



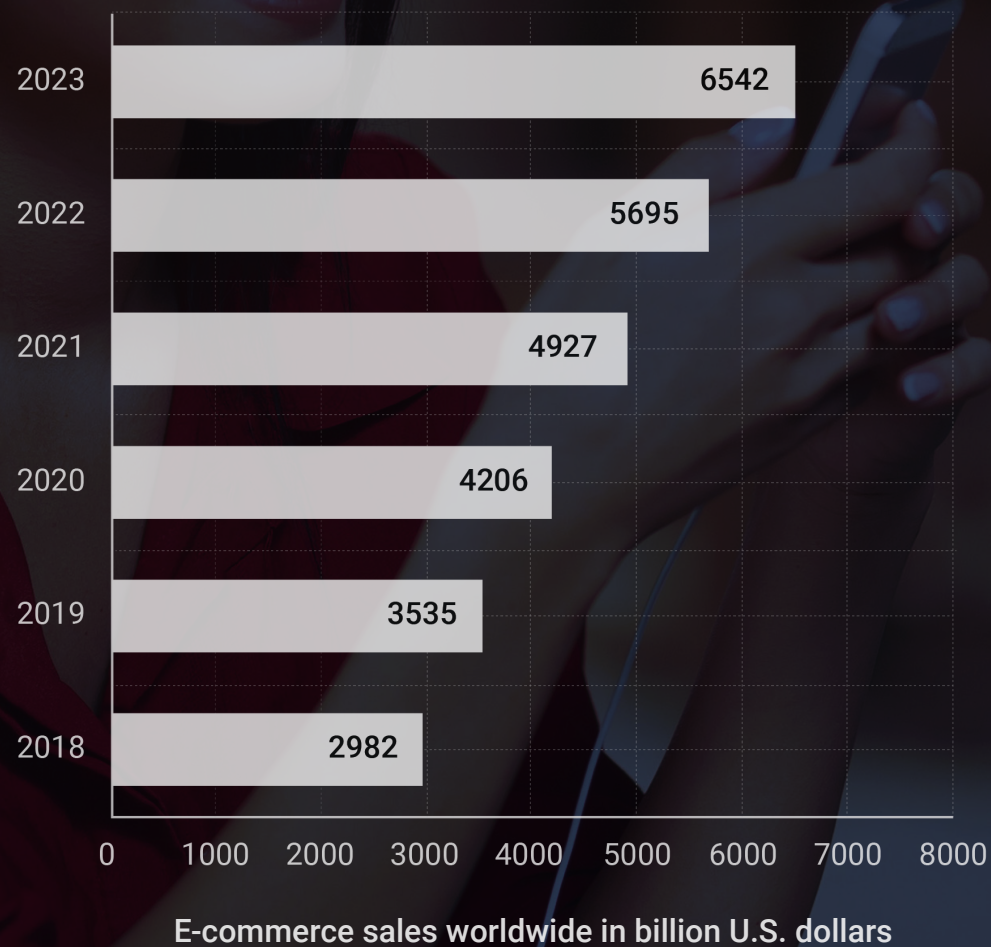
WHITEPAPER

FIVE PRIORITIES

for omnichannel
retail supply chains

Using Technology to Manage Expectations in an Omni-Channel World

As the retail industry continues to evolve and face with new challenges, there are five essential components that must be embedded in all omni-channel retail supply chains to be successful.



A

The opportunity is impossible to ignore. E-commerce sales worldwide are expected to grow from \$2.9 trillion in 2018 to \$6.5 trillion by 2023, according to Statista. Mobile e-commerce is on an even faster growth trajectory, having increased from just under \$1 trillion in 2016 to nearly \$3 trillion in 2020.

The retail supply chain has experienced some dramatic evolutions over the last 10 to 15 years. What started out as a straight-forward process for getting goods from a warehouse or a distribution center (DC) and out onto the retail floor has become a central focus for companies managing a complex supply chain including e-commerce, omni-channel, and brick-and-mortar.

