GS1 Industry and Standards Event
3 – 7 October 2016 – Brussels
Transforming business together
Session: Solving Foodservice Challenges with Global Standards
Time: Thursday, 6 October 2016 9.00-12.30 CET

Who may attend: Everyone involved in the Foodservice Industry
Welcome
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
WiFi internet access

• Select Crowne-Plaza-Free-Internet"
• Open your browser and the Crowne Plaza splash page will appear, accept the general conditions
• Password: october2016
Two “To do’s”, please..

Use the GS1 Industry & Standards Event App to:

1. Check-in to this session
2. Rate this session

Your feedback drives our continual improvement. Thank you for your time!
GS1 I & S Event App – How to get it

1. Scan the QR code on your badge or search your App store for: GS1 I & S Event 2016

2. Login with the email address you used to register for the event:
   Username: (your registered email)
   Password: october2016

If you have questions, ask your session leader or visit the GS1 registration desk.
Event App – How to “Check-in” to sessions

1. On the Main Menu, Select Schedule, Select your session

2. Enter session PIN or scan QR Code provided in your meeting room

3. Confirm check-in and a confirmation appears

Details

Standards Development University General Session

Monday, October 3, 2016
08:00 - 09:00

Klimt, Ground Floor, Lobby level

Check-In

To check into a session, enter the PIN code or scan the QR code provided by the event organizer

OR

SCAN QR CODE

Check-In

Standards Development University General Session
Monday, September 12, 2016
08:00 - 09:00
Klimt, Ground Floor, Lobby level

CANCEL CHECK-IN

Successfully checked into Standards Development University General Session.
Session Check-In QR Code and Pin

**Session Name:** Foodservice Engagement Workshop  
**Session Date & Time:** Thursday 2016-10-06 9:00 – 12:30  
**Session Location:** Serenity, 2nd Floor
Companies are changing

GS1 has to remain aligned to their changing needs

• Local, regional and global economic conditions are placing enormous pressure on profitability on all sides of the trading relationship.
  - Now more than ever, costs are being scrutinised.
  - Often, activities that are not tied to a cost-reduction or revenue stream are being scaled back – or eliminated.

• At the same time, the regulatory landscape is driving change in how member companies do business locally and globally.
Economic pressures, regulatory pressures AND consumer demand.

GS1 Standards are as relevant today for companies as they ever have been.

GS1 Standards are as relevant today for Foodservice Suppliers, Distributors and Operators– in support of their trade relationship – and are needed more than ever!

- Opportunities for new adoption and “deeper” adoption of GS1 Standards – means rigorous industry engagement activity for our GS1 Member Organisations (MOs).
Session Purpose

A common global language of business does much more than just keep communication simple, clear and reliable.

GS1 Standards in the Foodservice sector:
• Transform how businesses share information with each other
• Help keep “doing business” simple - saving time and money
• Meet the needs of increasingly complex supply chains
• Help ensure the right products get to the consumer at the right time

Purpose of this session:
1. Communicate the vital role of GS1 Standards in Foodservice
2. Share local successes of industry and GS1 from across the world
3. Identify topics for global industry engagement
Topics

- Foodservice Sector – Global Priorities
- Adoption and use of GS1 Standards in Foodservice
  - Featured Presenters
    - GS1 Belgium & Luxembourg: Local Foodservice Industry Needs & Priorities
    - GS1 Denmark: Adoption success (GTIN in GS1 Trade Sync), Implementation success (GS1-128 across the supply chain), Solution (Recall), special project (Foodwaste)
    - GS1 New Zealand & Foodstuffs
    - AutoID Lab: Fudan University for "Tracing and Tracing system for imported/exported food in Asia" (GS1 identifiers and EPCIS)
- CALL for PARTICIPATION
  - NEW for industry and MOs: Global Traceability Standard
  - ALL MOs: join the global Industry Survey
Global sector classification

Foodservice

Foodservice is businesses, institutions and companies responsible for any meal prepared *outside the home*. This includes restaurants, hotels, hospitals and schools among many other points of consumer access.
## Business Processes

<table>
<thead>
<tr>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foodservice</strong></td>
</tr>
<tr>
<td>Inventory Management</td>
</tr>
<tr>
<td>Order Fulfilment (B2C)</td>
</tr>
<tr>
<td>Order to Cash (B2B)</td>
</tr>
<tr>
<td>Product data Management</td>
</tr>
<tr>
<td>Category &amp; Promotional Management</td>
</tr>
<tr>
<td>Compliance Management</td>
</tr>
<tr>
<td>Transport Management</td>
</tr>
<tr>
<td>Returns Management</td>
</tr>
<tr>
<td>POS Management/Point of Payment</td>
</tr>
<tr>
<td>Research &amp; Development</td>
</tr>
</tbody>
</table>
Business needs for GS1 standards are driven by the industry experts who use them.

