GS1 Industry and Standards Event
3 – 7 October 2016 – Brussels
Transforming business together

Session: Traceability Interest Group
Time: Monday Oct 3rd, 15:45-17:45

Who may attend: Everyone
Speakers: Diane Taillard, Robert Beideman, Carolyn Lee, GS1 Global Office
Session Check-In QR Code and Pin

**Session Name:** Traceability Interest Group  
**Session Date & Time:** Monday 2016-10-03 15:45 – 17:45  
**Session Location:** Infinity + Lobby, 2nd Floor
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 work group or outside this work group.

- We do this under the guidance of the GS1 Intellectual Property 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
Agenda

**MONDAY**

1. Welcome and introduction, Diane Taillard & Robert Beideman, GS1 GO
2. Traceability: the new context and vision for the industry
   - Global update, Diane Taillard and Carolyn Lee, GS1 GO
   - Round table.
3. GS1 Global Traceability Standard: next step in our offering, Robert Beideman, GS1 GO

*Traceability Dinner*

**TUESDAY**

3. GS1 Global Traceability Standard: next step in our offering (continued)
4. Supporting local implementation today: experience sharing, Jonas Batt, GS1 Switzerland
5. Conclusion
Dinner

Restaurant VINCENT
Rue des Dominicains 8-10
1000 Brussels

Meeting point: 18h30 in the lobby or 19h at the restaurant
Traceability: the new context and vision for the industry

Global Update
Where are we today?
Lots of knowledge and tools
Growing expectations from traceability systems

- Compliance
- Fight fraud & counterfeit
- Safety & risks management
- Consumer trust & desire for transparency
- Visibility on product information
- Efficiency

The Global Language of Business
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Growing complexity

Adding the omnichannel environment to the complexity of the supply chain
Status at GS1
GS1 Standards for traceability

**IDENTIFY: GS1 Standards for Identification**
- **GLN** Global Location Number
- **GTIN** Global Trade Item Number
- **SSCC** Serial Shipping Container Code
- **GRAI** Global Returnable Asset Identifier
- **GIAI** Global Individual Asset Identifier
- **GSRN** Global Service Relation Number

**GLOBAL TRACEABILITY STANDARD (GTS)**

**CONTROL POINTS AND COMPLIANCE CRITERIA (GTC checklist)**

**PRODUCT RECALL** in Multiple Recall Jurisdiction guidelines

**FRESH FRUITS AND VEGETABLES** Traceability guidelines

**FISH** traceability guidelines

**MEAT & POULTRY** traceability guidelines
## Traceability per GS1 global sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>Interest</th>
<th>Drivers</th>
<th>Current level of activity*</th>
<th>GTS reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>RETAIL</td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>CPG/ Grocery</td>
<td>Yes – varies by brand owner/ retailer/ MO</td>
<td>Regulations, food safety, consumer trust and transparency, risk mitigation</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Fresh Foods</td>
<td>Yes - strong</td>
<td>Regulations, food safety, consumer trust and transparency, risk mitigation, operational efficiencies</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>General merchandise</td>
<td>Potential –to be explored</td>
<td>Marketing, Product Safety, Regulations (sub-sectors only, e.g. toys), Anti-counterfeit</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Apparel</td>
<td>Yes</td>
<td>Marketing, Social Responsibility, NGOs, Anti-counterfeit</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>FOODSERVICE</td>
<td>Yes – strong</td>
<td>Food safety, consumer trust and transparency, operational efficiencies, regulations</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>HEALTHCARE</td>
<td>Yes</td>
<td>Regulations, counterfeiting, patient safety, UDI, recall</td>
<td></td>
<td>No (use GTSH)</td>
</tr>
<tr>
<td>T&amp;L</td>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Transportation</td>
<td>Yes, low</td>
<td>Regulation</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Warehousing</td>
<td>Yes</td>
<td>Optimal placement of inventory, Customised product tracking, Proof of proper handling</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>TECHNICAL INDUSTRIES</td>
<td>Yes</td>
<td>Counterfeiting, Safety, MRO (product) Lifecycle visibility</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>HUMANITAR.</td>
<td>Yes</td>
<td>Ability to locate a product through the supply chain</td>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>
Deployment: GS1 Global Traceability Programme

