Brochure

The Future of Parcel Returns and Collections

Automating out-of-home

Introduction

Automation is one of the most important trends in logistics and supply chain as a whole. It's revolutionizing how we operate, the processes we follow and the tools we use. Done right, it enables us to be many times more productive, and deliver a better product. It's everywhere in modern life, from smart homes to self-checkouts and cars that can intervene before an accident.

In first and last-mile logistics, though, automation has been perhaps slower to make an impact, especially in the out-of-home space. Post offices, parcel shops and pick-up drop-off (PUDO) locations have largely moved on from paper to become partially or fully digitized, but the critical actions were still staffed, reliant on employees scanning codes and handling parcels and printing labels.

Today, we're in a period of great change in this sector, and automation has truly come to town. A huge majority of our survey respondents tell us that they're currently deploying automation. Most of them are actively expanding the use of automation. Even of those who aren't there yet, a majority plan to start in the next two years. This is a watershed moment for the out-of-home first and last mile.

We designed this survey to target professionals with personal knowledge and responsibilities in managing out-of-home networks, to understand how automation is changing their world. We've discovered what they're focused on, why they're excited about automating parcel collection and returns, how successful they've been, and what they see as the future for this area of logistics.

Throughout that process we've also seen how an industry can be collectively passionate about new solutions — but also how focusing on one specific kind of hardware solution could risk missing opportunities that lie elsewhere.

I hope you enjoy.

Corporate Vice President, Blue Yonder

Glossary

Out-of-home (OOH): locations for parcel collection and drop-off, for example post offices, dedicated parcel shops, or counters in third-party locations not directly owned by the logistics provider, for example convenience stores.

Pick-up and drop-off (PUDO): Third-party out-of-home locations

Dropbox: Allows consumers to drop pre-labelled parcels into a storage box rather than hand them over to staff member

Drop-Off Kiosk: A single branded unit with a barcode or QR code reader, touchscreen and label printer, integrated to secure dropbox with hatch, allowing consumers to print a label, drop off the item and receive automatic confirmation email and instant refunds

Self-service point-of-sale kiosk: A single unit with a scanner, touchscreen, and payment capabilities enabling customers to purchase postage and other retail sale items — may or may not enable parcel drop off or sends

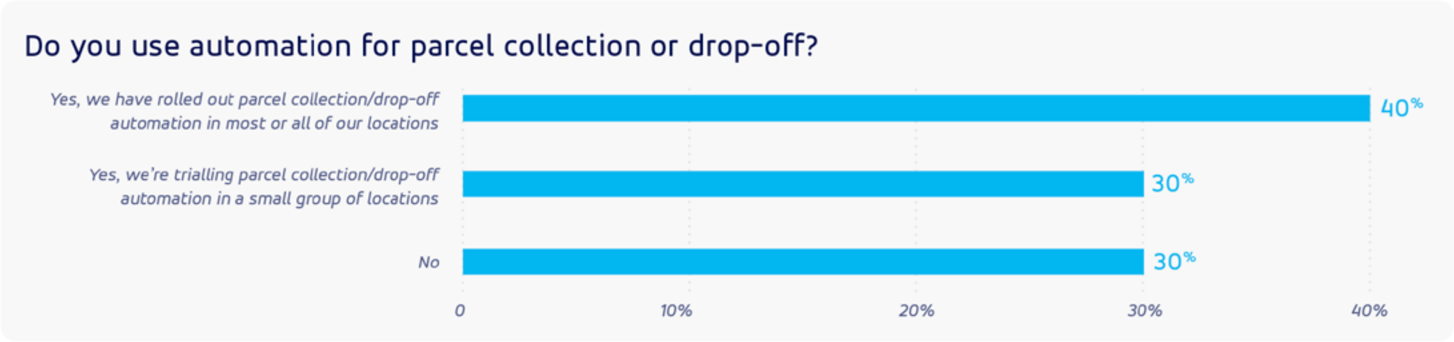
Self-service label printer: A touchscreen-enabled printing device that allows consumers to print labels for their returns or shipments, which then may be dropped into a separate box or handed to a staff member

Parcel locker / Automated Parcel Machine (APM): Secure lockers designed to facilitate storage and retrieval of parcels for collections, returns and consumer shipments. May feature barcode scanning, touchscreens and label printing.

How is automation changing the collection and drop-off space?

Out-of-home automation is top-of-mind

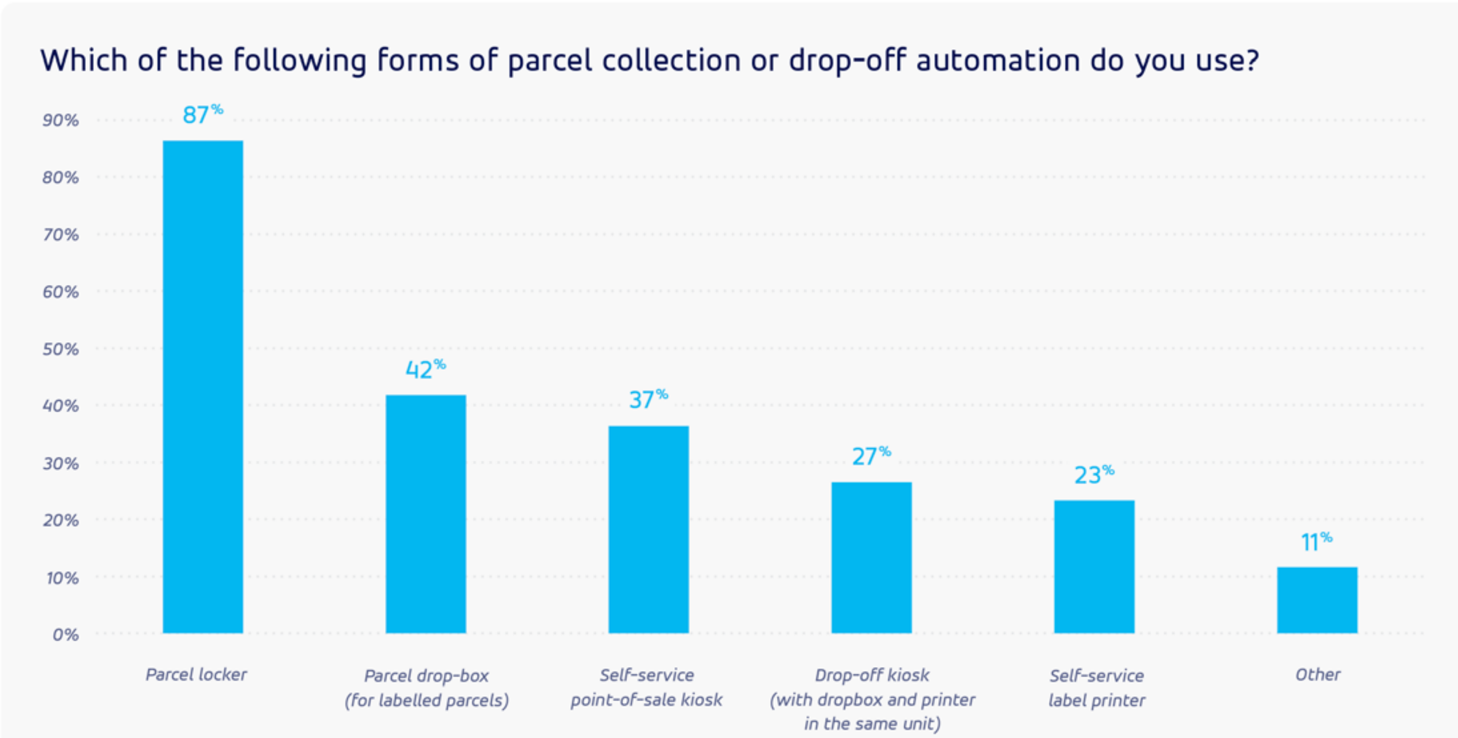
A remarkable 82% of our respondents are either currently deploying automation in their out-of-home networks, or plan to do so in the next two years.