Our Standards only make a difference if they’re relevant in the real world. That’s why our members — over a million organisations — drive everything we do.

From proposing new standards to updating existing ones, we operate as an association of businesses large and small. Together, we reduce costs and deliver better service to our customers — whoever and wherever they might be.
Foodservice Industry Survey

*as of September 2016
2016 Industry Survey questions

Global Questions
1. What are your top business priorities for the next 1 to 3 years?
2. What are your biggest challenges today in the foodservice supply chain?
3. What level(s) of product packaging configuration does your organisation use today?
4. What topics do you feel should be addressed as an industry-wide non-competitive approach?

MO Questions- Example of an additional question used at the local level
• What are the most important issues for your company? (Rank in order, with 1 being the most important)
  • Staff overheads, Skilled/Competent staff, Food cost and quality, Government regulations, Reliable service from suppliers, Tenancy/Property costs, Product data requirements, Keeping up with technology
1. What are your top business priorities for the next 1 to 3 years?

Two groups of responses

**Group A Top 3:**
- Improve internal and external business processes
- Inventory Management
- Implementing traceability / product recall / food waste

**Group B Top 3:**
• Barcode labelling at the each and case level
• Order to cash system (EDI) / EDI
• Data: Data synchronization / not using a Data Pool / missing product data (or images or key attributes)
2. What are your biggest challenges today in the foodservice supply chain?

- Inventory Management
- Improve internal and external business processes
- National vs international rules and regulations
- Data
  - Examples: 3rd party access to nutritional calculation programmes, trading partners not using a data pool to share master data, some still use paper
3. What level(s) of product packaging configuration does your organisation use today?

Thus far, all results for use of GS1 compliant barcodes are as follows:

- **#1: Inner Pack/ Each/ Item (if reported: 79-94%)**
  - Highly varied across locations

- **#2: Case (if reported: 64-67%)**
  - Relatively consistency across MOs

- **#3: Pallet (if reported: 29-47%)**
  - Highly varied across MOs
4. What topics do you feel should be addressed as an industry-wide non-competitive approach?

The top 3 for all:

#1 Traceability
#2 Product Identification
#3 Data quality

#4 in Asia-Pacific: Case labelling
#4 in Europe: Foodwaste
Call for Participation - 2016 Industry Survey

Please send results by 9 December: elena.tomanovich@gs1.org
Global Foodservice Interest Group for GS1 Member Organisations

- Join the conversation – join the Team!! Join in the Community Room

GS1 Industry Engagement (7 members, 2 documents)
  Global Traceability Co-Operation Forum (GTCF) (16 members, 28 documents)
  GS1 Healthcare (2 members, no documents)
    GS1 Healthcare Leadership Team (41 members, 1500 documents)
    GS1 Healthcare Members (106 members, 240 documents)
  GS1 Healthcare Provider Advisory Council (HPAC) (76 members, 178 documents)
  GS1 Healthcare Public Policy Work Team (203 members, 1171 documents)
  GS1 Healthcare Solution Providers Work Effort (10 members, 3 documents)
  GS1 Healthcare Strategy Extension Project - Evidence Documents (76 members, 89 documents)
  GS1 IE eCom Healthcare Harmonisation Group (60 members, 308 documents)
  GS1 IE Apparel (68 members, no documents)
    GS1 IE Apparel MO Interest Group (65 members, 201 documents)
  GS1 IE IGDG AFF EPC RFID ILT Guideline (17 members, 16 documents)
  GS1 IE Consumer Product Variant Discussion Group (88 members, 22 documents)
  GS1 IE CPG MO Interest Group (4 members, no documents)
  GS1 IE Foodservice MO Engagement Group (58 members, 51 documents)
  GS1 IE Fresh Foods Industry Group (104 members, 63 documents)
  GS1 IE Fresh Foods MO Interest Group (7 members, no documents)
  GS1 IE Maritime & Ports Interest Group (2 members, no documents)
  GS1 IE Transport & Logistics (295 members, 185 documents)
    GS1 IE T&L GS1 MO Interest Group (119 members, 256 documents)
    GS1 in Rail (71 members, 2 documents)
      European Guide (64 members, 57 documents)
      GS1 in Rail EPCIS Implementation Guide (62 members, 62 documents)
    GS1 Omni-Channel MO Interest Group (92 members, 68 documents)
GS1 Global Foodservice MO Interest Group

