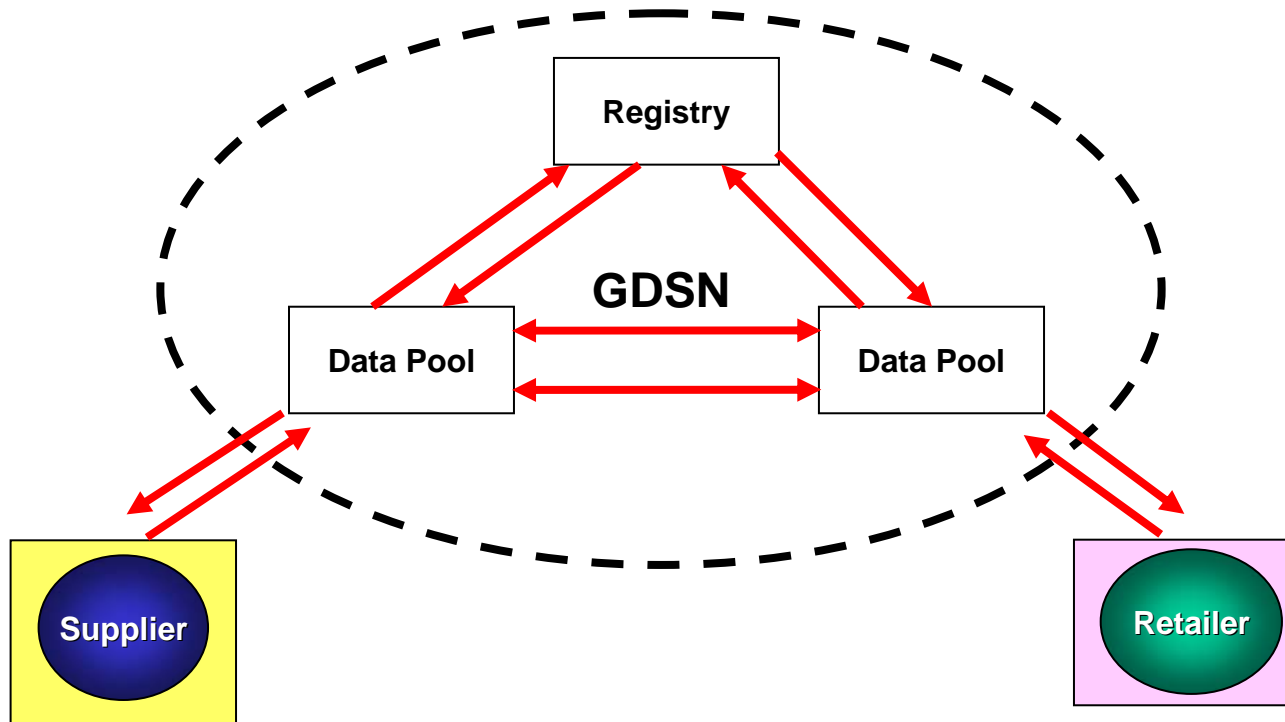




# Global Data Synchronization Network (GDSN)

Presented by: Matthew Emmons  
AAFES SD-E-Business





## *Process Defined - GDS*

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- ✓ **Data synchronization is the continuous harmonization of data attribute values between two or more different systems, with the end result being the data attribute values are the same in all of the systems.**
  - ✓ The synchronization process must utilize the GS1 standards
  - ✓ Continuous updates must be applied



# Preparation for the Future

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- Item Sync is the next step in Supply Chain efficiencies
  - Data Cleansing
  - New Product Introduction (NPI)
  - Scan Based Trading (Pilot Stage)
- All sized companies will participate
- It is the foundational step to the future
  - CPFR – Collaborative Plan, Forecast & Replenish - PAR
  - VMI – Vendor Managed Inventory
  - Cost & Promo (2009)
  - RFID – Radio Frequency Identification
  - Future Regulatory requirements



# Today's Problem and Solution

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- ✓ **Incorrect data still a problem**
  - Item Introductions still manual process
  - Every Retailer has a different form
  - Changes fail to flow automatically
  - Bad data means PO & payment error's
    - **30% of item Data is incorrect**
    - **To Correct: \$60-\$80 per error**
    - **Cleansing: 25 minutes per SKU per year**
    - **Invoices - 60% have errors**
    - **Costs: 43% have Deductions**
    - **Corrections: \$40-\$400 to reconcile**
  
- ✓ **Solution: Industry began effort to establish one global standard in the 1990's which is now known as GDS or Global Data Synchronization**