The GS1 Global Traceability Programme consists of:

- Training
- Performing GTC assessments
- Implementation support

Key focus areas:

- Facilitation of GS1 GTS adoption
- Ensures implementation for full supply chain traceability
- Ensures continuous traceability conformance to the GS1 System and consistency of best practices
GS1 Global Traceability Programme in figures

65 MOs trained 300 traceability experts in their staff

44 MOs offer 2 or more traceability services

40 MOs have at least one accredited auditor

10 GS1 Global Traceability Trainers for AP, LATAM and EU

281 traceability assessments performed between 2012-2015
## GS1 Global Traceability Programme
### Status of the New Checklist roll out plan

<table>
<thead>
<tr>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase In of new standard checklist</strong></td>
<td><strong>PHASE 1</strong></td>
<td><strong>LAUNCH</strong></td>
</tr>
<tr>
<td>Published in Dec 2015</td>
<td>Checklist translation (Spanish)</td>
<td>Launch of new GTP material package</td>
</tr>
<tr>
<td></td>
<td>Detailed impact analysis &amp; plan</td>
<td></td>
</tr>
</tbody>
</table>

| **Auditing material** (WE ARE AT THIS STAGE) | | |
| **Trainings and related material** (WE ARE AT THIS STAGE) | | |
| **Auditors group** (communication to external parties) | | |
| | | |

- **2015 Work planned TBC**
- **2016 Work in progress**
- **2017 Work finalised**

- **Published in Dec 2015**
- **Checklist translation (Spanish)**
- **Detailed impact analysis & plan**
- **Launch of new GTP material package**
- **Update all GTP material**
- **Trainings with existing materials**
- **Trainings with new materials**
- **Update training materials**
- **Inform & collect inputs on impact and plan**
- **Roll out and reaccreditation**
Join the work session this Wednesday!

Session Name: MO Working Group for the new GTC Materials (prerequisite)*
Session Date & Time: Wednesday 2016-10-05 13:45 – 17:30
Session Location: Innovation, 1st Floor
Other global initiatives: ISO & AIM
ISO TC34 : Food safety management system

The following international standards which are under this group:

• ISO 22000:2005 - **Food safety management systems** - Requirements for any organization in the food chain

• ISO 22003:2013 - Requirements for bodies providing audit and certification of food safety management systems

• ISO 22004:2014 - Guidance on the application of ISO 22000

• ISO 22005:2007 - **Traceability in the feed and food chain** - General principles and basic requirements for system design and implementation
Status of TC34/SC17/WG 8-Food safety management system

- Was tasked to rewrite the 8.3 Traceability system with the experts from Denmark, Ireland, Italy, Sweden and Switzerland
- The review of the document has entered the 2\textsuperscript{nd} ISO/CD 22000
- On the 19\textsuperscript{th} September, the results of the CD voting:
  - 59 votes were casted (21 Yes, 30 Yes with comments, 1 No-Canada, 7 Abstain)

GS1’s position for the Traceability section to include the following:
- Unique identification + batch/lot from all inputs to outputs were well received
- Improved details on traceability fundamentals like identification for locations etc.
- Referencing of Gs1 Global Traceability Standard into this document
Status of TC34/SC17/WG 8-Food safety management system

Updated schedule for the revision of ISO 22000

- Comments submitted on CD sent to WG 8
- 4th WG 8 meeting in Buenos Aires to deal with comments on CD 22000
- 5th WG 8 meeting in Copenhagen to finalize the handling of comments on CD 22000
- 6th WG 8 meeting in New York to deal with comments on 2nd CD 22000
- Comments submitted on ISO/DIS sent to WG 8
- 7th WG 8 meeting in XXX to deal with comments on DIS 22000 and to prepare FDIS 22000

- ISO editing
- ISO/DIS 22000 Circulated in 12 weeks

August 2016

Will be discussing comments and finalizing document
ISO TC34 : Systemic review for standards under the ISO 22000 family

