

# Produce Traceability Initiative Why and How to Use EDI 856 Advance Ship Notice/Manifest Transaction Set (ASN)

(Revision 1.2)

## About this Guidance Document

*Guidelines* are generally accepted, informally standardized techniques, methods, or processes that have proven themselves over time to accomplish given tasks. The idea is that with proper processes, checks, and testing, a desired outcome can be delivered more effectively with fewer problems and unforeseen complications. In addition, a guideline can evolve to become better as improvements are discovered. The Produce Traceability Initiative (PTI) is a voluntary U.S. produce initiative. The guidelines are the recommendations created and agreed to by all facets of the produce industry supply chain and PTI Leadership Council.

Consent between trading partners may replace specific recommendations as long as the minimum traceability information requirements are met in good faith.

## Revision History

This section itemizes the changes from the last published Guidance Document.

Version No.	Date of Change	Changed By	Summary of Change
1.0	October 2012	Master Data Working Group and Technology Working Group	Original document
1.1	June 2020	Technology Workgroup	EDI section updated
1.2	April 2024	Technology Workgroup	EDI section updated, added FSMA 204 language

\* Source: All references to ASN or EDI 856 refer to X12's Supply Chain Transaction Standards.  
For more information refer to [x12.org/products/transaction-sets](http://x12.org/products/transaction-sets)



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## Objectives

The objectives for this guidance document developed by industry participants of the Produce Traceability Initiative (PTI) are to:

Explain what an Electronic Data Interchange (EDI) Advance Ship Notice (ASN) is and why companies may choose to implement it

- Outline business benefits derived from the use of an ASN
- Detail how the ASN can be used to facilitate capturing the Global Trade Item Number or GTIN and corresponding Batch/Lot Numbers with only one pallet barcode; and
- Provide specifications for how to implement an EDI 856 Advance Ship Notice for produce shipments.
- Address the use of EDI 856 (ASN) to help meet FSMA 204 Shipping CTE requirement.

### **Table 1: Terms/Definitions**

Listed below are terms used by the produce industry and their cross-references with the GS1 Glossary of Terms:

Sector Term	GS1 Glossary Term	Definition
	Advance Ship Notice/Manifest (ASN)	An Electronic Data Interchange (EDI) transaction that provides the receiving company with advanced data on shipments to better plan workloads and receipt processing. In the implementation of the transaction, the latest the ship notice may be sent is the time of shipment. In practice, the shipping notice must arrive before the shipment.
	Bill of Lading	A legal document between the shipper of a particular good and the carrier detailing the type, quantity, and destination of the good being carried. The bill of lading also serves as a receipt of shipment when the good is delivered to the predetermined destination. This document must accompany the shipped goods, no matter the form of transportation, and must be signed by an authorized representative from the carrier, shipper, and receiver.
	Brand Owner	The one who owns or has legal rights to the Label/Brand.
Buyer	(See Trading Partner)	This term is used to refer to the trading partner who issues an order to the supplier. This party can be a retailer, a distributor, or a re-distributor.
	Electronic Data Interchange (EDI)	A standard format for computer-to-computer transmission of business information and transactions between trading partners, such as invoices and purchase orders.
	Global Trade Item Number® (GTIN®)	The globally unique GS1 System identification number for products and services. A GTIN may be 8, 12, 13, or 14 digits in length. The GTIN-14 has been selected for use in the PTI.
Label/Brand	(See Brand Owner)	The name or trademark connected with a product or marketer.

Private label/brand	(See Brand Owner)	These products typically are manufactured, packed or provided by one or more companies for offer under a brand, which is owned, by a company other than the manufacturing or producing company.
	Serial Shipping Container Code (SSCC-18)	The term used for the Serial Shipping Container Code. The unique identification of a logistic unit using an 18-digit data structure
Supplier	(See Trading Partner)	The trading partner who receives an order from a buyer and ships it. This party can be a grower, a distributor, or a re-distributor.
Traceability Lot Code (TLC)		A descriptor, often alphanumeric, used to uniquely identify a traceability lot within the records of the traceability lot code source. This is similar to what industry currently refers to as a 'lot' or 'lot code'.  For the purposes of FSMA 204, GTIN+batch/lot number is used to represent the Traceability Lot Code. Once a TLC is assigned, it must stay the same as the food moves through the supply chain; it can only be changed if the food is transformed.
Traceability Lot Code (TLC) Source		The physical location where a food was assigned a traceability lot code. In certain situations, the Food Traceability Rule requires documentation of either the location description for the traceability lot code source or the traceability lot code source reference.
Traceability Lot Code (TLC) Source Reference		An alternative method for providing the FDA with access to the location description for the traceability lot code source. Examples of a traceability lot code source reference include but are not limited to, the FDA Food Facility Registration Number for the traceability lot code source or a web address that provides FDA with the location description for the traceability lot code source.
	Trading Partner	A party to transactions in the supply chain, such as a supplier (seller) or a customer (buyer).

