small percentage of participants in the fresh-produce supply chain, such as Dole and Driscoll’s, provide continuous tracking of products from producer to retailer via blockchain.

“The challenge with blockchain in temperature-controlled foods, and indeed for the entire supply chain, is more fundamental than integrating blockchain-enabled companies; it is system standardization. Establishing a universal language with developed and managed standards from a recognized independent standards agency, which enables the openness we enjoy with the Internet, is where we need to focus our efforts. A uniform standard for blockchain is still a long way away from being ready and effective across multiple channels.”



STEVE TRACEY

Executive Director Center for Supply Chain Research (CSCR), Penn State Smeal College of Business

The Center for Supply Chain Research connects researchers and professionals from leading organizations within a community that is shaping the future of the supply chain discipline. It is member strong and intellectually active in many facets of supply chain management and the enabling technologies used for collaboration, visibility, and integration. (www.smeal.psu.edu/cscr)

“If you look at the Gartner Hype Cycle, blockchain is probably somewhere between *afraid of expectations* and *disillusionment*.” (The Gartner Hype Cycle provides a graphic representation of the maturity and adoption of technologies and applications, and how they are potentially relevant to solving real business problems and exploiting new opportunities.)

“The underlying technology of blockchain is a distributed

ledger technology and encryption, which has been around for a while. It got popularized with bitcoin, and although it uses the same underlying technology, [the supply chain use case] is almost completely the obverse of how it is used for bitcoin. In a bitcoin use case, the trans-actors are anonymous, and the transactions are public, across a large network base. In a supply chain, the trans-actors are public, and the transactions are private, across a very small network base. You might have 50,000 or more network nodes around a bitcoin transaction, while in a supply chain use case, you are talking about much smaller numbers, maybe 10s or 100s.

“The other thing that I think is different in a supply chain use case is there has to be a way to track and monetize the value of the data, so that the system is sustainable. And that is a concept that has fallen short for many com-

panies. If I am a company that is looking to implement a blockchain use case, I’m looking at the return on capital investment. The capital investment may be significant, and the cost/benefit ratio may be low. Are the people that need to be in the network going to buy in? And how are we going to divide up the costs? I think that in the future, what is going to drive adoption rates will be the monetization of the data.

“Another adoption control, as I see it, is the ability for a distributed ledger network technology to maintain various streams of data both privately and publicly. So, for example, you may have a network that has a number of suppliers and companies and customers, and they want to see where the transactions are going. But they certainly don’t want things like pricing to be publicly available. So, you have to be able to segment out what is private data and what is public data, and you have to be careful of standardization.

“And the last thing is the speed of the network. The speed of network transactions is improving, but they are not currently at the rate they need to be to enable widely dispersed supply chain networks to respond quickly. For example, I

believe VISA processes like 60,000 transactions per second, and current blockchain technology does not allow for anything even approaching that network speed in terms of the response rates.

“Another great use case is chain of custody in the food business—being able to track and trace chain of custody from point of origin to point of use. This is another case where you could have big data streams managed with data integrity, creating a high trust value.

“From a data-security perspective, one of the myths about blockchain is that it is perfectly accurate. It is not. If you put bad data into a blockchain, the only way to correct that bad data is to go back and append that block with the correct data. So blockchain doesn’t eliminate data-quality issues. What it does do is encrypt data in such a way that you can trust the data. The combination of the encryption technology, the blockchain itself, and the distributed ledger system, where you are actually verifying the same data on multiple nodes in the network, creates a high level of data trust. As long as you put the right data in and it is verified from the nodes in the network, you have a high level of trust that the data as input is trustworthy.”



KEVIN OTTO

Senior Director Community Engagement, GS1 US

GS1 US is a not-for-profit information standards organization with more than 300,000 members. GS1 standards are the most widely used supply chain standards in the world. GS1 US administers the universal product code (UPC) bar code as well as other information standards and data carriers. (www.gs1us.org)

“In our cross-industry blockchain discussions encompassing healthcare, foodservice, retail grocery, apparel, and general merchandise, supply chain visibility is the first use case that companies are looking at to see how blockchain can fit into their operations.

“Because GS1 already has universally accepted standards in place for visibility that can be used in blockchain and other data-sharing mechanisms, we are in a unique position to foster interoperability between blockchain users. Essentially, GS1 standards are fundamental to the evolution of blockchain.

“Unique identification in the supply chain goes beyond product identification by batch, lot, and serial number. Physical locations are being uniquely identified as well. So when we talk about visibility and traceability, we refer not only to the ability to mark the package, but also to know which facility it came from and which facilities it was shipped to. Trading partners are leveraging GS1 Global Location Numbers (GLNs), which identify the location in a supply chain, enabling and enhancing visibility.

