

AI Is Already Moving the Logistics Industry Forward

By [Markus Weidmann](#), [Johannes Distler](#), [James Reynolds](#), [Dennis Mikulla](#), [Denis van de Voorde](#), [Dustin Burke](#), [Jesus Montero Gomez-Serranillos](#), and [Dorota Korenkiewicz](#)

ARTICLE MARCH 27, 2026 12 MIN READ

Artificial intelligence (AI) has become a top agenda item in logistics, with applications ranging from optimization algorithms for transport planning to predictive analytics for demand forecasting and emerging generative AI tools supporting operations and customer interactions. But the growing importance of AI is not visible only inside operations: market reactions, including share price movements, suggest that capital markets increasingly view AI progress as a signal of future competitiveness. For logistics service providers (LSPs), this raises the stakes. Demonstrating credible AI progress is becoming important not only to unlock operational value, but also to maintain market confidence and avoid being perceived as falling behind. Is the industry ready?

To answer that question, we surveyed leaders at a wide range of LSPs and their shipping customers. Conducted in collaboration with Alpega—a leading provider of end-to-end logistics services—the survey adds critical detail to our previous report on trends in the logistics industry. (See “Survey Demographics.”)

— Survey Demographics

In January 2026, BCG and Alpega conducted an in-depth survey of a broad spectrum of more than 180 experts at both LSPs and shippers across Europe, North America, Asia, and the Middle East. The goal: to investigate their attitudes toward the value and use of AI in their businesses and their progress in implementing it.

Respondents at LSPs included 84 experts ranging from 3PLs to trucking, ocean, and air carriers operating at national, regional, and global scales, with a broad

selection of small (less than \$10 million in revenues), medium-size (\$10 million to \$100 million), and large (more than \$100 million) companies represented.

Respondents among shippers included 98 leaders of both smaller players with limited logistics spending and large multinationals that manage complex, multimodal logistics. The sample consisted of a healthy mix of companies across sectors using ocean, air, and overland freight, yielding a well-rounded view of shipping realities across both modes and regions.

Respondents to the 2025 survey agreed on AI's transformative potential but indicated little actual adoption of the technology. This year's participants were considerably more convinced of its value and are showing first signs of adoption, although progress remains behind what is likely required for impact at scale. The survey highlights a clear distinction between what shippers expect from AI and where LSPs capture the most value. A snapshot of our latest research highlights six key lessons:

- Over 40% of shippers now expect LSPs to offer AI-enabled logistics, but most do not yet view the lack of AI capabilities as a dealbreaker.
- LSPs and shippers agree on three areas where AI matters most—transport planning, forecasting, and visibility—but consistent, scaled implementation remains a work in progress.
- Only about one in ten LSPs report measurable financial impact from AI; most LSPs and shippers are still in exploration or planning mode.
- AI's primary value—particularly for LSPs—lies in productivity gains, with nearly 80% of shippers and LSPs citing cost reduction and efficiency as the main drivers of adoption.
- Unclear ROI and internal capability gaps are the primary barriers to AI adoption, not cost or technical complexity.
- The majority of LSPs are focusing AI investment on implementation, while workforce implications signal significant reskilling ahead, with about half anticipating workforce transformation.

A detailed analysis of the survey results makes clear where LSPs and their customers are making gains in their AI efforts and where they are meeting resistance.

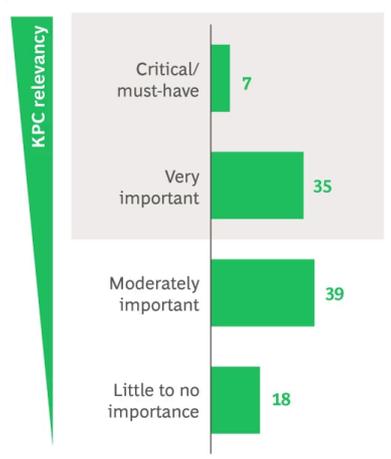
Shippers Want AI-enabled Logistics

More than 40% of shippers say they now take LSPs' AI capabilities into account when selecting their logistics partners. That number might seem modest, but it represents real momentum. Still, it is not yet a must-have—fewer than 10% of shippers view AI as mandatory in their logistics partnerships. (See Exhibit 1.)