16/17 Objectives

As of 15 August 2016
Foodservice

Strategy

MO Interest Group
- Global Office creates MOIG to share best practice
- MOs join to learn about a new initiative (listen)
- MO develops market analysis. GO facilitates
- MO develops local engagement plan
- MO prepares approval of new initiative for their local MO Board

Local Industry User Group
- Local MO Board has approved to resource a new initiative
- Start engaging locally by forming a Local Industry User Group
- Define the local Industry needs
- Match local needs with best practice from other MOs

Global Industry User Group
- Several MOs have engaged with Local IUG
- Need to address specific industry needs from a global perspective
- Industry is willing to participate in creation of a Global IUG
- GO forms Global IUG in collaboration with MOs
Focus Areas

1. Traceability in the Foodservice sector
2. Identification and barcoding
3. GS1 EDI implementation in Foodservice order-to-cash
4. Adoption of GS1 128
5. Foodservice product data in GDSN
6. GS1 Member Organisation (MO) resources and materials to drive adoption of the GS1 System of Standards in Foodservice
Foodservice MO Interest Group 16/17

Objectives

1. Traceability in the Foodservice sector

   • Increase and improve industry education on the Global Traceability Standard and Guidelines and solutions
Objectives

2. Identification and barcoding

- Increase and improve GTIN adoption and barcode use (all types not just GS1 DataBar, all levels of GTIN hierarchy) in Foodservice
Objectives

3. GS1 EDI implementation in Foodservice order-to-cash

• Drive adoption of GS1 EDI for order-to-cash in “medium” sized companies (example: national chains)
Objectives

4. Adoption of GS1-128

- Increase adoption of GS1-128 by (Brand Owners/Manufacturers/) Suppliers
Objectives

5. Foodservice product data in GDSN

• Provide guidance to industry on the importance of data quality and share best practices/ examples (example: identification of raw ingredients/ product such as fruit & vegetable, meat & poultry)
Objectives

6. GS1 Member Organisation (MO) resources and materials to drive adoption of the GS1 System of Standards in Foodservice

- Support local GS1 MO industry engagement activities by deploying new materials to enable consistent global messaging on the value of the GS1 System in the Foodservice sector
The following are also topics of interest to Team Members.

- GS1 SmartSearch
- Implementation support for Recall process
- How to manage food waste
- Increasing membership – growth at the local level
- Master Data alignment in trading partner databases
Global Traceability Standard – GTS2

GTS application standard needs to be enhanced to enable seamless full-chain traceability:

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

- Join the Traceability- **GTS 2 Interest Group** in GS1 Community Rooms

- Not registered in the GS1 Community Room platform? Do you have questions?
  - **Contact:**
    - Robert.Beideman@gs1.org or
    - Diane.Taillard@gs1.org
GS1 Belgium & Luxembourg
Welcome
Food service challenge

- Products entering the supply chain are not (always) identified (correctly) with a globally recognized unique identifier (GTIN is missing on the product)
- No single point of entry where product information is uploaded and exchanged
- Legacy systems and manual processes lead to mistakes and inefficiencies
- Significant paper based processes around ordering, dispatch and invoicing activities
- New legislation (like 1169 Food Information to consumer), omnichannel and foodservice business requirements push the need for accurate data
- Traceability must be guaranteed
Food service drivers for GS1

- Foodservice is a priority sector in pluri-annual plan of GS1 (2014-2016)
- Its priorities are in line with FMCG
- Demand for greater traceability and food provenance
- Legislative changes – EU 1169/2011 - ensure that foodservice complies with the regulations
- Increased demand from consumer for accurate nutritional, allergen and ingredient information
- Consumer is more conscious and wants to live healthier
- Ongoing need for more efficient supply chains, so EDI via Harmonized Order to Cash is a priority
Food service objectives