# Benefits for Manufacturers & Retailers

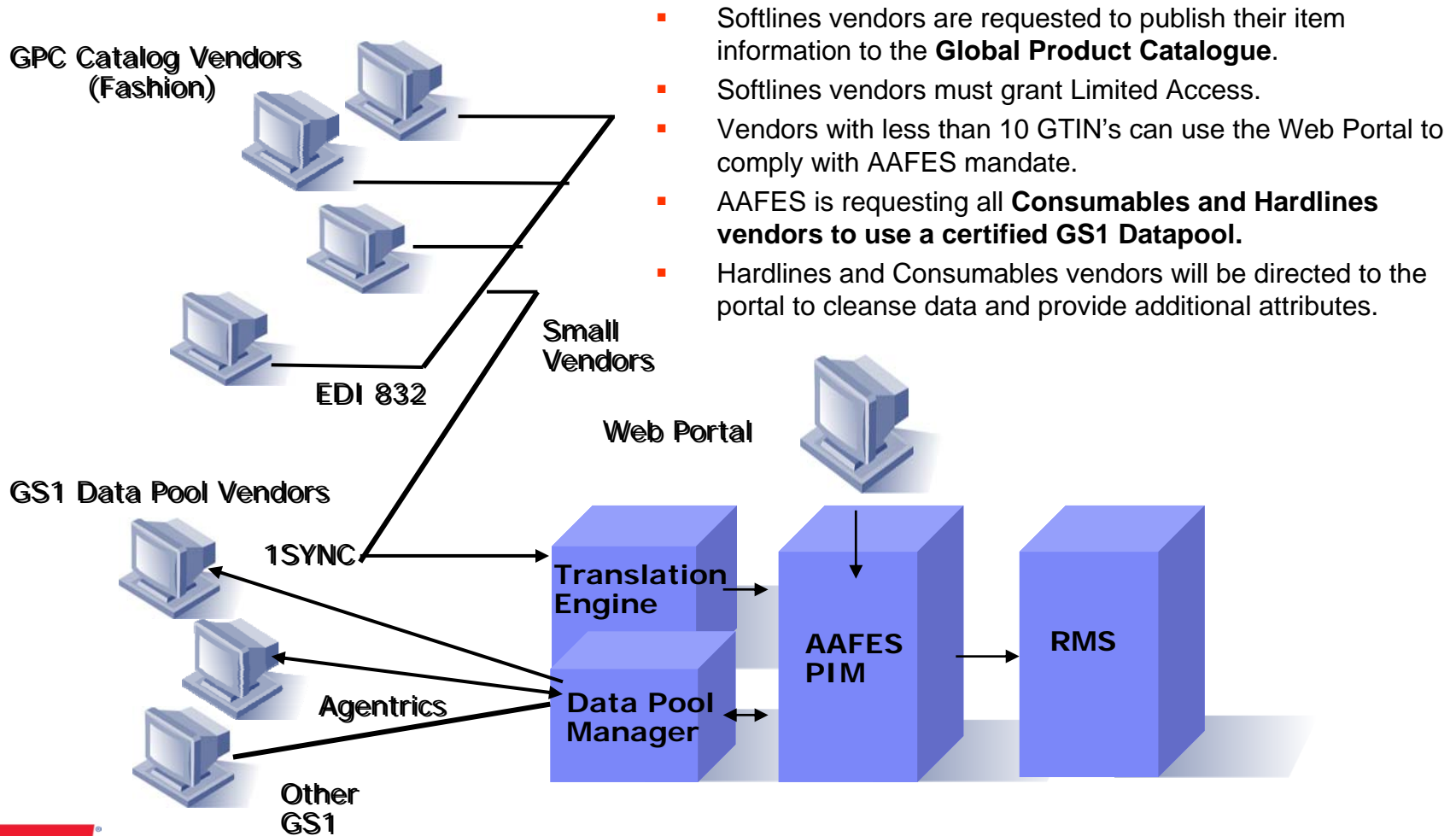
Source: AT Kearney Case Study January 2003



Benefits range from \$7-800,000 to \$1.2 million EBIT for every \$1 billion in sales



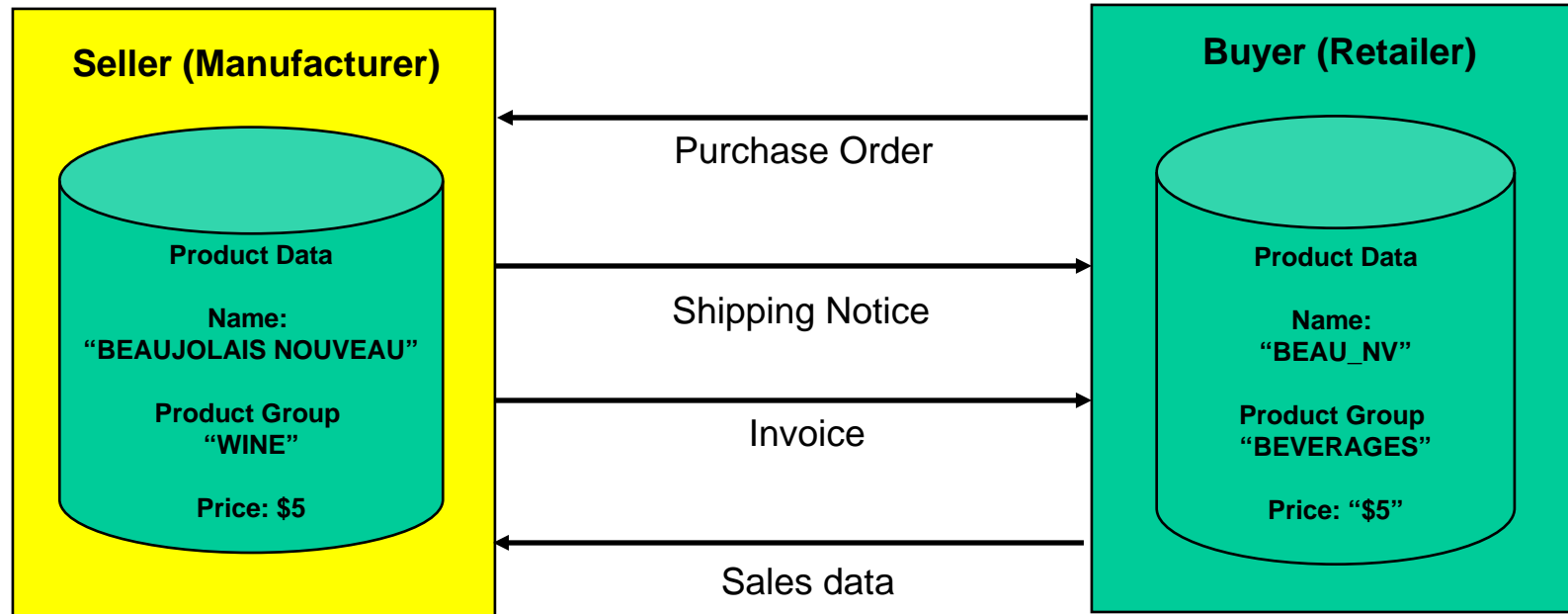
# GLOBAL DATA SYNCHRONIZATION NETWORK & HOW IT WORKS



- Softlines vendors are requested to publish their item information to the **Global Product Catalogue**.
- Softlines vendors must grant Limited Access.
- Vendors with less than 10 GTIN's can use the Web Portal to comply with AAFES mandate.
- AAFES is requesting all **Consumables and Hardlines vendors to use a certified GS1 Datapool**.
- Hardlines and Consumables vendors will be directed to the portal to cleanse data and provide additional attributes.



