



Evolving Global Logistics for Success: Making the Move to Automation

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A New Playing Field

Over the past several years, Black Swan events, such as the COVID-19 pandemic, the conflict in Ukraine, and the Suez Canal blockage, dramatically altered relationships between shippers, carriers, drivers, and logistics providers. It touched not only the industry, but people worldwide in both their businesses and personal lives.

As we move past the events of the last few years, the world is different, though normalizing in many ways. At the same time, many other megatrends continue to evolve, shaping our industry and world into new forms with new needs.

Critical issues facing the third-party logistics (3PL) industry today include:

- **Labor Market** – Current warehouse and transportation workforces are aging out and labor costs are increasing, without available skilled replacements requiring an automation acceleration plan.
 - **Labor Fit and Desire** – Available labor is often not applicable for the job requirements or willing to take the work, while others have permanently traded a virtual commute over going to a work site.
 - **Available Cash** – Interest rates continue to increase, while inflation shows only the beginning signs of slowing, making access to operational cash increasingly difficult to maintain.
 - **Legacy Technology** – Execution and communication delays, lack of information sharing, and increasing security concerns often delay the progress sought by 3PL and logistics teams.
- **Nearshoring** – Unprecedented changes are occurring in today's supply chain, with many manufacturers choosing to move their production lines closer to home. This presents a shift in transportation routes and changes in warehouse needs and locations.
 - **Sustainability Goals** – Shippers worldwide are embracing sustainability as a corporate goal, moving environmental, social, and corporate governance (ESG) concepts from an afterthought to the lead force in meeting customer goals. This shift required logistics providers to make ESG-based changes in transportation, warehouse operations, and waste management.
 - **Supply Chain Infrastructure** – Worldwide, the transportation infrastructure is aging, with transportation bottlenecks and physical failures developing on a near weekly basis.
 - **Geopolitical Events and Economic Shifts** – Across the globe, geopolitical events, such as war, economic policy changes, food shortages, and elections, maintain a steady drumbeat of concern for the supply chain, adding interruption to an already unstable marketplace.
 - **Security Risk** – Cyber threats, guerrilla warfare, and cyber attacks pose challenges to 3PL and logistics teams in their ability to serve their shareholders and customers.



3PL Labor Challenges

48%

State they cannot find and retain talented workers

*Pallet Market and Supply
Chain News Today*

3.5%

July 2023 unemployment rate, with little to no change since March 2023

*Pallet Market and Supply
Chain News Today*

4.4%

Average hourly earnings increase, previous 12 months

*Pallet Market and Supply
Chain News Today*

These megatrends and shifts have exponentially increased the pace of labor automation, inventory in-stock expectations, and end-to-end visibility requirements, reducing cost to serve and delivery sourcing options to place greater demands on logistics providers. Those providers have matched the demand with new, and even greater levels of logistics service, often relying on their key software providers to support them through this period and onto the next leg of the journey.

Moving Forward

From the lessons learned regarding recent supply chain challenges and opportunities, we see a heightened urgency to become resilient. Shippers and 3PLs are now focused on key areas not only for their success, but also their very survival. Mission-critical initiatives now include:

- Optimizing end-to-end supply chains for greater efficiency, seamless execution, and stability
- Establishing a stable and diverse transportation network for the future
- Ensuring the right level of inventory is available both locally and abroad
- Developing sound labor and automation plans
- Maintaining consistent, artificial intelligence (AI)-enabled data access and monitoring to stay ahead of even the most minute changes and events through visibility, analytics, and cross-company collaboration

The pandemic and other recent megatrends have accelerated the adoption of key automation and technology throughout the supply chain. As shippers' strategic partners of choice, 3PLs, 4PLs, and 5PLs across the globe have been asked to execute these initiatives seamlessly for their customers. Successful logistics providers, both creative at re-engineering and focused on sustainability, have embraced the new waves of technology to meet evolving customer needs and industry demands. The emergence of robotics, sensors, and AI technologies are becoming mainstream, woven into the warehouses, customer support queues, retail stores, and trucks on the road. 3PLs and technology partners are working together to craft innovative go-to-market strategies and solution sets to offer speed, operational excellence, and agility for the future. In turn, forward-thinking logistics providers ensure they can deliver for their customers in any situation with scale, depth, and agility.

Unfortunately, we will likely have another crisis, economic disaster, or Black Swan in our lifetimes. The opportunity to react to lessons learned and to prepare strategic solutions for the next time is now.



