



A look at GENCO's Pick-To-Light/Put-To-Light Technology

Pick-To-Light/Put-To-Light Improves Productivity and Accuracy

According to the Aberdeen Research Group, overall adoption rates for warehouse automation remain fairly low. Surprising, since a well implemented warehouse automation project can be a home run that drives increased profitability. Selecting the right technology and processes to automate is vital to remaining competitive, especially in the area of picking.

There are many technologies that can help increase picking productivity. However, some technologies still suffer from outdated misconceptions about up-front costs or lack of flexibility, including Pick-To-Light/ Put-To-Light systems.

Aberdeen's research shows that companies that are successful at reducing labor costs are 90 percent more likely to use a Pick-To-Light or Put-To-Light system. These technologies have the greatest benefit in case and item pick and put situations.

Pick-To-Light

Pick-To-Light systems are used to improve the picking process for case and item picking through the use of a light module in front of each pick location. The light module indicates the item and the quantity to be picked. Each SKU has its own location, which means when an order is moved into the pick zone, the light module at each location will illuminate where a SKU is needed to be picked.

When the light module or LED indicates the pick quantity, the worker picks the cases or items in that zone, switches off each light,

"This is an incredible benefit. You can compare the progress of the pickers using pie charts and bar graphs so we can work with them to maintain picker efficiency."

Steve Eckman

Manager of Construction, Beauty Brands

passes the order on to the next zone and moves to the next lit pick location.

Compelling payback

Pick-To-Light is the most cost-effective means of providing dramatic improvements in productivity and picking accuracy. While productivity improvements from Pick-To-Light (and Put-To-Light) systems generally range from 25 to 50 percent, some companies have shown much greater improvements. These improvements are generally achieved within 12 to 24 months.

Much depends on the process already in place—in most instances, there is usually considerable room for improvement. Companies are not looking at the kind of investment associated with conveyor or sorting systems. Once data is gathered relative to the specific system, GENCO prepares a complete proposal with ROI analysis

As with the implementation of most new technologies, the current process should be examined to uncover improvements that can be implemented concurrent with the new technology. GENCO utilizes many Six Sigma/Lean tools to examine the current process and discover potential improvements.

Some of the tools employed include Process and Value Stream Maps, Fishbone Diagrams, Cause and Effect Matrices and other relevant tools. The benefits of new technology are not maximized when it is simply installed over the current process.

Benefits of Pick-To-Light/Put-To-Light

- Increases worker productivity and accuracy
- Minimal training time
- Quick staff ramp up to handle peak periods
- Compelling ROI
- Worker accountability for every pick
- Real-time shorting of orders and directed replenishment
- Capable of using Voice-directed picking for low volume SKUs with no lights
- Requires only a PC or PDA
- Built-in lot tracking capability.

Pick-To-Light tends to be most cost effective in a split-case environment. There are also accuracy improvements that come with a paperless picking system, which help to eliminate almost all picking errors. Pick-To-Light can sustain error rates of less than .01 percent when applied correctly.

The Aberdeen Research study compared many picking technologies. It stated that Pick-To-Light systems:

- Significantly boost lines-per-hour pick rates in forward pick areas with high SKU density, which has translated into real, tangible improvements to the bottom line
- Reduce labor costs by boosting lines-picked-per-hour per worker
- Improve on-time and complete shipments by increasing overall throughput
- Improve order accuracy as workers do not have to take their eyes off their work to consult written instructions.

Concerns that Pick-To-Light is not flexible are difficult to understand because it is a very scalable solution. As picking volumes increase, workers are added. If the number of SKUs increases, light modules are added to the rack. So there are no large expenditures for upgrades, the equipment is easy to install and handles any type of product you can pick and automate.

Although the biggest payback is with split case, it is often used in full case order picking systems, especially in a high volume retail distribution center. A typical big box retailer will often have both split and full case picking, depending on how customers fulfill orders to their stores.

Pick-To-Light highlights:

- Dramatic improvements in productivity
- High picking accuracy
- Very flexible, scalable solution
- Paperless, easy to install and operate

A typical application will often have both split and full case picking, depending on

how orders are being fulfilled. Larger retailers usually fill less than full case orders to restock their stores. Anyone who has split-case picking and many who have high volume full case picking can potentially achieve gains by using Pick-To-Light.

