THE GLOBAL LANGUAGE OF BUSINESS

GS1 INDUSTRY INITIATIVES AND PROGRAMS

ANGELA FERNANDEZ AND MICHELE SOUTHALL

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TOPICS TO COVER

- Industry Landscape

- The details of the solutions
  - The anatomy of a U.P.C. - what is a company prefix and GTIN
  - Anatomy of more complex barcodes- how AIs are used and deciphered
  - Brief overview of barcode types- ITF-14, GS1-128

- Overview and comparison of industry initiatives - how they fit together based on the types of data being shared
  - Produce Traceability Initiative (PTI)
  - Foodservice
  - Seafood
  - Dairy, Deli, & Bakery
  - mpXML Meat & Poultry

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http://www.gs1us.org/the-gs1-us-story

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THE GS1 COMPANY PREFIX

GS1 COMPANY PREFIX

- Assigned to the brand owner
- Used to create globally-unique identification numbers for:
  - Products (GTIN)
  - Inner Packs, Cases, and Pallets (GTIN)
  - Locations (GLN)
  - Assets (GRAI, GIAI)

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KEY CONCEPTS

- GS1 Member Organizations (MO's) assign GS1 Company Prefixes to their GS1 Members

- After receiving a GS1 Company Prefix, a company is ready to begin assigning unique identification numbers to their trade items, parties , locations, logistic units, assets, documents, and service relationships

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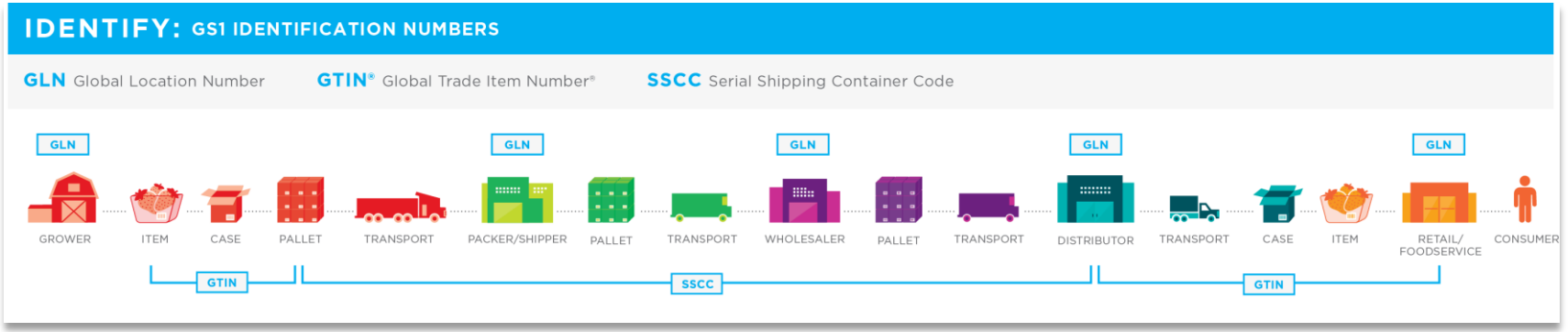
BIG BENEFITS FROM A SMALL NUMBER…

- When this powerful identification system is combined with GS1 Barcodes, EPC tags, eCom business messages, and the Global Data Synchronization Network™ (GDSN®), the connection is made between the physical items in the supply chain and the information about them.

- With the connection made, one world of global commerce comes into view.



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WHAT IS A GLOBAL TRADE ITEM NUMBER (GTIN)?

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WHAT IS A GTIN?

- GTIN = Global Trade Item Number
- A globally unique 8, 12, 13, or 14-digit number that uniquely identifies products and services
- An identification number of the GS1 System, therefore unique and unambiguous
- A global standard for collaborative commerce
- A 12-digit GTIN is encoded in a U.P.C.
- A 14-digit GTIN is encoded in a GS1-128 barcode

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GTIN ASSIGNMENT RESPONSIBILITY

- The brand owner determines how to assign GTINs
- The receiver (packer, wholesaler/distributor or retailer) depends on the grower/supplier or brand owner to ensure uniqueness
- Contract suppliers obtain GTIN from brand owner

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CREATING A GTIN-14 FOR CASES