- ISO 22005:2007, Traceability in the feed and food chain –Guidelines for determining the duration of management system certification audits
- ISO/TS 22002-1:2009, Prerequisite Programmes on food safety – Part 1: Food manufacturing
- ISO/TS 22002-2:2013, Prerequisite Programmes on food safety – Part 2: Catering
- ISO/TS 22002-4:2013, Prerequisite Programmes on food safety – Part 4: Food packaging manufacturing
- ISO/TS 22003:2013, Food safety management systems– Requirements for bodies providing audit and certification of food safety management systems

Ballot closes on 2016-12-05. Any comments are to be submitted to your National Standardization Body
ISO New Chain of Custody Committee

Background

• Proposal was made by NEN (The Netherlands) for a horizontal standard that describes the COC requirements in the supply chain

• Differs from other ISO initiatives by defining requirements & traceability levels, independent of sectors, raw materials, products and issues addressed

Status

• Ballot votes: 14 Yes, 7 No, 13 Abstain
• Confirmed participation: 7 Yes (Australia, Hungary, Indonesia, Netherlands, Sweden, Thailand, UK) and 27 NO
• GS1 GO will elect a liaison to monitor work of this group (TBD)
• Work expected to start in December 2016
AIM Representation: Track & Trace Committee

Status

- Key deliverables of this team by December 2016:
  - Develop content for AIM’s Track & Trace website and populate it with FAQs on Track & Trace
  - Develop whitepaper on track & trace (1 on Marketing/IE whilst another is on technical areas-TBC)
  - Educational material such as e-learn, videos and information on traceability in retail
Carolyn Lee Lian Yin
Food Traceability Manager

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Belgium

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   +32 476 945538
   carolyn.lee@gs1.org
Trends
Trend 1 : more regulations and interest from authorities

Examples in Asia Pacific

- China Food Safety Law 2015
- New Zealand Food Act 2014
- The Philippines Food Safety Law (RA 10611)
- Taiwan Act Governing Food and Safety Sanitation 2013

Examples in regional and intergovernmental organisations

For more information this week :
- Fresh Food meeting
- CPG/Grocery meeting
Trend 2: Even more tools and various models to achieve traceability

- One up – One down
- Single source data base
- Cumulative tracking
- Distributed Information Sources or traceability network

- The basis for all for core information
- For limited communities
- Driven by regulations
- Event based Optimum model for the future
GS1 Innovation Network incubator project:
Enabling end-to-end traceability, checking chain of custody, and investigating relevant ideas from blockchain technology

1) **Discovery** - who has the data? where are the data sources for this object?
2) **Trust** - how do we establish which parties are on the actual chain of custody for the specific object - and that the chain between them is unbroken?
3) **Confidentiality** - how do we restrict who can access the data?
Trend 3: More transparency to maintain or restore consumer trust

1. Was the cattle that gave the milk treated according to Standard X?
2. Where do the Strawberries come from?
3. Are all the sites safety certified according to Certificate Y?
4. Which kind of sugar is used for this yogurt?
5. What is source of packaging container, and is it fiberboard, plastic, glass? And certified?
6. Is Yogurt processing plant operating with an approved FSMS Certified?
CGF Traceability Task Force outputs

3. REFINED VISION OF TRANSPARENCY & TRACEABILITY
In summary, while the industry’s system of one-up, one-down traceability helps us respond to product crises, it is completely inadequate to address the imperatives of building consumer trust, complying with fast-paced legislation. The taskforce recommends that we adopt the following high-level specification of an industry transparency and traceability solution:

- Delivers end-to-end transparency of product and supply chain data, with data gaps identified
- Provides independently authenticated data
- Can be interrogated with a wide range of possible questions on products and their supply chains
- Can provide answers to these questions at the SKU level, batch level and potentially item level
- Provides data that are instantly available and regularly updated.