That represents a massive shift from an environment in which only 5 years ago, out-of-home delivery and returns were almost entirely manually transacted, with parcel lockers beginning to emerge as exceptions to that rule but still far behind human-powered PUDO counters and post offices in terms of volume handled.

Parcel lockers are the favored solution

Parcel lockers have been deployed by 87% of those who currently have automation in place, with basic drop-boxes in second (used by 42%) and self-service point-of-sale kiosks (used by 37%) in third.[1]



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use self-service point-of-sale kiosks

The expansion of collection and drop-off automation

Of those with existing trials or deployments, 92% plan to expand the use of automation, reflecting widespread successes in these initial deployments and trials.

However, even those who have not yet trialed or fully deployed automation in their out-of-home networks are more likely than not to be planning to introduce it. In this group, 54% said they planned to deploy automation in the next two years.

Across the whole survey cohort, just 18% of respondents said that they had not yet deployed, and did not plan to deploy, automation in their out-of-home parcel collection and drop-off networks.

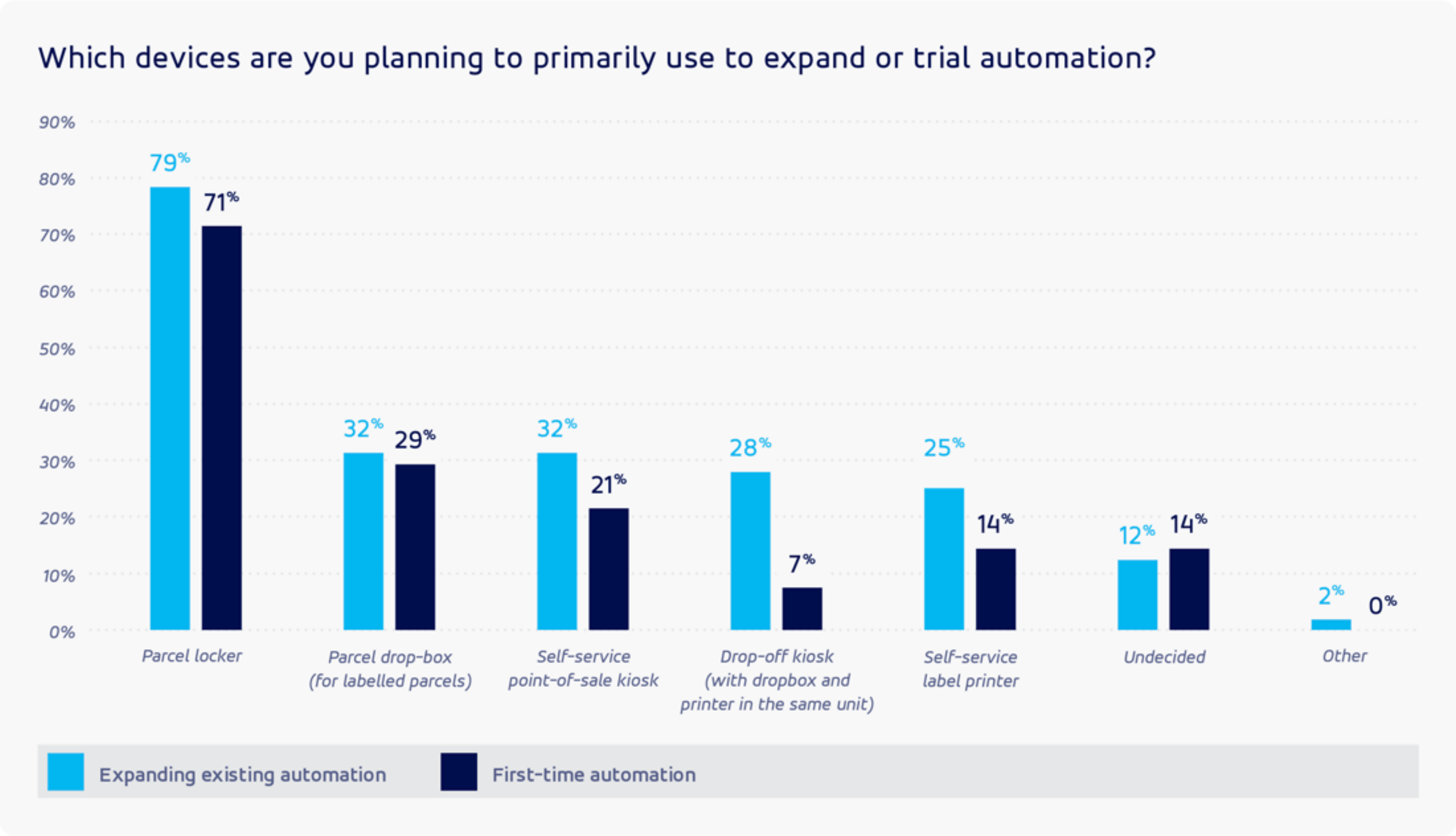
92%

plan to expand the use of automation

[1] Figures do not sum to 100% as respondents could select multiple formats to reflect all the types of automation currently deployed in their network.

