Manhattan Active®

Warehouse Management

Control and coordinate demand, supply, labor and automation across your entire network with the leading cloud-native, evergreen and most extensible WMS in the industry.

Manhattan Active®

Warehouse Management

Manhattan's re-imagined WMS solution optimizes retail, wholesale and direct fulfillment, fully utilizing man and machine in the distribution center. With enterprise-wide visibility and actionable insights, Manhattan Active Warehouse Management (WM) maximizes efficiency, improves order cycle times, lowers travel times and engages the workforce like never before.

Cloud-native technology

- Microservices unlock greater application performance, flexibility and faster access to innovation
- Unified view of entire supply chain delivers unmatched visibility, agility and optimal outcomes
- Advanced architecture allows for better collaboration with co-workers, partners and vendors
- Warehouse management, labor management and slotting optimization in a single app

A more advanced distribution center

Maximum asset utilization

- A single, unified interface enables intelligent planning and tax-flow execution
- Optimize holistically across distribution, transportation, labor and automation
- WES within WMS manages any combination of automation, robotics and labor
- Boost efficiency by fulfilling retail, wholesale and direct, all at once

Increased overall throughput

Advanced employee engagement

- Real-time actionable insights for more responsiveness and feedback
- Groundbreaking gamification in labor management inspires higher performance
- Communication and dashboarding tools help supervisors resolve issues on the fly and adapt to changes
- Intuitive user experience means faster onboarding and greater productivity

A more productive, motivated workforce

Capability Brief

Unified Execution

Manhattan's industry-leading WMS solution has been re-engineered from the ground up to eliminate the execution barriers of legacy distribution systems. From moving trailers in the yard to receiving goods and shipping, Manhattan Active® WM orchestrates work seamlessly and simultaneously across both man and machine. Labor and warehouse management capabilities are now unified in a single app to engage the workforce and ensure they are operating in the most efficient manner possible. This unification means more visibility and control for supervisors, as well as real-time communication and performance feedback embedded directly into the operations tools used by the associate.

A modern, intiutive interface

Extended device training for new and temporary users is a thing of the past, as all transactions in our warehouse solution have a common, intuitive user interface that employs design and execution patterns supported by the smartphones and apps users are already familiar with. Transactions are executed on configurable, highly intuitive and interactive workflows. They include instinctive, step-by-step flows, easy-to-understand prompts and the ability to display configurable training messages, item pictures and actions to take.

Enhancements across the operation

Users no longer have to remember or memorize task steps and all transactions are configurable to provide significant flexibility for personalization. Transactions can now define data-driven, workflow overrides such as determining whether higher value inventory should undergo more validation compared to lower value goods, allowing a greater level of personalization than ever before.

The improvements start in the yard. Trailers, arriving blind or based on pre-scheduled appointments, may be checked in at the guard shack. Flows have been simplified to streamline the check-in process and guide drivers to a yard slot or dock door for pickup or unloading. Yard-jockey tasks gain more control over movement of trailers within the yard as the system intelligently and adroitly moves the right trailers to the inbound docks for unloading and receipt and empty trailers to the outbound docks for loading.

The inbound processes of receiving, putaway, sorting, license-plate-number (LPN) disposition and general inventory management can be tailored for environments that desire to move in eaches, full cases, pallets or any combination thereof. Whether tracking lots, country of origin, date of manufacture, expiration date or other key attributes, Manhattan Active WM has you covered. Traditional receipt-to-stock, lower-touch, flow-through distribution or even crossdocking gain maximum efficiency — it's all supported. You can also choose how much or how little of each to use. Everything is built with an eye for flexibility and personalization.

Outbound processes have also been completely reimagined to unlock unprecedented efficiency on the floor. Picking is no longer limited by pick type, order type or the actions that follow downstream. Picks are organized around priority and precisely sequenced to minimize travel. If desired, retail orders, ecommerce orders and store replenishments can be picked together and placed within a new picking cart that now accepts full LPNs, picks to an outbound LPN and picks to tote, simultaneously. Picks can now be chained together to minimize the distance and travel time between locations. Outbound sortation automatically (or manually) directs inventory to the optimal area for packing, using intuitive, graphical, pack-station options. Based on configurable rules, outbound putaway intelligently directs completed LPNs to the correct pickup or drop location, or directly to a consolidation area on the outbound dock where items can then be loaded onto the right truck.

Engineered for modern retail

Designed to address the unique challenges that retailers face in the world of digital commerce, Manhattan Active WM pack-station, returns processing and parcel integration capabilities increase efficiency and improve service.