“Because of consumer demands to know more about the quality and origin of the foods they are purchasing, we are seeing a considerable increase in discussions around the ability to constantly monitor the quality of food products as they go through the supply chain and then feed this information into a blockchain. This need is making it less practical to record and maintain this information on paper, but it also presents a barrier to getting participants onboard to record this data digitally, like at the farm level, where they may not be electronically equipped.

“In food, companies in the supply chain definitely have to know where a product came from and where it went, per FDA and U.S. Department of Agriculture (USDA) guidelines. Since GS1 standards are broadly adopted in the food industry, these standards are being shared electronically by and large. The challenge of getting smaller upstream suppliers (farmers and other producers) to use GS1 standards for identifying, capturing, and sharing information is therefore a first-step and prime concern, while the challenges of adopting blockchain are being discussed and evaluated. One hundred percent supply chain visibility cannot be achieved without all participants in a blockchain ecosystem on-board with the same standards of capturing and reporting data. I think it is necessary to have bigger players come forward to push and facilitate smaller participant companies to come to the table.”



RICK STEIN

Vice President Fresh Foods, Food Marketing Institute (FMI)

The Food Marketing Institute advocates on behalf of the food retail industry, which employs nearly 5 million workers and represents a combined annual sales volume of almost \$800 billion. FMI member companies operate nearly 33,000 retail food stores and 12,000 pharmacies. (www.fmi.org)

“FMI guidance to its members is to work with their supply chain partners and focus on prevention of contamination, increase communication with FDA and supply chain partners, and provide simple and agreed-upon data elements for traceability and flexibility in how those data

elements are shared. Our members want to be able to make technology choices on their own, and we fully expect technology to advance as it has done in the past.

“We firmly believe in the importance of the safety of products and the increased use of technology as a tool to share information among supply chain partners. Our members will choose which technologies they adopt but are moving toward the ability to trace their products back to its origins. Blockchain is among the technologies used, but it’s the data within that is critical to the success.”



RICK BLASGEN

President and CEO, Council of Supply Chain Management Professionals (CSCMP)

The Council of Supply Chain Management Professionals (CSCMP) is a global network of more than 6,000 supply chain professionals. It is a professional association dedicated to the advancement and dissemination of research and knowledge on supply chain management. (cscmp.org)

“To me, blockchain is almost like RFID was some years ago. We have this technology that is probably ahead of business practice. People don’t know exactly what to do with it.

“There are a lot of pilots and use cases in progress—people trying to figure out how the technology and the business process will work. But at this point, who knows where it will go. It is a bit of a leap of faith, in a way. But this is how new ways of doing business are accomplished.

“As a technology that is enabling movement of data

between partners, if blockchain produces productivity and offers a more accurate and secure way of transacting business, it will lend itself toward being accepted by the supply chain. The question to be asked is: What do I get out of it that improves my business process?

“I think the track-and-trace capability will be the main draw for blockchain. Greater visibility into where the inventory has been—and where it is at any given time—will increase productivity. This will drive supply chain leaders to pilot it and try to figure out how to best employ it in their supply chain.

“Another key factor is, what is the standard? We have a lot of companies that will try to drive standards. It remains to be seen what group will emerge to establish itself as the standards organization.”



STEPHEN ROGERS

Vice President Blockchain Initiatives for Supply Chain, IBM

Since 2016, IBM has worked with hundreds of clients across financial services, supply chain, government, retail, digital rights management, and healthcare to implement blockchain applications. IBM operates a number of networks running live and in production. The cloud-based IBM Blockchain Platform delivers the end-to-end capabilities that clients need to quickly activate and successfully develop, operate, govern, and secure their own business networks. (www.ibm.com/blockchain/industries/supply-chain)

“Nobody is an island anymore from a supply chain perspective. In the supply chain, you are working with buyers, resellers, partners, logistics providers, and others. You have to work with all of them and be able to exchange information. Today, we are all using different operating systems, nomenclatures, databases, and software, and it becomes tremendously difficult to agree on how we are going to

share this information.

“The industries that appear to be the most interested in blockchain are those that have a particular set of challenges. When I look at the major supply chain use cases for blockchain, I put them into four categories.

“The first one is chain of custody. An auditable trail of where this product has been, where did it come from. The data I am looking at would be intimate information about those activities. Anyone who needs to track and provide original records to any kind of governmental authorities would fall into this category. So food is important. Where was it grown, where was it aggregated, who transported it, etc. Chain of custody is the most significant use case for blockchain and will probably be the biggest market for blockchain.

“Second is shared visibility. When products are moving



Burriss Logistics offers technology solutions that surround every aspect of end-to-end supply chain management supporting efficiency, integrity, and safety. This includes back-end information technology infrastructure as well as front-end devices that gather and report realtime, key shipment data.

