The Global Language of Business

GS1 Industry & Standards Event 2018
10-14 September 2018 – Dublin, Ireland

Transforming business together

Session: Achieving faster, fresher supply chains with GS1 standards

Time: Wednesday, 12 September 2018 13:30 - 15:30

Who may attend: Users, Industry and GS1 Member Organisations

Speaker(s): Elena Tomanovich, GS1

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.

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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

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GS1 Industry & Standards Event App

1. Get the App by searching your App store for "GS1 Global Events" (If you already have the Global App due to attendance at the Global Forum or Standards Event, you do not need to do this)

2. Once you have the Global App on your mobile device, type GS1IS18 in the search box. Please click the orange (+) to activate the event within your application.

3. Login with the email address you used to register for the event:

   Username: (your registered email)
   Password: GS1events

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WiFi internet access

- Select network "**GS1networks**" and connect
- Password: **GS1events**

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Agenda

- GS1 Anti-trust caution, session administration and welcome
- GS1 standards for faster, fresher supply chains
- Use of GS1 standards in Fresh Foods
  - GS1 in Europe Fruit & Vegetable Implementation Group
  - Smart Fruit Logistics Project
  - Strategic Cooperation with Intergovernmental Organisations on Traceability - Cooperation with GS1 in Asia-Pacific
  - Variable measure items at Point-of-Sale (POS)
- GS1 around the world
- Meeting close and session evaluations

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Examples of topics that impact Fresh Foods in other sessions

Monday, Tuesday and Wednesday

- ID SMG – use of 2D on fish product labels (trade unit level)
- EPCIS & CBV 2.0 MSWG – sensors
- Traceability Strategy
- Transport & Logistics Strategy

Thursday

- @ 13.30 - Implementing a traceability solution using GS1 standards
- Also – in the morning for GS1 Member Organisations (MOs) only
  - @ 9.45 - CPG, Fresh Foods & Food Service MO Interest Group

Download the presentations after the Event.

The link will be shared with all attendees.

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GS1 Fresh Foods Guidelines

https://www.gs1.org/fresh-foods/implementation-guidelines

Fresh Foods Implementation Guidelines

Fish

- GS1 Foundation for Fish, Seafood and Aquaculture Traceability Implementation Guideline
- Fisheries & Aquaculture Master Data Attribute Implementation Guide

Fruits & Vegetable

- Fruit & Vegetable GDSN Trade Item Implementation Guideline
- GS1 Fresh Fruit & Vegetable Labelling Consumer Units Guideline
- Traceability for Fresh Fruits and Vegetables - Implementation Guide
- Fruit and Vegetable Master Data Attribute Implementation Guide
- Fruit and Vegetable GTIN Assignment Implementation Guideline

Meat & Poultry

- GS1 Made Easy - Global Meat and Poultry Traceability Guideline Companion Document
- GS1 Global Meat and Poultry Traceability Guideline, Part 1. The GS1 System
- GS1 Global Meat and Poultry Traceability Guideline, Part 2. Beef Supply Chain
- GS1 Global Meat and Poultry Traceability Guideline, Part 3. Lamb and Sheep Meat Supply Chain
- GS1 Global Meat and Poultry Traceability Guideline, Part 4. Pork Supply Chain
- GS1 Global Meat and Poultry Traceability Guideline, Part 5. Poultry Supply Chain
- GS1 Global Meat and Poultry Traceability Guideline Glossary

General

- GS1 AIDC Fresh Foods Sold at Point-of-Sale Implementation Guideline
- GS1 Human Readable Interpretation (HRI) Guideline

Updated March 2018

Next? Begin now or after EPCIS & CBV?

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GS1 standards for faster, fresher supply chains

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Fresh Foods

Fresh Foods
(perishable)

Unpackaged, processed, and pre-packaged for Produce, Meat & Poultry, Seafood, Dairy, Deli, Bakery

The Fresh Foods sector is defined as: Dairy, Meat, Produce, Seafood

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Fresh Foods – unique challenges, ripe opportunity

The Fresh Foods sector is growing, driven by product demand from increasing numbers of health-conscious consumers for safe, fresh products from across the world.

- "Freshness" matters
- Cold chain management
- Sources of supply that are seasonal and geographically diverse

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10% of world population

600 million people

become ill after eating contaminated food

Contamination poses a potential threat of

$55.5 billion/year

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Sensors enable companies to monitor quality and movement of temperature sensitive food across the supply chain and predict the risk of spoilage.

Internet of Things (IoT) includes sensors, machine learning, artificial intelligence and analytics.

Enhancements to EPCIS and CBV standards: capture and share sensor and sensor-based data related to events.

Fresh Foods – Customers want fresh & quality however and wherever they shop

- ✓ Cold chain management across the supply chain - and the last mile

Globally, online sales of food and beverage products will DOUBLE over the next 5 years to reach €288 billion

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GS1 in Europe Fruit & Vegetable Implementation Group

Mr. Radbout Buijs, Business Consultant, Frug I Com

Mr. Ferran Domènech Fusté, GS1 Spain and GS1 in Europe Fruit & Vegetable Implementation Group

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Agenda

- What is GS1 in Europe?
- Why Fruits & Vegetables are different?
- GS1 in Europe Fruits & Vegetables Implementation Work Group
  - Who we are?
  - What are our objectives?
  - What have we done?
  - Next steps

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GS1 in EU

- 27 MOs
- Share Best Practises
- Harmonisation of standards on the European level
- EU regulations…

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Why F&V are different?

F&V is a "Core Industry" in Retail

- Cross – Boarders
- Critical Supply Chain
  - Short shelf-life
  - Seasonal
  - Unpredictable
- Strategic for Retailers

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GS1 in EU Fruit&Vegetable Implementation Group

¿Who is in the Work Group?

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Objectives

- Digitalisation of the F&V Supply chain:
  - Reduce errors in order-to-cash processes
  - Operational excellence
  - Traceability & Supply Chain visibility (consumer demands & Food Safety)
  - Regulatory compliant

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And obviously….these are our tools!

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What have we done so far?

- It's all about the GTIN…
- And also about GLN…
- We hate typing → Data capture (Consumer Units & Logistics)
- To finish the foundations of the building → Master Data is a MUST (GDSN & Examples)
- Substitution Scenario

http://www.gs1.eu/activity/fruit-and-vegetable-traceability

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Substitution senario as a best practice

- In cooperation with this EU fresh working group we developed the substitute scenario for fresh food and vegetables.
- The problem we solved was that in fresh food and vegetables there is no alignment on a Item level therefore synchronization on GDSN often fails between partners in the value chain. And the Couse was that the granularity of attributes between Retail and supplier often does not match.
- We developed a best practice to use GDSN with data quality demands and also connect to the less detailed Items the most retail company's in the EU use.

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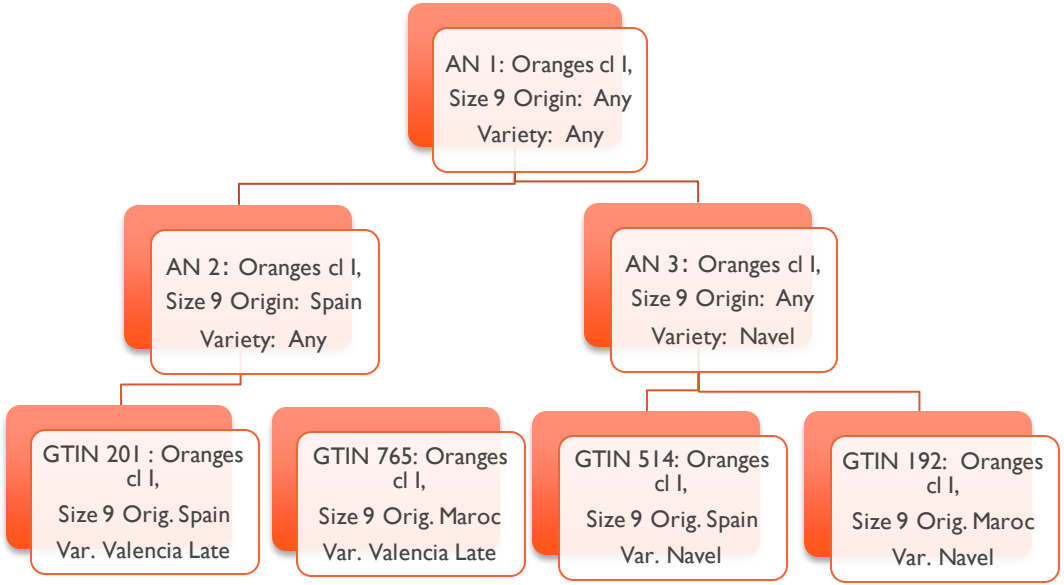
How does this look in practice