- Four main objectives for 2016

1. Better use the GS1 identification keys like the GTIN

2. Shift from trustbox to GDSN to receive a full data set (B2B2C + images)

3. Monitor and improve the quality of data

4. Increase supply chain efficiency by using EDI via HO2C
Food service objectives

• Use the GS1 identification keys, without them no way one can exchange data via EDI, in a standardized way

  - GTIN – Global trade item number
  - GLN – Global location number
  - SSCC – Serial shipping container code
Food service objectives

- Trustbox is a success. But it gives only B2C data. Foodservice wants now B2C and B2B (logistic) data. And pictures. So GDSN is the next step.
- Get away from webportals, and receive the data via GDSN
- And at the same time, improve the quality of data via the GS1 Data Checker and the team of GS1
Food service objectives

• Increase supply chain efficiency by using EDI
  - Since 1/1/2016 harmonized order to cash messages (order, despatch advice and invoice) ready for implementation
  - Roll out can commence: Bidvest, Java and Metro are ready
  - DESADV and SSCC as a basis for traceability and quicker processing in warehouses
Food service next steps

- Manufacturers, wholesalers and operators must work together to make it easier to do business through identifying, capturing and sharing consistent information
- Coordinate with FMCG trading partners to adopt the GS1 standards
- Attend the GS1 trainings on data and EDI
- Ask for advice
- Listen to the teams of GS1 that will give high level insight in data, data quality and EDI
Contact Information

Kurt Herregodts
Chief Operations Officer

GS1 Belgium & Luxembourg
Koningsstraat – rue Royale 76 B1
1000 Brussel - Bruxelles

+32 (0)2 229 18 95
+32 (0)476 89 05 71
kherregodts@gs1belu.org
GS1 Denmark
Projects (GS1-128 /1)

A. Kødgrossisten (KG) Wholesaler/Manufacturer of Meatproducts

KødGrossisten is 100% owned by Foodservice Danmark which is a nationwide wholesaler supplying both retail and the Catering sector. They were established more than 15 years ago, and today they have more than 65 employees.

KG have their own production as well.

Scope:
KG contacted us, they needed help to implement GS1 Standards (GS1 128) internally and among their suppliers.
Projects (GS1-128 /2)

• The project started 6 months ago with a workshop, where we introduced them to our standards – especially GS1 128
• Since then we have been in frequent communication, and have developed guidelines for cases (colli) and pallets which they shared with their suppliers

• Challenges:
  Several functions in the company were involved and they all had different interest and prerequisites. A time consuming process to agree about the scope of the project

• Output:
  Education and guidelines, see below 😊
  To help KG, we have offered to check their test labels from the foreign suppliers
Projects (Case-guideline /1)

Quickguide to GS1-128 colli label:
Make sure your customer is satisfied with your GS1-128 colli label

The GS1-128 colli label is used on colli units, i.e. on those units that are typically packed on a pallet and not sent individually. To ensure problem-free cooperation in the supply chain, standards for information transfer must be adhered to by all stakeholders, so that the information the label contains can be consistently decoded. This quickguide is a checklist for constructing your GS1-128 colli labels correctly.
Projects (Case-guideline /1)
Avoid errors on the pallet label: 13 dos and don'ts

Problems concerning the data content of the pallet label
13. The barcode type must be GS1-128, previously known as EAN-128 or UCC/EAN-128. Code 128 is a different type of barcode, and must not be used.
14. A separator character (PRN2) must always be inserted after a data field of variable length. If this data field is followed by additional data, if possible, place variable data at the end of the barcode.
15. Parentheses must not be expressed in the barcode, but must be visible in the text under the barcode.
17. AI (UFI) can only be used together with AI (UFI).
18. If the pallet is a unit, which is ordered, then AI (UFI) is used in stead of AI (UFI) and AI (UFI).
19. Every pallet must be identified with a unique 18 digit SSCC code. Read more about SSCC at www.gs1.dk/SSCC.
20. The barcode may not contain company internal information in the form of AI (UFI) (AI). AI (UFI) may only be used by agreement with your customer.

