white paper

Can You Automate Down To A Single Pick?

We Optimize Your Supply Chain | DEMATIC

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Introduction

The benefits of automating your order fulfillment process down to each-pick level are many. Automation fills orders faster, eliminates touches, improves accuracy, and reduces labor costs. Consistency and order quality increase, and highly accurate, sophisticated tracking becomes feasible.

That said, implementing automation can appear to be more difficult as shipments move from whole pallets down to individual cases and pieces. Automation for unit-picking or eachpicking can indeed be a tough nut to crack. For that reason, many abandon the quest and depend on manual labor — despite the drawbacks in cost, error, and continual supervision levied by manual means. Yet the available technologies for automated each-pick solutions have grown tremendously over the years. Many are adaptations of tried-and-true automated motion and machine systems proven with whole pallet and carton handling. Others, such as pick-to-light technology, are extensions of aids to manual systems. All offer lower labor costs, reduced error rates, more consistent operation and faster order fulfillment compared to manual methods. As a general rule, the complexity of solutions increase with the number of SKUs, orders and order lines go up. Some situations may mandate picking by human labor. But a rigorous systems approach combined with an awareness of available technologies can help you select the best technology to make your operation extremely efficient.

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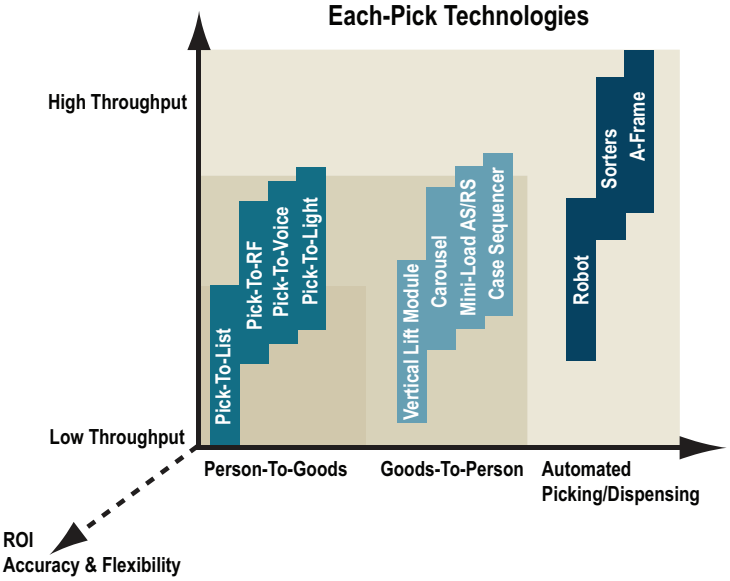
A full range of each-pick technologies is available to meet a wide range of throughput, from low to high. Three broad categories encompass how people and goods interact, moving (l. to r.) from manual to automated. For person-to goods methods, a warehouse associate moves to the goods, where appropriate technology is used to help pinpoint the right item. In goods-to-person modules, units move to an associate in a more or less automated way. With automated picking, human labor is replaced by full automation. Aside from throughput, Each Technology offers other business benefits that need to be considered.



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Five Steps To Each-Picking Success

Designing a successful each-pick system requires asking the right questions, analyzing the right data, and applying the right expertise.

1. Pinpoint your business objectives

Determine the precise role of order fulfillment for your business. Your prioritized list of business objectives will help you grade and focus on the appropriate technologies. For example, your choice of technologies may be different if your top priority is to handle seasonal peaks rather than to minimize your transportation cost.

2. Capture your operating parameters

A thorough analysis of historical order data provides a valuable window into your operations. The number of SKUs in a given facility, their profiles, storage requirements, peak shipment volumes and a host of other data offer clues for the solution. Make sure to account for the future growth needs at this point.

3. Identify your product segmentation

There are often surprising revelations when Dematic analyzes the historical data to see which SKUs move in what quantity over time – and these findings provide even more clues to the right answers. From this comes a much-needed framework for selecting correct technologies.