- example



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How does this work in a automated EDI proces

Order

```
BGM+220+41484349+9+NA'
DTM+137:201708170000:203'
DTM+2:201708250000:203'
NAD+BY+8716668000000::9'
NAD+SU+8712423019324::9'
NAD+DP+8716668000000::9'
LIN+1++8718591564666:EN'
QTY+21:90'
LIN+2++8718591564673:EN'
QTY+21:10'
LIN+3++8718591564642:EN'
QTY+21:20'
LIN+4++8718963198741:EN'
QTY+21:27'
LIN+5++8854878001308:EN'
QTY+21:3'
LIN+6++8718591564659:EN'
QTY+21:3'
LIN+7++8717662025426:EN'
QTY+21:70'
LIN+8++8718591569579:EN'
QTY+21:90'
LIN+9++8718591565601:EN'
QTY+21:20'
LIN+10++8718836080593:EN'
QTY+21:30'
LIN+11++8718963011378:EN'
QTY+21:50'
UNS+S'
UNT+31+5237174'
UNZ+1+127193'
```

Dispatch advice

```
UNA:+.? '
UNB+UNOC:3+8712423019324:14+8716668
UNH+1+DESADV:D:01B:UN:EAN007'
BGM+351+VVG170067292+9'
DTM+137:201708281112:203'
DTM+17:201708241800:203'
RFF+ON:41484349'
RFF+ZZZ:EANNL4'
NAD+BY+8716668000000::9'
NAD+SU+8712423019324::9'
NAD+SF+8712423019324::9'
TOD+4'
CPS+1'
CPS+2+1'
PAC+1'
PCI+17'
GIN+SRV+8714548300004'
PCI+33E'
GIN+BJ+18718963000087319S'
LIN+1++8714548300004:SRV'
QTY+12:1'
LIN+2++8718591564666:SRV'
PIA+1+OVGLT0811717:NB'
QTY+12:90'
LIN+3++8718963045175:SRV'
PIA+1+PRDLT0814231:NB'
PIA+4+8718591569579:SRV'
QTY+12:90'
LIN+4++8718963011378:SRV'
PIA+1+EVRLT0814162:NB'
QTY+12:50'
LIN+5++8718963006220:SRV'
PIA+1+PRDLT0814173:NB'
PIA+4+8718836080593:SRV'
QTY+12:30'
CPS+3+1'
```


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Our next steps…

- Traceability
  - Consumer demands product info (detailed origin)
  - Food Safety!
- Order-to-Cash: e-com!!
- "The more we are, we are going to laugh even more"
  - Onboarding new members
    - Retail
    - Supplier
    - MOs

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Smart Fruit Logistics Project

Mr. Klaus Förderer, GS1 Germany

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LOCATION-BASED EVENTS IN EPCIS V1.2

Bringing IoT and EPCIS to the world of returnable packaging

DR. RALPH TRÖGER, KLAUS FÖRDERER, DR. ROBERT REICHE

GS1 Industry & Standards Event, Dublin
September 12, 2018

PROJECT OBJECTIVES

IoF2020 fosters a large-scale uptake of IoT in the European farming and food sector. In brief, it aims to:

1. Demonstrate the business case of IoT for a large number of application areas in farming and food sector;
2. Integrate and reuse available IoT technologies by exploiting open infrastructures and standards;
3. Ensure user acceptability of IoT solutions in farming and food sector by addressing user needs, including security, privacy and trust issues;
4. Ensure the sustainability of IoT solutions beyond the project by validating the related business models and setting up an IoT ecosystem for large scale uptake.

IOF2020 IN BRIEF

71 PARTNERS ORGANISATIONS

16 COUNTRIES

4 YEARS

Start = January 2017

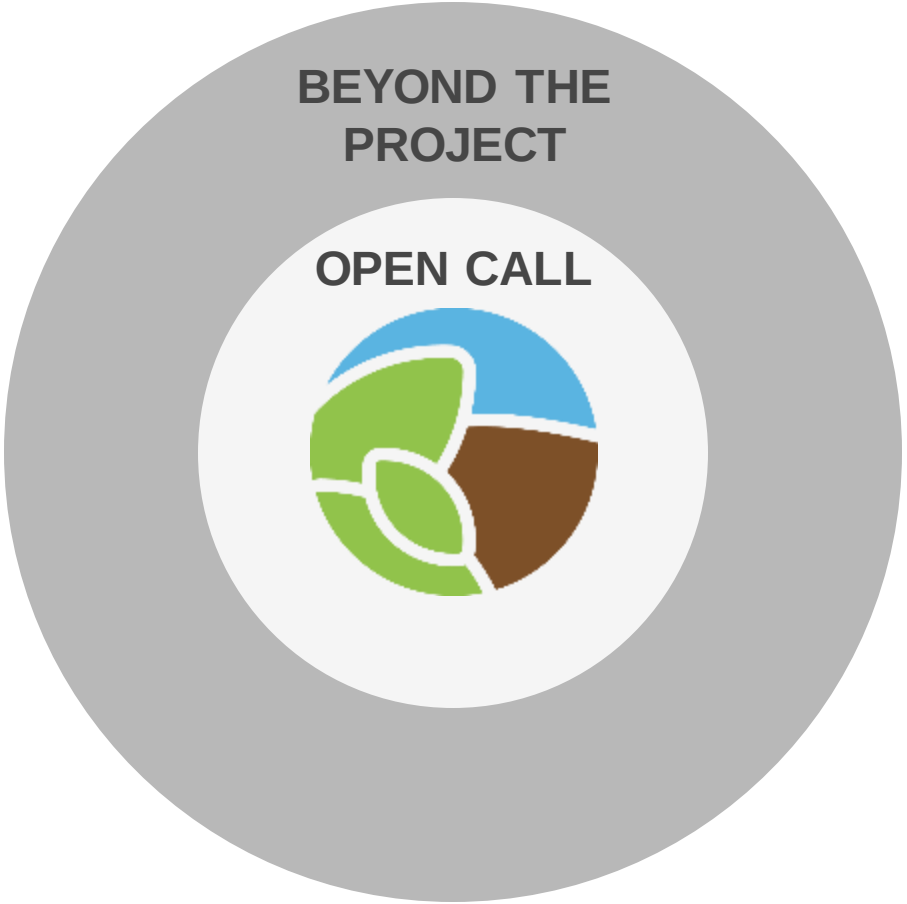
€35 MILLION BUDGET

(€30 million co-funded under EU H2020 programme)

AMBITION & VISION

IoF2020 will pave the way for:

- Data-driven Farming;
- Autonomous Farm Operations;
- Virtual Food Chains;
- Personalized Nutrition for European citizens.



