



HOW POUCH SYSTEM TECHNOLOGY WITH AUTODROP CAN SOLVE YOUR OMNICHANNEL CHALLENGES



INTRODUCTION

Omnichannel operations - supporting both retail and e-commerce - are now inevitable for fashion logistics companies as e-commerce sales become more and more prevalent. This means that fashion fulfilment facilities need to be able to handle both B2B and B2C orders and process returns efficiently while managing volatility of demands. But is it actually possible for a single facility to deal with omnichannel distribution requirements in an efficient way? We believe it is. By employing pouch system technology, fashion fulfilment businesses can significantly improve their omnichannel order fulfilment capabilities.

In this whitepaper we look at:

The sustainable trend of e-commerce growth and omnichannel sales in fashion logistics. [\[Page 3\]](#)

The challenges in supporting multiple sales channels in omnichannel operations. [\[Page 3\]](#)

How pouch system technology can improve omnichannel order fulfilment. [\[Page 5\]](#)

The benefits of the pouch system to fashion logistics operators. [\[Page 7\]](#)

How pouch system technology can reduce the complexity of returns handling. [\[Page 8\]](#)

How pouch system technology can flatten the volatility of demand. [\[Page 9\]](#)

THE SUSTAINABLE TREND OF E-COMMERCE SALES GROWTH IN THE FASHION LOGISTICS INDUSTRY

If anyone were to ask the question: Is e-commerce permanently changing the fashion logistics industry? The answer would be a resounding yes!

Digital transformation took a substantial step forward during the pandemic of 2020 and 2021 as retail sales channels experienced massive disruption. These changes have established a new norm and the retail market continues to gradually but consistently shift towards e-commerce platforms. Trends show that the share of global retail sales coming from e-commerce is expected to reach **22.6% in 2027, up from 18.7% in 2023**. Social media shopping is one of the fastest growing segments, with an **expected growth rate of 28% annually**. The fashion industry is a significant component of this online market and is expected to reach a **market value of \$781.5 billion in 2024 on its way to \$1.6 trillion by 2030**.

Drivers for this e-commerce growth in the fashion industry include the convenience of shopping anywhere and anytime. Consumers also value the wide range of delivery options and the ability to compare options, prices, and reviews easily. Even if the final purchase happens offline, research shows that the shopping journey now starts online for over 60% of global consumers.

The overall trend remains. E-commerce in fashion retail is growing, and the pattern is consistent around the world.

INTEGRATING OMNICHANNEL SALES TO REMAIN VIABLE

Despite the shift towards e-commerce, consumers still use physical stores and an omnichannel sales strategy remains critical to the success of fashion retailers.

