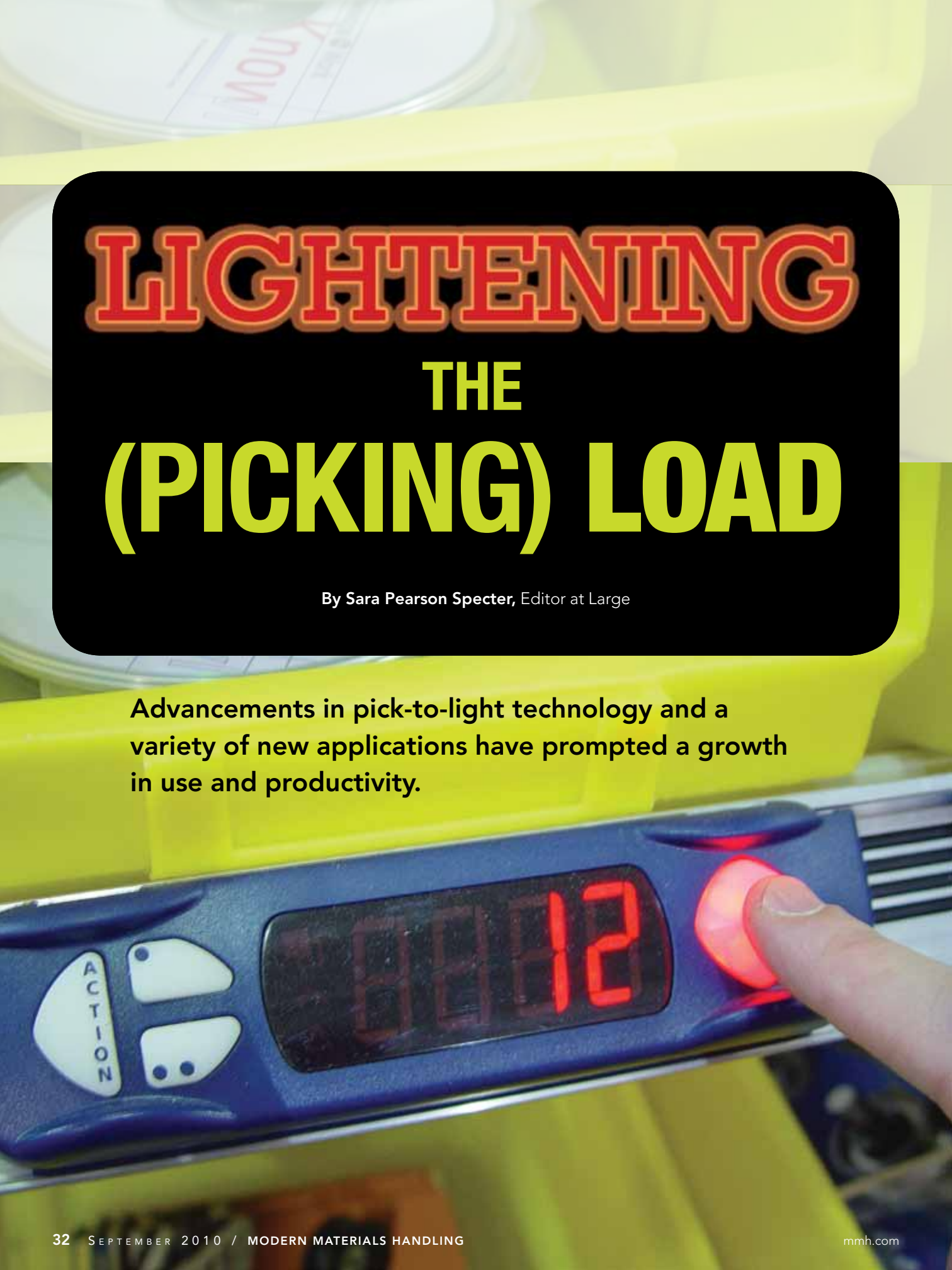
LIGHTENING THE (PICKING) LOAD

By Sara Pearson Specter, Editor at Large

Advancements in pick-to-light technology and a variety of new applications have prompted a growth in use and productivity.



Use of lights with vertical lift modules (VLMs) and vertical carousels was non-existent as recently as seven years ago, but 85% of today's units include lights for pick verifications.

