

29/03/2013

# POD - Product Open Data Presentation

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La liberté guidant le peuple, Eugène Delacroix, 1830 redesigned by Jessica Dere

**POD : Free access to product data**



**POD – public worldwide  
product repository**

# Purpose

- Conception of the **first global product referential** at a worldwide scale
- Provide the consumers **real time information about a product** (question → answer)
- Allow the consumers to evaluate the products using **their own values referential**
- Invent a concrete tool to the problematic of **consumption responsibility**



# Context

- **Unique code** for all products in the world provided by **GS1 organization**
- **E-commerce** development participates to the **numerization** of products inventories
- **Mobile devices** provide people real time answers to questions (applications, web,...)
- Maturity of the society about the **product industrial impact** on the environment and healthy
- **Big Data** is capable of managing huge quantity of data

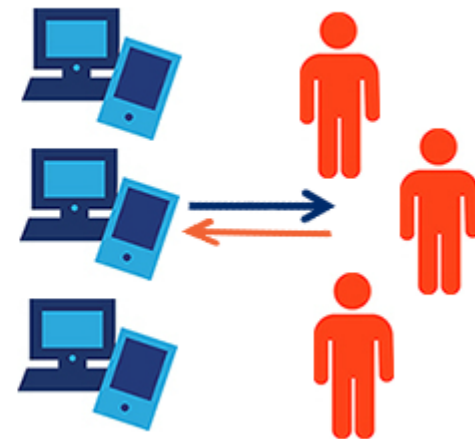


# How to get product data?

- **Manufacturers own all product data** (numeric + packaging printing)
- A **syndication feed (RSS for Products)** based on the barcode must be created to allow manufacturers to **publish their catalog directly to the public**



- **Over 50% consumers own a smartphone**
- **69% smartphone users get product info**
- **70% used their phone while shopping in-store**
- **50% retail sales are web- influenced**
- **80% consumers use social networks to research new products**



# How to use product data ?

- Scan a barcode and get real-time information on the product
- Aggregate all information about a specific product provided by different web sites (using the barcode as a search key)
- List all the products for a category at the worldwide scale (or using other criteria's)
- ....



**The fact to open GS1 and manufacturer data is the starting point to build future customer tools**



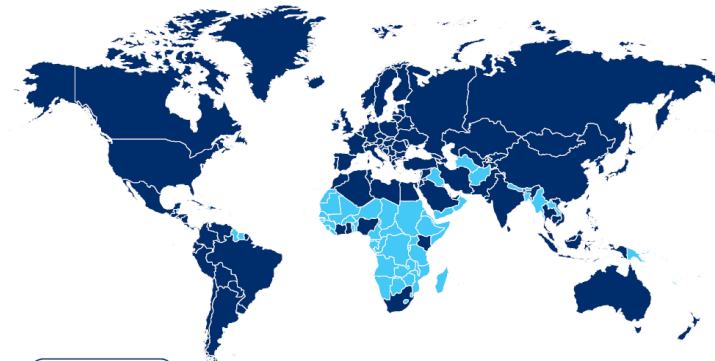
# GS1 and barcodes



# GS1 Organization

- Unique organization is the only one allowed to **provide barcodes** at a **worldwide scale** (150 countries)
- Organization focused on the **supply chain**
- Governed and financed by manufacturers (**1,2 million** in the world, 32 000 in France)
- Provide standards to **improve the supply chain process**