- Technical & business process barriers identified
- Status: open API under development for pilots to start in January 2017
Traceability developments: What was VS what will (probably) be the focus

<table>
<thead>
<tr>
<th>Focus so far</th>
<th>Focus now and tomorrow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products (GTIN, links between inputs and outputs...)</td>
<td>Suppliers (GLN, safety and sustainability certificates per site...)</td>
</tr>
<tr>
<td>Downstream (brand and retailer)</td>
<td>Upstream suppliers</td>
</tr>
<tr>
<td>One step up-one step down</td>
<td>Interoperable network</td>
</tr>
<tr>
<td>Labelling and records</td>
<td>Sharing and queries</td>
</tr>
<tr>
<td>Availability</td>
<td>Quality, authenticity, confidentiality</td>
</tr>
<tr>
<td>Data layers (master, transactional...)</td>
<td>Events with various levels of granularity</td>
</tr>
<tr>
<td>Logistics</td>
<td>Safety, Regulations, Consumer Trust</td>
</tr>
</tbody>
</table>
A key challenge: interoperability

... but a different one than in the past years

- Similar tools from different trading partners
- Tools of different nature
- Private and public systems
- Sources of data and data bases for authentication
- Trading partners who don’t know each other
- ...
For more information please contact:

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Director Consumer Safety & Traceability
GS1 Global Office

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M  +32 475 600 229
E  Diane.taillard@gs1.org

www.gs1.org
GS1 Global Traceability Standard

Next step in our offering

Robert Beideman, GS1 GO
Some background
(many of you know this stuff)
The development of the first version of the GTS (2006) predated the publication of the first version of EPCIS.

There was no overall GS1 system architecture.

The critical need for the industry was to build a common understanding of full chain traceability as a process and of how GS1 standards relate to it.

Bringing together the physical flow (AIDC) and the information flow (EDI) was a key added value of the standard at that time.
Global Traceability Standard – GTS1
Current offering

1

GTS1.3 – “ONLY AS STRONG AS THE WEAKEST LINK”

- GTIN/SGTIN/BATCH
- SSCC
- EDI
Background on GTS

The context has changed, bringing new technical possibilities.

More technologies are now available to perform traceability across the chain, be it with the “one step up, one step down” approach or going beyond it.

The possibility to connect databases and to search for information in the “cloud” has created new possibilities, such as event-based traceability using EPCIS.

Although updates have been integrated in the GTS (making it fully generic in terms of sectors, adding product recall, ...), the current version of the GTS does not reflect this paradigm shift.
Background on GTS

Also, the EPCIS 1.1 standard publication (May 2014) was a major breakthrough, due to its support to traceability at the batch level all along the chain (including at transformation stages).

The number and variety of traceability systems is growing, creating challenges for interoperability:

- Sometimes due to not being compliant with the GS1 System
- Sometimes due to only making partial use of the GS1 System
- Sometimes even though they are based on the GS1 System.
Background on GTS

This leads to **uncertainty in the market** (thus impeding adoption) and **does not support investment reliability**.

Recently, sector-specific GS1 traceability guidelines were established. Due to specific legal regulations and laws in the near future, more are expected.

It is crucial to have an updated Traceability reference standard where these future guidelines can built upon to avoid divergent and inconsistent recommendations.

**BUT, WE’VE BEEN SAYING THIS FOR A YEAR OR MORE!!!**
Following recent top-to-top meetings with GS1 MOs, and in consideration of other feedback we have heard from industry, it is clear that **Traceability** is a core topic on which GS1 needs to do more work.

Accordingly, we have started a project to more clearly define GS1’s role in Traceability and provide an updated offering in areas we need to address to increase our offering’s relevance. GTS needs to be enhanced to enable seamless full-chain traceability and visibility, to include EBT and Interoperability.

In parallel, we’ll also address EPCIS Discovery.
FINALLY.
Enable seamless full-chain traceability with an application standard that is:

- GS1 Standards-based
- Industry-agnostic
- Simple and user-friendly methodology
- Inclusive of events (load, unload...)
- Inclusive of EPCIS
- Enables real time capacities and interoperability
Objectives of GTS2

• Review the list of business requirements and business rules

• Make the standard more applicable as a direct reference for user companies

• Provide an updated reference for the GTC Checklist and sector specific traceability implementation guidelines

• Improve the overall readability and comprehensibility

• Emphasize the standard relevance for companies of all sizes
• Ensure content is industry agnostic, as much as is possible.
Objectives of GTS2 (continued)

• Improve interoperability of GS1 standards-based traceability systems by clarifying the methodology and the normative statements applicable to the corresponding technology standards (e.g. EPCIS, GS1 barcodes...)

