

Produce Identification, Barcoding and Traceability

Antitrust Caution

GS1 US is committed to complying fully with antitrust laws.

We ask and expect everyone to refrain from discussing prices, margins, discounts, suppliers, the timing of price changes, marketing or product plans, or other competitively sensitive topics.

If anyone has concerns about the propriety of a discussion, please inform a GS1 US[®] representative as soon as possible.

Please remember to make your own business decisions and that all GS1 Standards are voluntary and not mandatory.

Please review the complete GS1 US antitrust policy at:
www.gs1us.org/gs1-us-antitrust-compliance-policy

Presenters



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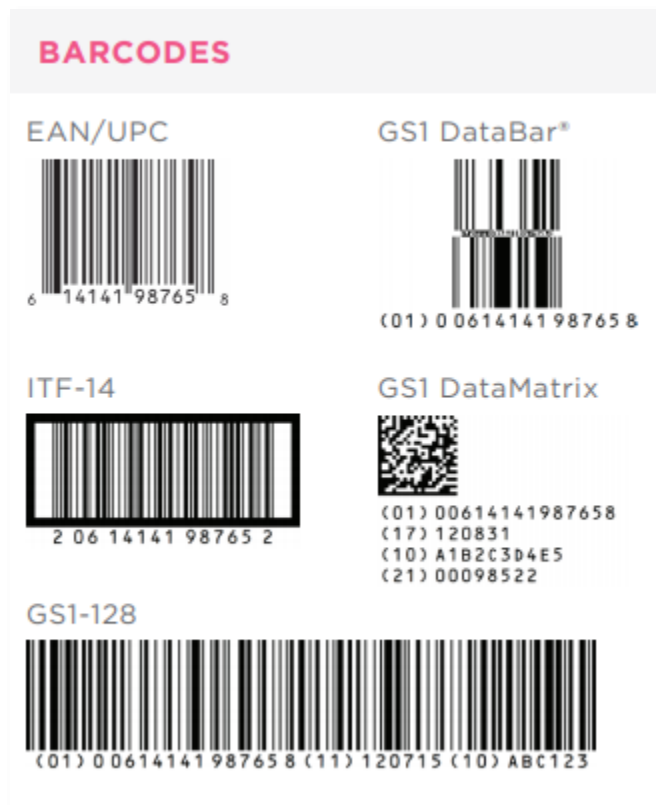


Jane Proctor
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(CPMA)
Canada

Agenda

- Introduction – Why a Webinar about Barcodes?
 - Relationship with Traceability
- Why You Need a Global Trade Item Number™ or GTIN®
- Barcode Benefits, Uses and Differences
- How to Get Started with The Produce Traceability Initiative
- Additional Resources

Why a Webinar About Barcodes?



- So many kinds
- Different types of information in each
- Different uses and applications

Relationship with Traceability



**Trust starts and grows
with visibility.**

- Barcodes are one way to communicate information to trading partners
- Barcodes can carry traceability information

The only way businesses big or small
can move forward is to work together.

They need to be able to understand
each other, anywhere in the world.

**Business requires a common language,
and barcodes are just the beginning...**

*Why You Need a
Global Trade Item Number™?
GS1 Standards in Produce*

Identify: The Foundation

GS1 Company Prefix

- Issued to the company (could be U.P.C. Company Prefix)
- Used to create globally unique identification numbers for:
 - Products (GTIN®)
 - Inner Packs, Cases, and Pallets (GTIN)
 - Locations (GLN)
 - Assets (GRAI, GIAI)



U.P.C. Company Prefix →							← Item Reference				Check Digit
N ₁	N ₂	N ₃	N ₄	N ₅	N ₆	N ₇	N ₈	N ₉	N ₁₀	N ₁₁	N ₁₂

GS1 Identification Numbers



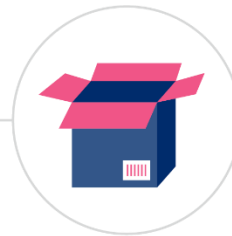
GS1 Standards begin with **GS1 Identification Numbers** used to uniquely distinguish all products (trade items), logistics units, locations, assets, and relationships across the supply chain from manufacturer to consumer.

Company	Location	Assets
Global GS1 Company Prefix GLN Global Location Number	GLN Global Location Number	GIAI Global Individual Asset Identifier GRAI Global Returnable Asset Identifier
Product	Logistics	Services and Other
GTIN* Global Trade Item Number* EPC*/SGTIN Serialized Global Trade Item Number	SSCC Serial Shipping Container Code GSIN Global Shipment Identification Number	GSRN Global Service Relation Number GDTI Global Document Type Identifier

Capture: GS1 Barcodes (Data Carriers)



GS1 Data Carriers are capable of holding varying amounts of data to accommodate different needs such as Batch/Lot information and expiration dates.