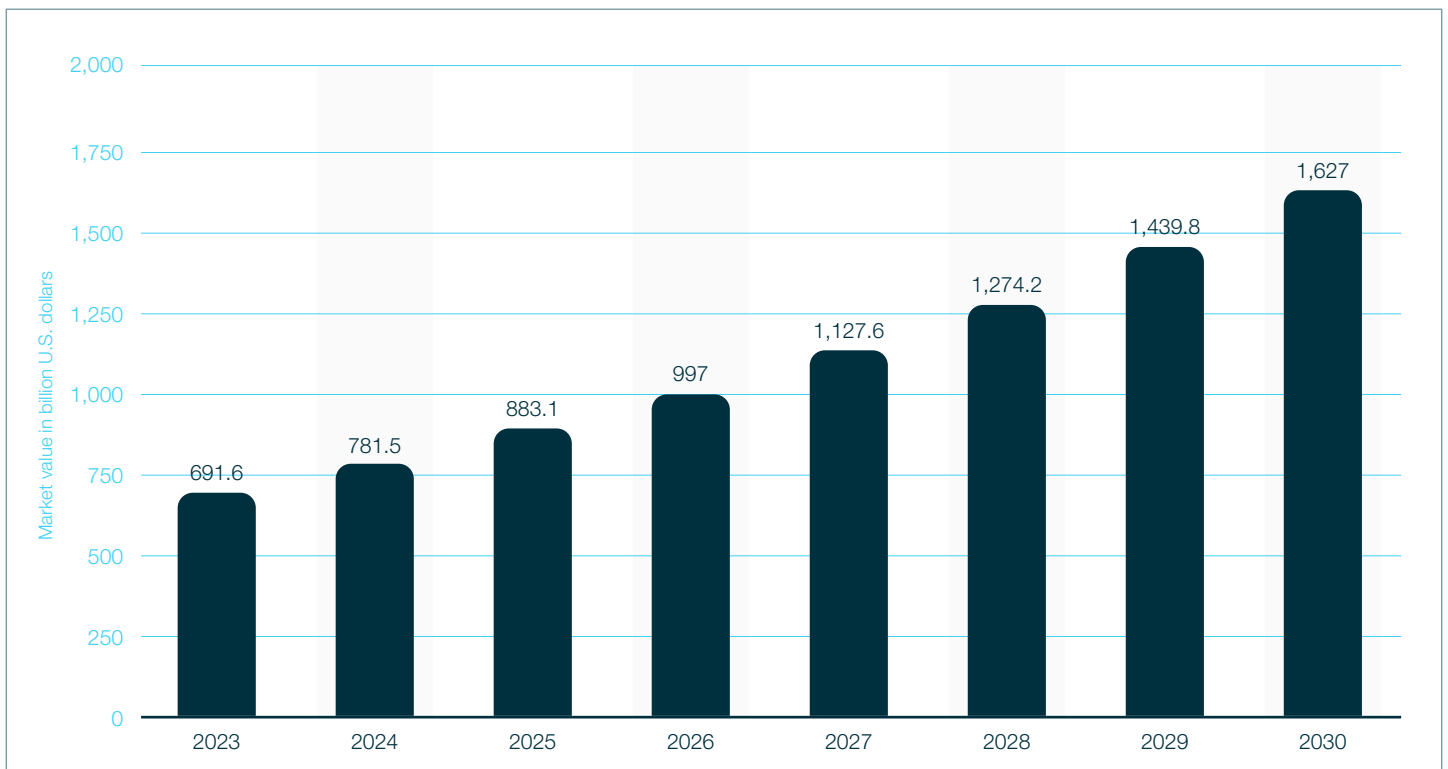
Consumers are demanding the best of both worlds by taking advantage of online convenience while refusing to let go of the benefits of physical stores. **Buy online, pick up in store (BOPIS) is an accepted practice with a 78% adoption rate among retailers**. At the same time, store-based retailers are responding to consumer demands as shown by the 65% of retailers providing in-store stock statuses for consumers shopping online. **Digitally native retailers** are recognizing the benefits of the omnichannel approach with some significant players expanding into the offline space.

For most fashion logistics companies, the increase in online sales makes omnichannel operations inevitable and in order to remain viable, they must integrate omnichannel into their operations.

CHALLENGES IN SUPPORTING OMNICHANNEL OPERATIONS

However, supporting omnichannel distribution is not always easy. Consumers demand a seamless customer experience across channels, integrated access to information like stock levels, and an easy returns process.

These high consumer expectations create a whole new set of demands for fulfilment centres, which we summarise below.



Fashion e-commerce market value worldwide from 2023 to 2030

THE CHALLENGE	HOW IT IMPACTS FULFILMENT CENTRES
<p>CHANGES IN CONSUMER BEHAVIOUR AND DEMANDS</p>	<ul style="list-style-type: none"> • Fulfilment facilities are being transformed into ‘shops’ - consumers of the past bought single fashion items in a shop to take home; they are now buying several to try on and returning those that don’t fit. • E-commerce orders differ significantly from retail orders, especially by the number of items in one order. • One of the top ten themes for fashion executives in 2024 is the “bullwhip effect” where high order volatility impacts the entire supply chain.
<p>THE DIFFERENCES BETWEEN B2B AND B2C FULFILMENT</p>	<ul style="list-style-type: none"> • Fulfilment requirements are different: for B2B customers, it’s about replenishing stock deliveries to stores; for B2C, it’s about large numbers of individual customer orders coming in at the same time. • Orders of B2B and B2C customers are structured differently, in the number of order lines and pieces per order. • Packing requirements are different; e-commerce consumers expect to receive exclusive fashion items beautifully packed, while stores are interested in store-friendly shelf sequenced packing for higher operating efficiency. • Delivery requirements are different; online shoppers demand fulfilled delivery promises, same-day or next-day delivery, so living up to the delivery promise becomes more and more critical for the facility.
<p>VOLATILITY IN DEMAND</p>	<ul style="list-style-type: none"> • Volatility in online sales poses resource challenges to fulfilment centre operations management. • Volatility may lead to backlogs or high costs for providing “peak” overperformance. • Goods-to-person picking systems are typically designed to a specific order structure, so deviations from the design “sweet spot” because of changing order structures may cause detrimental performance effects.
<p>RETURNS</p>	<ul style="list-style-type: none"> • The fashion industry has the highest rate of consumer returns. 30% of online shoppers deliberately over-purchase and then return items. • Returns rates of up to 60% are not uncommon for e-commerce fashion retailers. • Generate an outflow of money through refunds. • Mean many touches for one piece. • Are expensive to handle, requiring intensive quality checks, relabelling and repacking. • Put pressure on facilities to retain customer loyalty - negative return experiences stop customers buying again. • Must be made available for resale quickly to prevent lost revenue.