## What is an ASN?

The EDI Advance Ship Notice/Manifest or ASN provides order and shipment information in one electronic transaction sent from the shipper to the receiver. While the ASN is similar to a Bill of Lading (BOL) and even carries much of the same information, it has a much different function. The BOL is meant to accompany a shipment along its path.

An ASN is intended to provide its information in advance of the actual shipment arriving at its destination.

The value of the ASN comes from receiving it before the actual shipment. This tends to impact the logistics stream in these areas: cost, accuracy, flexibility, operational efficiency, and interoperability.

- **Cost** - Today's receiving systems are designed as fast-moving environments where there is little time to open and breakdown cases for manual receipt or verification of contents against paperwork. Instead, these systems depend on the scanning of barcodes from shipping labels. ASNs, which include Serial Shipping Container Codes (SSCC), provide the contents of each pallet, including the GTIN, corresponding Batch/Lot Numbers, and the quantity of each GTIN and Batch/Lot Number combination on the pallet. This greatly increases the speed of the receiving process as what is captured from reading the SSCC from each pallet can be matched to the information previously sent in the ASN. The ASN also provides quantities and contents that allow for the receipt and put away of the goods. Receiving costs are thought to be reduced by about 40% when using ASNs.
- **Accuracy** - Upon receipt of the ASN, the receiver is immediately informed of any difference between what was ordered, and what was actually shipped. (including substitutions).
- **Flexibility** - Knowing the actual fill rates ahead of receiving the orders allows the recipient to reallocate goods in subsequent outbound shipments.
- **Operational Efficiency** – Enabling warehouse staff to process and unload truck quicker because they received all shipment information ahead of arrival.
- **Interoperability** – By using EDI, information can be shared across multiple environments and systems.

## **Benefits of implementation of the ASN**

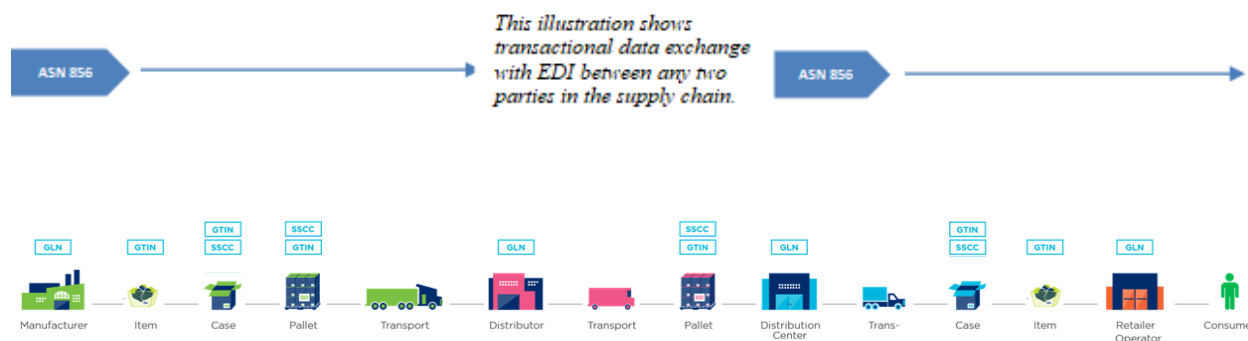
The following are potential benefits from the use of ASNs:

- Eliminates the need for paper-based communications
- Enables automatic capture of the GTIN and Batch/Lot Numbers of each case
- Ensures accuracy between product shipped and product received
- Reduces off-loading time at receiving dock
- Reduces check-in time from receipt to selling floor
- Facilitates the cross-docking process.
- Allows for advance order allocation.
- Facilitates mechanized receiving.
- Allows for integration of data to multiple systems without multiple data entry.
- Allows for resource scheduling by the receiver.
- Promotes the ability to plan space allocation for items put away.
- Streamlines the payment process by facilitating accurate matching.
- Improved order cycle times
- Higher in-stock rates
- Improved inventory turn
- Helps meet FSMA 204 Shipping CTE Requirements regardless of the EDI version used.