# GDSN Improves the Process



- ✓ Data describing the same product is frequently **different** in buyer system & AAFES system
- ✓ Data differences can create problems





# Terminology & Abbreviations

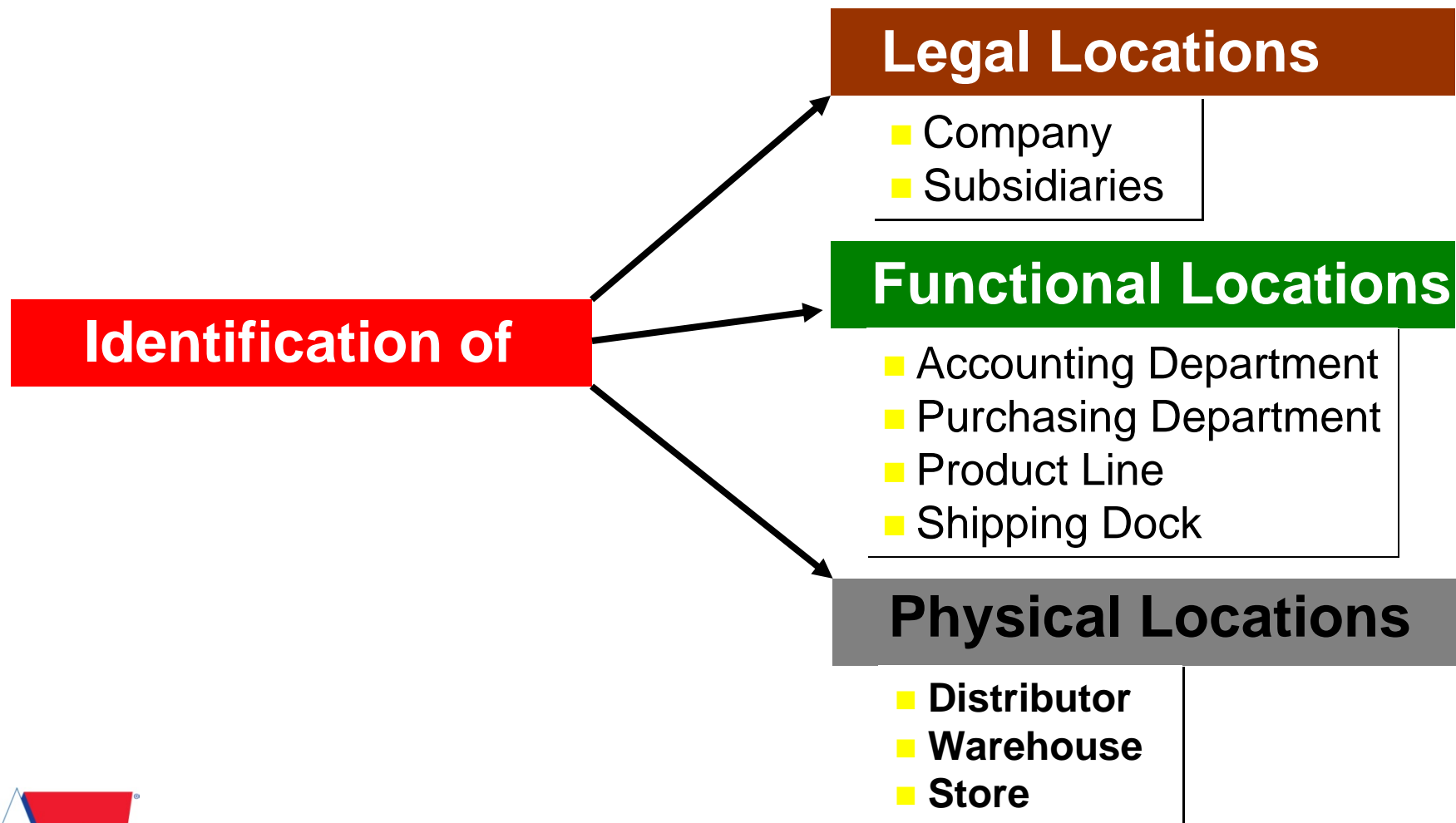
---

- ✓ **Global Location Number (GLN):**
  - Identifies physical Location
- ✓ **Global Product Code (GPC):**
  - Categorizes product types
- ✓ **Global Trade Item Number (GTIN):**
  - Specific product number
  - Equivalent to EANUCC/UPC



# Global Location Numbers Identifies

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# Global Location Number

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- **GS1 Company Prefix**
- **Location Reference**
- **Check Digit**



GS1 Company Prefix – assigned by GS1 member organization

Location Reference – allocated by company for specific location

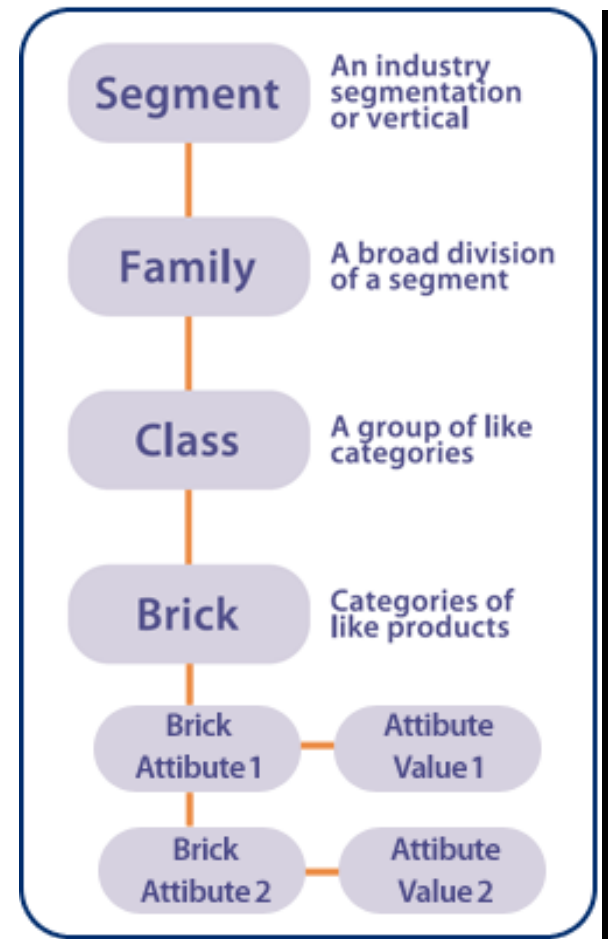
Check digit – calculated according to the standard algorithm



