Sharing Data with GS1 standards benefits all parties

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Vision & Mission

Our **vision** is a world where **goods** and related **information** move **efficiently** and **securely** for the benefit of businesses and people’s lives.

Our **mission** is to be the **neutral** leader enabling communities to develop and implement **open global standards**.
GS1: Global reach, local presence

GS1 is a not-for-profit organization dedicated to the design and implementation of global standards and solutions to improve the efficiency & visibility of the supply and demand chains globally and across sectors.

111 Member Organisations
1,5 million member companies

Countries with a GS1 Member Organisation
Countries served directly by GS1 Global Office
Some of the world’s best-known companies sit on our Board...just to name a few!
GS1: A global system of standards

Share

Capture

Identify
GS1: A global system of standards

Identify

Global Location Number (GLN)
- Manufacturer
- Item
- Case
- Pallet
- Transport
- Distributor
- Transport
- Pallet
- Distribution Center
- Transport
- Case
- Store
- Customer

Global Trade Item Number (GTIN)
Serial Shipping Container Code (SSCC)

Capture

GS1 System Data Carriers
Barcodes and EPC-enabled RFID tags

Share

Electronic Commerce Information Flow
- Master Data (GDSN)
- Transactional Data (eCom)
- Physical Event Data (EPCIS)

Item Data
Request For Quotation
Price And Promotion Data
Purchase Order
Planning Schedule
Shipping Notice
Invoice
Product Recall/Withdrawal

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What GS1 offers

GS1 provides a system of standards and supporting services and solutions, to help companies in our key sectors solve together business challenges in the value-chain.
The main GS1 Identification keys
GS1 Identification Keys

**GTIN - Global Trade Item Number ...**

**GLN - Global Location Number ...**

**SSCC - Serial Shipping Container Code...**

**GSIN - Global Shipment Identification Number**
The GS1 data carriers
GS1 Data Carriers: Bar Codes & RFID

- EAN/UPC
- GS1-128
- GS1 DataBar
- GS1 DataMatrix
- GS1 QR Code
- ITF-14
- EPC UHF Gen 2
- EPC HF
The GS1 data sharing standards
Forms of Data Exchange

Visibility data

Transaction data

Master Data

Seller

Buyer
Global Visibility

Using GS1 keys, EPCIS and data sharing standards
Global Visibility

• **Challenge** -- knowing exactly where a given object is at any point in time, and why. (What, when, where, why)

**Global Visibility** -- having visibility everywhere in the supply chain where an organization has a legitimate interest and right to know
What is EPCIS?

• EPCIS = Electronic Product Code Information Service

• Provides standard interfaces to obtain and share data about individual objects within and across enterprises

• Is a supplement to, not a replacement of, existing enterprise systems

• Answers the **What, Where, When and Why** by capturing events data
Visibility

Tracking
• Where are my objects?

Tracing
• Where were my objects last Tuesday afternoon?

Pedigree
• Which parties were involved?
• Where has my object been along the way?

Authentication
• Are my objects likely genuine?
EPCIS Events at supply chain read points

WHAT
Individual object instances (e.g. SGTIN, SSCC, GRAI...)

WHERE
• Read point (GLN)
• Business location (GLN)

WHEN
Time stamp of the event (date + time + time zone)

WHY
• Business Step (e.g., Pick-Up)
• Disposition (e.g., In Transit)

...recorded as an EPCIS Event
How does EPCIS Data Sharing work?

- Each company controls their own data – share via EPCIS Query Interface, subject to access rights.
Vision: An Interconnected World

Trillions of Products Networked Together

Enterprise

Business Applications

Global Network

Manufacturer

Logistics

Customs

Retailer

Consumer

Product Visibility

Track and Trace/ Anti-Counterfeiting

Targeted Marketing

Enhanced Consumer Experience
History

- An ETP Project approved by Prime Minister Dato’ Seri Najib Tun Razak
  - Building a system with security feature to facilitate the faster movement of container/lock vans automatically in between Customs checkpoint.
  - It provides paperless auto identification of container/lock van to facilitate faster container clearance at checkpoints.
- This is a **total privately-funded** project by a private sector

Objectives

- Having visibility in the supply chain where Customs has a legitimate interest and right to know.
- To replace older mechanical seals to provide higher security
- Sharing of data for Customs enforcement purposes
Outgoing/Sending Form K8

1. Electronic Declaration
2. CIS registers & send to RFID Sys.
3. Agent initialize RFID seal
4. RFID Info printed
5. Seal Container
6. Depart - CCTV Surveillance

CIS sends approval to RFID Sys.
Incoming / Receiving Form K8

1. Reader scans RFID Seal
2. Check if SEAL tempered
3. Auto Complete and Update to CIS

Seal collected back
What is EPCIS?

- **EPCIS = Electronic Product Code Information Service**
- Provides standard interfaces to **obtain and share data** about Customs movement within and across countries
- Focuses primarily on capturing & share data **for visibility**
  - Take necessary actions
Each Customs controls their own data – share via EPCIS Query Interface, subject to access rights agreement between countries.
Benefits of Sharing Data

- Ability to track and acquire information at origin before the arrival of cargo.
  - Cargo declaration
  - Port of Origin
  - HS Code
- Help Customs in identifying high-risk container, by providing intelligence info.
  - To warrant full or partial check upon arrival.
- Eg: Origin – Wine ; Destination – Soda Water
**Summary**

**Security** → **RFID seal**

**Visibility**
- **What:** What was declared
- **When:** Date / time of declaration
- **Where:** Location / Port of origin
- **Why:** Export/Import, etc.

**SHARE**

Customs (USA) → Customs (Germany) → Customs (Malaysia) → Customs (Thailand) → Customs (Jamaica)
Moving Forward

- In discussions with Royal Thai Customs, Singapore Customs for sharing of information across borders.
- Welcome many more Customs to work together on the EPCIS platform for data exchange:
  - Facilitate Trade
  - Higher Security
  - Customs Enforcement
Thank you