

# Southern Glazer's Wine & Spirits: Proof positive INNOVATION

**With its new Texas DC, the world's largest distributor of alcoholic beverages has built one of the most automated facilities in its network and continues to lead the way in automation adoption.**

BY **BOB TREBILCOCK**, EDITOR AT LARGE

**W**hen it comes to the wine and spirits industry, unless you're a supply chain geek, you probably don't think a lot about what it takes to get your favorite bottle of wine or bourbon onto the store shelves.

As it turns out, it's a lot. For one, the industry is governed by 50 different sets of regulations in 50 different states. Regulation is one reason why the industry was fragmented for decades, with a myriad of small distributors in every state. Given that distribution involves moving cases that weigh nearly 40 pounds, order fulfillment was often manual and labor intensive, requiring an associate to handle thousands of pounds of product during an eight-hour shift.

Alcoholic beverage distributors can't control state regulations or the weight of a case of wine. But over the past three decades, the industry has become less fragmented and less labor

intensive. Consolidation has led to a group of large distributors that now operate in multiple markets. And the adoption of high levels of pallet and case handling automation is making the job less strenuous for associates.

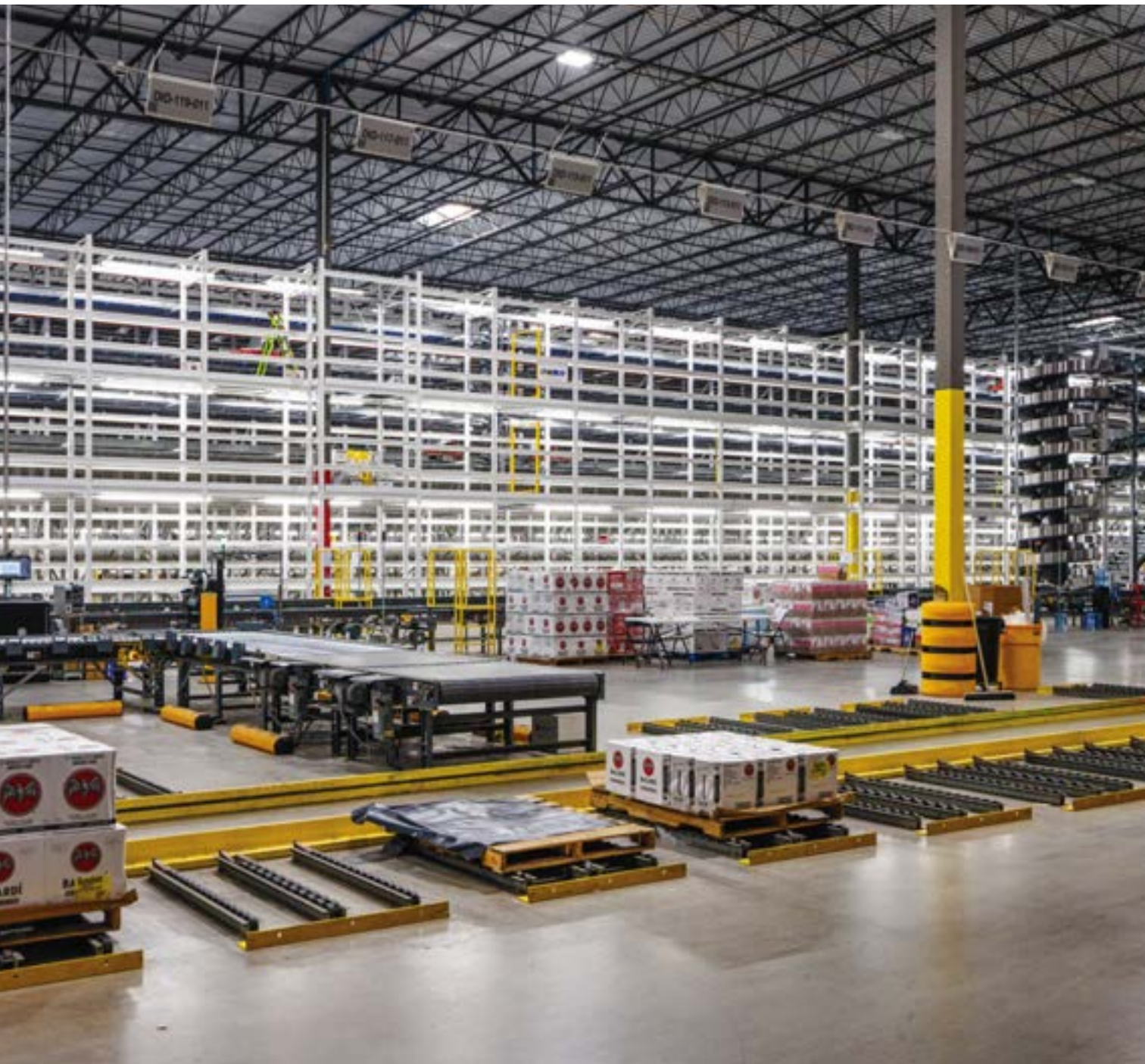
As Paul Laman, an industry automation veteran with DMW&H, puts it: "Over the past 30 years, the industry has been bringing in new technologies and keeps building on the successes of the past."