Problems concerning the pallet label's placement, appearance, etc.
21. A dedicated image (also known as "print zone") devoid of lines, characters etc. must be found to the right and left of the barcode.
22. The dark bars of the barcode must appear clearly on a light background.
23. Place the plate label on a smooth surface without creases.
24. The recommended size of the plate label is A5.
25. The GS1-128 plate label must be placed on the pallet as shown below. Identical labels must be placed on both sides of the pallet. One on each side.

Contact GS1 Denmark's ServiceCenter, if you need advice or guidance
Telephone 79 27 60 73 • service@gs1.dk • gs1.dk
Projects (more than one barcode /1)

KG need to recognize the GTIN on a product both in retail and in production -> **EAN13 and GS1 128 on the same label**

- **Challenges:**
  According to General Specifications only one barcode must be put on a label.
  The suppliers need to change their label systems, so the system can handle both barcode - types on the same items/labels

- **Output:**
  We agreed with GS1 Global Office that two labels with same GTIN was allowed (EAN13/AI 01)
  Guideline
Projects (more than one barcode /2)
Projects (Foodservice and the GDSN datapool /1)

B. GS1 Trade Sync – our GDSN datapool

- The project started 2 years ago

- The Foodservice sector did not use GTIN’s, on the products

- The introduction of regulation 1169 helped us convince the sector about the importance updated reliable Masterdata
  -> NOW - mandatory requirement for the GDSN datapool – as an example one of the wholesalers have decided that all Masterdata for the products on the webpage must be synchronized through the GDSN datapool. Other products may be ordered but are not present on the webpage.
- Lots of new members / products.
Projects GDSN/2
C. Foodwaste

- New project (The fall 2016) - introduce a dynamic barcode with: “best before date”
- Background:
  717,000 tons of food is every year destroyed in Denmark.
- Our aim:
  To introduce a dynamic Barcode with best before date included which gives a price reduction when the product is almost to old. It also secures that, no outdated products will leave the store, and also that the retailer gets a higher overview of the dates of the products on the shelves.

Status: We are right now developing a business model for the project
Projects (Foodwaste /2)

Promotion Label

(01)GTIN
(15) Best before date

This product’s expiration date is managed automatically with GS1 DataBar

- 20% discount for 4 days left
- 40% discount for 3 days left
- If expired, the sale is blocked
D. Recall

- It is demonstrated by several recent food scandals that there is an increasing demand for a solution which will help our members, when something has gone wrong in the production.
- Our members already have various internal Recall procedures implemented – what we are introducing (trying to) is a supplement to their existing procedures.
- We are seeking commitment among our members for a model based on an automatic (electronic) communication - similar to the solution which has been introduced in US, New Zealand and Australia – all based on the GS1 standard.
- The advantage of these systems are a.o.t. that all trading partners are notified in a standardized way, and that all parties involved at any time can log on and see the status of the recall/the withdrawal.
• Thanks for your attention – Any questions?
Contact Information

Erik Søgaard
GS1 Standards Specialist

GS1 Denmark
Vesterbrogade 149
DK-1620 København V

T +45 39 27 85 27
D +45 39 16 90 03
E es@gs1.dk
www.gs1.dk

Susanne Kjær Sørensen
Konsulent

GS1 Denmark
Vesterbrogade 149
DK-1620 København V

T +45 39 27 85 27
D +45 39 16 90 03
E sso@gs1.dk
www.gs1.dk
GS1 New Zealand
GS1 ProductFlow
A new way of presenting products & changes to Foodstuffs
ProductFlow
A new way of presenting products & changes to Foodstuffs

Foodstuffs need clean, accurate, reliable and complete product data, images and barcode conformance to ensure they can effectively sell your products for you through various channels i.e online and offline.

As of 2015, Foodstuffs have streamlined their new product introduction and product change process by adopting ProductFlow as their preferred method to receive product rich data and images.

