BlueYonder

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The Results Are In: Technology Continues to Drive Enormous Value for Logistics Teams

Insights from Blue Yonder's 2023
Supply Chain Executive Survey

In Challenging Times,
Turn to Advanced Technology

At Blue Yonder, our objective is to provide leading-edge solutions that meet our customers' needs and truly add value to their operations. That's why we conduct an annual survey of supply chain executives — and apply this feedback to ensure that our logistics solutions and services are aligned with market needs.

The 2023 Supply Chain Executive Survey includes responses from over 300 C-suite and senior executives in manufacturing, distribution, retail, third-party logistics, and transportation. The results are summarized in this eBook.

So what did we learn this year? Across industries, companies are still challenged to operate their supply chains profitably and predictably in the face of ongoing disruptions, rising costs, labor shortages, and sustainability pressures. In fact, 87% of respondents are still experiencing supply chain disruptions. More than half of survey participants say those disruptions are interfering with their ability to deliver to customers on time.

However, there is good news. The survey also showed an increasing level of optimism that advances in supply chain technology can help logistics teams address these problems. Executives report that their technology investments are already delivering results such as improved efficiencies, fewer disruptions, and revenue growth. They plan to continue these investments in the future and expand their digital footprints.

It's clear from our study, and from our ongoing discussions with customers, that logistics teams continue to face complex challenges. But it's also clear that advances in supply chain technology, including the application of artificial intelligence (AI) and machine learning (ML), provide the capabilities to manage these and other challenges.

Advanced solutions not only increase real-time visibility and alert all stakeholders to disruptions, but they also ensure that the right decisions — ones that strategically balance cost, service, sustainability, and other considerations — are always made. Further, they enable an immediate, automated response that matches the dynamic business environment we're all operating in. Whatever the future brings, advanced technology is preparing the logistics industry for it.

Terence Leung
Global Senior Director, Solutions Marketing,
Supply Chain Management
Blue Yonder

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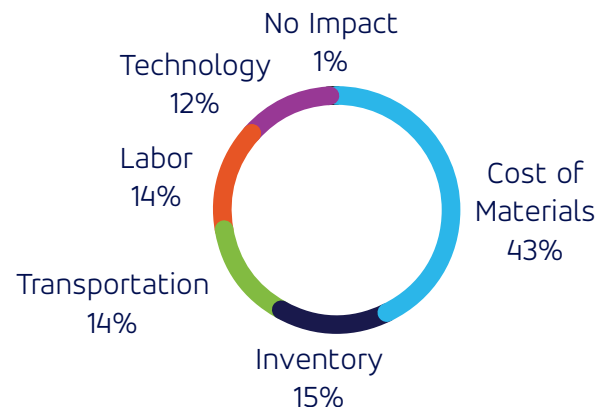# Supply Chain and Logistics Teams Face Four Key Challenges

Blue Yonder's 2023 Supply Chain Executive Survey revealed that companies continue to face four critical challenges in optimizing their end-to-end supply chains. These top challenges are:

#1 **Ongoing supply chain disruptions.** 87% of executives report that their organizations have experienced disruptions over the last year. The most common result is a delay in delivering to customers, cited by 52% of respondents.

#2 **Rising costs.** About half of the survey participants (48%) have watched their profit margins shrink due to cost increases. The top areas for rising costs are raw materials (named by 43%), inventory (15%), transportation (14%), and labor (14%).

#3 **Labor shortages.** As talent remains scarce, 87% of companies have made internal changes to help attract and retain associates. These changes include more competitive pay scales and bonus structures (51%), as well as more flexible scheduling options (40%).

#4 **Sustainability pressures.** As customers and regulators alike demand greener operations, 84% of companies have increased or maintained their sustainability efforts, while 43% plan to further increase the sustainability of their upstream operations.