Expansion by format

Once again, lockers were the primary choice for expanding automation, with 87% of those who said they already had some automation choosing lockers as their format for expansion, and 71% of those who said they planned to introduce automation choosing lockers as a format for the initial trial.



Why are logistics businesses investing in collection and drop-off automation?

Market context

Four key factors have helped to drive this tidal wave of automation adoption in first and last-mile logistics. Firstly, in many regions, the increasing costs of labor and tighter labor markets are combining to make finding and retaining staff a challenge for logistics businesses. It's therefore crucial to maximize productivity of staff, especially where doing so can reduce the burden of onerous or repetitive tasks. Parcel handling is well-suited to automation as in many cases it is an 'extra' task for staff in out-of-home parcel collection and drop-off locations. In post offices it can help reduce queues by automating out the simplest collection or drop-off transactions so that staff can focus on helping customers with additional services offered by many posts such as banking, money exchange and handling official documents.

Secondly, the strategic importance of out-of-home networks has never been higher, with major logistics players emphasizing the role that it plays in their proposition to retail clients and end users. Geopost, which operates 110,000 OOH locations across 28 European countries, notes that 44% of regular online shoppers choose out-of-home delivery locations[2].

> "Making these networks bigger, more efficient and more customer-friendly is therefore a higher priority than ever for logistics businesses"

For returns, out-of-home infrastructure is essential to provide shoppers with convenient locations at which to drop-off their return packages. Even in the U.S., where out-of-home delivery rates are significantly lower than European markets, consolidation of returns has become a major trend, as exemplified by the UPS acquisition of the Happy Returns network[3]. Making these networks bigger, more efficient and more customer-friendly is therefore a higher priority than ever for logistics businesses, and automation has become a key part of that process.

> "Beating competitors to the punch is perhaps an under-rated motivation for technological adoption"

Thirdly, the success of parcel lockers in particular has been a subject of media interest for years, which has doubtless helped to build awareness of the potential for first and last-mile automation in the minds of decision-makers in logistics businesses. Businesses like InPost, SwipBox, KEBA and Bloq.it have all gained traction, particularly post-pandemic, and one verbatim comment from a survey respondent might be illuminating in how this surge of interest is affecting strategic decisions. When asked about the motivations for introducing parcel lockers, the respondent said they wanted to "Occupy the field vs competition". Beating competitors to the punch is perhaps an under-rated motivation for technological adoption.

> "Self-checkouts in retail stores have been commonplace for years now"

Finally, and similarly, other industries are well ahead of logistics in terms of adoption of automation in their consumer touchpoints. Self-checkouts in retail stores have been commonplace for years now. Automated kiosks help customers avoid queues at quick-service restaurants, and coffees are pre-ordered via app for collection instore. The automation sweeping the out-of-home networks of logistics providers is not a new phenomenon so much as a catching-up with the experience consumers are used to from many other facets of their daily lives.

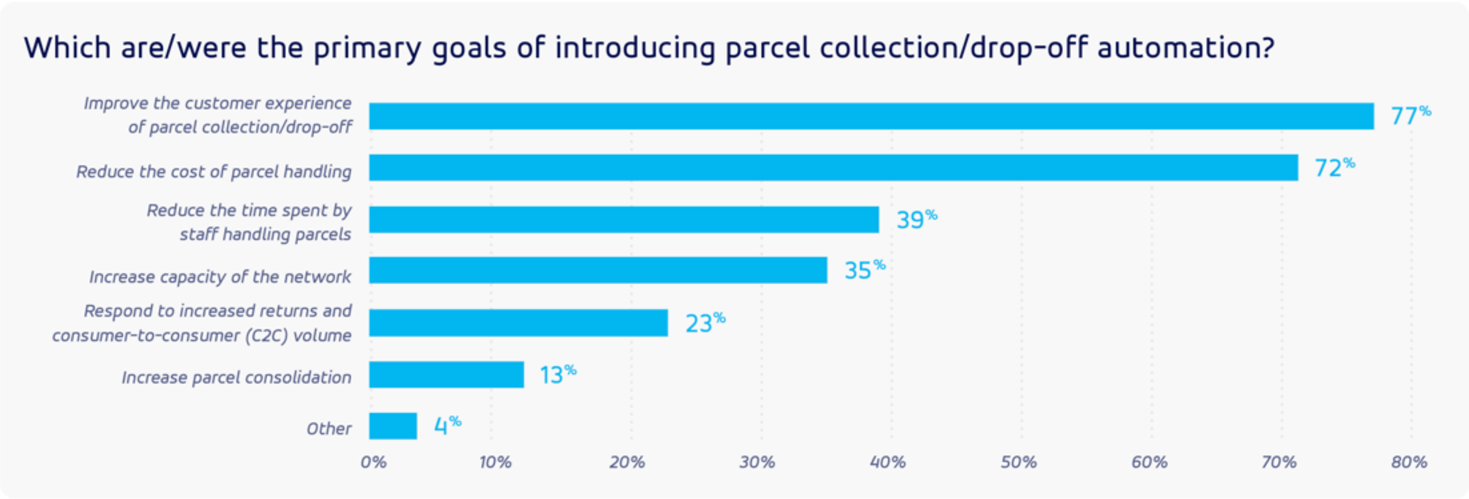
[2] Geopost E-shopper Barometer 2023–2024

[3] UPS to Acquire Happy Returns, a Leader in Reverse Logistics

What are the goals of automation?

The most common reason for the introduction of automation to the collection and drop-off journey is to improve the customer experience, named as a goal by 77% of respondents.

Automation has the potential to offer significant customer experience benefits, from reduced queues in cases where staffed counters are managing both parcel collection/drop-off and checkouts or other services; a simple self-service journey; and accessibility at times when the location itself might not be open, in the cases of lockers outside a location or kiosks installed in external walls.



