

Lift Truck Efficiency and Plant Design



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INTRODUCTION

When walking through a beverage warehouse, there is no denying that the product assortment that facilities are handling today is much different than even five years ago. As facility planners look to accommodate this proliferation of SKUs, they are looking to ensure that their supply chains and equipment are working at full capacity. This eBook, prepared for you by *Beverage Industry* and Yale Materials Handling Corporation, tackles how beverage-makers are turning to suppliers within the forklift industry to support their maintenance of equipment and maintain a safe environment for operations employees to work in. Readers also will get a chance to learn about efficient plant designs and sustainable practices that support warehouse operations. As you peruse this eBook, whether through PDF, digital edition or our iPad app, I hope you will learn more ways to utilize your supply chain partners to keep your operations running smoothly.


Jessica Jacobsen, Editor
Beverage Industry

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National Forklift Safety Day raises awareness for operator training

When it comes to beverage operations, worker safety is one of the most important factors for companies to consider. From Oct. 1, 2013, to July 29, 2014, 30 workers were killed in forklift-related accidents, according to the Occupational Safety and Health Administration's (OSHA) "FY14 Fatalities and Catastrophes To Date" report. Causes of death included falling from a forklift, a forklift turnover or crash, being struck by a forklift, and being hit by products falling from a forklift, among other causes, according to data from the

Washington, D.C.-based branch of the U.S. Department of Labor. Beyond that, OSHA estimates that forklifts cause approximately 85 fatal accidents and 34,900 accidents that result in serious injury each year. Statistics like these have pushed the Industrial Truck Association (ITA), also based in Washington, D.C., to establish a National Forklift Safety Day to raise awareness for forklift safety.

The association hosted the first National Forklift Safety Day on June 10, 2014, during National Safety Month. This event brought together

ITA members and members of Congress to discuss forklift safety. In particular, this event focused on highlighting the need for operator training.

National Forklift Safety Day garnered positive feedback and created an open channel for forklift and workplace safety conversations between representatives and manufacturers.

The ITA plans to host National Forklift Safety Day annually on the second Tuesday of June, according to ITA President Brian Feehan.

Of course, in order to reduce the

number of forklift accidents, forklift manufacturers and their customers have to practice forklift safety throughout the whole year.

“Safety is always a critical factor in the design and manufacturing process of a lift truck,” says Shelley Bell, warehouse industry manager at Yale Materials Handling Corp., Greenville, N.C. “Once the equipment is on site, proper operator training is the foundation of a safe and productive operation.”

To help employers meet OSHA requirements for training their lift truck operators, Yale offers its Yale Handle with Care program, which provides

information for operator training and application considerations to ensure that Yale® lift trucks are used properly and to help minimize risk to operators and others around the lift trucks, she says.

In addition, Yale’s new MPB045-VG heavy-duty walkie pallet truck, which the company released in March 2014, comes equipped with Yale’s Smart Slow Down technology to help reduce rollover accidents on turns. When the operator turns the truck during cornering, this feature automatically reduces the truck’s speed, enabling the operator to maneuver through the warehouse

with increased confidence, the company says.

Three ways to properly maintain propane-powered forklifts

Nearly 60,000 propane-powered forklifts were sold in the United States last year, making up a significant share of the forklift market, according to The Propane Education & Research Council (PERC), Washington, D.C. Propane is a clean, American-made fuel with very low emissions, making propane forklifts safe for indoor and outdoor operations, it says.

As with all forklifts, however, there

are certain steps forklift fleets can take in order to ensure continued safe operation:

Step 1: Practice preventative maintenance.

Preventative maintenance is designed to preserve equipment reliability by replacing worn components before they fail. The PERC recommends that propane-powered forklifts receive filter and lube service at least every 1,000 hours or every four months, whichever comes first. Jeremy Wishart, deputy director of business development for the PERC, adds

that lift truck fleet managers should consult with their equipment manufacturer for specific service intervals, as recommendations can vary.

“Preventative maintenance is less expensive than a service call and can be scheduled around off-peak hours of business operation,” Wishart said in a statement. “Servicing forklifts before any issues arise ensures minor problems will be caught before they become more extensive and costly.”