Our pack-station interface provides fully configurable screens that lead personnel through tasks using large, easy-to-use touchscreens that include product images and robust exception handling. Pack-station capabilities increase efficiency and accuracy while decreasing ramp-up time for new and temporary employees during peak periods.

While processing returns can be a time-consuming task, a topline opportunity also exists in returning merchandise to sellable condition as quickly as possible. That's why Manhattan's modern returns processing interface supports multiple initiation workflows and rapid inventory disposition to drive faster inventory recovery and customer credits.

Parcel integration is simple with our robust integration framework for third-party parcel connectivity, so your team can rate, ship and track packages with absolutely no rate and carrier-label maintenance. The capability offers integration with leading carriers such as UPS, FedEx, USPS and regional carriers, as well as with most international carriers. Shipment planning capabilities range from native routing and single origin/destination plans all the way to industry-leading optimization across all nodes when coupled with Manhattan Active Transportation Management.

Capability Brief

Unified Control

To be most effective, supervisors need access to detailed real-time data visualizations with the ability to take action in a single tool, whether they're in the office or on the floor. Unified Control delivers a visually pleasing experience that starts with a network-wide summary of performance across all distribution nodes and hubs in the organizational supply chain. Key metrics are displayed for the entire supply chain or selected facilities. Manhattan's solution intertwines visibility across the supply chain like never before with key elements from both the transportation network and within each facility.

Control at every level

The next level down is a facility-level console that displays overall inbound status based on advanced ship notice (ASN) data and outbound status based on orders. Users can identify progress as well as potential risks with integrated, real-time ETA information highlighting receiving delays as well as warehouse execution and shipping concerns. The console also displays all users logged into every department and the status of their current performance compared to goals. Performance for each department is available, allowing users to drill down into key equipment metrics such as utilization, performance and dwell time. When appropriate, notifications alert users to exception areas such as outbound orders that may be at risk because a carrier cutoff time is drawing near.

To investigate further, a supervisor can get a closer look into a key department showing lower-than-expected performance. A simple tap on the console reveals a departmental view with details from what the issue may be, to the underlying tasks involved. With another quick tap, holding or releasing a task or reassigning it to a different user is easy to accomplish. Similar capabilities are provided for inventory and orders.

Additionally, a supervisor may need to view employee timelines or log an observation or interaction with a team member, which is easily done within Unified Control. Should a supervisor need to find a particular employee, a digital warehouse map provides not only visibility into the location of all resources, but also the ability to interact directly via the map with elements such as people, equipment and tasks. Unified Control provides complete command and control of the distribution network from the highest levels down to the smallest data elements.

Capability Brief

Unified Distribution Planning

The most innovative workforce optimization solution in the industry

Planning for just the right amount of labor in a distribution center has always been a challenge — continuously optimizing and harmonizing changing priorities, inventories and capacity. Unified Distribution Planning is a new capability that guides warehouse supervisors and operations managers in the planning, forecasting and reallocation of upcoming labor requirements. It delivers early actionable insights, allowing decision-makers to spend more time focused on fulfillment promises and less time adjusting to labor overages and shortages.

Unified labor planning

Traditionally, many businesses have used spreadsheets or antiquated programs to juggle the complexities of labor and resource planning. Even those with legacy labor-planning technologies often find the process cumbersome, time-consuming and difficult. Changing variables, such as performance and utilization, make it difficult even for dedicated planners to keep up with the ever-changing labor picture. Consider a 30-day, rolling-wave labor plan that no one has time to calculate, continuous changes or the sheer complexity. The results are labor plans based on averages and gut feel, leading to costly inefficiencies that ultimately hurt the bottom line.

Unified Distribution Planning changes all that by streamlining the operational approach, providing transparency and making it painless to manage and account for fluctuating variables. It is available as part of Warehouse Management and it gives supervisors and managers the benefit of real-time data and visibility into potential challenges. Consequently, they have more time in their day to focus on the core competencies of their business rather than managing spreadsheets and pivot tables or navigating legacy labor programs. Today's increasingly demanding business environment requires a greater degree of agility and sophistication. That's why Unified Distribution Planning enables improved operational efficiencies, fully optimized labor planning and reduced overhead cost while dynamically adjusting to business needs.

Use the system less, not more!