HOW POUCH SORTER TECHNOLOGY CAN IMPROVE OMNICHANNEL ORDER FULFILMENT

A model for the fashion distribution centre that has at its core an omnichannel fulfilment engine is the pouch sorter system. Given its ability to deal with omnichannel order fulfilment it is becoming increasingly popular in the apparel industry.

THE POUCH SORTER TECHNOLOGY - HOW IT WORKS

But what is the pouch system? A pouch system, also known as a pocket sorter, is exactly what it sounds like: An overhead sortation system which relies on pockets, pouches, or bags to store and convey products. These pockets can be loaded and unloaded automatically. As such, it can simplify and streamline a number of process steps in e-commerce fulfilment in general.

While there is a variety of high quality systems available, the design of BEUMER Group's BG Pouch System can really assist omnichannel order fulfilment. It works like this:

1. A single item is placed in a pouch

Each pouch holds a single item (sales unit). This provides ultimate flexibility to combine items to create any required order make-up and item sequence - for both B2C and B2B, for example. Pouches are loaded either automatically or by operators using ergonomic workstations.

2. The pouch containing the item travels up in the air

After loading, the pouches are quickly elevated up above head height. The elevated conveying system saves floor space and therefore frees up valuable areas for other logistical tasks. It even may enable an optimised building footprint by utilising the building height.

3. Once in the air, the pouch travels into a dynamic buffer

A dynamic buffer decouples the picking from order fulfilment operations. From the dynamic buffer, items are retrieved in the fastest way for assignment to specific orders. The dynamic buffer holds items from regular pick waves, returns or even pre-picked items based on AI and predictive demand models. The process

saves time, increases operator performance and, overall, optimises the number of touches of a product.

4. The pouches are sorted into batches and then moved into a batch buffer

Items that are assigned to orders are collected in the dynamic order buffer. As soon as all items belonging to an order are consolidated in the dynamic order buffer, they can be released to a batch buffer. When a completed sorting batch is assembled in the batch buffer, the buffer lane is released for sorting.