LARGE-SCALE EXPANSION

5 TRIALS, 19 USE CASES

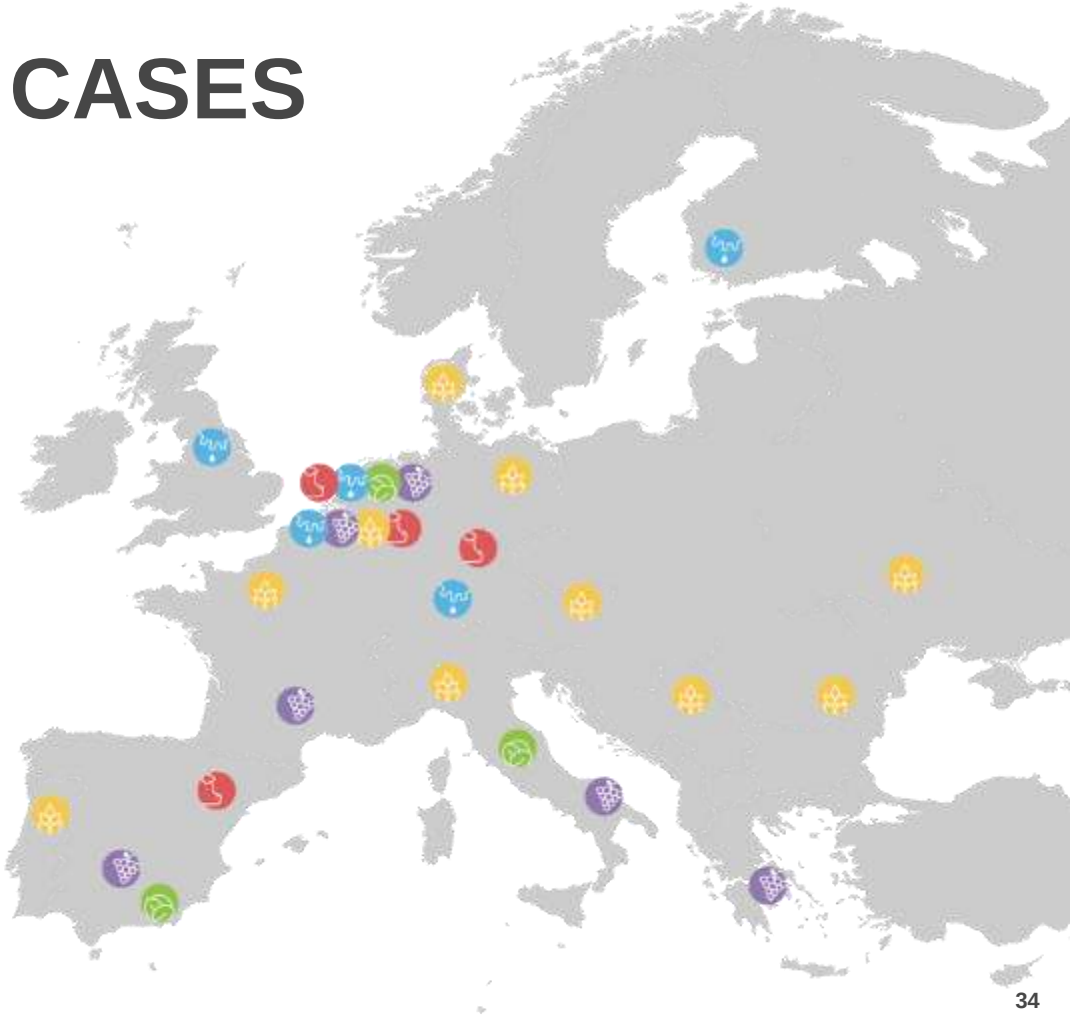
ARABLE

FRUITS

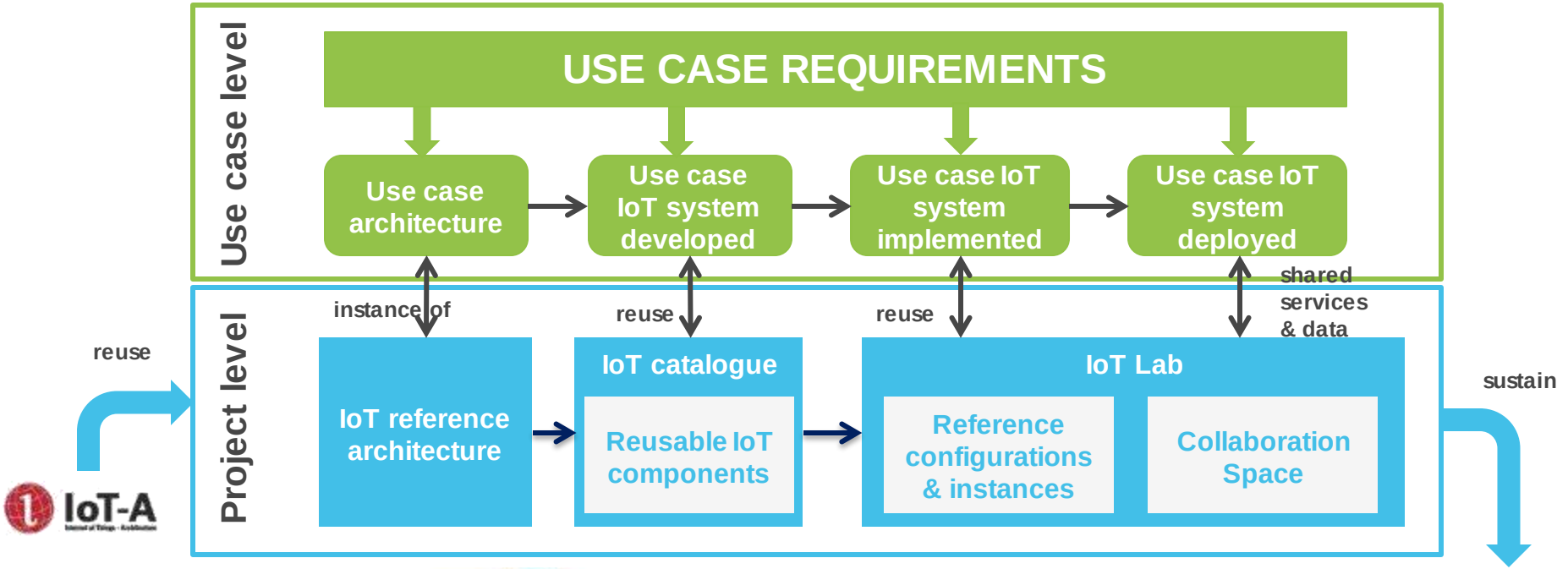
DAIRY

VEGETABLES

MEAT



TECHNICAL / ARCHITECTURAL APPROACH



TOWARDS TO THE IOF2020 ECOSYSTEM

SCIENTIFIC COMMUNITY

FARMERS

INVESTORS

COOPERATIVES

CONSORTIUM PARTNERS

GENERAL PUBLIC AND MEDIA

POLICY-MAKERS AND REGULATORS

END-USERS
- Farm equipment suppliers
- Food processing companies
- Retailers
- Transporters
- Consumers' associations

IOT TECHNOLOGY PROVIDERS

NGOS & INTEREST ORGANISATIONS

BUSINESS SUPPORT ORGANISATIONS
- Accelerators
- Incubators
- Chambers of commerce
- Enterprises networks

