



The Right Automation is Free

Warehouse automation is a leading topic in virtually every organization due to the need for businesses to accelerate performance of distribution operations, while reducing costs. In order to stay competitive and meet customer expectation's, warehouse order fulfillment operations need to be fast and accurate, and consistently fulfill orders within a repeatable time window.

In order to achieve this, they need to reduce dependence on manual labor and eliminate non-value added human decision-making. The distribution center needs to be nimble, capable of handling a mix of both B-to-C and B-to-B shipments, as well as prioritizing same-day order delivery.

Combining multiple highly productive automation technologies into a single seamless process addresses the question raised by a company's financial leadership team:

How do we increase productivity 35% to 40% in our existing or new warehouse, while generating positive cash flow Day 1?

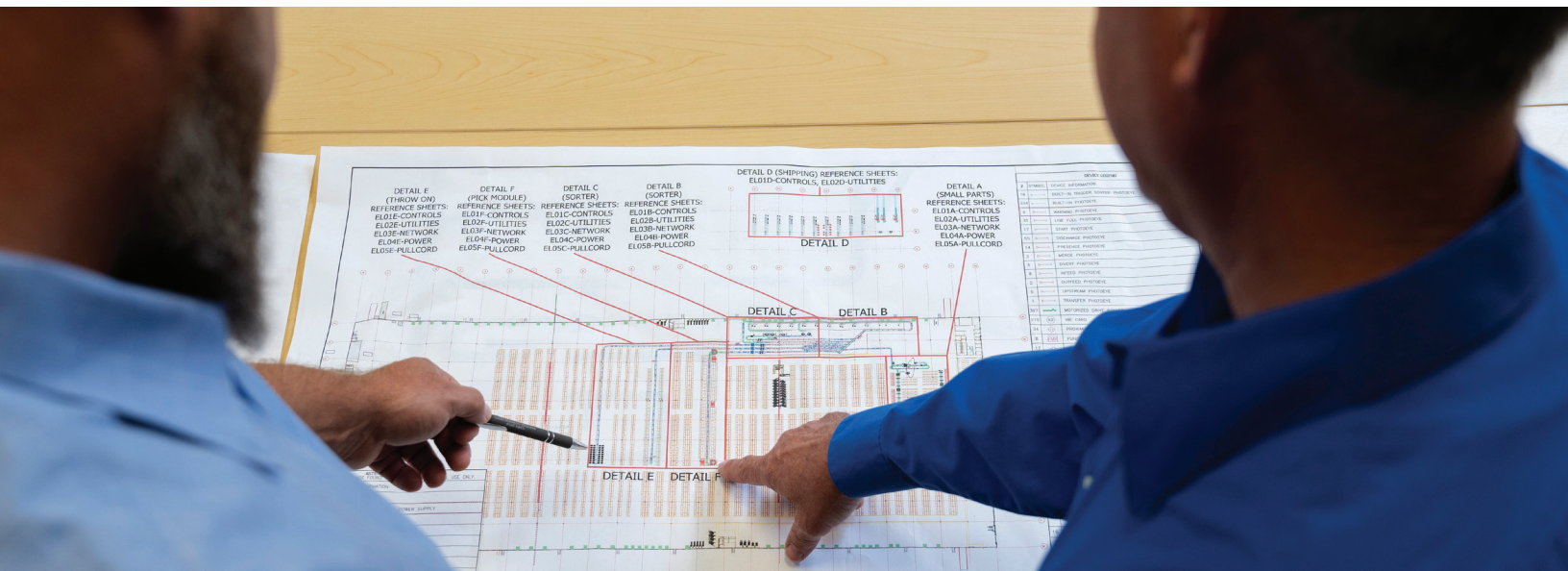


Introduction and Overview

At introductory business meetings, the senior management team's focus is increasingly on warehouse automation investments that not only deliver results but also provide a compelling financial return. Frequently asked questions include:

1. What is Numina Group's project history in providing customers with a strong ROI on their investment in automation?
2. Can you tell us about your record in reducing warehouse costs, operator-based decision-making, and increasing daily order throughput?
3. What technologies used collectively within the warehouse automation solution will drive the greatest ROI for our operation?





These questions set the stage for a strategic discussion on the role a data-driven design plays as the first step in selecting warehouse automation. Performing operational data analysis verifies the process improvements and eliminates the majority of the project's unknowns.

Justifying both the investment and selection of technologies that will provide a significant boost in positive monthly cash flow to the business's bottom line!

