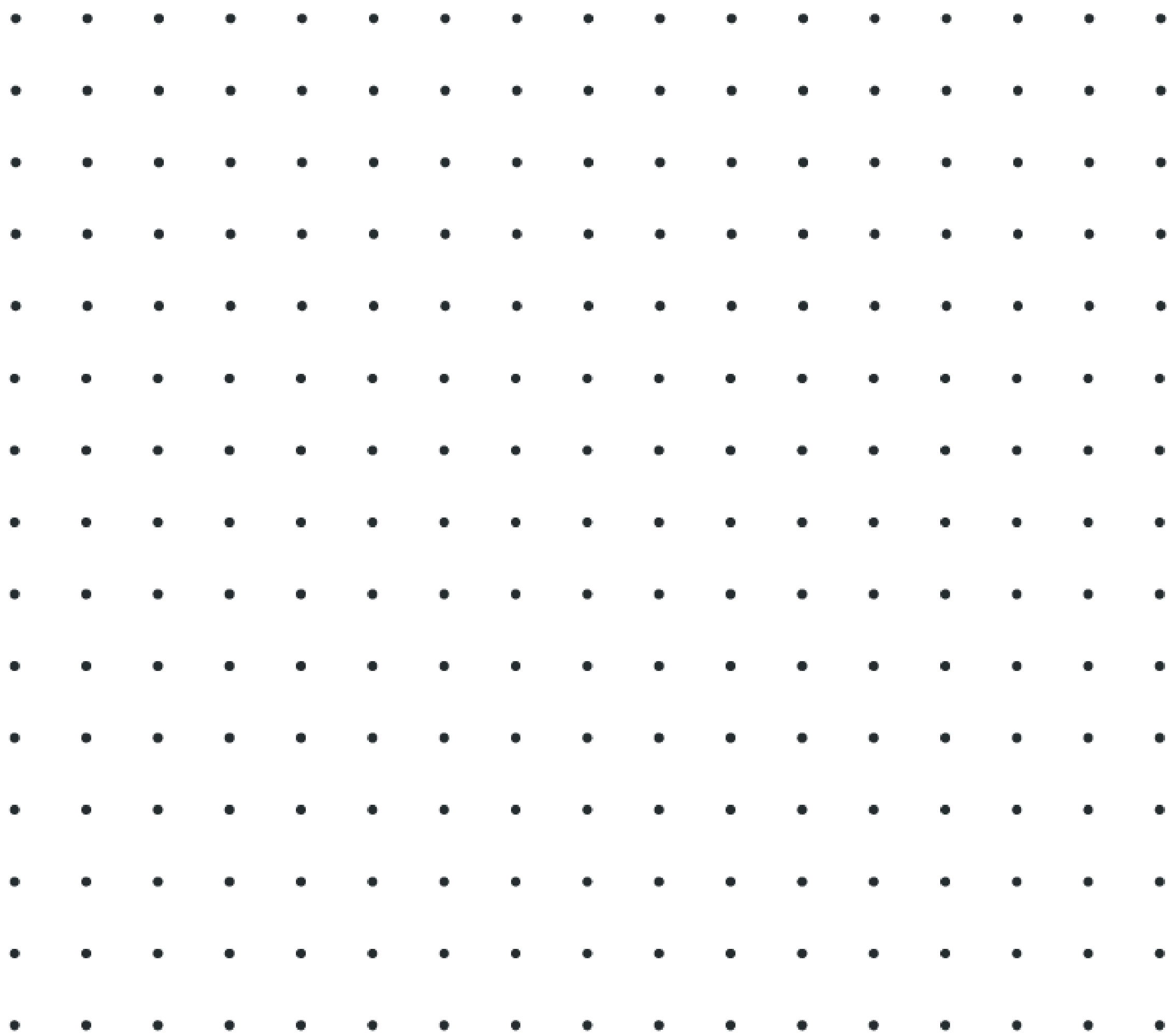


E-BOOK

# UNLOCKING HIDDEN SUPPLY CHAIN VALUE WITH AI

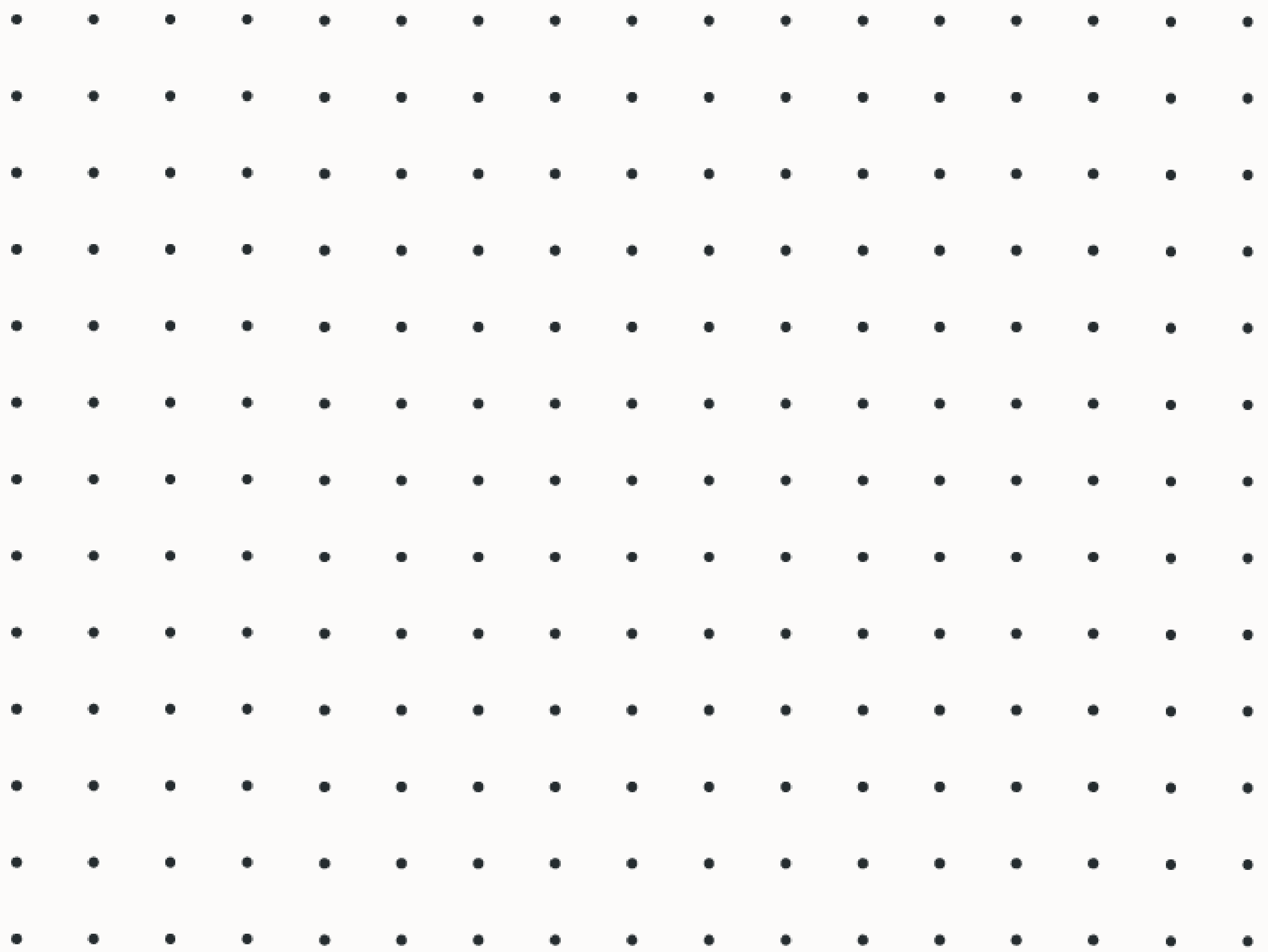


DECEMBER 12, 2019



**From the plant to the warehouse to being loaded in a container and transported to its final destination, the journey of any product is long and complex. Successful journeys require collaboration between dozens of ecosystem players, hundreds of people, and thousands of pieces of information. With so much at stake, gaining visibility into cargo transport has become an industry priority for many reasons. Customers demand greater accountability. Regulatory mandates require documented compliance. In addition, ecosystem partners need better insight to increase efficiency, reduce risk, and maintain customer satisfaction.**

**Each stakeholder's supply chain decisions depend on knowing—not guessing—the status of cargo during its journey. Stakeholders need visibility specifically relevant to their roles in the supply chain. They need data that matters. Despite vast amounts of data generated by industrial logistics, transportation, and warehousing processes, data and digital processes by themselves are not enough. This paper describes how Artificial Intelligence (AI) unlocks the value of supply chain information for the benefit of everyone.**