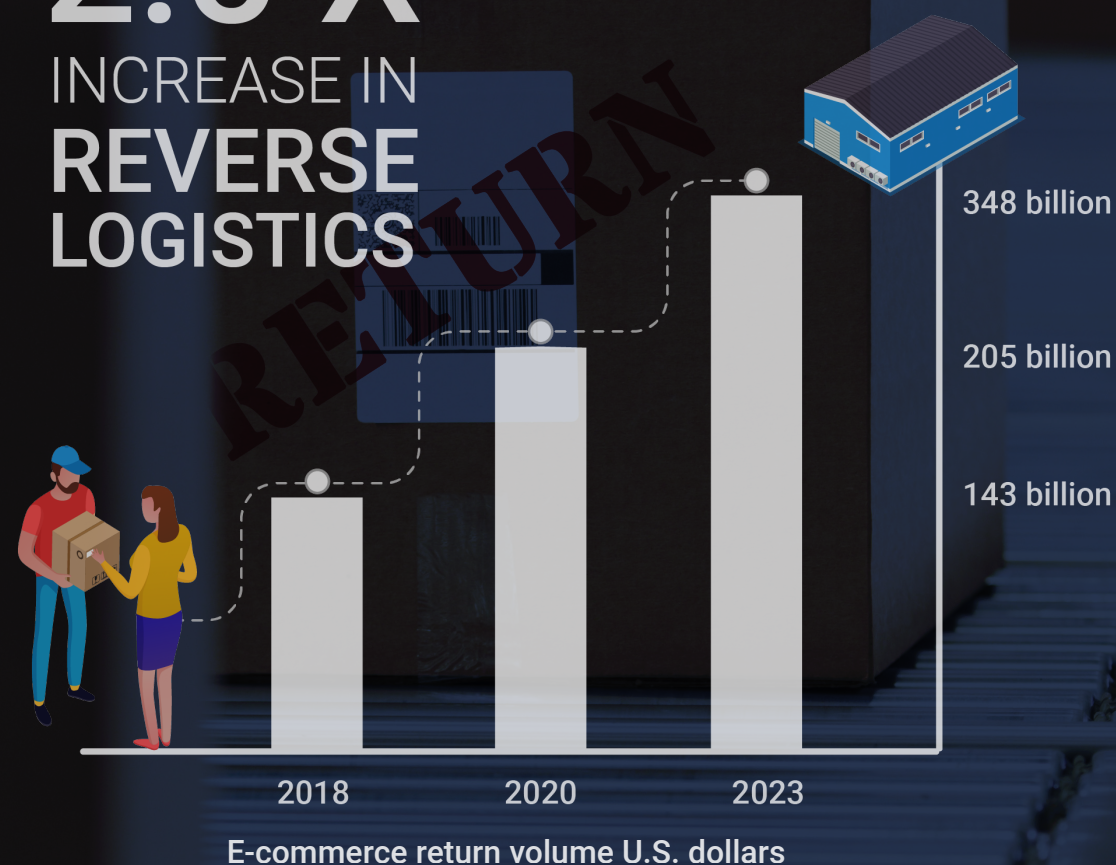
No longer focused solely on storing and shipping pallets of goods, the true omni-channel warehouse must have the capabilities to intelligently optimize fulfillment and increase store efficiency by packing replenishment orders according to individual store layouts and preferences as well as orchestrating the fulfillment and delivery of single orders to individual customers' doorsteps. Covering this spread and keeping these order promises can be difficult and presents high hurdles for retailers that rely on a hodgepodge of manual systems, spreadsheets, and older technology solutions to run their supply chains. Concurrently, the lines

between offline and online retail sales continue to blur, with offline players improving their online presences (e.g., Walmart's acquisition of Jet.com) and vice-versa (Amazon's purchase of Whole Foods). This, coupled with the sheer uncertainty over what channel a customer will eventually adopt, stokes the need for a more modern fulfillment operating system.

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2.5 X
INCREASE IN
REVERSE
LOGISTICS



B

There's an increasing pressure on retailers to cut costs and increase their bottom lines, all while managing the growing onslaught of e-commerce returns. The return volumes have grown from \$143 billion in 2018 to \$205 billion in 2020, and are on track to reach \$348 billion by 2023, according to Business Insider.

Need of the Hour:

Omni-Channel Supply Chain

Driven by trends like the “Amazon Effect,” retailers across all segments must cater to their customers’ unique needs in the most efficient, accurate, and affordable manner possible in today’s age of immediacy. This, in turn, allows customers to access products in a seamless manner, get them shipped quickly to wherever they want, and then return those items either online or offline—all in a very cohesive, consistent way.

