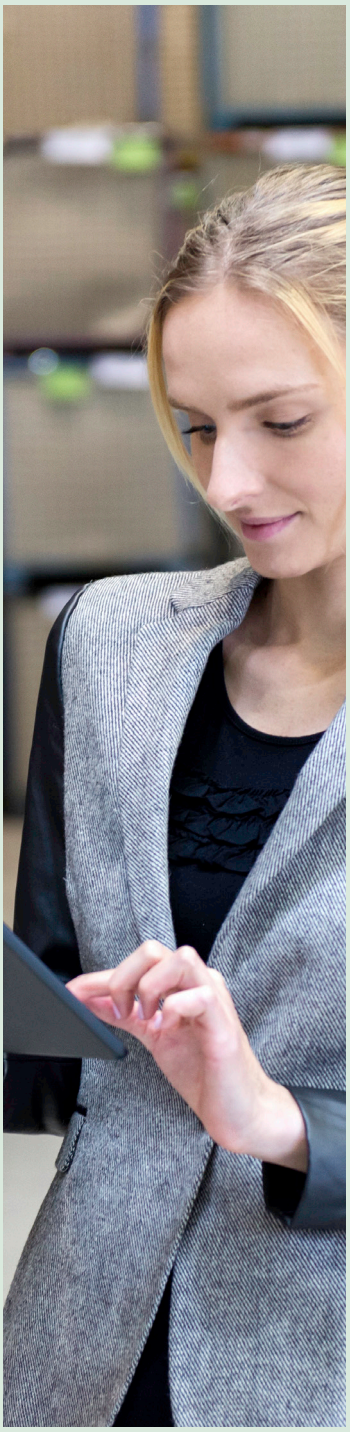
WHITE PAPER



WAREHOUSE PROCESS IMPROVEMENT USING MICROSOFT DYNAMICS NAV

Abstract

For many businesses, the warehouse is an integral part of the supply chain. However, when it comes to staying in tune with the times, the operations of most warehouses leave a lot to be desired. It is very true in case of picking process, which is costliest aspects of warehouse operations. In this whitepaper, we will take a look at how conventional warehouse picking methods are holding businesses back and why automation is the way of the future.

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Introduction

Speed, efficiency, accuracy, convenience – these will define tomorrow's world, and the beginnings of this new paradigm can be seen all around us. Think about the comfort of ordering a product that will have to be shipped from a distant part of the world, or how quickly you can get a delicious meal delivered from your favorite restaurant with the help of nothing but a phone. These experiences may be commonplace today, but various components work in perfect harmony to make it all happen in the background. Thanks to the digital revolution, business processes are becoming faster and more streamlined across many industries, and this trend shows no signs of slowing down.

This paradigm shift has resulted in significant changes for one of the most crucial components in almost any business supply chain – the warehouse. Now, some operational details of warehouses may vary based on the industry. The process can still be broadly divided into a few well-defined steps that include receiving products, put-away or storage, picking based on orders, packing, and dispatching products. Across the supply chain, optimization and automation have become necessary to minimize errors and maximize speed, which is especially true for the vital picking process.

It's no secret that developing the perfect picking technique for a warehouse can become a difficult task when you have to deal with different kind of inventory, multiple pickers, multiple SKUs, and tight time constraints. For this reason, many warehouses are investing in automation to speed up their picking process. And here's the thing - automated warehouse picking is not just for large enterprises with massive budgets; it can be tailored to meet the needs of almost any business with minimal downtime.

Enter Auto Pick

Imagine if instead of having to scan boxes manually to match the customer sales order, the boxes could be automatically assigned to the corresponding customer sales order warehouse shipment – that is what auto pick brings to the table. The auto pick process is all about improving the efficiency of warehouse picking. Reducing human error risk, enabling contactless processes, and ensuring better employee health are some of the significant benefits. As commerce continues its steady move towards online channels, all these aspects will become increasingly crucial for meeting ever-evolving customer expectations.

