Manhattan Active®
Warehouse Management

Manhattan

Your Supply Chain. Unified.

The role of modern warehouse management in your supply chain execution.

In a supply chain landscape that never stands still, you require unprecedented levels of agility, flexibility and operational efficiency.

You need visibility across your entire network from a single, intuitive app experience. You need real-time actionable insights for more informed decision-making and advanced optimization engines that keep critical business processes running smoothly. You need advancements in data science like generative AI and machine learning to navigate skyrocketing volumes and decreasing commitment windows. You need to creatively engage your human work force simultaneously with your automation and robotics, to ensure maximum efficiency of both man and machine. And you need a solution built entirely from API microservices, that scales automatically, is evergreen and completely extensible so it's easy to make it your own.

You need Manhattan Active Warehouse Management.

LEGACY SYSTEMS MANAGEMENT IS BECOMING MORE COMPLEX

" Existing business applications...are typically monolithic and...simply moving them to the cloud will not magically endow them with all the dynamic features of the cloud."

McKinsey&Company

SUPPLY CHAINS ARE GROWING IN COMPLEXITY

"More than half of supply chain leaders expect complexity to increase over the next five years in most aspects of the operating model."

Gartner.

LABOR COSTS AND INSTABILITY CONTINUE TO RISE CAPACITY

" Given today's volatile and disruptive environment, supply chain organizations must become more flexible, and the solution is digitalization."
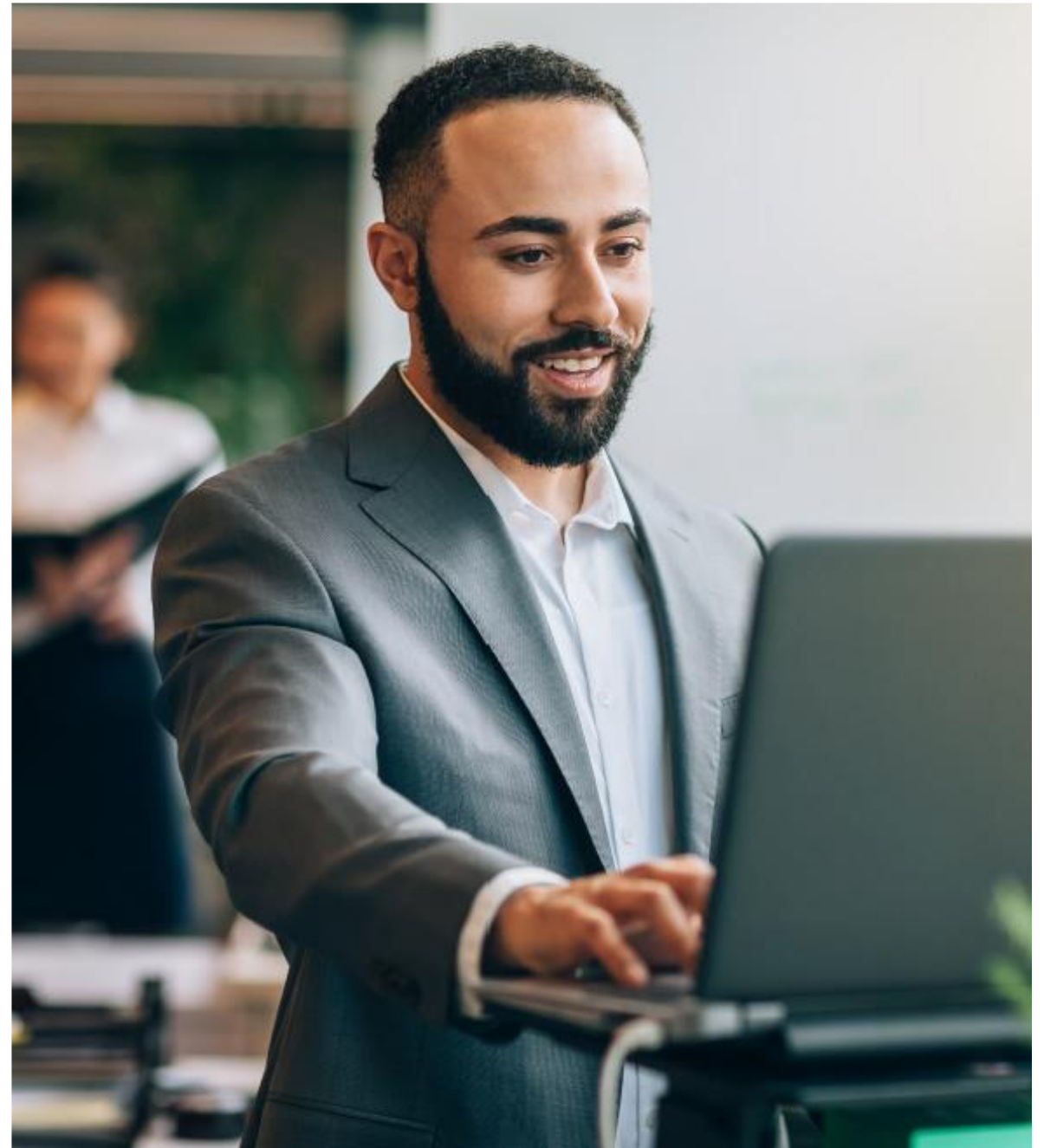
–Dwight Klappich, VP Analyst Gartner.
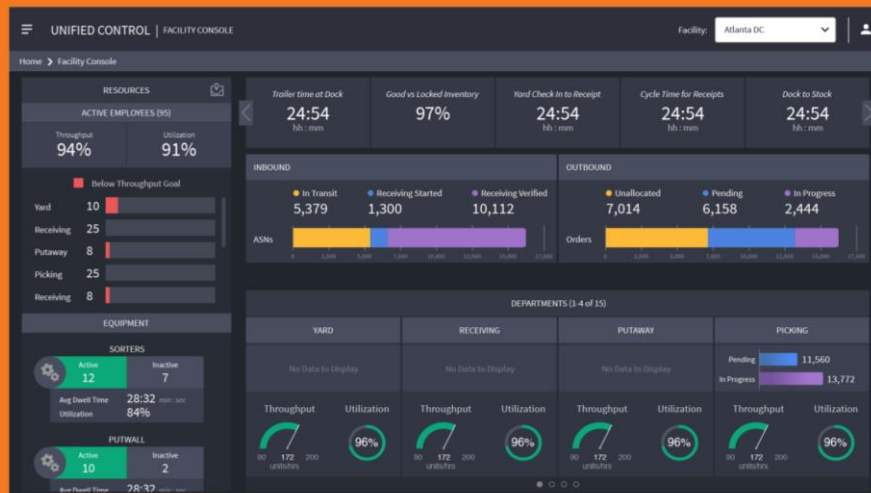
Manhattan Active Warehouse Management