A true omni-channel supply chain strategy leverages the same assets – including warehouse space, inventory, workers and technology – to fulfill orders to all relevant channels, whether ecommerce orders to consumers, store orders for replenishment or distribution channel orders. But retailers are struggling to merge their various selling channels into a single, streamlined experience due to outdated warehouse technology and infrastructure built for the previous era before Amazon changed the rules of the game. Every retailer is facing the heat and trying to figure out how to reach their customers easily and efficiently by ‘equalizing’ their online and offline presences, something Amazon really hasn’t

been able to do because it doesn’t have much of a physical presence.

There’s also increasing pressure on retailers to cut costs and increase their bottom lines, all while managing the growing onslaught of e-commerce returns. Those return volumes have grown from \$143 billion in 2018 to \$205 billion in 2020, and are on track to reach \$348 billion by 2023, according to Business Insider². With the return process comprising 700 million square feet nationally, according to CBRE, reverse logistics has become a key concern for all warehouses and DCs.

As ecommerce became more popular, retailers attempted to provide an omni-channel experience by increasing their front-end channels, and thus, their reach. This meant creating separate, siloed supply chain models for these channels. Fast-forward to 2020 and the omni-channel environment hasn’t improved much despite changing consumer demands and expectations. For example, store items and e-commerce items are still largely siloed within systems and inventory is still not omni-channel (it’s multi-channel).