Logistics and senior management must focus on continuous operation and warehouse technology improvements, while the CFO ensures that the automation investment provides the business with a positive cash flow. Together, they need to align on the changes needed to maximize warehouse efficiency. Their goals are the same: **capture more market share, improve order fulfillment, enforce perfect order practices, and lower the cost per order delivered to exceed customer service level expectations.** Achieving these goals will lead to a compelling ROI, and positive cash flow.

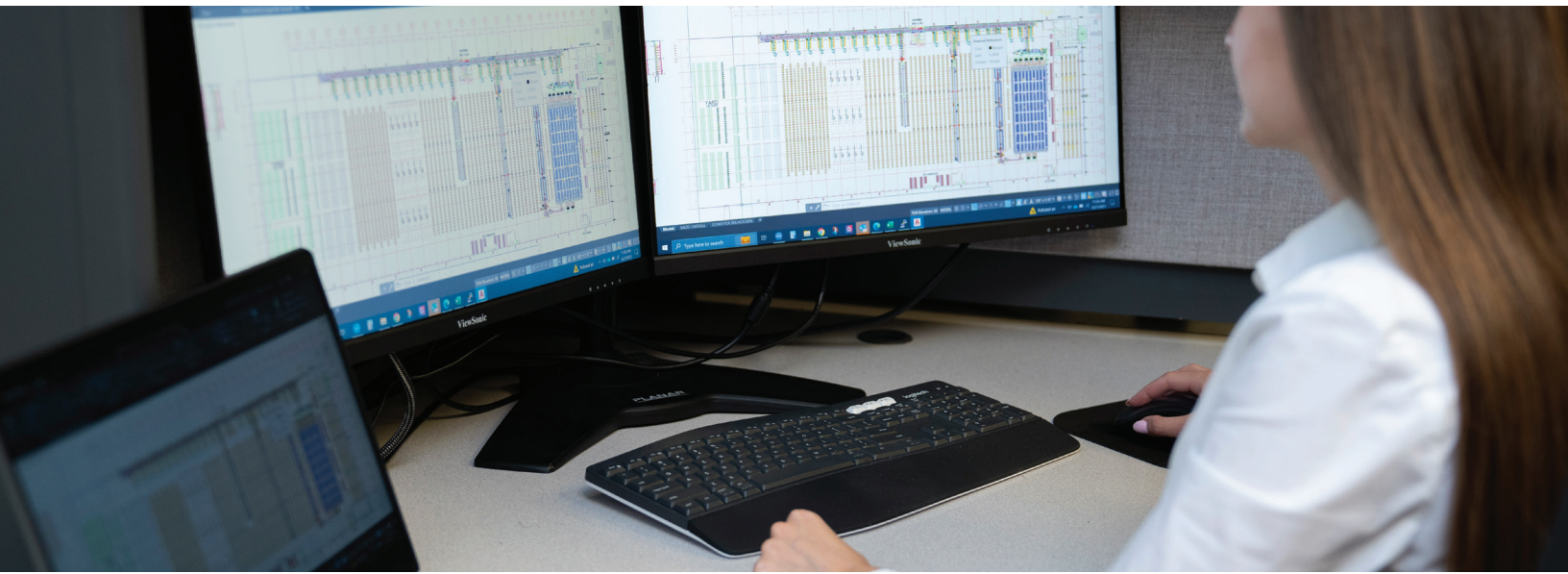
When defining a project's true savings, it's critical the design engineering phase focuses on streamlining current practices and

outlining the new process improvements in order to select the right blend of automation technologies that lead to more efficient operations. Increasingly, these investments include a mix of technologies, from traditional order picking to robotics-based order picking, and goods-to-person storage and picking technologies.

Before selecting technologies, an automation project requires a process-first design to define lean, low-touch processes synchronized across the warehouse to obtain the desired ROI. The accelerated pace of technological change puts tremendous pressure on organizations to improve and execute better practices to ensure the automation investment delivers the best ROI for the business's operations.

In addition, the automation solution must capture key real-time DC operational data and order shipment results to provide managers with continuous improvement information, and real-time operational visibility.

The top priority of any investment is to identify ways to lower costs, improve quality, increase customer service, fulfill orders more accurately, increase on time delivery, and retain and reward good employees.



Design for Success

To begin, develop a project roadmap that outlines both the project's strategies and process improvements needed to streamline the operation when combined with the right blend of automation. The journey starts with an engineering design study that assesses the current DC processes and defines the improvement objectives. The study should benchmark end-to-end order flow to identify the best-fit process improvements that **provide a positive cash flow for the investment.**

By adhering to this philosophy, you are embracing the principles of Philip B. Crosby, a legendary quality and efficiency guru and author of the best-selling book, *Quality is Free*. His insights, methodologies, and philosophies have not only revolutionized how businesses approach quality but have also become timeless principles for guiding organizational excellence.