Early Pick-To-Light technology required that pickers stay in fixed pick locations or pick zones to track individual worker productivity. A recent innovation includes a sensor that each worker wears like a watch.



Workers can move from zone to zone to keep pick lines flowing for maximum efficiency.

The sensor communicates with the Pick-To-Light system and accurately tracks individual picker productivity.

Pick-To-Light

Put-To-Light is actually Pick-To-Light in reverse. Order items are usually batch picked in the warehouse and brought to the Put-To-Light system. When the worker scans an item all locations needing that item are illuminated. The worker puts the item in the appropriate order container and then switches off the light. As soon as the order is filled, the system illuminates a "Done" display indicating the order is complete.

Put-To-Light shares the same technology as Pick-To-Light except the light comes on to indicate the quantity that must be put to a location. Put-To-Light systems are typically less costly than Pick-To-Light,

Recent Innovations

Pick-To-Light/Put-To-Light systems are proven technologies that have been in use for over 15 years.

There are many recent innovations to further improve their benefit, which include:

- Mobile Pick/Put-To-Light carts to reduce cost and improve flexibility
- Integration with Voice technology for slow-moving items
- Laser pointer to indicate item to be selected
- Lot Code and Shorts verification through Light modules
- Lower cost and greater flexibility in wiring to facilitate modifications for new or deleted items.

as displays are required for each order location instead of each SKU location. Put-To-Light is often used in retail distribution centers that frequently ship to the same number of stores.

This approach maximizes sort speed and performance accuracy and fits basic "scan and put" workstations, as well as more intricate sort applications.

Put-To-Light highlights:

- SKU independent - for companies that have a large number of SKUs
- High speed sort capability
- Less floor space required
- Generally lower cost than Pick-To-Light because fewer locations are needed
- Ideal when the number of orders are smaller, more frequent and generally consistent on a day-to-day basis

Case in point - the benefits of Pick-To-Light

Getting large quantity of orders to customers as efficiently as possible is one of the keys to growth for Vitacost, a direct-to-consumer distributor of vitamins, diet and health products.

Fulfillment technology is part of their success, thanks to the recent introduction of a WMS, implemented with the addition of a Pick-To-Light system for fast and highly accurate order fulfillment. The system helps to streamline the process for the thousands of orders that go out daily from the 6,000 SKUs they handle from over 200 vendors.

As a result throughput has been increased by 33 percent using the same amount of labor as their previous paper system, giving them the ability to pick, pack and ship 15,000 orders an hour at top capacity.

Pick-To-Light works in conjunction with the WMS's track and trace function, which accounts for the precise location of each item at any part of the supply chain, and enables the system to determine the point at which SKUs need to be replenished.

Beauty Brands, a manufacturer and distributor of personal care products, wanted to greatly increase distribution capability to accommodate their ongoing expansion. Picking used to be done using a paper system. Wanting an alternative to RF for their medium mover, high-velocity picks, the company liked that Pick-To-Light offers a visual indication that the pick has been entered properly, while providing increased accuracy and throughput.

Pick-To-Light lets management at the distribution center monitor the numbers of picks, the amount of stock, the number of units and overall productivity-all in real time.



“Using the paper system, we were able to handle 1,000 orders a day, now with the pick-to-light system tied into our warehouse management system, we can easily handle 6,000 orders daily with the capacity to move even more with the same size crew.”

John Arnst
Vice President, Vitacost

“This is an incredible benefit,” notes the customer. “You can compare the progress of the workers using pie charts and bar graphs, allowing us to work with them to maintain pick efficiency.”

A Pick-To-Light system has enabled the operation to achieve the accuracy it requires to meet customer demands and to maximize the use of minimal storage space at the store level. In addition, the system has the capability to grow as the company expands its distribution, thanks to its unique features.

As far as the Pick-To-Light stacking up against RF, “we went through our metrics and throughput by zone and I was able to capture the difference between the Pick-To-Light and RF zones,” says the customer. Based on what they have tracked, the Pick-To-Light system, which replaced a 100,000-unit carousel, provides 50 percent higher productivity.

Innovations

Is a quarterly publication for GENCO customers and partners.

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