Introducing Microsoft Dynamics NAV

One of the easiest ways to implement auto pick functionality is to leverage the capabilities of Microsoft Dynamics NAV – an Enterprise Resource Planning (ERP) system and part of the Microsoft Dynamics Family. It is a global business solution focused on customer relationship management, simplifying finance, optimizing the supply chain, and enhancing manufacturing and operations efficiency.

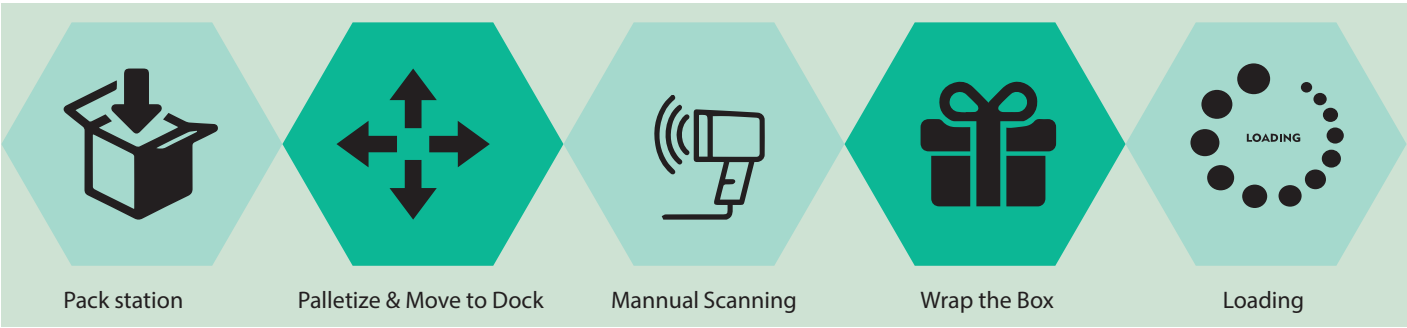
The Old Way

To understand how the auto pick process can help warehouse operations, we need to take a closer look at the traditional approach. During a conventional picking process, sales representatives place sales orders based on customer calls and emails. The sales order contains details like the customer's shipping address, billing address, routing details, requested delivery date, and items details. This information is keyed with quantity requested and price details.

Once a sales order is placed, the production planner plans the production based on the availability of items and on-hand inventory. While planning production, the items are tracked with the corresponding customer sales order. Following these steps, the raw material is brought to the production room and processed based on the customer's specifications, before finally moving on to the pack station. Here the product is placed in a box, and a label is generated to track it. The box containing the packed product is then placed on a pallet and moved to the shipment dock area. Here, the picker scans each box on the pallet twice for both the pallet ID and box ID, which need to be registered with the warehouse shipment's sales order. Then the picker separates the boxes based on the routed customer sales order, wraps it up, and loads it onto a truck.

Conventional picking is a time-consuming process, which takes up a large percentage of a warehouse's operational resources. Additionally, with two scans required for each box, there is always a chance of human error, and if the wrong box is on a pallet or if one of the boxes is missing, it can be very difficult to track down the problem.

Here's a visual representation of the current process:



The New Process

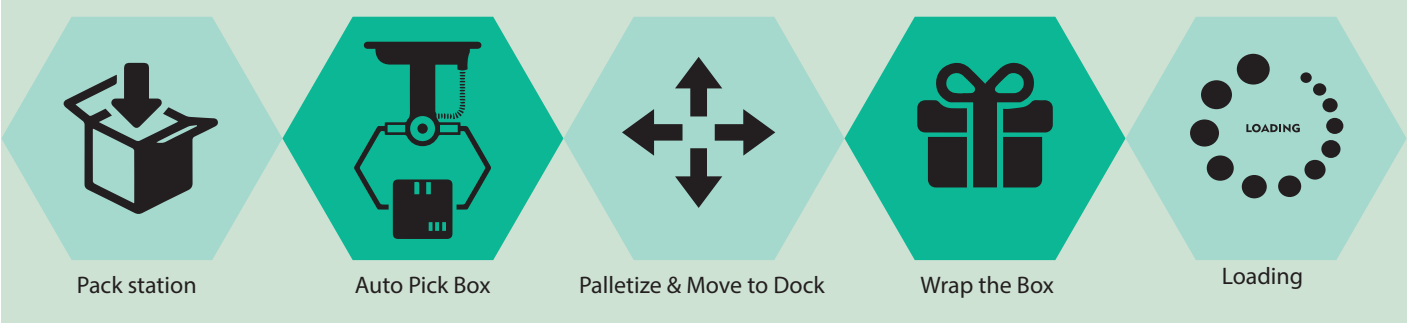
Now, in the new process. At the planning stage, production items are linked to sales orders. Since we already have information about the sales orders and the product boxes for the corresponding customers, we can directly connect the box ID to the sales order shipment process, eliminating the need for manual scanning, thus saving time and improving efficiency significantly.