Without question, Southern Glazer's Wine & Spirits has been at the forefront of both these trends. The company is the largest distributor of alcoholic beverages in the world, with operations across 45 markets in the United States and Canada, as well as brokerage operations in the Caribbean, Central and South America. It achieved that status through a combination of organic growth, mergers and acquisitions.

Southern Glazer's has also been



leading the way in the automation boom, building on the successes of the past with each new facility. Southern Glazer's was an early adopter of sophisticated sortation strategies including the use of pallet-handling automated storage and retrieval systems (AS/RS) for high density storage and pick module



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replenishment; and more recently, shuttle systems and automatic case dispensers.

Southern Glazer's new 1.089-million-square-foot distribution center, designed in collaboration with a system integrator (DMW&H), is a prime example of building on the successes

of the past while taking its distribution processes into the future.

Innovations in this facility include:

- Case dispensing technology that automates the picking of the fastest moving SKUs. The four-level dispenser can be expanded to seven levels; each level has 90 lanes with room to hold 40

cases to a lane.

- A pre-sort strategy for the medium-movers that enables an order selector to pick two waves at a time to a belt conveyor; a pre-sorter then sorts the cases into waves. While order selectors are still manually picking to a belt, the strategy reduces the number of times they visit a

location, reducing travel during a shift.

- A case-handling shuttle system that automatically stores and retrieves the slowest moving SKUs and also automatically handles returns. The shuttle system can store 22,000 cases.

As with some of Southern Glazer's other facilities, this one features a high-rate sortation and wedge merge system: Cases are picked and staged throughout the evening shift. When it's time to load trucks, cases are released from staging lanes, combined by wave and sorted to the right delivery truck in the order they'll be loaded for route-stop delivery.

An alternative to a traditional combiner, a wedge merge builds up a slug of cases and then dumps them out at a high rate. All told, the system is managing 18,000 SKUs and processing 8,000 cases per hour with the capacity to handle 12,000 cases per hour as the business grows. Currently, Southern Glazer's



**Cases are inducted and conveyed to the shuttle system.**

expects the building to distribute about 14 million cases for the year.

Carlos Osma, senior director of SCM engineering, estimates that 40% of the case volume going out of the building is completely automated once product is received.

Ron Flanary, senior vice president of national operations, adds that while the facility was built for automation and speed, featuring the fastest conveyor and sortation system in the company's network, the design also recognized that people are still essential to successful

## Culture and productivity go hand in hand

**L**ike most industries, wine and spirits has experienced a steady march toward automation. But if COVID taught us anything, it's that you can't automate everything and workers are not fungible.

Until someone can operate a lights out facility, the environment a company creates in its facilities—its culture—is as critical as automation to running predictable, reliable and efficient operations. You could argue that culture equals productivity.

That philosophy influenced the design of Southern Glazer's Fort Worth facility.

"The workforce is different than it was 20 years ago, and retention is a bigger issue so we have to meet our employees where they are," says Michael Bratcher, regional vice president of operations. "We were putting this building together as we were coming out of COVID, and we knew we had to elevate the employee

experience in our buildings."

To that end, the facility is climate-controlled, a rarity in distribution centers even in hot climates. And automation is replacing the most repetitive and strenuous case handling jobs, or at least making them easier.

