CASE PICKING, EXPLAINED

KEY STRATEGIES FOR IMPROVING CASE PICKING PROCESSES

Introduction

Warehouses face constant pressure to improve efficiency and profitability, and one crucial area for optimization is often overlooked: case picking. This labor-intensive process can significantly impact fulfillment times and costs. A 2023 survey revealed that order picking alone contributes to over 50% of a warehouse's operational expenses[1]. Case picking, a key component of order picking, presents a significant opportunity to streamline operations and unlock cost savings.

The challenge is compounded by the reliance on skilled labor for case picking. Larger warehouses require qualified forklift operators, which adds another layer of complexity to the issue; obtaining and retaining these operators can be difficult due to the required certifications and training.

Of course, there are more issues at play. We'll cover it all from the ground up, starting with the definition and common use cases for case picking.

According to a 2023 Warehouse/DC Operations Survey, the largest challenges professionals in logistics and warehouse operations are

44%
insufficient space

42%
attracting and retaining enough hourly workers

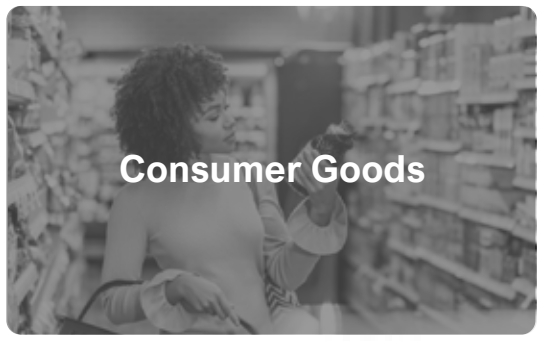
35%
handling outdated equipment[2]

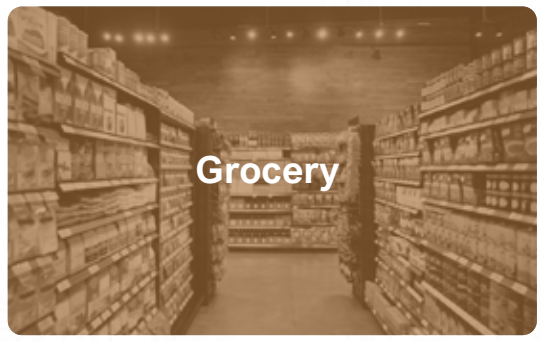
What is case picking?

A "case" refers to a single carton containing a bulk quantity of identical items (typically the same SKU). Manufacturers use cases to reduce overall space consumption per item, and case picking is what happens when workers pick case or carton quantities from shelves, pallets on the floor or pallet racks. Pickers collect cases onto pallets, carts, or conveyors. Case picking offers advantages in inventory control and reduces handling compared to picking individual units from open cases. It facilitates efficient product movement from receiving to shipping, especially for fast-moving SKUs.

Industries that utilize case picking

Case picking is a fundamental process in distribution centers of all kinds. While it is beneficial for most industries, some see particularly notable results from implementing case picking strategies, such as:





The pitfalls of manual case picking

The average size of a warehouse today is more than **180,000 square feet**, **40% larger** than the average 20 years ago[3]

While people are a required element of case picking, purely manual case picking comes with significant drawbacks for warehouses. Here's a breakdown of the key challenges:

Inefficiency

Manual picking is a slow process, lacking widespread automation outside of large-scale operations. This translates to longer fulfillment times and higher labor costs. Furthermore, the reliance on forklifts and pallet jacks for heavy case movement creates bottlenecks, impacting overall efficiency. The increasing size of warehouses exacerbates the problem, as workers must cover more ground, leading to additional walking time and reduced productivity.

Supervision and training

Ensuring proper technique and adherence to safety protocols requires constant supervision. Additionally, ongoing operator training is crucial to minimize errors and injuries.

Hidden costs of palletization

The rental and maintenance costs for forklifts and pallet jacks can easily account for 30% of total manual case-picking expenses, significantly impacting profitability.

Inventory damage

Manual handling increases the risk of inventory damage due to human error. Unlike automated systems, which utilize LiDAR technology to ensure safety and precision during operations, manual processes are more prone to accidents.