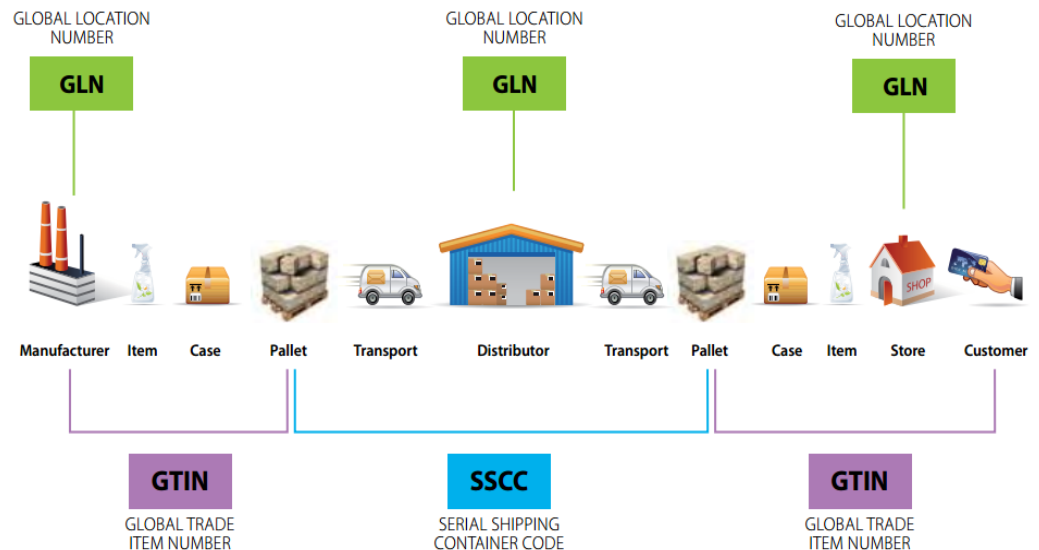
**107 Member Organisations serving 150 countries:**  
Local services, global reach.



■ Countries with a GS1 Member Organisation  
■ Countries served on a direct basis from GS1 Global Office

# GS1 codifications

- All parties of a supply chain are identified by a **GLN code**
- A product is identified by an unique **GTIN code**
- During the shipping, the **SSCC code** is used to follow the product movements
- **End consumers do not use it directly** : they only see the scanning of the Barcode (coding the GTIN Code) during the **store payment process**



# GTIN Codification

- Different GTIN Codification exists:
  - GTIN-13 digits (including ISBN for books)
  - GTIN-12 for USA (equal to a GTIN-13 adding a '0' before)
  - GTIN-8
  - ...
- GTIN are encoded in different type of barcode (EAN-13, UPC-A,...)
- GTIN-13 structure:
  - Prefix **GCP** (a + b)
    - a: Slot for GS1 country office of registration (3 digits)
    - b: ID of the company
  - ID of the product (c)
  - Check digit to detect errors (d)
- **USA** and **France** are the first country in term of slots
  - USA contains codes from other countries
  - Example : FR code from 300 to 379

## Top 20 of prefix slots (a) available by country

-  GS1 US (110)
-  GS1 FR (80)

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-  GS1 DE (41)
-  GS1 IT (40)

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-  GS1 AT (20)
-  GS1 JP (20)

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-  GS1 AU (10)
-  GS1 BE (10)
-  GS1 CH (10)
-  GS1 DK (10)
-  GS1 ES (10)
-  GS1 FI (10)
-  GS1 GB (10)
-  GS1 NL (10)
-  GS1 NO (10)
-  GS1 NZ (10)
-  GS1 RU (10)
-  GS1 SE (10)