A high-performance distribution operation follows a winning business model that maximizes resources and aims for zero-error order accuracy. Strive to consistently find ways to improve the operation and measure the results. It's about never being complacent and always operating in a mode of continuous improvement. Successful organizations adopt the principle of **"eliminate waste, eliminate errors"** while working to gain a competitive efficiency edge over the competition.

Mr. Crosby emphasized throughout his career that "once you start an improvement process, it is a journey that never ends." In the era of global competitiveness, this principle holds true whether you are streamlining manufacturing or distribution operations. Once you begin, it becomes a continuous journey to improve operations and invest in automation technologies

What are the current costs of “doing nothing” compared to the savings obtained by eliminating non-value-added touches and integrating quality into the operation? “Touch the product once” and “Do it right in a faster validated operation” are great drivers of process improvements that can be accelerated with the right blend of automation.

that have the greatest impact on savings. Operations should view automation as a means to improve order flow, eliminate picking errors, reduce damage, and use real-time performance data to drive continuous operational improvements. A lean and automated distribution process minimizes errors, reduces touches, and enhances quality. A scalable solution increases warehouse throughput and ensures orders are delivered on time with the correct products, quantities, and packaging.

It is unrealistic to expect a business to operate successfully and profitably using paper-based systems or outdated RF terminals in their DC. Consider the inefficiency of operators continuously picking up and putting down outdated “green screen” keyboard-dependent inputs for directing pick-and-pack process!

Value-mapping identifies wasted touches and steps during the process improvement phase. It highlights the impact of automation in eliminating excess labor across receiving, inspection, put-away, picking, packing, and shipping processes.

In an environment of rising labor costs, it is crucial to “engineer out” wasted steps and manual touches in all three components of the order fulfillment operation. Pick, pack, and ship tasks typically represent 75 to 80% of warehouse labor costs. The design should consider a long-term vision for business growth over five or more years to create a strategic “Roadmap” and determine whether a phased investment approach or an end-to-end warehouse automation initiative will yield the greatest benefits and higher cash flow. **A design philosophy that incorporates “lean up and then accelerate,” using automation as a force multiplier for process improvements is proven to reduce costs and boost profitability.**



What to Change?

Numina Group's design-first approach defines the desired outcomes of warehouse investments. We partner with clients throughout the data-driven journey, and value map the desired operational improvements by identifying and eliminating the inefficiencies in the DC's current operation.

By documenting the current operation processes and flow-charting existing steps and touches, then developing new, leaner processes, we can identify improvements that reduce both labor costs and inaccuracies. This approach also helps us determine the automation technologies that offer the best value for the warehouse improvement initiative.

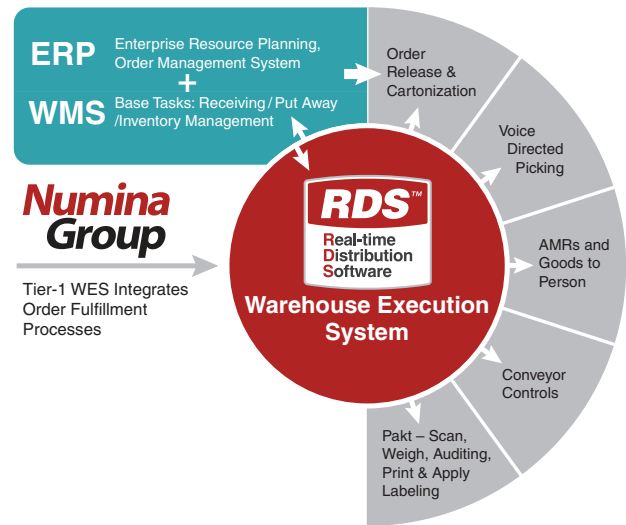
The WES Acts as Your Warehouse Automation Glue

Businesses are grappling with how to best leverage their current ERP/WMS software investment when incorporating warehouse automation in their operations. There is limited interest in changing the business software. A key issue is determining the best software platform to connect automation with existing ERP and WMS systems.

Increasingly, a Tier 1 Warehouse Execution System (WES) software platform is needed for the job. **A mature WES system includes pre-developed API interface tools and a proven track record of connecting automation to various ERP and WMS systems.** It can manage both traditional conveyor-based pick-and-pack automation as well as the latest generation of robotics-based picking, moving, and sorting AMRs, and robotics-based Goods-to-Person (G2P) systems.