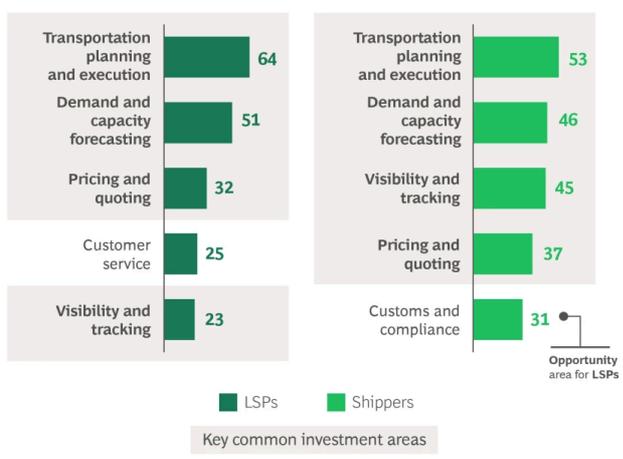
EXHIBIT 1

Nearly Half of Shippers Say AI Matters When Choosing LSPs, and AI Priorities are Generally Aligned

Importance of AI capabilities when selecting LSPs
(% of total shipper respondents)



Top 5 priority areas for investment in Logistics AI
(% of total LSP and shipper respondents)



Sources: Alpega; BCG analysis.
Note: LSP = logistics services provider; LSPs + Shippers (N > 180); KPC = key purchasing criteria.

Shippers' expectations also vary depending on the nature of their business. Freight forwarders say 37% of their apparel and fashion customers expect AI-powered solutions, the highest of all industry verticals, followed by industrial and pharmaceutical segments, at 26% each. Carriers report more generic AI demand, with 36% seeing no industry-specific differences—likely reflecting their more commoditized service offerings.

This gap between showing interest in AI and requiring it defines the current market. AI is becoming table stakes, but it hasn't reached critical mass. Shippers are watching, asking

questions, and increasingly expecting LSPs to have credible answers about their AI capabilities.

The good news is that shippers and LSPs agree on where AI matters most. Transport planning and execution (such as AI-driven transport planning and route optimization); predictive demand and capacity forecasting; and end-to-end shipment visibility (such as predictive ETAs and exception management) consistently rank as top priorities for both groups. This convergence on priority use cases is striking. In an industry where LSPs and shippers often have misaligned incentives, this level of agreement on AI priorities suggests the market is maturing. Where they differ is equally important: customs and compliance matters considerably among shippers, for example, but is not yet a top-five concern for LSPs—a clear opportunity for LSPs to attract further interest and match expectations from their shipping customers.

The considerable degree of convergence on priorities means LSPs don't need to guess about where to invest. The use cases and the opportunities are clear. What remains unclear is how to move from promising pilots to consistent, scaled delivery—particularly as capturing full value will require integrating these use cases into broader operating models, systems, and workflows, rather than treating them as standalone initiatives. In many cases, this will also require fundamentally redesigning processes to reflect the role AI plays—whether augmenting human decision making or increasingly automating end-to-end workflows.

AI Adoption Is Low, But Varies Based on Several Factors

Despite shippers' growing expectations that their LSP partners offer AI capabilities, AI adoption among LSPs still lags significantly. (See Exhibit 2.) About 40% report deploying AI beyond pilots, yet only one in ten have embedded AI into core operations at scale. Only 13% report measurable value—such as improvements in unit costs, service levels, or margins—from embedding AI into daily operations. In many cases, the value measured stems from targeted use cases rather than enterprise-wide transformation. Scaled, end-to-end adoption remains rare across the industry. Clearly, LSPs—and especially those whose AI efforts are still nascent—must move faster to meet shippers' growing demand for AI if they are to remain competitive.

Adoption among shippers themselves has been even slower. Almost 70% are still exploring or piloting AI, but just 7% can point to measurable improvements in their supply chain activities, and only 1% have embedded AI as part of their core logistics processes—potentially reflecting that many shippers are prioritizing AI investments in other areas, such as commercial functions or customer-facing applications.

Geography reveals important differences in adoption rates. LSPs in the Asia-Pacific region lead in AI maturity, with 31% reporting success in embedding AI across core operations, compared to 14% of North American companies and just 6% of those in Europe. Differences among LSPs also depend on both their size and business model. Large freight forwarders and third-party logistics providers are significantly ahead of small and mid-sized companies.

Cost and Efficiency Drive Everything

Nearly 80% of both shippers and LSPs cite cost reduction and operational efficiency as primary triggers for AI adoption. At the same time, broader factors such as corporate digital strategy, particularly among shippers, and competitive pressure are also emerging as important drivers. (See Exhibit 3.) This focus shapes which use cases are gaining traction and which remain theoretical.

