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Logistics News: What are the Sweet Spots for Different Order Picking Technologies?

We Summarize What Works Best Where, from A-Frames to Wearables

SCDigest Editorial Staff

As we have noted in the past, after a fairly long period of the logistics industry seeing a lot new in terms of order picking technologies, the past 2-3 years have seen a substantial amount of new developments and options for distribution managers.

That includes the rapid "mainstreaming" of voice technology into more industries, nascent adoption of RFID in picking applications, a new generation of "wearable" wireless terminals, and so-called "multi-modal" technologies that combine several approaches in a single device/application. (See **When Considering Multi-Modal Wireless Technology in Distribution, Analyze Each Task and Step**.)

But with all these choices, what are the "sweet spots" for different order picking options? Last year, in the **SCDigest Letter on Order Picking Systems**," we identified where each technology generally best fit, which is summarized again below for most major order picking categories.

Traditional RF Terminals:

- Still the best solution for fork truck/full pallet picking (truck mounts)
- Using voice-enabled RF terminals for flexible, "multi-modal" deployments, such as when a serial number needs to be captured via bar code scanning when picking

"Wearable" RF Terminals:

- Hands-free application makes it stronger contender against voice for piece pick and case pick applications than traditional mobile terminals

Increasingly, companies are using varied combinations of these technologies in a single DC to meet the requirements for different types of SKUs or SKU velocities in the optimum way.

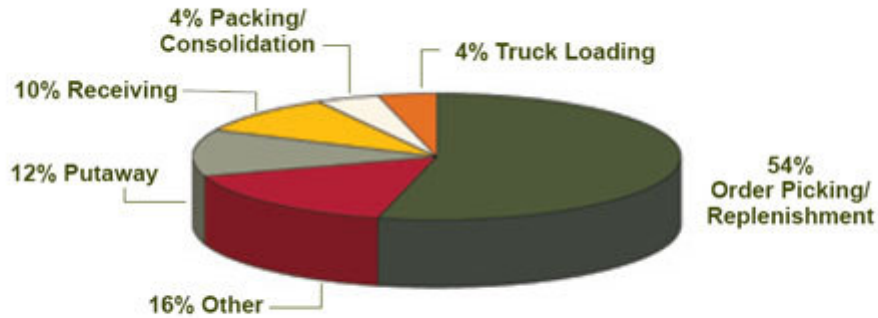- Great for pallet building at the end of divert lanes

Pick-to-Light:

- High volume piece picking requirements for a fairly small number of SKUs
- Reverse picks - "put-to-light"
- New advances by some vendors have made pick-to-light more flexible over time in how the lights can be re-deployed

RFID:

- Full pallets that have RFID tags and can be read automatically by fork truck-based RFID readers
- Some application in case picking, though technology is still developing
- High interest now in tracking re-usable logistics containers (e.g., totes) and their contents after the picking process using RFID

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Order Picking Dominates Distribution Center Labor Costs...

- 4% Packing/Consolidation
- 4% Truck Loading
- 10% Receiving
- 12% Putaway
- 16% Other
- 54% Order Picking/Replenishment

While every DC is different, the percentages of total DC labor costs are typical, according to SC Digest research, generally representing more than 50% of total labor costs.

Carousels (vertical or horizontal):

- Slow or medium moving SKUs
- Spare parts distribution
- Picking in manufacturing applications for line or work cell replenishment
- When floor space is at a premium

Pick-to-Belt:

- Specifically a carton picking technology
- Generally need to have volumes of 10,000 cartons per day or more to justify
- Best when there are significant opportunities to "batch" picks together across orders

Automated Storage and Retrieval Systems (ASRS):

- Companies with heavy full pallet movements
- Areas where real estate costs are high or options are limited, as is often found in Europe.

A-Frames:

- Type of highly automated picking device (there are others), in which small products

(drugs, CDs) are dropped from the equipment into a carton or tote.
- Very specialized and not frequently deployed
- Used where very high volumes of similar products are ordered or where there is high volume in combination with very high accuracy requirements.

In addition, there are a series of exciting but relatively new technologies for both piece and case picking, especially in the area of robotics.

Some of those advances will be detailed in the upcoming report from SCDigest and Distribution Digest, to be released in the next couple of weeks.

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The above of course just represent some general rules of thumb – each company's specific situation and application needs may be different.