Item
EAN*/UPC Carries a Global Trade Item Number* (GTIN*)



Or

**GS1 DataBar®
Stacked Omnidirectional**
Carries a GTIN



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)



Share: GS1 Data Exchange



Interoperability, made possible by identification standards, data capture standards, and **data exchange standards**, allows product information to flow through the supply chain.

Product Master Data	Transactional Data	Physical Event Data
<p>GDSN[®] Global Data Synchronization Network™</p> <hr/> <p>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 information.</p>	<p>EDI Electronic Data Interchange</p> <hr/> <p>EDI enables the computer-to-computer exchange of structured information between companies using a standardized format.</p>	<p>EPCIS Electronic Product Code Information Services</p> <hr/> <p>EPCIS is the standard for sharing information about the movement and status of goods in the physical world.</p>
What Goes Into It	What Goes Into It	What Goes Into It
<ul style="list-style-type: none"> • GTINs • Brand Owner Identification • Product Descriptions • Product Classification 	<ul style="list-style-type: none"> • GTIN[®] • GLN • SSCC <p>EDI Document Types</p> <ul style="list-style-type: none"> • Purchase Order • Advance Ship Notice • Invoice • Payment 	<ul style="list-style-type: none"> • What GTIN • Where GLN • When Date and Time Stamp • Why Business Step and Product Disposition

GS1 Standards – Global Language of Business

Identify: GS1 Identification Numbers

GLN Global Location Number **GTIN**® Global Trade Item Number® **SSCC** Serial Shipping Container Code



Capture: GS1 Data Carriers

Barcodes

EAN®/UPC



GS1 DataBar®
Stacked Omnidirectional



GS1 DataMatrix



ITF-14



GS1-128



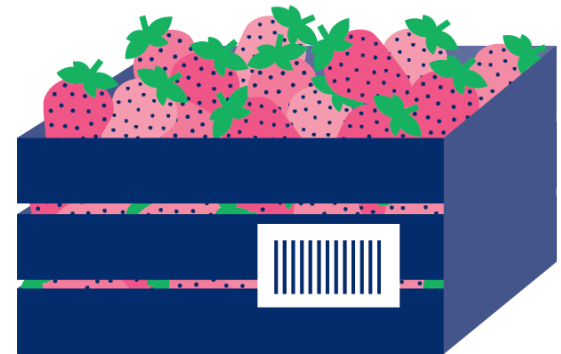
Share: GS1 Data Exchange

Product Master Data Global Data Synchronization Network™ (GDSN®) **Transactional Data** Electronic Data Interchange (EDI) **Physical Event Data** EPC Information Services (EPCIS)



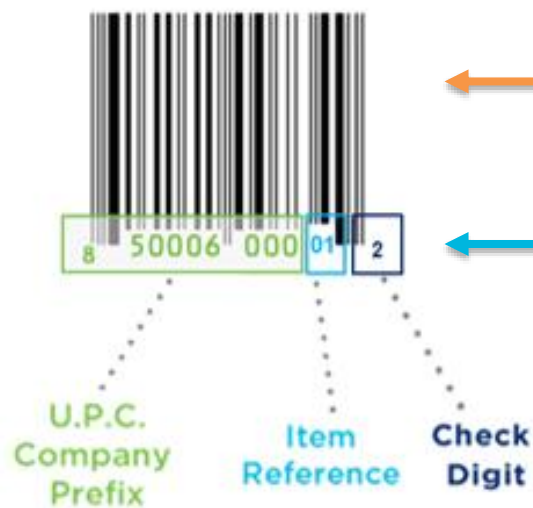
What is a GTIN®?

1 Product = 1 GTIN



Barcodes: Benefits, Uses and Differences

UPC-A / GTIN-12



Data Carrier
(UPC-A Barcode)

Data Structure
(GTIN-12)

EAN / GTIN-13



GS1 Company Prefix

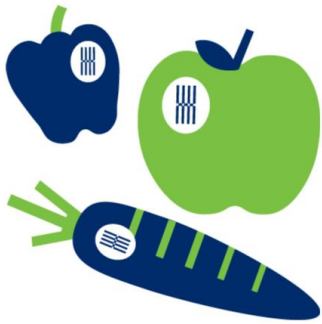
Item Reference

Check Digit







- Encodes only the Global Trade Item Number™ (GTIN®)
 - GTIN-12, GTIN-13, or GTIN-8
- Point-of-Sale (POS) scanning
 - POS scanners are optimized for EAN/UPC
- Omni-directionally readable
- Enables fast and accurate tracking of retail consumer trade items in the supply chain

