Approved by
GS1 Europe Board

Fruits&Vegetables Harmonisation Project

GTIN Allocation Rules

GS1 Europe, December 2005

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1 General Information

1.1 Problem Statement / Business Need

Within the framework of the deployment of European trading relationships, companies have encountered divergences in identifying Fruit&Vegetable products as a result of the use of different identification approaches from one country to another and equally diverging business practices. These companies have asked GS1 Europe to harmonise the way of dealing with Fruit&Vegetable products in Europe.

1.2 Objective

The objective of this document is to clarify the GTIN allocation rules for Fruit&Vegetable sector for each business scenario and define the rules to allocate the GTIN.

1.3 Audience

The audience for this document is the global business community, including GS1 Europe Member Organisations, other Member Organisations and companies willing to implement the GS1 System within the Fruit&Vegetable sector.

1.4 Acknowledgements

Special thanks to GS1 Switzerland to host our forum and sharing point and to Francis Kienlen from GS1 Switzerland to make it available.

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2 Basic principles

A trade item is any item (product or service) upon which there is a need to retrieve pre-defined information and that may be priced, or ordered, or invoiced at any point in any supply chain. This definition covers services and products, from raw materials through to end user products, all of which may have pre-defined characteristics.

The identification and bar code symbol marking of trade items enables the automation of the Point-of-Sale (through Price Look Up (PLU) files), of goods receiving, inventory management, automatic re-ordering, sales analysis, and a wide range of other business applications.

The EAN/UCC-8, UCC-12, EAN/UCC-13, and EAN/UCC-14 Identification Numbers are used to identify trade items. Each can be considered a Global Trade Item Number™ (GTIN™) when stored in the GTIN Format, a 14-digit reference field.

	Storage in the GTIN Format													
Data Structures	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}
EAN/UCC-14	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}	N_{11}	N_{12}	N_{13}	N_{14}
EAN/UCC-13	0	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}	N_{11}	N_{12}	N_{13}
UCC-12	0	0	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}	N_{11}	N_{12}
EAN/UCC-8	0	0	0	0	0	0	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8

If the item is of variable measure, the respective measure or price information will often be of critical importance to business applications. Attributes relating to trade items (e.g., dates, lot number) are also available as standardised Element Strings.

Each trade item that is different from another in design and/or content is allocated a unique identification number, which remains the same as long as it is traded. The same identification number is given to all trade items sharing key characteristics. Such numbers must be treated in their entirety throughout the supply chain.

Basic principles for the identification of trade items include:

- Each trade item that is different from another must be allocated a separate, unique GTIN.
- The GTIN does not carry any information related to the trade item. The brand owner is the responsible for assigning the GTIN and should communicate this information to all business partners.
- An assigned GTIN must never be changed as long as the item is not modified so that it needs to be discriminated from the initial trade item for ordering, stocking, or billing. Exceptions to this rule may occur only when regulatory or legal requirements mandate a change.

Another important issue related to Fruit&Vegetables is that dealing with Variable measure products is common. The main difference between Fixed Measure Item and Variable measure items is:

- Fixed Measure Trade Items are those that are always produced in the same version and composition.
- Variable Measure Trade Item is an entity with pre-defined characteristics, such as the nature of the product or its contents. A Variable Measure Trade Item has at least one characteristic that varies whilst other characteristics of the trade item remain the