The new process ensures product information, images and barcode conformance are as per Foodstuffs specification prior to this data being loaded into Foodstuffs master data management system.
ProductFlow

ProductFlow is a GS1 NZ product ranging service. It has been designed to help facilitate the introduction of new products and notification of any other range changes to your customers. GS1 works with you to get things right to allow these processes to happen smoothly with your customers.

https://www.youtube.com/watch?v=njv_qPRmnHY
Featured Industry Presenter:
Ana Connor, Foodstuffs
GS1 Industry & Standards

Solving Foodservice Challenges
Presented by Ana Connor
eCommerce Manager
Foodstuffs South Island
Foodstuffs’ DQ Journey

- 1998: FSSI initiated first EDI project
- 2000: FSA initiated B2B PO Website
- 2002: Foodstuffs eXchange developed
  - A combined B2B shared by the FS Companies
- 2005: EANnet data added to the eXchange
- 2007: EANnet became GS1net
- 2010: Streamlined onboarding for GS1net
- 2014: GS1 Product Flow launched
- 2016: GDSN MjR3
Our Foodservice Business

- Trents Wholesale
  - 9000 customers in South Island of New Zealand
  - $225m annual turnover
  - Convenience, institutions, hospitality
  - Full service and cash and carry

- GTT National
  - Joint venture with FSNI
  - $19m annual turnover
  - Focus on nationwide organisations
Joining the dots...

- Grocery and Foodservice can both benefit from global standards such as GDSN
  - Order accuracy
  - Service levels - DIFOT
  - Invoice accuracy
- Quality data underpins good business relationships
- Don’t be afraid to mandate good data
  - Piggy back off regulation if needed
- Stick to the global standards
ProductFlow

- Barcode Verification *plus*
- GS1net Data Verification *plus*
- Image Verification

*Equals better Data Quality*  
- fit for purpose
Questions?

Ana Connor
eCommerce Manager
Mobile: +64 3 353-8697
Email: ana.connor@foodstuffs-si.co.nz

Craig Russell
GS1 New Zealand
South Island Territory Manager
Sector Manager Food and Grocery
Mobile: 021 711070
Email craig.russell@gs1nz.org
Featured Presenter:
Professor Daeyoung Kim
Auto-ID Lab, KAIST University
Professor Daeyoung Kim
Director, Auto-ID Labs, KAIST
kimd@kaist.ac.kr
http://autoidlabs.org
http://oliot.org
6 October 2016
Topics

- About GS1 Source
  - What is GS1 Source?
  - GS1 Source Product Data

- Oliot (Open Language for Internet of Things) Open Source Project

- Wanju Local Food Co-op in GS1 Standards

- GS1 SmartFarm and Food Safety Ecosystem – GUARDIAN Project

- GS1 Source Applications
GS1 Codes for Agricultural Products in Korea

- Big Supermarkets tend to use GTIN for Agri. Products, but small one still heavily rely on proprietary barcodes.
- To promote GS1 standards, and solve food safety problem, we started Guardian project.
GS1 Codes for Agricultural Products in Korea

- Big Supermarkets tend to use GTIN for Agri. Products, But small one still heavily rely on proprietary barcodes
- To promote GS1 standards, and solve food safety problem, we started Guardian project
What is GS1 Source?

- **GS1 Source is a network of data aggregators who have all agreed to use GS1 standards**

- **Data aggregators**
  - *gather product data* from brand owners and manufacturers
  - *share it* with each other on the cloud
  - *make it available to developers* for their web and mobile applications.
What is GS1 Source?

- **GS1 Source** is a framework for *sharing product information in the digital world*.

  - **Brand owners** can increase sales, protect the brand, improve the shopping experience, and connect to the digital world.
  - **Application developers** can optimize consumer experience, increase efficiency, and comply with regulations.
  - **Consumers** can get accurate product data.
GS1 Source Product Data

- **Product data is registered and queried in standard way.**
  - **Registration**: Data should be filled following GS1 Source schema.
  - **Query**: Data is queried by GTIN.
  - **Response**: Data is transferred as XML data.
GS1 Source Product Data

- GS1 Source provides a **schema** for product data.
- A variety of data can be modelled in a standard way.
GS1 Source Product Data (Localization)

- Include Korean Agricultural Product Classification Codes (more than 16,000)
- together with GPC and HS codes
- Include Korean Agricultural Product Certificates
Oliot (Open Language for Internet of Things) Open Source Project

- Oliot open source project in Auto-ID Labs, KAIST
  - Reference implementation of GS1 standards and IoT enhancements
  - Components
    - Oliot IoT Connectivity Layer
    - Oliot F&C
    - Oliot EPCIS
    - Oliot ONS
    - Oliot DS
    - Oliot GS1 Source
    - Oliot Pedigree
    - Oliot Traceability & Recall