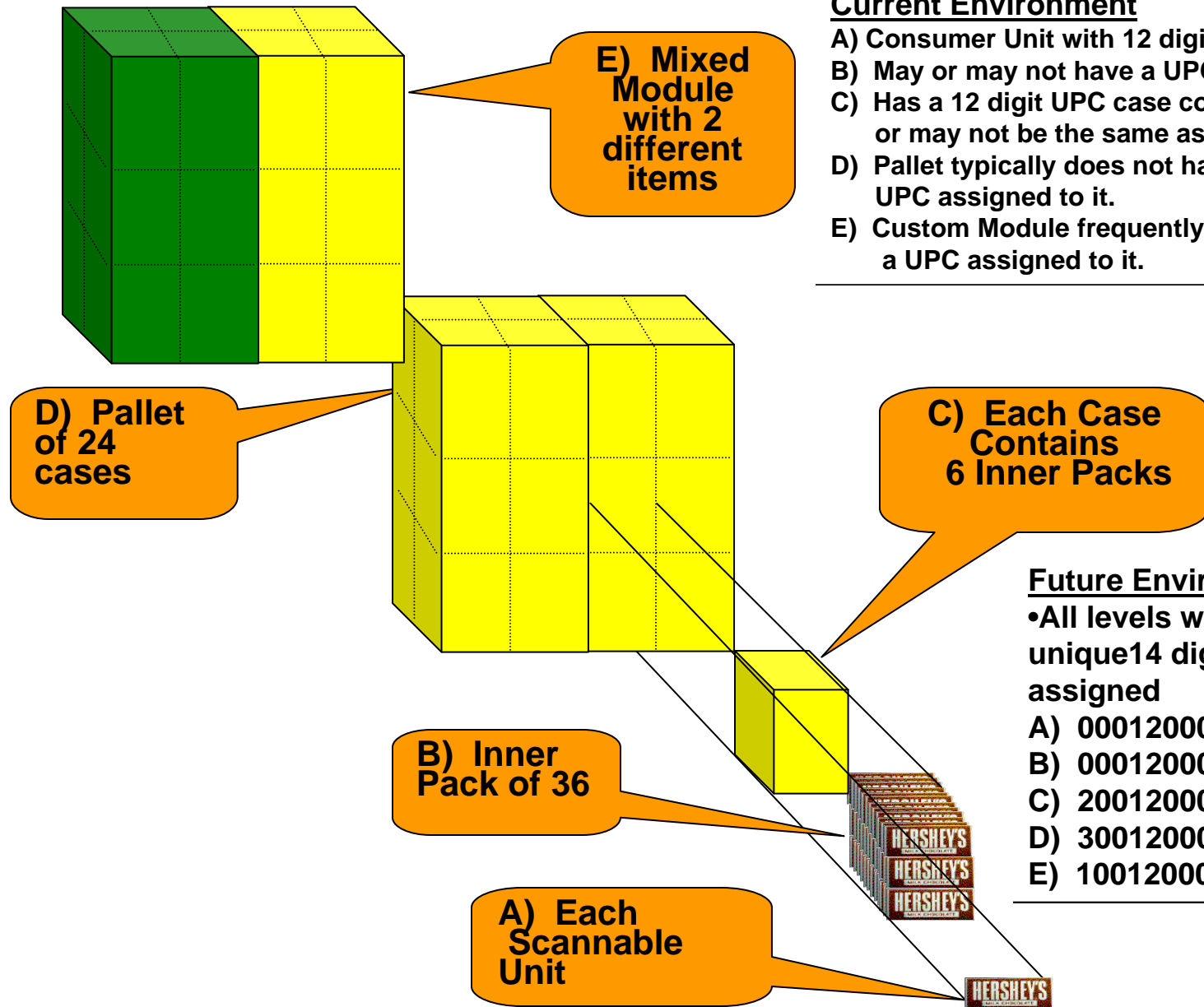
# What is a Global Product Code?

The GPC (Global Product Classification Code) is a set of common categories to group products globally. It is developed, owned and used by the GS1 user community. GPCs are mandatory for Global Data Synchronization. GPC works by defining a hierarchy starting by industry sector or Segments. The foundation of GPC is the Brick which defines categories of like products. Bricks can be further characterized by Brick Attributes.

<http://gpcbrowser.gs1.org/Default.aspx>



# Unique Global Trade Item Number (GTIN) levels



## Current Environment

- A) Consumer Unit with 12 digit UPC
- B) May or may not have a UPC today
- C) Has a 12 digit UPC case code that may or may not be the same as UPC consumer
- D) Pallet typically does not have a unique UPC assigned to it.
- E) Custom Module frequently does not have a UPC assigned to it.

## Future Environment

•All levels will have a unique 14 digit GTIN assigned

- A) 00012000123457
- B) 00012000123454
- C) 20012000123456
- D) 30012000123458
- E) 10012000123466

# GTIN & Global Data Synchronization

## GTINs<sup>®</sup> in a GTIN Compliant database

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
UCC-12	0	0	X	X	X	X	X	X	X	X	X	X	X	C
EAN/UCC-13	0	X	X	X	X	X	X	X	X	X	X	X	X	C
EAN/UCC-8	0	0	0	0	0	0	X	X	X	X	X	X	X	C
EAN/UCC-14	X	X	X	X	X	X	X	X	X	X	X	X	X	C

Includes Company Prefix, Item Reference, Check Digit



# Third Party Service Providers

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- ✓ **Soft Solutions**
- ✓ **ParaRede**
- ✓ **Sterling Commerce (TR2 PKG)**
- ✓ **NuBridges**
- ✓ **Ontuet**



# Certified Data Pools

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## ✓ **Certified & Active US Data Pools**

- 1SYNC
- GXS: Aligned w/ 1SYNC
- Agentrics
- Big Hammer Data Services
- Vizera

## ✓ **Certified US Data Pools not active**

- Click Commerce
- Sterling

## ✓ **Certified Non US Data Pools**

- GS1 Columbia
- GS1 Venezuela
- GS1 Hong Kong (GXS)
- GS1 Slovakia (GXS)

- GS1 MEMA (Malta)
- GS1 Netherlands
- GS1 Argentina
- GS1 Australia (GXS)
- GS1 Mexico (GXS)
- GS1 Taiwan (GXS)
- GS1 Spain (GXS)
- GS1 Canada (GXS)
- GS1 Russia (GXS)
- GS1 France
- GS1 UK (GXS)
- Commport Communications
- KOEB (Korea)
- Sinfos (GmbH)
- UDEX





## *AAFES Required Attributes for Data Pool Supplier:*

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- ✓ Trade Item Description
- ✓ Information Provider
- ✓ Country Of Origin
- ✓ Brand Name
- ✓ Start Availability Date Time
- ✓ Functional Name
- ✓ Additional Classification Category Code
- ✓ Target Market County Code
- ✓ Global Trade Item Number
- ✓ Ean UCC Code
- ✓ Ean UCC Type
- ✓ Depth
- ✓ Width
- ✓ Height
- ✓ Gross Weight
- ✓ Is Trade Item A Consumer Unit
- ✓ Description Short



