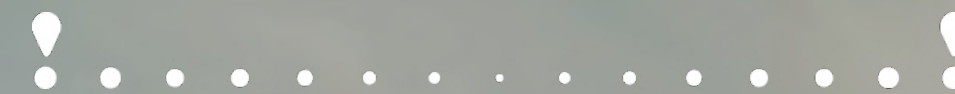


The science of intelligent resource orchestration: Transforming logistics warehouse management



PREDICT, ALIGN, AND ADAPT EVERY RESOURCE
TO DELIVER PRECISION, PRODUCTIVITY,
AND PERFORMANCE ACROSS ALL
CLIENT COMMITMENTS.

What resource management today means for Logistics Service Providers (LSPs)

47% of global supply chain executives see their business as vulnerable to disruption.



LSP warehouses manage multiple clients under one roof, each with unique requirements and service expectations. Performance depends on coordinating every resource across competing priorities. Yet when teams ask, "What's included in resource management?", answers often differ, creating misalignment before planning begins.

Understand what truly makes up warehouse resources


Resource management must account for all human, equipment, and automated resources with equal specificity: human roles, certifications, and skill sets trained across different client protocols; equipment such as pallet jacks, conveyors, and forklifts; automated technologies including ASRs, AMRs, AGVs, and PTLs; plus dock doors that govern inbound and outbound flow across client operations requiring precise coordination.

Recognize the gaps in traditional planning

Traditional planning separates human and automated resources into different scheduling processes, creating inconsistent readiness. These mismatched schedules cause gaps when people are available but equipment isn't, or vice versa. Such disconnects slow task execution and create inefficiencies across receiving, picking, replenishment, and shipping, directly impacting client SLAs.

Enable all resources to work together

LSP operations depend on coordinated execution across competing client demands. Tasks stall if resources aren't aligned. Trucks can't be unloaded unless dock doors are supported by the right people, automation, and equipment at the right time. Synchronizing all resource types prevents bottlenecks and ensures on-time delivery across every client commitment.



A holistic approach is the foundation of modern resource management, where every resource must be coordinated to sustain performance across multi-client warehouse operations.



The challenge of resource management in traditional logistics operations

Poor data quality is a bottom-line problem, with an estimated average cost to organizations of **\$15 million** per year.



LSPs struggle to manage resources effectively because legacy processes weren't built for multi-client complexity. Managing diverse customer requirements, fluctuating volumes across accounts, and varying service levels demands faster, more precise coordination across zones. Without modern tools, teams make reactive decisions that create operational volatility rather than predictable execution.

Resource silos prevent optimization

When human, automated, equipment, and robotic resources are managed independently, coordinated execution across clients becomes nearly impossible. Siloed schedules create gaps, forcing supervisors to redirect workers or wait for unavailable resources. These misalignments compound across clients, slowing returns processing decisions and leading to SLA breaches and reduced throughput.


Data overload limits decision-making

Warehouses generate more than 570,000 data points daily across multiple client systems, yet only a fraction informs planning or adjustments. Decision-makers rely on outdated information and backward-looking data, limiting their ability to anticipate client-specific workloads, identify bottlenecks, or reallocate resources as conditions shift across accounts.

Disconnected decisions create ripple effects

When decisions are made in isolation within specific zones or client areas, issues cascade quickly. A resource shift in one client's operation may cause congestion, delays, or shortages for another. Volatile demand across multiple accounts and daily disruptions magnify these ripple effects, creating an environment where managers constantly react and rarely stabilize operations.



 Modern resource management enables LSPs to coordinate multi-client operations with predictive models, machine learning, and real-time optimization that maximizes profitability while maintaining SLA commitments.

Resource management built for today's challenges and tomorrow's promise

The modern approach to resource management addresses the complexity of multi-client operations by connecting every step into a continuous improvement cycle. It brings together prediction, preparation, orchestration, and learning, enabling LSPs to operate with greater precision and adaptability as client demands evolve.