Step 2: Prepare the repair facility.

Safety is an important consideration

for any repair facility, and facilities servicing alternative fuel equipment are no exception. Forklift fleet managers should review the National Fire Protection Association Code 58 for information on fuel storage and garaging procedures with propane-powered equipment, the PERC says.

“Propane has similar requirements when compared with gasoline, so facilities that are compliant with conventional fuel codes can often accommodate propane-powered equipment without modifications for ventilation, gas detection or electrical requirements,” Wishart said. “That’s not the case with all

alternative fuels, so it's important to know the requirements for equipment up front."

When servicing and repairing propane-powered machinery, the work should be performed in the lowest point of the facility, and the tank supply should be shut off when possible, the PERC says.

Step 3: Handle the fuel safely.

Propane is a safe and versatile fuel when handled properly. The PERC reminds forklift fleet managers to visually inspect cylinders and mounting brackets for any damage before refilling a propane tank. Also,

make sure the tank is mounted properly and that the mounting pin is engaged on a regular basis. If there is a problem, Wishart recommends leaving repairs to a professional.

"Don't try to modify or repair valves, regulators or other cylinder parts," Wishart said. "Always call a propane provider or qualified service technician for assistance if there's ever any uncertainty."

A few small steps can ensure the safe and easy operation of propane-powered forklifts and their components. Spending a few minutes up front diagnosing small issues often can prevent unnecessary costs and larger problems further down the road, the PERC says. **BI**

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Distribution Applications: Martignetti Companies

Martignetti Companies is the leading distributor of wine and spirits in New England and the seventh largest distributor in the U.S. The family-owned business was established in Norwood, Mass., in 1933, right after the repeal of prohibition. Today, Martignetti Companies has more than 1,200 employees committed to offering the highest quality service and building long-term partnerships with their customers and suppliers.

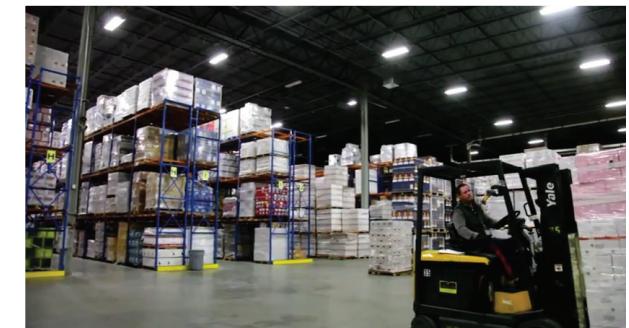
Challenge

Martignetti Companies utilizes a variety of Yale® lift trucks, but

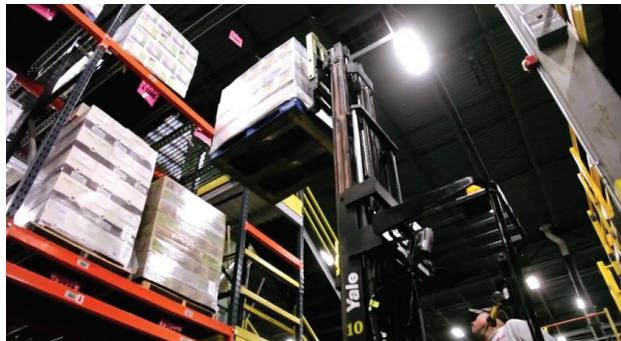
was using local non-certified maintenance places for their lift truck service. Though the reliable Yale trucks provided more uptime, outsourcing their lift trucks to non-Yale certified technicians for periodic maintenance slowed down the process, increased downtime and was difficult to regulate.

Solution

When the company was undergoing some other operational changes, Martignetti Companies started working with their local Yale® dealer to service and maintain their lift trucks.



The Yale-certified technicians were eager to work with the company to ensure they were receiving the best possible service in order to continue meeting their bottom-line goals. In the beginning of their relationship, a Yale technician would come almost every day and work side-by-side with the Martignetti workers in their warehouses. The technician would even give tutorials to the workers



on basic service check-ups. Now, the technicians come once or twice a week to perform other maintenance tasks.