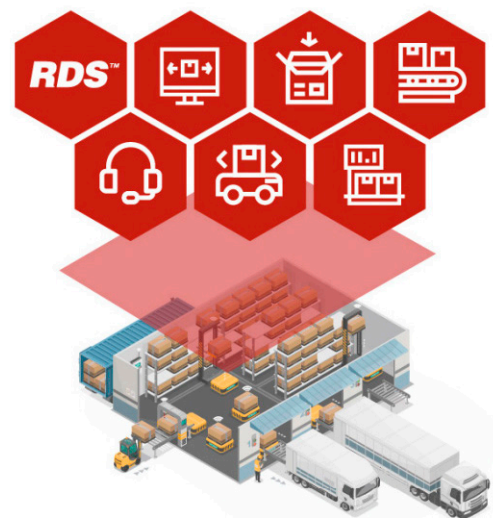
The WES acts as a cohesive software platform that unites multiple automation technologies across the DC operation. To fulfill these roles, a WES must be flexible, scalable, and include a comprehensive suite of software automation modules that manage and control all three order fulfillment components—picking, packing, and shipping. It needs to be robust, fast, and capable of handling real-time messaging and high-speed control decisions.

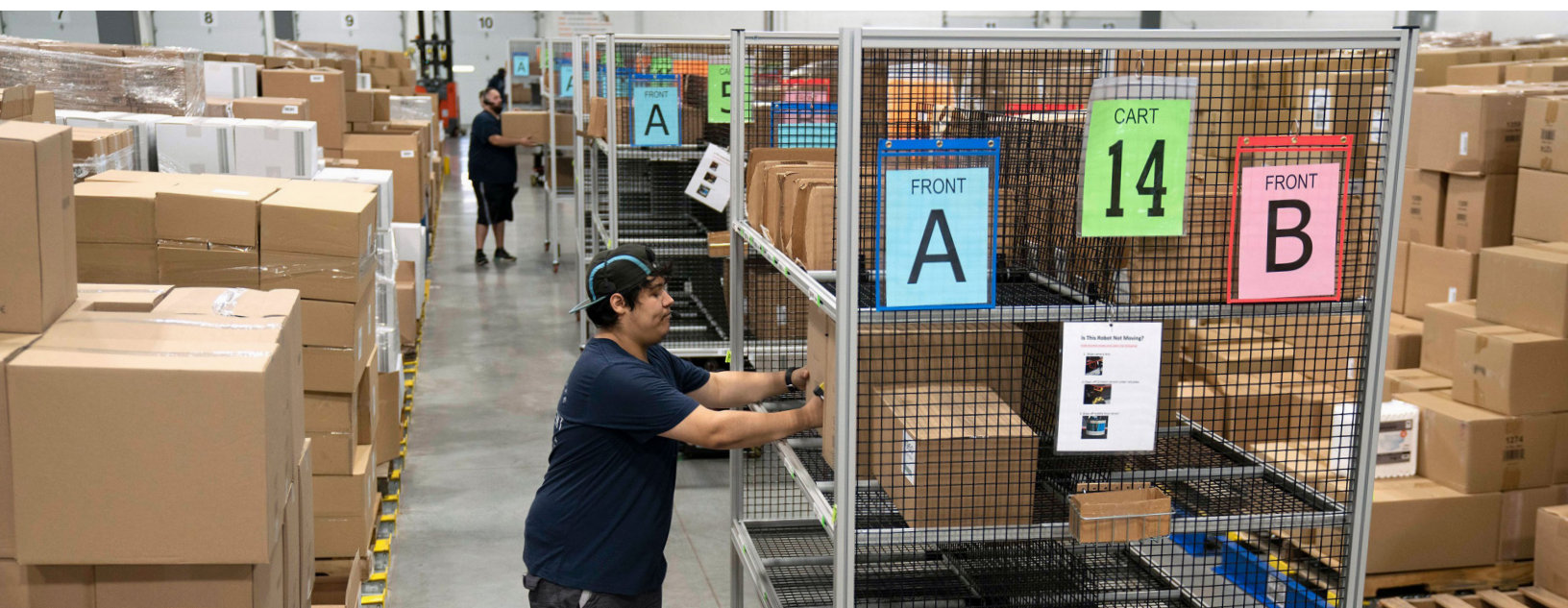
The WES also needs web-based visualization screens, alerts, and critical information display and reporting tools to assist equipment managers and operators. These functionalities are essential for orchestrating and managing real-time order-picking across multiple zones within the DC. The WES must integrate a



blend of various order-picking technologies, such as pick-by-voice, pick-to-light, autonomous mobile robots (AMRs), goods-to-person (G2P) systems, and conveyor systems, within the same warehousing and order fulfillment operation.

