

DIGITALIZED LOGISTICS: SIGNED, SEALED, AND DELIVERED

How the logistics industry can rise to new challenges and stay in control



Honeywell

THE TRANSFORMATION OF LOGISTICS IS CONSTANT



Ever since the growth of the internet in the 1990s, the pace of change in the logistics space has accelerated, and the eCommerce boom in 2020 triggered yet another step-change. According to a Forbes report, by 2026 the eCommerce market is expected to total over \$8.1 trillionⁱ, and forecasts indicate that the online segment will make up close to a quarter of total global retail sales by 2027.ⁱⁱ This is an ongoing market shift that will require third party logistics (3PL) providers to leverage new tools, tactics, and technologies to stay ahead in an ever more competitive landscape.

Demand for home delivery and versatile fulfillment options continues to rise, and the 3PL market is set to grow despite headwinds from external factors such as growing geopolitical instability, the negative impacts of climate change, an inflationary economy, and the continued fragmentation of global trade. Mordor Intelligence estimates this growth at a CAGR of 5.48% between 2024-2029 – from a current market size of US \$1.29 trillion to US \$1.68 trillion in 5 years' time.ⁱⁱⁱ

But that growth isn't guaranteed. It is contingent on 3PLs adapting to a changing, more customer-centric global supply chain structure. A global survey commissioned by Honeywell of 1,000 leaders across transport and logistics, retail supply chain and manufacturing finds that customer experience differentiation is now the greatest driver of new technology [investments](#). Two of the most significant challenges within this shift are the digitalization imperative and ongoing changes in the workforce.

To address these challenges, it is imperative for 3PLs to invest in technology and develop strategies to streamline their processes, unlocking the full potential of their workforces by automating repetitive tasks, minimizing errors, and making downtime as rare as possible.

So, let's explore these challenges – and the solutions – in more detail, and learn how 3PLs can regain control in a competitive landscape and harmonize excellence across their operations.

THE ROADBLOCKS TO SUSTAINABLE GROWTH



Sustainable growth in the 3PL market is impeded by various existing and new business challenges:

- Customer expectations
- Manual documentation process
- Workforce management
- Cost management

DESPITE GLOBAL TRADE UNCERTAINTY, PARCEL SHIPPING VOLUME IS PREDICTED TO REACH 225 BILLION PARCELS BY 2028, UP FROM 161BN PARCELS IN 2022.^{iv}

Customers have new and heightened expectations: they want end-to-end visibility of their purchases, and they want their orders delivered faster. What's more, there is now a desire for a more experiential shopping process, one that offers personalization and interactivity, even within digital spaces.

These expectations have seen an explosion in the volume of data and documentation 3PLs must process: each parcel shipped generates data and documentation for 3PLs to manage. It's a volume that's too large to deal with manually using traditional paper processes, introducing the requirement for digitalization of documentation processes as well as the drive to automate picking, packing, tracking and other crucial tasks

Additionally, this transformation is also reshaping the 3PL workforce, in both size and nature. Demand for delivery and logistics workers has exploded as retailers grapple with rapid ecommerce growth, but the demographic of the workforce is also changing, increasingly made up of younger, temporary, or zero-hours contract workers. This workforce makeup is introducing skills gap issues for 3PLs. According to PwC, just 23% of organizations completely agree that their supply chain teams currently have the necessary digital skills to meet future goals.^v

Amongst all these challenges, 3PL businesses are struggling with cost management, with budgets decreasing as innovation across the business requires increased investment. A Honeywell survey found that 49% of global leaders in the sector list cost management as their top strategic priority for [2024](#).



INVESTING IN DIGITALIZATION

In today's 3PL industry, data-driven decision-making is crucial. To meet these expectations, 3PLs must put the foundations in place to enable real-time analytics insights – and that begins with digitalization.

Digitalizing trade documentation is an important step that can avoid unnecessary cost, save time, and enable trade for medium-sized businesses. It can also improve supply-chain resilience and help to mitigate inevitable future disruptions, as well as accelerating the process of deriving crucial insights from business data.

By prioritizing digitalization, robust data, and clear strategies, 3PLs can offer improved traceability and end-to-end visibility across the supply chain, as well as leveraging that data to deliver on customer expectations for personalization.



ACCORDING TO A RECENT STUDY, 94% OF SHIPPERS CONSIDER ANALYTICS IMPORTANT IN ENSURING TIMELY AND COMPLETE ORDER FULFILLMENT, AS WELL AS PACKAGE VISIBILITY.^{vi}



END-TO-END SOLUTIONS

While some processes remain the same across the logistics sector, where each organization is now and where it wants to get to will differ. Every 3PL is unique in that regard, and so there is a rising need for tailored solutions which can integrate smoothly into existing systems.

