GAME-CHANGING TECH

OVERVIEW

The implementation of predictive and prescriptive analytics—as well as advances in big data, algorithms, and robotics—will have broad-reaching effects in the supply chain industry. Big data, analytics, and automation are already being used to enable organizations to mitigate disruption via digital, agile supply chain management.

Additionally, artificial intelligence and machine learning are going to become a driving force for integrating systems by enabling interoperability across various business landscapes. The technology-driven evolution to industry 5.0—which involves a more collaborative approach, as well as partnership between humans and robots—will have a significant impact on numerous supply chain functions.

–Abe Eshkenazi, CEO, ASCM

TO DO

[ ] **Connect shippers and carriers.**

The supply chain industry is now inundated with plenty of useful—but disparate—technologies. The technology platforms that emerge as industry leaders will offer more than just track-and-trace, making it possible to connect shippers directly to carriers and form a true transportation network.

This allows the two sides to negotiate rates directly, agree to self-executing contracts, confirm insurance coverage, offer real-time visibility from prior to pickup through proof-of-delivery, and automate release of final carrier payment. All of this will be done with little to no human intervention.

–Rick Burnett, Founder and CEO, LaneAxis

TREND TO WATCH

Intelligent supply chain moves to the mainstream.

Early adopters in the industry have moved beyond gathering and monitoring data—"track and trace"—to analyze, dissect, predict, and simulate. The technology is simpler to deploy and integrate than ever, and the business case is there. End-to-end control of merchandise is becoming a strategic imperative.

Customer expectations, complexity, and competitive pressure are all increasing, and as they increase, so does the need to make decisions faster and automate. An intelligent supply chain, supported by live data, enables real-time collaboration with multiple supplier partners, faster planning, and execution while offering better accountability and customer experience.

–Sanjay Sharma, CEO, Roambee

PREDICTIONS

We see a steady march forward in the implementation of warehouse and supply chain automation, but external factors will play a role both in the increased necessity for robotics and other innovations, and the speed at which enterprises are able to deploy these upgrades.

On the staffing side of the equation, overall hiring remains a struggle, and employees deservedly have more power to work in safer, more comfortable settings. We also expect to see furloughs as major retailers push back on suppliers to keep prices manageable for consumers. The need to keep costs low across the supply chain also contributes to the need for automation.

But the irony of our present situation is that the development and installation of new technologies is impacted by the supply chain slowdown. Materials and parts needed for robots, for example—everything from semiconductor chips to suction cups—are in higher demand and more difficult to come by.

–Jeff Pepperworth, President and CEO, iGPS Logistics

TOP INNOVATIONS

Companies will select technology solutions that allow them to add speed, reliability, and agility to their end-to-end supply chain operations while reducing costs and minimizing risk.

Mobile robots: Mobile robots will be the most sought-after supply chain technology for e-commerce, warehouse, and retail operations. As labor markets remain constrained while demand for retail and e-commerce continues to grow, retail and e-commerce operations will accelerate investment in mobile robotics to support growth.

Visibility applications: Investment in applications that provide end-to-end visibility of material will double. With visibility remaining a challenge and increasing complexity in supply chain flows, visibility applications will be leveraged to better meet customer satisfaction and provide greater visibility to assets in motion.

Voice-directed solutions: Logistics providers will invest in voice-directed maintenance and inspection for their fleets. Due to increasing costs of fuel, labor, and overall inflation, operators will look for creative ways to reduce cost, and voice-directed maintenance and inspection will help to reduce vehicle maintenance and the impact of unplanned downtime.

–John Santagate, Vice President, Robotics & Voice, Körber Business Area Supply Chain

Digital twin

Software platforms that derive valuable insights from the data being generated will drive huge transformation across supply chains in 2023. In this context, digital twin technology will continue to attract headlines as a means of making sense of—and, critically, using—the huge volumes of data being generated.

–Toby Mills, CEO, Entopy