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People PLUS automation at Prism Logistics

Jeremy Van Puffelen, president of Prism Logistics

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Third-party logistics provider Prism Logistics automated repetitive pallet movements with a semi-automated shuttle system and AGV lift trucks. Now, its lift truck operators can concentrate on higher-value pallet workflows and tasks.

BY **ROBERTO MICHEL**, SENIOR EDITOR

At Prism Logistics' DC in Lathrop, Calif., one of the largest in the third-party logistics (3PL) provider's network, the technology centerpiece is a semi-automated, pallet shuttle storage system that automatically stores and retrieves full-single SKU pallets, achieving dense storage.

For this application, they have eliminated the need for lift truck operators to expend time navigating down a lengthy storage aisle to place or stack product into a location that might be multiple levels high.

Instead, operators simply induct loads into the front of the pallet storage system (The Raymond Corporation), and the shuttle takes care of the rest.

Compared to previous methods, this Radioshuttle reduces operator time spent on bulk storage putaway by roughly 60%, says Jeremy Van Puffelen, president of Prism Logistics. Since the company still has plenty of other business-critical pallet-handling workflows, the system also frees up valuable operator time for other tasks.

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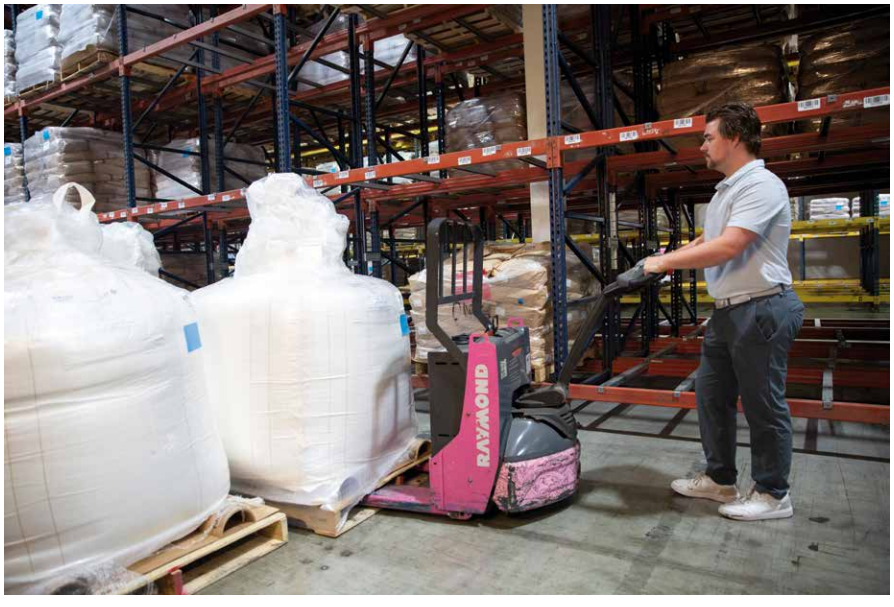


Prism Logistics relies on its electric lift truck fleet for key workflows, while a semi-automated pallet shuttle system it recently deployed adds storage density.

In short, the semi-automated storage system is targeted use of automation. It automates a chunk of the pallet handling that is relatively low value compared with tasks like rapid and accurate truck loading, or building up mixed SKU pallets.

"There is time lost when you just have operators driving all the way from the docks to the back of aisle, and then having to put a pallet load away at height," Van Puffelen says. "That consumes a lot of time when the operator needs to drive the lift truck and its load all the way down an aisle to a location, stop and place or stack the pallet into a location. Now they just place a load into the system, and go get another pallet."

Prism serves multiple clients in the consumer-packaged goods and food and beverage sectors, with many smaller deliveries to distributors or to large super stores, so picking cases to pallets on pallet riders is another essential workflow, as is truck loading and unloading. Time saved with the shuttle effectively adds capacity for other tasks the growing 3PL needs to execute in high volume.

"What we can do now with that saved operator time is refocus them on tasks like unloading and loading, where there is more need for interaction with truck drivers, as well as have more skilled operators for case picking," says Van Puffelen." We can refocus them on those workflows that require human interaction, or case picking."

The Radioshuttle, which went live in January 2025, also improves storage density versus floor-based or static rack storage, since you don't need aisles for access. The system at Lathrop is four levels high and has 74 lanes, with each lane being 10 deep. The system was deployed with the help of Raymond dealer Raymond West, and in its current configuration it can hold more than 2,900 pallets. Overall, the system is seen by Prism as strengthening its foundation for long-term growth.

"It's part of our growth program," explains Van Puffelen. "We want to be able to continue to grow, and we want to grow with the operators we already have, as much as possible. We see the shuttle system as a good solve, because it eliminates those time-consuming, repetitive movements."