3PLs need strategies for full integration across the supply chain, ensuring that data insights can be fed across different departments to deliver a seamless service and maintain operational visibility. To meet the demands of evolving consumer expectations, warehouse management systems will need to integrate with Electronic Data Interchange (EDI), shopping carts, and marketplace platforms, enabling DIY/ customized integrations. Only by implementing a comprehensive technological infrastructure, underpinned by AI, machine learning, and robotics, can 3PLs implement digital solutions like:

ASSET MANAGEMENT SOFTWARE

DIGITAL TASK MANAGEMENT

WAREHOUSE MANAGEMENT SYSTEMS

TRANSPORTATION MANAGEMENT SYSTEMS

UNIFIED COMMUNICATION SOLUTIONS

WAREHOUSE AUTOMATION SOFTWARE

WAREHOUSE EXECUTION SYSTEMS (WES)

REVERSE LOGISTICS SOLUTIONS



NEED FOR SPEED: WINNING WITH AI AND MACHINE LEARNING

AI, ML, and robotics can be transformative in developing effective solutions to the digitalization imperative. Following the influx of conversation around AI and its potential deployment in 2023, focus has now shifted to practical adoption planning. Recent Honeywell research finds that AI is the number one priority technology investment area for 3PL industry leaders (33%) followed by task management software (32%) and reverse logistics software ([24%](#)).

Perennial issues such as time, cost, accuracy, and resource availability are all benefits that AI and ML can deliver. Consider the value of ML, for example. Its main advantage is its capacity to process data, recognize patterns in that data and determine the key factors that influence the performance of a 3PL company. This kind of insight is essential to instilling excellence in 3PL operations, helping to reduce errors, spot potential issues before they occur and deliver better, faster service to customers. According to Honeywell research, more than over 99% of leaders in transport and logistics, retail supply chain and manufacturing are planning to use AI in some form over the next 12 [months](#), emphasizing its importance to the ongoing transformation of the sector.

Companies can harmonize excellence across their operations by using ML to improve supply chain planning and execution through real-time algorithms and scenario modeling. There are several practices for ML and AI across the 3PL value chain, including powering centralized, cloud-based platforms to manage the complete lifecycle, operational visibility and performance information of assets, people, and tasks.

ML and AI can also be used in conjunction with automation to improve the effectiveness of warehouse execution systems (WES), integrating disparate workflows into cohesive, efficient operations. This can enable dynamic, real-time decision making for smart order prioritization and order release execution. Plus, as malicious actors increasingly employ AI as a tool for sophisticated social engineering and phishing cyber attacks, businesses need to not only keep up with threats, but utilize the same AI tools to identify warning signs and stop cybercriminals in their tracks. Other potential enhancements delivered by machine learning and AI include supply chain planning, warehouse analysis, demand forecasting and many more – the potential use cases are wide-reaching

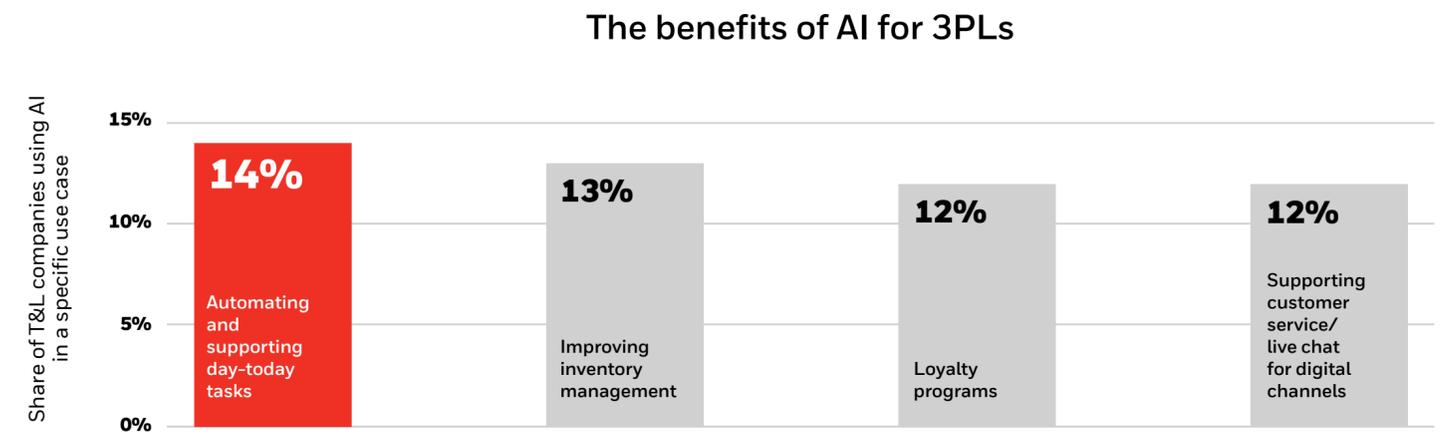


Figure 1 [Serengeti Tech, Aug 2022]

ON THE ROAD AGAIN: MOBILIZING YOUR WORKFORCE

The 3PL industry is struggling to attract new talent, with many firms finding it difficult to fill vacancies due to a lack of interest or a lack of qualified candidates.