**R= Required, C= Conditional, O= Optional**

# AAFES Conditional Attributes for Data Pool Supplier:

- ✓ Qty Of Complete Layers Contained In A Trade Item
- ✓ Qty Of Trade Items Per Pallet Layer
- ✓ Qty Of Trade Items Contained In A Complete Layer
- ✓ Minimum Trade Item Lifespan From Time Of Arrival
- ✓ Trade Item Identification Of Next Lower Level Trade Item
- ✓ Order Qty Minimum
- ✓ Order Qty Maximum
- ✓ Dangerous Goods Hazardous Code
- ✓ Dangerous Goods Regulation Code
- ✓ UN Dangerous Goods Number
- ✓ Class Of Dangerous Goods
- ✓ Dangerous Goods A Margin Number
- ✓ Additional Trade Item Description
- ✓ Ordering Lead time
- ✓ Quantity of Next Lower Level Trade Item
- ✓ Variant
- ✓ Gift Wrap Indicator
- ✓ Dangerous Goods Packing Group
- ✓ Dangerous Goods Shipping Name
- ✓ Flash Point Temperature/ UOM
- ✓ Dangerous Goods Technical Name
- ✓ Suggested Retail Price
- ✓ Effective Start Date (Suggested Retail Price)
- ✓ Net Weight
- ✓ Net Content
- ✓ Model Number
- ✓ ISSN\_Number
- ✓ ISBN\_Number
- ✓ Size Code Value
- ✓ Size Code List Agency
- ✓ Descriptive Size
- ✓ Color Code Value
- ✓ Color Code List Agency
- ✓ Color Description
- ✓ Discontinued Date
- ✓ Seasonal Indicator
- ✓ Packing Method
- ✓ Ship Alone Indicator



**R= Required, C= Conditional, O= Optional**

# *AAFES Optional Attributes & Vendor Portal Attributes for Data Pool Supplier:*

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## VENDOR PORTAL ATTRIBUTES:

✓ AAFES Supplier Number	R
✓ Cost	R
✓ Gift Wrap Indicator	C
✓ Is Trade Item Seasonal	C
✓ Packing Method	C
✓ Ship Alone Indicator	C
✓ Vendor Ship From	O

**R= Required, C= Conditional, O= Optional**



# Data Pool Suppliers – Six Steps to Success

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- ✓ Step 1: Prepare and organize your data for AAFES
  - Review the *List of AAFES Required Attributes for Data Pool Suppliers* document available on AAFES' Web site: <http://www.aafes.com/edi>, click on data synchronization tab, then select GDSN for attributes.
  - Next, gather the attribute information that is required by AAFES.
  
- ✓ Step 2: Load your data and register with GS1
  - Load your attributes
  - Then, register your data with the GS1 Global Registry.
  
- ✓ Step 3: Provide AAFES with information required for the Subscription Process
  - Complete the AAFES Trading Partner Data Sheet available at <http://www.aafes.com/edi>, click on data synchronization tab, then select Trading Partner Data Sheet.
  - Email the completed form to [ExchangePartners@aafes.com](mailto:ExchangePartners@aafes.com).



# Six Steps to Success (Continued)

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- ✓ Step 4: Publish your data via your Data Pool
  - ➔ AAFES' GLN is 0614299000018.
  
- ✓ Step 5: Enter the additional "Required Attributes" to AAFES' Product Information Management (PIM) Portal
  - ➔ You will receive an email with your portal *Login* and *Password*.
  - ➔ If you are ready to complete Step 5 and have not received your portal login and password, contact AAFES at any of the phone numbers listed on the contact slide.
  - ➔ Log onto the portal at <https://pim.aafes.gxsolc.com/Suite/Suite/HAHTStart/Suite.HsLogin.run> and enter your login and password.
  - ➔ Refer to the *List of AAFES Required Attributes for Data Pool Supplier* document and add the attributes listed under "Attributes to be loaded via the AAFES portal."
  
- ✓ Step 6: Receive Confirmation
  - ➔ You will receive a Catalog Item Confirmation notice from AAFES through your data pool with one of the following status codes: Accepted, Rejected or Review.



# Global Product Catalog Requirement

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- ✓ **Softlines Vendors must give “Limited Access” to AAFES**
  - Instead of publishing all items you sell, only those that are accepted AAFES items
  - Example is Liz Claiborne with over 1M items, but only a sub-set are active SKU's for AAFES



# Global Product Required Catalogue Attributes

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- ✓ Supplier Name
- ✓ AAFES Internal Supplier Number
- ✓ Item Description
- ✓ Cash Register Description
- ✓ Country of Origin
- ✓ First Ship Date
- ✓ GTIN or EANUCC Code
- ✓ GTIN or EANUCC Type
- ✓ Stock/Style Number
- ✓ Label/Brand Name
- ✓ Item Functional Name
- ✓ Sellable Pack Indicator
- ✓ AAFES Cost Price
- ✓ Gross Weight
- ✓ Length (Depth)
- ✓ Width
- ✓ Height



**R= Required, C= Conditional, O= Optional**

# Global Product Conditional & Optional Catalogue Attributes

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## Conditional Attributes

- ✓ NRF Size Code
- ✓ Short Size Description
- ✓ NRF Color Code
- ✓ Short Color Description
- ✓ Packing Method
- ✓ Class of Dangerous Goods
- ✓ Dangerous Goods Regulation Code
- ✓ Dangerous Goods A- Margin Number
- ✓ United Nations Dangerous Goods Number
- ✓ Dangerous Goods Shipping Name
- ✓ Dangerous Goods Technical Name
- ✓ Dangerous Goods Packing Group
- ✓ Flashpoint Temperature
- ✓ Pack Size
- ✓ Case Pack
- ✓ Inner Pack
- ✓ Product Strength
- ✓ Gift Wrap Indicator

## Conditional Attributes (Cont'd)

- ✓ Manufacturer Suggested Retail Price
- ✓ Seasonal/Not Seasonal Indicator
- ✓ Re-orderable/Not Re-orderable Indicator
- ✓ Shelf Life
- ✓ Net Weight
- ✓ Minimum Order Qty
- ✓ Maximum Order Qty
- ✓ Lead Time
- ✓ Discontinue Date
- ✓ Dangerous Goods Hazardous Code
- ✓ Gift with Purchase Indicator
- ✓ Purchase with Purchase Indicator
- ✓ Scent/Fragrance

## Optional Attributes:

- ✓ Ti
- ✓ Hi
- ✓ Supplier Ship From Location

**R= Required, C= Conditional, O= Optional**





# Global Product Catalogue - Three Steps to Success

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- ✓ Step 1: **Your first step is to review AAFES' required attributes to be synchronized with your business; a list of required attributes is available on AAFES' Web site at [www.aafes.com/edi](http://www.aafes.com/edi); once on that page, select "Data Synchronization" and then select "Global Product Catalogue Users."**
  
- ✓ Step 2: **Your next step is to load/update your GTINs in GPC. You may use either of these two options for loading your attributes:**
  - ➔ Option 1: Make the changes online through [www.gpcatalogue.com](http://www.gpcatalogue.com).
  - ➔ Option 2: Send an 832 EDI document.
  - ➔ For additional information on catalog loading options, please contact GXS at 1.800.334.2255, extension 3000 or visit the Web site at [www.gpcatalogue.com](http://www.gpcatalogue.com) for instructions.
  