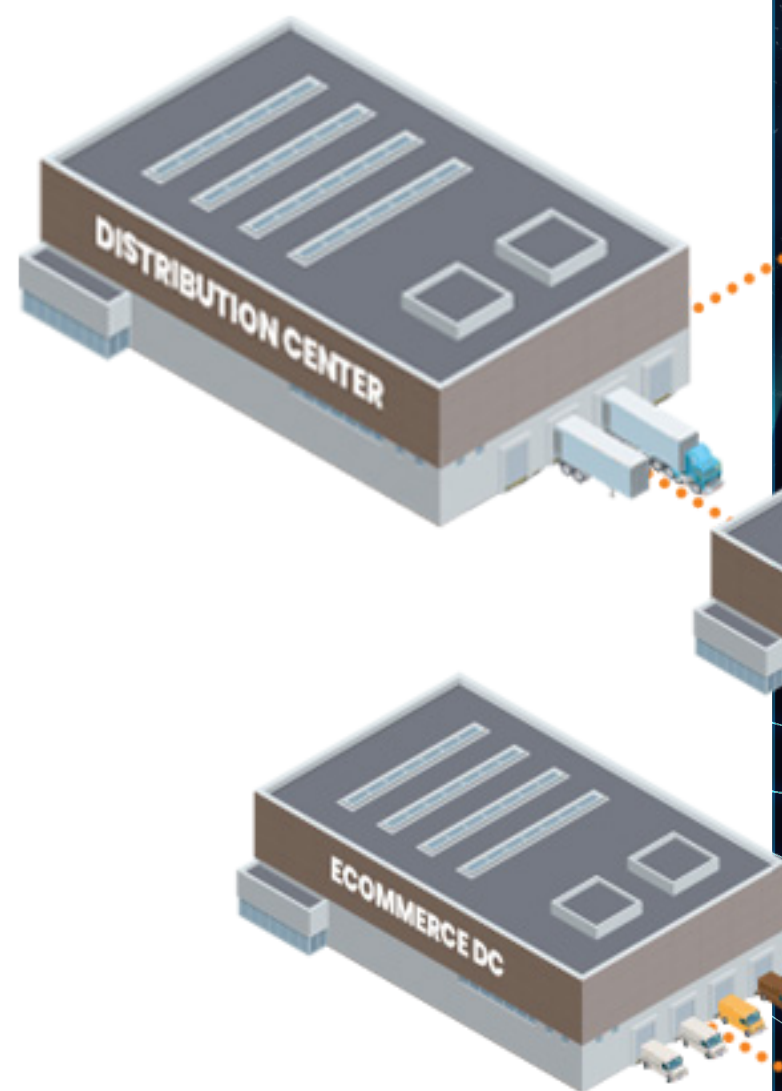
²Business Insider

5 Essentials

for True Omni-Channel Retailing

Distribution is in the midst of a significant phase in the evolution from single to multi-channel, and, most recently, to true omni-channel commerce, where retail (fulfillment via pallets or cases), wholesale (fulfillment via pallets), and e-commerce channels (fulfillment via e-pallets) converge to keep inventory in motion and provide a seamless experience for the customer across the entire brand. Today's companies need a fulfillment operating system designed for fast-paced, high-volume, high-product-variety operations, unlike disparate hardware and software solutions anywhere. Retailers need technology that helps them meet customer expectations while providing a seamless shopping experience across all channels. To achieve these goals, many retailers are leveraging robust omni-channel-enabled, high-yield fulfillment operating models, that can help them make a high yield decision at every point in time, considering promises to customers and stores, inventory positions, time and labor constraint and other external environmental factors.

Here are five key elements that all retailers should be incorporating into their demand driven omni-channel supply chain strategies:



NEW RULES REQUIRE A NEW SOLUTION

In addition to solving the variability, form factor intricacy and velocity of immediate commerce, fulfillment operations must also open up their processes to factor in expanded distribution ecosystems of every type in closer reach of buyers.

From retail store replenishment, forward DCs, urban pickup centers, dark fulfillment centers, to fulfilling thousands of e-commerce 'markets of one'—your fulfillment operation must satisfy the market's 'immediate commerce' mindset.



#01

A Single Inventory View Across Multiple Channels

The same silos that don't work in the business world definitely don't work in the supply chain, where complete visibility of inventory (either shared or separate) across all channels is imperative. That means using one system for managing inventory for any channel—something that all retailers should be striving for in the omni-channel environment.

A global footwear manufacturer, for example, should use the same SKU across all its channels for a particular style of shoe—irrespective of whether those shoes are being sold online, offline or via telephone. Historically, many retailers have sold products using separate SKUs for specific channels. In the last five years, many of them have moved to using a single-inventory view in their enterprise resource planning (ERP) systems, with merchandising teams merging and buying common SKUs across all channels.

The problem is that many of those retailers' distribution models remain largely siloed. A shipment of 100 pairs of similar shoes, for example, may be split up into 80 pairs for a retail warehouse with the remaining pairs going to an e-commerce warehouse—and never the two shall meet. Retailers lack the capacity to ship e-commerce orders from their retailer warehouses, and vice versa. Even though they may have a single inventory from a system perspective, they're still restricted when it comes to selling that inventory across channels.

To help retailers solve this problem, GreyOrange offers a 100% omni-channel distribution center (DC) solution that incorporates **GreyMatter™, an always-solving AI-driven order fulfillment software that controls and manages automation in a warehouse.** The solution manages complicated business rules across channels in real-time, all while managing inventory from a single, logical location for the highest yield of fulfillment. The software manages all business routes for the customer, regardless of which specific channel he or she is using.

GreyMatter™ Command Center

An always-solving AI-driven order fulfillment software that controls and manages automation in a warehouse.

Diagnose & Troubleshoot

Watch Tower

In-time alerts prompt preventive and remedial actions to keep you on top of breached and near-breach situations across defined operational metrics

Maintain System Health

System Alert Manager

Real-time pulse checks across critical system components help you maintain healthy operations and take preventive or corrective action when needed - includes **real-time map, fleet maintenance tool and a solver toolbox.**

Daily Operations Board

Real-time graphs simplify monitoring, managing and improving daily performance of robots and other systems

Operate & Monitor

Optimization Outlook

Drill-down insights across operational KPI's help pinpoint actions to continuously improve performance. Managers can receive on-demand automated **Daily Health Report** to stay ahead of potential issues and proactively protect uptime.