This is compounded by a driver shortage that has been a top concern for the industry for several years. The shortage of skilled workers leads to decreased productivity and efficiency, which poses a challenge for 3PLs whose margins are sensitive to such decreases.

The changing generational dynamics in the workplace add another level of complexity to the labor challenge. The departure of the Boomer generation has created a gap in knowledge and skills, particularly when it comes to new AI and ML-enabled devices and technologies. The workplace culture, processes, recognition, and training that appealed to the older generation are often the opposite of what the Millennial and Gen Z workforce prefer.

Where Boomers are motivated, for example, by prestige, title, and goal accomplishment, happy to get by on very little feedback, Gen Z value mentorship, flexibility, and financial incentives. Additionally, there is a negative perception that supply chain work is monotonous and tedious, and the warehouse work environment is often lacking.



31% OF TRANSPORT AND LOGISTICS, RETAIL SUPPLY CHAIN AND MANUFACTURING LEADERS SAID THEY LACK THE INTERNAL EXPERTISE TO MAINTAIN TECHNOLOGY

Familiarity is key to understanding, and the likelihood is that the new, younger generation of workers use a smartphone in their day-to-day life, so 3PLs need to find a way to translate this understanding to the workplace, enabling the evolving workforce to gain the skills necessary and work in a way that's intuitive to them.



3PLs can distinguish themselves as employers by developing a strategy for engaging and empowering their workforce, including:

Training and
up-skilling

Technology
enablement

Flexible
scheduling

Gamification

Social
sustainability

UPSKILLING AND TRAINING PROGRAMS

Onboarding new workers is a significant investment for 3PLs. On average, employee turnover in the warehouse industry is a huge 46% annually, compared to an average of 12-15% across all industries. Retaining existing employees is therefore vital to profitability, so investing in the careers of current employees through upskilling is a must.

This is because it is typically more cost-effective than hiring and training new employees. Millennials and Gen Z crave a clear understanding of their career trajectory with their employer and desire new challenges to enhance their learning, which can be achieved with an ongoing training program delivered via a range of platforms and channels. Additionally, to avoid knowledge loss as older generations of the workforce retire or move on, 3PLs should consider offering alternative positions or assignments to tenured employees nearing retirement to facilitate knowledge transfer and retain valuable employees.

In the past, onboarding and training new employees could take weeks, but that is no longer the case. Nowadays, new hires prefer a shorter onboarding process, and employers need people to start working as soon as possible. Therefore, onboarding has become much quicker, typically allotted only a few hours. To achieve this, training programs need to be brief, self-paced, and easily accessible.

Moreover, having the appropriate technology stack is crucial, as **user-friendly devices and software can significantly reduce training times, by up to 85%.^{viii}**



WORKFORCE TECHNOLOGY

Today's workforce considers technology to be a fundamental requirement.



MOBILE COMPUTERS

Mobile computers can be used on site or on the road. From simple data capture scanning to complex, data-intensive software, 3PLs can error-proof in-store merchandising, inventory management, picking, receiving and putaway, tracking, quality control and safety inspections, and last-mile processes.



VOICE AUTOMATION

Voice automation technology helps workers to work hands- and-eyes-free to maximize tasks such as: picking, inventory replenishment or fulfillment. It also improves worker safety, reduces training time and it can increase productivity, as well as augmenting maintenance and inspection workflows.



LABOR MANAGEMENT SOFTWARE (LMS)

LMS delivers on-demand intelligence to measure, manage and plan DC labor allocations to increase productivity, efficiency, and overall facility performance. Executive dashboards give operators insightful reporting and performance analytics to drive continuous improvements.



WEARABLES

Wearables free logistics workers to operate without the need for handheld devices, particularly useful for tasks which require a greater degree of mobility or concentration. This optimizes employee efficiency and productivity, which in turn can reduce overall labor costs for 3PLs.



RUGGEDIZED SCANNING DEVICES

3PL drivers need optimized scanning devices to capture images to verify consignment/package delivery, contact-free. 3PLs can invest in rugged devices that can cope with working conditions such as drops, tumbles and vibrations, and achieve longer scanning distances with higher resolution cameras.



WORKFORCE AND TASK MANAGEMENT SOFTWARE

Workforce management software provides advanced data collection and analytics capabilities, maximizing mobile workforce productivity while ensuring process compliance. This advanced software can minimize errors, lower attrition rates, improve safety, and reduce training time.