The second and third most common goals of introducing automation were to reduce the cost of parcel handling (selected by 72% of respondents) and to reduce the time that staff spent handling parcels (39%). Bringing down overall operational cost is a critical motivation for automation in other industries and logistics is no exception. Staff handling time is important in different ways for different types of out-of-home location, depending on whether the logistics operator's own staff are the ones handling parcels or if it is the staff of partner locations, for example convenience store staff.

"Bringing down overall operational cost is a critical motivation for automation in other industries and logistics is no exception"

Parcel lockers: the dominant force in first and last-mile automation?

The popularity of parcel lockers has been abundantly noted in the last few years, particularly in Europe. In 2022, Last Mile Experts identified an 82% increase in deployed APMs in the region compared to 2020[4]. In that time, parcel lockers were coming online at more than twice the rate of new PUDO (pickup and drop-off) locations[5].

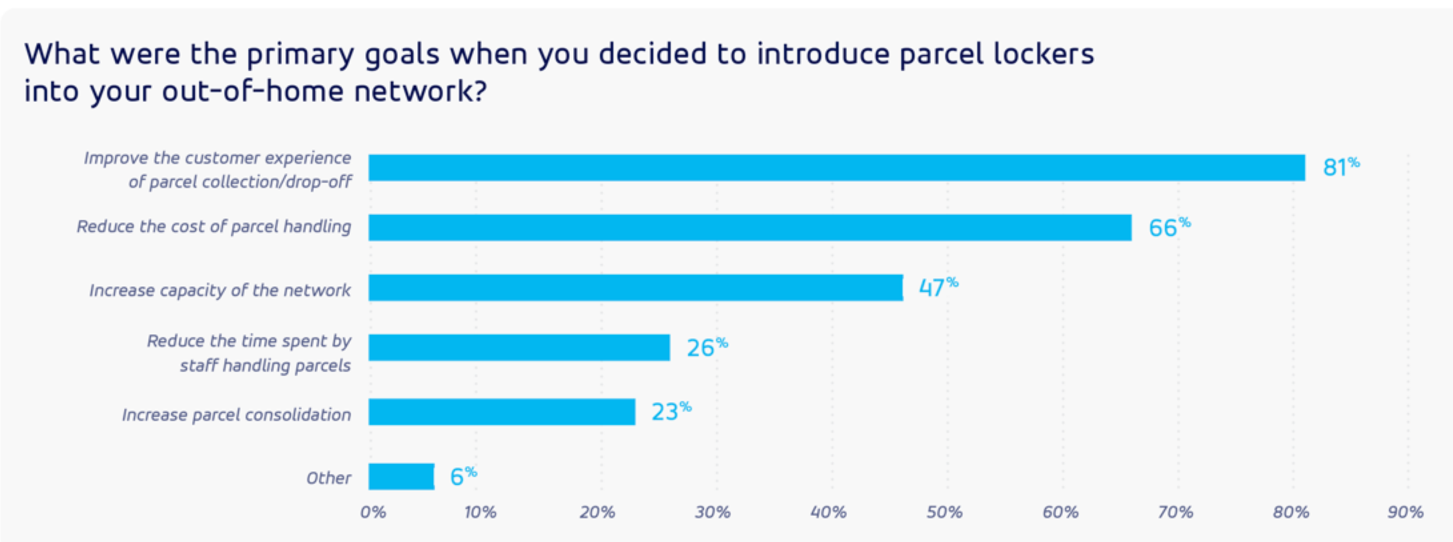
The bulk of this surge in locker popularity is accounted for in large networks like DHL's 20,000 lockers across Europe, Geopost Pickup lockers which have almost doubled in number in the last two years to 23,000[6], or InPost across Poland, France, Italy and the UK, which runs over 37,000 lockers across those nations[7]. Amazon also has a significant locker presence in multiple markets, though it does not disclose figures for how many lockers it operates. The largest number of lockers in any single market is in China, which has an estimated 330,000 lockers. Hive Box is the largest operator, with an estimated 180,000 lockers in 2020[8].

87% of the market is either currently trialing or fully deploying parcel lockers

However, our survey data shows that it's not just the elite large networks who are investing in parcel lockers. With 87% of the market either currently trialing or fully deploying parcel lockers, it's clear that the parcel locker is the most popular format for automation in the space today.

It's worth understanding what motivates logistics businesses to deploy specifically parcel lockers in such large numbers, how those deployments are working and what issues might be experienced with the use of this technology.

Why lockers?



At first glance, the motivations behind choosing parcel lockers are the same for the wider drive to automation — customer experience and cost reduction are the dominant drivers. However, businesses deploying parcel lockers are four times more likely to do so for the reason that they offer additional capacity to their out-of-home network. This was named as a reason by just 11% of those without parcel lockers, but it was a motivation for 47% of those who have already or plan to deploy parcel lockers.