Critical order breaches

Disruptions to throughput can lead to missed deadlines or critical order breaches, which lowers customer satisfaction.

Ergonomic risks

Repetitive motions and awkward postures inherent in manual picking contribute to worker fatigue, injuries, and high turnover rates.

Optimizing case picking processes: Key strategies

In 2022, forklifts were the cause of **24,960** workplace injuries and **73** deaths in the U.S.[4]

Nearly **$4.67B** is lost annually to serious, non-fatal workplace injuries in transportation and warehousing[5].

Because case picking is a complex process, there's no singular way to solve all the problems organizations face while performing it. However, there are numerous ways to streamline and optimize it. Here are some effective strategies to make your case-picking processes faster, more efficient and safer:

Zone picking

Dividing the warehouse floor into dynamic zones and assigning workers to them can significantly improve case-picking productivity. Advanced forklifts with high payload capacities can optimize this process by moving multiple pallets or trolleys per trip, reducing travel time and boosting efficiency. This combined approach minimizes picker fatigue, reduces travel time and injury risk and allows workers to focus on specific zones. Additionally, zones offer modularity, allowing adjustments in size and worker allocation based on demand, ensuring operational flexibility.

Workforce enhancement

Optimizing picker routes with integrated technology can accelerate picking productivity. A multiagent orchestration platform can choose the best routes for workers and hardware, ensuring every order is picked as efficiently as possible. Technology solutions that assist pickers in locating cases and ensure proper pallet loading are also valuable assets. These solutions can involve screen displays or voice-guided systems that deliver picking instructions.

Automation

Deploying automation, including collaborative robots, to assist human workers in case-picking tasks can also prove beneficial. These collaborative robots seamlessly integrate into workflows, minimize manual labor requirements and bolster safety. Furthermore, integrating orchestration software with intralogistics cobots facilitates an improved palletization process. This software can guide human workers in the strategic placement of cases onto pallets, maximizing space utilization and minimizing the potential for errors.

Flexible infrastructure

Traditional warehouse operations often rely on specialized infrastructure, such as static picking stations (STPs), to optimize picking processes. While STPs can offer advantages, they can also limit warehouse flexibility. Installing and maintaining STPs can be costly and time-consuming, and they can hinder the ability to adapt warehouse layouts to changing needs. By eliminating the need for STPs, warehouses can achieve greater flexibility, reduce costs and improve overall efficiency.

Embracing automation for transformed case picking

By embracing case picking automation solutions, warehouses can unlock several benefits:

Reduced labor costs

Eliminate the need for extensive manual picking of individual items, saving time and reducing labor expenses. Additionally, leverage a broader workforce that doesn't require specialized certifications, potentially reducing US labor costs by up to 4% (8% in the EU).

Enhanced efficiency and order accuracy

Streamline bulk item processing with automation. Case-picking solutions can help warehouses achieve a 2-3x efficiency gain compared to manual picking while minimizing errors, leading to faster order fulfillment.

Optimized space utilization

Reduce storage requirements by efficiently stacking completed cases. This requires fewer pallets for transportation, which also saves truck space.

Precision palletization

If the case pick solution has advanced palletization logic, every case can be placed with precision, maximizing pallet utilization. This ensures efficient stacking even in mixed-SKU applications, and a "pallet-agnostic" design can be used for added flexibility in accommodating different pallet sizes

Streamlined workflow and exception handling

Automation solutions can seamlessly integrate with existing workflows with the help of a Warehouse Execution System (WES).

Safer environment and reduced waste

Eliminate the need to dispose of empty cartons associated with individual item picking. Additionally, automated case pick solutions can reduce reliance on forklifts, improving overall safety in the warehouse.

A mere **18% of distribution centers** exclusively handle pallets, while **45% handle** a mixture of full pallet, case and split cases[6]

The GreyOrange solution:
Ranger Case Pick

GreyOrange's Ranger Case Pick solution automates case-picking processes by replacing manual labor with intelligent cobots. The solution's versatility enables customization to suit various warehouse environments and operational requirements. The system incorporates a range of variants, including heavy-duty forklifts capable of lifting multiple pallets and trolleys (up to four), closed pallet handling robots that eliminate the need for static picking stations (STPs) and standard pallet movement models. This flexibility ensures optimal efficiency and productivity across different industries and use cases.

