

CSCMP hottopics

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Taming a Global Supply Chain with the Common Language of Standards

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Advancing digital technology and e-commerce are inextricably coupled with rapid changes in consumer expectations, each driving continual transformation in the other. Today almost any product can be purchased from anywhere in the world and delivered to the other side of the earth in a matter of days. At the same time, increasingly savvy buyers leverage their power of choice to align with their personal preferences and needs. For example, many may opt for brands that project authenticity and social responsibility.

The sheer exponential availability of products means consumers and businesses have more choices than ever, and the ability to exchange detailed product information is pivotal to all transactions. No longer will consumers or businesses tolerate sourcing delays or murky product details. For global supply chains to work in this climate, they must be nimble and rich with universally understandable product and transaction data – end-to-end. The common solution is an interoperable, standardized data exchange infrastructure. GSI Standards make this possible by helping companies speak a common language regardless of geography.

Standards are proving most useful to today's highly complex global supply chain by enabling scalability for small to medium sized brands, helping to authenticate products, and serving as an important foundation for traceability – including potential blockchain solutions.

SCALABILITY

Retailers require all their suppliers, large and small, to follow their individual procurement guidelines. Failure to do so results in chargebacks or worse, termination of business relationships. The complexities involved behind the scenes in meeting these requirements can be particularly challenging for small to mid-sized businesses. With comparatively limited internal technology resources and infrastructure, they must find ways to level the playing field or risk losing the sale.

Standards enable scalability and open access to the trading platforms required for businesses to compete in today's complicated supply chain infrastructure. Small and medium sized companies are able to “go global” just like the larger brands by utilizing the same tools and a common language of standards to track, validate and support product ordering and supply. From source to sale, even a small company can access data to make informed, more accurate decisions that satisfy retailer requirements.

One company, [Crane USA](#)¹, put these principles into action, implementing an automated order management system using GSI Standards for improved supply chain efficiencies.

Crane deals with a myriad of retail channels, from big box chains to boutique shops, and physical storefronts to e-tail shopping platforms. To meet the

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diverse demands of all its customers, Crane partnered with DiCentral, a GSI US Solution Provider, to enable an Electronic Data Interchange (EDI) integrated order management system. A single pipeline for orders – regardless of where they originate – streamlines the fulfillment process, no matter what size the order.

Here's how it works: Crane's Illinois headquarters sends an EDI Purchase Order (PO) to its Hong Kong office, which places an order directly with the factory in mainland China. Once the merchandise is produced, the factory applies the GSI barcode labels provided by the Hong Kong office to all master cases. Encoded in each barcode is the product's unique identifier (the GSI Global Trade Item Number® (GTIN®)), along with the batch/lot number, and the master case identifier. When the warehouse receives the merchandise and scans the barcodes, all the data is “captured” and carried forward with the product throughout the supply chain.

What began as a solution for managing orders became a much more integral component to Crane's overall operations. Availability of real-time intelligence improved visibility for inventory management, sales forecasting, sales reporting, and purchasing reports; retailer satisfaction is ensured through compliance with their purchasing guidelines. Plus, Crane realized an increase in productivity from much more efficient, automated warehousing operations.

AUTHENTICATION

Virtually anyone can sell a product online, and it can be impossible for consumers to know if the product they're selecting for purchase is counterfeit. This is an especially prevalent problem for luxury goods – where consumers willingly pay premium prices for the quality and value of a chosen brand. If an imitation product is inadvertently purchased, retailers and brands can suffer significant losses as their reputations, future sales and brand images are negatively affected. The damage inflicted by counterfeiters to consumers' pocketbooks and trust is no small matter – but far more serious consequences, even physical injury, can occur if the fake product contains toxic materials or false safety certifications.

Sharing of standardized data, including accurate and verifiable product identifiers (e.g., GSI GTINs) makes it easier for trading partners to validate transactions and thwart counterfeiters. Leveraging the power of GSI Standards, retail trading partners can share data and mitigate counterfeit goods by tracing source materials back to their point of origin, and tracking products from the moment they are shipped from the factory floor, thereby increasing the ability to audit and validate receipt of goods and make accurate, verified product information available to e-commerce applications and retail storefronts. This combination of industry-wide collaboration, accurate product identification information, real-time inventory visibility, and trusted product data provides consumers with the visibility and confidence they need to make their purchase decisions.

In the business-to-business supply chain, it allows wholesalers and retailers to anticipate deliveries and apply optimized ordering strategies that ensure consumer satisfaction and fulfillment.

BLOCKCHAIN

Looking to the future, visionary business leaders are investigating the potential of using blockchain technology to facilitate unprecedented levels of sophisticated transaction assurance. Companies like Starbucks and Walmart are piloting blockchain programs to effect full transparency in their product sourcing, directly

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addressing consumers' product information appetites and enabling them to make fully informed brand commitments. Starbucks' pilot, for example, is designed to trace coffee beans from Costa Rica, Colombia and Rwanda as part of the company's commitment to sustainability and ethically sourced coffee beans in its supply chain.

Blockchain is a distributed ledger that represents a consensus of replicated and synchronized digital data geographically spread across multiple sites. This structure makes the data resilient to a technology or organizational failure and supports "smart contracts" with automated execution of terms, conditions, and business rules. Through this feature, trading partners can automatically enforce terms and conditions as previously defined, eliminating the errors and inefficiencies associated with the current manual processes based on legacy systems.

The key to blockchain's potential for improving traceability is its immutable audit trail, which cannot be modified or deleted. However, it is important to understand that blockchain does not by itself provide end-to-end supply chain visibility. To achieve a truly visible and traceable supply chain, a company's internal processes are integrated into a larger system of external data exchange and business processes occurring between trading partners. Blockchain works in concert with these business applications and not on its own.

[GSI Standards](#)² are foundational to amplifying blockchain's power to speed along traceability. For example, the GSI EPCIS (Electronic Product Code Information Services) Standard simplifies the capture and description of events that are written so that companies can more instantly rely on a single version of the truth about supply chain and logistics events. When the shared data is standardized and interoperable, it can be accurately synchronized in real time and trusted to support the audit trail that is the backbone of blockchain's potential.

CONCLUSION

The increasingly complex global economy – coupled with progressive consumer attitudes and expectations – is driving demand for ever more agile, accurate and traceable supply chain systems to enable fast delivery, easy ordering, supply-chain visibility, complete transparency and more.

A monumental network of connected transactions keeps the flow of information moving between trading partners, from the point of a product's origin, all the way to the consumer's doorstep. Standards provide a foundation upon which all those transactions and events can be communicated. They are both behind the scenes and a part of our everyday lives – the ubiquitous barcode, for example, is scanned around the world more than 6 billion times a day in stores and its relevance is growing for supply chain efficiency even 45 years after its inception. Now is the time to take advantage of the global opportunity to align on a common platform for future innovation and growth.

FOOTNOTES

¹ <https://www.gsius.org/industries/apparel-general-merchandise/craneusa>

² <https://www.gsius.org/blockchain>