Gain Analytic Insights

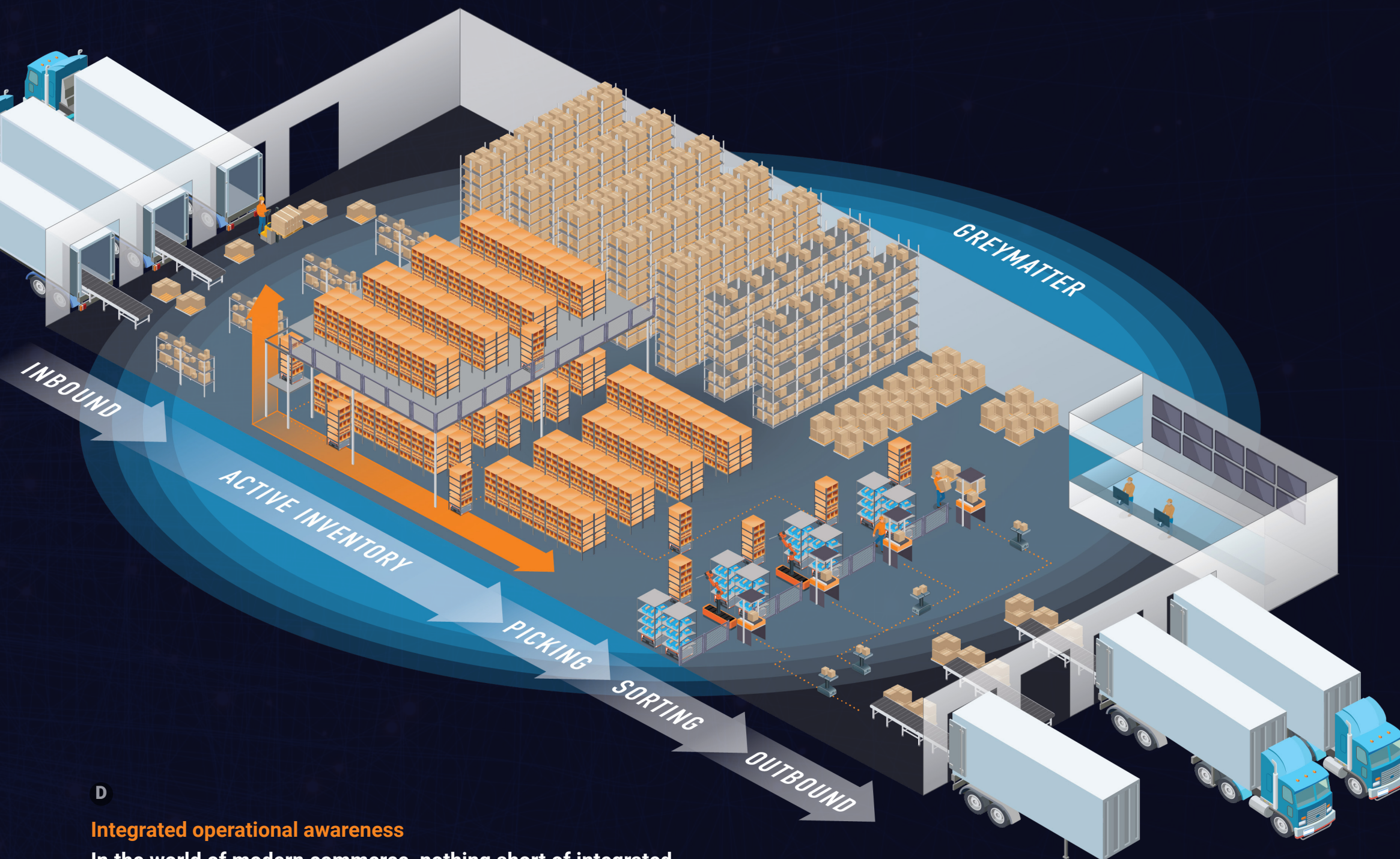
#02

Multiple Hierarchies of Inventories

Warehouses and DCs that historically focused on shipping pallets are now managing cases for stores, eaches for customers and other specific shipping requirements. This puts unique pressures on fulfillment centers that have to manage multiple hierarchies of inventories and multiple units of measure as efficiently as possible.

To make that happen, more companies are implementing unadaptable automated hardware and software systems. Because most fulfillment systems were built to manage separate inventories and only pallets or cases, they never had to touch individual items. When e-commerce and omni-channel came on the scene, many retailers went to using siloed inventories for specific channels. This approach is both inefficient and expensive.