- Homepage: http://oliot.org
- Github: https://github.com/gs1oliot

Copyright © GS1 2016
Oliot (Open Language for Internet of Things) Open Source Project

- Oliot open source project in Auto-ID Labs @ KAIST
  - Open Source Highlights

<table>
<thead>
<tr>
<th>Component Name</th>
<th>Target Standard</th>
<th>Key Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oliot IoT Connectivity</td>
<td>Low Level Reader Protocol (LLRP)</td>
<td>Multiple IoT protocol support including RFID (Fosstrak spin-off) Plus lwm2m, alljoyn, OCF, etc.</td>
</tr>
<tr>
<td>Oliot F&amp;C</td>
<td>Application Level Events (ALE)</td>
<td>Full specification support (Fosstrak spin-off)</td>
</tr>
<tr>
<td>Oliot EPCIS</td>
<td>EPC Information Service (EPCIS)</td>
<td>Enhanced efficiency with No-SQL backend, Multi-backends (MongoDB, MySQL, MariaDB, Oracle)</td>
</tr>
<tr>
<td>Oliot ONS</td>
<td>Object Name Service (ONS)</td>
<td>User friendly UI support, Access control support</td>
</tr>
<tr>
<td>Oliot DS</td>
<td>Discovery Service (DS)</td>
<td>Location-based discovery (Extension), Access control support</td>
</tr>
<tr>
<td>Oliot GS1 Source</td>
<td>GS1 Source</td>
<td>Registration service support</td>
</tr>
<tr>
<td>Oliot Pedigree</td>
<td>Pedigree Ratified Standard</td>
<td>Private certification method included</td>
</tr>
<tr>
<td>Oliot Traceability&amp; Recall</td>
<td>Global Traceability Standard</td>
<td>Traceability data processing among distributed EPCISs</td>
</tr>
</tbody>
</table>
Oliot Industrial Application Projects
Wanju Local Food Co-op.

- Why using GS1 & GS1 source?
  - Global Standards
  - Traceability
  - O2O
  - Food Safety
  - Certification/Big Data Analysis

- Wanju Local Food system
  - +1200 Farms
  - Logistics center
  - Factory
  - Market
  - Restaurant
  - School
  - Internet Shopping Mall
  - Customer
Wanju Local Food Co-op.

GTIN, Price, Weight, Volume, Expire Date, etc. in QR code together with their local codes in Barcode

[Barcode Printing]  [Pesticide Residue Testing]  [Smart Menu]  Traceability Application based on GS1
The objective of GUARDIAN (GUARD International Agricultural Network) project is to standardize information of agricultural and livestock products based on global standard GS1 and to develop agricultural and livestock products cloud technology and application services providing balanced production, transparent distribution, safe consumption.

Auto-ID Labs KAIST lead this project, and many corporations like KT, ETRI, Easyfarm, Inspace, BMTech, Bizmerce and HanSamIn (National Agricultural Cooperative Federation) are participating as collaborators.

GS1 Core Platform is deployed and tested as a real testbed in the Wanju local food community, hog farming association and National Agricultural Cooperative Federation in Korea. This testbed is interconnected with the cooperation's platforms and devices.

The $7.5 million for this three year project is funded by the Ministry of Science, ICT and Future Planning.
GS1 SmartFarm Ecosystem: GUARDIAN Project

Cloud and O2O Service for Balanced production · Transparent distribution · Safety consumption of agricultural and livestock product based on GS1 standards

GS1 Standard Code  GS1 Source  GS1 Traceability  ONS  EPCIS

Safe Production Data  Unit Production Code  Safe Inspection Data  Unit Box Code  Safe Distribution Data  Unit Sales Code  Safe Sales Data  Unit Consumption Code

Production  Depots  Distribution  Store  Customer

The Global Language of Business © GS1 2016
GUARDIAN Project Architecture exploiting GS1 standards including GS1 Source
GS1 Source Application for O2O (Online to Offline)

- Integrating Retail shop and internet/mobile shopping mall.
- Every shopping mall can utilize reliable product data by querying GS1 Source and build Internet shopping mall without managing each product data by themselves.
- NH, Local Food Co-ops, and third party internet shopping malls can retrieve product data from GS1 source for building their own Internet shopping malls.
GS1 Source Application for Recall

- **Recall** can occur when it is discovered that certain ingredient leads to an ailment. Food company shall recall the products containing problematic ingredient.
- Guardian Project runs food safety hazard detection system and use GS1 recall standards.
- The government can **find the problematic products**.
  - The product data must contain ingredient information, then we can sort out only problematic products.