Changes in profit margins vary across companies in the last 6 months

No change in profit margins
13%

Profit margins decreased
48%

Profit margins increased
39%
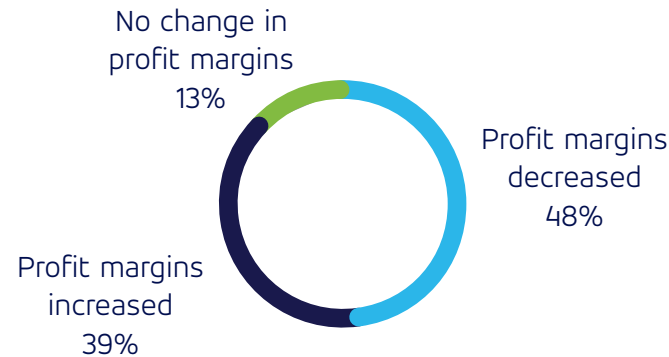
Rising costs are making the biggest impact on the cost of materials

No Impact
1%

Technology
12%

Labor
14%

Transportation
14%

Cost of Materials
43%

Inventory
15%

87%
of organizations have faced supply chain disruptions over the last year

84%
of companies have increased or maintained their investments in sustainability

# How Are Companies Overcoming These Challenges? Technology Investment.

While these are significant challenges, the executives surveyed by Blue Yonder have a strategy to address them: Investing in advanced supply chain technologies that are built for this purpose. Over half of companies (52%) have increased their investment in the supply chain over the last year, and 38% have invested more than $10 million in their supply chain. This is a significant increase from Blue Yonder's 2022 study, when only 24% of respondents were investing at this level.

Among 2023 respondents, the greatest single area of supply chain investment is technology.

Companies are installing new digital solutions for the simple reason that they deliver proven results. Executives report that their previous technology investments have yielded improved efficiencies (54%), fewer disruptions (42%), and revenue growth (39%).

It's encouraging that 62% of executives say their company's supply chain is reliable, and 51% call their supply chain responsive. However, less than half of respondents think their supply chain is sustainable (46%) or data-driven (30%). Clearly there is still room for improvement, which explains the high level of ongoing technology investment.

Areas companies have invested in over the last year:

- Invested in technology — 56%
- Invested in additional workforce — 42%
- Invested in sustainability — 42%
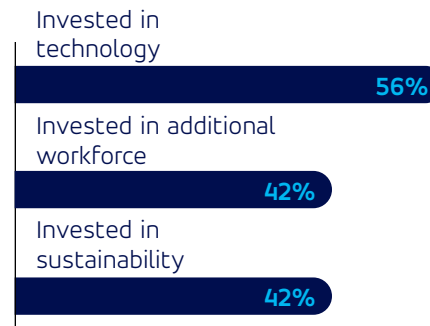
The top outcomes of technology investments are:

- Improved efficiencies — 54%
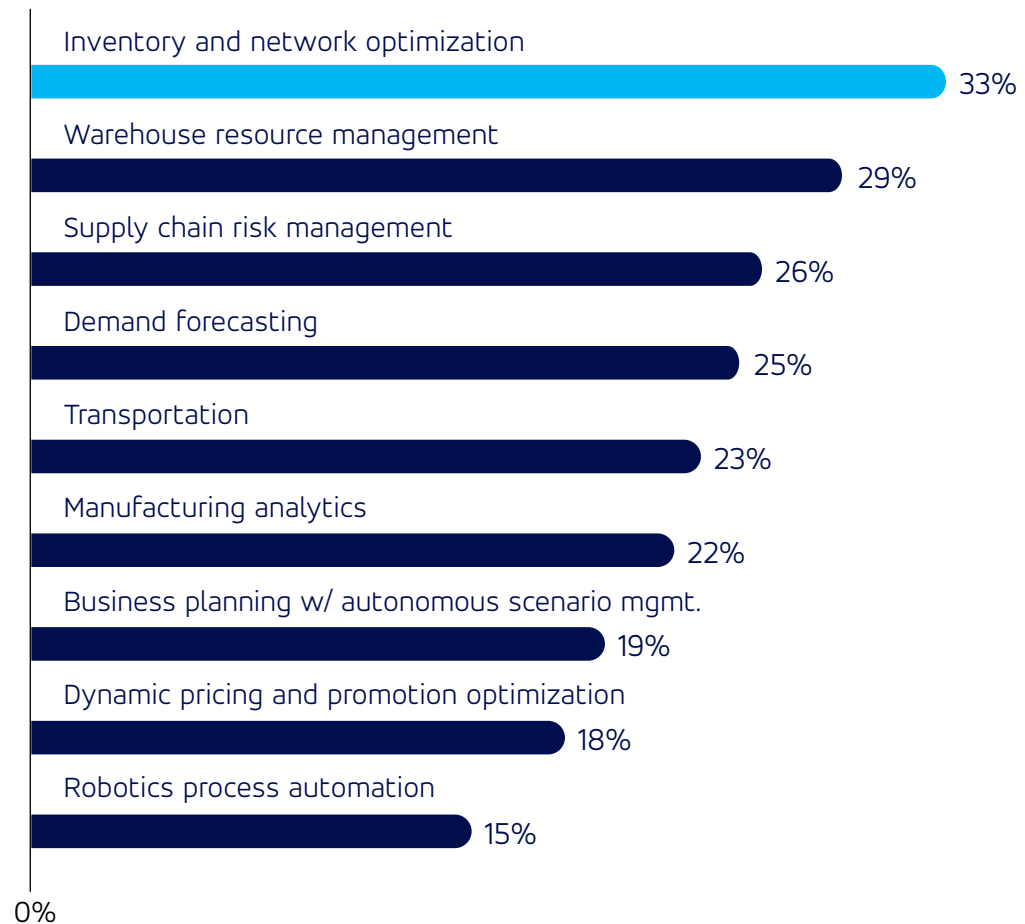- Fewer disruptions — 42%
- Revenue growth — 39%
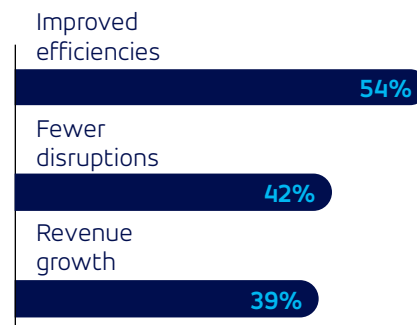
AI and ML: The True Game Changers