• Foster event-based traceability systems through specifying the concept of Critical Tracking Events (CTE) and Key Data Elements (KDE)

• Change focus from an enabling-technologies-independent-of-choice standard to a **generic standard with best practices** approach.
Global Traceability Standard – GTS2
GS1 Scope of Work - Future

Validate/ensure discovery across EPCIS databases (incl. introduction)

“DS” = Discovery Service
CGF “Open API”
A parallel, complementary workstream

An effort to connect tools for traceability and transparency, across disparate implementations through an API. Considered complementary work to the GTS2 work plan underway.
Global Traceability Standard
Timing of work

1. GTS1.3 – “ONLY AS STRONG AS THE WEAKEST LINK”
   - GTIN/SGTIN/BATCH
   - SSCC
   - EDI

2. GTS2 – “ONE-UP, ONE-DOWN and WELL BEYOND”
   - EPCIS – DISCOVERY

3. EPCIS – DISCOVERY
   - DS
   - EPCIS₁
   - EPCISₙ

TODAY → FUTURE
Questions that this group has already covered.
What are the drivers for supply chain traceability today? (Warsaw session outputs)

- Regulatory Compliance
- Increase safety
- Consumer trust and transparency
- Visibility on product

In general, supply chain traceability solutions drive economic benefits: driving sales because of consumer trust and product transparency, facilitation of business process optimizations that allow for reduced write-offs, labour cost savings or to reduce the capital needed to be employed in a business and more sustainable operations.

What’s missing?
What are the top 2-3 things that would define success for GTS2? (Warsaw session outputs)

- Industry agnostic standard that is relevant across sectors
- Covers all traceable objects within GS1 standards scope
- Works across geographies and applications
- Easy to use and to implement
- Effective for the largest and the smallest companies
- Natively interoperable with other standards-based solutions
- Broad knowledge development across MOs for support and implementation assistance.

What’s missing?
What are the top 2-3 technical things that would define success? (Warsaw session outputs)

- Interoperability
- Clear compliance criteria
- Legacy-free & technology independent
- Real-time capable
- Clear distinction between keys, extensions and attributes
- A clear set of Critical Tracking Events and Critical Data Elements
- Data carrier independent
- Should promote EPCIS as the most capable standard
- Should promote that technology decisions are left to the discretion of the business

What’s missing?
The Work Request for GTS2
(who, what, when, how)
Who does this work need to represent?

- Who needs to be at the table during the pre-work?
  - Our experts?
  - Industries?
  - Countries?
  - Champions?
  - Other Organisations?

- Who needs to be part of our review cycles for the pre-work?
**When: Milestones and plan**

**• GTS2**
- **Now through early October:** Prework – before I&S Event
- **Early October:** I&S – gain alignment on the scope and detail of the WR
- **October to mid—November:** Develop the Strawman GTS2 methodology into a full draft – Coen, Ken, Diane
- **Mid-November through December:** Industry/Community alignment around draft methodology and business case/work request
- **January through March:** GSMP work to approve GTS2 application standard. We hope to use an existing SMG if possible (must be evaluated).

**• EPCIS – Discovery**
- **October and November:** EPCIS expert gap analysis – Ken, Ralph, Mark H, Edward, Craig
- **December:** Full gap analysis and interoperability evaluation available for review.
- **2017:** Accelerated work as needed to address gaps
What are we going to do?

• Scope of our GTS2 effort. Does it include:
  - Work on the Application Standard?
  - EPCIS work?
  - CBV work?
  - EDI work?
  - Other Standards work?
  - Work related to queries and their language?

What’s missing?
Steps of our work?

• Application standard first...then technical standards updates as needed? Or both at the same time?

• Discovery, what steps should we consider?

• Considerations for trainings, traceability assessments and certifications?

What’s missing?
How are we going to work together?

• Communication
• Accelerated timeline for development
• Review cycles
• After we enter into GSMP

What’s missing?
The Work Request for GTS2
(some particular questions)
Barriers to Standardisation?