As recently as 15 years ago, when pick-to-light systems were gaining wider acceptance, a common application might include some 20,000 light modules spread throughout a warehouse. Such systems were only affordable for Fortune 100 companies and large catalogers, who installed modules without regard for walking distances and pick velocities.

In the past half-dozen years or so, however, warehouse managers have gained a better grasp on light-directed picking technology. Improvements in the hardware—coupled with a better understanding of how an installation of as few as 300 units can make a dramatic difference in picking efficiency and accuracy—have made pick-to-light systems accessible to considerably smaller facilities.

"When it was a brand new technology, pick to light was applied improperly by being applied to everything. No matter whether it was a fast-mover, slow-mover or medium-mover—it was applied to every-mover," recalls Colman Roche, vice president of sales for KardexRemstar (800-639-5805, www.kardexremstar.com). "Now, users are analyzing their inventory and requirements to determine the most appropriate use of pick to light for their application."

By leveraging lights in conjunction with other picking and handling equipment, as well as incorporating them in different handling processes, users are gaining productivity.

Multi-modal use on the rise

Perhaps you've heard the rumor that voice-directed picking is replacing light-directed picking? In a sense that's true, says Chris Castaldi, vice president of Client Development for AL Systems (973-586-8500, www.alsystems.com).

"It's important to use pick to light appropriately when most facilities find that their orders typically exceed the 80/20 rule. It's often more like 90% of the orders come from 10% of the available SKUs," he cautions. "The question should no longer be: 'Should we get lights or should we get voice?' Instead, it should be: 'What about using the two of them together?' with lights for the fast-moving, split-case items and voice for everything else."

Because it's a visual system, pick to light delivers more efficient, more productive picking than voice, agrees Ken Ruehrdanz, warehousing and distribution market manager at Dematic (877-725-7500, www.dematic.com).

"Voice is a very good technology, but the interaction is not as fast since the user has to listen and talk back and forth. It's the difference between the speed of light and the speed of sound," Ruehrdanz says. "Additionally, lights are easier to train on than voice, making it ideal for use by seasonal workers, and it avoids any language barriers."

The trend toward multi-modal picking has turned many pick-to-light suppliers into picking solution providers—who offer a complete package combining pick to light, voice and hand-held RF devices to run on a single, unified warehouse control system (WCS) that communicates with the warehouse management system (WMS).

"Vendors are also providing users with the ability to pull more information directly from the pick-to-light system. There's been an increased emphasis on dashboards and remote reporting for specific monitoring of picking productivity and enhanced labor tracking," says Jim Bast, general manager of Lightning Pick Technologies (262-250-2100, www.lightningpick.com). "They go back to the WMS to get broader information, but if they want to focus specifically on picking, now they have the tools to see that."

Dashboard reporting directly from the pick-to-light system can be monitored within a single facility, or compared to data from other facilities in the network for an enterprise-level view of picking metrics.

Advancements in offerings

Pick-to-light hardware itself has evolved. While its functionality remains the same—an indicator light illuminates, corresponding numbers display pick quantity, and the picker

Because it's a visual system, pick to light delivers efficient, productive picking. Additionally, by avoiding any language barriers lights are easier to train on than voice, making it ideal for use by seasonal workers.

pushes a button to confirm the pick—the technology's capabilities have increased.

"Now, there's more intelligence put into the displays. Instead of four- to 12-digit displays, there's free flowing message centers that say things like 'pick' or 'put' for replenishment orders," says KardexRemstar's Roche. The capacity to send additional communications to pickers means the ability to describe the item or its position, useful when more than one SKU is stored in a single position for better density.

Most light modules on the market offer two colors of indicators (red and green) typically intended to direct pickers to SKUs stored in locations either above or below the unit. Taking this a step further, some suppliers have added more colors—up to seven in certain instances—to enable overlapping of picking zones, says Lance Reese, technical solutions director for Intelligrated (866-936-7300, www.intelligrated.com).

"Multicolored indicator lights allow up to four order fillers to work in a single zone for simultaneous filling of multiple orders, or to direct operators to perform value-added services," Reese says. "Each picker is assigned a distinct color; should a picker be color-blind, they can still identify their specific light because the sequence is in the same order and in the same location on every device."

The ability to overlap zones offers key gains in productivity and flexibility, adds Reese. "That technology enables users to move order fillers around pick zones so they can adjust to demand peaks throughout the day. You can increase your system's throughput simply by adding a lot more pickers to accommodate the increase in picking volume," he says.