One of the largest focuses for investment continues to be an application of AI and ML across the supply chain, which only makes sense. As companies seek to manage disruptions, balance service levels and costs, maximize and augment their labor investments, and operate more sustainably, the magnitude and complexity of this problem exceed human cognition.

Only AI and ML are capable of ingesting and analyzing huge volumes of real-time data from across the network, as well as third-party insights, with microsecond processing times. Only AI and ML can use this data to identify and manage ongoing disruptions automatically — balancing costs, service targets, labor availability, sustainability goals, and other factors to arrive at optimal decisions, every second of every day.

More than 78% of survey respondents are already leveraging AI and ML in their supply chains, with the top applications including inventory and network optimization (33%), warehouse resource management (29%), supply chain risk management (26%), and demand forecasting (25%).

Executives Are Leaning on AI/ML to Improve Efficiencies in Their Supply Chains

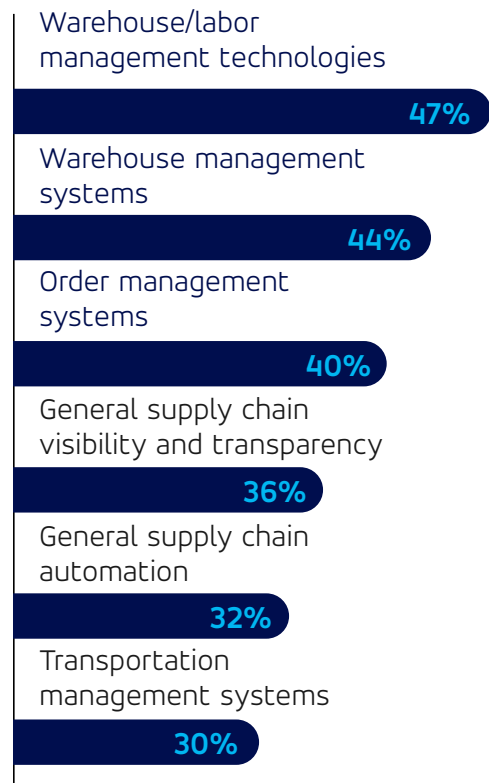| Category	Value
Inventory and network optimization	33%
Warehouse resource management	29%
Supply chain risk management	26%
Demand forecasting	25%
Transportation	23%
Manufacturing analytics	22%
Business planning w/ autonomous scenario mgmt.	19%
Dynamic pricing and promotion optimization	18%
Robotics process automation	15%

0%

The Top Areas for Future Investment

Given the four big challenges facing logistics teams — ongoing disruptions, rising costs, labor shortages, and sustainability pressures — it's not surprising that executives will continue to invest aggressively in advanced technology.