Principle 1: Predict and plan

Use machine learning to forecast resource requirements across all client accounts and refine forecasts continuously as volumes shift and new orders arrive.

Principle 2: Pre-shift brief


Provide agentic briefings, readiness checklists, and AI-driven task allocation by client priority so teams begin each shift with complete clarity on commitments.

Principle 3: Intra-shift monitoring

Deliver proactive notifications on shift health versus client SLAs with alerts on disruptions and recommended resolutions to protect service levels.

Principle 4: Improve the future

Identify underperforming KPIs by client account, highlight root causes, and recommend actions that strengthen next-shift readiness and profitability.

 These four principles form a continuous cycle, supported by the warehouse operations agent that keeps teams informed via mobile and desktop interfaces, and an embedded AI-powered warehouse execution system that orchestrates human, equipment, and automated resources across multiple client operations.

Principle 1: Predict and plan

Predict workload and plan resources precisely

Companies using prescriptive analytics report **32%** higher profitability.



Resource planning for LSPs begins with data from multiple client systems. Modern resource management ingests internal and external signals—client demand plans, inbound transportation forecasts, historical performance, promotional calendars, seasonal patterns, and weather conditions—to build reliable projections that account for competing priorities as execution windows approach.

Build forecasts using every relevant data source

Neural-network-driven forecasting powered by AI and machine learning incorporates warehouse history, client-specific demand signals, inbound schedules, promotional events, and seasonality to proactively predict task volumes days or weeks in advance. This ensures visibility into daily picks, replenishment work, cycle counts, receiving, shipping, and put-away activities across all customer accounts.


Forecast completion times with machine learning

Machine learning and a dedicated AI-driven forecast optimizer calculate the time required to complete thousands of tasks by work zone, client account, and role. These cognitive insights generate a detailed view of daily resource needs across labor, automation, and equipment, tailored to each client's service requirements and workload conditions.

Refine forecasts continuously as conditions change

As execution nears, the AI optimizer adjusts resource requirements in 15-minute increments to account for labor availability, equipment downtime, unexpected client surges, or volume dips. Supervisors can generate an updated forecast with a single click, eliminating manual replanning and maintaining confidence across client commitments.



 Predict and plan transforms raw data into precise forecasts, ensuring the right labor, automation, and equipment are allocated by client priority when needed.

Prepare teams and align resources before the shift begins

AI-powered pre-shift briefings have delivered **30%** less start-of-shift confusion and **20%** faster ramp-up times in warehouse environments.



Once resources are forecasted and scheduled, preparation continues well before the shift starts. Every manager and supervisor receives a tailored, role-specific agentic pre-shift brief delivered to their mobile device. This briefing consolidates all the information needed to begin the shift with clarity, alignment, and readiness across labor, equipment, and client priorities.