GS1 DataBar



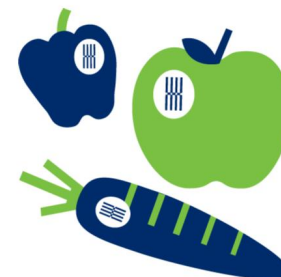
GS1 DataBar

Retail Point-of-Sale Applications (2014)

GS1 DataBar Omnidirectional	GS1 DataBar Stacked Omnidirectional	GS1 DataBar Expanded	GS1 DataBar Expanded Stacked
 (01) 0 0614141 99999 6	 (01) 0 0614141 99999 6	 (01) 0 0614141 99999 6 (10) ABC123	 (01) 0 0614141 99999 6 (10) ABC123
GTIN only	GTIN only	GTIN + other data (using AIs)	GTIN + other data (using AIs)

Non-Retail Point-of-Sale Applications

GS1 DataBar Limited	GS1 DataBar Truncated	GS1 DataBar Stacked
 (01) 0 0614141 99999 6	 (01) 0 0614141 99999 6	 (01) 0 0614141 99999 6
GTIN only	GTIN only	GTIN only



GS1-128 Barcode - Foundation for Visibility

When using a GS1-128 barcode, Application Identifiers (AIs) are encoded for scanning purposes. AIs are flags that precede each piece of data in a barcode to identify its meaning and format.

GS1-128 provides the ability to string together additional fields of information:

(01) precedes a GTIN (14522144000003)

(13) precedes Packaging Date (YYMMDD) (190111)

(10) precedes Batch/Lot Number (ABC123)



(01)14522144000003(13)190111(10)ABC123

Watermelon, Red Seedless
24" Bin 36 Count

5622

How to Get Started with the Produce Traceability Initiative (PTI)



The PTI vision: Supply chain-wide adoption of electronic traceability

Start Here for PTI Success

The Produce Traceability Initiative (PTI) outlines [7 milestones](#) to implementing case-level electronic traceability in the produce industry. On this website you will find the [tools and resources](#) you need to implement PTI requirements within your company. If you're just getting started with PTI implementation, check out the GS1 US company prefix pricing information [here](#) and take a look at the milestone-specific resources [here](#).

Next Step: PTI Checklists

If you're already on your way with PTI implementation, here are two checklists to help you facilitate further progress: [Checklist for growers/packers/shippers](#) and [Checklist for receivers/buyers](#).

Join the PTI Buyer Working Group!

To address the remaining implementation challenges for the PTI, the Leadership Council is calling on all buyers supporting the initiative to join the newly forming PTI Buyer Working Group. Learn more [here](#).

PTI Webinar: Produce Identification, Barcoding and Traceability

Do you know which barcode is the right one for your products? [Join us on September 26](#) at 2PM ET to get the answers from industry leaders who have been spearheading the PTI.

Ocean Mist Farms Implements PTI Best Practices

Learn about Ocean Mist Farms's implementation of PTI best practices, and what benefits the business has realized from this work. [Click here](#).

The PRODUCE TRACEABILITY INITIATIVE

Resources & Tools

In an effort to implement the Produce Traceability Initiative as outlined in the Action Plan, the following Resources & Tools are available to provide comprehensive background information on each of the steps and best practices to assist the industry in accomplishing the milestones.

[Making the Case for PTI](#)

[Calculators, Checklists & Scorecards](#)

[Best Practices](#)

[Case Studies & Pilot Test Findings](#)

[Guides](#)

[Data Synchronization](#)

Making the Case for PTI

[Traceability Frequently Asked Questions](#)

[SPANISH - Preguntas Más Frecuentes Sobre Trazabilidad de Frutas y Vegetales Frescos](#) 

[7 Milestones to PTI Implementation](#)

["About the PTI" Flyer](#) (September 2011)

[PTI Traceability Frequently Asked Questions](#)

[Produce Traceability Initiative versus DataBar](#)

[Produce Traceability Initiative eLearning Course](#)

Flash plug-in required for viewing. [Disponible en español.](#)

[PTI Industry Presentation Made at Hunts Point Produce Terminal Annual Meeting](#)

[PTI Industry Presentation Made at Premier Apple Marketing Cooperative Annual Forum](#)

E-Learning Module

E-learning modules: Product Identification and Traceability in the Fresh Produce Industry

English: [Product Identification](#), [Traceability](#)

French: [L'identification](#), [La traçabilité](#)

Webcasts

[Implementing PTI: Best Practices for Produce Brokers](#)

Recorded on: April 5, 2012

[Implementing PTI: Best Practices for Repacking and Commingling](#)

Recorded on: March 27, 2012

[Implementing PTI: Best Practices for Hybrid Pallet Labeling](#)

Recorded on: November 1, 2011

[Implementing PTI: Best Practices for Retailers](#)

Recorded on: October 6, 2011

[Implementing PTI: Best Practices for Case Labeling](#)

Recorded on: September 20, 2011

The PRODUCE TRACEABILITY INITIATIVE

Best Practices


The following documents were created to assist the industry in voluntary implementation of the PTI and may not reflect all business or regulatory requirements in the marketplace. Users are reminded to ensure that your organization is familiar with all requirements in your target market(s).