Operations-oriented applications dominate the desire for AI. Transport planning and execution—including predictive analytics and optimization models for network design and backhaul minimization—leads at 64% adoption among LSPs, with much of the value driven by automating decisions and integrating larger, more complex data sets. This is followed by tracking and visibility at roughly 50%, including use cases such as visual- and video-enabled data, defect detection, delivery location matching, and others.

Shippers mirror these priorities, with almost 60% focusing on visibility and tracking, and about half on transport planning and execution. This confirms that AI is primarily seen—and valued—as a productivity lever, particularly in areas such as planning and execution, while also enabling service differentiation in customer-facing capabilities such as visibility. The focus remains squarely on making current operations faster and cheaper.

This alignment may also mask a deeper dynamic. While shippers highlight use cases such as visibility and forecasting, they ultimately benefit most from more efficient LSP operations through lower rates and improved cost-to-serve. In that sense, productivity gains—while realized indirectly—may represent the most important source of AI-driven value for shippers.

Beyond operations, for LSPs, AI is also gaining traction in customer-facing and commercial functions such as pricing, quoting, and customer service interactions, with nearly half of LSPs indicating plans to deploy AI in these areas. Use cases include optimizing pricing decisions based on real-time market data and historical behavior, forecasting demand elasticity and conversion probabilities, and supporting more dynamic, data-driven quoting. At the same time, AI is enabling faster and more convenient customer interactions—such as responding to inquiries, managing complaints, and providing proactive shipment updates through chatbots and automated notifications. Emerging solutions—including AI-powered quote generation tools—are enabling LSPs to automate parts of the quote-to-order process and improve both win rates and profitability.

At the same time, BCG experience shows that some of the largest productivity opportunities lie beyond customer-facing applications. Reducing administrative and back-office workloads—such as booking processing, documentation handling, and internal coordination—can significantly improve the productivity of white-collar operations in branches and service centers. These operational use cases are often less visible but can deliver substantial impact at scale.

The Real Barriers Are ROI Clarity and Internal Capabilities

A crucial finding challenges the conventional assumption that the primary obstacles to AI scaling are technological limitations and cost. Instead, roughly 40% of survey respondents—both LSPs and shippers—cited unclear return on investment and internal capability gaps as the top barriers. Cost ranked only as a lower concern, especially among larger players. (See Exhibit 4.)

This represents a fundamental shift. Three years ago, discussions about AI centered on whether the technology was ready and affordable. Today, the technology is far easier to access and use, and adoption costs have dropped. The question is now whether organizations can execute effectively.

Regional patterns reveal different local challenges. Survey respondents in Asia-Pacific, for example, say they face acute talent shortages, with 54% citing lack of expertise as a barrier, far higher than any other region. North American respondents are more concerned about trust and explainability issues, at 38%, reflecting expectations for greater regulatory scrutiny and governance. In Europe, organizational resistance to change ranks as a key barrier, cited by almost a quarter of respondents.

Smaller LSPs and shippers face different barriers than their larger peers. While 44% of respondents at small firms point to high upfront costs as a hurdle, that number declines to 25% at large firms. But even for smaller players, execution concerns, capability gaps, and ROI uncertainty rank higher than cost concerns.

This shift has profound implications. AI success has become an operating model challenge, not simply a tool to be implemented where available. Organizations that master integration, change management, and outcome measurement will pull ahead, while those waiting for better technology or lower prices will fall further behind.

LSPs Are Targeting AI Integration and Workforce Reskilling

As LSPs and shippers consider their AI investment priorities, they are focusing on execution. Implementing AI and integrating it into existing systems is the top priority for roughly 60% of logistics providers, followed by technology partnerships and talent hiring. (See Exhibit 5.) Clearly, scaling AI across operational systems—especially transport management systems, warehouse management systems, and control towers—is more important than simply building standalone capabilities.

In fact, in BCG's experience, most organizations are taking a hybrid make-versus-buy approach to AI implementation. They are building proprietary differentiating algorithms that add value by shaping operational quality and customer experience, and buying standard AI capabilities from vendors for purposes such as back-office automation.