Manhattan Active Warehouse Management (WM) is an industry-leading warehouse management system (WMS) that elegantly combines all demand, supply, labor, slotting and automation into a precision engine of efficiency across every facility in your network, regardless of physical size, velocity or volume.

› The industry's first cloud-native, evergreen and extensible WMS means never having to upgrade again—ever.

› The most adaptable, configurable and scalable supply chain execution system in the industry lets you to focus energy and resources on customers instead of systems.

› Real-time, actionable insights across the supply chain, the empowerment of modern touch devices and a new era of employee training, performance and motivation.

› Access to new innovation every 90 days with no operational down time.

Benefits + Features

› Reduces costs and improves efficiency with faster cycle times, optimized labor and advanced slotting capabilities

› Provides visibility and control over physical inventory with real-time tracking and accuracy

› Delivers high service levels and customer satisfaction with faster fulfillment rates and greater accuracy

› Real-time insights into your entire operation with in-app visual analytics dashboards along with traditional reports

› Agile, scalable solution can be easily extended to support new capabilities as needed

› API-first seamless integration with your existing systems, including ERP and TMS, to ensure a single view of the truth
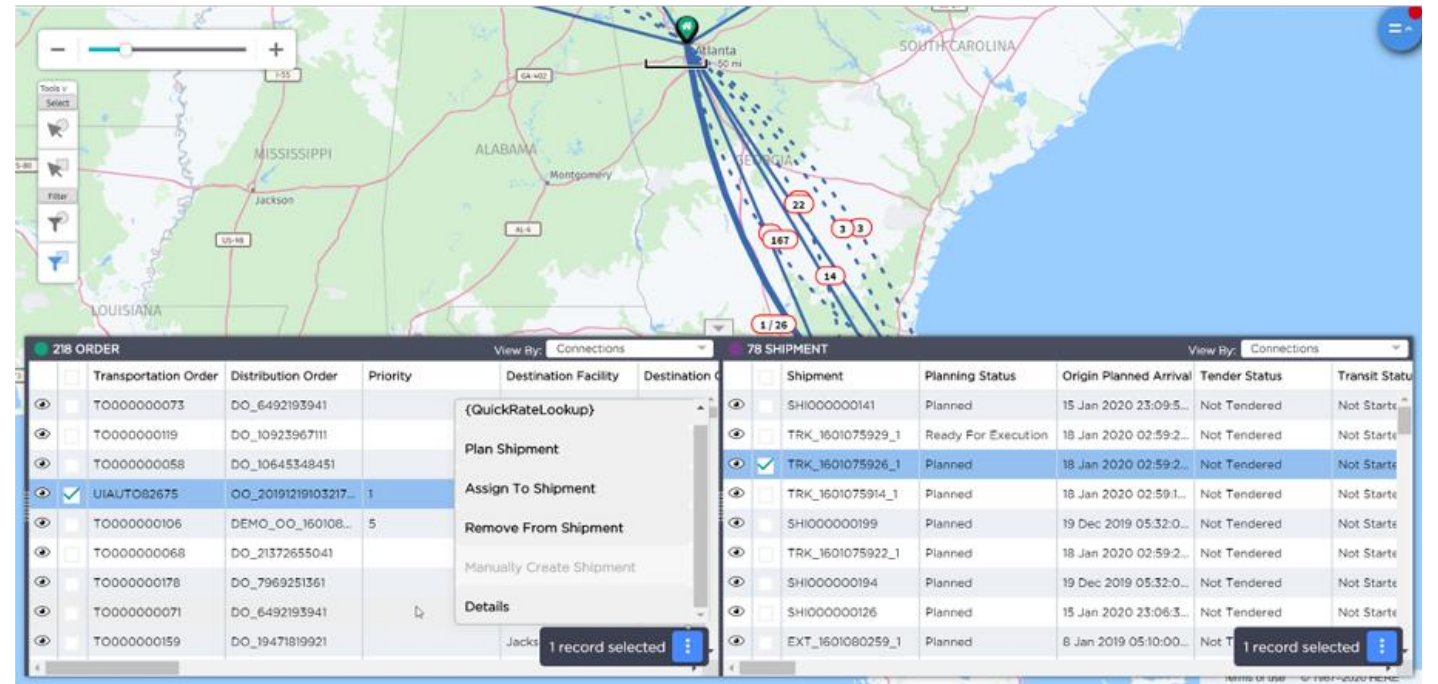
Key Features