In the world of modern commerce,^D nothing short of integrated operational awareness can meet the uncompromising new thresholds of accuracy, speed and satisfaction demanded by business and buyers. GreyOrange, offers a comprehensive fulfillment operating system that manages pallets, cases, eaches and other units of measure in a single location. Depending on the outbound channel, GreyMatter will instruct operators which cases need to be picked from specific pallets in order to optimize order fulfillment, while managing all types of hierarchy—from pallets to cases to inner cases to eaches—all in one location.



D

Integrated operational awareness

In the world of modern commerce, nothing short of integrated operational awareness can meet the uncompromising new thresholds of accuracy, speed and satisfaction demanded by business and buyers.

E

Single Common infrastructure that integrates **AI Software + Intelligent Robots**

#03

A Common Hardware and Software Infrastructure

For the demand-driven omni-channel retail supply chain to run smoothly, **the system^E must be able to handle different types of configurable processes for both retail and e-commerce within a single common infrastructure.** When that infrastructure includes all systems (i.e., both software and hardware solutions), the need to segregate the process based on inventory goes away.

With this, the need to track and respond to business growth across separate sales channels also goes away, making it easier for retailers to adopt a single supply chain view and strategy for those various sales channels. This enables intelligent forecasting, replenishment, and inventory management across the network—three things that no successful retailer can afford to be without in today's competitive sales environment.

Even the retailer that's using different software systems in two different fulfillment centers is missing out on big efficiency gains enabled by common systems, data and information-sharing. Some retailers believe that five years from now, 35% of their business is going to come through e-commerce. To support that growth, a high yield fulfillment operating system can help them build out a common infrastructure that includes software and hardware that works and learns together to reduce errors, maximizes the efficiency from the same space and helps drive revenue growth.

#04

Good Resource Utilization Across All Channels

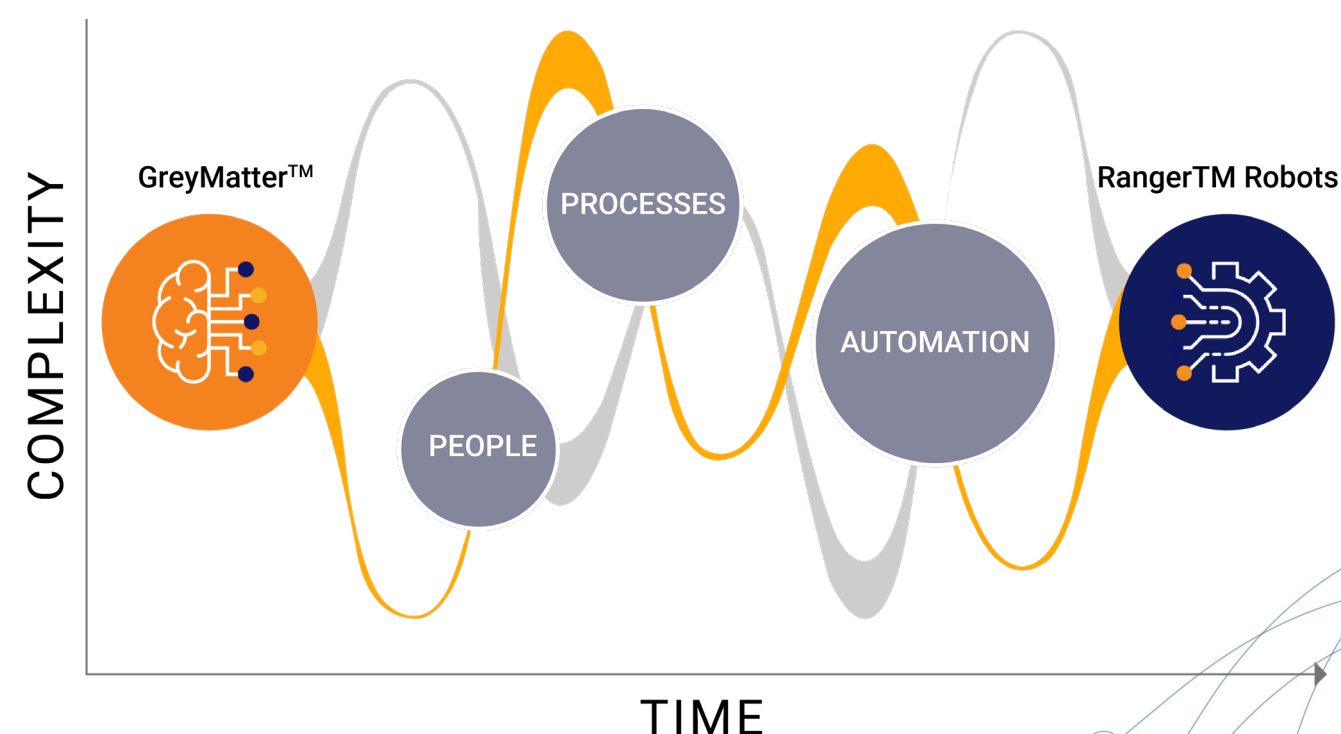
Ontrack to increase by more than 275% between 2014 and 2021¹, worldwide e-commerce sales is growing by leaps and bounds. As they work to harness this opportunity while also building out efficient omni-channel capabilities, the most successful retailers are also focused on getting the best resource utilization possible across all channels.