Judging from the survey results, respondents' expectations for how AI will affect their workforces are more balanced compared to the widespread concerns about job loss when GenAI was first released to the public. The survey suggests a phased transformation: reskilling in the near term as organizations learn to work alongside AI, followed by headcount adjustments over the longer term as AI capabilities mature. About 50% of LSPs anticipate workforce reskilling needs, versus fewer than 30% expecting imminent AI-led headcount reductions.

How LSPs Can Move from Experimentation to Execution

The survey findings point to an industry at an inflection point. As their shippers' expectations for AI rise, LSPs no longer see it as a long-term ambition, but rather an immediate priority, especially for transport planning, execution, and visibility. Yet the barriers are clear: ROI clarity, internal capabilities, and organizational readiness. For LSPs, successfully implementing AI will depend on six factors:

- **Results matter.** Logistics providers must make ROI explicit and operational, not conceptual. This means aligning AI initiatives to specific outcomes that shippers care about: lower cost-to-serve, improved on-time delivery, faster replanning, and fewer manual exceptions.
- **Execution requires talent.** Invest in workforce reskilling. Success requires training planners, operators, and managers so AI leads to better decisions. Close internal capability gaps by strengthening system integration skills and building data foundations.
- **Integration is key.** Based on BCG's experience with leading organizations, real value comes from embedding AI directly into systems where work happens. This requires redesigning workflows around AI, not bolting it onto unchanged processes.
- **Maintain competitive differentiation.** LSPs should balance make-versus-buy decisions strategically. Source standard, non-differentiating AI such as back-office automation from

vendors, while building differentiating capabilities that shape operational quality and customer experience in-house to maintain competitive differentiation. (See “How LSPs Are Taking Advantage of AI.”)

- **Promote AI.** Bring AI capabilities into commercial discussions earlier. While AI isn't yet a deal-breaker in most contract negotiations, it increasingly shapes shippers' selection of logistics providers. Companies should articulate AI's value in proposals, quarterly business reviews, and service tenders.
- **Work with customers.** Co-develop AI solutions with shippers. Collaborate on pilots and align on success metrics early to accelerate rollout and reduce ROI uncertainty—especially where AI differentiates outcomes.

Full Speed Ahead

The AI race in logistics has entered the execution phase, creating a new level of efficient, cost effective, and sustainable transportation. The competitive gap between players who scale AI into daily workflows and those stuck in pilots will only widen—and it will happen fast. The 13% of providers who have embedded AI in core operations are already pulling away from the 56% still exploring or testing it.

The difference between the AI haves and the have-nots will not depend on the specific technology deployed, but rather on who can more quickly connect their AI efforts directly to the business and scale it across the enterprise. The winners won't be those with the most ambitious roadmaps. It will be the players who deliver measurable, scaled, repeatable value in the operational challenges that matter most to their customers.

The authors would like to thank Carlo Alberto Castelli, Gaurav Kumar, and the Alpega team for their support in creating the survey and analyzing the results.

Authors



Markus Weidmann

Managing Director & Partner
Munich



Johannes Distler

Managing Director & Partner
Dubai



James Reynolds

Associate Director, Shipping,
Ports and Logistics
Dubai



Dennis Mikulla

Partner
Düsseldorf



Denis van de
Voorde

Partner
Paris



Dustin Burke

Managing Director & Senior
Partner
Chicago



Jesus Montero
Gomez-Serranillos

Senior Manager, BCG Vantage
Boston



Dorota
Korenkiewicz

Director Logistics, Parcel, &
Shipping, BCG Vantage
Hamburg



ABOUT BOSTON CONSULTING GROUP

Boston Consulting Group partners with leaders in business and society to tackle their most important challenges and capture their greatest opportunities. BCG was the pioneer in business strategy when it was founded in 1963. Today, we work closely with clients to embrace a transformational approach aimed at benefiting all stakeholders—empowering organizations to grow, build sustainable competitive advantage, and drive positive societal impact.

Our diverse, global teams bring deep industry and functional expertise and a range of perspectives that question the status quo and spark change. BCG delivers solutions through leading-edge management consulting, technology and design, and corporate and digital ventures. We work in a uniquely collaborative model across the firm and throughout all levels of the client organization, fueled by the goal of helping our clients thrive and enabling them to make the world a better place.

© Boston Consulting Group 2026. All rights reserved.

For information or permission to reprint, please contact BCG at permissions@bcg.com. To find the latest BCG content and register to receive e-alerts on this topic or others, please visit bcg.com. Follow Boston Consulting Group on [Facebook](#) and [X \(formerly Twitter\)](#).