› Streamline inventory receiving processes with crossdocking, quality audits and vendor performance monitoring

› Eliminate costly physical counts with auditor-approved, cycle counting

› Manage value-added services, lot management, serial number tracking and product recalls

› Accommodate omnichannel and/or multi-tenant fulfillment

› Apply intelligent order fulfillment strategies with machine learning for simultaneous waveless and wave-like planning and optimization

› Synchronize task creation and scheduling to minimize travel and complete important work on time

› Automate information exchange with an intuitive mobile user interface and voice recognition

› Support any material handling equipment via the only Warehouse Execution System (WES) built inside a WMS

› Utilize native transportation support with external parcel integration services to easily connect with external multi-carrier solutions

› Increase visibility, security and throughput with appointment scheduling, guard check-in and check-out, dock door management, and yard management functionality

› Improve item location placement and employee performance with slotting optimization and labor management capabilities
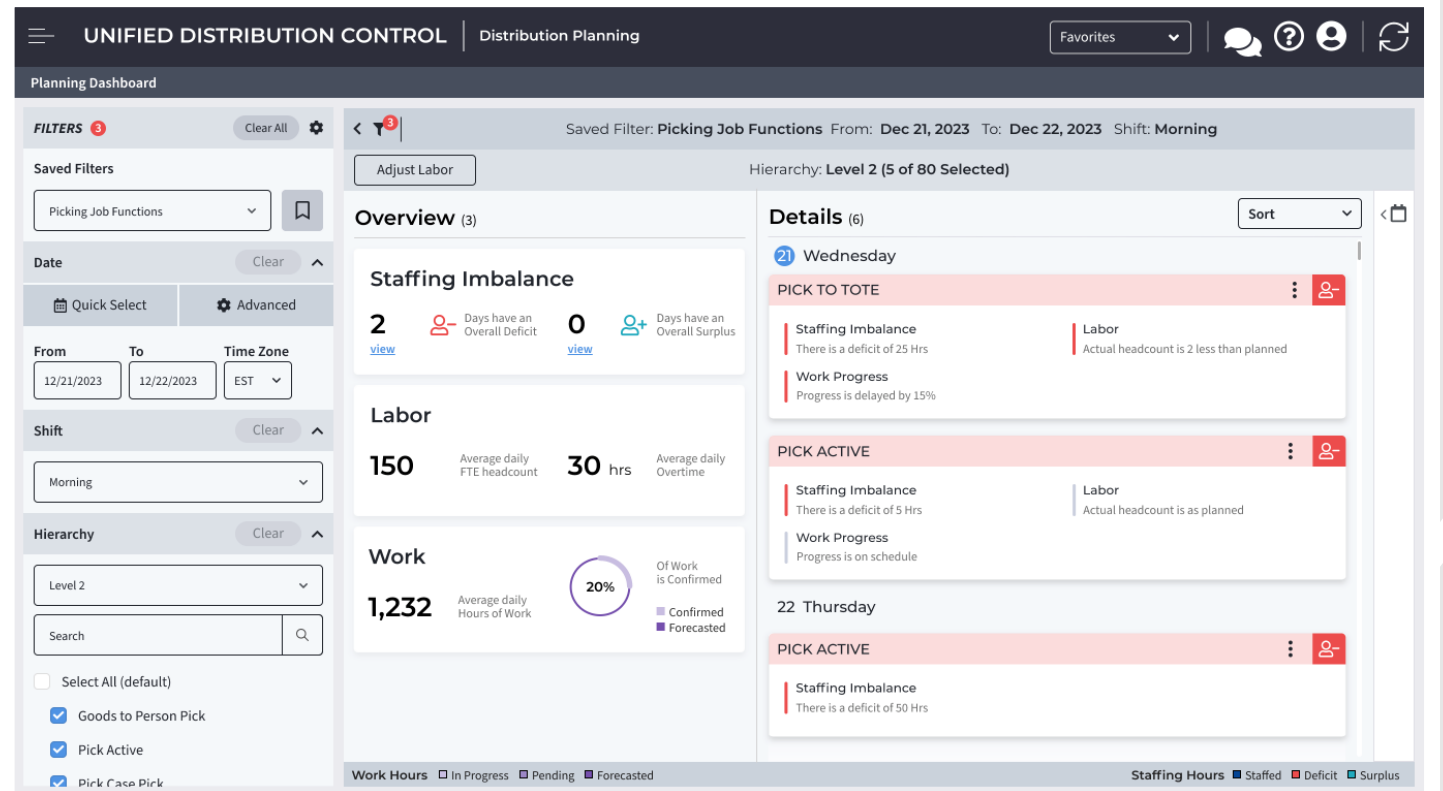
Exploration of Key Functional Areas