AUTOMATION AND ROBOTICS

The use of robots in logistics aims to improve productivity. The global warehouse automation market will grow from \$29.6 billion in 2020 to \$69 billion in 2025,^{ix} with many large facilities implementing robotic picking arms, vision systems, and smart software to reduce mistakes and enhance efficiency.

Robotics and automation are ideal for various tasks in 3PL warehouses, such as picking and packing, sorting, loading, and transportation of goods. These repetitive tasks demand high accuracy, making automation a perfect fit. Apart from reducing labor expenses, automation can enhance efficiency, accuracy, and safety. Robots can work 24/7 without breaks and are less prone to errors compared to human workers.

As 3PLs face mounting labor challenges, automation and robotics will grow in importance. They can assist in improving productivity, efficiency, customer service, and reduce labor costs. Indeed, many automation and robotics workflows are not entirely human-less. There is usually a human worker involved who works collaboratively with the technology in the course of their daily duties, leveraging it to help them work more quickly, accurately, and seamlessly.



The adoption of robotics and automation in 3PL is still in its early stages, but it's quickly expanding. As these technologies advance, they will become more vital in addressing labor shortages and enhancing operations for 3PL providers.

3PLs should consider leveraging robotics for a variety of applications, including:

SMART, FLEXIBLE DEPALLETTIZING

Quickly unload mixed-SKU or single-SKU pallets in any sequence with no pre-programming.

LOADING AND UNLOADING

Autonomously load and unload trailers with minimal operator supervision.

MOBILE ROBOTICS

Transport loads, handle carts, and perform machine tending jobs with autonomous mobile robots (AMRs).

PALLETTIZING AND DEPALLETTIZING

Efficiently build stable pallet loads according to operational requirements, increasing throughput and improving ergonomics while reducing operational costs.

Robotic solutions automate the labor-intensive tasks of stacking and unstacking a broad range of products, packaging types and configurations. SKU proliferation, international markets or other complexities are easily accommodated with the latest solutions, and modular designs offer compact footprints and the ability to scale from a single robot to large multi-arm systems as your future growth demands.

THE FUTURE OF 3PL

The 3PL sector is constantly facing challenges, but growth opportunities do exist. 3PLs can overcome these obstacles and succeed in the future by focusing on differentiating their customer and employee experience through digitalization, software integrations, machine learning and AI, and workforce strategies.

By following these recommendations, 3PLs can overcome the challenges they face and position themselves for success in the years to come.

To address challenges in the 3PL industry, companies should invest in digital transformation for data-driven decision-making and software integrations. Attracting and retaining top talent with competitive wages, comprehensive benefits, the latest generation technology, and innovative training programs is also important. Additionally, diversifying revenue streams by offering new services and integrated systems and software can be beneficial. Following these recommendations can help 3PLs overcome challenges and position themselves for success in the future.



HONEYWELL: DIGITALIZED LOGISTICS, SIGNED, SEALED, AND DELIVERED

Honeywell Industrial Automation harnesses technology to automate repetitive tasks, minimize errors, and unlock workforce potential. Our transportation, logistics and warehousing solutions are custom designed to address the unique needs of the modern 3PL workforce, while positioning your operations to deliver on the increasingly challenging expectations of today's customer.

By collaborating with Honeywell via intelligent platforms like Operational Intelligence, Workforce Intelligence, and Smart Talk, and pairing those solutions with our world-renowned mobile computers, scanners, tablets, and more, 3PLs can combine their AI aspirations and customer experience differentiation requirements. With industry-leading solutions for automation, labor management and warehouse execution, coupled with decades of experience delivering for 3PLs, Honeywell is ready to help you harmonize excellence and deliver great customer and employee experiences in the new era of logistics

i <https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/>

ii <https://www.statista.com/statistics/534123/e-commerce-share-of-retail-sales-worldwide/>

iii <https://www.mordorintelligence.com/industry-reports/global-3pl-market>

iv https://www.pitneybowes.com/content/dam/pitneybowes/us/en/shipping-index/23-mktc-03596-2023_global_parcel_shipping_index_ebook-web.pdf

v <https://www.pwc.com/us/en/services/consulting/business-transformation/digital-supply-chain-2022-trends/supply-chain-workforce-operations.html>

vi <https://www.dispatchtrack.com/blog/third-party-logistics-trends>

vii <https://harver.com/blog/warehouse-turnover-rate/>

viii <https://sps.honeywell.com/gb/en/software/productivity/order-picking-fulfillment/voice-picking/>

ix <https://interactanalysis.com/warehouse-automation-market-to-expand-to-over-69bn-by-2025/#:~:text=London%2C%20th%20October%2C%202021%20%E2%80%93,company's%20total%20warehouse%20automation%20report.>

For more information, or if there's anything you would like to discuss,
please contact automation.honeywell.com