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CASE STUDY

TRINCHERO FAMILY ESTATES LODI, CA (USA)

USING AUTOMATED STORAGE TO OPTIMIZE COSTS AND IMPROVE QUALITY

THE CUSTOMER AND THEIR REQUIREMENTS

Trinchero Family Estates is a worldwide leader in the wine industry, with more than 45 acclaimed wine and spirits brands and a global presence in nearly 50 countries. The family-owned business has been passed through three generations of Trincheros since it was founded in 1947, expanding steadily as it grew sales and added brands. The Sutter Home brand alone has grown into one of the top wine brands in the U.S. with sales of more than 10 million cases annually. However, while the company was growing its portfolio and reach, inefficiencies crept into the supply chain. Bottling and distribution were spread across two facilities in Napa Valley, physically removed from the company's largest wine production facility in Lodi, California. That required bulk wine to be shipped across the Napa Valley to be bottled and distributed from various facilities that relied upon classic manual storage and distribution operations.

INDUSTRY EXPERTISE

"The first piece of advice I would give any company attempting an automation project similar to ours is to partner very closely with Swisslog throughout the process. Swisslog listened and worked with us to understand our business first rather than just selling something to us. Their industry and technical expertise was vital to our ability to transform our supply chain to increase speed, reduce costs and improve quality control."

-Kent Mann, VP of Operations, Trinchero Family Estates

THE CHALLENGE

In 2013, Trinchero Family Estates made the decision to centralize its bottling and distribution with its production in a new facility that would leverage automation. The facility had to support seamless product movement between production and distribution as well as accommodate products received from co-manufacturers and other TFE bottling sites.

According to Kent Mann, VP of Operations at Trinchero, "It was time to upgrade, modernize and centrally locate a facility that leveraged raw material sources as well as distribution. The company had the vision for a bottling and distribution facility that would take us into the future."

The primary challenge the company faced was achieving the throughput and speed desired. "Our goal was to run 3-4 bottling lines while also bringing in product from our co-manufacturers and our bottling sites in the Napa Valley," said Mann. "We needed to be able to move product into storage fast and we needed to be able ship fast."

Other challenges associated with this major supply chain transformation included consolidating inventory from the two distribution centers into one high-density location, and providing visibility and control of product as it moved through bottling and distribution.

THE SOLUTION

Trinchero engaged with Swisslog Warehouse and Distribution Solutions to develop an automated distribution system that could be integrated with bottling in a new facility in Lodi, California.

"We had a chance to witness the Swisslog PowerStore system in action at California Natural Products and were very impressed," said Mann. "It was exactly what we were looking for because it allowed us to consolidate our inventory in a high density area and gave us the speed and visibility we needed."

PowerStore is a robotic storage and retrieval system designed for deep lane storage of palletized loads. The simultaneous use of automated storage and retrieval devices, along with lifts performing work independently allows PowerStore to support extremely high-density storage with exceptional throughput rates.

The solution designed through a collaborative effort between Swisslog and Trinchero featured a four-module Swisslog PowerStore system and more than 3,500 feet of Swisslog ProMove conveyors connecting bottling and receiving with the PowerStore system.

The PowerStore system configured for Trinchero provides high-density storage in nine vertical layers and intelligently manages inventory to optimize compaction and support first-in first-out management.

The system can store more than 72,000 pallets—over 4 million cases—in just 190,000 square feet, with throughputs of up to 249 pallets per hour.

Prior to transitioning to the new facility, Trinchero relied on manual tracking and a monthly physical inventory to maintain inventory control. Now, those processes are performed through integration of Trinchero's SAP system with the new Swisslog WMS. "The WMS and SAP systems are communicating continuously and this allows us to maintain visibility and control over products as they transition from production and receiving into the automated storage system and through shipping," said Mann.

The vast majority of product – 18.5 million cases a year – come off the bottling lines and directly into the PowerStore system without being touched. The remainder comes in through receiving where they are labeled, scanned and moved directly into the PowerStore system.

The team at Trinchero worked closely with Swisslog throughout the design, installation and startup of the automated warehouse system. They conducted weekly meetings throughout testing and implementation and continue to work closely with Swisslog to ensure they are realizing the full benefits of the PowerStore system.

"From a personnel standpoint, the startup went much smoother than I expected," said Mann. "We took a team of people used to manual warehousing and they were comfortable with the new system in a week."

FACTS AND FIGURES AT A GLANCE

SWISSLOG POWERSTORE MODULE	
Aisle Carrier	36
Row Carrier	36
Number of Modules	4
Storage Capacity	72,296 pallets
Vertical Conveyors	8
Vertical Conveyor Height	68ft (20.7m)
ProMove Conveyor	3,580ft (1,009.2m)

PERFORMANCE	
Receiving	249 pallets per hour
Shipping	249 pallets per hour
Staging Time	30 Minutes

INBOUND STAGING LOOP	
Track Length	1,048ft (319.4m)
Supply Carriers	14
Rotating Shift Devices	6

OUTBOUND STAGING LOOP	
Track Length	1,246ft (379.8m)
Supply Carriers	22
Rotating Shift Devices	3

THE RESULTS

After consolidating inventory in the new integrated bottling and distribution facility, Trinchero has been able to reach its goal of moving 249 pallets per hour in and out of storage while maintaining complete control over inventory.

The new system has eliminated the need to ship product from wine production to bottling and minimized handling within the warehouse, saving transportation costs and minimizing product damage. The system has also reduced warehouse forklift traffic, saving energy and enhancing warehouse safety.

Throughput has been increased significantly with a single distribution center now able to carry the load of two facilities. Equally important, the square footage required for product storage has been reduced to only 10 percent of what was previously required: the PowerStore system stores in 190,000 square feet what had previously been housed in approximately two million square feet. The company is achieving a compaction rate of 89 percent.

This high-density storage also had another energy benefit for Trinchero in that it could now maintain tight control over temperatures for all products in storage. Products in inventory are kept at 58° F, which is ideal for wine quality. That level of temperature control wasn't possible in the lower density warehouses.

The automation system and software integration have also improved inventory accuracy and eliminated the need to conduct a monthly physical inventory, giving the business an additional 12 shipping days annually. "Overall our inventory control is 99.998 percent," says Mann. "The only discrepancy is due to small manual warehouse processes that we have to maintain."

Another important metric is truck staging time—the time from when a truck checks in at the facility until the order is ready to load. The company targeted an aggressive 30-minute staging time and is currently beating that by 14 percent.

"This project has done exactly what we hoped it would," concluded Mann. "It has reduced costs, improved quality, and positioned us for future growth."