Unified Control & Experiences

› Control the global enterprise through responsive user interface (UI) and real-time data visualization.

› Gain unlimited visibility from the highest level of the organization to the lowest.

› Use real-time agility to make better decisions, faster.

› Leverage actionable insights in a single, responsive supervisory experience.

› Configure the associate experience and workflow easily with modern digital devices.

› Optimize and manage inbound and outbound planning.

› Unify all logistics capabilities in one, modern app experience to reduce training times, increase supervisor visibility and control and configure workflows with intuitive instructions, item images and clear actions.

› Set up dynamic workflows, which can automatically adjust to match real-time operations as needed.
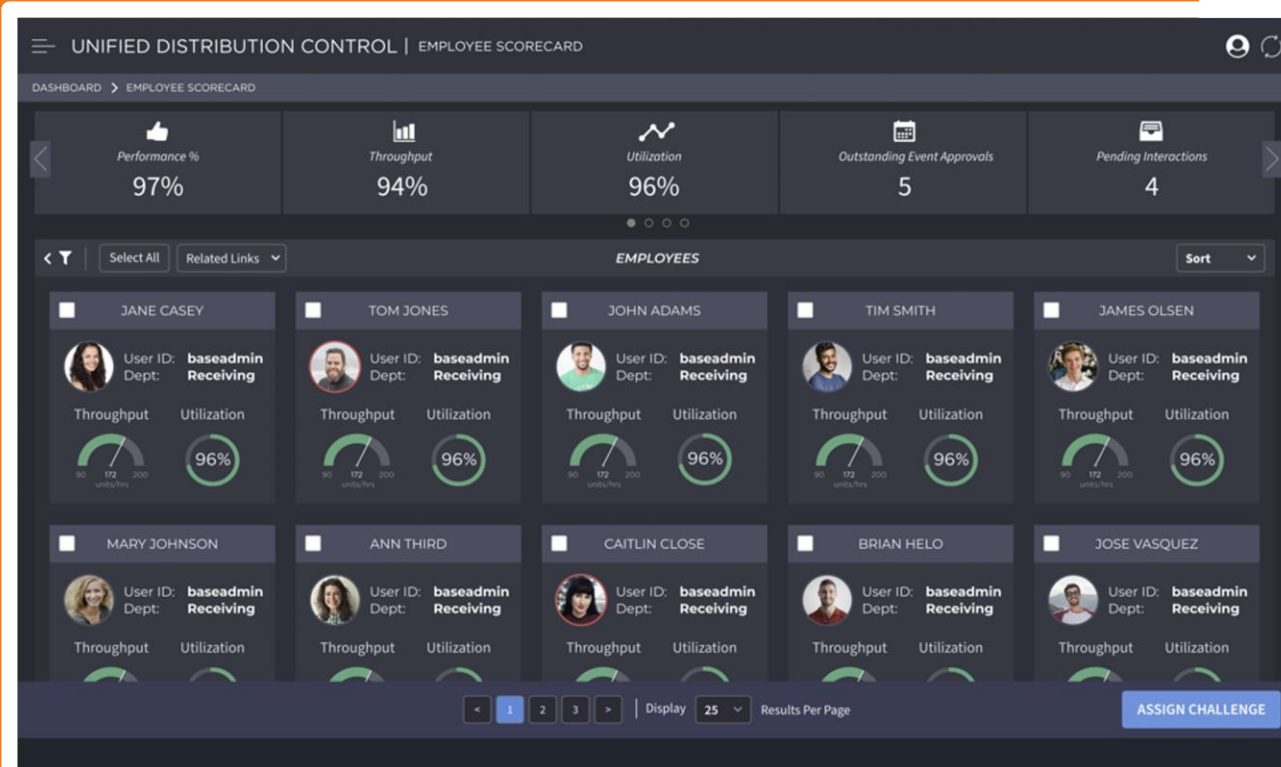
Unified Planning

> Intelligent machine learning optimizes order fulfillment by simultaneously processing retail, wholesale and direct demand to maximize efficiency, productivity and profitability.

> Streamlined and flexible workflows allow data-driven overrides to personalize operations and optimize task scheduling to significantly reduce travel.

> Unified Distribution Planning (UDP) uses real-time data already in labor management and warehouse management. Simply add an order forecast and UDP executes it.

> UDP unifies labor and warehouse configuration and transactions to eliminate spreadsheets and extra work.