- ✓ Step 3: **The final step is to grant AAFES limited access to your GPC catalog via the Web site at [www.gpcatalogue.com](http://www.gpcatalogue.com) If you are unable to comply with the requirement to grant limited access, do not proceed with granting access to AAFES; instead, you must contact AAFES at the numbers listed on the contact slide. For tips on granting limited access, please visit [www.gxs.com/aafes/tips.pdf](http://www.gxs.com/aafes/tips.pdf). AAFES' GPC Alias is AAFES.**



# Why Data Sync?

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- ✓ Data Quality, Cost Reduction, Speed to Shelf
  - Fewer purchase order errors
  - Fewer routing errors
  - Fewer receiving problems
  - Fewer invoice errors
  - Fewer point-of-sale problems
  - Automated vs. manual
    - Can remove multiple weeks from the process
  - Inefficiencies caused by bad data add cost to the supply chain



# Our Process

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- ✓ **Our preferred method of adding new items to our systems is through the Global Data Synchronization Network (GDSN)**
- ✓ **We use a Product Information Manager (PIM) to stage and manage the items prior to introducing them to our merchandising system (Oracle Retail)**



# Our Process

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## ✓ Initial Loads

- Comparison to existing data
- Cleanse/synchronize data

## ✓ New Items

- Supplier workflow
- Buyer workflow
- Oracle Retail RMS worksheet
- Oracle Retail RMS production



## 4 Lessons Learned & Current Status

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- ✓ **It's not easy**
  - ✓ **It takes time to do it right**
  - ✓ **Don't be afraid to ask questions**
  - ✓ **You cannot communicate enough**
- 
- ✓ **261 Suppliers are cleansed**
    - 775 Supplier codes as of 03 Mar 2009



# How You Can Help

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- ✓ **Cleanse your data**
- ✓ **Verify your dimensional data**
  - ➔ Use GS1 standards
- ✓ **Load your item data on a data pool**
- ✓ **Identify the team that will be responsible for publishing new item data to us**
- ✓ **Contact us when you're ready to sync**



# Contacts for Data Sync

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- **Hardlines or Consumables Vendors call:**  
**GXS Onboard Support – 800-698-3266, option 3**
- **Softlines/Fashion Vendors call:**  
**GXS GPC Support – 800-334-2255, extension 3000**

**10 GTIN or less – Web Portal Access questions can be directed to [zzHQSDEPrescreen@aafes.com](mailto:zzHQSDEPrescreen@aafes.com), 214-312-2373 or 214-312-3074.**

Attribute lists for GDSN

[http://www.aafes.com/EDI/Data\\_Sync\\_Page.htm](http://www.aafes.com/EDI/Data_Sync_Page.htm)



# Product Measurements & Accuracy

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- ✓ **Ordering – Enables buyer to order using optimum quantities, e.g. even layers, full pallets**
- ✓ **Shipping – Reduce case shipping costs**
  - ➔ Full truck loads
  - ➔ Pallets are optimum height
- ✓ **Receiving – Reduce time to verify shipments**
- ✓ **Store Shelf - Implement accurate plan-o-grams**
- ✓ **Sales – Improved controls reduce out of stocks**





# Industry Measurement Standards

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- ✓ **Standards continually being refined**
- ✓ **Key categories with published standards**
  - Consumables
  - Alcoholic Beverages
  - Pharmaceuticals
  - Health Care
  - Hard Lines
  - Soft Goods

## **GS1 Published Product measurement rules**

[http://www.gs1.org/docs/gsmg/gdsn/GDSN\\_Package\\_Measurement\\_Rules.pdf](http://www.gs1.org/docs/gsmg/gdsn/GDSN_Package_Measurement_Rules.pdf)

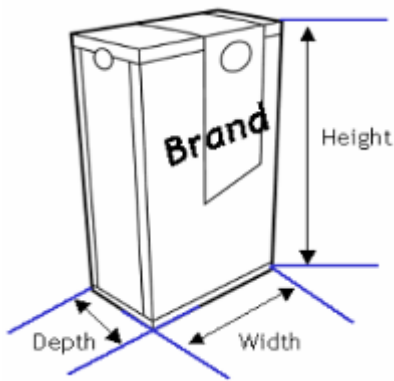


# Determining Front of Product

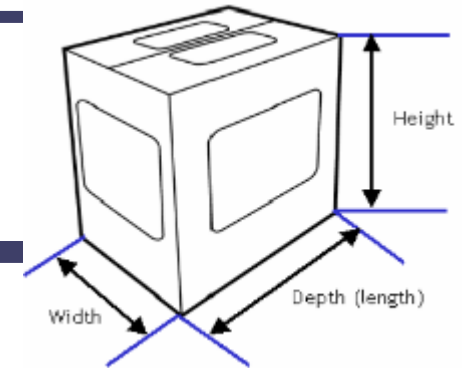
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Some product packages have more than one possible front with the same surface area. These products can be presented both vertically and horizontally on the shelves. If a product package has more than one possible front, the highest side is considered to be the Default Front.