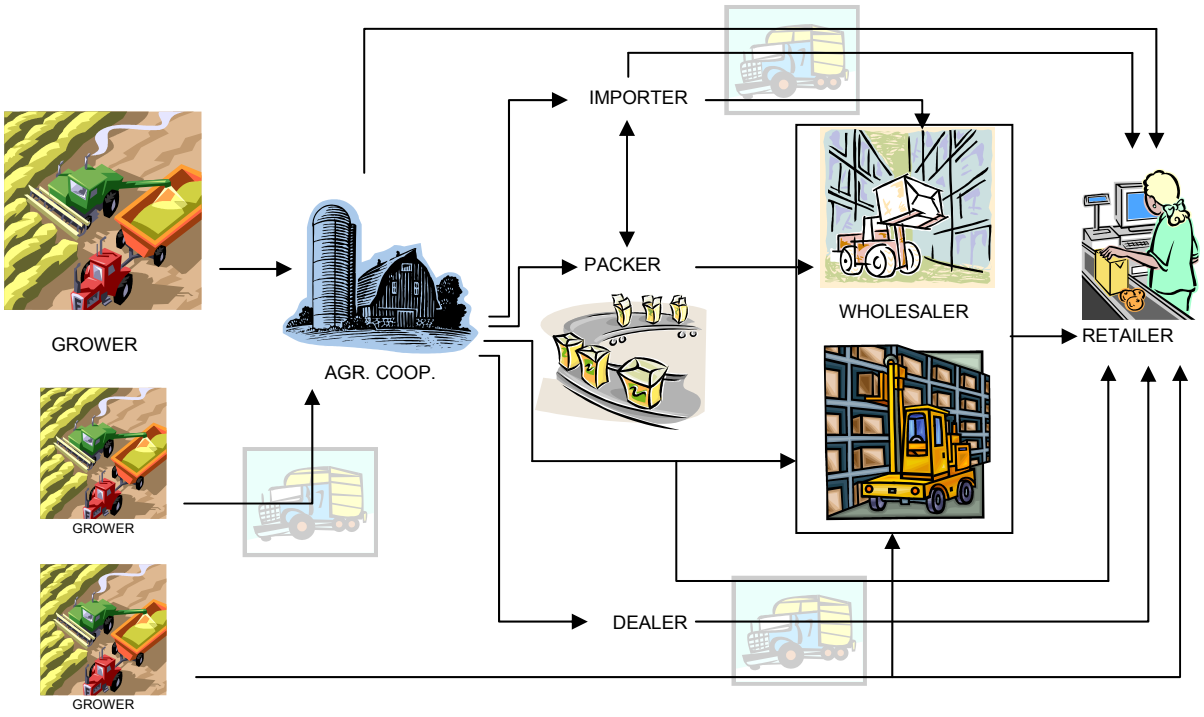
same. The variable characteristic may be weight, dimension, number of items contained, or volume information. The variable data in Fruits&Vegetables environment is usually the Weight. The complete identification of a Variable Measure Trade Item consists of both an identification number and information about the variable data.

- Sold in Bulk Trade Item: Items traded in bulk are neither portioned nor pre-packed for retail sale, ordered in any quantity, and that are delivered as non-standardised trade items. The identification number denotes the item as a trade entity containing any quantity of the given product and, if applicable, the form of packaging. Weight or dimensions complete the identification of the individual unit.
- Trade items ordered and delivered by piece (wrapped or unwrapped) and invoiced by weight or measure because weight or measure varies due to the nature of the product or due to the manufacturing process. The identification number denotes the item as a particular pre-defined entity and, if applicable, denotes the form of packaging. Price or weight or dimensions complete the identification of the individual item.

Further information to be found bulk/variable measure in the description in each business case detailed in this document. Variable measure in Fresh produce is in general referred to weight, for an easy understanding of the document, variable weight is used in this document. All the issues related to variable weight trade items can be assumed for variable measure trade items.

3 Roles in the Supply Chain

Fruits&Vegetables Supply Chain model is shown in the picture below:



Grower

The grower is responsible for the production, harvesting and despatch, as well as record keeping of appropriate information about the field and products sent to the packing station, to an importer or to the Agricultural Cooperative.

Agricultural Cooperative

A co-operative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise.

Agricultural Cooperatives receive the merchandise coming from all associated growers and prepare it to be sent to the next step in the supply chain: an importer, a wholesaler, a packer or a retailer.

Importer

The importer is a person or company that imports products into a country and sells them there. The importer may receive merchandise from an agricultural cooperative or a packer and send it to a packer, wholesaler or retailer.

Packer

The packer receives the merchandise from the grower, an importer or another packer, packs them into boxes and may palletise them. After that, the packer despatches the merchandise to a third party: the wholesaler or the retailer.

Dealer

A broker for Fruits&Vegetables is a person or company that buys and sells products without handling them.