> Order streaming technology 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 flows.

> Dynamic work release—the part of order streaming technology that plans the fulfillment process—leverages optimization and machine learning to greatly enhance the order orchestration logic and drive the highest asset utilization possible.

Unified Execution & Automation

› Unified picking workflow breaks down execution silos and increases pick density.

› Configurable rules drive necessary variability in screen flows.

› Intelligent sortation directs inventory to appropriate next steps.

› Channel-independent task creation and scheduling leads to higher pick density.

› Redundant flows and downtime are drastically reduced.

› Optimized use of labor resources reduces energy consumed by lighting and equipment.

› Optimized use of space and resources minimizes the environmental impact of warehouse expansion.

› Optimal outbound fulfillment execution is enabled, every time.

› Throughput is maximized by coordinating automation, robotics and people with the industry's first WES built inside a WMS.

› Machine learning optimizes fulfillment across automation and human associates for maximum asset utilization, order throughput and fulfillment margins.

Unified Labor & Engagement

› Single, engaging employee app experience provides access to performance, utilization, throughput and tardiness. Intuitive workflows are coupled with configurable instructions, item images and obvious available actions.

› Employees feel greater autonomy, mastery and connectedness via a modern, mobile user experience.

› Summary of user progress and labor metrics with tangible feedback, rewards and recognition, lead to higher levels of job satisfaction, utilization and motivation.

› Employee turnover is lowered as workers feel more valued and rewarded.

› Productivity is increased as associates focus on meeting and exceeding goals.

› Tools allow supervisors to be more efficient and drive engagement systematically.

› Improved processes enhance collaboration between associates and supervisors.

Intelligence

› Maximize pick density with AI-managed allocation, tasking and real-time replenishment calculations.

› Always select the best way to pick any order—batch or individual, wave or waveless.

› Leverages state-of-the-art advancements in artificial intelligence, machine learning and data science.

› Provides a broadened perspective, extending beyond the four walls of the Distribution Center into the transportation network and vice versa.

› Continually anticipates and adapts to changing conditions.

› Learns and adjusts to maximize asset utilization, from robotics and advanced material handling equipment to human workforce.

› The fusion of Warehouse Management System (WMS) and Transportation Management System (TMS) ensures real-time intelligent alignment between orders to fulfill and available inventory.

Optimization

› Optimize order fulfillment, reducing the effort required to process orders and decreasing the environmental impact.

› Synchronize labor utilization and equipment availability for optimized operations.

› Improve order accuracy and reduce the need for returns, minimizing waste and associated environmental impacts.

› Process direct, retail and wholesale orders simultaneously.

› Increase capital utilization and margin protection.

› Eliminate inefficient use of capital such as dedicated automation.

› Protect fulfillment margins by reducing inefficient or redundant workflows to process multiple order types.

› Reduce costly service level upgrades to ensure on-time delivery.

Order Prioritization & Work Release

› Use machine learning for real-time planning and optimization across every DC resource simultaneously—inventory, orders, labor, automation and more.

Slotting Optimization

› Evaluate item demand to optimize the size of the picking locations.

› Work on the item-location assignment to reduce picking path.

› Minimize replenishment travel.

› Seamlessly integrate slotting into putaway and picking workflow.

› Consolidate products via flexible putaway strategies.

Cubing Optimization

› Plan transportation needs more accurately with early-stage 3D load building simulation.

› Minimize shipped volume or number of shipped LPNs.

› Ensure that every cubic foot of the trailer is maximized, reducing the number of trucks needed to transport goods.

› Reduce overall number of trucks on the road.

Task Time Optimization

› Use machine learning to create tasks that minimize distance and time required to complete the task.

› Assign tasks based on priority that minimizes distance and time required to complete multiple tasks.

› Simultaneously pick retail, wholesale and ecommerce orders to reduce pick paths with different drop locations.

› Improve equipment utilization and significantly reduce deadhead travel.

Late-Stage Order Changes

› Reduce additional shipping requirements by consolidating shipments.

› Reduce carbon emissions from unnecessary shipments.

› Reduce costly returns handling.

› Increase customer satisfaction.

› Nurture longer-term relationships and increase lifetime purchases.

› Empower customers to make changes later in the post-purchase process, cutting down on returns.

Advanced WMS Capabilities

Manhattan Active WM offers advanced capabilities, features and benefits that make it a game-changer. Customers get three critical components of optimized distribution – normally separate applications and costs – included in the solution:

Manhattan Active® Labor Management:

Maximize your workforce with a solution integrated with warehouse management, slotting optimization and transportation management. And motivate your employees like never before through gamification, incentives and AI-enabled task planning.

Manhattan Active® Yard Management:

Our unified yard management system delivers unparalleled visibility into the yard, empowering organizations to rapidly adjust to unexpected situations and uncover opportunities for optimization and cost savings. It is seamlessly unified with Manhattan Active WM and Manhattan Active Transportation Management allowing all elements to operate in symphony.