Review workload and inventory readiness

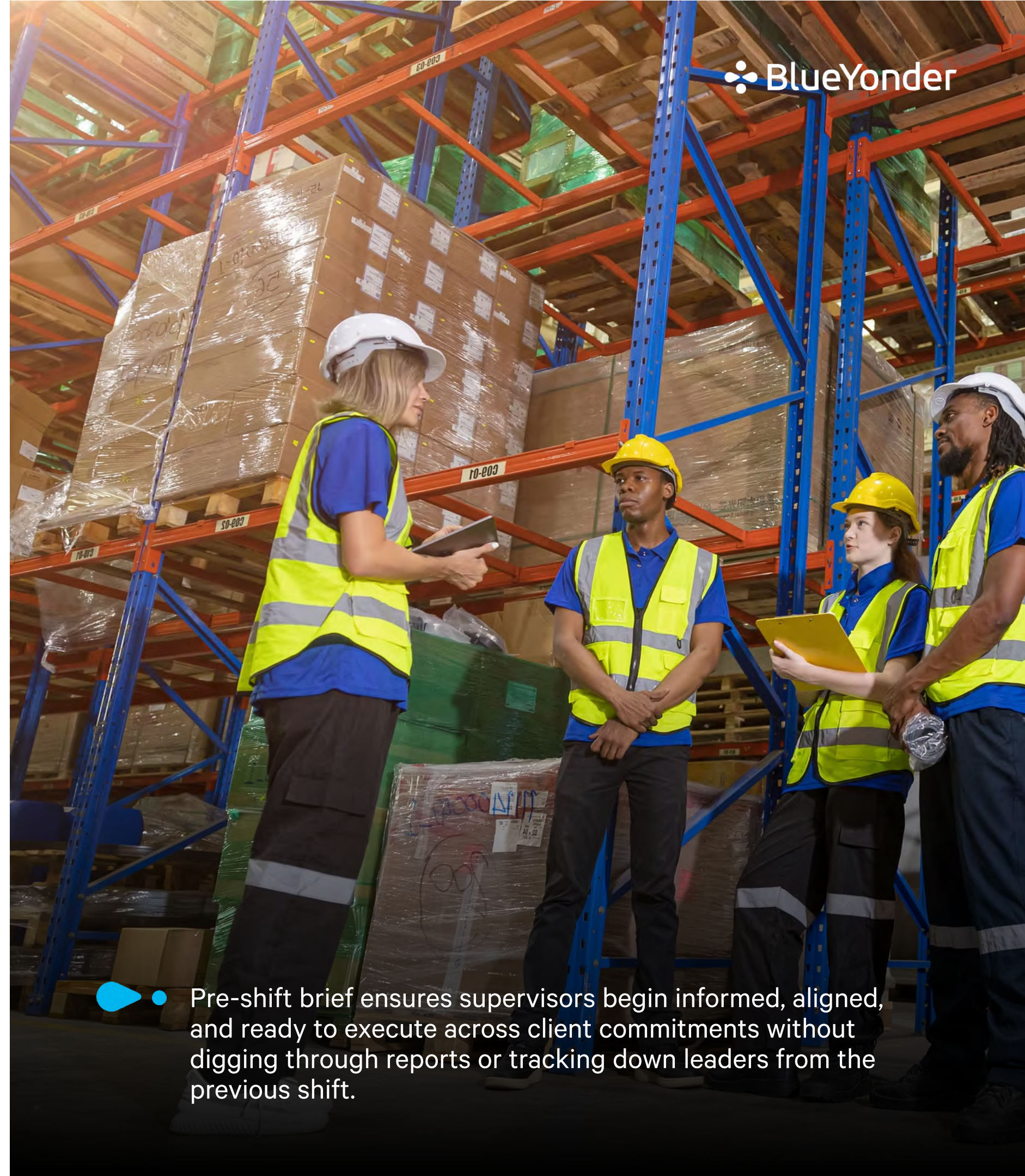
The brief highlights workload expectations by client account, order reviews, inventory sufficiency, and variances between forecasted and actual demand. This ensures supervisors know precisely which clients require attention and where potential pressure points might arise at the start of the shift.

Validate labor, equipment, dock and yard readiness

Supervisors receive checks covering labor attendance, equipment availability, dock assignments by client, and yard readiness. Issues such as no-show labor, missing equipment, or dock-door constraints are identified early with recommended corrective actions, reducing delays that could impact multiple client SLAs during initial task execution.

Surface role-specific actions with AI guidance

The warehouse operations agent generates clear, role-specific actions for each supervisor, such as reallocating workers between client zones, adjusting workload priorities, or shifting equipment to prevent early-shift congestion. These insights ensure leaders begin the shift informed and aligned, without searching through reports or tracking down previous shift leads.



Pre-shift brief ensures supervisors begin informed, aligned, and ready to execute across client commitments without digging through reports or tracking down leaders from the previous shift.

Monitor operations and adjust resources in real time

Real-time warehouse execution system implementations have shown up to **40%** higher picking efficiency and **30%** lower warehouse labor costs.



Once the shift begins, the warehouse execution system (WES) handles task orchestration and real-time resource allocation across client accounts. With thousands of tasks occurring simultaneously, the system uses live data and machine-learning predictions to keep resources aligned with shifting client priorities, reducing delays and improving throughput across all commitments.