Blue Yonder's 2023 Supply Chain Executive Survey identified six top areas for future investment as logistics teams increase their digital footprints in response to these challenges:

Most popular areas for implementing and/or enhancing technology in the next 12 months

Warehouse/labor management technologies
47%

Warehouse management systems
44%

Order management systems
40%

General supply chain visibility and transparency
36%

General supply chain automation
32%

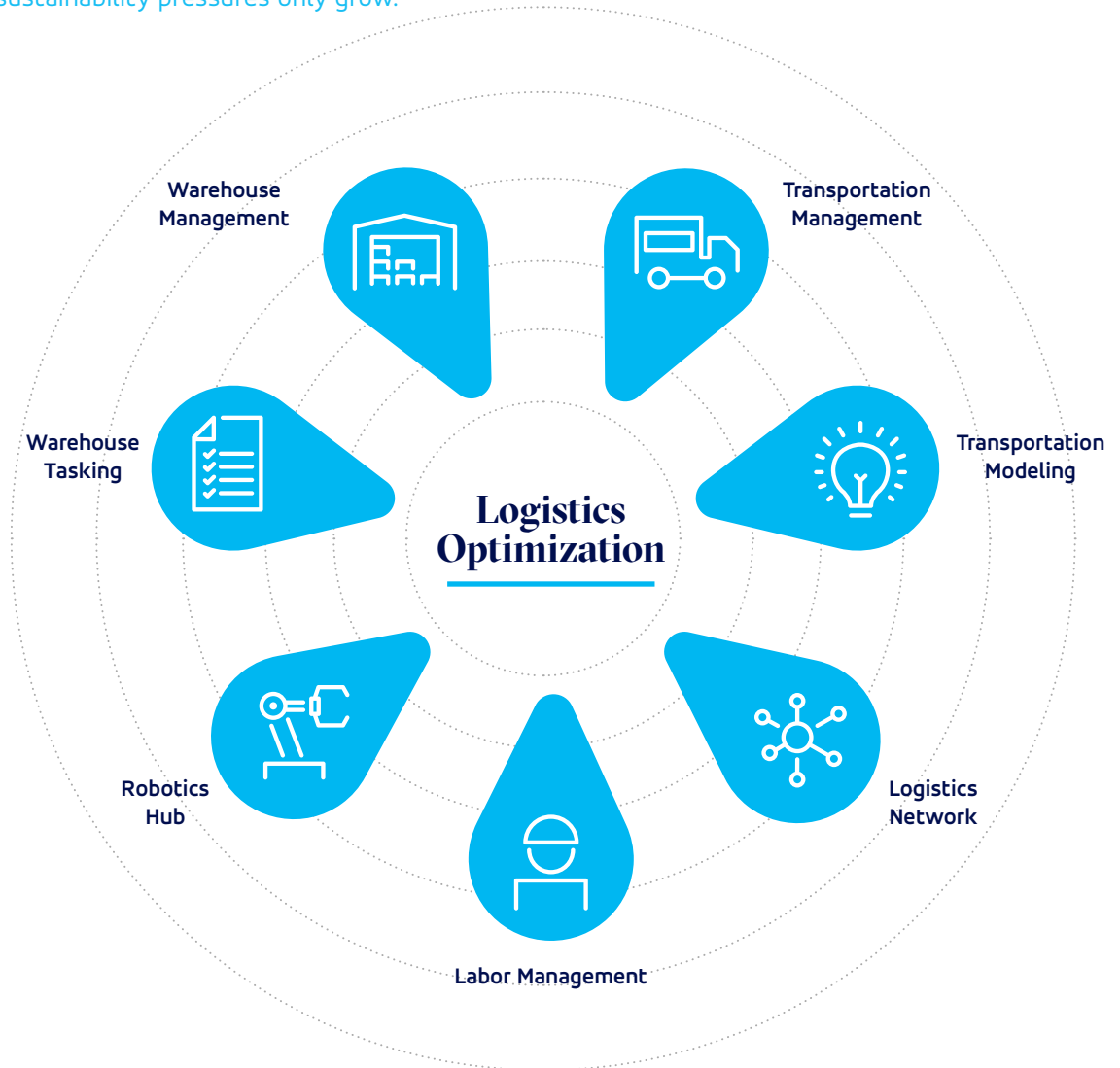Transportation management systems
30%

Blue Yonder: A Single Source for Logistics Optimization

Blue Yonder's best-in-class Logistics Optimization capabilities span every one of these areas and integrate seamlessly to provide the industry's broadest end-to-end platform for supply chain optimization. With established leadership in AI, ML, data science, predictive analytics, and process automation, Blue Yonder stands ready to help companies in every industry meet their most pressing challenges, as disruptions, cost increases, labor shortages, and sustainability pressures only grow.

1. Workforce/Labor Management Technologies

Work in the warehouse is changing rapidly. Fulfilling e-commerce demand direct to consumers, as well as shipping smaller and more frequent orders to customers, has become business as usual. Yet this can be an expensive and time-consuming proposition. Blue Yonder's warehouse labor and workforce management capabilities are helping the world's leading logistics teams transform their warehouse operations to reflect new service demands, while also driving productivity and protecting profit margins. These solutions deliver granular and holistic visibility of the warehouse workforce, along with insights into workforce productivity. They help organizations define best practices and performance expectations, track warehouse activities, and provide insights for supervisors to effectively mentor their teams. They also support flexible scheduling, minimal training requirements, mobility, consumer-like interfaces, and other features that help attract and retain employees in today's tight labor market.

Logistics Optimization

- Warehouse Management
- Transportation Management
- Transportation Modeling
- Logistics Network
- Labor Management
- Robotics Hub
- Warehouse Tasking

2. Warehouse Management Systems