WES inside the WMS:

Unlike most WMS solutions, Manhattan Active WM has a warehouse execution system (WES) inside the system. This provides the best coordination between man and machine, resulting in maximum throughput. Just as importantly, it provides you with an opportunity to add as much automation as you want in the future, from any vendor you choose.

The Definitive Leader in Warehouse Management

Manhattan has been the undisputed leader in the Gartner Magic Quadrant for Warehouse Management Systems 15 times in a row.

" I can't remember the last time I was so excited following a new product launch briefing. The new cloud architecture, new user interface, and significant advancements in optimization and employee engagement are wonderful. Any one of these improvements would have been impressive. Incorporating all of these enhancements in the new release is astonishing for a product of this scope."

–Steve Banker, Vice President of Supply Chain Management, ARC Advisory Group

Gartner.

Magic Quadrant

Figure 1: Magic Quadrant for Warehouse Management Systems

Manhattan Active® Warehouse Management in Action

"The modern customer wants everything, they want it now, and they want it wherever they get it. Manhattan Active Warehouse Management tied in with Manhattan Active Omni allows a customer to have the flexibility to do exactly that."

- Gary Megson, CTO

HOT TOPIC

"Going versionless is a big promise that we are embracing and welcoming. We have upgraded many times and that was always a painful exercise...Utilizing the cloud and software as a service is going to be a game changer."

- Markus Voss, CIO & COO of Supply Chain

DHL

"Manhattan Active WM gives us a distribution solution that adapts as quickly as our customers' needs, with frequent and easy access to the latest technologies and new features, allowing us to focus our energies on serving customers."

- Miles Tedder, Chief Operating Officer

PET SUPPLIES PLUS

" We needed a solution that would support C&A today while also preparing us for the uncertainties of tomorrow. Manhattan Active Warehouse Management is the platform of the future and exactly what we wanted to bring to our customers."