1. **Indicator Digit:**
   - 1 digit in length; can use any number between 1-8
   - In example: 1
2. **GS1 Company Prefix:**
   - 7-10 digits in length
   - Assigned by local GS1 organization
   - In example: 0764141
3. **Item Reference Number:**
   - 1-5 digits in length – determined by your GS1 Company Prefix
   - Assigned by the grower/packer/shipper or Brand Owner
   - In example: 23462
4. **Check Digit:**
   - 1 digit, last digit
   - Calculation based on previous digits (www.gs1us.org/checkdig)
   - In example: 1

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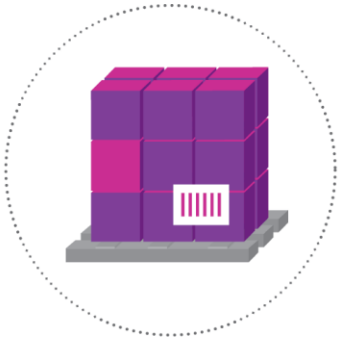
GTIN ASSIGNMENT FOR ALL PACKAGING LEVELS



ITEM

BARCODES

Carries a Global Trade Item Number® (GTIN®)

EAN/UPC

GS1 DataBar™
Stacked Omnidirectional

CASE

ITF-14

Carries a GTIN

OR

GS1-128

Carries a GTIN with extended data, such as Batch/Lot Number

PALLET

ITF-14

Carries a GTIN

OR

GS1-128

Carries a GTIN or Serial Shipping Container Code (SSCC)

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1 GTIN – 2 ROLES

- **Physical**
  - Encoded in barcodes – unique identity
  - Scanned at point-of-sale, warehouses, etc. – accurate data capture
  - GTIN drives applications

- **eCommerce**
  - Intra-company: Stored in product masters to uniquely identify items

  - Registered in a GDSN Data Pool and synchronized between trading partners
  - Used in ongoing EDI and GS1 XML transactions between trading partners, e.g., purchase orders, invoices, advanced ship notices, etc.

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CAPTURE UTILIZING THE GS1-128 BARCODE

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GS1-128 BARCODE

Summary

- Encodes ***all*** of the GS1 Identification Numbers and all additional GS1 Application Identifiers up to 48 characters
- Items marked are ***not*** intended to be scanned at retail point-of-sale (POS)

Usage

- Used on standard trade items, locations, logistic units, and assets in the supply chain
- Uniquely identifies trade items or assets in cartons, inner packs, cases, pallets or locations
- Through the use of AIs, it can be used to share batch/lot number, serial number, expiration and best before dates, physical locations and entities, etc.

Benefits

- Enables fast and accurate tracking of non-consumer trade items and other specific data in the supply chain
- Ability to share additional information using over 100 different GS1 Application Identifiers to meet specific requirements, such as the Produce Traceability Initiative (PTI).

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STRUCTURE: GS1-128 BARCODE SYMBOLOGY

Step 1: Indicator Digit

- Step 1 **(Indicator Digit)**
  - This step creates the indicator digit for the GTIN-14 data structure. Numerals 1-8 are available to create up to eight different levels of packaging for the GTIN-12 ID number that represents the unit level. In this example, an indicator of 1 is used in the first position to represent a level of packaging such as an inner pack or case that is above the unit level that relates to the unit level.

Step 2: GS1 Company Prefix

- The GS1 Company Prefix of 0614141 fills positions two through eight.

Step 3: Item Reference

- The Company Prefix and the company assigned reference number for a GTIN-14 data structure will always equal twelve digits. The GS1 Company Prefix in this example is seven digits, so the assigned item reference number must equal five digits. In the example, 54321 will be used as the company assigned item reference number and fills positions nine through thirteen.

Step 4: Check Digit

- Position fourteen is reserved for a check digit for the entire GTIN. Bar code printing software creates the check digit from the preceding thirteen digits. In this example, the calculated check digit 9 is placed in position fourteen. A check digit calculator is available on the GS1 US website at http://barcodes.gs1us.org/dnn_bcec/Default.aspx?tabid=85.

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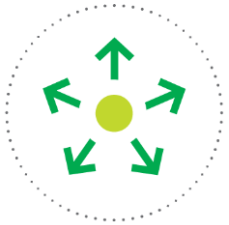
SHARE: GS1 INTERFACE STANDARDS FOR ELECTRONIC COMMERCE



INTEROPERABILITY

Allows electronic commerce information to flow through the supply chain

PRODUCT MASTER DATA

GDSN®
Global Data Synchronization Network™

The GDSN connects trading partners to the GS1 Global Registry® via GS1-certified Data Pools, enabling the immediate electronic sharing of standardized, up-to-date, accurate, product information.