In 2023, Blue Yonder was named a Leader in the 2023 Gartner® Magic Quadrant™ for Warehouse Management Systems (WMS) report for the 12th consecutive time[1] — which is every year since the report began. But Blue Yonder is not resting on its laurels. As the dynamics of fulfillment change — including the shift from large, traditional, regional DCs to local micro-fulfillment centers — Blue Yonder has customers covered. Offering options that address site-specific requirements, Blue Yonder delivers cloud-enabled, scalable, seamless solutions built for the connected world. Blue Yonder's market-leading AI/ML-based platform integrates and synchronizes operations across the extended distribution network, including resource orchestration and optimization. To help customers stay ahead of their competition, Blue Yonder has been actively investing in innovative capabilities across labor management, yard management, inbound operations, inventory management, work order processing, outbound operations, and third-party logistics operations.

3. Order Management Systems

Blue Yonder's order management solution (OMS) is purpose-built for the demanding omni-channel environment that logistics teams operate in today. It redefines the customer experience by delivering real-time visibility on product availability, fulfillment options and costs, and delivery timelines. Customers can make informed choices — and logistics teams can make accurate,

profitable promises by relying on AI and ML to consider every possible fulfillment and delivery option. By processing thousands of transactions per second, Blue Yonder delivers the response time, scale, and performance that logistics teams need today — so order volumes are no longer a concern. Blue Yonder's 40+ microservices are easily deployed for a faster time to value. They can operate independently or seamlessly integrate to provide a modular technology architecture that transforms order management into a strategic advantage.

4. Supply Chain Visibility and Transparency

Blue Yonder's Luminate Control Tower sits at the heart of the supply chain ecosystem, gathering real-time data on current conditions. This powerful solution enables logistics teams to identify disruptive events such as transportation roadblocks, missed incoming deliveries, asset downtime, and labor shortages. Luminate Control Tower makes it easy to share this information both internally and externally, so the end-to-end supply chain can immediately respond in a synchronized manner. For logistics teams, Luminate Control Tower adds maximum value when it's integrated with Blue Yonder's transportation management solution. This allows all transportation resources to be leveraged in creating a response, including the extended carrier network. It also enables Luminate Control Tower, enabled by AI and ML, to apply predictive analytics, run scenarios, and make recommendations that are automatically and seamlessly executed by the transportation management solution.