Best Practices for Formatting Case Labels (June 2019) 

SPANISH - Ocean Mist Farms Implements PTI Best Practices 

Learn about Ocean Mist Farm's implementation of Produce Traceability Initiative (PTI) best practices, and what benefits the business has realized from this work.

Best Practice for Use of Hybrid Pallet Labels by Receivers (October 2014) 

Best Practices for Formatting Hybrid Pallets Labels (October 2014) 

Best Practices for Private Label/Brand (September 2016) 

Best Practices for Repacking/Commingling (March 2012) 

Best Practice for Produce Brokers (March 2012) 

Best Practices for Direct Print (February 2012) 

Best Practices for Preparing to Assign GTINs (January 2012) 

SPANISH - Best Practices for Preparing to Assign GTINs (January 2012) 

Best Practices for Product Substitutions (January 2012) 

Best Practices for Cross Docking (December 2011) 

SPANISH - Best Practices for Cross Docking (December 2011) 

Implementing PTI: Best Practices for Packer/Shippers

Recorded on: September 7, 2011

PTI's 5 Ws (and 1 H): Who, What, When, Where, Why and How

Recorded on: August 29, 2011

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Guides


Guidance for Sharing Traceback Data (September 2015) 

Guidance for GLN Assignment (September 2015) 

Fruit and Vegetable GTIN Assignment Implementation Guideline
(January 2014) 

This guide issued by GS1 provides guidance on how to assign a Global Trade Item Number (GTIN) and when to assign a new GTIN.

Guidance on Benefits of Advance Ship Notice versus Hybrid Pallet Labels (November 2013) 

Why and How to Use EDI 856 Advance Ship Notice/Manifest Transaction (October 2012) 


Guidance on Choosing a Technology Provider (February 2012) 

GS1 Global Fruit & Vegetable Traceability Implementation Guide
(May 2010) 

This guide documents best practices for implementing traceability in the fresh produce industry and is intended for those responsible for implementing traceability in their company's operations across the entire produce supply chain. It updates and replaces the CPMA/PMA Fresh Produce Traceability Guide to Implementation v2 (October 2006).

Data Synchronization

Best Practices Data Synchronization (March 2012) 


Data Synchronization: Grade Codes (February 2012) 

Data Synchronization: Commodity and Variant Codes (February 2012) 

Data Synchronization: Growing Method Codes (February 2012) 

Data Synchronization: Units of Measure Codes (February 2012) 

Data Synchronization: Package Type Codes (February 2012) 

Data Synchronization: Country of Origin Codes (February 2012) 

Data Synchronization: Worksheet Example (February 2012)

Data Synchronization Template (February 2012) 

Calculators, Checklists & Scorecards

PTI Online Scorecard

Scorecard PDF Form

Receivers/Buyers PTI Scorecard Report (August 2015)

Growers/Packers/Shippers PTI Scorecard Report (August 2015)

PTI Checklist for Receivers/Buyers (April 2012)

PTI Checklist for Growers/Packers/Shippers (April 2012)

Voice Pick Code Calculator (Source: HarvestMark)

This tool will calculate four-digit voice pick codes for PTI-compliant case labels.

GTIN Check Digit Calculator (Source: GS1 US)

Note this link will redirect you to the GS1 US website; use the check digit calculator for the PTI-compliant 14-digit GTIN.

PTI - 7 Milestones

1. Obtain Company Prefix
2. Assign GTINs
3. Provide GTIN information to Buyers
4. Show human readable information on cases
5. Encode information in a barcode
6. Read and store information on inbound cases
7. Read and store information on outbound cases

www.producetraceability.org

Produce Identification Resources



Produce Identification



The Produce Identification [e-learning module](#) will help you understand produce identification in the supply chain using barcodes and identification numbers.

Visit the ProduceTraceability.org/resources to learn more.

Industry & GS1 Global Guidance

The global fresh fruit & vegetable industry has a long history of collaboration with GS1 and have developed the following guidance documents to help industry in their efforts.

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

[Fresh Foods Implementation Guidelines](#)

Thank you from the Produce Traceability Initiative



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