Additionally, at another DC in Stockton, Prism has deployed a few automatic guided vehicle (AGV) lift trucks to automate the movement of inbound pallet loads from receiving to a staging point for manual putaway in reserve storage. These two automation systems, along with continuing to update its manual electric lift trucks, have brought greater efficiency to its pallet workflows in a way that builds capacity, by gaining more order fulfillment output from the same square footage and labor force.

"We want to maximize the productivity and efforts of our lift truck operators, and make the most of our available space," says Van Puffelen. "As a business, along with our transportation expertise, labor and space resources are the core of what we offer to achieve results for our clients. So, if we can minimize touches, and maximize productivity and space utilization by using some automa-

tion, that allows us to be more efficient and better serve customers."

People-first foundation

Prism Logistics is a family run business in its second generation of leadership. Jeremy's father Jere started the business more than 30 years ago, and it's grown through a combination of operational excellence and valuing the contributions of its staff, says Van Puffelen (Editor's note: We only interviewed Jeremy for this article). Jeremy's brother Zech serves as vice president of transportation and customer service, while their father is company chairman.

"You need to provide employees with a good work environment and competitive pay, but our success is also driven by being people-focused as a company," says Van Puffelen. "It's about showing respect for each individual and understanding that everyone here plays a role in our success."

The automation gives operators a chance to gain expertise in newer technology, adds Van Puffelen, but manual lift trucks remain essential, as does pre-existing technology investments Prism has made in warehouse management system (WMS) software and wireless mobile devices. But Prism can't bet the farm on new highly automated DCs, so it is being incremental about layering in new solutions.

"With automation like the shuttle or AGVs, I think those are proven technologies and keep us at the forefront. It's similar to how customers have expected a 3PL to have WMS and RF devices for past 10 years or more, technology that automates workflows and the flow of information, if you will. For years now, if you didn't have a solid WMS, and were still running things with paper and Excel spreadsheets, you weren't even in the conversation as an effective partner. It's starting to become that way with automation. It provides competitive advantage and keeps you in the conversation."

Many processes at Lathrop and Prism's other DCs remain people-driven, with lift trucks, WMS and conventional racking

The pallet shuttle system is four levels high and has 74 lanes. It makes fuller use of vertical space compared with floor storage, particularly for loads that don't stack well.

to support efficiency. For example, Prism makes extensive use of double-deep racking to gain storage density for faster moving SKUs, and also has a high volume of pick to pallet operations to build up mixed SKU orders destined for food distributors or retailers. On top of that, the Lathrop DC often does value-added services like prepping end-of-aisle displays, as well as a small volume of each picking for orders like consumer sample packs.

Van Puffelen explains, as a 3PL, Prism needs to handle multiple order profiles for multiple clients, and needs to match the storage and picking methods to those needs.

"We're not here to tell people what the order profile has to be," says Van Puffelen. "We will support them at whatever order level or channel they need. So, if that means case picking or kitting out end-of-aisle displays, we'll do it accurately, and do it as efficiently as possible."