A simplified user interface (UI) makes it easy to navigate between the summary of labor imbalances for a given window of time and the specific amount by day, job function and department. Users can view a prescriptive summary in the Planning Dashboard UI, which provides actionable information and a streamlined workflow for navigating and assessing the surplus or deficit. The Planning Chart UI displays forecast data along with a visual representation of work hours and labor hours (staffed, deficit, surplus) as stacked bars. Supervisors and managers can leverage the labor-adjustment feature to display cost information and summarize the various “what-if” labor changes. It also allows the user to export the plan and send it to operational stakeholders, such as supervisors and human resources (HR) staff. This unified tool set saves time and increases operational efficiency while optimizing the balance between anticipated workloads and overhead cost.

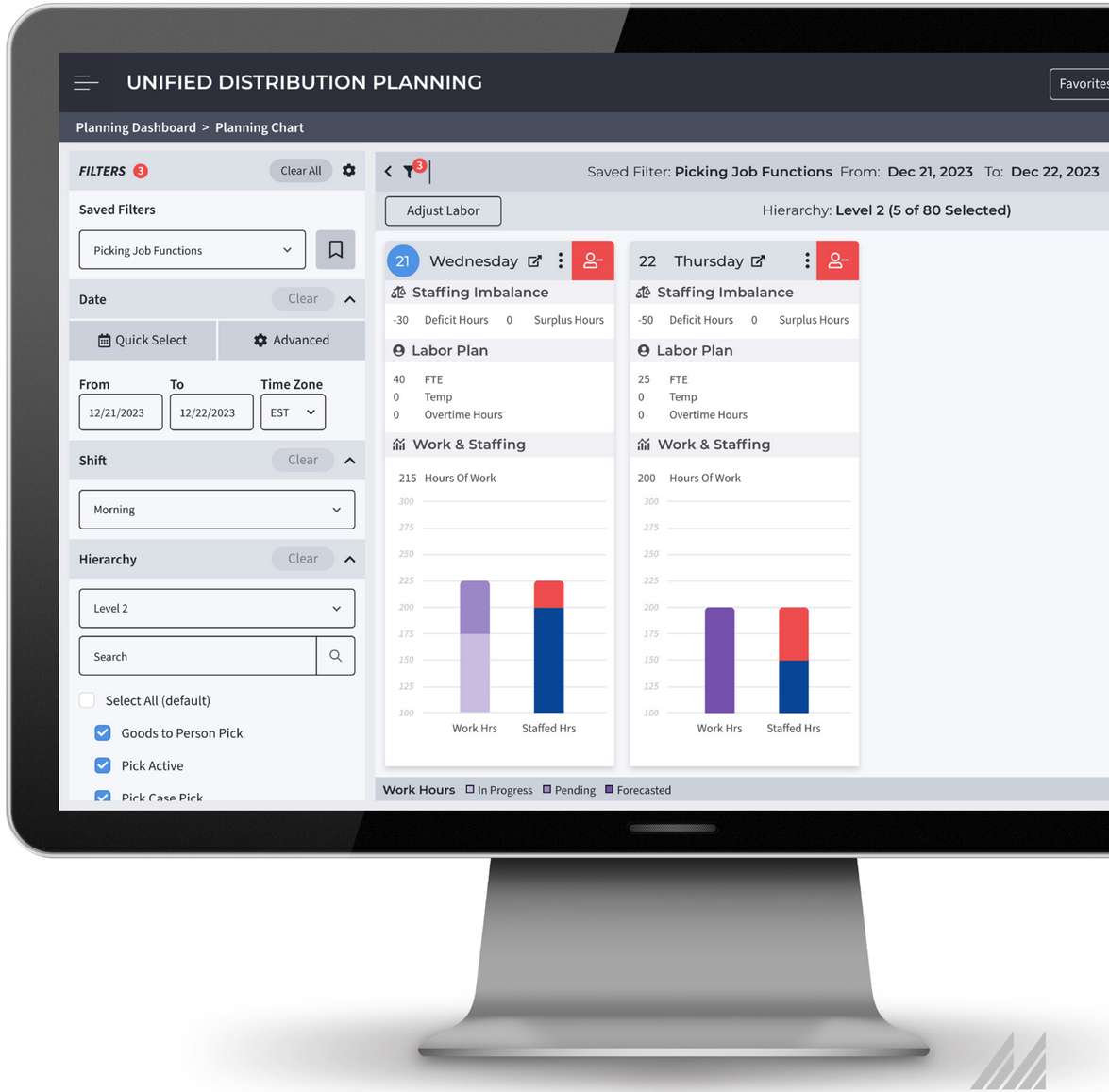
The Employee Engagement dashboard provides supervisors and managers with meaningful metrics by every hierarchy level that an employee has worked over the last 12 hours. The metrics for the most recent hierarchy level that the employee worked on shows up in the default view. The manager can toggle to other hierarchy levels to view the metrics for the individual level.