"It was great to have an experienced Yale technician teach our in-house service guy the ropes," said Ilias Potsis, senior vice president of warehouse operations. "Their professionalism and great service are what keep us coming back for routine service check-ups. That relationship is the key to our loyalty with Yale."

Impact

As Martignetti works with a variety of Yale trucks, the customized service and maintenance plan from a Yale-certified technician makes a difference in how the trucks operate. The company is therefore more efficient in its warehouse operations, and experiences less downtime due to the Yale team's careful planning and execution.

"We see our friends at Yale like expert coworkers that are always

there for us when we need it," said Potsis. "When other dealers from companies like Raymond or Crown call, I'm always happy to turn them away because of our longstanding relationship with NITCO and Yale." **BI**

Source: <http://www.yale.com/north-america/en-us/solutions-for-you/customer-testimonials/martignetti-companies/>



Efficient beverage warehouse designs key to handling SKU proliferation

New facility designs offer opportunity to accommodate future growth

A trip to the local retail store can be an enlightening experience. Because of the considerable amount of SKU proliferation, a retail shelf might look quite different from one month to the next. Taking this into account, an efficient warehouse

might be more crucial than ever.

Chet Willey, owner of Arlington, Texas-based Chet Willey Associates and a design partner with HDA Architects, St. Louis, notes that the typical beverage distributor is adding an average of 100 different

SKUs a year. "Everybody is adding new brands and packages, so that's why [HDA] is so good with new facilities and adding onto current facilities, because of the additional SKUs that everybody's adding throughout the U.S.," Willey says.

Designing for efficiency

Whether because of the increasing number of SKUs or consolidation efforts, beverage plants want to ensure these factors are not hindering their operations. To ensure the facility is operating at its full potential, plant managers have a number of things they must consider.

"It is important to evaluate the impact of SKUs, volumes, product flow and frequency in evaluating the impact of products on warehouse efficiency," says Lloyd Snyder, senior vice president of Portland, Maine-based Woodard & Curran. "Systems to optimize picking efficiency and product layout can be developed

when taking a holistic look at inputs."

Among the ways plant managers can do this is by capitalizing on the space that they already have. For example, nested operations can optimize space, and multifunctional equipment can be used to accommodate multiple unit operations without the need for accumulation buffers, Snyder adds.

Another way facilities can better utilize space is through racking systems or designated pick areas. "Streamlining the pick area layout will improve your efficiency, and usually that's done in conjunction with going to a more efficient way of picking," Chet Willey Associates'

Willey says.

One of the more popular picking operations among beverage distributors is voice picking, Willey notes. When combined with a more efficient picking layout, voice picking can help wholesalers see productivity increases of 20-50 percent, Willey says.

Woodard & Curran's Snyder also notes the importance of engineers and operators evaluating layouts to optimize flow. "It is important to reduce manning labor and reduce costs by allowing each operator to control multiple unit operations and provide the ability to replenish raw materials efficiently," he says.

For example, Stamford, Conn.-based Nestlé Waters North America has designed a system in which it aligns palletizer and stretch wrapper equipment to allow a single forklift operator to handle multiple units while providing synergy to other drivers, Snyder explains.

"Greenfield" solutions

To overcome limitations associated with an existing facility, Chet Willey Associates' Willey says the ideal solution when looking for optimum efficiency is going with a new layout or "greenfield" site.

When developing a new

warehouse, current sales data and volume can be crucial for calculating your current needs as well as your needs for the future. "When you build a warehouse expansion or a new warehouse, you have to base the calculations of the size of the facility on several things," Willey says. "One, of course, is you [reference] the peak volume months, because you have to build a warehouse on your peak."

When calculating optimum facility sizes, Willey and HDA will take the actual sales data and calculate what will be necessary for the peak months and extrapolate that on five-

and 10-year projections. Woodard & Curran's Snyder emphasizes the importance of consulting plant operators and managers when developing new facilities. "When designing a 'greenfield' facility, it is important that the correct design be evaluated by experienced operations personnel," he says. "This team will be the people to operate the equipment. The defining characteristics of this team will drive design considerations and allow synergies to be established at startup for the long term." **BI**

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More Pick Positions, More SKUs, More Revenue: Nature's Best

Nature's Best is one of the largest privately owned wholesaler distributors of natural and organic products in the United States.