5. The pouches are released for sorting and sequencing

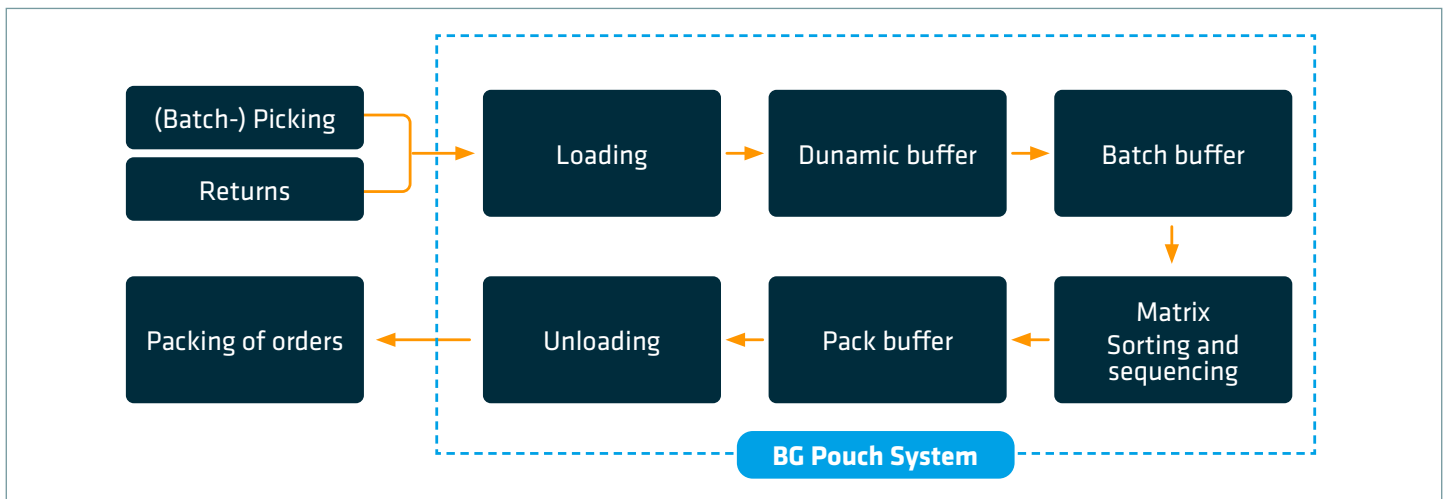
All pouches from the sorting batch are released in one go. The matrix sortation is in most cases a three-step sortation process which enables the building of any desired sequence of items within a sortation batch, even order based. The matrix sortation, therefore, is ideal for both B2B and B2C, as different sortation and sequencing criteria - such as colour, weight and item size - can easily and flexibly be fulfilled.

6. The pouch travels out of the matrix sortation to a pack buffer

After sortation and sequencing, and prior to packing, the pouches travel to the pack buffer lanes (for example, if the hub needs to group items by certain shipping criteria or fast-track items to meet carrier cut-off times) or directly to an unloading station. The pack buffer lanes can be used for different packing activities, different shipping criteria's or for fast-track items to meet carrier cut-off times.

7. After unloading, the orders are packed

At unloading, pouches will be presented for packing in the desired sequence, which is crucial for an efficient packing and shipping process. The BEUMER AutoDrop functionality enables pouches to open automatically from the bottom to unload the item directly into a chute. The item passes through the chute into the packaging. It uses a simple and reliable opening mechanism based on innovative shape memory alloy technology from the medical industry. With the capability of one million iterations, AutoDrop enables unloading operations to be automated for a smooth, reliable, and highly efficient packing process.





AUTODROP TECHNOLOGY - A BREAKTHROUGH IN AUTOMATIC UNLOADING

- › AutoDrop completes the automation of omnichannel order fulfilment, with less manual touches.
- › The innovative opening mechanism ensures a robust and simple unloading of pouches with high availability.
- › Reduces the number of conveying elements and unloading stations.
- › Reduces order lead time by reducing the time at the unloading station.
- › Gentle handling of products, due to short distance between drop point and chute.
- › Adjustable drop point positions to ensure high flexibility for different unloading needs.
- › Multiple drop point positions in one drop line for further reduction of footprint and enhanced flexibility.

THE BENEFITS OF THE POUCH SORTER TO FASHION LOGISTICS OPERATORS

The benefits of the BG Pouch System when dealing with omnichannel are really broad but can be summarised as follows:

- Up to 7kg can be placed into one pouch
- High percentage of SKUs can be sorted
- Direct access to a single product - as each pouch is for a single item
- Immediate availability of returns once inducted after the quality check
- Decouples storage and picking from the order fulfilment process
- Allows for sorting (bringing the order together) and sequencing (sorting the pouches within the order - for example, shop-friendly order assembly, merging Garments-on-Hangers with flat pack and so on)
- Enables Goods-to-Person solutions by reducing vulnerability to changes in order structure through batch picking; furthermore, increases picking performance in manual operations because pickers no longer have to walk long distances to find pieces to fulfil an order
- Flexible and easy to extend by design - 10,000/hour throughput per matrix module is extendable, it is flexible in product size and shape, pouches come in standard sizes but can be adjusted to specific needs or projects, inlays can be used within the pouch for fragile objects and the systems works with both pouches and Garments-on-Hangers up to 3.5 kg
- Savings in floor space
- Automated handling of routes or cut-off times
- Buffering allows for flexible reaction to changes in the business and customer behaviour
- Low maintenance, low number of spare parts needed, low cleaning and operation - the system has been designed for minimum maintenance and minimum storage of spare parts.