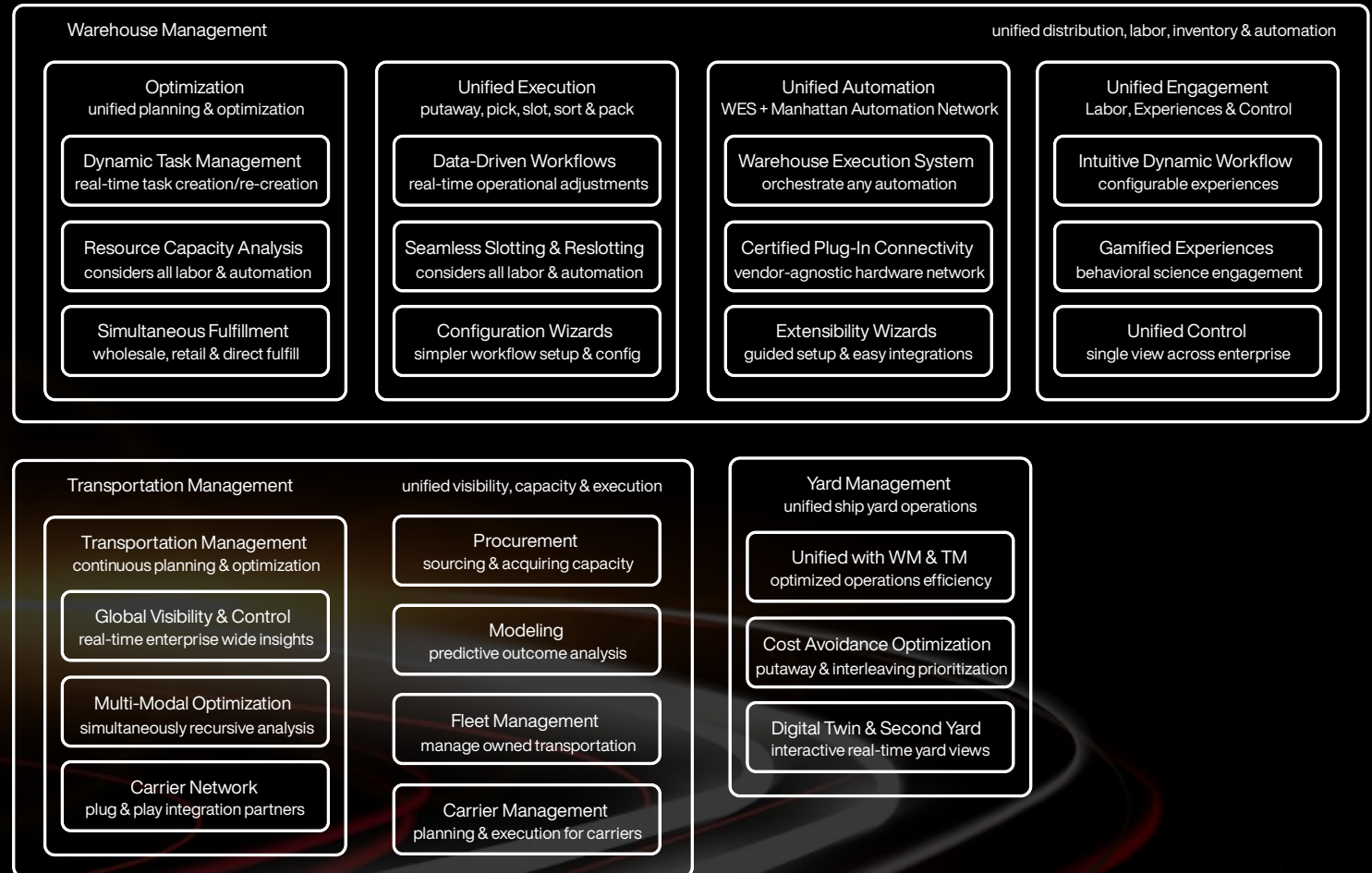- Marcel Modesto, Head of Supply Chain

C&A

Manhattan Active® Supply Chain

Manhattan Active WM is one part of a greater technology solution that can truly unify the supply chain. Manhattan Active supply Chain fuses distribution, labor, automation, yard and transportation in a single application, built on the Manhattan Active Platform. This means no more integrations between these systems, installations, planning and testing for upgrades, break/fix troubleshooting or downtime.

Enterprise-wide command and control that delivers real-time, actionable insights across the supply chain is finally here. You can unlock optimization opportunities that would be impossible without unification. Stop thinking in terms of WMS and TMS and start inbound and outbound planning and execution that is synthesized within every DC, on every truck, for every employee and everything in between.

"WMS and TMS applications simultaneously consider freight and warehouse conditions, rules and constraints so that feasible and executable plans are created automatically without user intervention."

Gartner®

Warehouse Management
unified distribution, labor, inventory & automation

Optimization
unified planning & optimization

Dynamic Task Management
real-time task creation/re-creation

Resource Capacity Analysis
considers all labor & automation

Simultaneous Fulfillment
wholesale, retail & direct fulfill

Unified Execution
putaway, pick, slot, sort & pack

Data-Driven Workflows
real-time operational adjustments

Seamless Slotting & Reslotting
considers all labor & automation

Configuration Wizards
simpler workflow setup & config

Unified Automation
WES + Manhattan Automation Network

Warehouse Execution System
orchestrate any automation

Certified Plug-In Connectivity
vendor-agnostic hardware network

Extensibility Wizards
guided setup & easy integrations

Unified Engagement
Labor, Experiences & Control

Intuitive Dynamic Workflow
configurable experiences

Gamified Experiences
behavioral science engagement

Unified Control
single view across enterprise

Transportation Management
unified visibility, capacity & execution

Transportation Management
continuous planning & optimization

Global Visibility & Control
real-time enterprise wide insights

Multi-Modal Optimization
simultaneously recursive analysis

Carrier Network
plug & play integration partners

Procurement
sourcing & acquiring capacity

Modeling
predictive outcome analysis

Fleet Management
manage owned transportation

Carrier Management
planning & execution for carriers

Yard Management
unified ship yard operations

Unified with WM & TM
optimized operations efficiency

Cost Avoidance Optimization
putaway & interleaving prioritization

Digital Twin & Second Yard
interactive real-time yard views

Built on Manhattan Active® Platform

Manhattan Active Platform is a foundation for supply chain commerce that is cloud native, evergreen and extensible. It auto-scales, self-heals and updates with zero downtime, making every function accessible through composable, microservice APIs while adding new innovations and capabilities every 90 days.

It is also extremely developer friendly, allowing you to easily add your innovation to ours with "no code" and "low code" development tools.

Cloud Native

› Single application platform unites distribution, labor, automation and transportation functions.

› Automatically scales performance to match demand.

› Synchronized and continuous innovation across every function solves the most difficult logistics challenges.

› End-to-end process control and continuous optimization across the supply chain.

› Fast connectivity to additional carrier and partner networks.

› The Manhattan Active Platform is powered by Google Cloud Platform.

Evergreen

› Continuous updates and innovations mean hundreds of new features have been added to the Manhattan Active Platform solutions since 2017.

› New features and enhancements are delivered at the beginning of every quarter, forever—with zero downtime.

› Updates do not impact customer extensions or require additional testing.

Extensible

› Manhattan ProActive is a visual tool for extending Manhattan Active solutions at the interface, data and integration layers with zero impact to future updates.

› All layers are extensible, including UI, business logic and data structure.

› "Low code, no code, your code" makes solution personalization by customers, partners or Manhattan simple.

› All extensions are developed outside the base application and do not impact quarterly updates.

› All business logic is exposed as a callable API(RESTful service).