Wholesaler

A wholesaler buys goods in large quantities from their manufacturers or importers, and then sells smaller quantities to retailers, who in turn sell to the general public.

Retailer

A retailer buys goods or products in large quantities from manufacturers or importers, either directly or through a wholesaler, and then sells individual items or small quantities to the general public or end user customers, usually in a shop, also called store. Retailers are at the end of the supply chain.

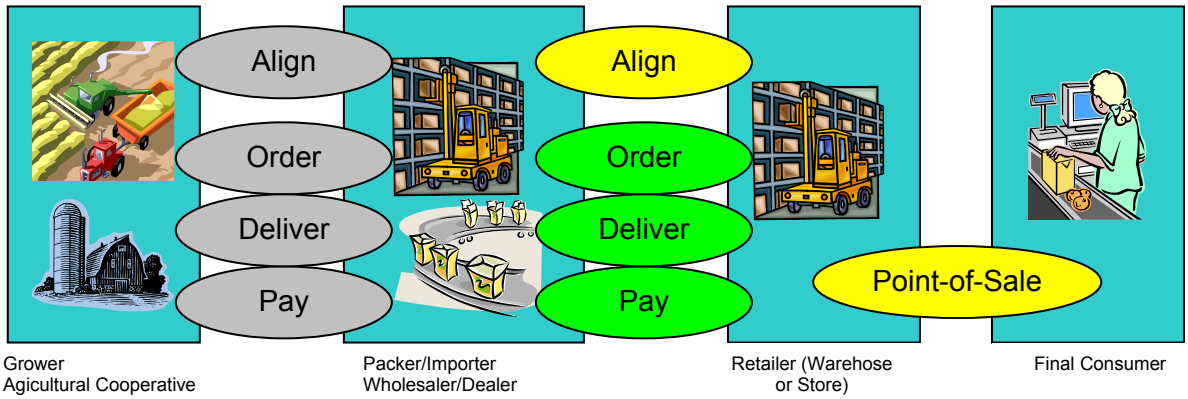
Logistic Service Provider

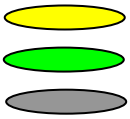
A person or company in charge of logistic activities (transport, storage,…) on behalf of a supplier or a retailer.

When defining roles in the Supply Chain, we may find the same person/company to play different roles, for instance, an Agricultural Cooperative to be also a packer.

4 Scope of the document

Within the scope of this project, we are considering the supply in the Fruit&Vegetable sector as a whole





Covered in depth in this document
Applicable to the sector but being developed by other groups in GS1 Europe, basic information, principles and recommendations provided
Out of scope

If you want to see the whole picture of the Supply Chain in the Fruit&Vegetable sector see the previous picture.

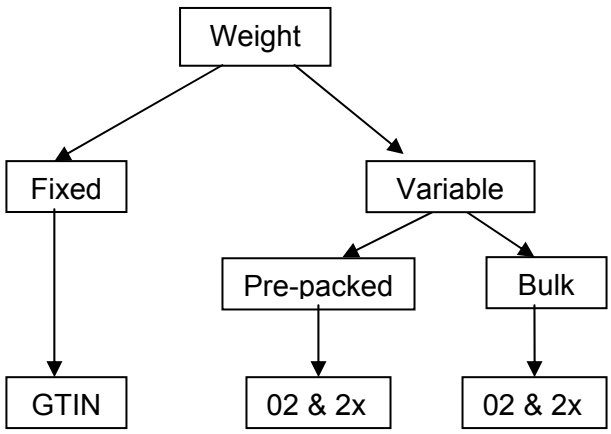
5 Trade Item Identification

The objective of this part of the document is to define how to allocate codes to products in the following processes:

- At the Point-of-Sale – In-store coding
- Align Process

5.1 Point-of-Sale – In-store coding

The following picture shows the decision tree to decide what kind of code we will put on the trade item at the point-of-sale. The first issue to know about is if we are dealing with fixed-measure trade items, in this case a regular GTIN will be used, or variable measure trade items, where 02 or 20 to 29 series should be used.



