How to use the GS1 data checker to monitor and improve B2B2C data quality

Session:
Time:

Who May Attend: (Everyone or Opted-In)
Speaker(s): Kurt Herregodts
Anti-Trust Caution

• GS1 operates under the GS1 anti-trust caution. Strict compliance with anti-trust laws is and always has been the policy of GS1.
• The best way to avoid problems is to remember that the purpose of the group is to enhance the ability of all industry members to compete more efficiently.
• This means:
  - There shall be no discussion of prices, allocation of customers, or products, boycotts, refusals to deal, or market share
  - If any participant believes the group is drifting toward impermissible discussion, the topic shall be tabled until the opinion of counsel can be obtained.
• The full anti-trust caution is available via the link below, if you would like to read it in its entirety: http://www.gs1.org/gs1-anti-trust-caution
Statement & Reminder for Seeking Intellectual Property Information

• Relevant to the features of the specification that are being developed in this Work Group, if anyone has knowledge or information about intellectual property rights, such as, patents or patent applications; please promptly convey this information to the Work Group Facilitator.

• The intellectual property rights can either be in development or owned by persons, companies or third parties within this WG or outside this WG.

• We do this under the guidance of the IP Policy, so that GS1 can seek to avoid the uncertainty regarding intellectual property claims against the Specification.
Meeting Etiquette

• Meetings will **begin promptly** as scheduled
• **Be present** – avoid multi-tasking
• Avoid distracting behaviour:
  - Place mobile devices on silent mode
  - Avoid sidebar conversations
• **Be considerate**
  - Avoid monologues
  - Keep comments concise
• **Respect** work group decisions
  - Avoid re-opening decisions unless there is a significant quality impact

• **Collaborate** in support of meeting objectives
  - Ask questions
  - Be open to alternatives
• **Be representative**
  - Avoid personal remarks
  - Do not speak for your company or community if you do not clearly understand their needs
  - Votes should reflect the needs of your company or community
WiFi Internet Access

• High Speed Wireless Internet: Complimentary
• Please only connect one device
• Connect to: GS1
• Password: GS1transformed
Your feedback drives our continual improvement

There are 2 types surveys:

1. **Individual Session Surveys** - Please complete the hard copy satisfaction survey at the end of each work group session. Your group leader will provide it to you.

2. **Overall Event Survey** – All attendees will receive an email on Friday to rate overall satisfaction of the event.
Agenda

- What did we achieve with trustbox?
- What is the omni-channel challenge?
- What are the “data” business requirements of the Belgilux GS1 community?
- What is the GS1 strategy to exchange data and digital content?
- Common way forward
What did we achieve with trustbox?
Starting Point

Live made for GS1 Belgium-Luxembourg, Brussels, 10/03/2015.
Data exchange platforms

CDB / GDSN
- Global Data exchange
- Logistical and Label Information (and many other types)
- 200 suppliers (GDSN Europe: 7400 companies)
- 1 item = 1 hierarchical level
- Built in validations

trustbox
- Local solution in Belgium & Luxembourg
- Food label data (EU1169/2011 regulation)
- More than 1700 suppliers
- More than 45 data recipients
- 78,000 items (consumer units)
Data flows

GDSN

GDSN as a source for trustbox for B2B (2C) data

BRANDS

B2B(2C)

B2C

SUPPLIERS

PLATFORMS

RECIPIENTS

2014 2015 2016

GDSN as a source for trustbox for B2B (2C) data
trustbox

Live made for GS1 Belgium-Luxembourg, Brussels, 10/03/2015.
## Trustbox

<table>
<thead>
<tr>
<th></th>
<th>#</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td># registered companies</td>
<td>1764</td>
<td>3</td>
</tr>
<tr>
<td># validated products</td>
<td>81434</td>
<td>556</td>
</tr>
<tr>
<td># total products</td>
<td>84624</td>
<td>617</td>
</tr>
<tr>
<td># not validated products</td>
<td>3190</td>
<td>61</td>
</tr>
</tbody>
</table>
## Trustbox – data providers