![Diagram showing recall process](image)
The IoF2020 project is dedicated to accelerate adoption of IoT for securing sufficient, safe and healthy food and to strengthen competitiveness of farming and food chains in Europe.

The IoF2020 consortium of 73 partners, led by Wageningen UR and other core partners of previous key projects such as FIWARE and IoT-A, will leverage the ecosystem and architecture that was established in those projects. [3,500 M Euros for 4 years]

The heart of the project is formed by 19 use cases grouped in 5 trials with end users from the Arable, Dairy, Fruits, Vegetables and Meat verticals and IoT integrators that will demonstrate the business case of innovative IoT solutions for a large number of application areas.
Summary

• Prepare GS1 Food service ecosystem

• Data Aggregators in building by NH, Local food co-op
  - good model for industry specific data sources repository

• GS1 Source as well as other GS1 standards is proposed to be adopted as Korean standards
Contact Information

Professor Daeyoung Kim
Director, Auto-ID Labs, KAIST

E: kimd@kaist.ac.kr

http://autoidlabs.org
http://oliot.org
Thank you
Call for Participation - Global Priorities

1. Participate in the Global Foodservice Industry Survey
   - Please send results by 9 December: elena.tomanovich@gs1.org

2. Join the Discussion Group to represent Foodservice industry needs for updates to the Global Traceability Standard
   - Join the Traceability- GTS 2 Interest Group in GS1 Community Rooms or
     • Please email Robert.Beideman@gs1.org or Diane.Taillard@gs1.org
Global Foodservice Interest Group for GS1 Member Organisations

- Join the conversation – join the Team!! Join in the Community Room

- GS1 Industry Engagement (7 members, 2 documents)
  - Global Traceability Co-Operation Forum (GTCF) (16 members, 28 documents)
  - GS1 Healthcare (2 members, no documents)
    - GS1 Healthcare Leadership Team (41 members, 1,500 documents)
    - GS1 Healthcare Members (106 members, 240 documents)
    - GS1 Healthcare Provider Advisory Council (HPAC) (76 members, 178 documents)
    - GS1 Healthcare Public Policy Work Team (203 members, 1,171 documents)
    - GS1 Healthcare Solution Providers Work Effort (10 members, 3 documents)
    - GS1 Healthcare Strategy Extension Project - Evidence Documents (76 members, 89 documents)
    - GS1 IE eCom Healthcare Harmonisation Group (60 members, 308 documents)
  - GS1 IE Apparel (68 members, no documents)
    - GS1 IE Apparel MO Interest Group (85 members, 201 documents)
    - GS1 IE IGDG AFF EPC RFID ILT Guideline (17 members, 16 documents)
  - GS1 IE Consumer Product Variant Discussion Group (88 members, 3 documents)
  - GS1 IE CPG MO Interest Group (4 members, no documents)
  - **GS1 IE Foodservice MO Engagement Group** (58 members, 51 documents)
  - GS1 IE Fresh Foods Industry Group (104 members, 63 documents)
  - GS1 IE Fresh Foods MO Interest Group (7 members, no documents)
  - GS1 IE Maritime & Ports Interest Group (2 members, no documents)
  - GS1 IE Transport & Logistics (295 members, 185 documents)
    - GS1 IE T&L GS1 MO Interest Group (119 members, 256 documents)
    - GS1 in Rail (71 members, 2 documents)
      - European Guide (64 members, 57 documents)
      - GS1 in Rail EPCIS Implementation Guide (62 members, 62 documents)
    - GS1 Omni-Channel MO Interest Group (92 members, 68 documents)
Event App – How to rate sessions

1. From Main Menu, Select Schedule, Select session, scroll down

2. Select your rating and enter comments

3. A confirmation appears
Contact Information

Elena Tomanovich
Senior Director, Retail Industry Engagement
(Retail Sectors: CPG, Fresh Foods; Foodservice)

+ 1 609 557 4577
+ 1 585 613 1647
elena.Tomanovich@gs1.org