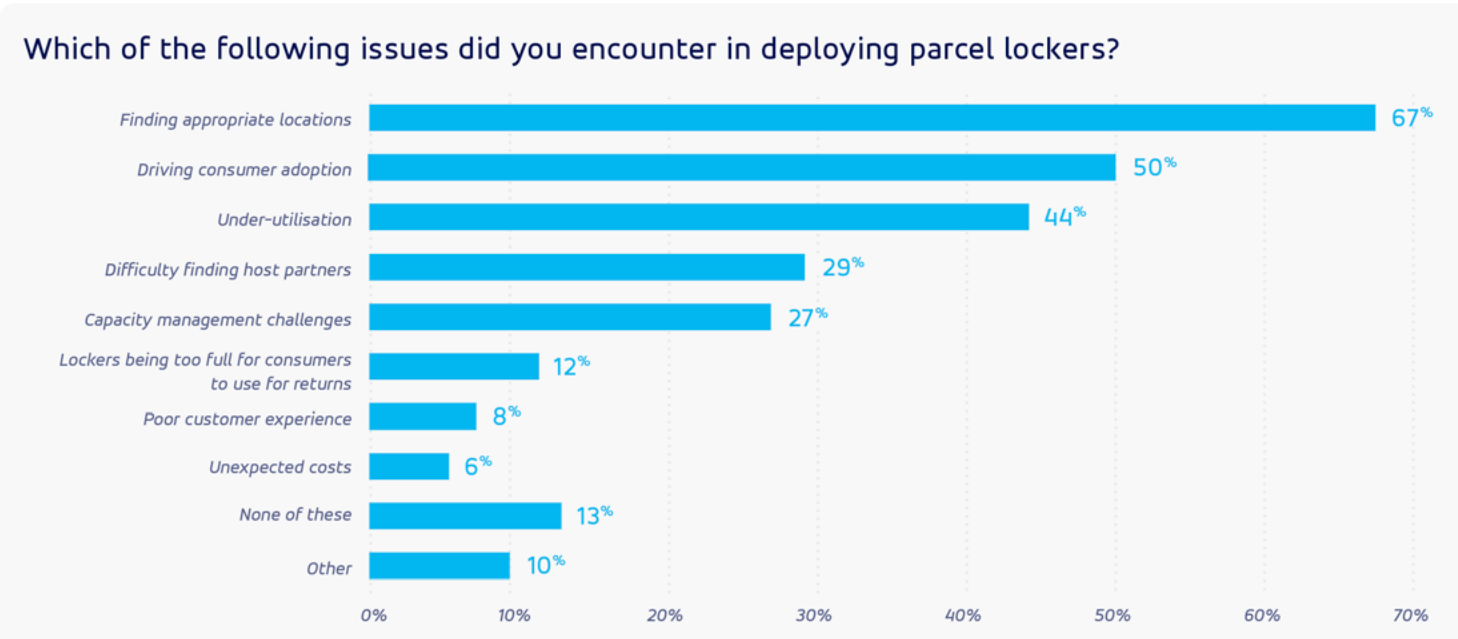
In terms of customer experience, parcel lockers do tend to do well with specific groups of consumers, often skewing younger, who shop online more often[9]. They offer a digital journey without needing to queue or talk to store staff, and may have perceived security benefits over parcel counters where packages can sometimes be stored in view of shoppers.

[4] Lockers and PUDOs taking Europe by storm
[5] Lockers and PUDOs taking Europe by storm
[6] Geopost Out-of-home Deliveries
[7] Q1 2024 InPost Results presentation 14.05
[8] Hive Box Lockers Crisis in China
[9] Delivering Lockers InPost Report

Parcel lockers are also often available 24/7 thanks to being located in public spaces, whereas traditional out-of-home network locations have business opening hours that constrain when consumers can pick up or return their purchases.

Success and challenges

85% of respondents described the introduction of parcel lockers as a success, with only 2% admitting that their introduction had been unsuccessful, and 13% ambivalent. However, when it came to reporting the challenges they had faced, the picture was reversed, with 13% saying they did not experience any particular issues.



Two thirds (67%) had found it hard to find the right locations to put lockers. This is an ever-increasing challenge, given how crucial location and network density are to the success of locker projects, the fact that more and more competitors are entering this market is making finding the right locations the number one priority for logistics businesses deploying new lockers.

"A key part of the issue is in finding ways to get the option visible to consumers at the point when they're making decisions on merchant websites"

Partnerships with local authorities, transport bodies and retail chains are able to help when it comes to finding locations that have good footfall and proximity to residents, but these entities are not likely to enter into many partnerships of this type, so early movers have had a big advantage.

The second most common challenge is driving consumer adoption, experienced by half of respondents. This is obviously crucial, as without consumer adoption, parcel lockers are not likely to get the volume of parcels that they need in order to be economically viable. A key part of the issue is in finding ways to get the option visible to consumers at the point when they're making decisions on merchant websites, i.e. at the checkout or in the returns process. Providing location data and finder capabilities to retail clients is one way for logistics businesses to help drive consumer adoption.

Under-utilization of parcel lockers affected 44% of businesses who had deployed them. Not having enough volume could be a downstream effect of the first two issues with location and adoption. Lockers are fairly expensive to deploy in significant numbers, and the return on that investment is predicated on improving the consumer experience enough to drive usage and thus consolidation of parcels, reducing the overall cost of the out-of-home network. If too many locker compartments are empty (or if dwell time is too high when consumers don't pick up parcels quickly enough, effectively tying up compartments for days at a time), that consolidation benefit is reduced.

Why are lockers so dominant?

One main reason is that parcel lockers are currently the main viable form of automation for parcel collection. Drop boxes, kiosks and self-service points are all valuable but given that the majority of parcel volume is moving from retailers to consumers, parcel collection is perceived as the major priority for parcel carriers and logistics providers. That makes lockers the pre-eminent form of automation in the first and last mile.

Lockers can also be used for returns or consumer shipments of parcels, of course. In practice, many locker operators have found that this is actually the primary use-case for parcel lockers, as customers who are used to the convenience of home deliveries are more habituated to leaving the house to make returns at post offices and PUDO locations, so locker adoption is a smaller step to take in the return journey than on the outbound.

"If parcel carriers and postal operators want to ever have lockers and fear losing out to the competition, the sooner they move the better"

Again, we should also consider the snowballing impact of competitors deploying lockers, the scarcity of valuable locations and the requirement for scale to be successful. If parcel carriers and postal operators want to ever have lockers and fear losing out to the competition, the sooner they move the better. That urgency is clear both in the rate of overall adoption, but also in the unprecedented interest in collaborative, carrier-agnostic projects that exist almost exclusively in the realm of parcel lockers. These aim to consolidate the benefits of lockers for all partners rather than competing over the same real estate in a way that reduces the efficiency of every player. In theory, everyone then gets to play in the locker space without shouldering the cost alone.

Why are other options not used more?

There's evidence to suggest that the enthusiasm for lockers obscures the value of alternative solutions. Lockers risk being used as a one-size-fits-all tool for automation in the first and last-mile, and while they can reliably handle collections, C2C shipments and returns in a way that does make them a solid option for each consumer journey, the cost, siting requirements and competitive nature of the market does mean that more dedicated alternatives might have more of a place in the automation space than they're currently being given.

"Much can be improved in terms of partially automating existing PUDO locations"

The fact that relatively low-tech drop-boxes for labelled parcels are currently the second-most-commonly used form of automation in out-of-home networks shows that while lockers are taking the spotlight and space, much can be improved in terms of partially automating existing PUDO locations; and some options actually have the potential to go beyond and expand out-of-home networks to new types of location.

So where might the market look next when it comes to automation for the returns and C2C sends that currently clog up post offices and parcel counters?

