



Next Generation Multi-modal Voice Directed Picking Technology Provides Fast ROI for Small to Mid Size Order Fulfillment Processes

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Now that the credit crunch has passed and the economy and parcel shipment volume are rebounding, the pressure is on for boosting order fulfillment operation performance to make the existing workforce more productive. Ship more with less labor and increased accuracy!

A good place to start is by improving the picking process. Industry averages show that over 50% of distribution labor is spent picking orders. If your current process is dated, based on 90's or older picking methods, lacks one-touch pick-pack validation and treats quality as a secondary or exception process, your facility is a candidate for a technology boost. The good news is that the latest picking automation is adaptable for use in small to mid size, (5 to 25 user), and 3PL operations. The lower cost and ease of configuration of the newest technologies provide superior productivity gains and faster ROI than past picking systems.

Next generation picking systems are referred to as multi-modal. They are flexible and easy to adapt to discrete order and batch picking applications. The technology combines RF terminal based voice directed picking with hands free barcode scanning and the simultaneous use of pick to light. Multi-modal technology improves picking rates, lowers labor costs and provides pick validation with accuracy reaching up to 99.9%. In the past, advanced technologies were reserved for use at only the "Big Box" high volume operations. Times are changing; the latest picking technology is lower in price, easy to use and can be more easily justified.

Cost of Errors: Picking automation saves labor, but of equal importance is improving accuracy. Industry studies show that the internal cost of resolving shipping disputes ranges from \$50-\$75 per incident. Do the math and calculate what errors are costing. Factor in the internal costs of customer service, researching the issue internally, formulating a response, and re-shipping the order. Add the internal costs to the actual freight charges, inventory adjustments (or losses!) and the fact that many times the returned items are returned damaged. By closing the loop in the picking process with picking validation you eliminate the cost of errors and the cost of overshipments never acknowledged by the customer.

Lost Customers, Tarnished Reputation: Perhaps the most critical factor in a customer's decision to re-order from the same vendor is the vendor's ability to deliver accurately and quickly. Customers have little tolerance for errors. They want their deliveries fast and complete. Organizations that excel in superior order fulfillment accuracy gain market share at the expense of those that do not. No organization can afford the cost of losing customers which can equate to hundreds of thousands dollars of sales revenue per year.

So, where do you start?

Before implementing new picking automation, it's best to do a benchmark assessment of your current operation's performance and practices. Armed with the right data you're able to analyze and determine the throughput and productivity gains automation will provide. Develop a "roadmap" to implement savings and productivity gains so your entire team is focused on process improvements that eliminate walk time and touches in the operation.

Next, perform a SKU velocity analysis to determine the highest moving SKU's. Most distribution operations have an 80/20 or 70/30 product profile; re-slot the high movers into picking area "Golden Zones" will eliminate wasted labor while improving ergonomics. Proper SKU slotting yields instant gains, but it's a continuous process; fast mover A items quickly become B or C movers, just think about last month's hot movie! SKU velocity analysis and re-slotting should be an on-going standard operating procedure, not a onetime task. It can be difficult and disruptive, even reserved for the dreaded weekend work, but the pay-back can be tremendous with picking rate gains from 80 to 200 plus lines per man hour pick rates. With your A mover SKU's in forward picking, stored knee to shoulder, and the pick path optimized to eliminate picker "Wander Time", you're ready to move forward.

What's the state of your picking process?

If your current operation uses paper pick or RF terminal directed picking taking the above steps will improve the process and now you can assess what blend of next generation technology can work best for your operation. Let's review the Pros and Cons of picking technology and the productivity gains voice directed picking and/or pick to light bring to the pick process.

Paper Picking

Pick sheets are still the most prevalent picking method. It's flexible and simple. But simplicity and speed come with a price, picking errors can run as high as 1-2%, and at \$50 to \$75 industry average cost for correcting a shipment error, the costs are too high to ship case or multi-line orders without performing pick verification in the packing shipping process. This results in duplicate labor through a secondary check process.