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Warehouse Order Orchestration, the Key to Robotic Picking Optimization

It is paramount for today's DC operations to have an efficient, software-driven, and paperless order release orchestration process. The order fulfillment operation is the heart of a DC and requires a low touch pick, pack, and ship process that optimizes order release, maintains continuous order flow, and executes critical order shipment based on cube, weight, and priority shipment logic.

Releasing the right blend of orders, and completing critical, time-sensitive shipments to meet carrier pick-up cut-off windows is not a luxury; it is an operational necessity. Missing delivery commitments damages customer service expectations and can result in losing customers.

This is why Numina Group's Real-time Distribution (RDS™) WES software includes advanced order orchestration with cartonization and prioritized order release logic. This functionality is needed to manage and control AMRs, and operator movements within the voice-directed order picking module.

Order orchestration is the grandmaster of the order fulfillment process. It strategically coordinates the movement of people and products in a simultaneous manner to achieve the ultimate goal: timely and accurate order fulfillment. Warehouses must embrace intelligent order orchestration and the right AMR picking automation to achieve faster and more accurate order picking.



Businesses must embrace intelligent warehouse order orchestration and automation to stay competitive in today's marketplace.

A WES with advanced orchestration is a winning investment! A Tier 1 WES includes superior pick-by-voice technology and offers hands-free barcode scan validation, ensuring items are picked directly into the right size carton, while eliminating re-pack labor requirements.

A picking technology that combines voice, vision, and barcode scan validation of the item ID, lot, and sell-by date ensures the warehouse operates at the highest industry accuracy and performance levels. **Many of Numina Group's top operators achieve over 400 picks per hour using RDS Voice.**

In order picking, the RDS AMR Batchbot™ Picking Module leads the way in combining pick-by-voice technology with AMRs. It directs the operator movement and picking tasks using mobile wearable computers, wireless headsets, and hands-free barcode scanners in zone-based picking applications.

Voice and AMRs are proven to enhance the operator's ability to pick faster and more accurately, whether picking each, mixed-case, or pallet-picking applications.

RDS directs and optimizes AMR movement, eliminating the need for manual pushing of heavy batch carts, or the use of fork trucks in case picking. RDS-WES's intelligent order release and orchestration unites people and AMRs, streamlining order-picking tasks for a faster and more accurate end-to-end order fulfillment operation.

AMRs and people operate in the **"Meet Me Mode"** where operators work in zones across the product storage aisles. AMRs are dispatched and travel to the pick locations, and the voice system directs the nearest operator to the pick location.

Voice technology offers a distinct advantage over mobile wearable computers or tablets mounted directly on AMRs by determining, selecting, and directing the operator without requiring them to read instructions. This eliminates the need for operators to follow the AMR, and enforces shorter walk paths. The voice-directed



picking commands and hands-free SKU scan validation process achieves an accuracy level of 99.98%.

RDS has a proven track record of integrating voice, AMR, G2P, conveyors, and sorters into a cohesive pick, pack, and ship automated order fulfillment solution. This integration is a winning investment for any size B2B or B2C warehouse operation.

Combining multiple highly productive automation technologies into a single seamless process addresses the question raised by a company's financial leadership team:


“Can you show us how an investment in our existing or new warehouse can deliver a 35% to 40% productivity gain, and achieve monthly positive cash flow Day 1 that will pay for the investment?”

In the dynamic world of rapidly evolving warehouse automation, there are compelling reasons to consider Numina Group as your partner. We help design flexible, scalable, order fulfillment automation technologies that are proven to accelerate productivity in both new and existing warehouse operations.




Discover how Numina Group's design engineering and RDS WES-WCS will breathe new life into your existing ERP/WMS by adding the right blend of warehouse automation to generate a positive cash flow investment by achieving:

- Labor cost reductions of 25% to 70%.
- Productivity increases of 30 to 50% or more.
- Improved throughput and customer service.
- Order fulfillment accuracy rates of 99.98%.
- Increasing warehouse profitability by 30% or more.



**Get a Rapid ROI on your
warehouse automation
initiative for a positive cash
flow to make Automation Free!**



Contact us at 630-343-2629 and check out
the link below to Learn More

Video: Numina Group Warehouse Systems Integration Services

Expertise: About the Numina Group