So, for the fashion logistics provider, the key takeaways from the overview of the pouch sorter technology and its benefits are these:

How do pouch sorters assist the fashion fulfilment facility with B2B fulfilment?

The technology helps order fulfilment to fit the store layout, increasing the store's productivity and enabling them to focus less on replenishment and management of the store and more on customer service.

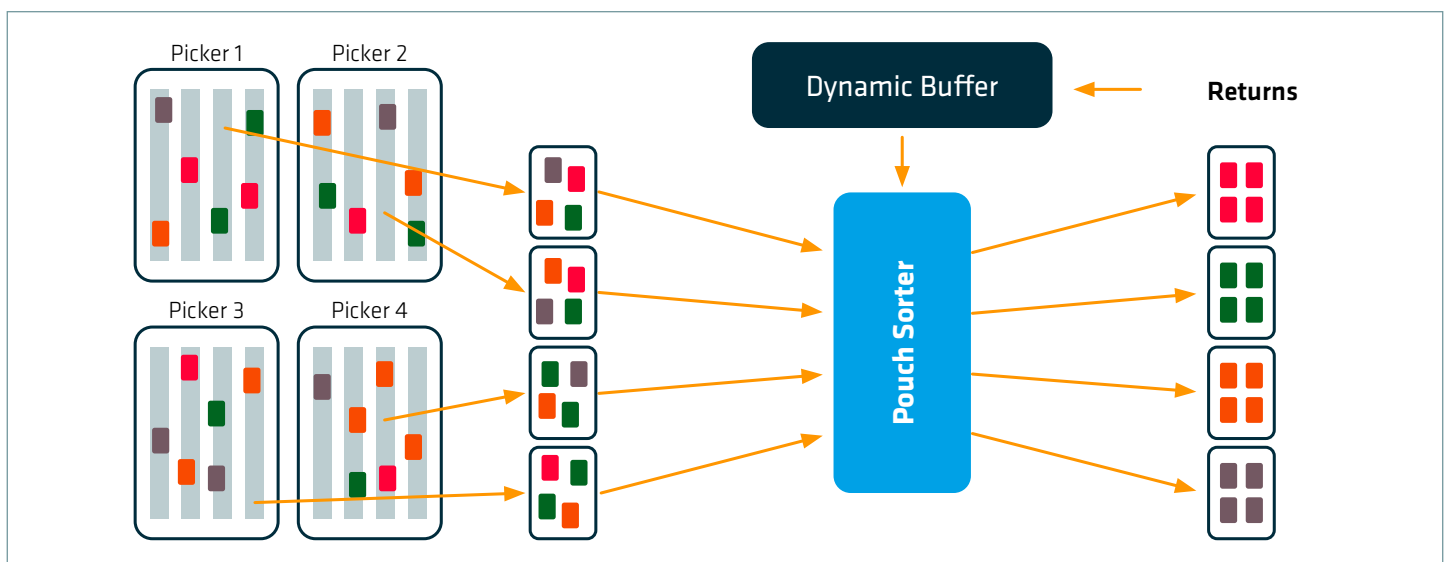
How do pouch sorters assist the fashion fulfilment facility with B2C fulfilment?

The technology is ideal for single unit handling and is able to combine items in any desired sequence. It is perfect for providing value-added services such as placing gift cards or greeting cards in the order.

How do pouch sorters assist omnichannel fashion fulfilment?

The system performance is independent of order structure as it operates on a single item basis, meaning it doesn't matter if the order consists of two items or 40 items. This enables the warehouse to make a seamless shift between handling B2B and B2C order structures while maintaining high output performance. In addition, AutoDrop accelerates the performance with less mechatronics and a smaller unloading station footprint.

By decoupling storage and retrieval operations from fulfilment operations, facilities handling omnichannel sales can increase their picking performance. The sorting and sequencing functionality also enables enhanced performance at packing stations. But the sorting and sequencing also enables facilities to provide shop-friendly delivery for B2B clients.



Pouch Sorter in a Omnichannel Warehouse

REDUCING THE COMPLEXITY OF RETURNS HANDLING

As returns are forming a normal part of the customer experience, they are becoming more and more prevalent for omnichannel operators.