There are some situations when the same product can be sold in different ways depending on the retailer. A cauliflower might be sold by units, in this case there will be a regular GTIN on it but some retailers may decide to sell it by weight, in this case a 02 or 20 to 29 code will need to be printed on the product to determine the price at the point-of-sale.

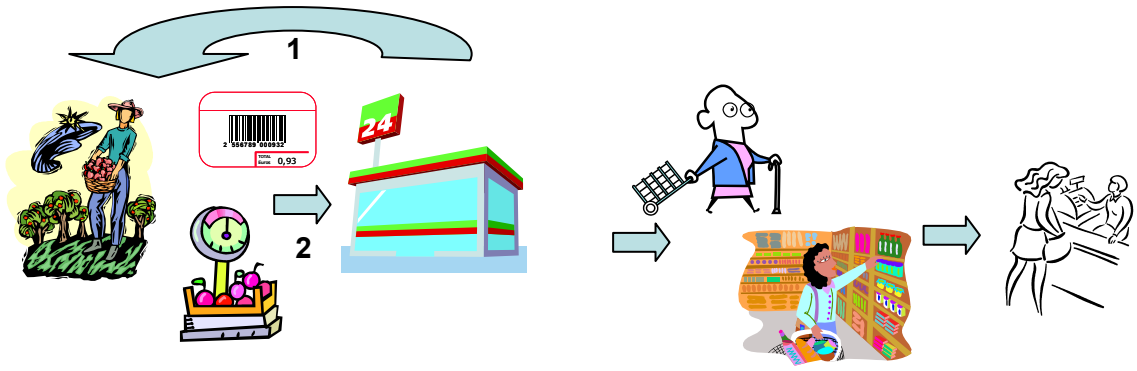
5.1.1 Fixed Weight

Item sold in Fixed Weight might be prepared by the supplier before sending the goods or by the retailer at the point of sale. Its main characteristic is that they are always presented to the final user in the same way.

The GTIN must be assigned by the brand owner. The brand owner will be responsible for assigning the Item code to the product. For the case of Fixed Weight Items companies have to follow the rules to build a regular GTIN with 13 digits.

For Fixed Weight items, the GTIN bar-coded on the product is the same that the one assigned to the product in the align process.

5.1.1.1 Business Scenario 1.- Items pre-packed by the supplier

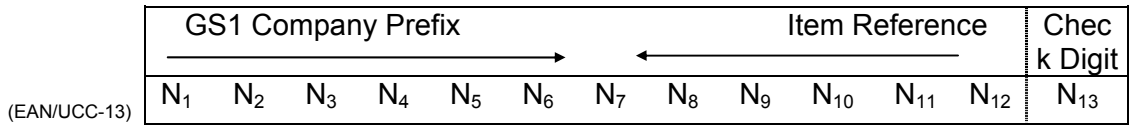


The producers/dealers/importers/packers pre-pack the merchandise for the retailer and it is delivered to the retailer labelled according to regular GTIN data structure rules detailed below.

5.1.1.2 Business Scenario 2.- Items pre-packed by retailer at the point-of-sale

The producers/dealers deliver the merchandise to the retailer as previously agreed. The retailer will manipulate the merchandise to turn it into the final item for the consumer and label it according regular GTIN data structure rules detailed below.

Regular GTIN Data structure:



The GS1 Company Prefix is allocated by a GS1 Member Organisation to a system user. It makes the GTIN unique worldwide but does not identify the origin of the item.

The Item Reference is assigned by the system user to a trade time. The system user must observe the rules outlined by GS1.

The Check Digit, whose verification should be carried out automatically, ensures that the number is correctly composed.

Name	Description
GS1 Company Prefix	The GS1 Company Prefix is allocated by a GS1 Member Organisation to a system user.
Item Reference	The part of the data structure allocated by the user to identify a trade item for a given EAN.UCC Company Prefix
Check Digit	A digit calculated from the other digits of a number, used to check that the data has been correctly composed. (See Check Digit Calculation.)

5.1.1.3 Supplier/Producer Brand

The supplier/producer is the party responsible to assign the GTIN to the item. The supplier/producer will use its GS1 company prefix and a unique number to create the GTIN for the trade item.