## **THE TRAXENS AI ENGINE: DELIVERING INSIGHT THAT MATTERS**

The term "AI" is becoming common across industries. It is a field within computer science that involves creating intelligent machines. It encompasses mechanical, robotic, and automotive tasks that emulate human capabilities. Under the umbrella of AI, there are disciplines including machine learning (ML), natural language processing, voice/audio recognition, image recognition, search, routing, autonomous transport, and others. Companies of all kinds are increasingly focused on using AI for intelligent applications and software-based workflows.

By using AI capabilities combined with automation, sensors, and intelligent hardware devices, companies can automatically perform tasks such as tracking mobile assets, verifying process steps, and documenting transactions. By 2025, IDC predicts at least 90% of new enterprise apps will embed AI.

**" The focus for the 10 predictions for next year and beyond is the rise of the digital economy. By 2023, idc predicts, over half (52%) of global gdp will be accounted for by digitally transformed enterprises. "**

## **CRITICAL DATA COLLECTION**

Traxens uses ML and other AI disciplines as part of its comprehensive solution for the supply chain ecosystem. Traxens devices include a standard set of embedded sensors for smart container monitoring, as well as an interoperable wireless interface that enables third-party sensors, IoT devices, and external data sources to integrate real-time data for analysis. All data is delivered to the Traxens cloud in single, unique, live data stream.

## **ESSENTIAL DATA SCIENCE**

However, capturing raw data from sources and IoT devices is not enough. The amount of data generated by connected IoT devices is overwhelming. Data must be collected and aggregated specifically, based on the requirements of specific use cases. Attributes such as provenance, volume, timing, content, correct labeling, and others are critical for accurate supply chain analysis.

Traxens devices are designed to collect and deliver high-quality data correctly from the start. Data streams are continuously cleaned and monitored according to multiple quality indicators during real-time processing. Once data is delivered, it is organized, cleansed, identified, and pre-processed for building datasets for analysis. Traxens' own data lakes retain custody of the entire data chain to assure data quality and integrity.

This is where Traxens AI expertise comes into play, using ML and data analytics. Instead of traditional rules-based programming, the Traxens AI engine creates data models and analysis by matching patterns through neural networks occurring in real-world data. As a result, our data scientists have developed predictive algorithms that can account for myriad factors during complex supply chain processes.

## INDISPENSABLE INDUSTRY EXPERTISE

With years of experience in global supply chains, Traxens data scientists understand the challenges faced by customers and can accurately analyze and present meaningful data to all supply chain stakeholders. Unlike traditional business intelligence (BI) tools that cannot control data collection, require skilled users, and take extended periods of time to deliver meaningful information, Traxens provides insights that matter in real time. Our "AI as a service" gives customers access to AI-based data processing techniques, predictive algorithms, and ML analytics through a simple API.



# MAKING REAL-WORLD DECISIONS WITH AN AI ADVANTAGE

*Traxens' unique focus is optimizing hardware and data science to give customers unprecedented advantages:*

- **Instant visibility into shipping and cargo enables customers** to make decisions faster and with more confidence
- **Predictive analytics and accurate ETAs** to facilitate operational efficiencies such as accelerating customs clearance, reducing waiting times, triggering contingency plans, and optimizing container usage
- **Continuous intelligence improves cargo quality** by identifying factors such as hot stuffing on reefers, sudden impact, container door opening, and temperature or humidity fluctuations
- **Traxens customers gain vital data** for routing optimization, cost reduction, proactive intervention, and increased asset utilization
- **Comprehensive Traxens information enhances services** with live tracking, cargo monitoring, and other capabilities that can be tailored to meet customers' needs

## **MAKE DIFFERENCES THAT MATTER**

Customers around the world are using Traxens solutions to unlock the value of supply chain data that was previously inaccessible. With AI-based services from Traxens, they are identifying problems and solutions faster. They are surfacing new opportunities that otherwise would have been missed. They are achieving new levels of efficiency and risk reduction. As the supply chain ecosystem increasingly adopts AI-based solutions, customers, ports, and partners also increase their abilities to work much more effectively and profitably.

***For more information,  
visit <https://www.traxens.com>.***



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