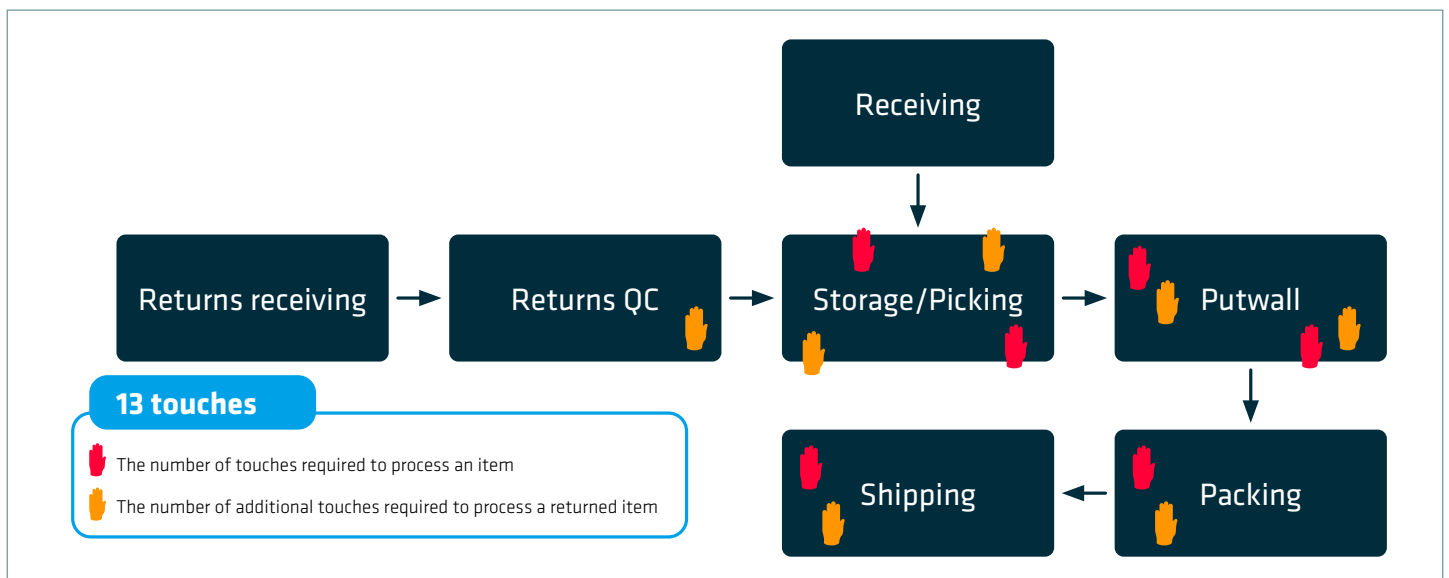
The pouch system is able to assist the operator reduce the complexity of the returns handling process. By automatically consolidating returns with picked items, facilities can ensure that returns are the first goods to go back out to the customer. Moving returns directly into the pouch system eliminates storage and picking, speeding up the process. The item can be made immediately available for resale, circumventing the internal handling process and eliminating a number of costly touch points.

Let's take an illustration of a fashion warehouse dealing with returns without a pouch system (see graph below). In this warehouse,