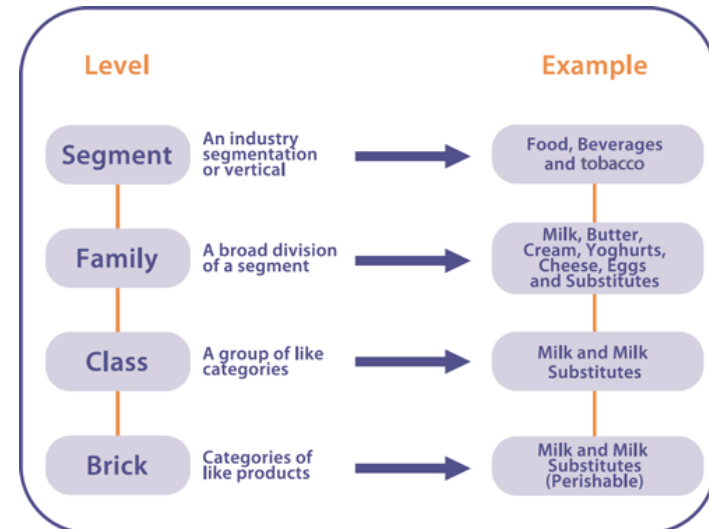
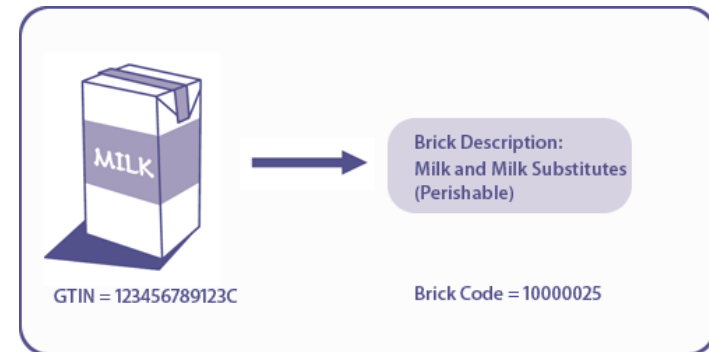
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-  GS1 CN (6)
-  GS1 BR (2)



# GPC Product Classification

- GS1 publishes the **Global Product classification (GPC)**
- The objective is to **optimize exchanges** between providers and suppliers
- GPC is composed of **4 levels** (Segment, Family, Class, Brick)
- A **GTIN** is linked to a single brick
- This classification is **updated twice a year**
- Product attributes** are also codified in the GPC



# GS1 and Open Data



- GS1 **opens the GLN information** via a limited technical data flow (SOAP web service, 100 queries per day)
- The total number of GTIN codes in the world is **unknown** because GS1 doesn't publish the listing
- The GPC classification is applied on items but **GS1 don't share** these information
- Customer can **only access to the public information** reading its on the physical product,

**Numeric data are hold by GS1 and manufacturer and not/partially shared.**



# Product B2C or the new Eldorado

# Product B2C or the new the Eldorado

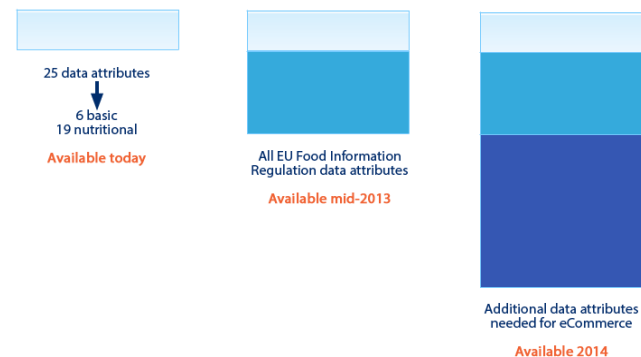
## GS1 projects of B2C and mobile apps

- **GS1 source** : this project aims to give to manufacturers the tools to communicate about their products as expected by the future European law (end 2014)
- Advantages of B2C a perfectly known be GS1 (see below)
- Technical specifications (TSD) have been ratified by GS1 and major companies (Coca Cola, Nestlé,...) in December 2012

