

# PROCAT

DISTRIBUTION TECHNOLOGIES

## COMPARING ORDER PICKING TECHNOLOGIES

for Increased Accuracy  
& Productivity



*By Tim Stipp, Director,*  
**PROCAT DISTRIBUTION  
TECHNOLOGIES**

**Warehouses and distribution centers face ever-increasing pressure to perform** on ever-thinner margins. Picking systems can have a significant impact on your operation's accuracy, productivity and efficiency, and the right picking technology can help overcome many operational challenges. These include:

- Reduce error rates and increase productivity
- Minimize fulfillment costs
- Streamline operations for faster order fulfillment
- Decrease the learning curve for new hires
- Increase employee satisfaction and reduce turnover

There is no single solution – the best picking solution depends on your organization's size, industry, and staffing levels. This article outlines four main order picking technologies for small, mid-size, and large distribution centers to help you weigh the advantages and disadvantages of each and ensure you are using the picking system that is best suited for your operation.



## 1 Paper Picking

**Who uses it?** Small and mid-size warehouses.

**How does it work?** The warehouse ERP prints a list of items and quantities for each customer order. Pickers use a pen or pencil to check off items as they are picked, then every pick on every order is checked before the order gets loaded onto a truck for delivery.

**Pros:**

- Low cost
- Simple, low risk picking method

**Cons:**

- Slow
- Labor intensive
- Subject to large number of picking errors
- Package identification is a manual process
- Additional staff required to check orders, adding to staffing cost and fulfillment time

**Assessment:** Paper picking relies heavily on the accuracy of the order pickers. Many pick shifts run late into the night, and picker accuracy tends to decrease as fatigue increases. To address the accuracy challenge, operations using paper picking typically have one or more employees who check customer orders after they have been picked.

In addition, pickers are required to write data such as customer name, truck route, and order information on the box, adding another cumbersome task and opportunity for error.

Once more advanced technologies are implemented, companies find these checking positions are no longer needed, representing a significant labor savings for companies who transition to a more sophisticated and reliable picking method.

**Bottom line:** Paper picking's ease of use is negated by increased labor costs and increased picking errors. The associated increase in customer claims and costs of processing returns decrease the appeal of paper picking.



When we were picking with paper, we had to double check our orders after they were picked. There's definitely more work and people involved with paper picking."

— David H. Sadugor,  
Vice President

**Century  
Distributors Inc.,  
Rockville, MD**

Industry: Large  
Convenience

## 2 Hand-held RF Picking

**Who uses it?** Small to mid-size warehouses looking for a paperless option with greater accuracy.

**How does it work?** Pickers are given a hand-held RF device that displays the customer's order. The picker picks the item and scans the product UPC code with the RF device.

**Pros:**

- Higher accuracy than paper
- Product UPC Verification

**Cons:**

- Low pick rate, similar to paper picking
- Not hands-free
- Package identification is manual process
- Requires wireless network through the warehouse

**Assessment:**

While hand-held RF guns are more accurate than picking with paper and pen, it is not the best solution for most warehouses. Pickers do not have both hands free to work and RF guns must be picked up and put



down by pickers as they take product from the shelves, which impedes productivity. In addition, RF guns have also been accidentally packed with orders and shipped to a customer, can easily be dropped and broken, or run over by a forklift. After considering the low productivity and associated higher labor costs, the total cost of an RF system is much greater than companies realize.

**Bottom line:** RF scanning increases accuracy but not productivity.

## 3 Voice Picking

**Who uses it?** Mid- to large-size warehouses with warehouse management systems (WMS).

**How does it work?** Pickers wear a headset with microphone and the voice system tells them a bin location where a product is to be selected from. The picker goes to the bin location and reads the check digits that are printed on the pick bin into the headset. The picker then chooses the product and affixes a preprinted delivery label on to the packaging. He then waits to be told which bin location he should go to next.