The benefits of smaller formats

01

Existing locations, new locations & relocations

One of the main advantages of smaller formats of automation is their greater location variety and flexibility. Devices like self-service kiosks can be installed inside convenience stores and fuel stations, but they also have the potential to open up totally new kinds of location for parcel drop-off, such as coffee shops, gyms, and or even fast-food restaurants.

Kiosks are far easier to install than lockers, with many formats able to be plugged in, switched on and used almost immediately. They can also be moved if the location wants to change its layout, reducing installation and maintenance costs.

02

Improved CX and extra services

Like parcel lockers, kiosks can offer additional services on top of the physical drop-off, like label printing or allowing customers to purchase postage for their drop-off. They can also be just as user-friendly and intuitive as a parcel locker, even easier when specialized for specific journeys like dropping off returns or sending parcels. For example, Blue Yonder's Drop-Off Kiosk journey can be completed in under 60 seconds, and the Counter-Top Kiosk flow takes as little as 30 seconds.

03

Capacity management made easy

Despite their much smaller size, in the right circumstances kiosks can handle a greater volume of parcels than a typical parcel locker bank. Of course, this depends on fill rate and how frequently parcels are collected from a locker by consumers and added in or taken away by couriers. However, because kiosks only deal with drop-offs and operate inside host locations, staff are on hand to empty them when they fill up, so they can be filled and emptied many more times per day than a locker is likely to be. That can result in amazing throughput, even with small devices. Blue Yonder's drop-off kiosks have handled over 25 million parcels, with individual kiosks able to process over 400 parcels in a single day.

04

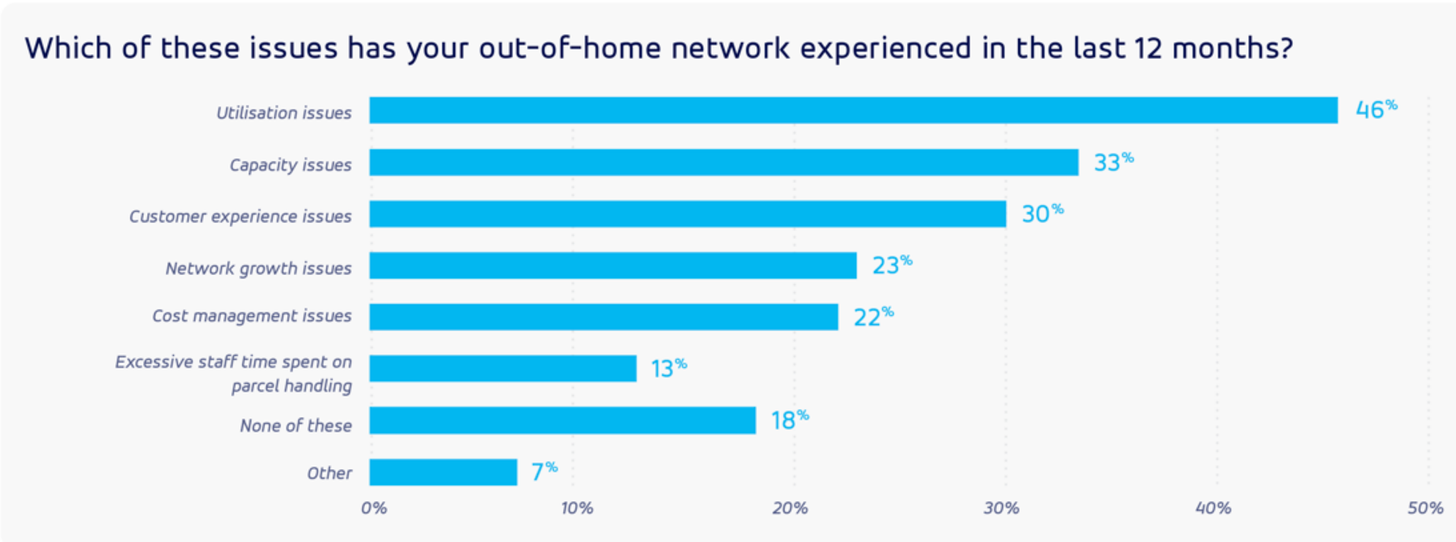
A better deal for host partners

Parcel kiosks can also increase footfall to host locations and increase spend in-store, bringing host locations more revenue, while reducing staff workloads compared to non-automated PUDO. Because consumers don't need to queue at the counter with their parcels, kiosks can also help reduce queueing in stores. The benefits for host locations make kiosks a more attractive offer for logistics operators when finding new partners to scale and expand their networks.

Because they're located inside stores, kiosks draw more footfall to the store itself than a parcel locker outside or nearby, and they take up significantly less space than a parcel locker does when installed inside a store or other host location.

The challenges faced in parcel collection and drop-off today

The most common issue for our survey respondents in their OOH networks was under-utilization, whereby locations don't receive enough volume to be economically efficient, experienced by 46% of respondents. However, the second most common issue is the opposite, as capacity issues (whereby locations received more volume than they could handle) affected a third of the sample (33%).



These being the top two issues shows just how delicate a balance it can be to build and manage an out-of-home network efficiently given the highly seasonal nature of package delivery and returns, and when some network locations are in higher-traffic or more densely populated areas while others are naturally less busy.

It makes sense then that given under-utilization was the most common issue (and customer experience issues were third on the list, affecting 33%), improving customer experience is a key aim of introducing automation. Improving the customer experience should encourage both repeat usage and faster adoption for new users, which in turn will drive higher utilization.