But the most visible example is the hospitality, or break, room where employees enter the building, take breaks and eat lunches.

The space includes decorations related to popular North Texas sports, like the Dallas Cowboys and Mavericks; it's outfitted with an AV system and comfortable seating for town hall meetings; bright lighting and monitors so employees can take a TV break; and a self-checkout mini-mart rather than vending machines.

"It's more like going into a convenience store, where we can offer

a bigger food selection, like salads, than we could in typical vending machines," says Bratcher. "We believe it has made us much more attractive as an employer.

In the future, Southern Glazer's will add an on-site clinic where associates can get wellness checks and physical therapy.

Earlier in 2023, Southern Glazer's launched an initiative to increase the diversity of its operations workforce. The NextGen Leadership Program is working with HBCUs to recruit graduating seniors into the operations side of the business. The goal is to increase diversity in the management side of the business.

"When it comes to our hourly associates in Texas, we're proud of the fact that we have a very diverse workforce," Bratcher says.

distribution operations (See page 19).

“Given the competition for quality employees, it’s incumbent on us as an employer to create an environment that our people are proud of,” Flanary says.

### **Tackling a growing market**

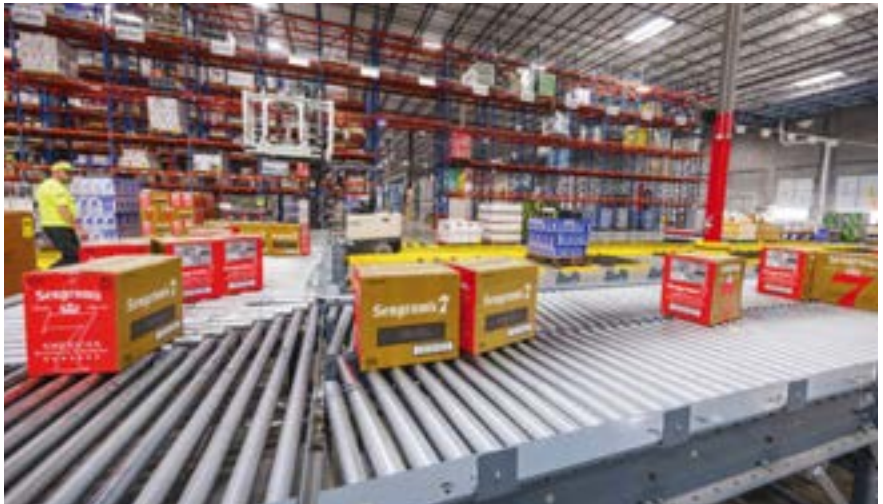
Southern Glazer’s Wine and Spirits was formed in January 2016, when Southern Wine & Spirits merged with Glazer’s Wine & Spirits. Nationwide, the new company represents more than 1,700 beverage suppliers, including more than 7,000 individual brands. The company makes weekly deliveries to more than 250,000 customers in 45 U.S. markets and Canada, as well as brokerage operations through its WEBB Banks division in the Caribbean, Central and South America.

Southern Glazer’s makes 6.7 million annual deliveries to a customer base that ranges from big box retailers and national grocery chains to hotels, retail outlets and neighborhood restaurants, bars and clubs.

Southern Glazer’s has long recognized the importance of its supply chain to successful operations, and the company promotes: “Our state-of-the-art warehouses are the most advanced in the industry, and we’ve transformed our supply chain to be one designed around customizing services for our customers.”

Those sentiments are especially applicable to the new Fort Worth facility. Planning for the building began during COVID in 2020 as part of the company’s consolidation of the Texas network, recalls Flanary.

When Southern Wine and Glazer’s merged in 2016, Glazer’s had expansive operations in Texas, including a large beer business. That network was designed to optimize beer distribution, which is a very localized business. As a result, Glazer’s was operating facilities in five different Texas markets. The beer



**An operator depalletizes layers of fast moving SKUs (top) that are inducted into the case dispenser (bottom).**

business, however, was not part of the acquisition. That created an opportunity to reimagine the Texas operations as a hub-and-spoke model.

“We asked what it would look like if we split the state down the middle, with two hubs and spokes for distant markets,” Flanary recalls. “We did network modeling to decide if we needed two or three hub facilities and settled on two.”