## What information is contained in an ASN?

Specific details about a shipment are contained in the ASN message such as an SSCC for each pallet, the Qty of each combination of GTIN, batch/lot, and pack/harvest date, order information, physical characteristics, product descriptions, and carrier. The document will also contain marking, packaging information, and configuration of goods in the transportation equipment. There are many data elements, which can be included in an ASN. The actual elements passed will be determined by the recipient of the message.

Specific existing attributes have been identified to address FSMA 204 required KDEs within the ASN. These are detailed in the [GS1 US EDI Recommendation for FSMA 204 CTEs](#) document.



Source: GS1US

## **WHY IS IT IMPORTANT TO TRADING PARTNERS?**

ASNs can eliminate time and labor in the receiving and reconciliation process. Suppliers provide accurate fulfillment information/data, which can save significant time not only for trading partners but also in internal accounting systems. Electronic documents mean shipping, purchase order, and invoice processes can be programmatically reconciled. This automation contributes to accurate visibility among trading partners, as electronic systems generate and share data much more efficiently.

Use of an ASN is the preferred method of identifying pallet content information efficiently. because the ASN arrives in advance of the shipment, it also gives the receiver what to expect in the delivery. Receiving this information in advance allows for receipt preparation, possible GTIN substitutions, notification of unavailability of items ordered, pre-placement of items into inventory bins, or details their next step in the supply chain.

The use of the ASN also makes it possible to be aware of discrepancies in the GTINs not previously communicated to the receiver to be resolved before the shipment arrives on the dock. This resolution will ensure receiving runs smoothly and efficiently.

The use of ASNs helps streamline the receiving process by preventing the need to manually scan each case at receiving which can create errors and delays.

ASNs can be used to electronically capture shipping data for regulatory requirements such as FSMA 204.


**WHY USE OF THE ASN IS THE MOST EFFICIENT OPTION TO CAPTURE/SHARE GTIN AND BATCH/LOT NUMBER FROM EACH CASE ON THE PALLET**

For FSMA 204, GTIN + batch/lot number is used to represent the TLC (see glossary for more information).


The most efficient way to capture and share GTIN and batch/lot number information from each case being received is by can be achieved as explained below.

Use of the ASN and a GS1 Logistics Label containing a single SSCC. This is the fastest, easiest, and most efficient approach. The receiver will only need to scan the data carrier containing the SSCC on the pallet label one time. The SSCC links to information stored in a database from the ASN containing the details of the content on the pallet; Therefore, all data about the contents is available digitally. As a best practice, it is recommended that identical logistics labels appear on two adjacent sides of the logistic unit for ease of scanning in general distribution. Both instances of the logistic label must have the same SSCC. Within the fresh food industry, the SSCC should be the only information on the logistics label.


**Streamline Your Logistic Unit Identification**




**Identify**  
Serial Shipping Container Code (SSCC)



**Capture**  
GS1-128 Barcode



**Share**  
Advance Ship Notice



**Share detailed data (beyond what's on the label) relevant to the shipment with an ASN.**

- HL\*2\*1\*O-
- SN1\*4\*PL
- PRF\*PO123456-
- HL\*3\*2\*T-
- SN1\*12\*CA-
- MAN\*AA\*006141411234567890-
- PAL\*4-
- HL\*4\*3\*P-
- LIN\*001\*UK\*12345678901234\*LT\*Lot12345-
- SN1\*25\*CA-
- PO4\*N\*25\*LB-
- PKG\*EU\*01-Jan-2020-
- REF\*PD\*OrganicVegetables-
- MAN\*AI\*(01)12345678901234(10)Lot12345-
- DTM\*036\*20191120-
- DTM\*405\*20190618-
- DTM\*510\*20190620-

GTIN+batch/Lot

The use of a barcode and an identification number contains all the necessary information for managing logistic units in transport. The use of the SSCC in an ASN enables sharing the detailed information we see on logistic unit labels (often on pallets) today.

For more information, search our Resource Library at [www.gs1us.org/resource-library](http://www.gs1us.org/resource-library).

[Text Wrapping Break]Source: [GS1 US Food Industry Guidance for Streamlining Your Logistics Labels](#)

GS1 Standard	GS1 Term	Type of Supply Chain Information	Type of Carrier
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SSCC	Serial Shipping Container Code	Specific logistics unit identification	GS1-128 Barcode
Advance Ship Notice (ASN)		Details of shipment including: Case GTIN, Case Qty, Case Description, batch/lot number	EDI 856

## WHAT TECHNOLOGY IS REQUIRED TO COMPLETE ASNs?

For many suppliers, EDI usually is available as an additional service for ERP software systems or can be purchased separately to integrate into other systems. Software available for PC- or server-based systems can be very cost effective. However, like all software applications, depending on applications and implementation scope, integrated software packages or programs costs can vary.