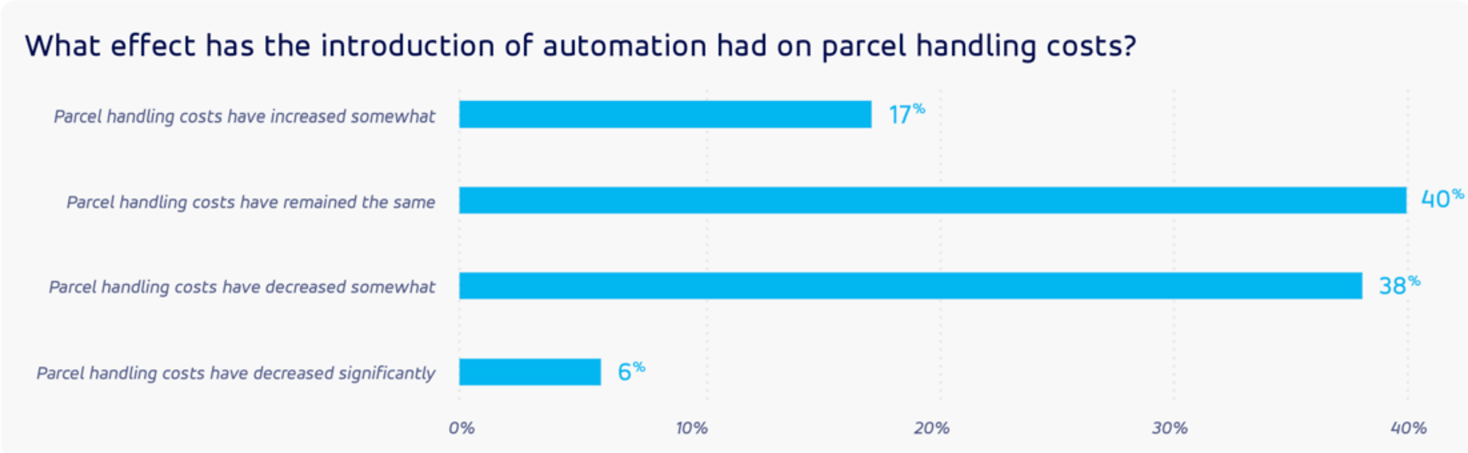
"Increasing the capacity of existing infrastructure like post offices and PUDOs through automation makes them more resilient"

On the other hand, the challenges of locations receiving too much volume to handle being the second biggest concern helps to explain why capacity management was a motivation for adopting automation for over a third (35%) of respondents. Increasing the capacity of existing infrastructure like post offices and PUDOs through automation makes them more resilient, whether they need that because they receive high volumes year-round or because they are likely to be overwhelmed at peak.

Cost management issues affected only 22% of respondents, but it was still an important motivator for introducing automation for 72% — few businesses would turn down reduced costs given the opportunity, after all! Similarly, staff spending too much time handling parcels is not considered a pressing issue in out-of-home networks, only noted by 13% of respondents, but again it was a popular motivation for introducing automation for 39% — reducing staff handling time was the third most common goal of automation projects.

What could this discrepancy mean? It might suggest that when businesses come to evaluate the benefits of automation up close, they realise that there are potential productivity gains and cost reductions which had not been apparent previously, or which had not manifested as issues per se in the network as a whole.

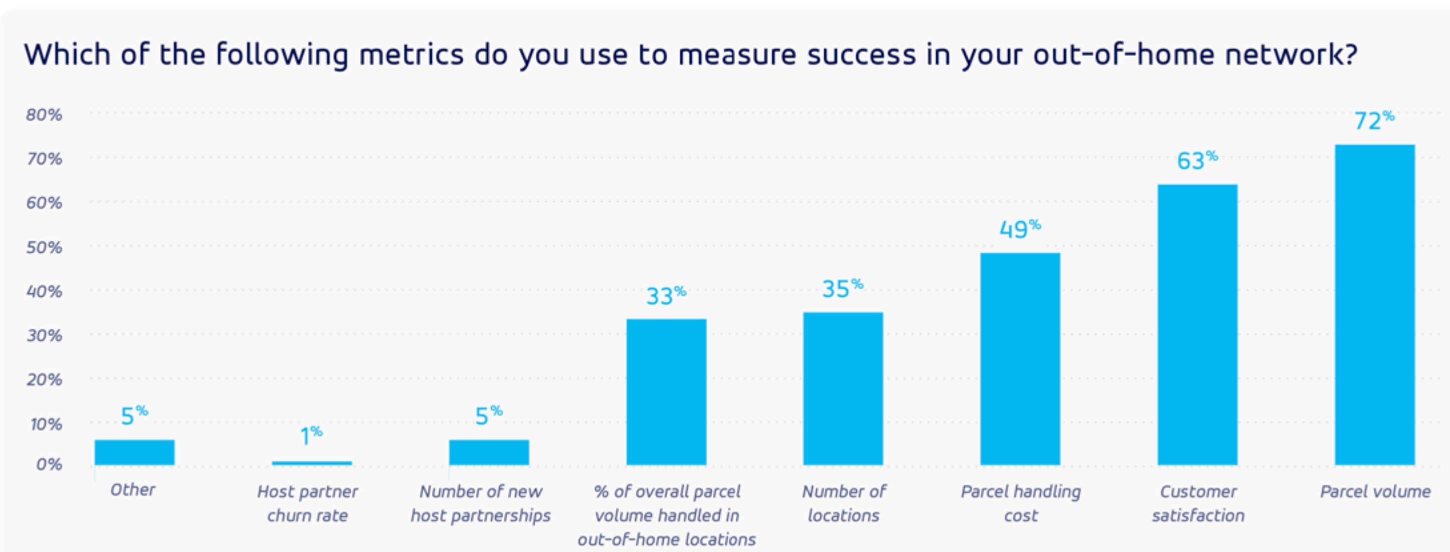
Cost impacts of automation



For 44% of logistics businesses with out-of-home networks, parcel handling costs have decreased since the introduction of automation to those networks. A similar share (40%) said that handling costs had remained the same since the introduction of automation, and a small minority (17%) said that handling costs had increased since introducing automation.

Broader economic trends over the past 12 months (high inflation, difficulty recruiting and retaining staff) might be contributing to increased parcel handling costs or offsetting some of the gain in productivity made by increased automation. The fact that under-utilization is the number one issue in OOH networks also means that the efficiencies of consolidation are not being realized to the extent that they could be, and also limits the potential benefits of automation if the network overall is not being utilized to its fullest.