AGRICULTURAL (INDEPENDENT) ADVISORY SERVICES

SMART FRUIT LOGISTICS

How to automate traceability of fruits and vegetables using IoT and EPCIS

KLAUS FÖRDERER, GS1 GERMANY

Key Challenges

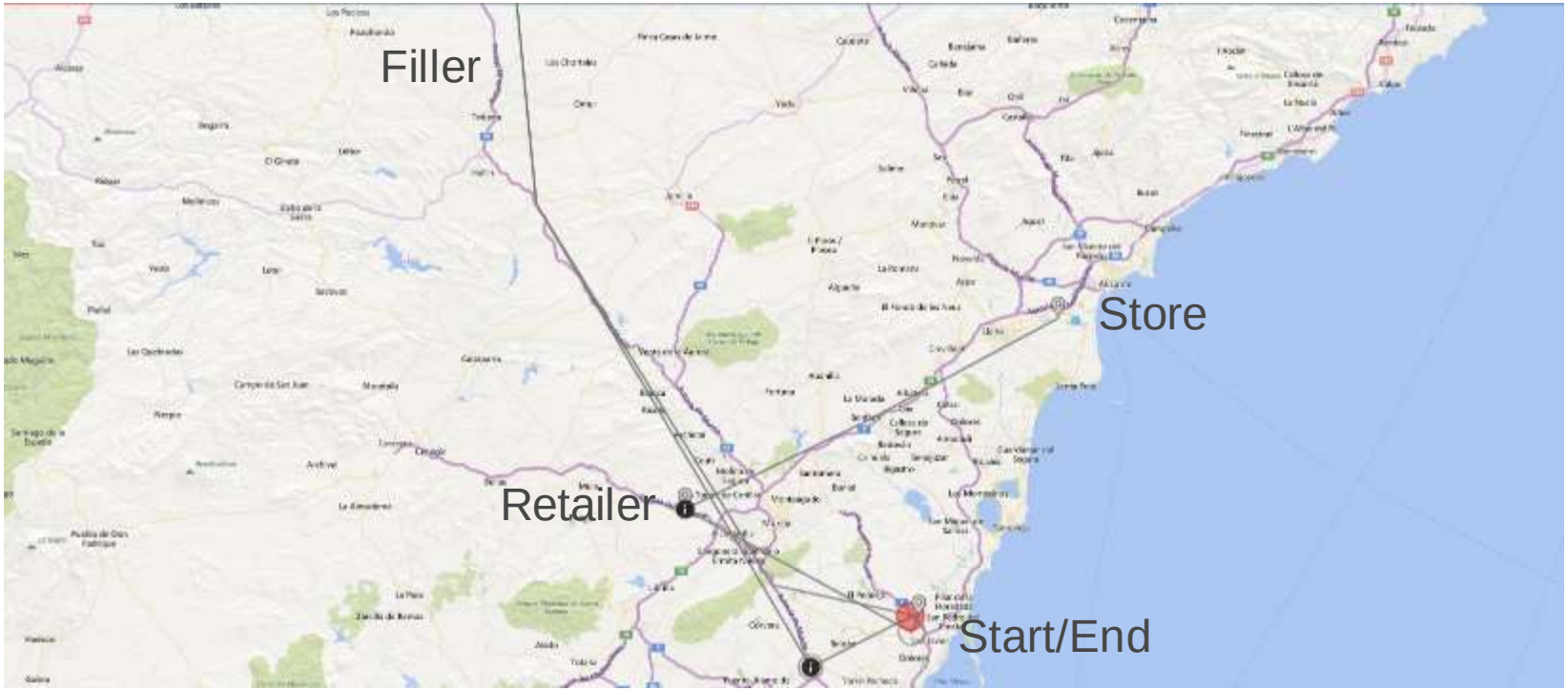
1. **Ensuring traceability in supply chains has become a necessity**
   But it requires technology and implemented standards to work seamlessly.

2. **Challenge for small enterprises at the beginning of the supply chain**
   Technological readiness and ability to adopt is limited

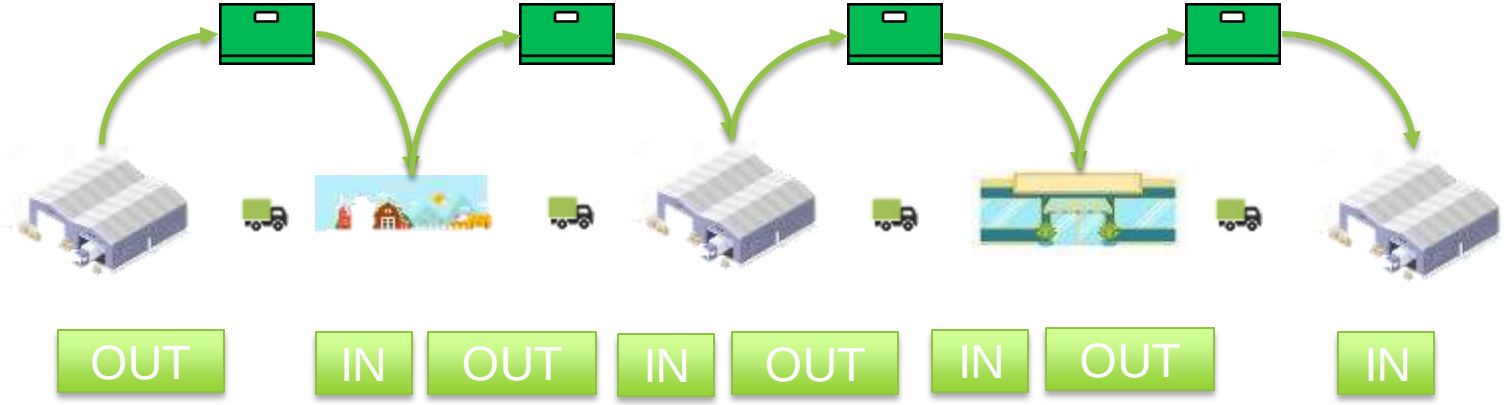
3. **Environmental Sensors**
   for transport monitoring are only looking from stage to stage in the supply chain. A complete record from field to shelf is currently hard to realise.

4. **Privacy, Data Ownership, Security and legal issues**

Smart Trays with IoT device deliver end-to-end documentation



FUNDAMENT FOR TRACEABILITY



Accurate tracking and documentation of entry and leaving of locations is key to ensure a reliable documentation of events.

TRACKING OF IOT-ENABLED TRAYS

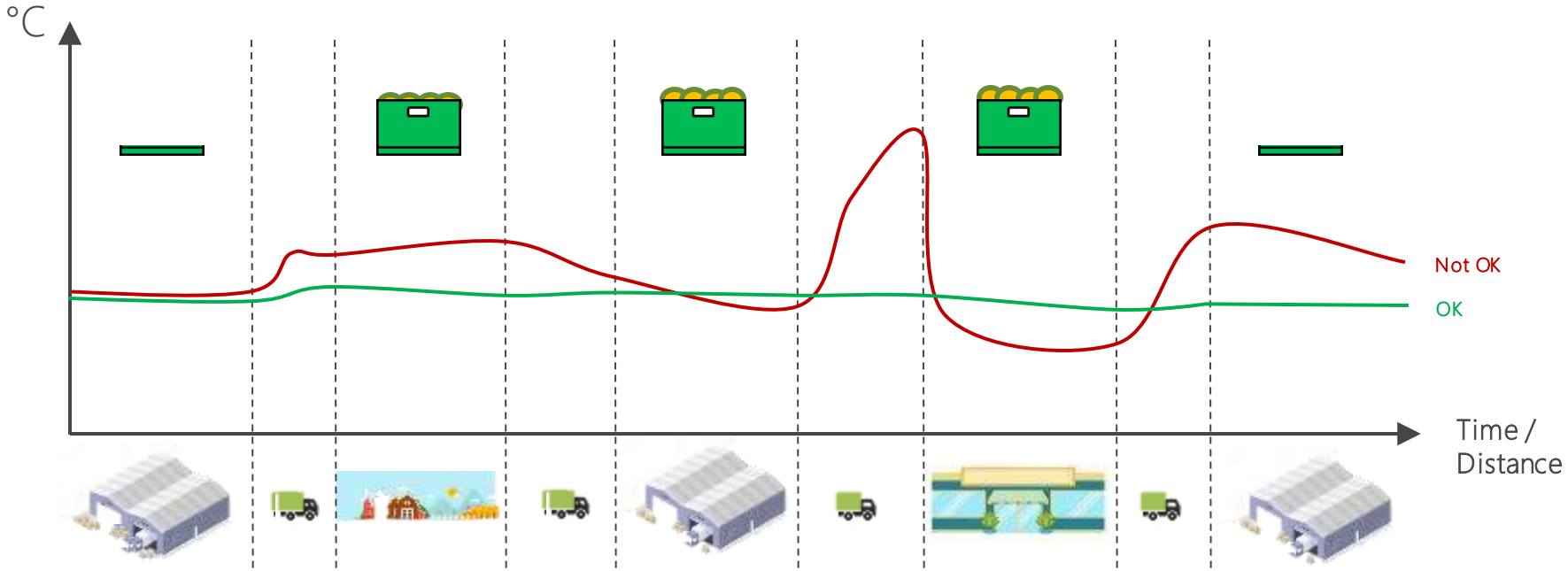
EPCIS Inbound Event created when IoT-enabled Tray is entering a defined geopolygon

EPCIS Outbound Event created when IoT-enabled Tray is leaving a defined geopolygon

EPCIS CONTENT

Dim	Data Element	Content
	Event Type Action	Object Event OBSERVE
What	EPC List	Object IDs: GRAI (Global Individual Asset Identifier)
When	Event Time	Date/Time of event, e.g. 10th October 2018, 11:30 a.m.
	Event Time Zone Offset	Time Zone Offset to UTC, e.g. CET (+01:00)
Where	Read Point	Physical location of a business partner (mapped to geopolygon): GLN (Global Location Number)
Why	Business Step	Business Process Step of event, e.g. “departing”
	Disposition	Status of objects subsequent to event, e.g. “ in transit”

Message Extension:
Smart Tray with Temperature Sensor



SO WHAT?