Monitor warehouse-wide task status in real time

WES continuously tracks task status by client across picking, replenishment, receiving, shipping, and put-away. Real-time insights show which client orders are on schedule, which are delayed, and where resource gaps may emerge, giving supervisors complete visibility to prevent SLA breaches.


Orchestrate and reassign tasks intelligently

WES reassigns the most productive available resources to high-priority client tasks while balancing workload across all accounts. This prevents bottlenecks in one client's operation from disrupting others, reduces idle time, and ensures labor, equipment, and automation stay aligned with actual operating conditions.

Stay informed through the warehouse operations agent

Supervisors receive real-time alerts on disruptions and shifting client priorities, with AI-recommended adjustments to protect SLA commitments across accounts. When unexpected delays, equipment failures, or client demand changes occur, the system surfaces actionable solutions such as reallocating resources, reprioritizing tasks, or escalating risks, enabling supervisors to respond immediately rather than react after breaches occur.



 Intra-shift monitoring provides real-time orchestration across client accounts, transforming unpredictable multi-client shifts into coordinated, efficient operations.

Review performance and enhance planning for the next shift

44% of supply chain leaders say data challenges are a key reason their tech investments have not yet fully delivered expected results.



Before the next shift begins, a new pre-shift brief incorporates insights from the previous shift to strengthen planning and execution across all accounts. This process ensures that every new shift is informed by performance patterns, client-specific bottlenecks, and resource utilization gaps from before, establishing a continuous learning loop that improves forecast accuracy and operational efficiency.

Assess spillover and root causes

If client tasks remain incomplete, the warehouse operations agent identifies root causes such as labor shortages in specific zones, equipment failures affecting particular accounts, or upstream delays from carriers, then immediately recommends corrective actions. Incoming teams receive targeted recovery plans to address missed commitments, reallocate resources, and protect client relationships before service impacts escalate.

Identify underperforming KPIs

Supervisors receive notifications when performance metrics fall below thresholds for specific accounts, such as late picks, missed dock appointments, or accuracy issues. This client-level visibility enables targeted interventions to ensure SLA commitments are met before customers notice service degradation, protecting contracts and preventing penalty clauses from triggering.