Success metrics

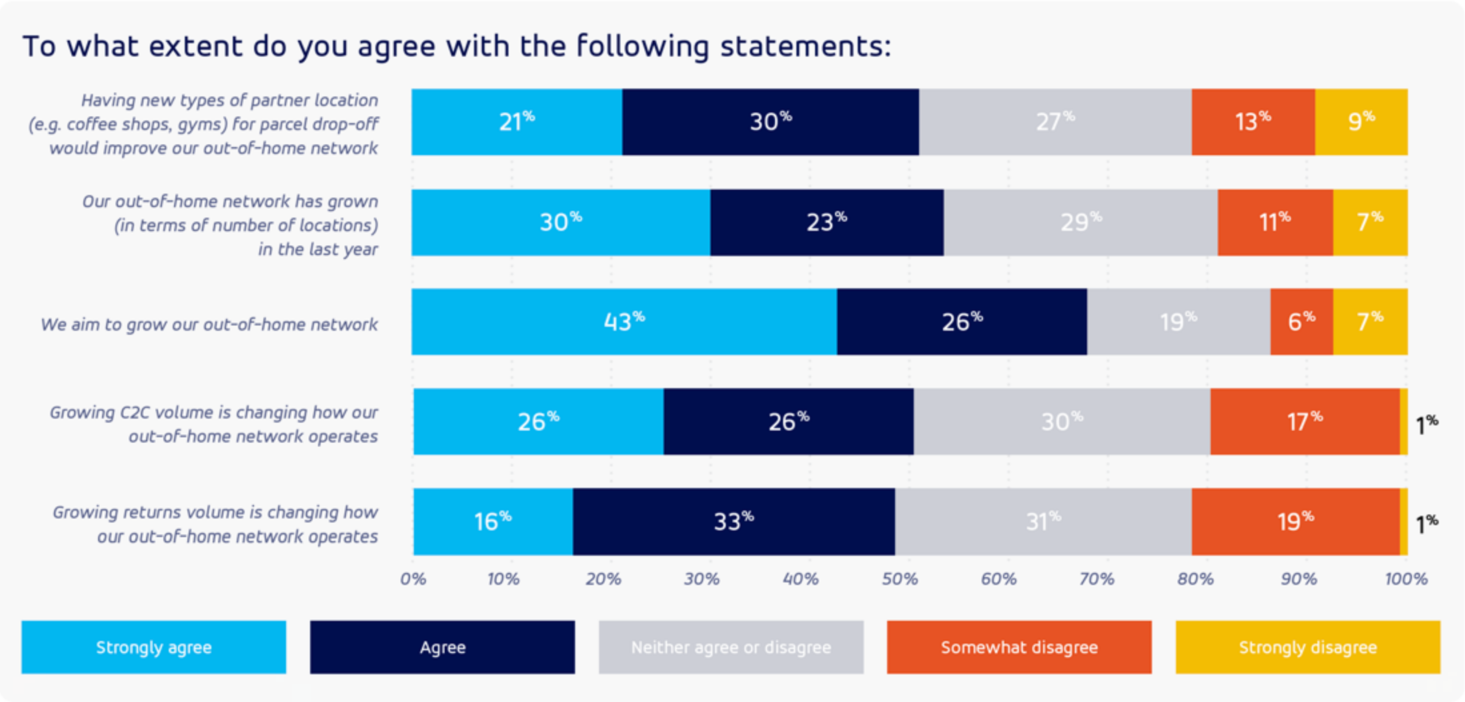


Unsurprisingly, total parcel volume is the most commonly used metric of success in out-of-home networks, used by 72%. Customer satisfaction was more commonly measured than parcel handling costs — indeed, less than half of our survey measured parcel handling cost as a KPI for their out-of-home network.

That might be because customer satisfaction is more easily surveyable and trackable than specifically identifying and attributing all the costs associated with out-of-home parcel collection and drop-off handling. However, given that one of the main principles behind the use of out-of-home networks is to make last-mile delivery and first-mile drop-offs more efficient, the fact that half the market isn't tracking handling costs in the network is still a surprise, and illustrates that there's an opportunity for more sophisticated measurement and approaches in the space.

Priorities and the future

We asked survey respondents to rate the extent to which they agreed with a set of statements, to understand how they thought about market influences and the future of their out-of-home networks.



A plurality of respondents (49%) agreed that returns were reshaping the way their out-of-home networks operate, and a majority (51%) agreed the same for consumer-to-consumer (C2C) shipments. The growth of these segments is recognizably driving change in out-of-home networks, even if it's not named as a primary motivator for automation as such. The influx of returns and C2C shipments has brought with it an increase in consumers queueing for long periods at parcel counters in post offices, parcel shops and PUDOs, with knock-on impacts for those crucial metrics around customer satisfaction and parcel handling cost.

"The growth of these segments is recognizably driving change in out-of-home networks"

Over two-thirds of logistics providers agreed that they aimed to expand their out-of-home networks, with just 13% disagreeing. That contrasts somewhat with only 35% saying that number of locations is a key metric for their network, but discrepancies between strategic goals and the actual metrics used to determine success can happen.

A little over half of respondents said that their network had grown in the last 12 months, so a solid proportion of the 67% who aimed to expand are achieving that goal to some extent. Another majority (51%) agreed that the ability to open up new types of location for drop-off (like coffee shops or gyms) would improve their network. These locations could only be viable through the adoption of small-format drop-off automation, which don't take up the space of a parcel locker or staffed counter, but can still process hundreds of parcels per day and be emptied by staff in free moments, rather than burdening them or adding to queues in rush times.

Conclusion

Logistics providers are making significant strides in automating their out-of-home networks, making them a better experience for customers and staff alike, reducing the costs of parcels processed through these networks, and enabling future growth in a more efficient paradigm.

"It's also apparent that one format, the parcel locker, has taken up a huge amount of the focus"

However, it's also apparent that one format, the parcel locker, has taken up a huge amount of the focus for this push. Parcel lockers are an excellent tool that many parcel carriers, postal operators and other logistics operators will benefit from using — but it may not be the right answer for all situations.

This much is clear from the fact that even one of the leading locker businesses in the world, InPost, has both acquired a large PUDO network (in Mondial Relay) and is now launching its own branded PUDO operations in countries like the UK, to the point where 46% of its locations are PUDO stores.

"Automation within PUDO locations and post offices is the next frontier for logistics businesses"

So while parcel lockers are an excellent multi-purpose form of collection and drop-off automation with many genuine benefits, it's also true that PUDO locations and post offices are still vitally important for a successful out-of-home network, and automation within these locations is the next frontier for logistics businesses aiming to make their customer touchpoints as efficient and impactful as possible.

That will likely take the form of trials of smaller formats for parcel collection and drop-off automation, which can help businesses tailor their services to capture growing returns and C2C volumes.

To find out more about the next generation of automation within post offices, parcel shops and PUDOs, visit:
blueyonder.com/solutions/returns-management

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