The Global Data Model

During the Date Excellence Board meeting in New York (September 2018), 4 projects were selected. One of which is the **development of a Global Data Model**.

It is in fact the execution of the decision at the GS1 General Assembly of GS1 in China, to request the Data Excellence Board to propose to the GS1 Management Board in February 2019 a Global if possible, otherwise Regional Data Model, for the different product categories.

With this letter we want to inform you on the context of the global data model (why and how do we do it, what we want to achieve and who do we do it with) and the proposed methodology, scope and timelines, the governance and decision paths and the key success factors. The call for participation (on a global level) will follow early next week.

Why a Global Data Model[1]?

Data exchange between trading partners in 2018 is made **complex** due to different data models existing at the national level while trade has become more multinational. Industry needs to shift to an aligned set of mandatory data attributes needed to list and sell a product, agreed globally or regionally. If will facilitate the exchange of master data and the efficiency of global trade.

On top of this, the **Consumer Goods Forum**, in its leapfrog projects, endorsed this business need.

Once unique product identification is established and can be verified, trading partners need **a more globally aligned, streamlined set of Standard Data Attributes**. Today, over 5,000 attributes exist in the GS1 Global Data Dictionary, with a high degree of customization by retailers and geographies, leading to unnecessary complexity and cost. Focusing on a more limited set of attributes required to support listing, and selling a product, there is a clear path to **simplifying** data requirements.

The **simplified data model is critical** in order to increase alignment and consistency globally. Localization of attributes should be minimal, with exceptions based upon regulatory requirements. Creation of these simplified attribute "data models" by product type will harmonize attribute selection among trading partners and geographies, enable more standards-based tools for small and medium enterprises, and drive simplicity and scale in adoption of standardized attributes.

GS1 in Europe has agreed with users acting at the European level, to start working on regional data models using "The Onion Model" since 2016 with full support of the European associations (AIM, Eurocommerce, Food & Drink Europe, wines and spirits). On top, important work has been happening in North America (SmartLabel) and in other regions and sectors. There is now an opportunity to bring all of this work together at the global level.

Where does "The Onion Model" come from?

When you cut an onion, you will find different layers. And this is how we want to build the global data model: consisting of a core (heart), mature and outer layer. Data attributes are divided in 3 groups visualized like an onion:
- **Core layer attributes** – attributes that are used in all analysed markets, regardless of the product category.

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[1] A Data Model is set of GS1 data attributes, listed in the GS1 Global Data Dictionary, agreed between trading partners to list and sell a product.

- **Mature layer attributes** – attributes that are used in most of the data models (depending on the product category) worldwide or at regional level
- **Outer layer attributes** – attributes are only optional and used in national market for legal or national business reason.
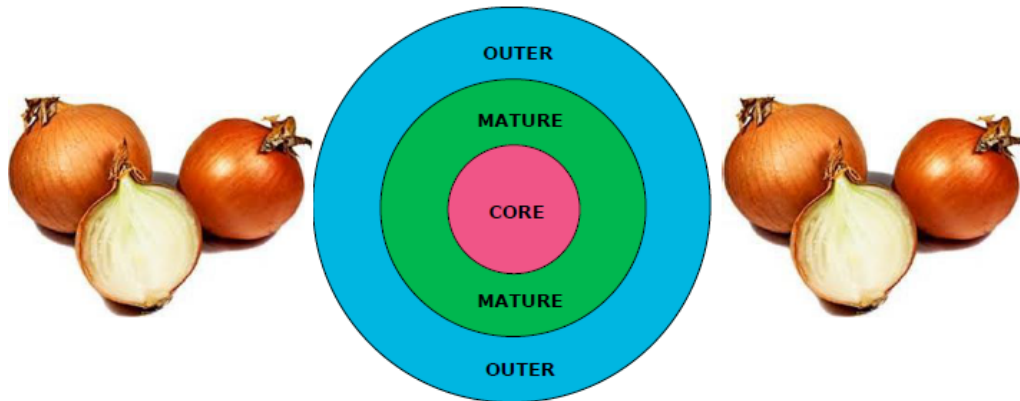
To facilitate the exchange of the data, the number of attributes of the outer layer must be reduced to a minimum.

What will this project do (scope)?