### The digital consumers: what challenges are companies facing?



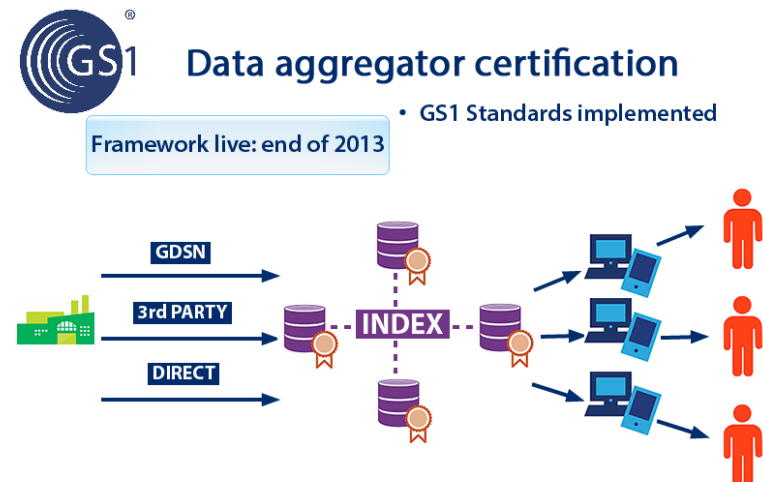
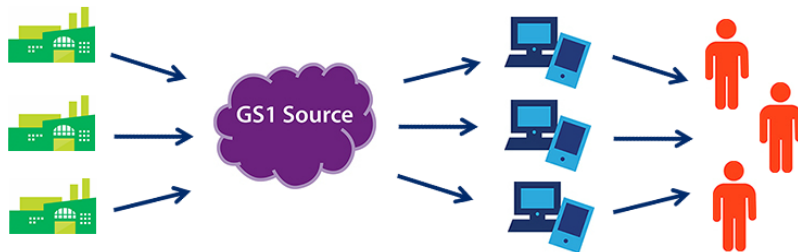
### GS1 Source: a phased approach to the digital label



# Product B2C or the new the Eldorado

## GS1 projects of B2C and mobile apps

- GS1 source infrastructure is creating a business based on public data (packaging)
- GS1 source **cuts the direct link between manufactures and customers**
- **Consumers' associations and governments are not involved**





# Product B2C or the new the Eldorado

## Web Majors

- Google, Yahoo! and Microsoft have created together **schema.org**. This website provides a collection of schemas to structure the contents of website.
- Theses schemas (called **rich snippet**) help to get structured content from organizations and to reuse them
- Product feed specifications are available, this feed is **focused on sales activities, not on the consumer information**
- Bing, these data are used for their merchant websites (ex: google shop)
- Google provide his own Google product taxonomy (different of GS1 GPC)

[Amazon.com: Jessica Simpson Women's Leve Flat JESSICA SIMPSON: Shoes](#)  
 Good fortune just came your way with the soft leather Leve ballet flat from Jessica Simpson. The ultra-feminine flat features an adorable suede snub toe, ...  
[www.amazon.com](#) › Shoes › Women's › Flats › Ballet - [Cached](#) - [Similar](#) - [⊞](#) [⊞](#) [⊞](#)

[Amazon.com: Jessica Simpson Women's Leve Ballet Flat \(6, Brown ...](#)  
 Amazon.com: Jessica Simpson Women's Leve Ballet Flat (6, Brown Herringbone): Shoes. ... Jessica Simpson Little Kid/Big Kid Leve Flat ...  
[www.amazon.com/Jessica-Simpson-Womens-Leve.../B000YB9030](#) - [Cached](#) - [⊞](#) [⊞](#) [⊞](#)

### Shopping results for [jessica simpson leve flat](#)

				
<a href="#">Jessica Simpson "Leve"-Value!</a>	<a href="#">Jessica Simpson Leve Neon</a>	<a href="#">Jessica Simpson Leve Flat</a>	<a href="#">Jessica Simpson Leve Jessica</a>	<a href="#">Jessica Simpson Leve Jessica</a>
\$39.99 new Dillard's	\$34.94 new Overstock.com	\$44.95 new Nordstrom	\$31.05 new 6pm	\$58.95 new Zappos.com