# Package Measurement Rules



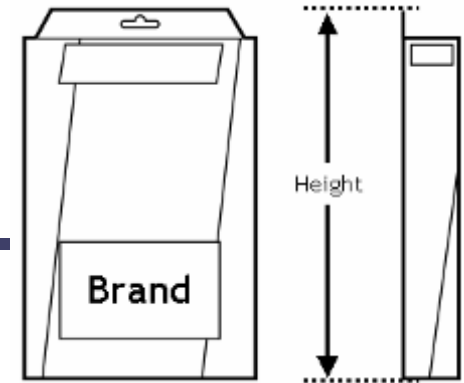
1. Core Item defines height = top to bottom; width = left to right; depth = front to back
2. PTRG defines what side of the product is the Default Front when you take the measurements

- One answer is the right answer
- Change for all, but all for one change
- Published July 1, 2003
- Effective date for GDSN July 1, 2006



# Hanging item

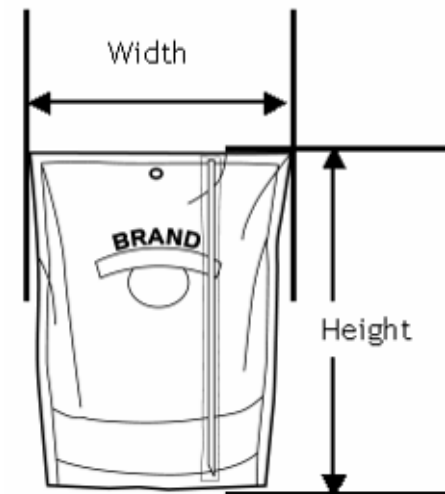
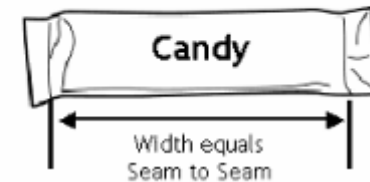
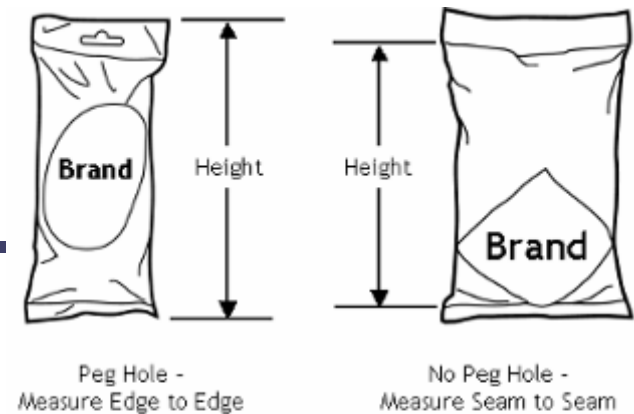
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A Hanging-Item is any consumer trade item that is presented on a hanger. If the Hanging-Item has a hole for hanging purposes, it must be measured as though it were hanging. Even if it is presented horizontally or stacked, the measurements should be determined while it is hanging. The requirement to always measure the maximum distance also applies to Hanging-Items (inclusive of tab).

# Flexible Packaging

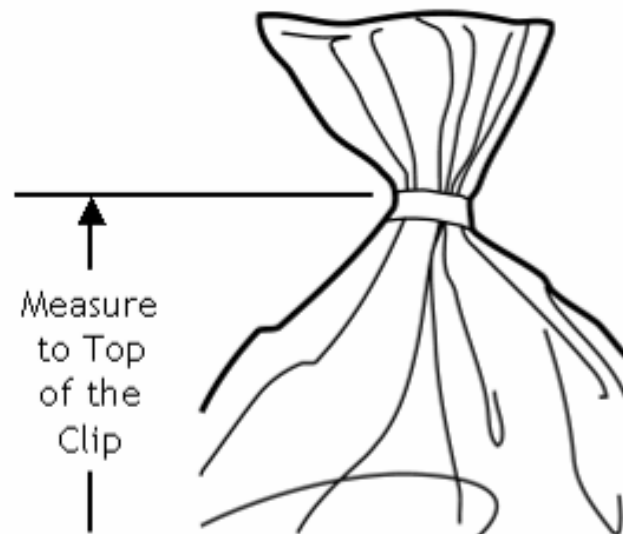
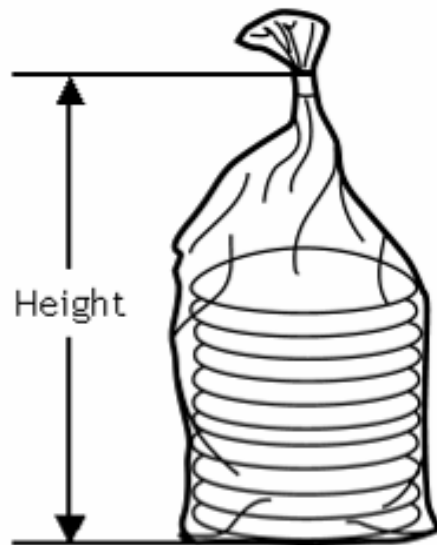
Flexible packaging, such as a bag of potato chips (crisps), must be measured with the item lying flat. Measurements are taken based on the trade item's Default Front. The sealed seams at the ends of the item must not be measured unless there is a peg hole or unless the seal is intended to serve as a base (e.g., allow a drink container to stand).



# Clear bags with no marking

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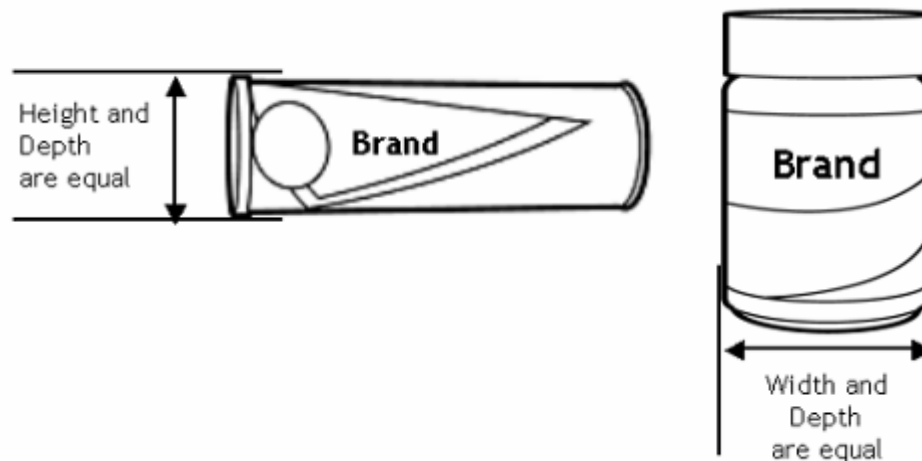
For trade items sold in clear bags with no markings, the largest panel by area is the Default Front and the longest dimension is the height.



# Cylindrical Items

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For cylindrical items two dimensions will be nominally equal. Which dimensions are equal is determined by the result of determination of the Default Front for the consumer trade item.



