GS1 and scanner data

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GS1: An Overview
A need for global standards...

What happens when there aren’t global standards?

• Inefficiencies
• Increased risk
• Lost opportunities
GS1: The Global Language of Business

GS1 is a neutral not-for-profit organisation driven by its users, that facilitates collaboration amongst trading partners, to create more efficient, safer and sustainable value chains through global standards.
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 is both global and local

**GS1 Global Office**
- development and maintenance of standards and our foundational architecture
- coordination with other international bodies
- development of training programmes

**GS1 Member Organisations**
- local offices in 111 countries around the globe
- implementation of standards
- local regulatory adjustments
- community management and
- relationship management with local governments and regulatory agencies
Global reach, local presence

111 Member Organisations
1,300,000 member companies
150 countries served
2,500 people helping us
Some of the world’s best-known companies sit on our Board...just to name a few!
Industries using GS1 standards

- Agriculture
- Alcohol Beverages
- Apparel
- Audio / Video
- Automotive
- Chemicals
- Computer Hardware and Software
- Cosmetics and Fragrances
- Electrical Supplies and Equipment
- Electronics
- Financial Services - Banking
- Food and Beverage
- Foodservice
- Fresh Meats, Poultry, Seafood Deli
- Furniture
- General Merchandise
- Hobbies and Crafts
- Home Accessories
- Home Furnishings

- Home Improvement / DIY
- Jewelry
- Lawn and Garden
- Maintenance Repair and Operations
- Medical devices
- Medical instruments
- Nutrition
- Pet Foods and Supplies
- Produce
- Pharmaceuticals
- Public Sector / Government
- Publishing
- Raw Materials
- Shoes
- Sporting Goods
- Telecommunications
- Toys and Games
GS1

Our work with international standards bodies and trade organisations
GS1 has been granted special consultative status as a NGO (Non Governmental Organisation) by the United Nations. This gives GS1 the opportunity to be directly represented in UN events, conferences, and activities related to standards.
GS1 and ISO share the same values and the same beliefs in the vital importance of neutral global standards.

Our teams work with ISO to:

• Promote recognition of GS1 standards by ISO
• Participate actively in specific ISO developments
• Submit relevant GS1 standards to ISO
• Adopt ISO standards as appropriate
GS1 : A partner you can trust

More than 20 ISO standards refer to GS1

- JTC 1/SC31 - Automatic ID & Data Capture Techniques
- ISO/TC 34/SC 17 - Food safety
- ISO/TC 46 - Information and Documentation
- ISO/TC 122 - Packaging
- ISO/TC 154 - Processes, data elements and documents
- ISO/TC 215 - Health informatics
- ISO/TC 240 - Product recall
- ISO/TC 247 - Fraud countermeasures and controls
UN/CEFACT facilitates the development of e-business standards that can cross all international boundaries.

... and help lower transaction costs, simplify data flow and reduce bureaucracy.

GS1 has adopted the best of the UN specifications:
- Requirements driven development (UMM)
- Core Components based dictionary
- Context driven design
- GS1 EANCOM is based on the UN/EDIFACT Standard

GS1’s involvement in UN/CEFACT spans Plenary level, Forum level and the Supply Chain Group.
GS1 System of standards

• GDSN
GS1 Standards help companies share different types of business data

Physical movement of goods throughout the supply chain

Business data shared between trading partners

- **Master data**: technical information about a product, such as weight and size of the product, case, pallet – synchronised with GS1 GDSN
- **Transaction data**: such as order, dispatch advice, invoice - exchanged automatically with GS1 eCom
- **Physical event data**: information about the movement of a trade item or logistical unit – shared with GS1 eCom or GS1 EPCIS
How the GDSN works

Global Data Synchronization Network

1. Load Data
2. Register Data
3. Subscription Request
4. Publish Data
5. Recipient Confirmation

Supplier/Seller

GS1 Global Registry™

Source Data Pool

Recipient Data Pool

Retailer/Buyer
Within the GDSN, trade items are identified using a unique combination:

- Global Trade Item Numbers (GTIN)
- Global Location Numbers (GLN)
- Target Market
- Global Product Classification (GPC)
GS1 GDSN

The environment for global data synchronisation
Real-time reliable product data for effective business exchanges

• GDSN: Global Data Synchronisation Network
• An automated, standards-based global environment that enables secure and continuous data synchronisation between trading partners
• Delivers business value to supply chains by allowing all partners to have consistent item data in their systems at the same time

GDSN today

• 14 million trade items in Global Registry
• 32 certified data pools operating in 156 countries
• 30,000+ trading partners
Product Classification in GDSN

Global Product Classification, GPC
What is GPC?

