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* If applicable



GS1 Overview



GS1 – the global language of business

GS1 is a global standards organization

Neutral and not-for-profit

User-driven and governed

Global and local

Inclusive and collaborative



Global Reach

110+

Member Organizations
Serving Business
Around the World



GS1 Standards



Identify: GS1 Identification Numbers

GLN Global Location Number **GTIN*** Global Trade Item Number* **SSCC** Serial Shipping Container Code **EPC*/SGTIN** Serialized Global Trade Item Number **GSIN** Global Shipment Identification Number



Capture: GS1 Data Carriers

Barcodes

EAN/U.P.C.



GS1 DataBar®



GS1 DataMatrix



ITF-14



GS1-128



EPC-Enabled RFID Tags

HF RFID



UHF RFID



Share: GS1 Data Exchange

Master Data Global Data Synchronization Network™ (GDSN®) and GS1 US Data Hub | Location

Transactional Data Electronic Data Interchange (EDI)

Physical Event Data EPC Information Services (EPCIS)



The Global Language of Business

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GS1 by the Numbers

1.5 million

companies around the world use GS1 Standards.

More than 6 billion

GS1 barcodes are scanned every day.

36+ million GTINs

and **600,000+** GS1 Company Prefixes are in the GS1 US Data Hub | Product tool.

More than 37 million

products are registered by brand owners in the GS1 Global Data Synchronization Network™ (GDSN®).



About GS1 US

GS1 US[®] serves more than 300,000 businesses across 25 industries in the United States.

- Leading industry initiatives in Apparel and General Merchandise, Foodservice, Healthcare, and Retail Grocery
- Administrating the GS1 System of Standards across 25 industries
- Providing support services, tools, education, and training
- Connecting communities through events and online forums

GS1 US is the pioneer of the Universal Product Code (UPC) and the Electronic Product Code (EPC[®]).



Example of GS1 Standards in Action



U.S. Customs and Border Protection (CBP) Global Business Identifier – Evaluative Proof of Concept

IDENTIFIERS										
PRODUCT CATEGORIES*	 <p>Alcohol</p>		 <p>Medical Devices</p>		 <p>Personal Items</p>		 <p>Seafood</p>		 <p>Toys</p>	
COUNTRIES	 <p>Australia</p>	 <p>Canada</p>	 <p>China</p>	 <p>France</p>	 <p>Italy</p>	 <p>Mexico</p>	 <p>New Zealand</p>	 <p>United Kingdom</p>	 <p>Vietnam</p>	

*A list of Harmonized Tariff Schedule (HTS) codes has been identified



Healthcare Industry

Drug Supply Chain Security Act

- Electronic tracing of products at the package level to identify and trace certain prescription drugs as they are distributed in the United States
- Compliance date Nov 27, 2023
- US FDA recommended guidance for GS1 Standards – specifically the Electronic Product Code Information Services – which supports transactional data and requires the GLN

Modernize Your Supply Chain
Achieve Interoperable Serialized Traceability and Enhance Supply Chain Visibility by Implementing GS1 Standards

 <p>Adapting to new legislation, reform, and regulation</p>	 <p>Reducing medication errors</p>	 <p>Tracking and tracing of pharmaceuticals</p>
	 <p>Improving patient safety</p>	

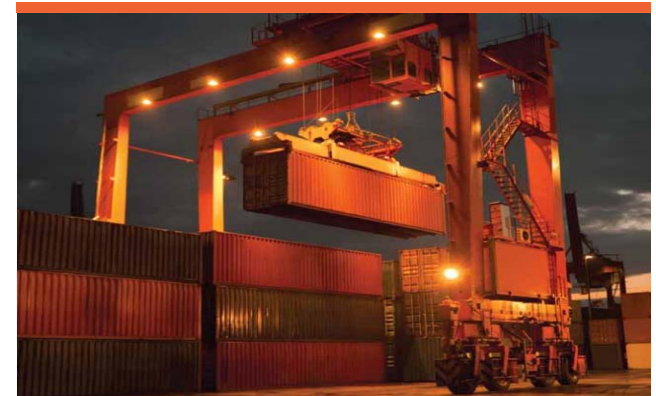
Food Industry

Enabling traceability for food safety; Food Safety Modernization Act Rule 204



New Zealand Customs Redesigns Cross-Border Services with Support from GS1 Standards

- **Challenge:** The Port Klang Authority supported by Malaysian Customs wanted to improve its port and maritime operations for increased efficiencies and transparency of goods as they traveled through the supply chain.
- **Solution:** The first step will be to register all users of the port with GS1 Global Location Numbers (GLNs) to uniquely identify them and their physical sites. The next step will expand to the use of the Global Trade Item Number® (GTIN®) that will uniquely identify the products traveling through the port operation.
- **Results:**
 - Boost in business confidence and economic growth.
 - Reduced costs and significant supply chain efficiencies.
 - Enhanced product traceability and more effective recall process.
 - Data interoperability between all stakeholders.
 - Improved visibility and supply chain connectivity



EPCIS enables trading partners to share data about the location of goods or other assets (transport equipment, returnable assets like pallets), making it possible to understand what actually happened as goods and assets are handled by trading partners in manufacturing sites, warehouses, retail stores and other facilities.

https://www.gs1.org/docs/tl/GS1_T_L_Reference_Book_2014.pdf

Streamlining the beef export business from Australia to the U.S.