### TOP 20

<table>
<thead>
<tr>
<th>Company</th>
<th>Validated items</th>
<th>DQ score (%)</th>
<th>DQ score week-1 (%)</th>
<th>Evolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colruytgroup</td>
<td>7824</td>
<td>79%</td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>THE NECTAR</td>
<td>3810</td>
<td>100%</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>LES GRANDS CHAIS DE FRANCE</td>
<td>2970</td>
<td>84%</td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>Biofresh NV</td>
<td>1716</td>
<td>70%</td>
<td></td>
<td>21%</td>
</tr>
<tr>
<td>Q-Food</td>
<td>1552</td>
<td>60%</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>Bonduelle</td>
<td>1524</td>
<td>96%</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>Verstegen Spices &amp; Sauces</td>
<td>1332</td>
<td>98%</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>BLOC CVBA</td>
<td>1192</td>
<td>25%</td>
<td></td>
<td>25%</td>
</tr>
<tr>
<td>Unilever Benelux</td>
<td>1157</td>
<td>98%</td>
<td>99%</td>
<td>-1%</td>
</tr>
<tr>
<td>V B T VZW</td>
<td>1152</td>
<td>24%</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>ARDO NV</td>
<td>1131</td>
<td>99%</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>Revogan</td>
<td>1068</td>
<td>99%</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>Coca-Cola Services SA/NV</td>
<td>954</td>
<td>99%</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>International spice &amp; food import</td>
<td>794</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Pietercil RESTA</td>
<td>725</td>
<td>88%</td>
<td></td>
<td>32%</td>
</tr>
<tr>
<td>Nestlé Belgium SA - Food</td>
<td>658</td>
<td>100%</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>Barry Callebaut Belgium NV</td>
<td>622</td>
<td>100%</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>Mondelez Europe</td>
<td>602</td>
<td>0%</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>La Lorraine (LOR)</td>
<td>583</td>
<td>88%</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>Perfetti van Melle</td>
<td>540</td>
<td>100%</td>
<td></td>
<td>0%</td>
</tr>
</tbody>
</table>

The DQ score is based on Trustbox Logical Checks from the Data Checker.

Legend: red = 0% - 69% / yellow = 70% - 89% / green = 90% - 100%
Trustbox – data recipients > 40

- Carrefour
- Java
- Colruyt
- Solucious
- Delhaize
- Nubel
- BIDVEST
- Makro
- Cactus
- Cora
- La Provencale
- Intermarché
- Biofresh NV
- Lekkerland CVBA
- Conway
- Lambrechts
- Schietse NV
- Franky
- Paul Link SARL
- Provera Belux
- CEGES SA
- ISPC
- VERBA MEAT
- ROMECK
- Trendy Foods
- ADS Group
- Revogan
- CAMAL SA
- Alvo CV
- Retail Partners Colruyt Group
- Rocona N.V.
- Ranson NV
- Aramark
- Compass Group Belgilux
- Vleeswaren Depuydt
- Rocona NV
- ADS group
- Sodexo
- Varesa NV
- Frigilunch
- Ameel Candy World
- Buba Dami
- Marchel Grosbush & fils
- Frudicom
- iU (Multipharma)
- Aveve Bloem
Situation before 13/12/2014.

Correct image, but no information about ingredients nor about nutrition facts
Situation after 13/12/2014.

Barcode 05410471132004

JULES DESTROOPER
Parijse wafels
Parijse Wafels

Ingredients
Tarwebloem, boter (26%) (melk), suiker, eieren, natuurlijk vanille-extract, zeezout, rijstmiddel: natriumbicarbonaat.

Verpakking: 8-3 stuks per verpakking
Verpakt onder beschermende atmosfeer.
Bij voorkeur koel en droog bewaren

Allergenen

Gluten
Selderij
Schaaldieren
Eieren

Voorzorgswaarden
Vitamineen
Mineraaln
Bevat
Bevat misschien
Bevat geen
Niet gekend

The Global Language of Business
Situation after 13/12/2014.

Jules Destrooper
Parijse Wafels

Ingrediënten
Tarwebrokken, boter (26%) (melk), suiker, eieren, natuurlijk vanille-extract, zeezout, rijstmeel: natuurlijk bevat.