• Let’s discuss any known barriers to standardization that may exist (current competing technologies, industry momentum, concerns about particular sectors or industries, etc.).
Risk Analysis

• Are there risks to industry or to GS1 by taking on this work?

• Are there risks to industry or to GS1 if we do NOT take on this work?

• Let’s create a balanced perspective on risks of acting and not acting. This is critical to the evaluation of this work effort for Standardisation.
Market Urgency

• Is this work prioritised by industry(ies)? Is it important to take on at this point in time?
  - Why?
Other Market Solutions

• Please describe other existing market solutions that are not existing GS1 Standards.

• Why are they out there?

• What can they do that the GS1 System cannot do?
Investments required?

- Please describe any known investments that would be required after this scope of work is complete.
- Please be sure to also identify potential cost savings created by the completion of this work (ease of interoperability, simplicity, accessibility, etc.).
Immediate next steps

- Work Request will be shared for your review and comment
  - (shared today to the group for responses by Monday)

- Strawman development into a draft GTS2 document.
Thank you!
4. Supporting local implementation today: experience sharing

Jonas Batt, GS1 Switzerland
Agenda

• GS1 Switzerland Traceability working Group
  − Working Group for Process recommendation
  − Traceability Processes based on GTS 1.3
  − Actors, Roles and Responsibilities
  − Data model
  − Requirements for technical solution
  − Add ons

• Future Traceability Portfolio GS1 Switzerland
Working Group for Process recommendation

• Group 1 established in 2014
  – Members: Bell Schweiz AG, Coop Genossenschaft, Dr. Oetker AG, Emmi Schweiz AG, Fortisa AG, Hilcona AG, Klipfel Hefe AG, Management Ernst Sutter AG, Migros-Genossenschafts-Bund, Migros-Verteilbetrieb Neuendorf AG, Oswald Nahrungsmittel GmbH, Pistor AG, Wander AG, Zuckermühle Rupperswil AG
  – Outcome: GS1 Standards to identify & capture Traceability Information
    ▪ GS1 DataBar, GS1 DataMatrix, GS1 QR Code

• Group 2 established in 2015
  – Members:

  – Outcome (target): Process recommendation paper in order to implement Traceability based on GS1 Standards during a Project
Working Group for Process recommendation

Content of the recommendation

1. Processes
   3. Data Model
   5. Add ons
   2. Responsibilities
   4. Technical Solution
      5. Add ons

Traceability
1. Traceability Processes based on GTS 1.3

- Align Master Data (Stammdaten)
- Record Traceability Data (Rückverfolgbarkeitsdaten aufzeichnen)
- Perform Traceability (Waren rückverfolgen)
- Recall Product (Rückruf)
- Request Trace (Authentizität von Informationen absichern)
- Ensure requirements * (Anforderungen absichern)
- Risk analysis * (Risikoanalyse)

Processes adapted but based on GTS 1.3

* = new Processes vs. GTS
1. Traceability Processes based on GTS 1.3

<table>
<thead>
<tr>
<th>Process 1</th>
<th>Align Master data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Process to exchange Master Data in the Supply Chain. This is a constantly returning process.</td>
</tr>
<tr>
<td><strong>Roles</strong></td>
<td>Traceability Data Creator, Traceability Data Source, Traceability Data Recipient, Traceable Item Creator, Brand owner, Initial Distributor</td>
</tr>
<tr>
<td><strong>Targets</strong></td>
<td>Master Data is valid, standardized, exchange is efficient, continuous and systematically organized.</td>
</tr>
<tr>
<td><strong>Prerequisites</strong></td>
<td>Collaboration of all Partners in the Supply Chain.</td>
</tr>
<tr>
<td><strong>Data</strong></td>
<td>GLN; GTIN; etc.</td>
</tr>
<tr>
<td><strong>Result</strong></td>
<td>Master Data sets a basis in order to build Traceability.</td>
</tr>
</tbody>
</table>
| **Process** | 1. Identify all Partners in the Supply Chain  
2. Identify all Locations with a GLN  
3. Uniquely identify Assets (GLN, GRAI, GIAI ...)  
4. Uniquely identify Products (GTIN/SGTIN)  
5. Organize data exchange among the Supply Chain Partners (GDSN, attributes list, ....)  
6. Exchange master data |
| **Alternatives / Remarks** | Alternatives can result from Variations in Master Data |
| **Requirements by GTS** | Business Requirements 1-4  
Business Rules 1-7, 9-14, 27, 28, 29 |