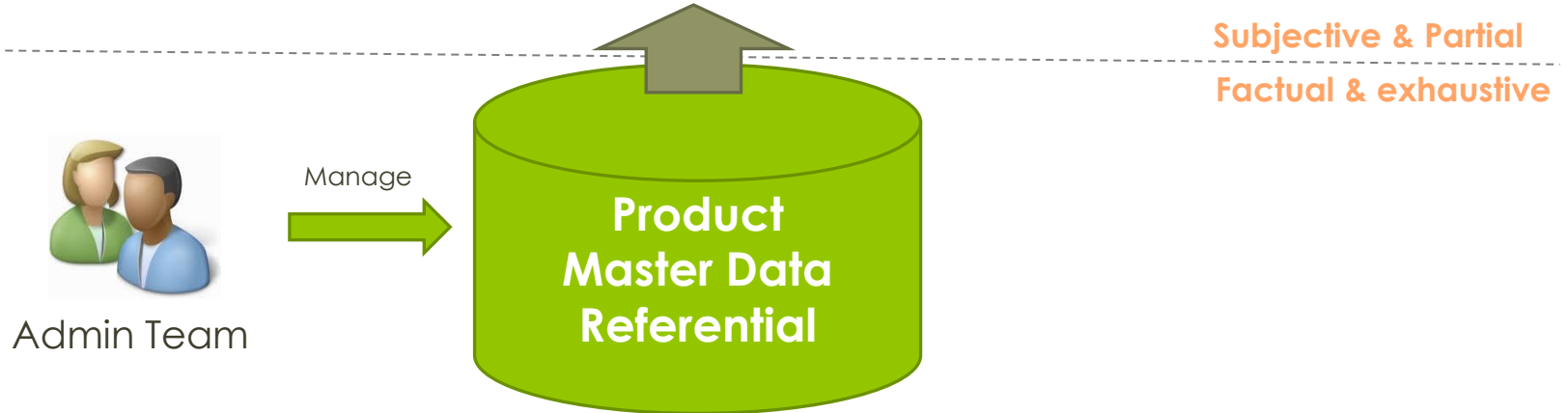


# Product B2C or the new Eldorado



**Example of a service  
using Product Open  
Data referential**

# Global overview



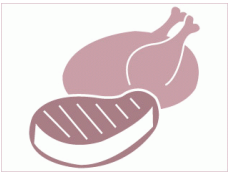
# Global overview

- Initialize and manage a **Product Master Data referential**
  - build on **factual** data
  - with a scope defined by the following axis:
    - Type of GTIN code (8, 13, ...)
    - Type of items (Food, Closes, Material,...)
    - Geography (Europe, America, Asia,...)
    - Customer target (group of users)
    - ...
- **Application** allowing internet users to **create, manage and spread their own list** of products to **followers** (subscribe to the channel)
- **Mobile application** providing information about any products (scan of the Barcode or manual entry of the GTIN code to instantaneity get information)

# Product Referential - Content



- GTIN code
- Classification (Food, Closes, Material,...)
- GS1 registration office
- Visual elements (logo, pictures,...)
- Commercialization name
- Packing (number of items in the product, material, weight, volume, % of alcohol,...)



- Quality Labels
- Other information printed on the product (composition, marketing data,...)



# Product Referential - Sourcing

- GTIN list & Product information
  - E-commerce website
  - Web Search engine
  - Producer / manufacturer website
  - ...
- Item owner information (GLN)
  - GS1 via the GEPIR web service
- Classification
  - GS1 GPC
  - ...



# User service

- The product data are accessed via a “channel” which consists of:
  - a list of product created by a user
  - Additional subjective data about product
  - A way to spread information to a group of people called followers of the channel
- The channel content can be used as follows:
  - Navigation into the list
  - Use of an interface in computer or mobile device to find information about a product using its Barcode or GTIN Code (manually or scanning with the camera)



Health & Nutrition



Environment



Religion & Moral values



Human rights



Pricing & benchmark



# Business Model



- Same business model as Google maps
- Same logic as *Google maps* but with less complexity and content, and *Twitter* for the followers
- Google maps concepts can be easily mapped to GTIN Open Data concepts

Longitude / Latitude	↔	GTIN
District, region, country, ...	↔	Brand, category, owner,...
Users personal maps	↔	Users product list (channel)
Search by address	↔	Search by brand / name
3D Buildings, street view	↔	Packaging, pictures