Innovating for Success

The pandemic not only deepened relationships between 3PLs and their clients, but it also changed the landscape. Demand for e-commerce, increased volume of ocean containers, increased home and final-mile delivery, and sourced labor requirements emerged and left gaping holes to fill. Several 3PLs expanded their global scope to provide significant coverage in countries making up the majority of the world's gross domestic product. Other logistics providers expanded to new niches and modes of transportation to better serve their customers' needs.

This pivot created a need to fulfill immediate demand. At the same time, it also caused new solutions to come to the forefront in software, labor, and end-to-end supply chain management.

Some breakthrough innovations include:

- Use of the cloud as a single platform for enterprise data visibility and collaboration across customers, clients, and supply chain participants
- Expansion of the industrial Internet of Things (IoT), which creates new opportunities to leverage sensors and other technologies to streamline business operations
- Using cameras to validate trailer numbers upon check-in and reduce near safety misses
- Reducing idle time at check-in and departure to reduce CO2 emissions
- Adjusting consolidation features in optimization engines to source product closest to the delivery point
- Transition to solar or electric engines to reduce CO2 emissions
- Utilizing robotic labor to reduce mispicks, shorts, injuries, and carton waste
- Providing sustainable carton and gift wrap offerings on pack-out at the discretion of the consumer or shipping in the original equipment manufacturer (OEM) packaging
- Adjusting adapters on material handling integrator (MHI) equipment to be self-driving, instead of junking them after writing-off
- Changes in supply chain planning software to ensure inventory options are optimized with machine learning (ML) and AI that are based on real-time usage
- Expanded use of drone technology for yard surveys and inventory counts, along with the introduction of cameras and ML for trailer yard tracking



Third-party, contract, and cold chain logistics in 2021 and 2022 had a projected growth rate annually of

9% from 2023 to 2030, according to Grand View Research.



With the explosion of e-commerce retail logistics, with delivery to consumers, stores and return centers, there is an expected growth rate of

9.7% from 2022 to 2028, also according to Grand View Research.

Logistics Providers of Tomorrow

Today, logistics providers run value-added warehousing operations, manage robotics, perform supply chain network analysis and design, establish labor management strategies, develop value-added services, and manage call center and fulfillment operations. The list goes on and is ever growing.

Recent supply chain disruptions, labor shortages, and the rapid transformation of consumer buying behavior driving more toward e-commerce also are contributing to this trend. Conveyors, automated storage and retrieval systems, sorters, and many other technologies have been in use by distribution centers for decades.

- To offset labor shortages and improve order accuracy, automation is growing.
- This goes beyond traditional, fixed equipment to mobile robots, such as automated guided vehicles (AGVs) and autonomous mobile robots (AMRs).
- Picking assistants, bringing goods to a person for picking, packing, building, or moving pallets, and employing robots offer a long-term solution.
- Working with an agnostic software provider that can act as an orchestration arm for these evolving technologies is key.

According to the 2022 MHI Annual Industry Report, robotics and automation adoption will increase from

29% to **79%**

in five years.

To adjust to these changes, the 3PL community is dividing into two groups according to their service offerings, ability to scale, and software offerings.

Tier 1 Logistics Providers

Tier 1 providers are considered companies with a revenue over \$1B. They are typically large, global logistics providers and include 3PLs, 4PLs or 5PLs that are optimized for growth and able to take advantage of the North American, Latin American, and Asia-Pacific markets.

Key commonalities and goals among these providers often include:

- Expansion of their global scope to provide significant coverage in those countries that make up the majority of the world's gross domestic product

Approximately 18 3PLs have built the network scale required to offer single-source global solutions to large multinational companies. (Armstrong & Associates)

- Optimization of global 3PLs to be strategically aligned with the Global Fortune 500 and Fortune 100 companies, covering their end-to-end supply chain needs, including: supply chain planning, order management solutions, warehousing, and transportation
- Provision of cultural, geographic, and language support at the local level that is, backed by in-depth experience
- Supplier consolidation through multi-node operations and integrated solution offerings that can manage and scale to significant portions of customers' global supply chains
- Required agility, automation, and the ability to scale backed by solid plans to predict all supply chain legs with AI-infused data
- Addition of microservices, such as carrier management, marketplaces, digital freight payment, collaboration rooms, and technology health statistics as 4PLs and 5PLs increase service offerings to their customers and to the marketplace

The larger the shipper, the more likely it will have relationships with more than one logistics provider across its footprint.