Verpakking: 1-3 stuks per verpakking
Verpakt onder beschermde atmosfeer.
Bij voorkeur koel en droog bewaren

Algemeen

Gemiddelde voedingswaarde per 100g/100ml

<table>
<thead>
<tr>
<th>Voedingswaarde</th>
<th>510kcal</th>
<th>2130kJ</th>
<th>5g</th>
<th>17g</th>
<th>35g</th>
<th>63g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totaal vetten</td>
<td>25g</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Gemiddelde voedingswaarde per portie (31g)

<table>
<thead>
<tr>
<th>Voedingswaarde</th>
<th>158kcal</th>
<th>660kJ</th>
<th>1,5g</th>
<th>5,4g</th>
<th>10g</th>
<th>19g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totaal vetten</td>
<td>7,9g</td>
<td>32kcal</td>
<td>4%</td>
<td>27%</td>
<td>12%</td>
<td>0%</td>
</tr>
</tbody>
</table>

11%*
Starting point

Goog product information available for the consumer.
Live made for GS1 Belgium-Luxembourg, Brussels, 10/03/2015.
The omni-channel challenge
Omni-channel
Omni-channel
Omni-channel
Omni-channel

Live made for GS1 Belgium-Luxembourg, Brussels, 10/03/2015.
Retail From A Consumer Perspective
Standards Make it Possible

Single Channel
- In Store

Multi-Channel
- In Store
- By Proxy
- On-Line

Omni-Channel
- Providing a seamless consumer experience across physical and digital channels

The Global Language of Business
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How GS1 helps with e-commerce standards

Better Search Results

Improved Product Information

Greater Inventory Visibility

Smarter Analytics

Safer Products and Fewer Counterfeit Goods

Grow the Business

Reduce Costs

Leverage Consumer Insights

Manage Risk

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How GS1 helps with e-commerce standards

**Better Search**
- Accurate Product Identification
- Quality Data
- Simple Product Listing

**Improved Product Info**
- Accurate Product Identification
- Quality Data
- Trusted Product Information
- Simple Product Listing

**Greater Inventory Visibility**
- Accurate Product Identification
- Quality Data
- Trusted Product Information
- Real-Time Inventory

**Smarter Analytics**
- Accurate Product Identification
- Quality Data
- Trusted Product Information

**Fewer Counterfeit Goods**
- Accurate Product Identification
- Trusted Product Information
- Real-Time Inventory

GS1 - The Global Language of Business
If the FMCG does not understand the omni-channel strategy of the retail, and linked to this, the need for qualitative and trusted data, you are lost!
Business needs of our BELU community

1. The need for **B2B2C data**, exchanged throughout the value chain with GS1 standards

2. The need for this B2B2C data to be **trustworthy/certified and of good quality**

3. Focus on **SMEs** and including as much as possible services in GS1 membership

4. The need for **high quality digital content** to be exchanged easily with different trade partners and for different purposes
Business needs of our community

5. **1 single point of entry and access** for our (data) community

6. The need for a **data backbone** and **complete data sets** with all necessary information (B2B2C + digital content (images))

7. **Omnichannel and ecommerce** request additional GS1 solutions
Our action plan
Data Quality Strategy in a nutshell

A priori checks & audit → Data exchange platforms → Data Quality monitoring and training

3 pillars for DQ improvement and exchange
Data Quality Strategy in a nutshell

3 pillars for DQ improvement

A priori checks & audit:
- Random samples
- 10% of total assortment
- Compare physical packaging against data

Data exchange platforms:
- CDB/GDSN
- Digital assets
  ⇒ 1 data model for food & near-food
  ⇒ Guidelines digital assets
  ⇒ Memorandum of Understanding (MoU)

Data Quality monitoring and training:
- GS1 Data Checker

The Global Language of Business
Memorandum of Understanding

- Retailers and brands agree to roll out GDSN
- B2B2C + digital content
- A priori quality control by GS1
- Monitoring via Data Checker
New Data Quality campaign to raise the awareness

Data quality.
If it doesn’t start right, it doesn’t end well.
A priori checks and audit
A priori checks and audit

- **A priori checks**
  - **CDB/GDSN:**
    - Supplier creates 3 product hierarchies in TEST + publication to TEST retailer 5410000987655
    - Supplier sends an image of the product label (CU’s) to quality@gs1belu.org
    - Check by GS1 against the Belgilux datamodel and GDSN common practices
    - After approval of GS1 access to the PRODUCTION environment is granted
  - **Trustbox:**
    - Supplier sends 3 product hierarchies in TEST
    - Supplier sends an image of the product label (CU’s) to quality@gs1belu.org
    - After approval of GS1 access to the validation role is granted
A priori checks and audit

• **Audit (trustbox)**

  The data quality assurance team will proactively select items entered in trustbox by the suppliers for the audit comparison. The products will be photographed in the stores and the data will be uploaded in the Data Quality Checker.