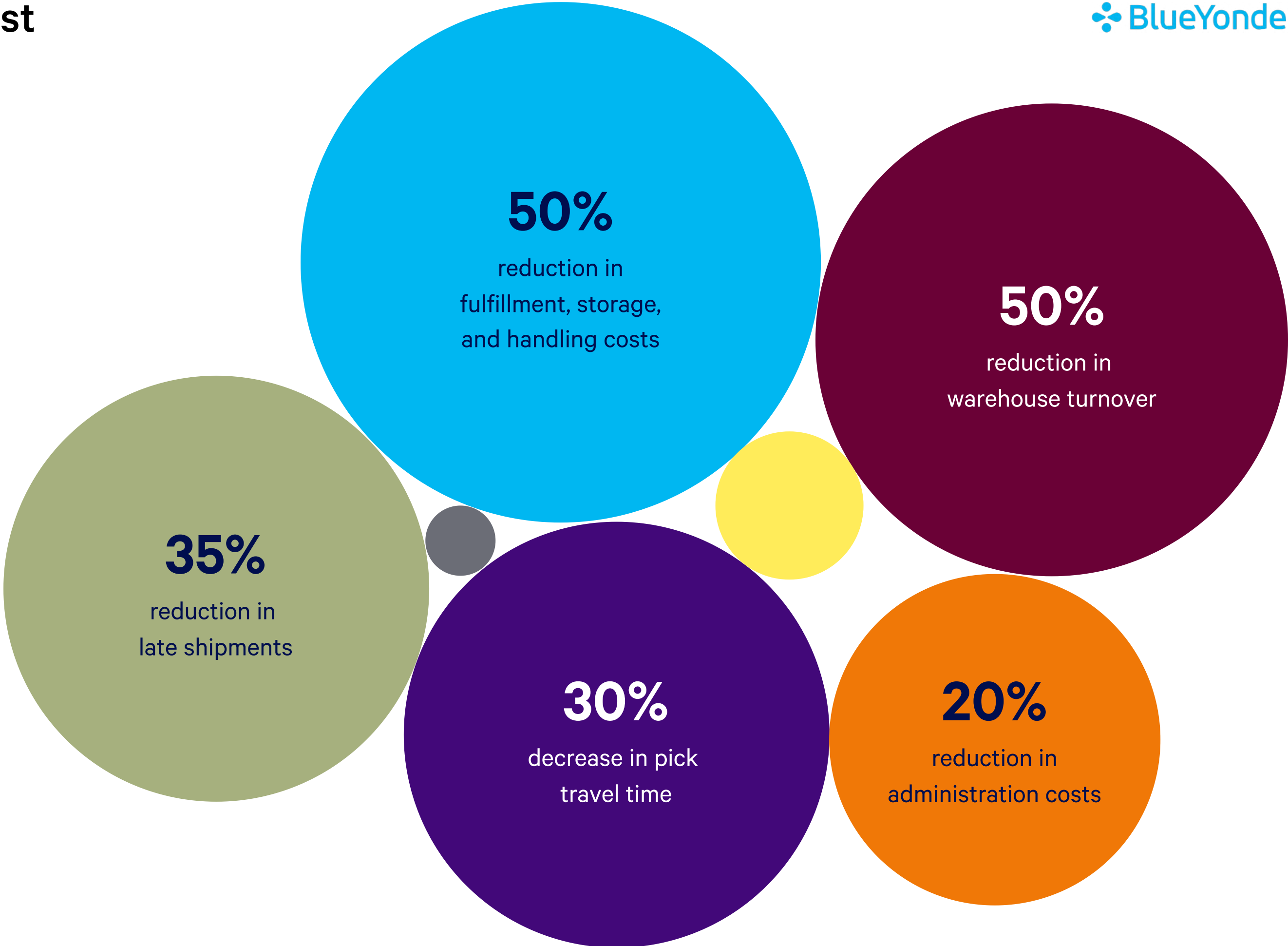
Strengthen forecasting and task models

All shift data feeds back into resource forecasting to refine task duration estimates, travel time calculations, and equipment utilization patterns for each client's unique workflow requirements. These updates improve future planning accuracy across accounts with different handling protocols, enabling better resource allocation decisions when competing demands arise.

● Improve the future reinforces a continuous learning loop where each shift becomes smarter and more efficient, strengthening operational resilience across every client relationship.



The ROI of resilient, robust resource management



Proof in action



“By enabling Accel to automate and digitize our most critical processes, Blue Yonder demonstrates its leadership in warehouse management. No one understands the daily operation of the warehouse better, or delivers the advanced technology required to automate and accelerate those activities for maximum responsiveness.”

— System & Operations Director, Accel



“We chose Blue Yonder because of its strategic focus on 3PL partnerships, as well as its market leadership in the healthcare and pharmaceutical industry vertical. They have truly provided a partnership mentality to help us grow our market footprint and deliver customized models that provide value to new opportunities.

The Blue Yonder team is responsive, creative and always willing to go above and beyond to service our account.”

— Vice President of IT, Kenco



“We have increased our employees’ productivity by around 75% of what they had previously achieved and gained cost advantage that generates growth and frees resources, so we can invest in other improvement initiatives.”

— Warehouse Manager, Pacific Star

Warehouses of the future are powered by Blue Yonder's modern, intelligent logistics resource management

LSPs that combine predictive forecasting, dynamic orchestration, and data-enabled workforce management achieve unmatched agility and control across client accounts. Intelligent resource management transforms multi-client operational complexity into clarity and empowers teams to act with confidence when competing demands collide.

By adopting speed, precision, and adaptability today, LSPs move from simply managing daily operations to mastering them. This shift makes operations faster, smarter, and better positioned to win new business while protecting existing relationships.

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