# Open points

- To improve the referential updates :



- Manufacturers can have a **private account** to manage their products



- a **standard specifications data flow** can be provided to the manufacturers to open their product data



- A collaboration with GS1 will accelerate the project, this is not a blocking point



- Get users feedbacks and analyze unsuccessful requests

- To open widely the service :



- **Language management**



- **Compatibility** of application with mobile devices



- **Innovation on picture treatment** because camera of a mobile device does not perform as well as a real barcode scanner (several barcode applications already exist but are not efficient)

# Proof of concept (POC)

# POC – Key information

- 1 person mobilized during 3 months (achieved in February 2013)
- Development of PHP scripts and storage in MySQL database on a basic personal computer
- Sourcing :
  - ~10 xls/pdf files (found on Google)
  - ~ 20 e-commerce websites
  - GS1 GEPIR via a SOAP web service
- Data collected :
  - ~ 260 000 GTIN
  - ~ 400 000 GLN & GCP
  - ~ 200 000 pictures

 FR	50 917
 US	45 644
 BR	29 578
 DE	17 916
 PL	12 118
 ES	7 642
 GB	5 801
 JP	4 685
 IT	4 551
 NL	3 797
 CH	2 637
 BE	2 531
 TW	2 146
 SY	1 671
 CN	1 606

TOP 15 - Number of  
GTIN per registration  
country

# POC – Example 1

- List the GCP associated with a GLN

	Propriétaire	Contact	Enregistrement GSI
	Code GLN: 3015037800100 <b>ECKES GRANINI FRANCE SNC</b> 138 RUE LAVOISIER BP 34014 71000 MACON FR	LABETA Fabien Tel: 03.85.20.47.00 Fax: 03.58.79.50.28 Mail: fabien.labeta@eckes-granini.com Web: www.eckes-granini.fr	 Date de mise à jour : 2012-01-27 Code GCP : 350378

Liste des marques



Code : 312334-01 [chercher image](#) - 312334-01.jpg  
 Nom : Jocker



Code : 350378-01 [chercher image](#) - 350378-01.jpg  
 Nom : Granini

Fin de liste

# POC – Example 2



- GTIN List associated with a GPC (304532\*\*\*\*\*)

Total de 215 318 GTIN en base - Recherche par GCP

Propriétaire	Contact	Enregistrement GS1
 <p>Code GLN: 3010453200107  <b>ANDROS FRANCE SNC</b>            ZI BIARS            BP 1            46130            BIARS SUR CERE            FR</p>	<p>TAURAN Gérard            Tel: 05.65.10.10.70            Fax: 05.65.10.10.00            Mail: gerard.tauran@andros.fr            Web: www.andros.fr</p>	<p> GS1 France            Date de mise à jour : 2012-07-26            Code GCP : 304532</p>

Début de liste (519 items) :

Code GTIN : 3045320528534  
 Nom GTIN : yaourt confiture de figue ()  
 Marque : Bonne Maman (304532-02.jpg) [chercher image](#)  
 Catégorie : Confitures/Marmelades/Gelées (Longue  
 Conservation)  
 Conditionnement:  
 Poids : 4x 125g

Code GTIN : 3045320528572  
 Nom GTIN : moka ()  
 Marque : Bonne Maman (304532-02.jpg) [chercher image](#)  
 Catégorie : Confitures/Marmelades/Gelées (Longue  
 Conservation)  
 Conditionnement:  
 Poids : 2x 100g




Code GTIN : 3045320725964  
 Nom GTIN : confiture fraise ()  
 Marque : Bonne Maman (304532-02.jpg) [chercher image](#)  
 Catégorie : Confitures/Marmelades/Gelées (Longue  
 Conservation)  
 Conditionnement:  
 Poids : 1x 50g




**Thanks  
you !**



Denis Diderot, Louis-Michel van Loo, 1743