

Solution Guide

# Automation for 3PL Warehouses





# Automation is the key to meet demands

**Digitization, globalization, rapidly evolving customer expectations, and growing e-commerce demands reinforce the need for small and medium-sized enterprises to outsource their intralogistics. In fact, a DHL Supply Chain research study released in early 2020 found that 48% of companies use a combination of internal and external logistics solutions.**

Since the pandemic began, e-commerce sales have skyrocketed. Manufacturers must navigate escalating inventory needs, lack of space, new safety guidelines, and changing consumer behaviors. Consequently, they're putting intense pressure on third-party logistics (3PL) providers and warehouses.

Many large companies are turning to 3PLs because they offer their business customers several critical services. This includes sourcing the latest warehouse technologies, recruiting staff, procuring warehouse space, and last but not least, providing an excellent return on investment (ROI). A 3PL provider allows its partners to focus on their core business without worrying about all the complex supply chain challenges.

Because 3PL providers service several customers simultaneously, they need reliable, modular solutions capable of managing a wide range of goods and easily adapting as customers' needs change.

## The challenges for 3PLs and large companies

With today's consumers demanding immediate results, competitive prices, easy transactions, and stress-free returns; warehouses need to move faster than ever before. 3PLs and large companies that manage their own intralogistics are feeling the pressure! Warehouses that oversee order fulfillment, including receiving, processing, delivering, picking, and packing, must execute the combined processes perfectly. However, this is not so simple, especially if they also must juggle a wide range of goods, various sized products, diverse client portfolios, and seasonal spikes.

### What activates your stress buttons?



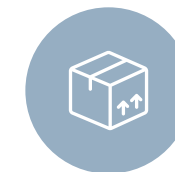
Pressure from COVID-19 to meet changing customer behavior.



Disorganization caused by fluctuating demand, multiple clients, and seasonal spikes.



Inaccurate and inefficient inventory management.



Chaotic order fulfillment caused by managing various types of products.



# Navigate complex warehouse challenges

With more than 140,000 installed solutions worldwide, Kardex knows the characteristics of efficient warehouse solutions. They should be flexible, scalable, and measurable. In combination, these three characteristics enable maximum performance, error-free operations, and long-term financial gain.

## Flexible

To enable future growth, it is essential to have a flexible storage solution. Automated solutions store various products, different-sized goods, and adapt as needed (e.g., height modification, expanded product portfolio).

## Scalable

Modular and scalable systems allow businesses to start small and with basic functions. When order volume increases and the business starts to grow, automated storage and retrieval solutions easily expand.

## Measurable

Automated solutions show fantastic results and a fast ROI. They reduce needed storage space by up to 85%, improve accuracy rates by up to 99.9% and picking performance (throughput) by up to 400%.

## 1. Flexible

Especially in the 3PL industry, production portfolios today look vastly different than they will in one year. That is ok. But what isn't ok is investing unnecessary costs into bulky, permanent equipment that will be useless should 3PL customers merge, grow, or simply dissolve. One day your client might be selling watches and the next day engines. The ability to reconfigure the solution at any time is critical!

Kardex's automated solutions are extremely flexible. Their dimensions and throughput adapt as needed and may be used in combination with a stand-alone software or connect to an existing system (e.g., SAP, ERP). Whether for seasonal peaks, product size changes (e.g., from small to large or light to heavy), client acquisitions, relocations, or new business growth, automated solutions are easily repurposed.

## 2. Scalable

Most businesses start small and gradually grow over time. Unfortunately, many supply-chain departments don't plan for this and fall into the same trap: sales grow, but intralogistics can't match the spike. Space also becomes an issue. The client list can't grow without having the space to accommodate new inventory. Ultimately, these result in customer dissatisfaction.

Failure to plan is indeed planning to fail! Scalable, modular solutions are the secret safety net to prevent this. Automation enables businesses to expand their intralogistics as demands grow. Step by step, warehouses can add and modify. Automation starts small and then expands when and how necessary.

## 3. Measurable

ROI is, without a doubt, essential! What is questionable though, is how to guarantee it. Automation clearly outperforms manual solutions in day-to-day measurements such as throughput rates and picking performance. Automation also matches long-term, strategic benchmarks such as reductions in property costs.

