

Artificial Intelligence

Artificial intelligence (AI) is rapidly transforming the way logistics providers operate as a result of the ongoing trend towards automation and continued improvements in computing. AI will augment human expertise through systems that help generate novel insights from big data and eliminate difficult tasks. In logistics AI will enable back-office automation, predictive operations, intelligent logistics assets, and new customer experience models.



KEY DEVELOPMENTS & IMPLICATIONS

Performance, accessibility, and costs of AI continue to improve thanks to major advances in big data, algorithmic development, connectivity, cloud computing, and processing power. AI will enable a more proactive and predictive approach to help amplify the human components of global supply chains. Networks can be orchestrated to an unparalleled degree of efficiency, redefining industry behaviors and practices. Looking ahead, IoT will be a key trend that feeds critical data into AI-based systems. Business, society, and government bodies must develop standards and regulations to ensure positive use of AI.

Back-office AI presents a significant opportunity to streamline the internal functions of logistics corporations such as accounting, finance, human resources, and IT. Here, cognitive automation can be applied to critical logistics tasks such as ensuring the most updated customer addresses to bolster successful deliveries.

Predictive logistics can be enhanced by AI to shift the logistics industry from operating reactively with planning forecasts to proactive

operations with predictive intelligence. An example is predictive demand planning using data from online shops and forums to predict unexpected volume spikes for trending products. Logistics providers and suppliers can then avoid costly overstocks or out-of-stock situations that result in lost sales for both the supplier and the consumer.

Seeing, speaking & thinking logistics assets empowered by AI can greatly relieve the physical demands of modern logistics work. Applications include the use of AI-powered robotics solutions and AI-based computer vision systems which can augment much of today's logistics operations such as material sorting, handling, and inspections.

AI-powered customer experiences can further personalize customer touch points, drive shipment volumes, and increase customer loyalty and retention. For example, the use of conversational AI interfaces (e.g., Amazon Alexa) can enable logistics providers to streamline interactions and be more attuned to their customers' needs and developments.

KEY OPPORTUNITIES

- Competitive advantage through data-driven decision making and shift towards a predictive AI-powered supply chain
- Reduction in costs through highly efficient and effective processes
- Increase customer satisfaction through the personalization of services using AI

KEY CHALLENGES

- High capital costs and requirements for AI implementation including substantial data sets, computing power, and highly specialized personnel skills in AI
- Ethical concerns regarding the use of AI
- Resistance from regulatory bodies and workforces affected by automation



Seamless, Voice-enabled Customer Interactions – DHL Parcel

- Voice-based service to track parcels and provide shipment information using Amazon Alexa
- Customers with an Amazon Echo speaker can ask DHL where their parcel is and receive shipment updates by speaking their alphanumeric tracking number
- Further planned enhancements include information on outlet locations, opening hours, products and prices

Source: DHL