The first of those Texas facilities was located in Katy, near Houston, which replaced an existing building. The second was an existing 385,000-square-

foot building in Farmers Branch, outside Dallas, that served Dallas, Fort Worth and East Texas.

Built in 2000, the facility was struggling to keep up with a fast-growing business, says Cody Renfro, vice president of North Texas operations. “We had four multi-level pick modules and all of the picking was manual,” he recalls. “If we shipped 50,000 cases, more than 40,000 of them were handled by our team.”

To keep up with growth and complete the network redesign, Southern Glazer’s

bought a more than 1-million-square-foot spec building in Fort Worth in 2020 that included 300,000 square feet of available expansion space.

Today, the Katy facility serves south Texas while the Fort Worth facility services everything north of Austin. Southern Glazer's also operates nine depots for local delivery around the state: Orders for the depots are loaded in Katy and Fort Worth and then crossdocked into outbound route delivery trucks at the depots.

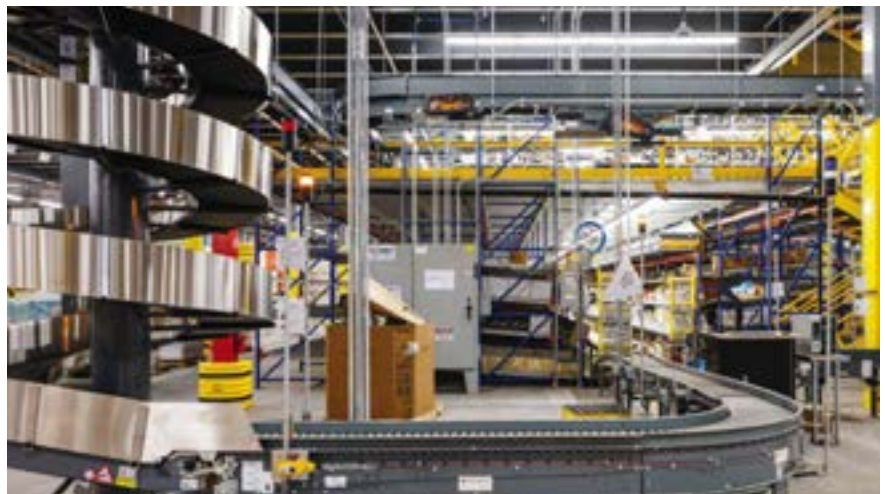
### **Design for efficiency**

The design of the new facility was influenced by several high-level goals. At the top of the list was to create a state-of-the-art facility that advanced the capabilities Southern Glazer's had developed in other facilities.

"At the highest level, we wanted to design a system that could meet the market demand; scale fast if needed because we've seen constant growth in that market; and be as efficient as possible with the processes that have been difficult for us in the past," notes Osma. The shuttle system, for example, would not only manage slow-moving SKUs but also automate handling returns so that cases didn't have to be placed in reserve storage and then retrieved later.

Further, Southern Glazer's wanted to automate as much of the facility as possible, especially in manual processes such as picking. "Adding automation always has to make financial sense," says Osma. For instance, Southern Glazer's is using pallet-handling AS/RS in some facilities, but that was not practical in a building with 38-foot ceilings.

The resulting system minimizes, and in some instances eliminates, touches once a case is inducted at receiving until it's handled again at shipping. "About 40% of our volume is just one touch," says Flanary. "We handle the pallet at



**An order selector picks medium movers in a pick module (top). Cases are conveyed to a spiral conveyor that leads to a sorter (bottom).**

receiving, but we don't touch the case until we put it on the back of a truck."

The facility achieves efficiency by segmenting picking processes based on the velocity that SKUs move through the facility.

The facility manages about 18,000 SKUs. The 100 fastest-moving SKUs represent about 30% of the volume on an average night. Those are managed in the four-level case dispenser. From receiving or reserve storage, pallets are delivered to the dispenser, where a lift truck operator uses a layer-picking attachment to place a layer of cases onto a conveyor.