The overall objective is to align data models (a set of GS1 data attributes) according to the onion concept (core, mature, outer layer), at global and/or regional level. This is new for the industries that GS1 serves and it will require a mind shift from every stakeholder and the necessary agility to implement. **It aims at simplifying and harmonizing the content (master data) we exchange.**

For the data models the following methodology is proposed:
- All data models will be collected in a unified way. This includes as many of the national data models as possible and the CGF data model created as a result of the leapfrog project (that will be used as valuable input).
- The data models will be setup according to product categories and use cases (i.e. list, sell). During an exercise with the industry partners the attribute lists will be assessed and a decision will be made if an attribute is needed on global or regional level (the mature layer) or on local level only (the outer layer).
- All draft mature data models for the product categories will be compared: all attributes that are common in all mature layers will move to the Core layer.
- The product category data models will be setup on global level to gain visibility and speed.
- The conceptual data models and first setup of the core layer (for FMCG food and non-food) will be available at the Data Excellence Board and GS1 Management Board to be held at the February 2019 Global Forum in Brussels.
- After the global forum there is additional work to do:
  - Standardising and harmonising any additional attribute definitions will be planned for the second half of 2019 (after the Global Forum 2019).
  - Within the data models, supply chain processes will be incorporated (identify, list/order, move/store, sell).

The methodology is graphically displayed in annex 1.

Scope of the involved product categories:

- FMCG food and non-food
- Other product categories should follow in a later stage.

For the governance of the project we agreed on the following:
- The governance of the project will be setup through a steering committee that will be positioned under the Data Excellence Board Inc. This steering committee is formed by Jan Somers (GS1 Belgium & Luxemburg, project sponsor), Christian Zaeske (Metro, co-chair), Laurent Seroux (P & G, co-chair)
- The project will be led by Alan Hyler from GS1 Global Office (GS1 GO Director GDSN),) and supported by GS1 in Europe Tomas Tluchor (GS1 in Europe, technical specialist), Henk-Jan Timmerman (GS1 in Europe, coordinator), and other resources from Global Office and local GS1 member organisations as required. Names from supporting regions will be added as they join the work effort.
- The objective of the steering committee is to ensure the project team will deliver the draft Global Data Model to the GS1 Data Excellence Board.
- In order to gain and maintain speed to market the steering committee will have the freedom to make decisions. The Data Excellence Board will manage by exception.
- Reporting on key milestones will be done via the GS1 Data Excellence Board and GS1 Advisory Council.
- It is recommended the vacant seats (9) for the industry on the GS1 Data Excellence Board should be filled by other industries as soon as possible. A request for these vacancies will be sent out through all CEOs and the GS1 Data Excellence Board itself.

What is the decision path? How does a global/regional data model get approved?

The GS1 General Assembly in China requested the GS1 Data Excellence Board to propose to the GS1 Management Board a draft data model and project plan.

Step	When	What
1	December 2018	Call to action and preparation
2	January 2018	Development of draft data models (mature layers for product categories)
3	January 2018	Draft Proposal for the core and mature layer
4	February 2019	Seek alignment and approval in GS1 Data Excellence Board and Management Board on project plan/governance/way forward
5	March/April 2019	Seek standardisation of data model and voting in GS1 GSMP process via fast track
6	May 2019	Roll-out of first agreed data models and propose implementation scenario's
7	May/June 2019	Propose results to GS1 GO GA and CGF Board. CGF companies and GS1 communities ensure implementation.

Key success factors:
- The data model is network agnostic. GS1 GO MB and GA must define how implementation is enforced by the systems we use to exchange data. **This is the success KPI to be met. Success is no data in the network that is not compliant with the core and mature data model agreed in GSMP.**
- The GDSN network can take the lead. The core data model must be implemented in a simplified manner by the GDSN data pools and verified via a pilot or certification test. Data not meeting the requirements of the Global Data Model

should not be exchanged in GDSN network. **The GS1 GO Data Excellence Board will define this process.**
- Ensure the link with the Data Quality track (led by J.M. Klopfenstein (Nestlé)).
- Connect with the other workstreams (Data Quality) and external associations (like AIM, CGF, Eurocommerce, etc).
- Align with the Mission Specific Workgroup of GS1 Global on business-friendly definitions.

How to get started/organised? Roadmap
- Via the described methodology (reverse engineering) a draft for the core and mature layers will be defined for the selected product categories.
- The CGF leapfrog pilot work on global attributes will be reflected in the proposal that will be made at the Global forum.

Who can participate? Request for participation and assignment:
- GS1 will launch a call to action to:
    o the Data Excellence Board,
    o the CGF users (from the attributes leapfrog),
    o the European Data Excellence User Board (including the European associations),
    o all GSMP members (companies) and other users, and
    o GS1 MO's (in order to invite participants of local user groups).
- Brands, retailers and GDSN certified Data Pools must participate.
- GS1 Member Organisations should participate in each region:
    o Requirements: have a data model (for at least one product category, based on GDD)
    o Load the Global data model in Attribute explorer

Save the date
In order to achieve the ambitious timelines and succeed in setting up the draft global data models and core layer a face 2 face meeting with industry is required. This meeting will be planned together with the Mission Specific Work Group for business definitions.

Save the date on **14, 15 and 16 January 2019**. The location of the meeting will be planned in the next days. Based on availability this will either be Amsterdam, Brussels or Paris.

Annex 1: The proposed methodology in a visual