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4. Find the technology sweet spot

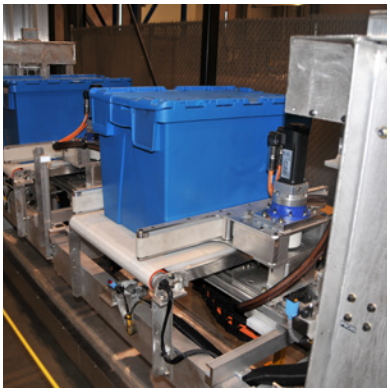
The right means for handling small quantities is nearly always situation-specific. Handling a few hundred SKUs differs from handling a thousand or tens of thousands. Therefore, there is a need for wide-ranging technology evaluation before short lists are built. No one solution fits all, and it is common for multiple technologies to work in a single distribution center to address the needs of different product segments.

5. Develop an Integrated Concept of Operation

Integrating various technologies into a cohesive system can be a challenge of its own. Conveying systems are typically used to tie the various subsystems together and that's where bottlenecks begin to emerge. Here, computerized simulation helps predict bottlenecks and validate synchronization control techniques to address them. Evaluating the overall flow of information is another key aspect to be addressed at this time.

The Future For Each

The need for each-pick solutions will continue to grow – including customers that demand more customized products and individualized orders, as well as distribution or regulatory needs to track all stages of shipments large or small. And, as these – and many more – needs grow, they will inevitably evolve. The good news is that automated technologies are increasingly standardized, modular and scalable. When a program needs to be scaled up, Dematic can easily work with you to expand and enhance your order fulfillment and distribution activities to create new operational systems. The same five steps that make your initial system work, from business objectives through analysis and technology selection to installation, will continue to help you grow the ways that systems and technologies can assist you.



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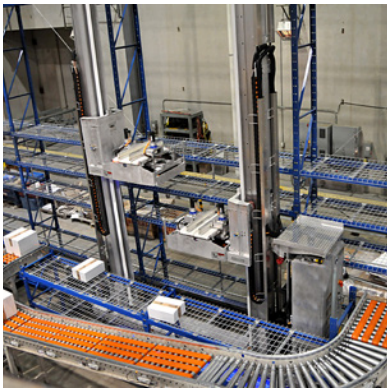
CATEGORY	TECHNOLOGY EXAMPLES	CONSIDERATIONS
Person-To-Goods	Shelving Flow-Rack Man-up Selector Pick-to-Cart	• Requires least initial investment • Requires most labor to operate • Accommodates storage and picking • Ideal for low/medium throughput items • Supported by pick-to-list, RF, pick-to-light or voice technology
Goods-To-Person	Carousel Mini-Load AS/RS Vertical Lift Module Case Sequencer	• Moderate initial investment • Improves labor efficiency • Provides dense storage • Ideal for large number of slow moving SKUs
Automated Picking/ Dispensing	A-Frame Sorter Robotic Picker	• Requires highest initial investment • Requires least labor to operate • Requires complimentary storage & replenishment technologies/options • Ideal for select heavily accessed SKUs



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What sets Dematic apart? Dematic brings four critical strengths to your system solutions:

- Extensive experience in system analysis, planning and integration.
- Computerized simulations and animation to work out the best models and modes – and evaluate your systems in action, long before actual installation begins.
- Extensive experience in retrofitting existing facilities and systems without impacting the day-to-day operation.
- A unique design/build approach that takes a solution from concept development to implementation. With this approach, you enjoy the benefits of working directly with the individual responsible for the comprehensive design of your solution. Dematic delivers success — because we create,install, service and remain accountable long term for successful systems.

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About Dematic

Dematic is a leading supplier of integrated automated technology, software and services to optimize the supply chain. Dematic employs over 5,000 skilled logistics professionals to serve its customers globally, with engineering centers and manufacturing facilities located across the globe. Dematic has implemented more than 4,500 integrated systems for a customer base that includes small, medium and large companies doing business in a variety of market sectors.

If you are interested in learning more about this topic and how we can help, please contact Dematic at (877) 725-7500 or visit: dematic.com.

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