The layers are then unscrambled

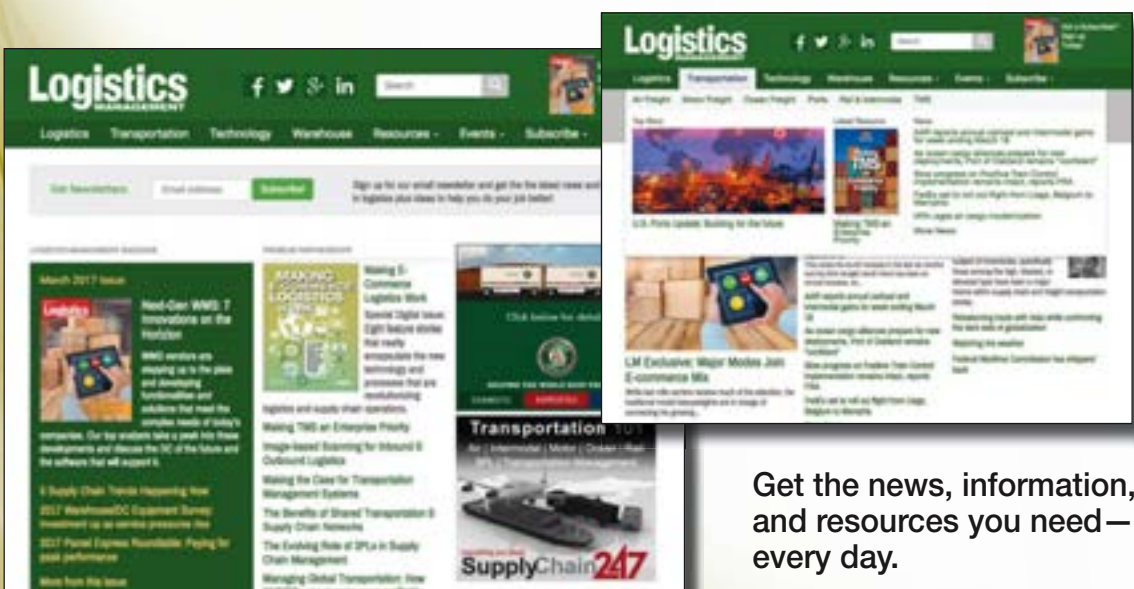
and the cases are conveyed into one of 90 lanes on each of the four levels where they are staged until order fulfillment begins.

At that time, cases are automatically dispensed onto a takeaway conveyor and delivered to the sortation system where they are combined with other cases for outbound trucks. The dispenser is replenished throughout a shift.

The shuttle system stores about 18,000 cases representing the slowest-moving SKUs as well as returned cases. These account for 25% to 30% of the nightly volume. Cases destined for the shuttle are inducted onto the

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conveyor system in receiving and automatically putaway into storage. Once order fulfillment begins, cases are automatically retrieved and inducted onto the sortation system.

The medium-movers that represent about 40% of the volume are still manually picked in waves in a four-level pick module. The pre-sorter allows an order selector to pick two waves at a time, reducing visits and walking. The pre-sorter, which sits in front of the primary sorter, segments the cases into the right wave. “That has been a huge win for us,” says Osma.

Since Southern Glazer’s by law can’t deliver mixed SKU cases directly to bars and restaurants in Texas, the vast majority of deliveries are full cases of a single SKU. However, the facility does feature a small voice-directed bottle pick area that represents about 3,000 bottles, or about 250 cases per night. In that area, order selectors build mixed SKU cases that are then inducted onto the conveyor system.

Despite automating at least 40% of the picking volume, Osma and Flanary say Southern Glazer’s is not done yet. The company is investigating new case handling technologies coming out of the grocery industry as well as robotic technologies to automate the bottle pick areas in higher volume facilities; robotic depalletizing; and finally the use of robotic technologies to automate truck loading, which is still one of the most labor intensive processes in the facility. As an example, the company recently announced a partnership with Symbotic to automatically build mixed-SKU pallets.

The original timeline was to have the Fort Worth facility up and running in June 2022. COVID pushed the startup date to April 2023. Five months into operating the new facility, Renfro says the team is still learning the ins and outs of the automation, but the facility is now shipping as many as 72,000 cases in a day.

“That’s a record for one facility in Texas,” he says.