Including a Matrix which Role is contained in which Process.
## 1. Traceability Processes based on GTS 1.3

**Anwendungsfall "Rückruf"**

<table>
<thead>
<tr>
<th>Primärproduzent</th>
<th>Zulieferer</th>
<th>Hersteller</th>
<th>Transportdienstleister</th>
<th>Logistikdienstleister</th>
<th>Zwischenhändler</th>
<th>Verteilzentrum</th>
<th>Endverkäufer (Einzellandelsbetrieb)</th>
<th>Konsument</th>
<th>Entsorger</th>
<th>Behörde</th>
<th>Label-/ Standardorganisation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Informationsfluss</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Warenfluss</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Rückrufinitiant**

Hersteller informiert den Endverkäufer, welcher zugleich Markeninhaber ist, über Rückruf des Artikels Würfelzucker. Er gibt alle relevanten Informationen wie GTIN + Chargen, Mengen und Grund weiter.

Betroffene Ware ist im Verteilzentrum, beim Endverkäufer und beim Konsument. Ware wird physisch beim Verteilzentrum und Endverkäufer gesperrt.

**Endverkäufer** bereitet Informationen auf und gleicht Bestände ab (Was ist geliefert worden, was ist verkauft worden, was ist noch an Lager). Daraufhin definiert er erste Massnahmen. Anschließend informiert er die Behörden über den Rückruf und gibt alle Informationen weiter.

Transport- und Logistikdienstleister grenzen betroffene Chargen physikalisch ab, kennzeichnen diese und transportieren sie ins Verteilzentrum. Ausnahme: Bei schweren Mängeln werden Sofortmassnahmen eingeleitet.

Es erfolgt ein Rückruf von Würfelzucker auf Grund einer Verunreinigung mit Metallspänen. Es handelt sich um ein Eigenmarkenprodukt des Herstellers. (Der Prozess "Waren rückverfolgen" ist bereits erfolgt.)
2. Actors, Roles and Responsibilities

**Roles adapted but based on GTS 1.3**

<table>
<thead>
<tr>
<th>Actor</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Producer</td>
<td>Actor that produces, recycles Goods and makes them tradeable.</td>
</tr>
<tr>
<td>Supplier</td>
<td>Trade (with or without property) of goods (Commodities and/or unfinished goods) towards Producer with no change in Products.</td>
</tr>
<tr>
<td>Industry</td>
<td>Processing goods into unfinished goods and/or final products including Packaging/Re-Packaging/Co-Packaging into Consumer Units.</td>
</tr>
<tr>
<td>Transport</td>
<td>Transportation of Goods</td>
</tr>
</tbody>
</table>

**Traceability Data Creator: Creates Master-, Transaction- and Event Data of Goods**

**Tasks**
- Knowing, sharing and physically adding Product identification (Master data)
- Capturing relevant Transaction Data per Batch/Lot
- Capturing Data for proving Product Quality and Production Process and connecting with Transaction Data
- Identify external Partners and inform them about Data Exchange

**Competencies**
- Know how about the Products (Ingredients, Dimensions, Labelinformation, Origin, Processing steps)
- Being able to capture and store Data
- Timely generation of Data

**Responsibilities**
- Ensuring the right Infrastructure
- Ensuring complete, valid and timeliness of the Data
- Information is standardized and with requirements of the external Partners aligned (incl. Multilinguism)
2. Actors, Roles and Responsibilities

2 additional requirements supplied by GS1 GO:

- Circular value chain
- New Icons for a) Standardization Organization, b) Labelling Organization, c) Recycler
3. Data Model

- Identify, Capture and Share
- EPCIS Events with minimum traceability Information