  The purpose is that *10% of the assortment* of each trustbox supplier is audited each year.
A priori checks and audit

We do not want that data is exchanged with the retailer without the GS1 approval and certification
Data Quality monitoring and training
Current data quality strategy

• Pillars for DQ improvement

A Priori Quality checks for new members

Monitoring via the GS1 Data Checker

Physical B2C Audits

Physical B2B Audits

Added value services (Full Data Capture, data completion, etc.)

What’s missing?

GS1 Service?
New Data Quality team

- Contribute to the DQ strategy

- Monitor and improve the Data Quality within the GS1 Belgilux systems for data exchange (trustbox and GDSN), so the data recipients have access to a complete data set which they can trust.

- Physically Audit the (B2C)data uploaded by suppliers.

- Report about the evolution of the Data Quality
GS1 Data Checker – What?

• Online solution
• To evaluate data quality
• Based on a series of predefined tests
• On data from GDSN and trustbox
Evaluate Data Quality

It is a dashboard!

• Shows the results
• Shows the test failures
• Shows the entered values
• A supplier can TEST a correction
• But CAN’T correct the data in the Data Checker itself

➔ make the corrections in your data source
Based on a series of predefined tests

- Consensus of the community:
  - Belgilux GDSN & trustbox datamodels (Validity)
  - Business rules Needs of community (Completeness)
  - Logical rules (Dependency & Consistency)
  - Label information (Comparison)
Current Data Flows

GDSN as a source for trustbox for B2B (2C) data

DQ Assurance
- A Priori checks
- Monitoring (DQ Checker)
- Physical Audits
Data flows to the GS1 Data Checker

**PLATFORMS**

- **GDSN**
  - B2B(2C)
  - GDSN as a source for trustbox for B2B (2C) data

**BRANDS**

- B2C
- trustbox

Audit by GS1 BELUX

Belgilux GDSN Audit Results:
- Score: 0%
- Records: 0
- Changed: 8 Months Ago

Belgilux GDSN Hierarchy Logical Checks:
- Score: 99%
- Records: 35463
- Changed: 2 Days Ago

Belgilux GDSN Logical Checks:
- Score: 86%
- Records: 51877
- Changed: 2 Days Ago

Belgilux Trustbox Audit Results:
- Score: 11%
- Records: 2719
- Changed: 2 Days Ago

Belgilux Trustbox Logical Checks:
- Score: 74%
- Records: 76291
- Changed: 2 Days Ago

The Global Language of Business

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Starting point

The importance of the data quality, by Miguel Lopera, talking about Trustbox. Live made for GS1 Belgium-Luxembourg, Brussels, 10/03/2015.
What do the DQ scores mean?

- **Example:**
  - **Retailer view:**
    - 86% out of 51877 are completely correct (no failures)
  - **Supplier view**
    - 99% out of 2275 has at least 1 mistake. This company will not be added to the general score
Examples of most occurring errors

GDSN data (B2B)

- 13488 Tax Information Completeness
- 8830 Description Short en Completeness
- 8752 Description Short de Completeness
- 7901 Packaging Marked Exp Date Type and GPC Code Dependency
- 7601 Product Description de Completeness
- 6951 Functional Name de Completeness
- 6528 Product Description en Completeness
- 6236 Description Short nl Completeness
- 6137 Functional Name en Completeness
- 5989 Trade Item Country Of Origin Completeness

trustbox data (B2C)