Now that the facility is operational, Flanary says it has improved Southern Glazer’s Texas business in several ways. For one, they substantially reduced misspicks and breakage. And finally, the increased speed of the system means that trucks are loaded and leaving the

facility on time.

“With additional capabilities and capacity, we’re delivering on time, in full and in good condition,” Flanary says. “This was a strategic investment in capabilities that puts us in a strong competitive advantage because we now have the capacity to handle peak volumes that are unique to this market.”

## Taking the touches out of wine and spirits distribution

Southern Glazer’s most recent design uses shuttle and dispenser technologies to minimize case handling.

Over the last 20+ years, Southern Glazer’s Wine & Spirits has continued to add automation and refine its operations. Its most current design continues to move the company further along the automation continuum.

**Receiving and putaway:** Newly received pallets are unloaded at the receiving dock (1) and scanned into the system in the receiving processing area (2). Inventory that can be used to replenish fast-moving SKUs in the automatic case dispenser (3) are staged to be depalletized, unscrambled and inducted into the dispenser. Cases that have been returned by customers are inducted onto the conveyor system and delivered to a shuttle system (4) that handles the tail SKUs. Otherwise, pallets are stored in either the reserve storage (5) or floor storage areas (6). Temperature-controlled items are kept in a cold storage area (7).

**Replenishment:** The three replenishment processes are similar to the receiving processes. Pallets can be delivered to a bottle pick room (8) located underneath the shipping sorter (9), where associates create a limited number of mixed SKU cases for select customers. Pallets can be depalletized and inducted

onto the conveyor system to automatically replenish the shuttle system. Or, pallets can be staged at the automatic case dispenser before cartons are depalletized and inducted into the system.

The facility employs four picking methodologies.

**Manual picking:** About 55% of cases are handpicked to a conveyor in a three-level pick module (10). These are the mid-level SKUs. To optimize that process, order selectors pick multiple waves at a time, rather than a single wave. Those cases then go to a pre-sorter (11) that sorts them into their