[1] Gartner, Magic Quadrant for Warehouse Management Systems, Simon Tunstall, Dwight Klappich, Rishabh Narang, Federica Stufano, 8 May 2023.
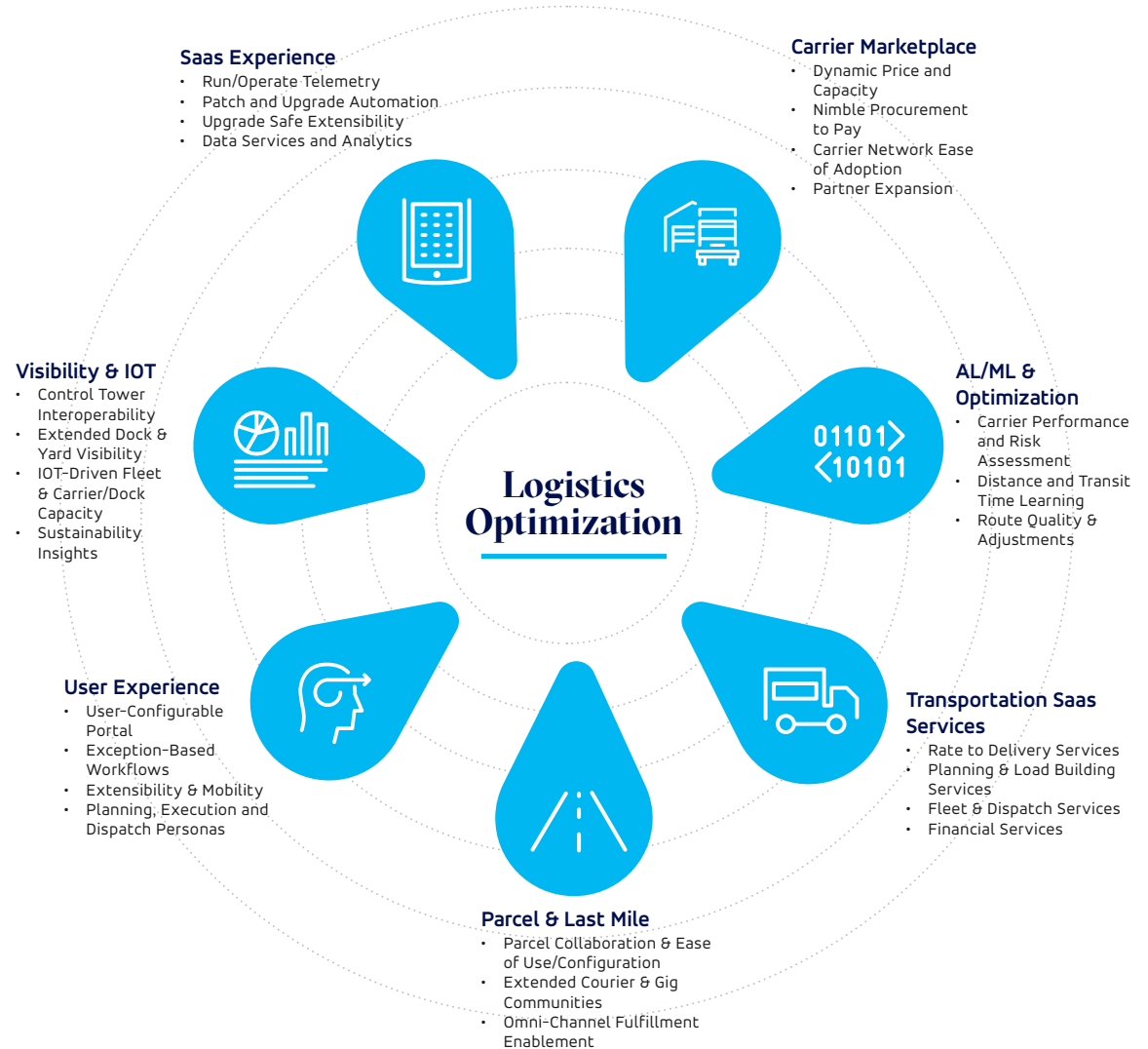
5. General Supply Chain Automation

Since a single warehouse worker represents $50,000 in annual costs — and talent is extremely scarce — it makes sense to optimize the accuracy and efficiency of every task. Blue Yonder's digital warehouse tasking solution relies on ML to continuously identify opportunities for efficiency and cost savings, then unlock them to optimize daily operations in real time. This hard-working solution gathers real-time, 24/7 operations data, flags issues, and generates an autonomous response. As conditions evolve, so do labor schedules and priorities, driving a fluid, responsive, and profitable warehouse environment. Warehouse operations are tied to a probabilistic demand forecast, but able to react to changes quickly and automatically. Blue Yonder also delivers expertise in combining warehouse robotics with human workers to increase speed, accuracy, efficiency, and reliability — while significantly reducing labor expenses.