- 12027 Regulated Product Name nl Completeness
- 10909 Communication Address nl Completeness
- 10554 Communication Address fr Completeness
- 9445 Regulated Product Name fr Completeness
- 8724 Contact Name Completeness
- 5727 Net Content and UOM Completeness
- 5012 Net Content and UOM Validity
- 3413 Household Serving Size and Nutrient_Group3 Dependency
- 2181 Household Serving Size and Nutrient_Group2 Dependency
- 1920 Household Serving Size and Nutrient_Group1 Dependency
Example of test failures: trustbox logical checks

- Must be completed:
  - Regulated product name in FR and NL
  - Net content
  - Name of Food Business Operator (contact name)
Example of test failures: trustbox logical checks

Percentage of alcohol

Nutritional Values

Net content
Example of test failures: trustbox logical checks

• Values must be **consistent**:

• Sum of Fats must be < or = to Fat:
  - \(6 + 3 + 4 = 13 > 10\)

• Total Energy must be < or = to the sum of Energy per element:
  - \((\text{Sugar}+\text{Starch}) \times 4\text{kcal} + \text{Polyl} \times 2,4\text{kcal} + \text{Pro} \times 4\text{kcal} + \text{Fat} \times 9\text{kcal} + \text{Pantac} \times 3\text{kcal} + \text{Fibtg} \times 2\text{kcal} < \text{Energy (kcal)}\)
Example of test failures: trustbox logical checks

- Attributes are dependent:
- If nutritional values are available for the portion, the portion should be defined
Example of test failures: trustbox audit

• trustbox:

• Ingrédients : Haricots blancs secs trempés (52%). Sauce (48%) : eau, double concentré de tomates (14%), sucre, sel, vinaigres de vin rouge et d'alcool, arômes (GLUTEN), gélifiants, farine de graines de caroube (ou E410), chlorure de potassium (ou E508), et carraghénanes (ou E407), glucose.

• Audit:

• Ingrédients: haricots blancs sec trempés (50%), sauce (50%): eau, double concentré de tomates (14%), sucre, sel, vinaigres de vin rouge et d'alcool, arômes (GLUTEN), gélifiants: farine de graines de caroube, E508, carraghénanes, glucose.
The role of the Data Manager
Lessons learned from trustbox and Delhaize GDSN

• **84 %** of the data in trustbox comes from web-userinterface or excel import
• **16 %** from GDSN
• **Internal processes** to manage the upload of data or the update of the data are not (yet) present
• Some companies are not yet convinced they need a data manager in their team, the **CDO (Chief Data Officer)**, besides, the CEO, CIO, CFO, CMO, CTO, etc
• **Excel is no data synchronization** but a time stamped picture of the current status
DQ evolution
DQ Evolution (March-Sept)

(* Week 23: change from Global validation rules to additional Belgilux rules)
DQ Evolution (March-Sept)

- **Belgilux GDSN Hierarchy Logical Checks**:
  - Score: 99%
  - Records: 35,463
  - Changed: 2 Days Ago
  - (From 98% to 99%)

- **Belgilux GDSN Logical Checks**:
  - Score: 86%
  - Records: 51,877
  - Changed: 2 Days Ago
  - (From 92% to 17% to 82%)

- **Belgilux Trustbox Audit Results**:
  - Score: 11%
  - Records: 2,719
  - Changed: 2 Days Ago
  - (From 1% to 11%)

- **Belgilux Trustbox Logical Checks**:
  - Score: 74%
  - Records: 76,291
  - Changed: 2 Days Ago
  - (From 38% to 74%)
Conclusion
On the right track

- Data quality is improving
- Still work to be done
- Use the GS1 Data Checker to weekly monitor your data
- If it’s not green, let it be seen → DQ Visibility
- Contact GS1 to help improve your score (quality@gs1belu.org)
Data Quality as success factor

• Only if the delivered data is reliable all parties can benefit
  ▪ Consumers
  ▪ Retailers
  ▪ Suppliers

• A joint responsibility! GS1 can help companies.
• How long will it take you to have a green score?
• How to evaluate data? – input for new validation rules

... It is not easy being green...
Thank you for your attention

Data Quality team
GS1 Belgium & Luxembourg
quality@gs1belu.org
rgoossens@gs1belu.org
Save the Date!
GS1 Industry and Standards Event
11 – 15 April 2016
Jersey City, NJ, USA