Radio Frequency (RF) Wireless Terminal

RF terminals have been the traditional path to upgrading paper picking. RF can replace or be used to enhance paper picking and validate the pick. Pick rates are typically 190 lines per man hour, 5-10% below typical paper pick rates. For RF to work efficiently, approximately 98% plus of SKU's need bar-codes. Without bar-codes, RF productivity gains are greatly diminished. RF works by directing operators with message display instructions to the proper location and displays the line item and pick quantity. Using the integral barcode scanner, the pick location and/or the SKU barcode is scanned to verify the item and quantity picked. RF Picking can improve accuracy to 99.2% to 99.7%. However, the improved picking accuracy has a price! Picking rates for RF are typically lower than paper pick rates.

Pick to Light (PTL)

Pick to Light is the fastest and easiest picking technology to train operators to use. It is ideally suited to very high volume SKU's where the picking density is higher than 3-4 SKU picks per order in an eight to ten foot walk path. PTL uses channels installed on the rack or shelf with the pick activity displays plugged into the channel for power and communication.

Pick displays guide the pick process. The picker initiates the pick by using a gun scanner to scan a pick sheet or order barcode to energize the lights. The operator walks to each energized location, picks the quantity displayed and pushes the acknowledgement button. Pick rates increase to 400 to 550 lines per man hour. The main disadvantage is cost, ranging from \$55 to \$150 per location. This limits the use of PTL to the highest mover SKU's. Picking accuracy in general is slightly less than RF.

First Generation Voice Directed Picking

Voice is quickly gaining recognition as the best blend of speed, accuracy and ease of use. In first generation systems both the commands and response were voice driven. The picking operators used typically proprietary and costly RF terminals equipped with a headset/ speaker. Voice commands direct the operator to the pick location. The operator responds by voice and acknowledges the pick location by stating the check digit location ID. Upon location verification the SKU quantity to pick is commanded. Voice's advantages include hands free-eyes free picking, improved operator safety, and order pick accuracy improves to as high as 99.3%. Picking speed increases 15%-20%, compared to RF only picking. A disadvantage of first generation voice systems is the requirement to voice train each picker and the lack of efficient means to incorporate barcode scanning into the process. The systems required too much training time and implementation services, driving costs beyond the reach of smaller and midsize order fulfillment and 3 PL operations. These disadvantages have been eliminated by the latest advancements in voice technology.

Next Generation Voice Directed Software + Technology

The latest voice picking applications can simultaneously support a mix of voice directed picking with wireless barcode scanning and pick to light technologies. Order Fulfillment Operations change, just like slotting requirements, so don't limit your choices to a system that limits future flexibility. Hardware independence, allows the use of RF terminals working *as Thin Clients* that are light, fast, and operate continuously for 12 plus hours. Equipped with a Blue-tooth, wrist mounted, hands free scanner, the location, SKU and/or lot bar-code capture occurs in combination with the voice directed picking; providing pick and pack validation in a single step! The scanner eliminated the need for a voice location verification command, boosting traditional voice technology by an additional 15-20%. Adding barcode scanning improves picking accuracy by 0.7% up to 99.9%, eliminating the need to perform order verification at packing. If a segment of your business is extremely high mover SKU's, slot them in flow modules and Pick to Light in combination with Voice Directed Pick can further improve pick rates to 300 plus lines per man hour rates.

Pick Execution™ by the Numina Group is the definition of next generation picking technology. The software supports RF, voice directed picking, and pick to light. It's a pure Java application, able to be deployed on multiple operating systems; is database independent, and can be deployed stand alone or easily integrated to existing ERP or WMS Systems. Pick Execution™ is a **Server based** application supporting pick to carton, pick to cart and pick to pallet applications. The product supports a full family of advanced and reliable pick to light display modules coupled with topVox™ topSpeech Lydia™, a speaker independent, natural voice command and recognition engine with over 32,000 installed Worldwide Users.

To watch a video of Pick Execution™ in action visit <http://www.numinagroup.com>

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