- Traceability of trays along the full supply chain offers potentials to build up a backbone infrastructure that can easily be linked to:
  - Reduce food waste, by increasing time windows for short-term corrections
  - Feed applications that calculate dynamic food pricing based on remaining shelf-life of products inside the trays
  - Proof integrity of food products
  - Many other cases that can be supported

DISCUSSION & CONCLUSIONS

- Technically the pilot is working
  - Events can be triggered, when IoT-enabled trays are detecting their location with a high accuracy
  - Sensor data will be integrated into the messages in the next step
- Good Location Master Data is a key success factor to ensure the correct assignment of events to the right location
- European LPWAN networks are developing fast, which offers potential for a wide range of solutions for returnable packaging
- Data privacy and acceptance of these solutions will be a critical success factor for the adoption of IoT in general

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INTERNET OF FOOD & FARM

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Variable measure items at Point of Sale

Ms. Karen Arkesteyn, GS1 Belgium & Luxembourg

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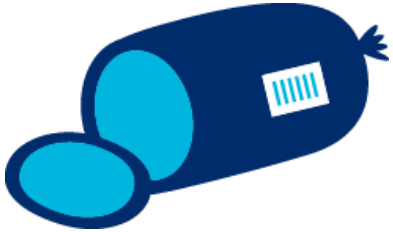
Enjoy Ireland but please come back to Belgium soon, GSMP!

Variable measure items at Point-of-Sale

Variable measure items

- Trade items produced, ordered, sold in variable quantity or measure
  → variable weight, variable price



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Variable measure items at Point-of-Sale

At point-of-sale

- Use of EAN-13 barcode
- Usually contains a Global Trade Item Number (GTIN) with a GS1 Company Prefix

- However, no price or weight can be “integrated” within a GTIN
  → needed another solution
  → national/internal solution with a restricted circulation number (RCN)

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Variable measure items at Point-of-Sale

Current use of restricted circulation numbers in EAN-13

- Item packaged/labelled by supplier → 13-digit **national number** assigned by GS1

PRICE	PRICE	WEIGHT
295 AAAAA EEEE C	296 AAAA EEEEE C	28 AAAAA QQQQQ C

Price €1

Weight 1 kg

- Item packaged/labelled by retailer → 13-digit **internal number with 02 or 20-27**

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Variable measure items at Point-of-Sale

Disadvantages national/internal solution

For supplier/retailer

- No GTIN, no GS1 company prefix = no traceability
- No GTIN, no GS1 company prefix = no (efficient) international data exchange
- No GTIN, no GS1 company prefix = no GS1 membership (no training, no GLN, …)
- Administrative burden
- Different solutions per retailer

For GS1

- Exhaustible range of national numbers
- Administrative burden

Standardization: we need a GTIN!

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Variable measure items at Point-of-Sale

Standardization

We need a barcode in which a **GTIN + weight/price** can be encoded

- ✓ Traceability
- ✓ International data exchange
- ✓ E-commerce
- ✓ Other dynamic information can be encoded (by using Application Identifiers)
- ✓ Food safety
- ✓ Food waste management
- ✓ …

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Variable measure items at Point-of-Sale

Launch Work Group in April 2017

- Participants
  - Retailers

  - Suppliers (mostly meat): Sopraco, Westvlees, Lammens Poultry, Equinox, …
  - Solution providers: CSB Systems, Bizerba, Espera, Digi Group, Data Logic
  - Associations: VBT, COMEOS
  - GS1 Member Organizations (e.g. GS1 Germany)
  - Other impacted stakeholders: Ivalis

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Variable measure items at Point-of-Sale

Launch Work Group in April 2017

- Discussion possible solutions (data carriers with Application Identifiers, encoded information)
  - Proposed GS1 DataBar (cfr. coupons) but not interested
  - All of the participants had the intention to move forward with a 2D barcode and preferred it to be a GS1 data carrier
  - Unanimous decision to choose the **GS1 DataMatrix** as data carrier

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Variable measure items at Point-of-Sale

Supplier

- Small size, less space on label needed
- Possible to encode a lot more than GTIN (e.g. traceability information), fewer manual intervention
- Better readability of barcode (error correction algorithm) = fewer fines at retailer's

Retailer

- Better readability of barcode = fewer delays at Point-of-Sale
- 2D scanning equal to better than 1D scanning = faster at Point-of-Sale
- Possible to encode a lot more than GTIN (e.g. expiry date for inventory and food waste management)

Solution provider

- Extended offer 2D, bigger market

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Variable measure items at Point-of-Sale

Launch Work Group in April 2017

- Agreed on encoding the following:

Information	AI
GTIN-13 with leading zero	01
Net weight	310X
Price to be paid	392X
Other (e.g. best before date, lot number)	

and/or

(01) 0 5412345 00001 3
(3102) 000100
(15) 170801

- Global Trade Item Number mandatory in human readable text
- Analysis of impact on procedures, budget and other stakeholders in the supply chain
- Production lines already had to print dynamic labels anyway

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Variable measure items at Point-of-Sale

Work Group pilots

- August '17: launch of pilots with migration period if needed (to ensure minimal disruption)
- Elimination of both national and internal numbers
- Only testing in Belgium, no export products

Retailer: Carrefour
Pilot: national numbers
Suppliers: Viangro, Equinox, Westvlees-Westvers, Lammens Poultry, Plukon, Savel, Fermiers Landais, Vandenbogaerde
Testing: GS1 DataMatrix + EAN-13

Retailer: Makro/Metro
Pilot: national numbers
Supplier: Sopraco
Testing: GS1 DataMatrix + CODE 128

Retailer: Colruyt Group
Pilot: internal + national numbers
Supplier: Lammens Poultry, Sopraco, Marmo, Lonki, Plukon, Group of Butchers, Belki, Dobbels, Good meat, Vlevia, Velda, Vermeersch, Volys
Testing: GS1 DataMatrix

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Variable measure items at Point-of-Sale

Work Group Pilots

- Role of GS1 Belgium & Luxembourg
  - Verification of labels
  - Communication
  - Coordination (keeping the pilots in scope)
  - Training (e.g. technical specifications of GS1 DataMatrix)
- Support from
  - Board of GS1 Belgium & Luxembourg
  - GS1 Member Organizations from all over the world
  - GS1 Global (2D barcode as single data carrier not an approved GS1 standard at Point-of-Sale)

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Variable measure items at Point-of-Sale

Work Group pilots

- Phase: creating labels
  - Positive feedback about much smaller and better readable barcode
  - Technical/structural errors of GS1 DataMatrix → technical training by GS1 Belgium & Luxembourg
  - Miscommunication between supply chain partners → information sheet by GS1 Belgium & Luxembourg
  - Alignment with solution providers

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Variable measure items at Point-of-Sale

Work Group pilots

- Phase: creating labels

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Variable measure items at Point-of-Sale