6. Transportation Management Systems

For the 12th time in a row, Blue Yonder was named a Leader in the Gartner® Magic Quadrant™ for Transportation Management Systems (TMS) report[2] in 2023. Blue Yonder continues to innovate as logistics teams look to improve service levels, time-to-value, and cost-to-serve, while creating customer centricity. Advanced optimization engines, fueled by AI and ML, automate the management of routing, transit time, palletization, and sustainability, as well as predictive ETA/PTA, carrier risk, and transportation performance analytics. Cohesive out-of-the-box first-, middle- and last-mile solutions, such as large-scale parcel execution performance and rating improvements, optimize both cost and service. Dynamic price discovery and freight bidding capabilities from Blue Yonder replace slow, manual processes with automation — maximizing speed, accuracy, cost control, and real-time responsiveness. As logistics customers need to leverage more carriers for flexibility and price considerations, Blue Yonder has committed to growing its carrier marketplace service offerings and partner ecosystem, including IoT signal providers.

Saas Experience
- Run/Operate Telemetry
- Patch and Upgrade Automation
- Upgrade Safe Extensibility
- Data Services and Analytics

Carrier Marketplace
- Dynamic Price and Capacity
- Nimble Procurement to Pay
- Carrier Network Ease of Adoption
- Partner Expansion

AL/ML & Optimization
- Carrier Performance and Risk Assessment
- Distance and Transit Time Learning
- Route Quality & Adjustments

Visibility & IOT
- Control Tower Interoperability
- Extended Dock & Yard Visibility
- IOT-Driven Fleet & Carrier/Dock Capacity
- Sustainability Insights

Logistics Optimization

User Experience
- User-Configurable Portal
- Exception-Based Workflows
- Extensibility & Mobility
- Planning, Execution and Dispatch Personas

Transportation Saas Services
- Rate to Delivery Services
- Planning & Load Building Services
- Fleet & Dispatch Services
- Financial Services

Parcel & Last Mile
- Parcel Collaboration & Ease of Use/Configuration
- Extended Courier & Gig Communities
- Omni-Channel Fulfillment Enablement

[2] Gartner, "Magic Quadrant for Transportation Management Systems," Brock Johns, Oscar Sanchez Duran, Carly West, 28 March 2023.

Conclusion: Where Do We Go From Here?

As demonstrated by the 2023 Supply Chain Executive Survey, today's logistics teams are operating in an environment characterized by uncertainty. Disruptions are constant. Costs are growing. The available talent pool of drivers, warehouse associates, and other employees is small. And customers are regulators alike are looking closely at how "green" the supply chain is.

Blue Yonder's annual studies, and ongoing dialogues with our customers, demonstrate that these challenges are not going away. Tomorrow's logistics leaders will be distinguished by their ability to not only manage these issues, but truly master them — creating an enormous advantage over less-prepared competitors.