For recipients, third party solution providers typically offer EDI software. Industry POS systems currently are developing advance EDI documents, such as the ASN and invoice, to complement existing purchase order and purchase order acknowledgement documents. Larger retailers who use specialized systems usually have EDI modules included in their systems that either need to be turned on or purchased separately. Recipients with proprietary software programs without EDI modules can acquire off-the-shelf EDI software.

Ideally, your EDI system should integrate into your business software to prevent having to enter data between systems manually. Otherwise, you defeat the purpose of eliminating process time and labor.

Suppliers should be able to “pack to order” and have barcode labels on each shipping pallet. This means the warehouse system allows a shipment to be built and labeled with a Serial Shipping Container Code (SSCC), which is placed in a GS1-128 barcode. These labels follow specific formats and must contain accurate information.

Use of the SSCC allows for the scanning of one barcode per pallet and eliminates the need for scanning multiple barcodes per pallet in the receiving process.

The label is pivotal to the establishment of an electronic relationship between a shipment, its contents, a purchase order, and internal systems. Each pallet label contains a single SSCC as an identification of the pallet in that shipment. ASNs store and organize purchase-order numbers, shipment, and product related information, in the internal systems of both the shipper and the receiver. When a receiver scans the SSCC on a pallet’s label, the information is electronically matched to the ASN transmitted previously and downloaded into the retailer’s system. This matching allows for the population of content information for the pallet, such as case GTINs, batch/lot numbers, and quantities. This information is then used for accurate receipt and put away.

## WHAT OPERATIONAL PROCESSES ARE NECESSARY TO PROVIDE ASNs?

The point of an ASN is to tell receivers in advance what will be arriving and when, so the receiver can be prepared to receive the shipment accurately and efficiently. This means

warehouse operations must be precise enough to identify contents by product and quantity on pallets down to the case level (GTIN). It must be known how many of which cases are on each pallet of a shipment.

Typically, this process includes staging an order for shipment, creating a freight manifest, and a carrier closeout (getting a shipment assigned and loaded on a truck).

### **WHAT SHIPPING PROCESSES ARE NECESSARY TO ENSURE ASNs ARE TRANSMITTED TO ARRIVE IN ADVANCE OF THE SHIPMENT?**

ASN data will be useful to receivers only if sent promptly. In addition, receivers must be able to depend on the data being reliable and accurate.

Trading partners establish mutually agreed upon systems or processes ahead of time to address shipping/receiving errors. This way shipment receiving still gains time and cost savings—reducing cycle times and improving in-stock rates—because administrative processes are separate from logistics processes.

### **WHAT INVESTMENT IS REQUIRED TO IMPLEMENT ASNs?**

The investment to implement ASNs depends on each company's current situation. Challenges and expenses are proportional based on how much change actually must take place within each system. Some systems may need only minor enhancements, while others may need major modifications not just in technology but also in the logistical way orders flow through facilities.

Typical equipment needed to accept, collect, and transmit ASN data includes scanning equipment, label printers, and warehouse software modules that integrate with other company application software. A high degree of software integration is required to be able to gather information, transmit it internally, create shipping/receiving documents, and send it to receivers before shipments arrive. In some cases, warehouse shipping/receiving may need to be reorganized with new processes and procedures. There is an efficiency curve as personnel learn new ways to process orders.

For specific information on how to format and structure your ASN 856, please see: [GS1 US ASN Recommendation for FSMA 204 CTEs](#)

## Additional References

- 1) [SSCC Guideline](#)
- 2) [Food Industry Guidance for Streamlining Logistic Labels](#)
- 3) To access the full ASN for Foodservice Guideline v.7050, follow these steps:
  - a) You need to be a **GS1 US Member company** (such as when you license a Company prefix)
    - i) If you have questions on how to log in you can contact our member support team at [info@gs1us.org](mailto:info@gs1us.org).
  - b) Go to <https://my.gs1us.org/>
  - c) Go to myGS1 US on the top menu
  - d) Go to Member-Only EDI Documents
  - e) Select **Uniform Communication Standard (UCS) EDI**
    - i) Navigate to UCS Implementation Guideline 007050
    - ii) Go to 2.2 Transaction Sets
    - iii) Go to 856 **UCS v7050 - Foodservice.pdf**
- 4) To get more information on X12 licensing visit: <https://x12.org/products/licensing-program>
- 5) [PTI Best Practice for Use of Hybrid Pallet Labels by Receivers](#)