Work Group pilots

- Phase: scanning at POS
  - Positive feedback about performance of software/hardware and about the services of solution providers
  - Other stakeholders (e.g. stock inventory party) also on board
  - Handheld scanning: manageable because cashiers can be trained
  - Flatbed scanning: problems with multiple barcodes → ongoing discussion
    - In case of 1D + 2D barcode: delay/time-out in scanning system to only read the 2D and not both
    - In case of QR code + GS1 DataMatrix: change reading rules to only reading GS1 2D barcodes
    - In case of two 2D barcodes and system blocks: place handheld scanner as plan B and train staff
    - Bilateral agreement on placement of other 2D barcodes (+ involvement GS1)
      → but quid 360° scanning?
    - 'Digital link' (tomorrow's session)

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Variable measure items at Point-of-Sale

Work Group pilots

- General feedback
  - Worth the investment
  - Interested in 'Digital Link' – possible side pilot(s)
  - Will expand the pilots to more products (still variable measure), suppliers and stores
  - Waiting for GS1 to allow the use of 2D at POS for variable measure (two-way direction)

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Variable measure items at Point-of-Sale

Work Group pilots

- Next steps GS1 Belgium & Luxembourg
  - Next meeting of our (growing!) WG on 17th of January 2019 with
    - Supply chain
    - Marketing (for 'Digital Link')
    - GS1 Member Organizations
  - Keep measuring the implementation rate 2D in Belgium
  - Keep raising awareness and involving stakeholders
  - Work on GSMP work request GS1 2D Symbols at Point-of-Sale
    - General specification V19 – allowable as exception
    - 2D barcode accepted when there is a migration from a restricted circulation number to GTIN AND
    - If the GS1 Member Organization is responsible for the affected target market and the affected local distribution channel(s) have agreed on the usage

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Strategic Cooperation with Intergovernmental Organisations on Traceability - Cooperation with GS1 in Asia-Pacific

Mr. Patrik Jonasson, GS1 Global Office

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Strategic Cooperation with Intergovernmental Organisations on Traceability

Asian Development Bank cooperation for improved food chains in the Greater Mekong Sub-region

Cooperation with Intergovernmental Organisations

GS1 has strong cooperation with Intergovernmental Organisations – including:

- UN – United Nations
- EU – European Union
- APEC – Asia-Pacific Economic Cooperation
- WHO – World Health Organisation
- ADB – Asian Development Bank
- WB - World Bank
- ITC – International Trade Center

There are ongoing initiatives with all of these organisations that you may be aware of. Today I will focus on a specific initiatives on traceability with ADB.

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Context of Project

ADB's technical assistance supports the Core Agriculture Support Program Phase II, 2011-2020 of the Greater Mekong Sub-region

- The technical assistance' vision is for the region to be one of the **leading global suppliers** of safe environment-friendly **agriculture** products
- Intention to promote GIs and policies related to **traceability** and green water management (GWM)

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Traceability as part of ADB Policy Action Plan

Specifically **product traceability** is cited as an area of interest for the GMS countries to consider in the harmonization of standards

Table 3: Policy and Institutional Measures Action Plan

Output	2018	2019	2020	2021	2022
1. Harmonized standards, practices, and policies to facilitate production, trade, and investment in SEAP value chains	• Review GMS policies on SEAP • Identify good practices and codes of conduct • Policy review on NUE, GWM, PGS	• Formulate equivalence rules • Disseminate practices and codes of conduct • Draft policy on NUE, GWM, PGS	• Adopt harmonized standards • Adopt traceability rules • Revise policy drafts on NUE, GWM, PGS	• Expand harmonized standards • Strengthen traceability systems • Adopt policy on NUE, GWM, PGS	• Further expansion of harmonized SEAP standards • Recognition of laboratories • Regulations for NUE, GWM, PGS

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Strategic Opportunity

ADB is in a position to influence Government initiatives / policy, and boost industries with specific targeted support

- GS1 invited as advisor on traceability
- Profile of GS1 standards in the context of food supply chains raised among government officials
- GS1 positioning as **top of mind** supply chain standard
- **Understanding of traceability**, needs and benefits increasing among government as the project develops
- Especially in Ministries of Agriculture

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Overview

PURPOSE

- Developing the capacity of farmers, processors / manufacturers and distributers in the GMS agri-food supply chain

OBJECTIVE

- Strengthen local knowledge and **adoption of traceability** for agri-food products traded domestically and cross-border with GS1 barcoding

KEY ACTIONS

- Capacity building in **GS1 standards system for barcoding**; pilot project for selected strategic products and markets in the GMS region

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Cooperation with Industry

As always it is important to have the industry support when we are driving initiatives with Governmental organisations

Initiatives is being implemented in close cooperation with Food Industry Asia, the leading food industry association in the Asia-Pacific region

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How does this relate to the overall GS1 strategy

It is important to see how this initiative supports the overall traceability work of GS1

- For **traceability awareness** building; receiving endorsement is an important aspect, as it raises GS1's profile
- For the development of a new **traceability strategy**, implementation of GS1 standards for traceability purposes helps in terms of engagement tactics and development of "low tech" case studies

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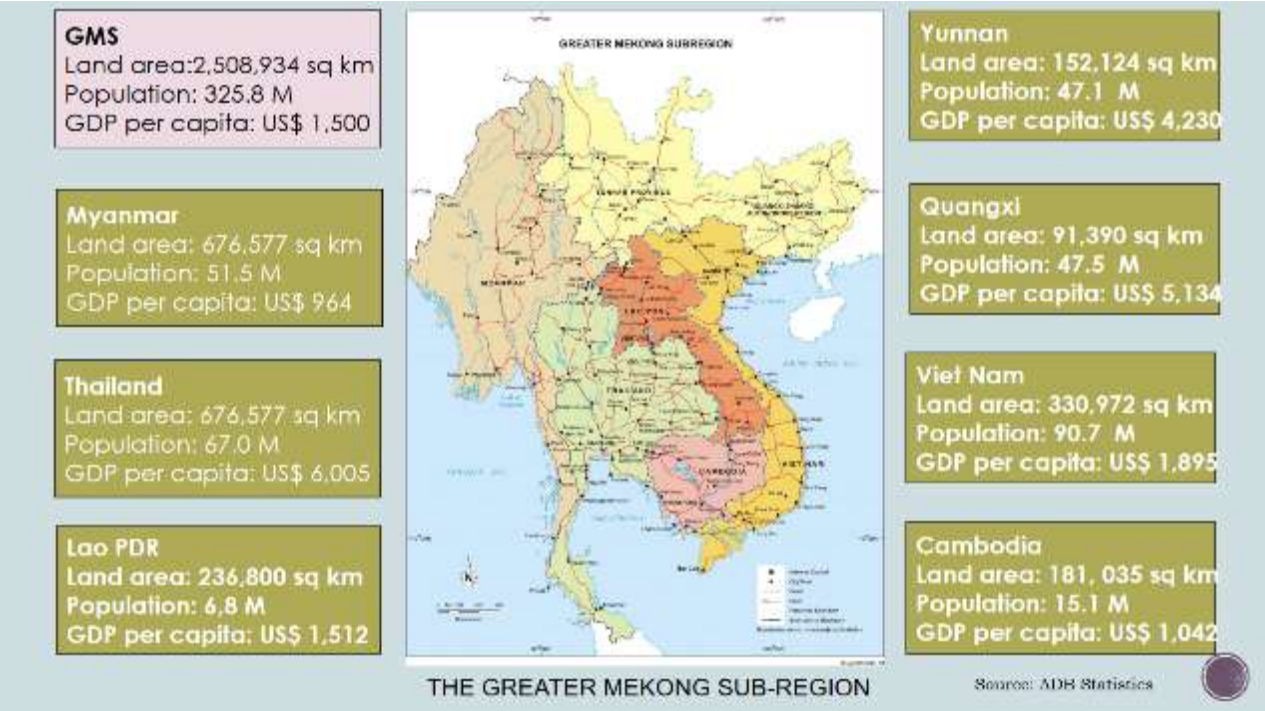
Greater Mekong Sub-region



GMS region includes

- *Myanmar, Cambodia,*
- *Laos,*
- *China (southern provinces),*
- *Vietnam*
- *and Thailand*