Key benefits

- Easy-to-manage, unified work screen for WM and labor management (LM) with a modern, visual user experience
- Ability to leverage existing data from WM and LM components (it just works!)
- Real-time workflow labor
- Ability to shift work to another shift/day
- Real-time messaging for shortages or excesses
- Up to 90-day rolling view
- Ability to import corporate forecast as reference
- Easy-to-use data loaders for importing a forecast
- One-time, simple configuration workflow for establishing a planning baseline
- Prescriptive dashboard for visibility to actionable information
- Interactive workspace for modeling solutions for labor surplus and deficits
- Export capabilities to share labor models with supervisors and HR

Daily Operations Made Easy

Once supervisors start their workday, they might find an updated labor plan in their email. The recommended adjustments can be acted upon long before any issues arise. Supervisors receive plenty of advanced notice at the beginning of the workday to finalize the details of the suggested labor-plan changes. Supervisors are now solely focused on the key responsibilities of their job and managing their team’s execution.



Capability Brief

Slotting Optimization

In warehouses, just like in real estate, location makes all the difference. It directly affects productivity, worker safety and order accuracy. You want fast-moving items situated in the most accessible locations, heavy items placed to minimize damage and total storage capacity optimized.

The challenges of smaller orders, SKU proliferation, volatile demand and shorter order cycle times require nonstop optimization of warehouse space. As distribution operations adapt to requirements driven by digital commerce, optimized slotting becomes more critical to controlling costs and meeting customer expectations.

Optimal approach to optimization

Slotting Optimization automatically determines the best locations to locate inventory to increase workforce efficiency, shorten order fulfillment cycles and maximize throughput. It also improves customer service by strategically grouping items together for fulfillment and updating placement recommendations based on trends and new product demand.

Its intuitive and easy-to-leverage built-in learning intelligence continuously calculates optimal slotting. Our technology considers seasonality, sales trends and product variations, maintaining preferred-item sequencing and family groupings. And it is designed with capabilities to handle even the most complex warehouse environments.

Slotting Optimization features the first and only seamless integration of slotting moves and picking, engineered as part of overall DC management. As a single application — natively unified with warehouse management and labor management — our technology requires no integration or modifications. That means pre-seeded, slotting-run strategies that streamline configuration and provide unprecedented flexibility, whether manually executed on demand or scheduled ahead of time and run with no intervention by a user.

As part of Manhattan Active WM, Slotting Optimization uses the same intuitive, mobile-user experience integrated across the enterprise.

Features + Functions

- Set and re-set pick locations based on product demand, changing consumer expectations and operational constraints
- Group items for rapid fulfillment and update placement based on sales trends and product variations
- Use product characteristics and velocity to calculate a relative value for each potential placement
- Aggregate values across products and compare millions of move combinations against user-configured strategies
- Configure multiple run strategies to ensure optimal configurations based on real-time picking patterns in the warehouse

Right inventory, right place, right time

Slotting Optimization raises slotting workflow to a new level of efficiency, even in the largest and most complex facilities. The results are reduced replenishment and increased throughput volume, thanks to dynamic optimization and execution of slot location movement for all products in the distribution center.

Capability Brief

Order Streaming

Order Streaming makes Manhattan Active WM the only solution to continuously plan, learn and re-plan every task and resource simultaneously across retail, wholesale and direct fulfillment workflows. As soon as orders arrive, they are streamed individually or sorted into wave-like collections depending on the urgency, type of fulfillment and customer needs. Rather than flood the floor with work all at once, our technology ensures the right resources with sufficient capacity are quickly identified, so orders get to the dock ahead of the carrier cutoff times and promised service commitments. To maximize trailer utilization, Order Streaming continuously adds applicable new orders to open shipments right up until transport departure.

Advanced intelligence for better performance

Order Streaming leverages machine learning developed by Manhattan's data sciences team to greatly enhance the order orchestration logic. To complete a piece of work in a given time frame, Order Streaming considers real-time capacity insights of both man and machine, as well as inventory availability and location. Although rush orders are dropped first, Order Streaming learns over time, creating better awareness of system capacity available to fulfill orders that might not need to be shipped for a few days. Consequently, both equipment and people can be more fully utilized.

