

Visibility Data Enables Track & Trace

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What would grocery retailing or restaurant operation be like if manufacturers and suppliers did not use the standardized UPC barcode to identify their products? What would that mean to the supply chain? What if trading partners could not transmit orders, acknowledgements and shipment notifications electronically, or scan barcodes to record accurate inventory, received goods and sales based on standard identification? Without global standards for identification, would our modern world of global commerce and global sourcing even be possible?

The GS1 US Visibility Framework of Standards provides the foundational standards necessary for the technologies behind these processes to deliver accurate data that organizations need to operate efficiently at the speed business demands.

This framework presents the fundamental components needed for traceability. First, it provides standards to uniquely identify and serialize items, which can then be encoded into barcodes and RFID tags. Second, it offers messaging and transaction standards and the means to store this information so key data elements can be captured and identified with each critical tracking event. Finally, it enables the information to be securely communicated and accessed on demand by authorized parties throughout the supply chain.

“Standards make visibility practical and enable it to provide business benefits, according to analyst firm IDC Manufacturing Insights, who wrote: “Effective traceability relies on the collection and sharing of the important data and

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information that accompanies the physical flow of materials and products through the manufacturing process — in other words — visibility.

“However, this data and information need to share a common language to be used by all parties in the supply chain. It does no good if companies are collecting material and product data that cannot be easily shared with their partners. This is where a standards organization steps in. For visibility, and therefore traceability, in product-oriented supply chains, GS1 is the undisputed universal language.”

Below are just a few examples of how applying GS1 standards can improve track-and-trace processes:

- FIFO inventory management — Using the GS1 identification standards, products can be identified at the lot, batch, sell-by date or individual item levels. This data, combined with the ability to access where and when data, and other contextual information, makes it easy to prevent spoilage and waste by accurately maintaining first-in, first-out inventory management practices and identifying at-risk products. For example, a distributor could automatically issue an alert if products with upcoming sell-by dates are in a warehouse and have not been distributed to retail stores or foodservice outlets for consumption.
- Maintaining cold chain integrity — “Where and when” data can help determine how long temperature sensitive products spent in a particular location. In addition, EPC-enabled RFID tags can interface with temperature, humidity and other sensors to log conditions. Combining and communicating these data points is useful in documenting what an item was exposed to.
- Recall management — Unique identification, plus real-time event and location data, enables manufacturers to pinpoint exactly which products need to be recalled and where they are in the supply chain. Instead of issuing blanket recalls, manufacturers have the ability to conduct a surgical recall, specifying which wholesalers, distribution centers or stores received the affected products, rather than recalling all products in the SKU category.
- Distribution history — The framework facilitates tracking a product’s distribution history throughout the supply chain, from the point of creation to point of sale or consumption. For example, various activities and transactions (including harvesting, producing, processing, packaging, shipping, receiving, et al) can be recorded as critical tracking events using the EPC Information Services (EPCIS) standard. This allows trading partners to access time-stamped traceability for products moving through the supply chain.

VDC Research stated: “Standards are the foundation for clear, understandable exchanges between companies in an increasingly globalized economy. Without standards, business processes would be highly complex and less automated, especially for companies that manufacture products from a large number of components from different sources.”

The examples presented here represent just a few ways that businesses can

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leverage the additional data enabled by the GS1 US Visibility Framework.

For more examples, [download the full whitepaper \[1\]](#) from the GS1 US website.

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[1] http://www.gs1us.org/DesktopModules/Bring2mind/DMX/Download.aspx?EntryId=3605&Command=Core_Download&PortalId=0&TabId=73