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**Processes**

## **Turn Your DC into a Profit Machine Combining Better Picking and Packing Processes Results in Reduced Labor, Increased Order Accuracy and Order Shipment Flow!**

**By Dan Hanrahan, President of the Numina Group**

What's more lean than combining pick, pack, and ship into a single continuous process? Wringing out excessive labor costs and bottlenecks that limit profitability and add unnecessary expense. Lean efficient processes-automation enhanced can turn your DC into a continuous order flow process, improving order throughput and accuracy.

When evaluating process automation the question is "Where to start?" Do you improve picking or improve the flow in the pack and ship area? All three processes are tightly interrelated, so the answer is yes!

First step is evaluating and improving: slotting, ergonomics, reducing touches, pick methods, and travel path optimization. Second step is assessing the right automation technologies that magnify the performance of the improved process. The combination of lean process - automation enhanced; yields far higher gains in operational productivity across the entire order fulfillment process.

Let's start with picking. Industry averages show that more than 50% of distribution labor cost is spent in order picking.

**First, review your current picking process and answer the following questions:**

- 1. Would 99.9% picking accuracy provide your company with operational savings?*
- 2. Are you using picking practices that lack pick path optimization and one-touch pick-pack validation?*
- 3. Do you lack the ability to pick multi-line orders directly into the shipping carton?*
- 4. To achieve acceptable order accuracy are you using secondary QC labor to audit picking?*

If you answered yes to any of the above, your operation will benefit by improving the order picking strategy, combined with picking automation for a significant productivity gain.

### **Slotting Strategies – High Movers in the “Golden Zone”**

It's best to perform a benchmark assessment of your current operation's performance and practices. This assessment includes performing a SKU velocity analysis to determine the highest moving SKU's and re-slotting them into picking area "Golden Zones." Most distribution operations have an 80/20 or 70/30 product profile where the majority of the products shipped are from 20-30% of the total SKUs.

Proper SKU slotting yields instant gains, especially when done regularly – not once a year, but as a monthly process improvement initiative. A fast moving SKU one month may experience a steep decrease, while another product suddenly vaults in popularity. SKU velocity analysis and re-slotting may be a bit tedious, (read on how to make it much easier) even relegated to dreaded weekend work,



**Multi modal voice combines barcode scanning to boost productivity 20% or more**

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but the pay-back can be tremendous, with picking rate gains from 80-160+ lines per man hour pick rates.

Fortunately, next generation multi-modal picking systems can perform real-time SKU velocity analytics to aid in suggesting proper SKU slotting based on weekly or monthly order picking. Slot fastest moving SKU's in golden zone knee to shoulder high along the shortest pick path to the pack area to eliminate wasted picker "wander time". Using SKU cube and velocity, store products in the proper storage types such as carton flow, shelves or pallet flow.

### **Next Generation Multi-modal Voice Picking**

Now that your operation is profiled you are ready to accelerate profitability by upgrading to the latest voice-directed picking technology. Next generation multi-modal voice picking provides superior productivity gains and rapid returns on investment (ROI) over first generation voice picking or pick to light systems - often in less than a year. Combine hands-free bar code scanning technology to boost voice picking productivity 20 to 30%, item picks per hour to 250-350 with single touch pick- pack validation!

Voice picking not only saves labor costs, but with pick validation accuracy can be improved to 99.97% percent or better. Eliminating errors includes the internal costs of management time to resolve shipping disputes, customer service, researching the issue, formulating a response, and re-shipping. These steps cost organizations \$50 to \$75 per incident. Include the additional costs of freight and inventory adjustments or losses due to damaged returns and the cost of a single error can be well over \$100 to \$125!

Another very important consideration is the negative effect that shipping errors has on customer retention! What are 2 to 10 or more errors per day stealing from your profits? By closing the loop with multi-modal voice and barcode item pick-pack validation, you eliminate both the cost of errors and eliminate the cost of secondary labor to perform checking and handling at the pack area.

Voice picking uses voice commands to direct the worker to the location and item quantity pick required; resulting in an efficient, hands-free, eyes free operation. The barcode scanning validates the location and the SKU. Voice improves pick accuracy by focusing the operator on the current work task; improves picking speed 15%-30% and accuracy 1-2% above RF based picking. This is the main reason many companies are by-passing the move from paper based to RF based picking and moving directly to multi-modal voice picking.

Next generation voice uses speaker independent, multilingual, natural voice command and recognition, combined with hands-free barcode scanning or RFID capture to validate SKU picking and lot/serial number capture in a single pick-pack process. The disadvantages of traditional voice such as voice training operators and reliance on voice responses for the pick validation are eliminated. A multilingual voice engine enables workers to communicate in more than one language; for example, issuing a command in English and responding in Spanish or allowing the worker to log in and select the language of choice.

### **Increasing the Flow in Pack and Ship**

With Picking streamlined, it's time to tackle the "bottle-neck" and excessive labor associated with manual packing, document handling, hand labeling, manifesting and shipping.

Labor savings of 50% with a 2X or more throughput increase can be realized with the right blend of automation in pack and ship.



