EPCIS
Improving Traceability, Security, Regulatory Compliance, and Inventory Management

GS1 Electronic Product Code Information Services (EPCIS) is an open standard which allows businesses to capture and share supply chain information about the movement and status of goods, both within their enterprise and with their business partners.

The Challenge

How can we increase visibility around the physical movement of products as they travel throughout the supply chain?

In industries that deal in the handling of physical goods—such as manufacturers, distributors, logistics providers, resellers, or large end users of tangible goods—traceability of products is always a major concern.

The need for sharing detailed product information in a cost-effective way while finding opportunities for better supply chain visibility—and ultimately greater efficiency—is essential in today's evolving business environment. How can companies benefit and improve their operational processes and easily share information through a single language?

The Solution

EPCIS enables trading partners to share information about the physical movement and status of products as they travel throughout the supply chain—from business to business and ultimately to consumers.

GS1's EPCIS standard enables visibility and provides a critical foundation that can help companies improve business processes, comply with regulations, and increase consumer and patient safety. Its flexibility and extensibility are geared to support both current and future needs of trading partners across multiple industries, regardless of the data carrier.

"We are seeing EPCIS emerge as a way to reliably document chain of custody and chain of ownership. Such information trails are mandatory in a growing number of regulatory jurisdictions, as they help prevent counterfeits from entering legitimate supply chains to be approved. Of even greater importance is patient safety, which can be improved substantially by the supply chain visibility that EPCIS helps provide."

Scott Mooney
Vice President
Distribution Operations/Traceability
McKesson Pharmaceutical

Did You Know?

With the recent release of EPCIS 2.0, a new backward-compatible release of EPCIS & Core Business Vocabulary (CBV), the door is open to a wave of new applications across multiple sectors. Added sensor report capability unleashes new IoT possibilities. Additionally, the barriers to adopting EPCIS are lowered through added bindings to the modern languages of the web with JSON/JSON-LD and RESTful API.

The Benefits

Real Business Impact
Implementation of EPCIS makes it easier to track and trace products, manage inventory, and satisfy consumer and regulatory requirements for accurate information on product chain of custody and availability.

It Answers the Important Questions
EPCIS allows businesses to capture and share supply chain information about the movement and status of goods, both within their enterprise and with their business partners. Such movements or "events" comprise five dimensions:

- What products are impacted?
- When did this time-stamped event occur?
- Where was the product? Where is it now?
- Why was this observed? Which process step?
- How are the goods? Are they still in good condition?

Interoperable and Flexible Framework
EPCIS was developed and continues to be enhanced to meet the needs of multiple industries, like consumer goods, fresh foods, apparel, fish, transport and logistics, and healthcare.

Defined Vocabulary and Interfaces
EPCIS defines interfaces for sharing supply chain event data between applications that capture event information—and applications that need access to such information. EPCIS is complemented by its companion standard, the Core Business Vocabulary (CBV), which defines data values for a broad set of business processes and scenarios. This vocabulary is used to populate EPCIS events, ensuring that all trading partners exchanging supply chain visibility data have a common and consistent understanding of the business meaning of that information.

The Future

EPCIS Implementation and Beyond
EPCIS is increasingly deployed in sectors such as healthcare, fresh foods, apparel, and rail to improve efficiency in areas ranging from inventory management through loss prevention to consumer and patient safety. Implementation is experiencing growth in:

- Pharmaceutical Chain of Custody
- Food/Fresh Produce Packaging and Distribution
- Fresh Fish Packaging and Distribution
- Vehicle Visibility in Rail
- Digital Coupon Management in Retail
- RTI Management
- Asset Management (Oil/Gas)
- Tobacco Chain of Custody
- Apparel Stock-Taking and Cycle Counting

Learn More

For more information, visit
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