Source:http://www.unescap.org/sites/default/files/Session%202.2%20Private%20%26%20public%20sector%20collaboration%20for%20trade%20facilitation-innovative%20models%20%26%20solutions_O.%20Souyannavong.pdf

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We faced a tough task

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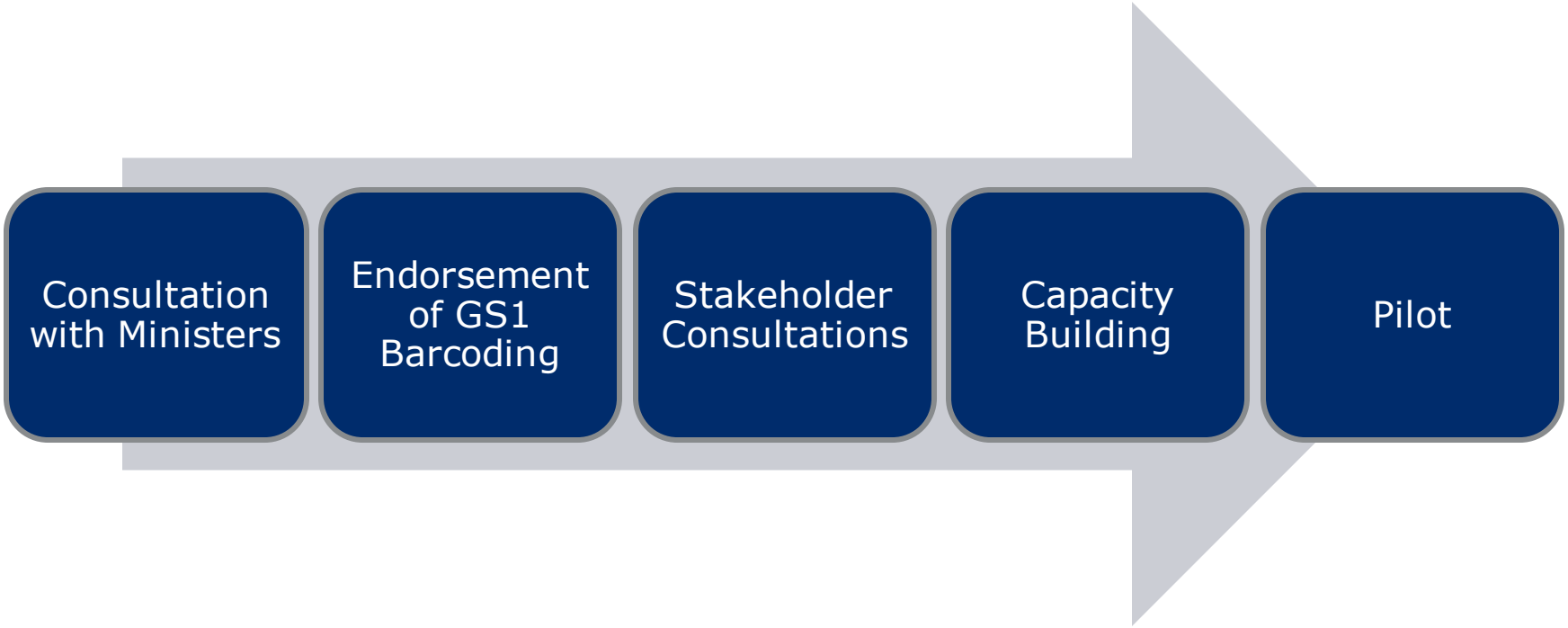
Process



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Process: Consultation with Ministers and Public-Private Roundtable

Consultation took place on the sidelines of The Agriculture Ministers' Meeting in Siem Reap, Cambodia, 6-8 September 2017

Consultation was Co-Chaired by:

H.E. Mr Veng Sakhon, Minister, Ministry of Agriculture, Forestry and Fisheries, Kingdom of Cambodia

Mr Ramesh Subramaniam, Director General, Southeast Asia Regional Department (SERD), ADB;

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Consultation with Ministers

Discussions on **food chain system** that is competitive; as well as the complement between a macro perspective of the **food safety culture** across the GMS, and more **micro-level efforts of training and capacity-building** within food safety systems

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Public-Private Roundtable

Public private dialogue facilitated by Asian Development Bank

Representatives from ADB, GS1,
Waters Corp.,
Coca Cola,
Cambodia, Laos and China Governments

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Agriculture Ministers Endorsed Recommendations for Four Initiatives

Proposed Initiatives

1. **Traceability**
   - Pilot GS1 barcode-based systems for facilitating and monitoring cross-border trade
   - Establish G2G, B2G and G2B data sharing
2. **Establish laboratory capacity building**—leadership, management and technical
3. **Start food safety risk communication**
4. **For further public-private dialogues:**
   - Strengthen national legislation/regulations
   - Promote harmonization of food safety standards

GMS: TOWARDS INCLUSIVE, COMPETITIVE AND SUSTAINABLE AGRICULTURE VALUE CHAINS

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In-country Stakeholder Consultations

Following the endorsement one-day stakeholder consultations were implemented for Cambodia, China, Laos, Myanmar and Vietnam

Objective: ensure the stakeholders' **understanding of the operational and technical requirements of traceability** for agri-food products

Participants: stakeholders in the entire supply chain from **farm to shelf** e.g., ministry of agriculture staff, retail companies, farmer groups, post-harvest operators, middle men, logistics, retail shops, exporters etc.

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Example of Stakeholder Consultation from Laos

Session opened by Ministry of Agriculture, with

Deputy Director General present and ADB Representative

Supported by GS1 Thailand, GS1 Laos and Global Office

Media coverage in Vientiane Times

Vientiane Times

Ministry to support barcode use to assist agri-food exports

Times Reporters

Representatives of the food industry, scientists, small and medium agro-entrepreneurs and farmers' cooperatives gathered in the capital on Friday to discuss the strengthening of agri-food products traceability.

The aim is to encourage the use of QR codes and barcodes for exported goods to allow traceability and ensure food safety.

The use of the barcode system has been introduced to identify agri-food products "from farm to shelf".

The issue was discussed at the first ever Stakeholder Consultation on Food Safety and Traceability held in Vientiane on Friday.

The consultation meeting was attended by the Deputy Director General of the Department of Planning and Finance under the Ministry of Agriculture and Forestry, Mr Savanh Hanephom.

This meeting was part of the follow-through activities of the Greater Mekong Subregion (GMS) Strategy and Action Plan for Safe and Environmentally-Friendly Agro-food Value Chains 2018-2022, endorsed by the GMS Ministers of Agriculture in Siem Reap, Cambodia, last

"Strengthening Agri-Food Product Traceability in Lao PDR Stakeholders Consultatio

Mr Savanh Hanephom (centre) addresses the meeting in Vientiane on Friday.

The GMS strategy helps Laos and other GMS countries to become leading suppliers of safe and environmentally-friendly agricultural products to domestic and international markets.

Among the issues discussed at the Food Safety and Traceability consultation was the need to ensure safety through the various stages of the value chain from production to processing and marketing.

Such a system can only be implemented with the active partnership of farmers and food producers, private sector entrepreneurs, and government,

regulations are in place, limited infrastructure and institutional capacity are barriers to adequate food safety.

Subsequent project activities include capacity-building training and a pilot implementation to test the barcode system.

"Farmers can produce good and safe agri-food products but foreign markets are demanding larger volumes of standardised and safe products," Mr Savanh told the meeting.

"As such, to ensure and certify the safety of products is important to access this demand."

important for consumers an exports. Barcode use can allow for inspection and traceabilit of products," Director of th Economic Integration Divisio under the Department o Planning and Cooperation o the Ministry of Agricultu and Forestry, Mr Vinoth Vann said.

"Generally in Lao only bigger companies u barcodes, but many small a medium enterprises are still r using them, so it is difficult them to export," he added.

He said small and media agro-entrepreneurs would encouraged to use barcode ease the export and traceabi of products.