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through multiple and different hands, tracking the goods and assets, managing the transactions across the value chains, and making sure that everybody has visibility to them is of critical importance. So for anybody involved in global trade, lifecycle management of transactions, financial and insurance matters, and shipment and ports—having shared visibility allows everybody to manage their piece of the process more efficiently.

“I would say that the third biggest category would be dispute resolution for contracts, procurement, invoices, and payment, which today occupies a considerable amount of back-and-forth between companies to reach agreement. If we can agree to put our information on a shared database that we know is secure and we know is commissioned so that only the appropriate people can have access to this information, then I think this could be a huge advantage in eliminating disputes upfront.

“The fourth major use case category for blockchain in the supply chain is identity management—streamlining and securing that cumbersome process of qualifying, verifying, and onboarding a trusted entity, and the records

associated with that trusted entity. This is a capability blockchain is really good at.

“Food, and its supply chain, is one of those areas where you really want to make blockchain an industry solution. Because having gaps in your information between the store that is selling [the food] and the farm that produced it means you really don’t have a solution. You need to have information of where it was grown, where it was shipped to, and if there was any kind of an aggregation point, where that was shipped to for packaging, and where it was shipped for distribution and then shipped to the stores. You want to make sure you can capture all of that information.

“The technology of blockchain still has a ways to go. It still needs to be able to support higher levels of transactional throughput. There are a lot of people who describe blockchain as the golden hammer. It is not that. It is a technology. Just like robotic process automation or hybrid cars or [artificial intelligence], it addresses a specific set of problems. It’s just that these problems happen to be big intractable problems, so it is really important.”



DAVID SHILLINGFORD

Industry expert and leader in supply chain risk analytics, Resilience360

Resilience360 was developed in DHL’s Global Innovation Center and has since become an independent company receiving venture funding from Columbia Capital. The company is an innovative supply chain risk management software platform that helps businesses predict, assess, mitigate, and react to supply chain disruptions and delays. (www.resilience360.com)

“Assessing blockchain from a risk management perspective is an important part of the blockchain paradigm.

“There are a number of different ways that blockchain relates to supply chain risk. Ultimately, at the heart of it, is having accurate supply chain visibility that you can trust and sharing this data with all parties involved. This can be done with today’s technology, but in some cases, it can be done better with blockchain, because it is data that can be trusted.”

“This extends to the legality and paperwork associated with product movement. When a container is moving from point A to point B, specific financial transactions relate to what is in the container, who owns it at any particular point on the Earth, and having location verification. This permits financial transactions to be initiated

through smart contracts, which would be difficult to do without blockchain.

“Today, the state of the art in supply chain risk management encompasses bringing together two sets of data. One relates to supply chain assets, which could be manufacturing locations or distribution centers or the shipments that are made between them. This, of course, is being mapped or tracked in real time in the system.

“But this is then overlaid with future risk indicators or information about an event that has happened that might be a disruption to the supply chain. These can include weather and geological disruptions, labor issues, political upheavals, anything that might disrupt the supply chain.

“This level of insight and analytics brings together what a company’s supply chain looks like in real time, combined with what might happen to it given known data. Ultimately, what a company wants to know is what it should be concerned about and the actions it should take to mitigate any disruptive events. At its core, a blockchain-enabled supply chain can outperform traditional supply chains because it is powered by accurate data, leading to better evaluation and decision-making.”

Jim McMahon is chief executive officer at corporate communications firm ZebraCom Inc. His features have appeared in more than 2,500 trade and business publications worldwide.



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How prepared is your supply chain for the unexpected?

Not all surprises are good ones. Some are downright disruptive to the point of negatively impacting the customer experience—and the bottom line. Here are four steps companies can take to increase supply chain resiliency and better mitigate risk.

THE PAST FEW YEARS HAVE SEEN NORTH AMERICA—and other locations worldwide—shaken by a series of natural disasters that have devastated communities. These extreme events have likewise had a profound impact on private-sector supply chains. With many organizations' networks consisting of multiple suppliers and subsuppliers, a disruption can quickly prompt cascading trouble for the processes that depend on them—and, ultimately, a negative impact on customer service and the bottom line.

Clearly, the ability to respond to a disruption is of strategic importance. Creating supply chain resiliency demands a combination of tactical actions at the site level and broader strategic changes at the network level. So how can a company build supply chain resiliency in order to prepare for the unforeseen?

Here are four steps companies can take to minimize the fallout:

1. Establish situational awareness. That is, know what the potential disruptions are for a given location and the subsequent severity of impact to the organization as a whole. Included are acts of nature, such as weather or natural disasters (hurricanes, earthquakes, floods, and heavy snow/ice). Alternately, fires, power failures, chemical leaks, rogue employees, acts of terrorism, labor strikes, rising tariffs, and changing governmental policies can also be disruptive.