WHAT GOES INTO IT

- GTINs
- Brand Owner Identification
- Product Descriptions
- Product Classification

TRANSACTIONAL DATA

EDI
Electronic Data Interchange

EDI enables the computer-to-computer exchange of structured information between companies using a standardized format.

WHAT GOES INTO IT

- GTIN
- GLN
- SSCC
- Purchase Order
- Delivery Notification
- Invoice
- Payment

PHYSICAL EVENT DATA

EPCIS
Electronic Product Code Information Services

EPCIS is the standard for sharing information about Critical Tracking Events in the physical world.

WHAT GOES INTO IT

- GTIN
- GLN
- Date & Time Stamp
- Business Step

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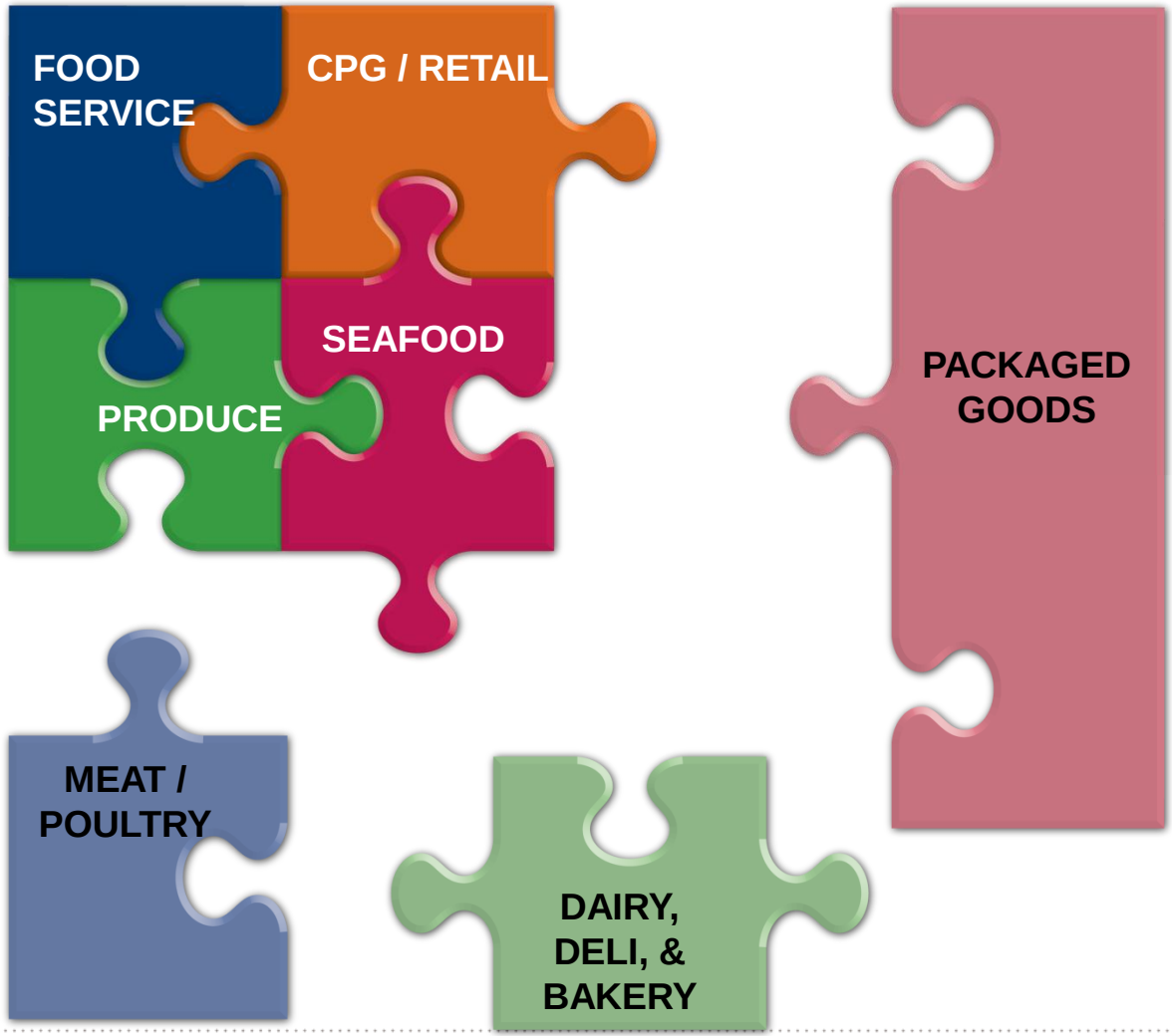
ALIGNING THE FOOD SUPPLY CHAIN