Auto applying the packing sheet and shipping label reduces 35 seconds of labor from every shipment

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First, review your current pack and ship process and answer the following questions:

1. Have you missed shipment deadlines or carrier cut off times due to the inability to timely complete orders?
2. Is more than one operator performing the tasks of inserting packing documents, void fill and taping sealing at each workstation?
3. Are two or more manual manifesting workstations required for weighing, hand applying labels or handling different carriers?
4. Are you out of parking spaces from the army of temporary workers during holiday or peak shipment periods?
5. Tired of the cost of errors and customer complaints of missing items, wrong packing sheet or missing documentation on shipments?

You know the drill, yes to any of the above, and a quick ROI is available through automation.

An optimized pack and ship process combines ergonomic design and automation to eliminate the duplicate handling errors associated with manual operations. Packing becomes a continuous process with cartons accurately flowing through the pack process directly to pallet build or carrier trailer loading.

An automated pack line consists of as little as 20' of powered conveyor. Installing a PFI\* in-line auto pack sheet print, fold and inserter, integrated with an auto void fill machine and tapers/sealer allows a single operator to pack and ship 8-10 CPM.

Are you using virgin paper or plastic air pillows for void fill? If so, big savings in void costs can be realized by switching to re-cycled paper. Automation allows a single operator to perform what is typically a 2-3 man process. The combined savings in labor costs and materials provides a rapid payback, sometimes in as little as six months.

At the exit of the taper install **the lowest cost robots** available to the distribution industry; print and apply label applicators! Print and apply labeling automates the application of compliance, packing slips/sheets, carton content, returns labels, and shipping labels, eliminating manual unnecessary touches in manifesting and shipping.

Print and apply labeling, combined with in-motion weighing and dimensioning automates carrier rate shopping, labeling and shipping. Labeling systems can support two, three or more automated pack lines to process from 20 to over 55 CPM in a single pack and ship area. Labeling systems can range from one to several print and apply label applicators to support top or side of carton applied compliance, carton content or a concealed packing slip/sheet and the shipping label.

## **Manually Applied Pack Sheets are a Thing of The Past**

If you're an internet retailer or B to B operation that requires the pack sheet or both the pack sheet and returns label to be placed on the outside of the carton breakthrough technology now exists to automate this task. What was a manual, error prone job can now be fully automated; eliminating 35 seconds of labor from every order shipment. The latest technology eliminates both the labor of folding and inserting the sheets and the need for a plastic pouch. A single system performs the work of 6-8 operators.



**Print and apply labeling has an ROI of typically one year or less**

The Numina Group's Pick Execution™ is an example of next generation multi-modal picking technology. The software supports RF, voice-directed picking, and pick-to-light. A pure Java application, Pick Execution is database independent and can be deployed on multiple operating ERP or WMS systems and supports pick-to-carton, pick-to-cart and pick-to-pallet applications.

## **Get Proven Results**

Numina Group's Pick Execution™ is a leading next generation voice solution. It simultaneously supports a mix of voice, pick to light, and RF terminal based picking and replenishment automation. Pick Execution™ is a full suite of software, including batch order release logic, productivity tools for SKU pick to carton/cube optimization, Smart Pick Cart™ cart/pallet picking, conveyor order zone routing based picking, labor tracking/management and analytical tools to provide recommended SKU slotting improvements.

In the Pack and Ship area Numina Group's automation technologies include X-Press PAL™ and One-Step Plus™ containing the functionality and scalability to automate small, mid-sized or the most demanding operations. Today, proven, practical cost effective means are readily available to transform your distribution center into a PROFIT MACHINE easily justified through gains in accuracy, labor savings and productivity.

**\*Numina Group's PFI, prints the first pack sheets at 200% faster than standard industry laser printers coupled with an industrial folder/ inserter to process 12 plus CPM.**

## **Numina Group's Lean Process Improvements**

Lean automated design lowers your investment in conveyor and complex material handling equipment, and saves space by operating in a smaller footprint or facility. Lean process improvements result in improved ergonomics, lower labor costs and travel time; with productivity gains of 30% or more and accuracies above 99.9%. Results; faster ROI compared to complex automated material handling systems.

Numina Group's Lean Process Improvements are easy to implement due to RDS™, Numina Group's real-time distribution system. It is the highest performance, adaptable, modular, and scalable Warehouse Control System (WCS). Its lightning fast family of application control modules provides unsurpassed performance in pick, pack, ship, conveyor controls, and sorting applications.

## **About the Numina Group**

Numina Group provides design services and implementation of the latest technologies for automating and streamlining order fulfillment and distribution processes. We bring Smarter, Faster, Better Automation to receiving, order fulfillment, distribution, and shipping processes.

For three decades we have supplied innovative, cost savings solutions to manufacturing, warehouse and distribution operations. Our software and solutions combine application expertise with proven technologies to eliminate "bottlenecks," excessive labor and increase accuracy throughout the operation. Our solutions increase efficiency and provide our clients a competitive advantage in the markets they serve.

To learn more about our products and services call us to discuss your requirements or to arrange a visit to our technology center to see our solutions in action; [www.numinagroup.com](http://www.numinagroup.com) has the latest information and videos.

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