The solution integrates technologies with features like:

Real-time adaptability
(adjusting to factors like weight, dimensions and layering for optimal palletization)

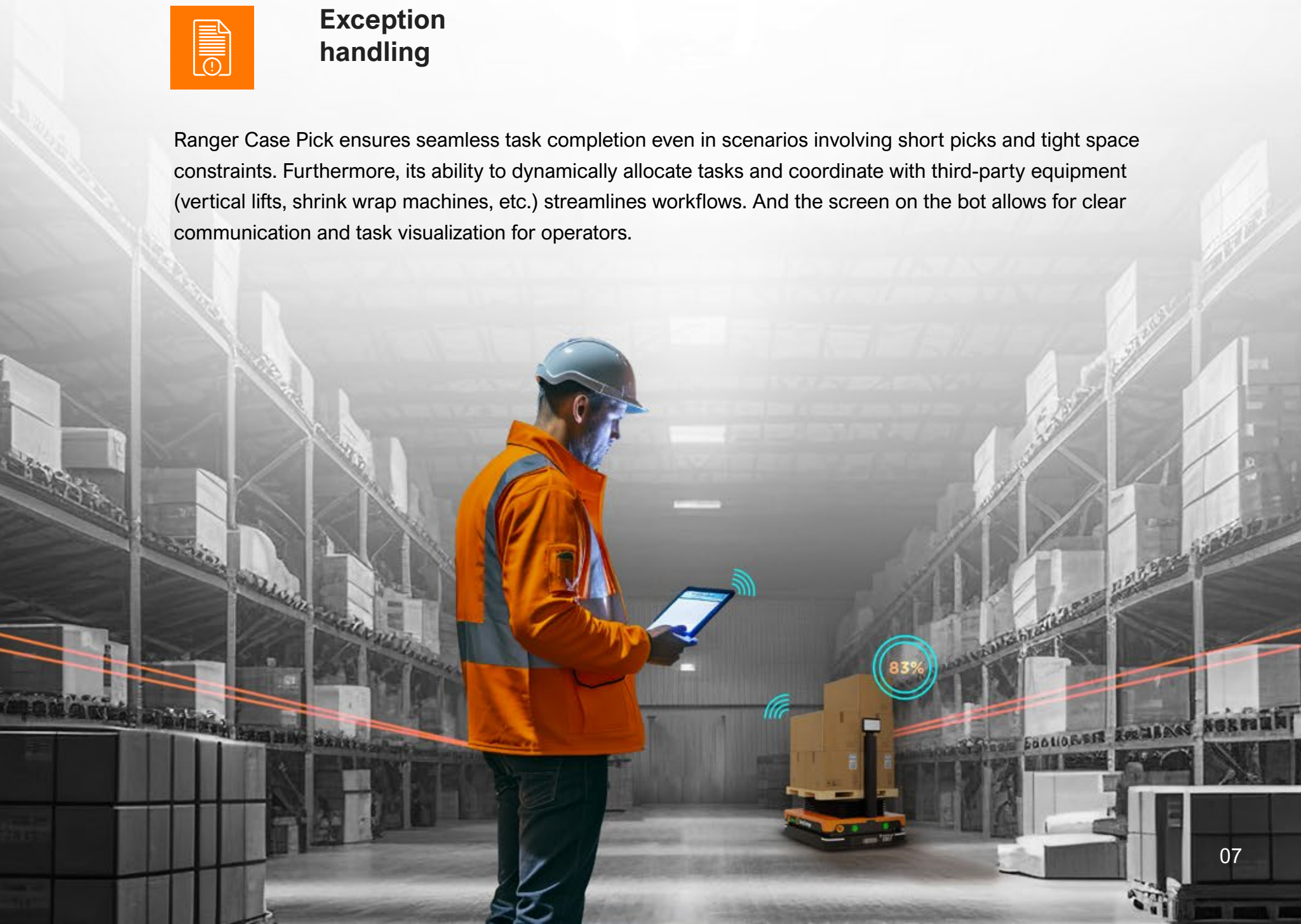
Swarm strategy
(optimizing pick routes)