Further, transportation shortages or port strikes can negatively impact a supply chain, as can a failure in information technologies (IT), whether accidental (an employee mistakenly opens an email with a virus) or deliberate (cyberattacks or ransomware). There's also the potential for reputational risk due to any bad publicity that results from a crisis situation.

As noted by Dr. Yossi Sheffi, the Massachusetts Institute of Technology's (MIT) Elisha Gray II Professor of Engineering

BY SARA SPECTER



Systems and director of MIT's Center for Transportation and Logistics (CTL), in a PrepTalk at the Federal Emergency Management Agency (FEMA), there are two ways to classify disruptions: "Think about the causes, which helps to estimate ... the likelihood of the disruption; and think about the effects, or if something happens how bad will the consequences be."

Sheffi, an expert in systems optimization, risk analysis, and supply chain management, suggests company leaders use a heat map to categorize the potential of each disruption as well as the severity of the outcomes, then prioritize preparations accordingly.

2. Develop scenario-based plans to mitigate consequences. Kathy Fulton, executive director of the American Logistics Aid Network (ALAN), a humanitarian organization that provides supply chain assistance for disaster relief organizations, has seen numerous supply chain disruptions. She advises companies not to focus on the cause, but rather to examine the effect when developing response strategies.

"For example, if a major storm blows through an area, companies need to be thinking about how to deal with road closures, extended power outages, and communications breakdowns," she says. "Also, think about how reliant your network is on fuel, financial markets, and everything that's inbound and outbound from your organization. Then develop plans for alternatives, for dealing with scarce resources, or for creating your own solutions."

Operations that rely on shared services, such as public warehousing, third-party logistics (3PL), and transportation common carriers, should have extensive discussions with those partners—both about the company's own resilience plans and about those of the service providers, adds John Teixeira, senior vice president, custom retail distribution at Burris Logistics.

"Both parties should absolutely have a business continuity plan and should commit to discussing those plans quarterly," he says. "Communication is key to minimizing the impact of a disruption."

For example, Teixeira notes that members of the Burris Logistics team meet with all East Coast customers—many of which are grocery retailers—prior to the start of hurricane season to reassess preparation plans. If the Burris team sees a forecast with the potential to cause a weather event regionally, it immediately connects with customers in those areas to ensure their stores are well stocked in advance and again once shoppers return to the stores.

Additionally, it's important that companies make sure their transportation provider has the proper registration and authorization at both state and local agencies to travel on roads that are otherwise closed, notes Teixeira. Fulton agrees, and adds that any company distributing key necessities—such as food and water—should work with the local power company to emphasize the criticality of keeping those facilities open. That's because keeping pre-existing

supply chains operating is less expensive and more efficient than replacements instituted by the government.

"Part of the planning process should also include building relationships with national and state Business Emergency Operations Centers (BEOCs)," she advises. "These offices share information between the public and private sectors as they prepare for, respond to, and recover from a crisis. Having those connections will make a company's response that much more effective."

Both Fulton and Teixeira emphasize the importance of redundancy planning across multiple geographic areas and facilities across a variety of key operating components, including people, assets, inventory, and systems.

"In our own facilities, if a location is affected by a hurricane, for example, we recognize that the people who work there need to take care of their own families first. That's why we will deploy team members from other locations to triage and operate the facility," Teixeira explains, noting that Burris Logistics deploys personnel across key areas, such as inventory management, data management, IT, mechanical, and refrigeration. "We can also relocate inventory to other facilities if necessary."

Fulton agrees that planning to help employees' personal resilience immediately after a crisis is critical to a fast recovery. "After Hurricane Maria hit Puerto Rico, one company gave every employee a generator," she recalls. "They recognized that their people are not only a key component of their supply chain, but also that the cost of the generators was minimal compared to the cost of lost work time."

3. Document the plans and review them regularly. That frequency is company dependent; Teixeira recommends it be done at least four times per year, or after a major organizational change, such as the introduction of new leadership, an acquisition, or a merger. For a fresh perspective, engage an independent consultant or ask a service partner for an assessment; this is one service that Burris Logistics' audit team provides to its customers.

4. Practice implementing the plan. The best supply chain resiliency plan is worthless if it sits on the shelf. It's important to practice implementing the plan against different scenarios. Doing so ensures that the response becomes instinctive and automatic. Such simulations also provide an opportunity to evaluate strategy shortcomings, affording a company the ability to make changes before a disruption occurs.

"The point of a resiliency simulation is not to be successful," cautions Fulton. "Instead, every time a disaster response is simulated, it should be exercised to failure. Because that's an opportunity to take an honest look at ways to improve as well as to determine what resources are needed to be more resilient in an actual crisis—which is the point of planning in the first place." □

Sara Specter is a contributing editor for DC VELOCITY.



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