<table>
<thead>
<tr>
<th>Actor</th>
<th>Why*</th>
<th>EPCIS Event</th>
<th>Where from GLN</th>
<th>Where to GLN</th>
<th>When</th>
<th>What GTIN</th>
<th>What Lot / Batch</th>
<th>What Batch - Component</th>
<th>What SSCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Producer</td>
<td>Produces</td>
<td>ObjectEventADD</td>
<td>x</td>
<td>X</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Producer</td>
<td>Hands over goods</td>
<td>ObjectEventOBSERVE</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Supplier</td>
<td>Receives goods</td>
<td>ObjectEventOBSERVE</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>(x)</td>
<td></td>
</tr>
</tbody>
</table>

- EPCIS Process Steps

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Type</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Commodity A arriving at Producer site</td>
<td>ObjectEventOBSERVE</td>
<td>ObjectEvent only SSCC no Details, AggregationEvent SSCC with SGTIN or GTIN + Batch/LotNr.</td>
</tr>
<tr>
<td></td>
<td>300 pcs. Are made from a certain Product with commodity A</td>
<td>Transformation Event ADD</td>
<td>Based on SGTIN or GTIN + Batch/Lot from Supplier new Products are produced.</td>
</tr>
</tbody>
</table>
3. Data Model

Description of an Object Event

<table>
<thead>
<tr>
<th>Element</th>
<th>Type / Values</th>
<th>Description</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>eventTime</td>
<td>DateTime</td>
<td>Timing of the Event. Date can be interpreted as Moment when the Process was started or finished.</td>
<td>when</td>
</tr>
<tr>
<td>eventTimeZoneOffset</td>
<td>String</td>
<td>Timezone distance vs. UTC</td>
<td>when</td>
</tr>
<tr>
<td>epcList</td>
<td>List&lt;EPC&gt;</td>
<td>List with serialized Identification. Otherwise closing-tag “&lt;epcList/&gt;” is needed.</td>
<td>what</td>
</tr>
</tbody>
</table>
4. Requirements for technical solution

Template with around 40 criterias

<table>
<thead>
<tr>
<th>Score</th>
<th>Solution 1</th>
<th>Solution 2</th>
<th>Solution 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
<td>11</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>General</td>
<td>39</td>
<td>17</td>
<td>24</td>
</tr>
<tr>
<td>Data</td>
<td>19</td>
<td>32</td>
<td>36</td>
</tr>
<tr>
<td>Functionalities</td>
<td>53</td>
<td>68</td>
<td>93</td>
</tr>
<tr>
<td>Total Score</td>
<td>122</td>
<td>122</td>
<td>165</td>
</tr>
</tbody>
</table>
5. Add ons

- Best practice cases with short description based on GS1 Standards:

- List of Solution Provider (approx. 40)

<table>
<thead>
<tr>
<th>Name</th>
<th>Product</th>
<th>Link</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>2Trace</td>
<td></td>
<td><a href="http://www.2trace.com">www.2trace.com</a></td>
<td>Denmark</td>
</tr>
<tr>
<td>Advanced Track &amp; Trace</td>
<td></td>
<td><a href="http://www.att-fr.com">www.att-fr.com</a></td>
<td>France</td>
</tr>
<tr>
<td>AFS Technologies</td>
<td>Warehouse Management System</td>
<td><a href="http://www.afsi.com">www.afsi.com</a></td>
<td>USA</td>
</tr>
<tr>
<td>Authenticateit</td>
<td></td>
<td><a href="http://www.authenticateit.com">www.authenticateit.com</a></td>
<td>Australia</td>
</tr>
<tr>
<td>Axway</td>
<td>Axway Track &amp; Trace</td>
<td><a href="http://www.axway.com">www.axway.com</a></td>
<td>USA, France</td>
</tr>
<tr>
<td>Blue Infinity</td>
<td>AIT Central</td>
<td><a href="http://www.blue-infinity.com">www.blue-infinity.com</a></td>
<td>Switzerland</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="http://www.aitcentral.com">www.aitcentral.com</a></td>
<td></td>
</tr>
</tbody>
</table>
Future Traceability Portfolio GS1 Switzerland
Questions?
Two “To do’s”, please!

1. Check-in to this session
2. Rate this session using the mobile app

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