Tier 2 Logistics Providers

Tier 2 providers are those companies with revenue over \$499M. Tier 2 providers are a vital element of the industry and are growing at unprecedented rates. These providers include 3PLs, 4PLs, and 5PLs, though may focus on a specific region, service, mode, or niche industry.

Tier 2 providers are often focused on:

- Demonstrating expertise in a specific niche, such as food and beverage, automotive, cosmetics, or building supply
- Offering value-added services to their clients in select regional plays
- Optimizing supply chain legs, such as reverse logistics, intermodal, or heavy haul
- Modernizing their brokerage, transportation, optimization, and warehouse execution systems to prepare for the future and grow
- Reducing IT infrastructure and complexity, increasing system reliability, and establishing a consistent budget, often causes Tier 2 providers to move to the cloud and adopt an interoperable software solution that allows them to utilize data more effectively

Automating the Supply Chain

Tier 1 and 2 logistics providers with the strategy to succeed in today's ever-evolving market have made the decision to modernize their supply chains through optimization, AI, and connected systems.

Automations Include:

- Platforms that offer visibility and exception-handling capabilities combined with transportation management functions for the daily management of orders, customer inventory, and optimization of thousands of shipments across both regional and large geographical areas
- Built-in networks that easily enable value-added warehousing operations with options across medical, retail, consumer packaged goods, cold chain, and others
- The ability to perform supply chain network analysis and design, as well as manage call center and fulfillment operations
- A single platform with automated collaboration workflows to reduce processing time and ensure inventory with exceptions is synced

Taking the First Step

In recent years, the logistics industry invested in key technologies to offer a vast array of services to ensure financial goals, service level agreements (SLAs), and key performance indicators (KPIs) are achieved through any market. Overall, establishing and achieving goals as a 3PL, 4PL, or 5PL in the Tier 1 or 2 space is critical. It requires a comprehensive approach to focus on strategies and initiatives with the entire organization aligned, starting with C-suite buy-in at the top and flowing to customers and the organization through all communications, SLAs, goals, and partners.

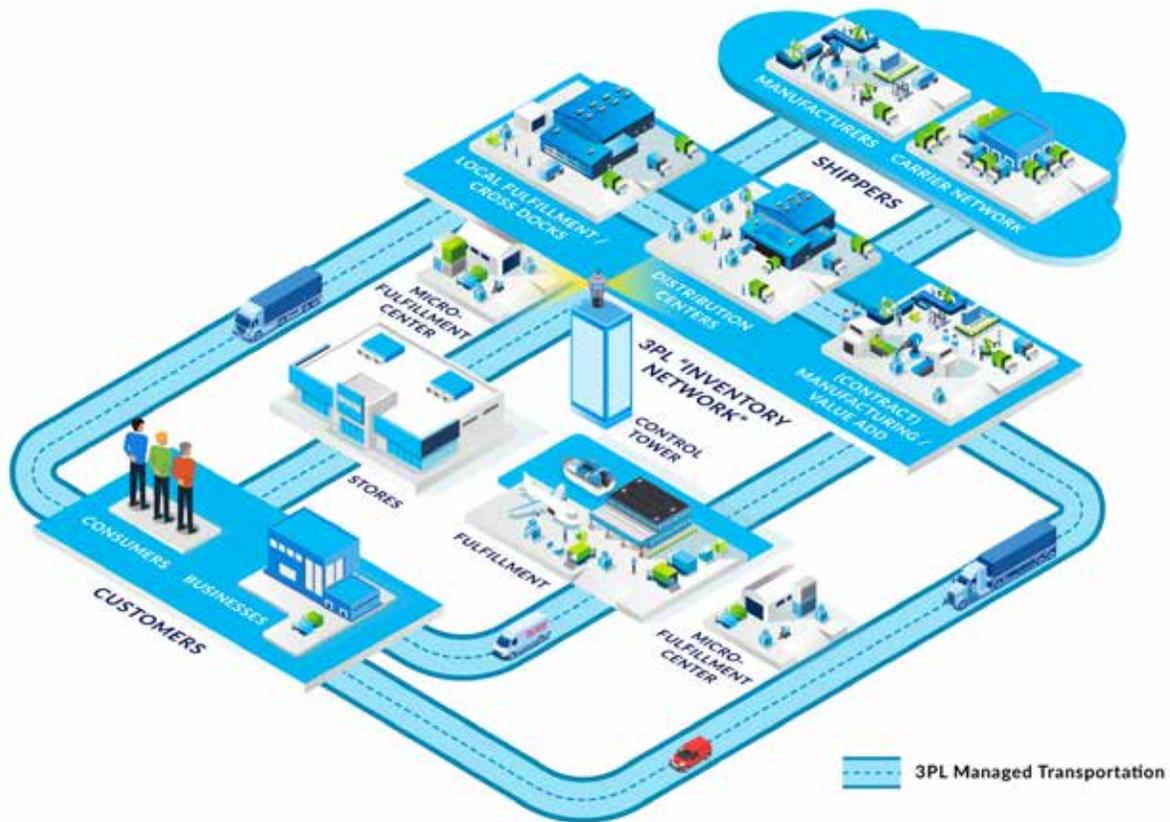
Blue Yonder and EY teams have partnered on several Operational Improvement Plan engagements that benefit 3PLs, 4PLs, and 5PLs at different phases of their journeys. As part of this service, operational workflows, productivity, growth, transformation, technology, and modernization were laid out in a blueprint with key milestones.