More than ever, logistics teams need to monitor real-time conditions across the extended end-to-end value chain, recognize and broadly communicate any issues, and respond immediately in a synchronized, orchestrated manner. They need to optimize every decision and every daily work process, to drive higher service at a lower cost. They need to balance multiple objectives, including sustainability. Older technology solutions and outdated workflows, based on manual handoffs and organizational siloes, no longer support the necessary level of speed, accuracy, collaboration, and real-time visibility required today.
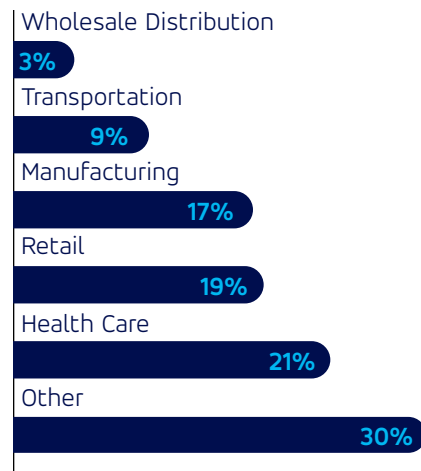
The 2023 Supply Chain Executive Survey only confirms what most of us already know: Digitalization is no longer optional, but a cost of doing business in today's volatile business environment. Advanced technology solutions are delivering incredible benefits, and those benefits will only be amplified as technology investment increases.
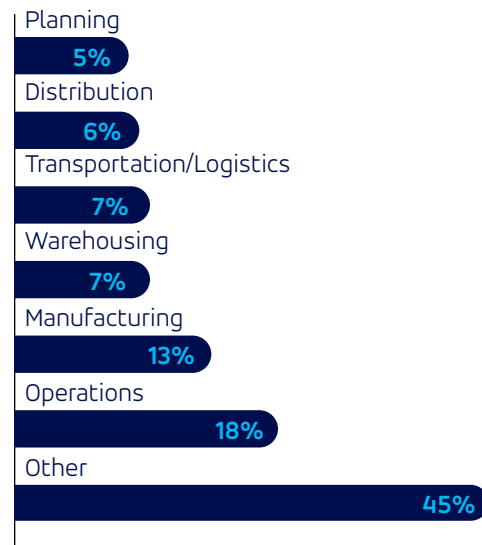
About the Survey

The 2023 Supply Chain Executive Survey, sponsored by Blue Yonder, was fielded by a third-party provider and conducted on April 10–11, 2023. Responses were collected from more than 300 C-suite and senior executives across manufacturing, distribution, retail, third-party logistics, and transportation, with responsibility for logistics and manufacturing operations in the U.S..
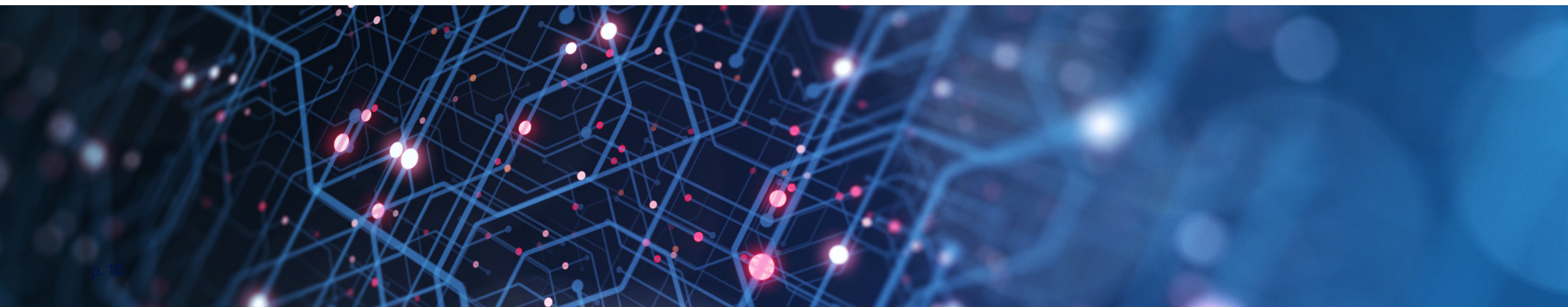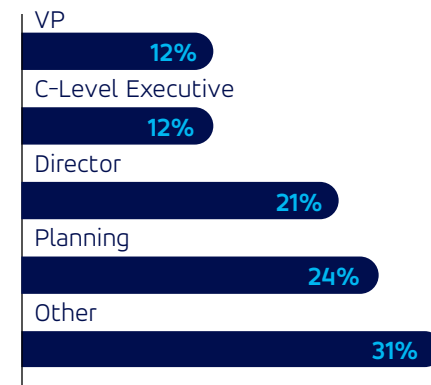
Industry Sector

Sector	%
Wholesale Distribution	3%
Transportation	9%
Manufacturing	17%
Retail	19%
Health Care	21%
Other	30%

Role

Role	%
Planning	5%
Distribution	6%
Transportation/Logistics	7%
Warehousing	7%
Manufacturing	13%
Operations	18%
Other	45%

Title

Title	%
VP	12%
C-Level Executive	12%
Director	21%
Planning	24%
Other	31%

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