Although the typical pick-to-light project size has dropped from 20,000 light units to installations more in the range of 300 to 1,000 modules, developments in both light-directed picking technology and its application point to an increase in installations.

Changing applications

While pick-to-light modules have always been used with static shelving and horizontal carousels, they're increasingly being applied to other materials handling equipment, automated and otherwise.

A-frame replenishment is an ideal use for pick-to-light technology, says Lightning Pick's Bast. "When you're using A-frames to pick your fastest movers, they pick really fast, but they also run out of product really fast. Pick to light is a great solution to that challenge."

Use of lights with vertical lift modules (VLMs) and vertical carousels was non-existent as recently as seven years ago, says KardexRemstar's Roche. "Today, 85% of them use lights for pick verifications," he says.

Similar to these goods-to-person automated systems, more users are applying light-directed picking in goods-to-person workstations. In this setup, Dematic's Ruehrdanz explains, the item to be picked is stored in a donor tote that's staged in a storage system—such as mini-load automated storage and retrieval system (AS/RS) or a carousel. When needed, the tote of product is delivered to the workstation, typically by conveyor.

At the workstation, the operator is surrounded by up to 12 lights, each associated with an order tote. A WMS batches orders by common SKU, and communicates to the WCS, which lights to illuminate and indicate the quantity of product for each order tote. In a "one-to-many" picking process, the picker does a "put," placing the appropriate items from the donor tote into their respective order totes.

The benefits of this approach are four-fold, says Ruehrdanz: "The operator does not have to search for the item in the warehouse, paper has been eliminated, only a few displays are required, and the whole pick is much faster."

Similarly, for retail replenishment, more retailers are picking directly for individual stores, or are asking suppliers to do so for them—eliminating the handling step of sorting received items at the retailer's DC.

Catalog retailer's pick-to-light system handles order spikes, increases efficiency

Woolrich, the oldest continuously running apparel manufacturer in the United States, offers men's and women's sportswear and outerwear, woolen fabrics, blankets and home furnishings. As the company expanded its offerings, more SKUs had to be handled at its distribution center in Jersey Shore, Pa. Further complicating matters, the DC received big surges of new customer orders after the release of every new catalog.

"During peak season, our existing pick module and RF picking method would definitely get stretched beyond capacity," says Conrad Schlesinger, manager of distribution for Woolrich. "The walk time and speed of that approach only left one option to meet the demand: Add more labor."

To address that challenge, the company first installed additional three-story pick modules with carton flow rack for a more efficient walk layout. Next, Woolrich updated its paperless picking technology from an RF-based approach to a new pick-to-light system (Lightning Pick Technologies, 262-250-2100, www.lightningpick.com). Light modules were installed across all product locations throughout each floor of the pick modules.

To further enhance the facility's slotting configuration while addressing Woolrich's return-on-investment goals, Schlesinger's team elected to install dual-module lights. This functionality permits one unit to direct picks for two product locations—one above the light and one below. For accuracy, the modules feature two distinct up/down indicators, each with a unique quantity display. To eliminate confusion, the up/down lights and corresponding quantity displays are color coded, preventing mispicks.

"Our goal was to add additional pick modules, a new pick-to-light system and other warehouse automation before our next catalog release," recalls Schlesinger.

In addition the project being completed on time, the new light-directed technology also delivered efficiency gains, he says. Pick rates were amplified thereby making order cycle times shorter and increasing overall throughput.

Further, Schlesinger says, the pick-to-light system's intrinsic simplicity has also had a strong impact on getting new employees up to productive performance levels quickly.

"Instead of every SKU having a light, every one of my retail stores gets a light, so operators scan the units and put to the orders," says AL System's Castaldi. "It's much faster, requires fewer lights, and yields much higher productivity, as well as ensuring a high level of accuracy."

Although the typical installation size has dropped from the heyday of 20,000 light projects to more in the range of 300 to 1,000 modules, the developments both in light-directed picking technology and its applications point to an increase in installations, confirms Lightning Pick's Bast.

"The use of pick to light is definitely growing," he concludes. "We've found that nearly 50% of users later add on. After starting with a smaller system, they find that success breeds success—once they've used the technology, they see the benefits justify an additional investment." □

Pick-to-light systems are best suited for picking of fast-moving, split case items.