- A system that gives buyers and sellers a common language for grouping (or categorising) products in the same way, everywhere in the world.

- Since 2007, GPC adoption has grown in coverage and in implementation in GDSN.

- GPC is published in Oxford English and translated by Member Organisations to 12 other languages.

- GPC is continuously updated based on work requests from the user community.
**GPC Foundation and Hierarchy**

- **Segment**: An industry Segmentation or Vertical
- **Family**: A broad division of a segment
- **Class**: A group of like categories
- **Brick**: Categories of like products

### Level Example

- **Segment**: Food, Beverages, & Tobacco
- **Family**: Milk, Butter, Cream, Yoghurts, Cheese, Eggs, & Substitutes
- **Class**: Milk and Milk Substitutes
- **Brick**: Milk and Milk Substitutes (Perishable)
GTIN and GPC Brick Code

A GTIN can be assigned only to one brick
A brick can group several GTINs

GTIN = 123456789123C  Brick Code = 10000025

Brick: Milk and Milk Substitutes (Perishable)
Bricks can be further characterised by using Attributes

Example: Milk and Milk Substitutes (Perishable)

Bricks Attributes:
- If Animal
  - Animal Milk
  - Non Animal Milk
  - Unclassified
  - Unidentified
- Level of Fat Claim
  - Full Fat
  - Half Fat
  - Low Fat
  - Non Fat
  - Reduced Fat
  - Unidentified
- Organic Claim
  - No
  - Unidentified
  - Yes
- Probiotic Claim
  - No
  - Unidentified
  - Yes
- Refrigeration Claim
  - Can be Refrigerated
  - Must be Refrigerated
  - Unidentified
Why GPC?

**GTIN**

**ITEM Reference Code**
WHICH product is it?

00910023712823

A codified key - provides a unique, international and non ambiguous way to identify an item

**GPC**

Product **CLASSIFICATION** Code
WHAT product is it?

10005788

Grouping GTINs into the same category (GPC bricks) following common rules in a specific goal

Each GTIN is electronically linked to a unique GPC brick code

The GPC brick code is a mandatory data in GDSN

GTIN allocation rules specify what product changes require a new GTIN

Sometimes “the same” item has different GTINs in different markets
Where Can I find the GPC Standards?

1. Click here!

2. Click here!
Published Formats

Published in 2 formats:
1. Browser-Based
2. Schema (Excel & XML)
Possible process for scanner data using GDSN
Scanner data

**What you get from retailers**
- GTIN
- Price
- Quantity
- Date

**What you need to process**
- GTIN
- Price
- Quantity
- Date
- COICOP class code
What you have
GTIN
Price
Quantity
Date
COICOP code value
The missing link

Steps needed to pilot
1. Create GPC-to-COICOP mapping for a relevant item category
2. Receive scanner data from retailer
3. Download data from a GDSN data pool (same data pool as the retailer)
4. Select GDSN data from relevant category (based on GPC)
5. Replace GPC brick code with corresponding COICOP code
6. Analyze scanner data
Example: US Customs

1. Product supplier assigns GTIN and defines product characteristics using GPC.
2. Product supplier authoritatively publishes product information.
3. Government downloads published product information from GDSN.
4. Importer places the GTIN for the product in the entry record and sends to Customs.
5. Government matches GTIN with GDSN info and makes admission decision, ideally in advance, using rich global data from GDSN.
6. If GDSN data indicate low risk product, government can release without inspection; if high risk, government is more equipped to plan for inspection efforts.
Example: US Customs

White paper available at GS1 US website:
https://www.gs1us.org/gs1-us-library?Command=Core_Download&EntryId=809&method=attachment
Discussion
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