Work Release — the part of Order Streaming technology that plans the fulfillment process — leverages optimization and machine learning to drive the highest asset utilization possible. As it monitors utilization, it determines when to release the next bit of work to keep those assets highly utilized, avoiding the need to manage peaks and valleys in labor productivity. Work Release helps Order Streaming constantly scan for changing resource capacity so it can determine the next set of picks or replenishments. Using techniques adopted from transportation management for route optimization, Work Release also intelligently considers the layout of the distribution center to build tasks that minimize travel.

Order Streaming Capability Brief

Order Streaming creates an entirely dynamic order-fulfillment model, beyond the confines of wave or waveless. It reconsiders the impact of demand and the capability to supply continuously, improving every aspect of labor, equipment planning, proactive location assignment and replenishment. Benefits include better utilization of automation, more efficient manual sortation and higher labor utilization, as well as more flexibility in order grouping and prioritization. Ultimately, that means a more scalable warehouse at a lower capital expense. Order Streaming takes every opportunity to consolidate picks, intelligently increase picking density and minimize travel time between picks.

Order Streaming can even delay final task construction and assignment, including travel/pick paths, until the work is ready to be assigned. It can now also take advantage of advanced task optimization and scheduling and unified picking, which includes the ability to build hybrid picking carts for significant improvements in picking efficiency. This technology is finally unleashed to fulfill its true potential, driving up utilization, reducing order cycle times and ensuring on-time deliveries without costly shipment upgrades. Coupled with Manhattan Active Transportation Management, Order Streaming taps into continuous transportation optimization to ensure trailers also ship as highly utilized as possible.

Getting more from the workforce

Manhattan Active WM plans and assigns tasks to users in a completely new way, using insight from machine learning within Labor Management to predict how long each task will take. By evaluating historical data, Manhattan Active WM learns to make smarter decisions by applying current conditions to the historical data, so more accurate predictions are made. The solution evaluates each associate's performance and aligns that associate to available tasks based on eligibility, roles, priority and other factors.

A holistic schedule is created and consistently evaluated to adjust assignments and minimize "deadhead" travel distance across every task in the warehouse. Tasks are now interleaved to drive even more efficiency. Picks, replenishments, cycle counts and slotting moves are executed seamlessly together within the boundaries of worker and equipment eligibility and configurable constraints. Intelligent task construction and optimized task assignments mean a significant reduction in wasted travel in the distribution center.

Streamlined operations

Cubing — the process for packing outbound shipping containers — has been infused with intelligence beyond the simple algorithms utilized in most legacy warehouse management systems. Cubing is now natively optimized to minimize either the total number of containers or the total volume, both of which decrease shipping costs. Manhattan Active WM also seamlessly manages crossdocking and flow-through distribution opportunities, either at time of receipt or ahead of receipt. By matching inbound inventory with existing orders, it streamlines the movement of goods from the inbound trailer to the outbound trailer, minimizing touches and processing time.

A new era of warehouse management gives your team the power to:

- Orchestrate work across both man and machine, maximizing utilization and increasing capacity
- Execute the most efficient picking paths possible
- Drastically reduce unnecessary travel across all tasks
- Continuously optimize and prioritize workflow, reducing cycle times and shipping upgrades
- Combine picks regardless of pick type or order type, significantly increasing efficiency
- Enhance inventory management, increasing fulfillment accuracy
- Streamline receiving and shipping for crossdocking and expediting back-ordered products
- Engage floor personnel digitally and directly, leveraging real-time performance visibility
- Increase inventory turn volume and velocity, boosting customer and financial performance
- Adjust behavior of execution workflows, using data-driven rules and workflow overrides

Capability Brief

WES Inside of WMS

The supply chain world has undergone major changes over the past few years and the resulting expectations on what supply chains can deliver have never been higher — adding new pressures and challenges that require new innovations. The rise of ecommerce and omnichannel fulfillment combined with labor volatility and cost constraints has created more pressure on the supply chain than ever before. And the industry has responded with tremendous growth in advanced automation.

Robot Revolution

The challenge is that different types of automation do not naturally communicate. They are not aware of each other, much less the supporting workforce. Getting maximum throughput within the distribution center requires coordinating and orchestrating every asset to work together — automation, robotics and people.

In any distribution center setting, there are five “natural” resources to manage: orders, inventory, labor, planned work and automation. Manhattan Active WM has orchestrated four of those five with tremendous success over the past 30 years and was recently recognized as a WMS leader in the Gartner Magic Quadrant for the 15th time.