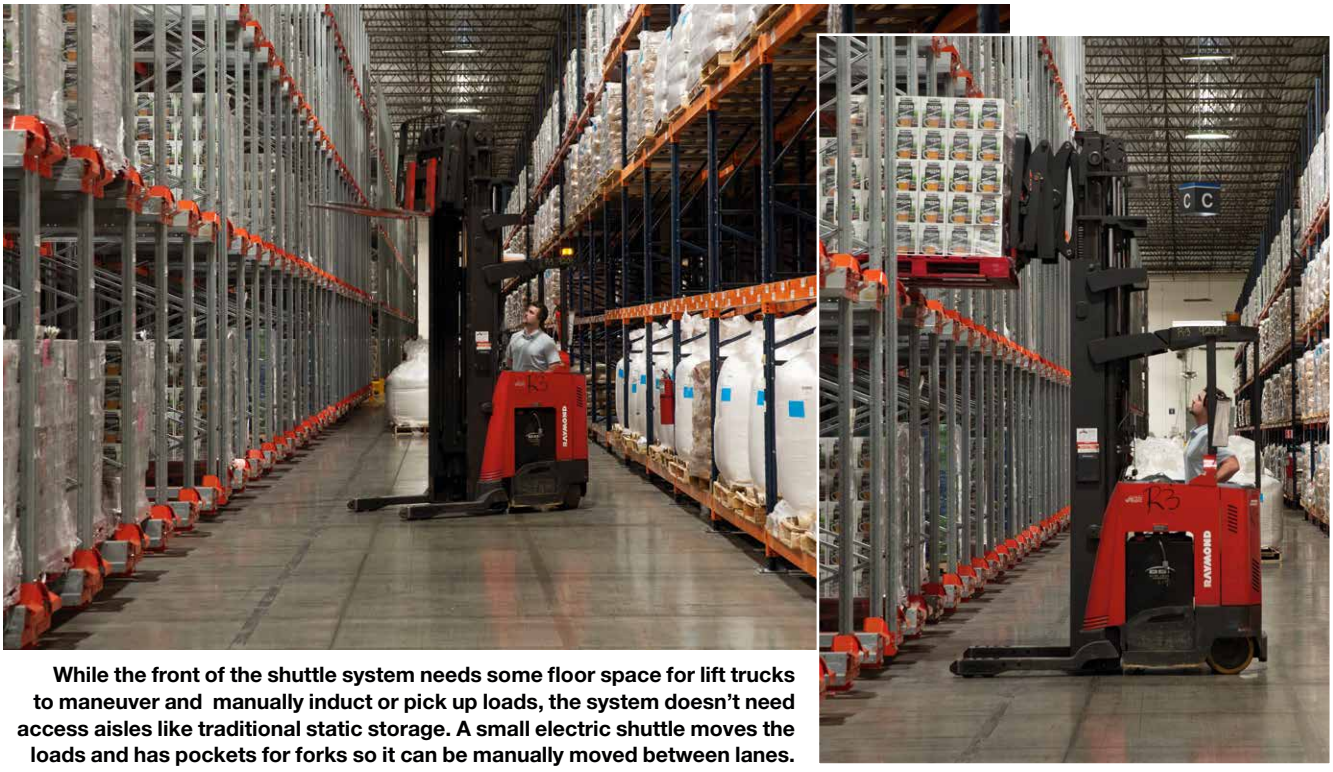
The shuttle's strengths

The pallet shuttle system is suited to storage of single SKU pallets needed to fill large orders destined for food distributor DCs or big box stores, operating on a first-in, first-out basis. Before, Van Puffelen says, floor storage often was used for fast moving bulk storage, along with some double-deep rack.

Floor-based storage, however, sometimes doesn't lend itself to good use of vertical space for loads that don't stack well. "Previously, those loads would take up a lot of floor space," says Van Puffelen. "We've been able to consolidate that type of inventory into the Radioshuttle and get a place where instead of being one or two loads high, and five or six deep on the floor, we're able to go four high and 10 deep."

The cost of warehouse space has risen sharply along the I-5 corridor over the past several years. Many DC operators are located here to serve the Bay area, where costs are even higher. That puts pressure on companies like Prism to make more efficient use of space and labor with systems like the pallet shuttle.

Van Puffelen says Prism is assessing expanded Radioshuttle use, either at Lathrop or other DCs, to improve on both density and labor efficiency. But some conventional rack storage will continue to be used, since single deep rack provides easy access for case picking, and double-deep rack can be the best answer for other parts of the inventory mix.



While the front of the shuttle system needs some floor space for lift trucks to maneuver and manually induct or pick up loads, the system doesn't need access aisles like traditional static storage. A small electric shuttle moves the loads and has pockets for forks so it can be manually moved between lanes.

For example, explains Van Puffelen, some clients will send truckloads of goods that have multiple SKUs and lot tracking to manage, and for that scenario, double deep rack provides flexibility in keeping those lots in the same locations to streamline outbound picking of pallets by lot.

"We utilize different storage types for different parts of our business, and will continue to need to do that, while the Radioshuttle is key for us in being able to maximize storage density for that bulk storage profile," says Van Puffelen.

The semi-automated shuttle does require manual loading by lift truck, but operators are basically making a quick stop to induct, and they can go grab another load. By contrast, if fully manual, the operator expends time on aisle travel, then stopping to stack or place the load into a location. Having the shuttle do those final steps is the source of the system's roughly 60% productivity gain.

There is more value in having human operators do other tasks that leverage their decision making and collaboration skills, says Van Puffelen. "Loading and unloading involves more of that human interaction element," he says. "I think it makes sense to have operators focus on those types of tasks, and use the automation to handle the routine, repetitive movements."

Automation supports growth

Another solution Prism implemented last year to automate a fairly routine pallet workflow was to deploy a couple of AGV lift trucks at one of its Stockton DCs to pick up and transport inbound pallets from receiving to a staging area near putaway. This automates that longer haul, back-and-forth horizontal move, where on the return leg the forks are usually empty. Van Puffelen reports this system also is working smoothly, freeing up lift truck operator time for other duties at Stockton.