Suppose you're running a business that has a production process, which includes box tracked inventory. In that case, this can be a game-changer that promises streamlined warehouse operations and effective inventory control.

So, to sum things up, here's what it all means:

- Eliminating the manual scanning process enables employees to be more productive in other areas.
- The new process means greater accuracy due to reduced risk of human error in scanning.
- A significant amount of time can be saved (around 5 to 7 seconds per box for scanning), and of course, there is no longer any need to locate the box for scanning.
- Resource utilization is significantly improved, and the operational efficiency goes up to a whole new level.

And this is what the new process looks like:



Now that we have a basic idea of the auto pick process, let's delve deeper. We'll take a detailed look at each step to get a clear picture of the benefits that automation brings and how it can simplify and improve warehouse operations.

Step 1: Mapping the products

The sales order contains vital details like the shipping and billing addresses, routing details, expected delivery date, and details of the items being shipped. With the new process, the sales order details are displayed on the planning screen, making it easier than ever before to map the boxes to the corresponding sales order reference number. As a result, the risk of errors is reduced.

Step 2: Mapping the box ID to the warehouse shipment

A tracking number, known as the box ID, is assigned to each boxed item. The box is then moved to the pack station, where a label is generated with all the information about the item, including the ID, weight, packing date, expiration date, and shipping address. Since the relation between the item and sales order number has already been established during the production process, the warehouse shipment can be generated directly from the sales order. This ensures that the produced item will automatically be mapped to the correct warehouse shipment once the box ID is created. An employee no longer has to scan the boxes manually. The time saved by eliminating this tedious process can now be spent in more effective ways, thus improving resource utilization and efficiency.

Here's a simple example to put it all into perspective.

Let's look at a realistic scenario. Say, there are 50 customer sales orders, which amounts to 1000 boxes that need to be shipped. If we stick to the old process, the pickers will have to scan each box twice before it can be loaded onto a truck after production is complete. That's 2000 scans, each taking around 5 to 7 seconds. In isolation, 5 seconds doesn't seem like a big deal, but when you add it all up, that's 10000 seconds (almost 3 hours) that could have been spent on other operations or processes. And that is only if we assume that there are no errors along the way. A mistake during the picking process can mean a doubling of effort, as the boxes will probably need to be scanned once more, or in the worst-case scenario, it can result in the wrong item being shipped. With the auto pick process, you would no longer have to worry about any of that.

Conclusion

Picking is easily one of the most resource-intensive processes in the warehouse, requiring as much as 55% of total operating expenses and around 60% of warehouse staff. Optimizing this process with the help of automation will lead to reduced costs for every order fulfillment and greatly improved operational efficiency. The lower probability of errors also means higher accuracy, which has a direct positive impact on customer satisfaction. And of course, business is good when your customers are happy – it is as simple as that.

About the Author

MadhuBabu Chappa
Lead Consultant

MadhuBabu Chappa, has 14+ years of progressive experience in Microsoft Dynamics Nav/BC and Microsoft Dynamics AX/D365 Finance and Operations ERP domain. He has worked in several end-to-end MS Dynamics ERP implementations across different domains like Trade& Logistics, Manufacturing and oil and gas MNC's in USA and Asia. He worked through Dynamics NAV version 4.0 through Dynamics BC and D365 Finance and Operations, the author tries the bring about improving business process of warehouse with Dynamics ERP, with focus on auto pick functionality for produce to order with box tracking , which is helping warehouse productivity.

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