Founded in 1969, the company delivers grocery, refrigerated, frozen, bulk, supplements, personal care, herbs, medicinal and pet products to retailers throughout the Western, Central and Southern regions of the United States, as well as Hawaii, Alaska and Asia.

Challenge

Threatened with a costly warehouse expansion to house their growing business, Nature's Best was exploring

how to accommodate more SKUs without increasing its footprint or compromising throughput. The company knew that their current materials handling equipment was limiting their ability to optimize supply chain and, therefore, turned to Yale for warehouse expertise and product assistance.

Solution

After consulting with Yale Materials Handling Corporation, Nature's Best decided to re-think its slotting strategy and utilize a variable height picking process made possible by the Yale® MO25 multi-level order selector.



The company was able to increase their pick height from six to ten feet. This strategy placed slower-moving SKUs above faster-moving items, allowing more frequently picked items to be in the most accessible location. Slower-moving items could then be stored and picked within the same aisle for optimized integration of the pick process.

"Most conventional pallet trucks would only allow us to slot from

concrete to six feet. But by using the Yale MO25 forklift, we have increased our pick faces significantly and driven many ancillary benefits," said Brian McCarthy, senior vice president of operations, Nature's Best.

Impact

Leveraging Yale's expertise and high-performing MO25 lift truck, Nature's Best added 33-45 percent more pick positions. By doing so they increased the number of SKUs per square foot, enhanced revenue per square foot and significantly reduced product touches, motion and travel time—all without the burden of a costly

warehouse expansion.

The unique capabilities of the MO25 also mean that no additional equipment is needed for higher-level picking and no merge areas or processes are required—one pick vehicle completes the entire order process.

To date, the facility has decreased operating costs by 25 percent and saved more than \$500,000 by minimizing the amount of steel racking needed. Thanks to improved throughput, Nature's Best requires seven fewer operators and lift trucks. These reductions are expected to save the company \$2 million in labor alone over the next five years. **BI**

Source: <http://www.yale.com/north-america/en-us/solutions-for-you/customer-testimonials/natures-best-customer-video-testimonial/>

LEED Certification aims for energy efficiency, cost savings

Facility planners address important steps to take when considering LEED status

The beverage industry alone consumed 76 trillion British thermal units (BTUs) of energy in 2010, according to the most recent data from the U.S. Energy Information Administration. This includes nearly 7.5 billion kilowatts of electricity, 33 billion cubic feet of natural gas, and 5 trillion BTUs of other energy sources but does not take into account the energy consumed by related industries including the paper, plastic, glass, aluminum, printing, electronics and transportation equipment industries,



among others, it reports.

Although production cannot commence without some form of energy, the U.S. Green Building Council (USGBC) challenges

commercial and manufacturing facilities, neighborhoods and even individual homes to use their energy resources more efficiently. These energy-efficiency efforts

are recognized by the USGBC through its Leadership in Energy and Environmental Design (LEED) certification.

"LEED certification can provide a great opportunity to evaluate and design a facility to be energy efficient, water optimized and healthy for your employees," says Lloyd Snyder, senior vice president of Woodard & Curran, Portland, Maine. This global benchmark of achievement in green building uses a points system that assesses energy consumption, indoor air quality, use of local building materials, location and transportation, and even factors

like use of pesticides and "green cleaning" equipment and materials, among other facets of building operation, to evaluate a building's ecological efficiency. Based on total points, a building can achieve Certified, Silver, Gold or Platinum levels of certification.

In addition to energy savings, LEED-certified buildings often realize cost savings as a result of their improvements, according to the USGBC. Because LEED-certified buildings require less energy, they cost less to operate, realizing as much as 40 percent savings on their energy and water bills, it says. In addition, LEED-certified buildings

could qualify for tax rebates and zoning allowances, and they typically retain higher property values, it adds.