Benefits are divided into categories, such as:

- Simply do it, straightforward tasks that are required to move forward
- Timed approaches with shorter and longer termed goals tied to each company and their business mix
- Customer portfolios and SLAs
- Financial targets
- Sustainability goals and mission



3PL Industry End-to-End Supply Chain



When considering automation, establishing key goals for your organization's initiative is critical. Define success as the ability to:

- Reduce shipping costs while offering your customers broad service options
- Negotiate favorable contracts for your organization
- Leverage technology to hit sustainability goals for both your company and customers
- Reduce production costs through automation and the assurance that labor is not an obstacle
- Identify waste and just-in-time quality promises
- Map out your availability-to-promise (ATP) and deliver on KPIs
- Collaborate and enhance your supplier relationships with an agile communication and technology plan
- Improve forecast ability and accuracy by utilizing a robust reporting and AI model
- Place data analytics and industry insights at the forefront
- Scale your operation to add new value-added services
- Use interoperable solutions to take advantage of and increase the ease of integration and support

Preparing for the Journey

As you assess your business, consider the local and global market and your company's short- and long-term plans, and with those in mind, ensure alignment, communication and goals are tied to milestones. Equally important is embracing adaptive strategies with innovative partners that allow you to be nimble, scale, and grow.

Through the course of working with industry-leading 3PLs, Blue Yonder and EY teams have uncovered nine critical goals that successful logistics providers focus on in their move to greater automation:

1. Technology Integration and Software Platform Strategy
2. Generative AI Positioning Leadership
3. Customer-Centric Approach
4. Supply Chain Visibility
5. Labor Strategy
6. Sustainability and ESG
7. Current and Future Talent Development
8. Data Security and Protection
9. Continuous Improvement and Incremental Wins



As you get started, begin by assessing your needs. Triage your pain points to determine the key areas you need to focus on to not only improve service, sales, and ROI but also to grow and succeed in an evolving market. Define what you have in place, what is required to get started, and what would be nice to have down the road. Also define your timelines to meet these goals. Next, evaluate solution providers based on their ability to meet your needs.



Providers, such as Blue Yonder and the EY organization, help you understand your needs, as well as the right solutions to meet those needs. Work with those providers to identify the best solutions and implementation plan that meet the needs of your prioritized path forward. Most importantly, begin making the change, keeping your team focused on the end goal, and continue to monitor success and adapt through the process as needed. The efforts will be large but so too will the outcomes.

About Blue Yonder

Blue Yonder is the world leader in digital supply chain and omni-channel commerce and fulfilment. Blue Yonder's Luminate® platform is an end-to-end platform that provides synchronized business planning, execution, delivery, and labor solutions that optimize clients' businesses and people from end-to-end. Luminate Platform leverages industry-leading artificial intelligence (AI) and machine learning (ML) capabilities and workflow-driven user experiences to help clients better predict, prevent, and resolve disruptions across their entire business. At the time of writing, Blue Yonder highlighted its standing as the [only company recognized as a Leader in three Gartner Magic Quadrant reports](#) covering Supply Chain Planning, Transportation Management Systems and Warehouse Management Systems – consistently for the past three years. Please read our [TMS](#), [WMS](#) and [SCP](#) blog posts for details. If you would like to learn more, visit blueyonder.com.

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