Versatility
(handling various warehouse environments, modifying velocity for safe inventory movement and lifting multiple pallets or trolleys simultaneously)

Precision palletization

Exception handling

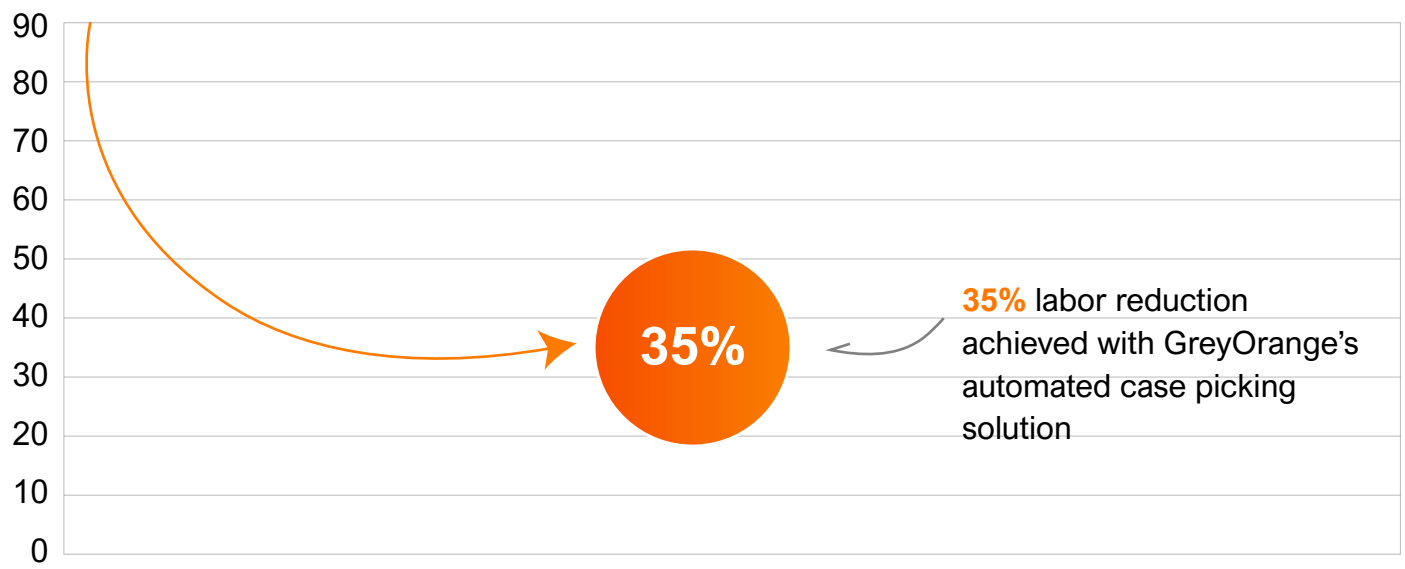
Ranger Case Pick ensures seamless task completion even in scenarios involving short picks and tight space constraints. Furthermore, its ability to dynamically allocate tasks and coordinate with third-party equipment (vertical lifts, shrink wrap machines, etc.) streamlines workflows. And the screen on the bot allows for clear communication and task visualization for operators.



Case study:
Beverage Distribution Center

A leading beverage distribution center in Charlotte, NC sought to modernize its high-volume SKU case picking operation due to challenges regarding labor retention, productivity and future scalability. They needed a flexible solution to reduce reliance on skilled labor and enhance productivity.

Working with GreyOrange, the distribution center is implementing a custom solution utilizing two types of intralogistics AMRs. GreyOrange's versatile solution focuses on fulfilling high-volume case SKUs efficiently while optimizing the process. Additionally, it automates putaway and requires minimal infrastructure modifications to deploy.



The anticipated benefits include a labor reduction of up to 35%, which translates to an annual savings of over one million USD.

Visit solution.greyorange.com to explore our suite of robust products and automation solutions. Or, schedule a call with one of our automation experts for more in-depth information.

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Source:

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