GTIN Data Structure: Supplier assigned 13-digit GTIN

5.1.1.4 Retailer Brand

The Retailer is the party responsible to assign the GTIN to the item. The retailer will use its GS1 company prefix and a unique number to create the GTIN for the trade item.

GTIN Structure: Retailer assigned 13-digit GTIN

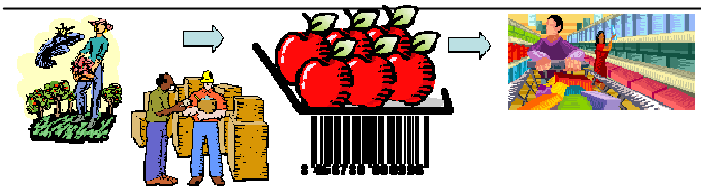
5.1.1.5 Generic Products (non-branded items)

For generic products, the supplier should be the party responsible to assign the GTIN to the item. This principle is very important if we want to have full traceability through all the supply chain, since items coming from different suppliers have different GTINs.

The supplier will use its GS1 company prefix and a unique number to create the GTIN for the trade item.

GTIN Structure: Supplier assigned 13-digit GTIN

Example: Pack of 6 apples sold by unit with Supplier Brand with GTIN 84567800996. The price for the Pack of 6 apples is not related to its weight.



GS1 Company Prefix = 8456780
Item Reference = 00099
Check-Digit = 6
GTIN= 8456780000996

5.1.2 Variable Weight

It is very important to point out that in the case of working with items like Fruits&Vegetables where variable measure items are common, the code printed on the product to be read by the scanner at the point of sale is not the code used to identify the article. Thus, it is necessary to clearly differentiate both situations:

- The code to be printed on the item crossing at the point of sale
- The code assigned to the item to be used in the trade process: purchase orders, despatch advice and invoices

Variable Measure Trade Items are those sold in random quantity against a fixed price per unit quantity and intended to cross a Point-of-Sale (e.g., apples sold at a fixed price per kilogram).

GS1 Prefixes 02 and 20 to 29 are reserved to GS1 Member Organisation to set national rules. GS1 Member Organisations should make part of this capacity available for marking Variable Measure Trade Items crossing the point-of-sale and a part of this capacity for company internal applications.

The data fields available defined by the GS1 Member Organisation can be structured in a variety of ways to represent the product type, net weight, retail price, or number of pieces. Equipment is commercially available for automatically weighing items, calculating an item price from the unit price, and printing the information as a bar code label. The scanning equipment can then be programmed to use the prefix as an instruction to decode the ensuing data fields according to the particular structure adopted.

GS1 Member Organisations should allocate one or several of the EAN.UCC Prefixes 02 and 20 through 29 for the identification of Variable Measure Trade Items.

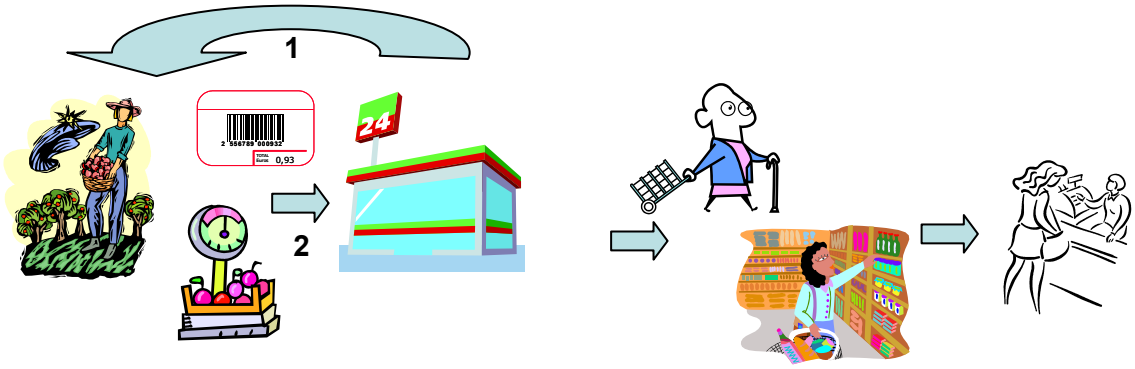
Although each GS1 Member Organisation and user is perfectly free to develop its solution for numbering Variable Measure Trade Items, the GS1 System provides recommended structures aiming at some degree of equipment standardisation. These formats may include an Item Reference, the retail price/weight of the item, and a price/weight verifier-digit. The bar code symbol must nevertheless be taken into account by the marking equipment when printing the Human Readable Interpretation on the label.