### Southern Glazer’s Wine & Spirits Ft. Worth, Texas

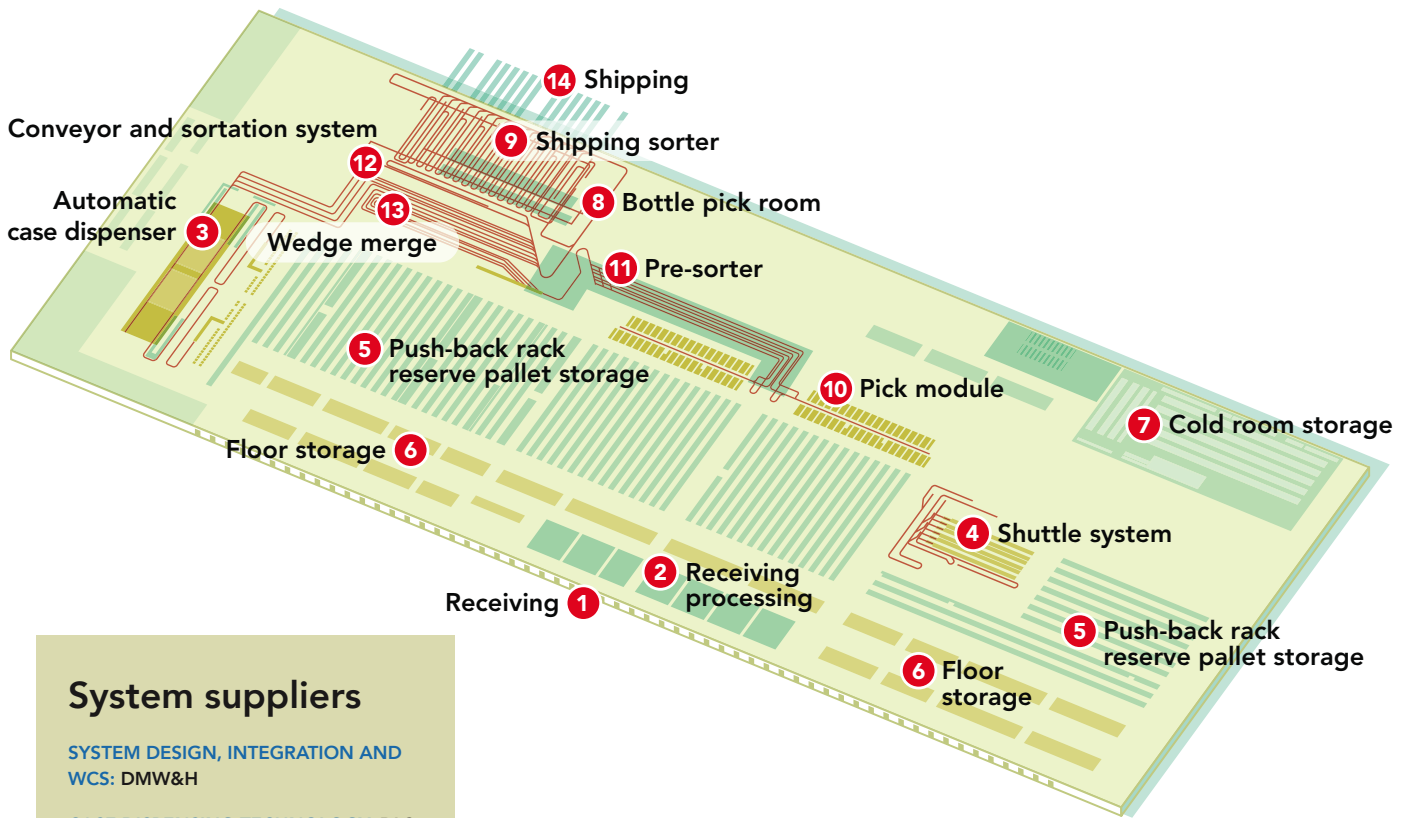
**SIZE:** 1.089 million square feet

**PRODUCTS HANDLED:** Wine and spirits

**THROUGHPUT:** 8,000 cases per hour, with capacity to manage 12,000 cases per hour

**SKUs:** 18,000

**SHIFTS:** 3 per day/5 days per week



### System suppliers

**SYSTEM DESIGN, INTEGRATION AND WCS:** DMW&H

**CASE DISPENSING TECHNOLOGY:** DLS

**SHUTTLE SYSTEM:** Knapp

**CONVEYOR & SORTATION:** Honeywell Intelligrated

**WAREHOUSE MANAGEMENT SYSTEM:** Manhattan Associates

**VOICE RECOGNITION:** Honeywell Voice

**LIFT TRUCKS:** Crown and Bendi

**LAYER-PICKING ATTACHMENT:** Cascade

original order waves.

**Dispenser:** The carton dispenser is an automated solution designed to manage the fastest-moving SKUs in the building that represent 30% of the day's activity. In this area, pallets are staged along the automated flow rack. Throughout the day, software will direct a clamp truck operator to pick and place layers of product on a descrambler. Those cases are singulated and then conveyed up a spiral conveyor and sorted to one of the four levels where

they are staged for release. When the system gets a call for orders, the staged cases are released in order to create a wave and receive an SKU label. After they are labeled, they are inducted into the conveyor and sortation system (12). A pusher redirects the cases on 90-degree transfer and then pushes them into a lane.

**Shuttle system:** The shuttle system manages the tail, or slowest-moving SKUs, which live in the shuttle and account for about 15% of daily orders. These include thousands of SKUs that might only require one or two cases a day. During the order fulfillment process, the cases are automatically retrieved and inducted onto the conveyor and sortation system.

**Bottle pick room:** Most orders served by the Fort Worth facility go out as full cases. However, it still handles a limited demand for mixed SKU cases. In

the bottle pick room, associates are directed by voice to pick into cases on a conveyor that are then inducted into the sortation system and staged until it's time to load trucks.

**Sort and merge:** Cases from the picking areas are staged in lanes until it's time to load the trucks. Then, the system begins releasing lanes that merge the cases and then sorts them to the right dock door. The facility features a high-rate wedge merge (13) with nine input lanes. Once picking begins, cases are released, the lanes fill and are then emptied and refilled. The released cases are then sent to a high-speed sorter that sequences cases to the right dock door for loading. Dock doors are fed by decline conveyors. Trucks are floor-loaded on a first-in/last-off basis. •

—Bob Trebilcock is editor at large for Logistics Management