For example, automation optimizes floor to ceiling storage space (save up to 85% space) and enables multi-access entry points. It's interchangeable, flexible, and suits various clients and products (e.g., small to large). With less space required and the ability to easily transition for new clients / products, fixed real estate costs decrease.



# Automated solutions

## Which automated solution meets your individual needs?

The following solutions from Kardex perfectly align with 3PLs and large companies. Their features enable large warehouses to simplify complex logistics and efficiently manage a wide range of goods and customers. They are all extremely flexible, seamlessly connecting to existing warehouse solutions. They help you to improve your warehouse processes with:



Partial or fully-automated processes and goods-to-person systems



Improved material flow



Sustainable growth



Solutions that easily integrate with existing systems (e.g., multilevel shelf systems)



## Solution #1: Vertical Buffer Module Kardex Compact Buffer with the order fulfillment system Kardex Frame Pick System

### Vertical Buffer Module Kardex Compact Buffer

The Vertical Buffer Module Kardex Compact Buffer stores and picks small parts quickly and efficiently.

#### Key benefits:

1. It easily connects to existing systems (e.g., multilevel shelf systems)
2. Flexible system with multiple options for equipment and picking stations with several access openings
3. 99,9% pick accuracy and increased operator performance

### Picking Solution: The Kardex Frame Pick System

The Kardex Frame Pick System flawlessly manages a wide range of goods, numerous order lines, and fluctuating order demands.

#### Key benefits:

1. Reduces labor costs
2. Reduces travel and search times
3. Connects to a Kardex solution or existing warehouse solution





## Solution #2: Kardex Shuttle with flexible picking solutions

### Vertical Lift Module Kardex Shuttle

The Vertical Lift Module Kardex Shuttle stores a wide range of goods, allowing access to various weights and sizes, while saving space and time.

#### Key benefits:

1. 99.9% pick accuracy, 67% labor force reduction, 100% ergonomic access, and 85% floor space savings
2. Ideal for managing a wide range of products with various tray types and travel speeds. For example: sensitive articles travel at slower speeds
3. Both expandable and scalable

### Picking Solution: The Kardex Color Pick System

The Kardex Color Pick System adds colored lights into the batch picking process allowing multiple operators to pick from one work zone.

#### Key benefits:

1. ROI in less than two years
2. Achieves new physical distancing standards
3. Ideal for managing fluctuating, unpredictable demand

#### Did you Know?

This solution saves picking time. The Color Pick process can achieve up to 300 order lines per hour per operator.

### Picking Assistant: Display LED-Navigator

The Display LED-Navigator is a picking assistance system that provides event-related information at exactly the right moment.

#### Key benefits:

1. High-picking performance
2. Achieves new physical distancing standards
3. Systems are in a continuous, automatic flow

#### Did you Know?

The LED technology provides Kardex Shuttle operators with additional guidance. It requires minimal training and increases picking accuracy.



## Solution #3: Order consolidation

**After picking the different customer orders a consolidation buffer often makes sense to match or marry up items picked from different areas or zones of the warehouse.**

For automated and efficient order consolidation in the packaging or shipping area, Kardex recommends a Vertical Buffer Module Kardex Compact Buffer. It easily stores the often used 600 × 400 mm Euro bins and guarantees smooth material flow and just-in-time, sequential retrieval of orders by easily connecting with conveyor systems or automated guided vehicles (AGVs).

The buffer system stores all items temporarily before packing. As soon as the entire order is ready for packing, the system automatically retrieves the items in the correct order (sequence) and transports them to the packing station.

Also, consolidation buffers are used as shipping buffers. In this use case, the system buffers finished orders (mostly cartons) temporarily after packing and before shipping and provides them just-in-time and in the correct order (sequence) when needed.

### Key benefits:

1. Fast and accurate handling of order totes – no searching, no waiting, no idle time, but just-in-time retrieval
2. High storage capacity in a reduced footprint for the consolidation area
3. Intuitive connection to customer host system and transparent inventory management







## We understand you. Now let us help you!

As a global leader in intralogistics, we can customize a solution to optimize your warehouse. We have experience working with clients in various industries including 3PLs, large companies, and project management business partners. Our solutions include automated storage and retrieval systems (ASRS) as well as software and reporting tools designed to efficiently manage the inventory of multiple clients. Please contact our warehouse experts to receive a non-binding consultation.



Contact a specialist