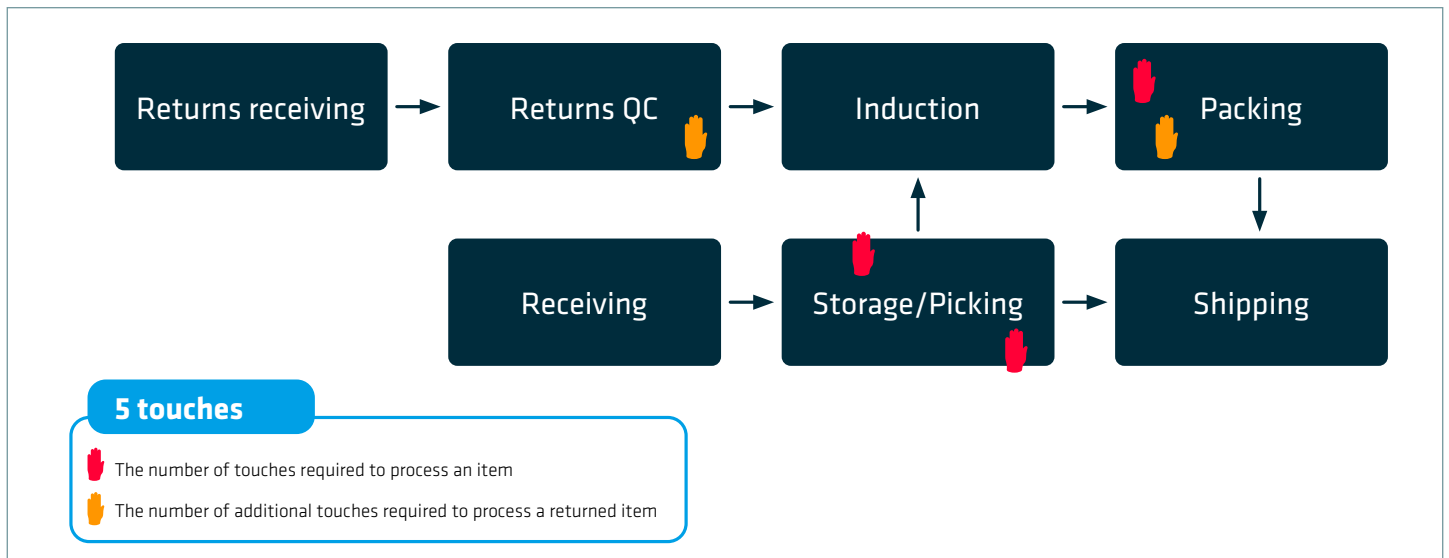
an item would involve six touches (shown in red) from its receipt, through to storage/picking, putwall, packing and shipping. If the item is then returned, it would require another seven touches (shown in yellow) to be processed - a total of 13 touches.

If we take a warehouse using a pouch system, however, it can be seen that with the automated induction into the pouch, the item travels through just three touch points, while the returns process can be minimised to two touches - a total of five touch points.

The benefits of the pouch system technology are directly apparent. The number of touches is significantly reduced, the returned item becomes immediately available, picking is reduced because the return is picked automatically, and the system provides an automatic allocation of returns to both B2B and B2C orders. With the pouch system, returns become part of the facility's outbound logistics.



A sample warehouse



A sample warehouse with pouch



Though the automatic unloading of pouches (using the Autodrop feature) will not eliminate the last touch in the packing area, it will reduce the manual handling since the operators will only be focused on the packing process and not spend time on emptying pouches.

FLATTENING THE VOLATILITY OF DEMAND

The pouch system technology also helps the fashion facility manage the volatility of demand inherent in the e-commerce world through its buffering capacity and modularity.

Buffering can flatten volatility outbreaks by allowing for pre-picking, decoupling the picking and fulfilment operations and reducing peak performance needs. The system's modular design allows for easy extension of both the buffers and sorting performance. The module performance is up to 10,000 pieces per hour, which can be scaled up or down and there is no limit to how big the system can be.

CONCLUSION

In a world where fashion retail sales are increasingly moving online and e-commerce is starting to dominate the sales channels, it is now more important than ever that fashion fulfilment facilities

are able to be agile in their operations to shift between B2B and B2C customers, manage the returns and cope with unpredictable demands efficiently and with ease. In addition, the blend of sales and distribution channels with Click & Collect (ordering online and collecting from a neighbourhood store) may gain traction with consumers, as well as those dealing with environmental and urban traffic management issues.

The pouch system is an ideal solution for the fashion facility now handling omnichannel fulfilment. Its key features of single item handling, modular and scalable design, buffering functionality, and automatic loading and unloading all work to ease many of the challenges omnichannel order fulfilment presents. Amongst its many highlights, it is able to handle both flat and hanging products, large and small items and achieve a greater throughput per hour. Its magnetic conveyor provides a product friendly transportation of items, while generating less noise and maintenance. The unique AutoDrop functionality offers fashion logistics companies the opportunity to increase their capacity and lower their touch points with a simple and reliable opening mechanism.



BEUMER Group A/S
P.O. Pedersens Vej 10
DK-8200 Aarhus N
Phone: +45 87 41 41 41
info@beumergroup.com

www.beumergroup.com

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