Getting there isn't always easy. If, for example, an electronics retailer that's using a siloed supply chain experiences a 5% uptick in its e-commerce sales, utilizing resources across multiple channels may become extremely

difficult. Those resources can be as basic as warehouse racking and shelving, or as complex as the software systems that support fulfillment, warehousing, and transportation.

The same challenge comes into play during seasonal peaks and valleys, when resources may either be in huge demand or idle (depending on the season). The solution GreyOrange offers evens out those fluctuations with software that orchestrates automation via collaboration among devices comprised of intelligent robots, inventory stock units or racks, pick-put stations and charging stations, among other pieces of equipment.

It's all about cross-utilizing resources and optimizing similar resources in the same facilities, and in a way that effectively manages different peaks without the need for additional Capex investment.



F

Cross-utilizing resources and optimizing similar resources in the same facilities, and in a way that effectively manages different peaks

System that has the ability to **scale up or down on the fly**, all in the name of staying nimble **in a world where the rules are changing daily**

#05

A System that Can Quickly Adapt to Change

To reach peak effectiveness, the omni-channel supply chain must also be adaptable, agile, and flexible. **It must have the ability to scale up or down on the fly, all in the name of staying nimble in a world where the rules are changing daily.** Driven by ever-evolving consumer expectations and trends like the Amazon Effect, retailers need to be able to provide a seamless omni-channel experience every time and everywhere, regardless of the current business conditions.

If, for example, product return volume unexpectedly rises during the current quarter, the retailer has to be able to immediately adapt to the change—not let returns pile up in the corner of the DC while workers go about their business fulfilling new orders.

Because predicting channel growth with 100% certainty is essentially impossible, retailers need adaptable, next-era systems that grow along with them, and that fully support their omni-channel supply chains through this growth.