**Pros:**

- Higher pick rate
- Improved accuracy over paper picking
- Hands-free and paperless

**Cons:**

- Requires fully implemented WMS system
- Opportunity for human error
- Onboarding requires memorization of voice-prompt commands
- High capital costs
- Technically challenging to implement
- Requires wireless network throughout the warehouse
- No product UPC verification

**Assessment:** Voice picking has inherent flaws that can cause picking errors. Many pickers memorize product check digits which allows them to say the correct check digit, but still pick the wrong item. There are approximately 30 voice commands that new selectors need to memorize before they can pick orders, which can take several weeks for new employees to become fully trained and proficient on the system. During implementation, the system must be programmed and calibrated to match the voice and dialects of all pickers. If warehouses are loud – and they usually are – the picker might not be able to hear the commands in the headset, and the system might not be able to hear the call back responses.

In addition, because pickers are simply looking for the pick bin that the voice pick system told them to go to, the wrong item may still be picked. If fulfillment stocked the wrong product in the bin, pickers will be picking and shipping the wrong item until the error is discovered. Another drawback to consider is that voice picking requires preprinted package labels, which is less efficient than on-demand label printing.

**Bottom Line:** Although this method provides a higher pick rate and improved accuracy when compared to paper and RF picking, its high capital cost and lack of product verification are definite drawbacks that should be considered.



We quit doing paper picking in the mid-2000s, as it was a slow process and we needed people to doublecheck orders. At that time, everyone was getting rid of paper to speed up production. When we switched to voice picking, we used fewer people to pull more orders. It cut quite a bit of time off of our work shift. After using voice technology and continuing to suffer from mis-picks, we decided to move to hands-free barcode scanning technology. We chose PickRight and have been using it since 2015 and we are very happy with it. When we moved to PickRight, we moved from two shifts to one and are pulling more product. We can train new employees in 30 minutes. It's been a game-changer, and paid for itself within the first year of implementation."

— Michael Jarboe, General Manager  
**Glidewell Distributing Co., Fort Smith, AR**  
Industry: Mid-Size Convenience

## 4 Hands-free Scan Picking

**Who uses it?** Small, mid-size, and large distribution centers that employ 5-75 order pickers.

**How does it work?** Order pickers wear a wrist computer with a ring scanner, which enables the

pickers to have both hands available for picking products. The display screen on the wrist-worn computer directs pickers to their next work assignment and bin location. A mobile printer travels with the picker for real-time label printing.

**Pros:**

- Fast and easy training
- Highly accurate because pickers scan the UPC barcode on each product
- High pick rate
- Robust real-time reporting for increased efficiency and customer inquiries
- Typical return on investment is less than 12 months
- Quick implementation takes only eight weeks from order commitment
- Paperless

**Cons:**

- Like RF and voice technologies, requires wireless network throughout the warehouse
- Requires interface for transmission of data between ERP and device
- Requires accurate product UPC codes

**Assessment:**

Because barcode scanning technologies scan UPC codes, they assure the picker has picked the correct item. If certain products do not have UPC codes, a shelf tag can be used as a backup. Package delivery labels print on a mobile printer that travels with the picker. Labels print automatically when full cases are scanned or a tote is completed. This is more efficient than having the picker carry stacks of labels as they move through the warehouse.

For catch weight products, such as meats and cheeses, specialized GS1 barcodes can contain information including item catch weights, product expiration dates and lot numbers. This data can be automatically extracted from a GS1 barcode and sent back to the host for invoicing purposes with no action from the picker. This eliminates the need for catch weights or expiration dates to be written down and keyed into a computer station, eliminating another human error opportunity.

Every scan pick that occurs is captured by the system and recorded in a database. This serves as the foundation for a robust reporting suite that helps management run a more efficient operation. Managers can use real-time data to manage their

teams, make better decisions about allocating staff, know the expected shift completion time, and see actual pick rates for every employee. The data also helps resolve calls from customers regarding claims. The scan data provides detailed information about every product that was picked for each order that was sent to a customer.

**Bottom Line:** Hands-free barcode scanning technology is the most accurate and productive picking technology currently on the market.