These AGVs aren't designed to put away pallets into multi-level reserve storage—manual reach trucks are used for that—but they do allow the reach truck operators to minimize travel and concentrate on putaway.

The plan, now that both the Radioshuttle and the AGVs are working effectively, is to look at expanding their use with Prism's network, and possibly combine use of the two systems in one facility. It will help, Van Puffelen adds, that Prism now has lift truck operators with experience working with the automation. For some lift truck operators, expanded use of the automation also provides a new role in working alongside or monitoring the automation, which can be thought of as a job upgrade.

"We think it adds a level of respect for long term employees to have them work with these technologies and give them that ability to keep on growing professionally," Van Puffelen says.

Prism Logistics also continues to invest in new lift trucks as needed. While there is a mix of older truck brands in the DC network, the newer trucks at Lathrop, mostly reach trucks and electric pallet riders and pallet jacks, are Raymond units, including some pink-colored pallet riders purchased as part of the Susan G. Komen breast cancer awareness fundraising effort that Raymond sponsors.

As Van Puffelen explains, the type of automation Prism has deployed is

designed to work in tight concert with the manual fleet. Proving it out at one site allows operators and managers to get to know the systems and gain confidence in them. Strategically, he adds, Prism needs to tap automation to support long-term growth, but wanted to take a phased approach to prove out effectiveness and applicability to different client inventories and order mixes.

"I think with any large investment in this type of technology, you really have to be betting on yourself," says Van Puffelen. "We approached it from the standpoint of, 'are these systems going to be cost efficient and flexible enough to apply to different lines of inventory and different customers? And, will they give us what we need to keep on growing?' For us, these systems are important to our growth plans, to gain efficiency in how we utilize both space and labor, to get us to where we need to be from that longer-term, five- to 10-year perspective."

Pallet shuttle system goes vertical to add storage density

Prism Logistics, a third-party logistics provider (3PL) with seven DCs in its network, made a production-scale foray into automation last year when it implemented a pallet shuttle solution (The Raymond Corporation, using Raymond West as its integrator and solution supplier).

The Radioshuttle system offers greater storage density compared with static storage with aisles, but it's a semi-automated solution in that lift truck operators need to induct and remove pallet loads from the system with the forks on their trucks.

The system at Lathrop is not a huge system in terms of Radioshuttle deployments, but it's much more than a proof of concept. It is four-levels high, has 74 lanes, and stores pallets 10 deep. The total capacity is about 2,960 pallet positions.

Typically, each lane of the system will hold one SKU, to enable dense bulk storage and simplify access for retrieval. The inventory in the shuttle grid is on managed on a last-in/first-out (LIFO) basis, though the shuttle system can also be used as a first-in/first-out application.

- To induct goods into a lane of the system, lift truck operators simply place a load onto the shuttle, and use a handheld control terminal with push buttons to trigger the shuttle to putaway the load. The shuttle will then automatically store the load.
- Once pallet moves are finished within a lane of the system, the shuttle can be manually moved to another lane of the system. This lowers cost for the automation versus keeping one charged shuttle in each lane. The shuttles have pockets for fork pickup, so the movement is very similar to picking and moving a pallet load.
- Using the same handheld terminal, operators can trigger a shuttle to bring a load to the front of the lane for manual pickup, and the operator can bring it to shipping or other areas where that inventory is needed.
- There are no aisles for the system, though adequate turning radius is needed in the front of the storage to allow lift truck operators room to maneuver. The lack of aisles, and the four-level high configuration, have improved storage density for Prism versus previous bulk storage methods.

Some operator training was needed for lift truck operators using the system, but the handheld control terminal is simple to learn. The main training is around practicing how to carefully place the shuttles into a different lane, says Jeremy Van Puffelen, president of Prism Logistics.

"It's a lot like moving a pallet, and the control device itself is much easier to learn that a handheld with all types of menus to learn," he says.

Prism Logistics
Lathrop, Calif., DC

PRODUCTS HANDLED: Consumer packaged goods; food and beverage

SQUARE FOOTAGE: 751,000 square feet

SHIFTS: Monday through Friday; 8 a.m. to 4:30 p.m. and seasonal flex capacity

ORDER THROUGHPUT: Approximately 200,000 pallets in and out per year, 40 million cases/350 million pounds shipped per year. 3% to 5% case pick (1.2-1.6 million cases/year)

EMPLOYEES: About 25 lift truck operators and about 35 associates overall

System suppliers

SEMI-AUTOMATED PALLET SHUTTLE: The Raymond Corporation

SHUTTLE DESIGN/INSTALLATION: Raymond West

LIFT TRUCKS: Mixed fleet, with newer units from Raymond

AGV LIFT TRUCKS: AGVE