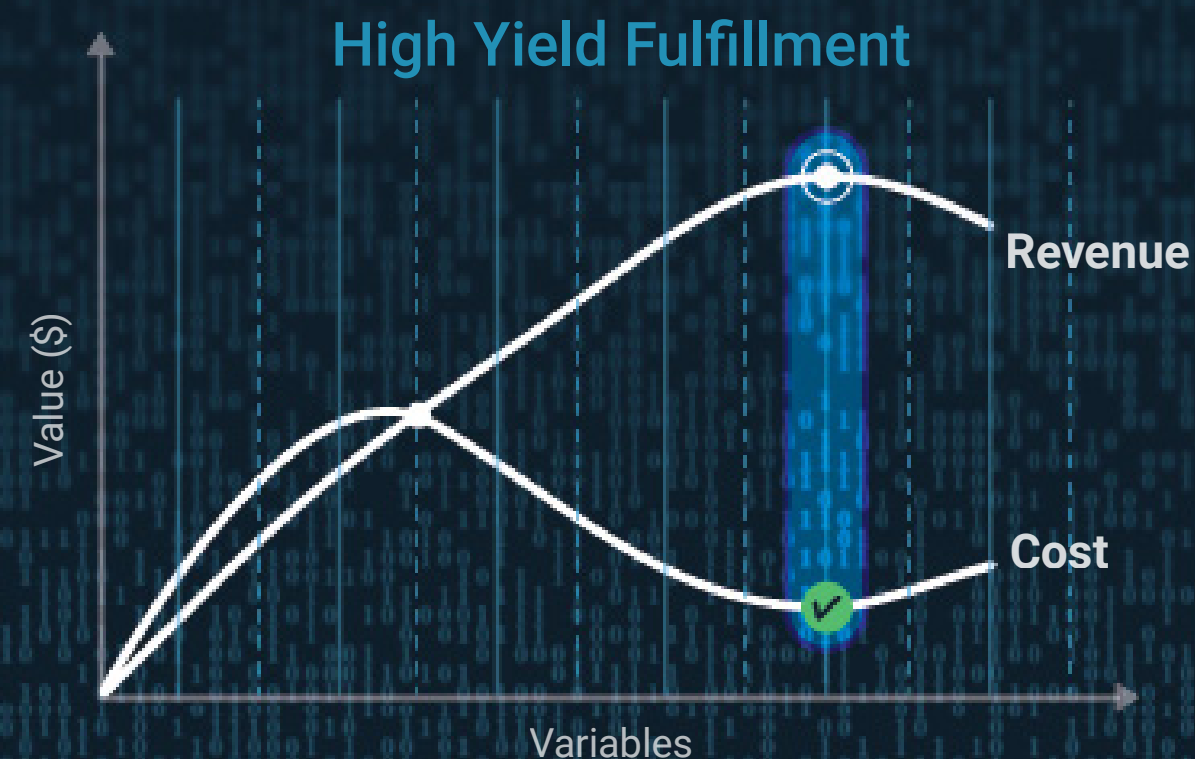
High-Yield Omni-Channel Fulfillment

In today's age of immediacy, the term "storage" is an obsolete concept; all inventory should be visible and accessible. To enable high-yield, omni-channel fulfillment, retailers are adopting automated mobile platforms and high yield fulfillment operating system to help them meet the demands of consumers for faster and cheaper delivery without the need for more human labor. On track to outpace manufacturing AMRs within the next five years, the market for logistics AMRs is expected to surpass \$10 billion by 2023³.

Key market drivers include the push toward shorter/faster production cycles, the need to reduce costs, rising labor costs, and growing concerns over human safety in the

logistics setting. Responding to these shifting demands, the front runners in the business along with GreyOrange is leading this new era of DeepThink™ Distribution, which applies AI-driven technology, drives deeper data, enables high-yield decisions, and results in faultless fulfillment.

At the epicenter of DeepThink™ technology is GreyMatter™ mobile spatial logic. Written to identify, correlate, calculate, analyze, and intelligently apply multi-sourced, finely sifted "target impact" data in 3D real-time, GreyMatter continuously anticipates fulfillment execution while also automating and accelerating without disruption, regardless of complexity. Artificial intelligence-driven software and mobile robotics designed together enhances the learning and adaptation of the other, rather than alternative approaches that simply interface software and robots.



Blurring the Lines

As the lines continue to blur between offline and online sales, and as companies continue to tackle issues like the warehouse space crunch, persistent labor shortage, and the Amazon Effect, the need for automated fulfillment strategies will continue to rise.

More demanding than in-store buyers, 30% of online buyers in the U.S. will take their business elsewhere after just one poor service experience, according to an American Express survey.

Using the five strategies outlined in this article, retailers can effectively design omni-channel supply chains that not only help them efficiently meet their customers' ever-changing needs, but also ensure cost-effective, on-time, accurate fulfillment in a world that demands it.

About GreyOrange

GreyOrange is a global company that modernizes order fulfillment through Artificial Intelligence-driven software and mobile robots built together so they cooperate in deciding on and executing warehouse activities that maximize payoffs and minimize tradeoffs to create the highest yield. The company's next era Fulfillment Operating System driven by always-solving GreyMatter™ software considers predictive and real-time data regarding orders, promises, inventory, shipping windows, and resources to orchestrate how workers and robots work as a team to fulfill the right orders at the right time. GreyOrange experts help organizations master fulfillment in the Age of Immediacy so they keep promises, capture more revenue, and improve the work experience for warehouse employees. GreyOrange has core operations in the United States, Singapore, Germany, Japan, and India. Visit GreyOrange online at: www.GreyOrange.com