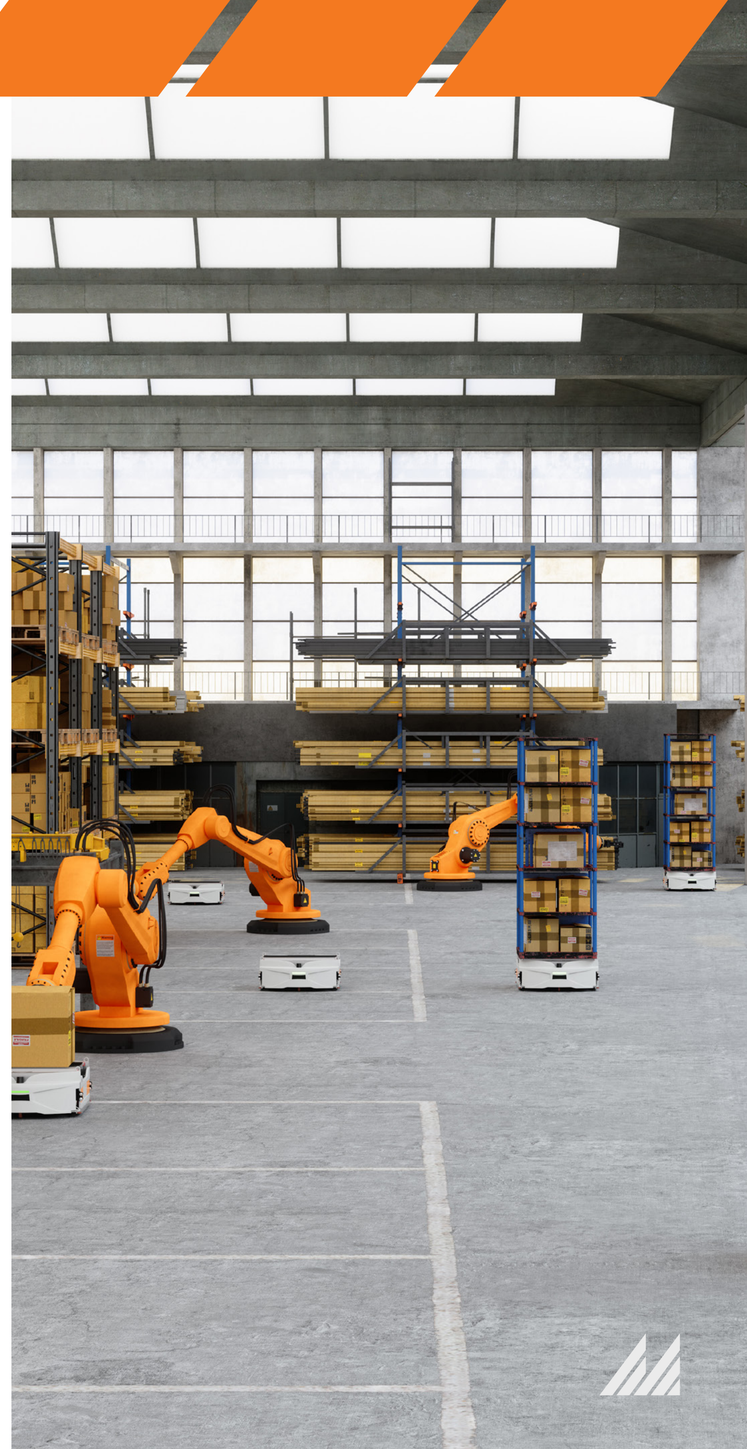
Manhattan has added automation to deliver complete command and control of the warehouse, with the industry’s first WES built into a WMS. And it doesn’t matter what kind you have or how much of it you use.

Manhattan has also made it easy to add new automation through the Manhattan Automation Network, consisting of industry-leading providers, so you know your new technology will plug right into Manhattan Active WM. Together, they create an ecosystem that helps get automation initiatives up and running faster than ever before.

Coordinated Control

Coordination and collaboration across discrete and individual pieces of advanced automation in the warehouse only become more powerful when those systems are connected and aware of each other.

More than ever, warehouse management must be approached from a perspective that considers any combination of human and automation capacity together. With the combination of native WES and Order Streaming capabilities, Manhattan Active WM is the only solution that enables total visibility across the distribution center, complete flexibility for automation growth and maximum utilization of all resources.



Reach out to our experts to learn more
information@manh.com

Or visit us online
manh.com

Manhattan