Our voice picking system became outdated and needed replacement. Accuracy was the main driver for us to switch to PickRight several years ago. We researched our options and found that although the productivity was equal to voice picking, improved accuracy was the biggest benefit with PickRight. I also like the real-time label printing, which helped us eliminate some of the delivery errors we were making. Most importantly, SAS' customer satisfaction rate improved from 83% to 94%."

— Robert Palmer, Director of Distribution  
**S. Abraham & Sons (SAS), Grand Rapids, MI**  
Industry: Large Convenience





**PickRight by ProCat Distribution Technologies** is one of the leading hands-free barcode scanning technologies used by all sizes of distribution centers. It includes specifically designed features for the foodservice and convenience store industries, such as catch weight, GS1 data capture, expiration date tracking, cigarette picking, repack picking and batch picking. These cutting-edge features deliver high accuracy and high productivity.

**How does it work?** PickRight's light-weight touch screen wrist-worn computer directs pickers to the correct pick bin. Scanning product UPC codes ensures accuracy. Correct picks are acknowledged with a chime while incorrect picks trigger a buzz tone alert – the immediate feedback ensures that the correct item has been picked. Real-time printing allows pickers to efficiently label boxes at the time of pick. PickRight also ensures the right level of product is picked (piece, case, box,) as different levels have different UPC codes. This data is provided to PickRight via ERP.

**Features:**

- 99.95% accuracy rate
- Increases picker productivity 20-40%
- On-screen prompting for next pick
- Batch picking, team picking, and zone picking functionality increase productivity by reducing walking
- Easy to learn and use
- Decreases communication errors
- Increases employee satisfaction, reduces turnover
- Comprehensive reporting for real-time insight to improve operations



Our most common picking errors – about 20-25 daily – involved product placed in the wrong slot or incorrect product picks. It is most often the picker's fault and happens when they're not looking closely enough at the product description. Each mistake costs us between \$75 and \$100, which includes additional man hours for redelivery. It also impacts our credibility with customers, and there's no price tag on that. By incorporating scanners and a closed loop scanning system, we minimized mistakes and now have real-time information on product location, no matter where it is. We don't need additional labor to double check orders. The PickRight system not only helps eliminate picking errors but enables us to better track product as well as know who picked it and when. This lets us gauge how our pickers are doing and reward our top guys. These systems not only help us monitor our pickers, but allows them to monitor themselves."

— Keith Murphy, Vice President  
**Wilken's Foodservice,**  
**University Park, IL**  
 Industry: Mid-size Foodservice



**Comparison:**

PickRight offers higher accuracy than paper and voice systems; and higher productivity than RF systems. While upfront costs for RF systems and hardware are cheaper, after a year the increased productivity benefits from PickRight outweigh the upfront investment. With payback in terms of months not years, an investment in PickRight has been a real win for organizations who have implemented it.

Key Metric	Paper Picking	Hand-held RF Picking	Voice Picking	Hands-free Barcode Scanning
Company Size	Small to mid-size	Small to mid-size	Mid-size to large	All size
Pick Rate	Low	Low	High	High
Accuracy	Low	High	Medium to High	High
Package Labeling	Handwritten	Varies	Pre-printed	Real-time
Paperless	No	Yes	Yes	Yes
UPC Verification	No	Yes	No	Yes
Real-Time Reporting	No	Varies	Yes	Yes

**Conclusion:**

The best order picking systems support greater efficiency while driving productivity and accuracy. The picking process accounts for an average of 55% of operational costs in distribution centers. Inefficient systems can make the difference between turning a profit – or not. What’s more, when you consider today’s expectation of lower prices and faster delivery, and the pandemic’s strain on the supply chain, companies who rely on warehouse staff to fulfill orders need reliable, accurate picking technology. When investing in a picking system, companies should consider which one will help them reduce labor costs, increase productivity, efficiency and accuracy, and deliver the best ROI. Careful research and a full understanding all of the features built into the solution you are considering is the key to optimizing your warehouse order picking.



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