# Components of Standards

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- ✓ Global Standards Management Process (GSMP)
  - ➔ Provides strategic direction for migration to and implementation of global standards
  - ➔ Provides a basis for GSMP organization
  - ➔ Provides an architecture for EAN.UCC global standards
  - ➔ Defines a means to organize the needs of existing and new industry sectors
  
- ✓ Global Data Synchronization Network (GDSN)
  - ➔ The virtual network of solution providers and trading partners for data synchronization into the Global Registry
  
- ✓ GlobalRegistry
  - ➔ Validates that registered data is standards compliant
  - ➔ Serves as a “phonebook” of registered data
  
- ✓ Data Pools
  - ➔ Maintain item and party data for retailers and/or producers in the standard format set by the GSMP
  - ➔ Transmit standardized item and party data to other data pools
  - ➔ Register item and party data with Globalregistry





# Examples of Who uses GDSN

## AUTOMOTIVE

Pep Boys  
American Honda  
Bell Automotive  
Ford Motor Company  
Castrol Consumer

## MASS MERCHANDISERS

AAFES  
Target  
Wal-Mart

## CONSUMER RETAILERS

Safeway  
Krogers  
Albertson's  
Walgreens  
Ahold

## OFFICE SUPPLY

Staples  
Office Depot

## HEALTH CARE

Abbott Laboratories  
Bayer

## CONSUMER DISTRIBUTORS

Nash Finch  
Supervalu

## ENTERTAINMENT

Buena Vista (Disney)  
Columbia Tristar (Sony)  
MGM

## ALCHOLIC BEVERAGES

Bacardi  
E & J Gallo Winery  
Southern Wine

## OTHER RETAILERS

Lowe's  
The Home Depot  
Black and Decker Corp



# Reference Material

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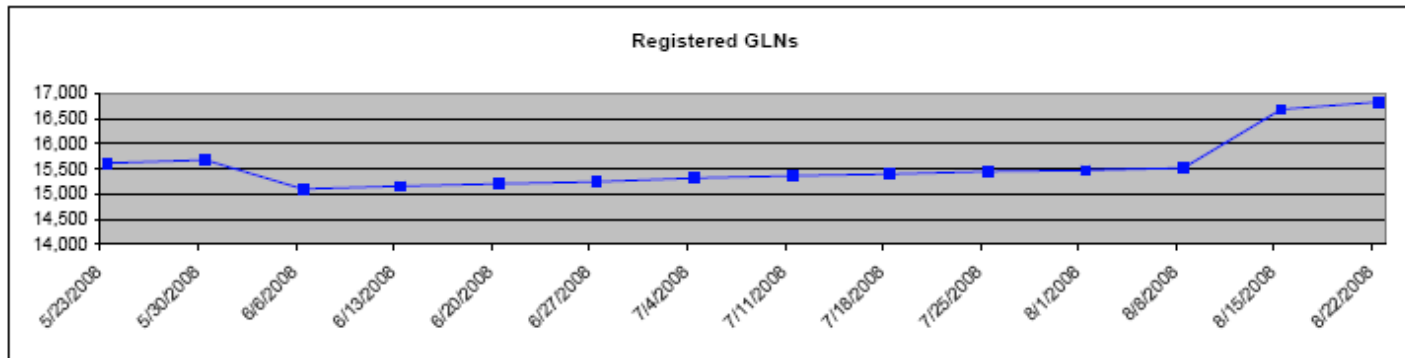
## Wegmans Study: Synchronization- The Next Generation of Business Partnering

[http://www.accenture.com/Global/Services/By\\_Industry/Consumer Goods and Services/R and I/SynchronizationPartnering.htm](http://www.accenture.com/Global/Services/By_Industry/Consumer_Goods_and_Services/R_and_I/SynchronizationPartnering.htm)

# Reference Material (Continued)

## GDSN Statistics of Adoption

Date	5/23/2008	5/30/2008	6/6/2008	6/13/2008	6/20/2008	6/27/2008	7/4/2008	7/11/2008	7/18/2008	7/26/2008	8/1/2008	8/8/2008	8/15/2008	8/22/2008
Registered GLNs	15,615	15,675	15,103	15,155	15,206	15,242	15,320	15,362	15,395	15,447	15,469	15,516	16,682	16,831
Subscriptions Sent	570,819	573,455	575,611	581,653	583,448	586,756	583,319	637,023	612,132	615,233	613,204	620,237	596,003	598,932
Subscriptions Matched	687,415	695,381	445,036	450,630	454,026	463,050	466,658	481,893	482,046	515,688	517,278	521,073	504,236	511,993
Subscriptions by Item	6,070,347	6,239,347	5,268,091	4,296,835	4,316,626	4,336,416	4,534,619	4,732,819	4,764,194	4,795,568	4,843,185	4,890,801	5,085,209	5,279,617
Registered GTINs	2,471,877	2,486,354	2,508,887	2,529,009	2,521,177	2,553,505	2,598,564	2,626,712	2,649,332	2,703,013	2,716,221	2,741,301	2,781,823	2,850,471



**GDSN Statistics of Adoption: this includes Registered GLNs, Subscriptions Sent, Subscriptions Matched, Subscriptions by item, & Registered GTINs**

[http://www.gs1.org/docs/gdsn/gdsn\\_adoption.pdf](http://www.gs1.org/docs/gdsn/gdsn_adoption.pdf)



# Reference Material (Continued)

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*For Immediate Release*

**GS1 Global Data Sync Network Shows Exponential Growth**  
[http://www.gs1.org/docs/gdsn/gdsn\\_pr\\_240506.pdf](http://www.gs1.org/docs/gdsn/gdsn_pr_240506.pdf)



# **Reference Material** (Continued)

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## **AAFES Attributes for Data Pool Suppliers**

[http://www.aafes.com/EDI/PDF/AAFES\\_GDSN\\_Attributes.pdf](http://www.aafes.com/EDI/PDF/AAFES_GDSN_Attributes.pdf)

## **Attributes required for Global Product Catalog**

[http://www.aafes.com/EDI/PDF/AAFES\\_GPC\\_Attributes.pdf](http://www.aafes.com/EDI/PDF/AAFES_GPC_Attributes.pdf)

## **AAFES Trading Partner Data Sheet**

[http://www.aafes.com/EDI/PDF/AAFES\\_Trading\\_Partner\\_Data\\_Sheet.pdf](http://www.aafes.com/EDI/PDF/AAFES_Trading_Partner_Data_Sheet.pdf)