When considering applying for LEED certification, building owners should evaluate their businesses to determine which aspects of LEED make sense for their business model, advises Jack Holleran, president of HDA Architects, St. Louis. When counseling a company through the LEED certification process, HDA Architects goes through a LEED checklist that considers architecture, electrical and mechanical systems, operating costs and energy consumption in

determining improvements that fit return on investment (ROI) and sustainability models, he says.

"Some of those things [on the list] are more chasing points, but our [clients] are more interested in ROI, so they'd be looking at mechanical systems [and] things that are going to save them money and not just gain points."

Holleran says that the most important green factors for the beverage industry to focus on are mechanical systems and HVAC requirements, electrical systems and architecture, in that order. He estimates that improvements to mechanical systems and energy

consumption can save \$100,000 or more in annual operating expenses, and most buildings that upgrade to energy-efficient systems see an ROI in three to five years.

Another important factor to consider is co-generation and reusing waste products, which can improve operational efficiency and drive down operating expenses, says Brad Pease, director of building science practice at Paladino and Co., Seattle.

For beverage companies, it's practical to turn this co-generation focus on water efficiency, Woodard & Curran's Snyder points out. "For example, if you can find technology to

reuse wastewater when your city water costs are very high or wastewater disposal costs are high, this might improve your production ROI."

Paladino's Pease adds that it's important to consider water efficiency early in the LEED design process. "When worked into the design process early, energy and water balance studies help process equipment engineers think outside the box and connect waste heat and [waste]water from one process to another that can use it," he says. "The resulting efficiency can earn LEED points, but it also provides quick payback, as utility operating expenses can be massive." **BI**

Small Data, Big Impact

In an era of expanded digital networks, smarter connected devices and integrated systems, businesses are turning to data-driven intelligence to guide decisions to help improve efficiency and protect their bottom line. For operations with lift truck fleets, telemetry programs can produce a wealth of relevant small data insights for quick conversion into actionable business intelligence.

Evolving beyond asset management: Effortless, actionable insight

Historically, telemetry systems were prized as big data repositories, collecting live information from smart connected devices. They cataloged equipment and operational information, but didn't necessarily provide consumable and actionable data. Instead they offered numerous reports and spreadsheets that fleet managers had to sift through and summarize—a tedious and time-consuming task.



Today, telemetry systems offer effortless access to immediate and actionable data. With the ability to evaluate utilization and maintenance information alongside expected demand and specific truck applications, fleet managers can make quick and informed decisions about fleet size and composition.

This allows them to continuously improve operations and maintain a right-sized fleet composed of equipment tailored to meet their specific operational challenges. With telemetry system data, operators can right-size fleets to eliminate the cost of running excess trucks.

A tool for labor management

Managing a successful lift truck fleet requires paying special attention not only to the equipment, but also the drivers. Assigning utilization and impact data to individual operators adds an extra layer of accountability for ineffective, unsafe drivers while incentivizing high-performing employees, yielding more informed labor management decisions.

Telemetry can also enhance safety regulation compliance by restricting truck access to only those operators with proper certification and providing

automated checklists to guide drivers as they start their shift. In-dash displays provide drivers with self-management capabilities through speed and impact information to further incentivize safe operator behavior.

Support that simplifies: The dealer advantage

For companies that are more accustomed to visually managing their fleets rather than using data and metrics, well-trained lift truck dealers and experienced OEM fleet management specialists can provide reliable local assistance. A proactive dealer partnership leverages specialized knowledge to guide installation, setup and ongoing reporting to ensure maximum return from any telemetry investment. This value-add relationship can help reach uptime goals and provide a quick, qualified response in the event of a technical complication.

A data-driven future

As traditional materials handling environments evolve from burdensome cost centers to competitive assets, integrated wireless asset management and telemetry systems offer a pathway for fleets to join the fully visible, interconnected supply chain of the future. Continued upgrades to telemetry systems offer potential to build a more visible and quantifiable understanding of processes, with lower costs and competitive benefits as the ultimate reward.

Keeping pace with rapid technology innovation requires that fleet operators translate theoretical advantages from data into tangible benefits. This is often easier said than done but responsive OEM experts and trained dealers can help guide the way. **BI**

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