- **Challenge:** Australia's boxed meat exports to the U.S. loses millions of Australian dollars each year due to missing shipment marks, indicating the meat in the box has the proper health certificate to enter the U.S. market.
- **Solution:** GS1 barcodes were used as backups to marks. Other GS1 standards in electronic interfaces and EPCIS were used for data sharing, including EDI messages between ERP systems, event notifications and transport instructions.
 - The parties involved in the pilot project included logistics, shipping line, and local transportation companies; the meat processing industry; and the industry association, Meat and Livestock Australia.
 - Government participants included the U.S. Department of Agriculture Food Safety and Inspection Services, Biosecurity Australia, Australian Customs, and U.S. Customs.
 - The solution tested included the use of GS1 barcodes as backups to marks. If implemented, this could be a major development that would deliver important trade benefits by reducing administrative burdens and costs as well as inevitable human errors from the U.S. Customs' clearance process.
- **Results:** The automation of messages of transport instructions reduced manual entry errors and delivered potential savings of \$57,000 and more than 1,000 hours of manual labor annually. By using GS1 standards in the supply chain, Australian meat exporters saved an estimated \$14 million each year. Supply chain visibility improved from 43% to 93%.



Reduced costs was also a direct benefit for the meat industry while efficiency gains was a relevant benefit for the governments controlling the imported products—specifically the U.S. Food Safety Inspection Service as well as the supply chain stakeholders.

Additionally, data integrity was established as one business found six addresses for one customer in its system, now replaced by the one unique global location number (GLN)



<https://www.gs1.org/public-policy/case-studies/asia-pacific/streamlining-the-beef-export-business-from-Australia-to-the-U-S>

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Securing the durian export supply chain from Malaysia to China

- **Challenge:** Authorities faced new challenges of facilitating, yet controlling the increased durian trade, a premium product in Asia. There was a need to reduce the risk of counterfeits, especially in China.
- **Solution:** GS1 identifiers were implemented to uniquely identify each piece of the durian fruit as well as logistics units and consignments transporting them from Malaysia to China. Mi-Trace, based on EPCIS, provided access to information for farm-to-consumer traceability. GLN's were used at the Malaysia Durian processing house and loading bay as well as the Malaysia airport terminal.
- **Results:** Time spent on tracking consignments has been reduced by 98 percent, and errors due to manual data entry have been eliminated. Information about each shipment is now available in real time, and counterfeit products can be easily detected. Supply chain visibility improved from 40% to 100%.



The pilot project successfully demonstrated that cross-border traceability along with significant improvements in supply chain performance could be achieved by using GS1 standards including GLN's which are supported by the EPCIS platform.

<https://www.gs1.org/public-policy/case-studies/foodservice/securing-the-durian-export-supply-chain-from-Malaysia-to-China>

A more transparent asparagus supply chain from Peru to the U.S.

- **Challenge:** GS1 Peru worked with BETA, the leading Peruvian exporter, to improve its processes, targeting efficiency gains and visibility improvements in the supply chain.
- **Solution:** GS1 Standards were applied to asparagus products and EPCIS was used so that all trading partners in the supply chain could monitor, track and trace products in real-time. GLN's were used at the Peru asparagus processing house and loading bay as well as the Peru airport terminal.
- **Results:** Processing time for the 3PL company was reduced by 20 percent. Efficiency gains in communication increased by 50 percent with a reduction of time and resources from 1,500 to 750 hours per year. Supply chain achieved 100% visibility.
 - Customs representatives obtained more detailed, real-time information about shipments of asparagus, enabling them to make better, more informed decisions during cross-border clearance for improved risk management.



GS1 standards were applied to selected products so that all trading partners could monitor, track and trace products in real-time

Key success factors included the participation and commitment by all stakeholders, including government authorities.

<https://www.gs1.org/public-policy/case-studies/foodservice/a-more-transparent-asparagus-supply-chain-from-Peru-to-the-U-S>

International Trade



Situation

The Asia Pacific Economic Cooperation was formed to expand the economies of APEC member countries. Established in 1989, APEC is designed to further enhance economic growth and prosperity for the region and to strengthen the Asia-Pacific community. APEC has 21 members whose economies account for: ~40% of the world's population, ~54% of world GDP, and ~44% of world trade. Given this background, efforts to improve supply chain connectivity and to strengthen regional economic integration have become one of APEC's core activities in recent years.

Approach

To support the creation of strong use cases, APEC and GS1 partnered on establishing the role of Global Data Standards (GDS) thru funding the following supply chain pilots and workgroups:

- Pilot: Wine from Australia to Hong Kong
- Pilot: Asparagus from Peru to US
- Pilot: Boxed Beef from Australia to US
- Pilot : Durian from Malaysia to Hong Kong & China
- Pilot: Tequila from Mexico to US
- Workgroup: Roadmap to Promote Global Medical Product Quality and Supply Chain Security

Results & Benefits

Endorsement in 2014 to further advance work on global data sync, including pilot projects; establishing a set of policy-based principles and recommendations for future initiatives.

APEC formal statement on the value of standards and global data sync in the areas of:

- **Efficiency:** improve the efficiency of supply chains by eliminating unnecessary transactions, and enabling more accurate risk assessments.
- **Integrity:** used to verify the integrity of a product throughout the supply chain.
- **Visibility:** increase the visibility and transparency of supply chain processes.
- **Innovation:** provide a platform for innovation by enabling new ways to utilize information through 'smart' supply chain processes.
- **Supply chain connectivity framework:** focused to deliver a 10% reduction in supply chain costs, single trade window, and the adoption of global standards to promote cooperation—all aimed at improved food and product safety.

Questions?

Thank you for your time and attention.



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