Aligning the food sectors so we can all do business one way, with a single approach

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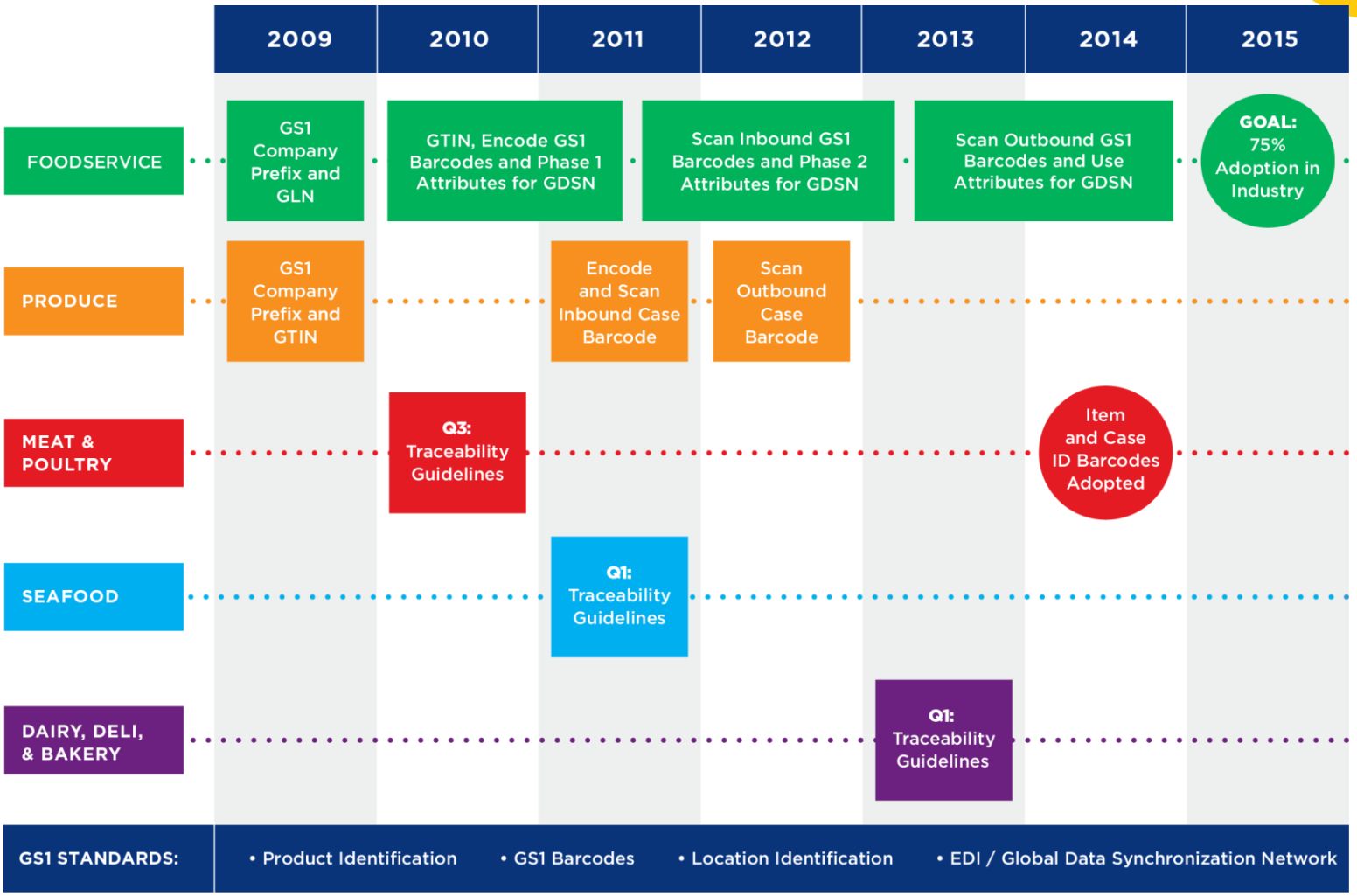
US INDUSTRY-SPECIFIC PROGRAMS



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Questions?

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