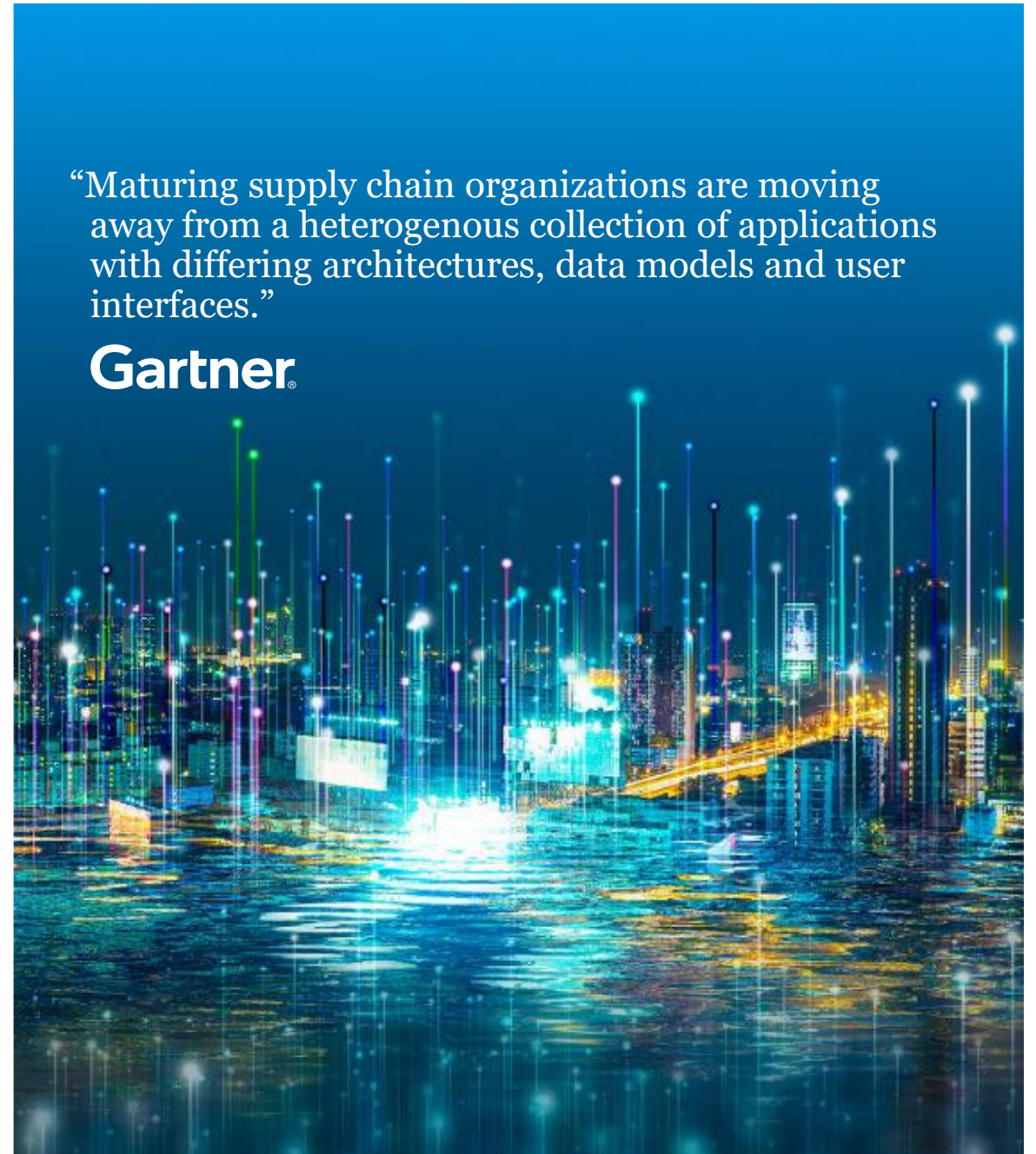# Platform vs Portfolio

✓ **Unified Modern Platform Approach:**

› Cloud native with composable micro-service APIs

› Extensible and autonomously adaptive

› Process orchestration/optimization

› Continuous updates with no downtime

› Eliminate redundancies, functional overlaps, syntax issues and integration

› Better for mature supply chain organizations

✗ **Legacy Portfolio Approach:**

› Loosely coupled portfolio of solutions

› Mishmash of applications with different technology due to years of acquisitions

› Siloed experiences with multiple UIs

› Lack of strategic organic product development

› Pricing is complex and costs can be higher

"Maturing supply chain organizations are moving away from a heterogenous collection of applications with differing architectures, data models and user interfaces."

Gartner

The Last WMS You Will Ever Buy

Manhattan Active Warehouse Management is an all-encompassing solution, designed to fit any organization and uniquely positioned to elevate your supply chain operations to new heights of efficiency and effectiveness.

When you buy Manhattan Active WM, you unlock the opportunity to realize new synergies and explore new use cases and differentiated capabilities, beyond what is possible with any other vendor.

Every additional Manhattan Active product you leverage introduces new opportunities to achieve what would otherwise be impossible.

The Manhattan Active Platform was engineered to handle the most complex supply chain networks in the world and designed to never feel like it. That's because we believe your customers deserve to be at the center of a unified ecosystem, not at the end of an integrated chain.

There are many factors in choosing a WMS. Manhattan ensures that you will be successful both today and into the future. Manhattan Active WM is unmatched at unlocking efficiencies and adapting to changing business needs, market conditions and technological advancements. So no matter what comes your way, Manhattan technology helps you thrive.

"As supply chain complexity and volatility increases, supply chain organizations must become more agile...One way to future-proof the technological base of the supply chain is to switch to microservices-based and composable application architectures."

Gartner®

To learn more visit
manh.com