Capacity Building

Following the stakeholder consultations 2 ½ day capacity building was implemented in the five countries training them on the foundations of the GS1 traceability system

- The capacity building conducted by GS1 Asia Pacific Mos
- Targeting farmers, traders, distributers and Ministry of Agriculture officials

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Capacity building structure - example of China

- Introduction of GS1 and GS1 China, GS1 Barcode history, GS1 standards
- Introduction of GS1 standard used in China;
- Barcode for retail and wholesale;
- Barcode for T&L and Traceability:
- 10 Step to Barcode Implementation;
- Introduction to Global Traceability Standard;
- Traceability Implementation and case study;
- Traceability operation requirements;
- Introduction traceability platform of GS1 China

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Cambodia capacity building at GS1 Thailand Knowledge Center

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Traceability Project Preparatory Actions

The stakeholder consultations and capacity buildings aimed to prepare stakeholders

Following stakeholder consultations and capacity buildings potential pilot routes and companies were reviewed and **Natural Garden in Cambodia** was selected as first pilot company

Natural Garden

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Deliver Lime

Collecting Lime into case

Storing Packed Case
in Cold Room

Loading Lime onto
Cold Chain Truck

Departure of Cold Chain Truck
from collection center

Arriving cold chain truck
at Natural Garden
BKK 1 site

Receiving at Natural Garden
BKK 1 Cold Storage

Natural Garden
Departure Natural Garden
BKK 1 Cold Storage

Receiving of product by
case ready to sell at
Natural Garden BKK 1
retail store

Traceability in the Natural Garden Supply Chain

- Produce Sourced in Svai Rieng
  - Supply from collective of farmers
  - SAC collection center manages processes well
  - Currently no scanning or identification
  - Currently no linkage

- Main challenge to change business processes at SAC collection center and Natural Garden
  - Need to avoid comingling of same type of product from different farms
  - Identification of each crate will be required with batch number and GTIN
  - Recording needs to take place at every step of supply chain

Traceability in the Natural Garden Supply Chain

- Completed actions
  - Specific staff training to change business processes at SAC and Natural Garden
  - Scanning and labeling
  - Mange stock take system
  - Exchange of traceability data

- Expected Benefits
  - Avoiding comingling supports better access to information on product quality (freshness) and food safety (contamination)
  - Stock take becomes more reliable
  - Future possibility to sell to modern trade
  - Linkage makes it possible to plan supply and demand chains
  - Traceability makes it possible to offer consumer complete product info

Next steps

- Pilot to start imminently
  - Projected to have five shipments

- Following the pilot we expect the company to be able to
  - Develop traceability as marketing tool
  - Marketing supported by ensuring quality/freshness and safety of product
  - Making Natural Garden more competitive in the local market
  - Be ready for traceability requirements in export markets
  - Be ready for barcoding requirements as modern retail trade develops in Cambodia

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What do we expect for GS1 after the pilot

Raised awareness of GS1 standards among government, and key industry groups

New funding cycle at ADB with potential for new suite of pilot projects

Promotion of GS1 standards in agri-food supply chains in GMS

Closer links to Ministries of Agriculture in the region

Opportunity for GS1 to be included as traceability partner in future projects

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Concluding remarks

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GS1 around the world

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GS1 Australia – supporting GS1 DataBar implementations

https://www.gs1au.org/WorkArea/DownloadAsset.aspx?id=2147485863

More information? Please contact Ms. Melanie Wishart melanie.wishart@gs1au.org

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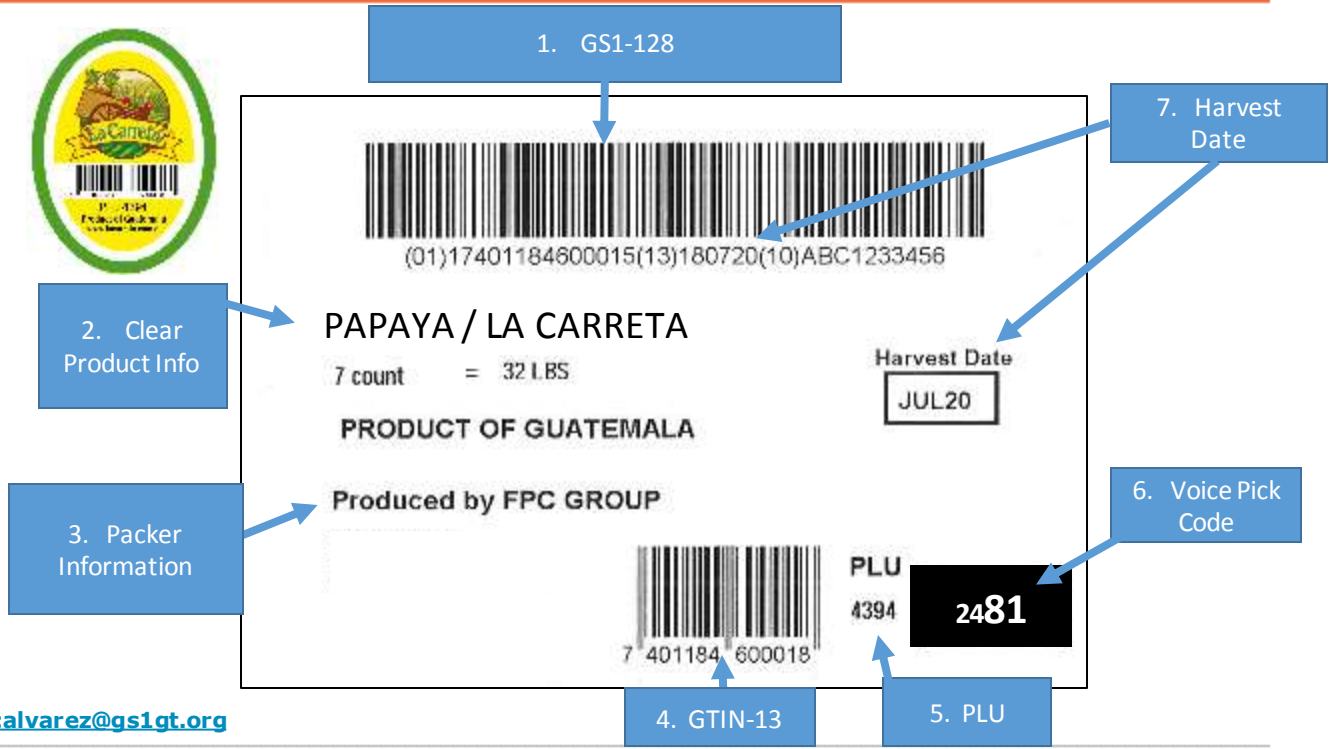
GS1 Guatemala – supports traceability for exported produce to global retailers

PTI MODEL: LA CARRETA

GS1 Guatemala supports a leading Guatemalan producer to begin use of a label created by the Produce Traceability Initiative (PTI) for use on Papaya Pawpaw for a global retailer



More information?
Please contact Mr. Carlos Alvarez calvarez@gs1gt.org

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GS1 New Zealand – The Sustainable Farming Traceability Project

"…Work has begun on a three-year project to investigate traceability within the industry. The project will lead to a series of reports and comprehensive industry guideline to assist in implementing best practice for the benefit of everyone from growers through to consumers."

"The focus is upon the attitudes and perceptions around traceability as well as practical impediments to achieving best practice. It is not about plants, equipment or expensive systems. Rather it is about testing the underpinning methodologies needed for a robust traceability system across an entire supply chain."

https://www.gs1nz.org/about-us/news/gs1nz-news/gs1-assist-major-fresh-produce-industry-initiative/

https://www.unitedfresh.co.nz/news-events/newsletters/united-fresh-secures-sustainable-farming-fund-for-traceability-project

More information? Please contact Mr. Owen Dance owen.dance@gs1nz.org

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GS1 US – launches a new tool developed with local user group

More information? Please see here

https://www.gs1us.org/industries/retail-grocery/standards-in-use/fresh-foods/fresh-foods-management-solution

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Please complete the session survey in the Event App!

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