Each GS1 Member Organisation may choose to implement a national solution for Variable Measure Trade Items branded by the supplier for retail. Any national branded variable measure solution requires GS1 Member Organisation to manage the allocation of the item number at a national level.

It would be desirable to have one single global approach for 02 and 20 to 29 codes at the point-of-sale but it is not possible to achieve it at the moment. We need to wait for other technologies, such as RSS and EPC to address this issue.

See Appendices 2 for further detail on the use of 02 and 20 to 29 in each GS1 Europe Member Organisation.

5.1.2.1 Business Scenario 1.- Items pre-packed by the supplier



The producers/dealers/importers/packers pre-pack the merchandise for the retailer and it is delivered to the retailer labelled using 02/20s series defined by each GS1 Europe Member Organisation. The final consumer will normally find the products weighed at the point-of-sale with price clearly marked.

5.1.2.2 Business Scenario 2.- Items pre-packed by retailer at the point-of-sale

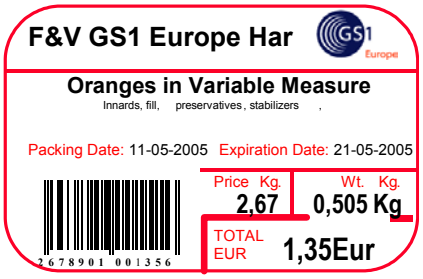
The producers/dealers/importers/packers deliver the merchandise to the retailer as previously agreed. The retailer will manipulate the merchandise to turn it into the final item for the consumer and label it according to the national structure for 02/20s series defined by each GS1 Europe Member Organisation. The final consumer will normally find the products weighed at the point-of-sale with price clearly marked.

Example: Oranges are sold in a three-unit pack. The Final consumer gets the item packed and with the price marked on it depending on the weight of the pack. The price per kilogram is 2.67 €.

Even if different approaches to the usage of 02 and 20s codes exist, let us assume for the example that the Data Structure for the code on the label is:

Label Code = GS1 Prefix+Item Reference+Price+CD

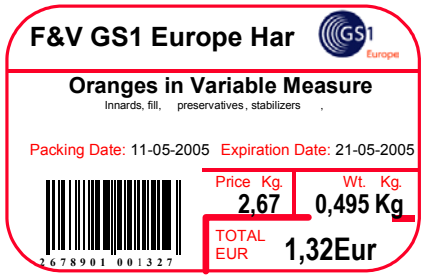
Code	Description
GS1 Prefix	02 or 20 to 29 GS1 Prefix
Item Reference	Code assigned by the Retailer to an Article
Price	Price in Euros with 2 decimal digits
Check-Digit	



Pack of 3Oranges of 0,505Kg
Label Code = 26789010001356

GS1 Prefix	Item Reference	Price	Check-Digit
26	78901	00135	6

GS1 Prefix: 26
Item Reference: 78901 (assigned by the retailer)
Price 00135 (1,35 Euros)
Check Digit= 6



Pack of 3 Oranges of 0,495Kg
Label Code = 26789010001327

GS1 Prefix	Item Reference	Price	Check-Digit
26	78901	00132	7

GS1 Prefix: 26
Item Reference: 78901 (assigned by the retailer)
Price 00132 (1,32 Euros)
Check Digit= 7

5.1.2.3 Business Scenario 3.- Items sold in bulk (loose products)

For items sold in bulk to the final consumer the brand of item is not important. The producers/dealers/importers/packers deliver the merchandise to the retailer as previously agreed. Products are presented at the point of sale without any specific packaging. The final consumer takes the Fruits or Vegetables; he puts them in a plastic bag and weighs it. The scale will automatically print a label with all the necessary information to determine the price of the article at the point of sale.

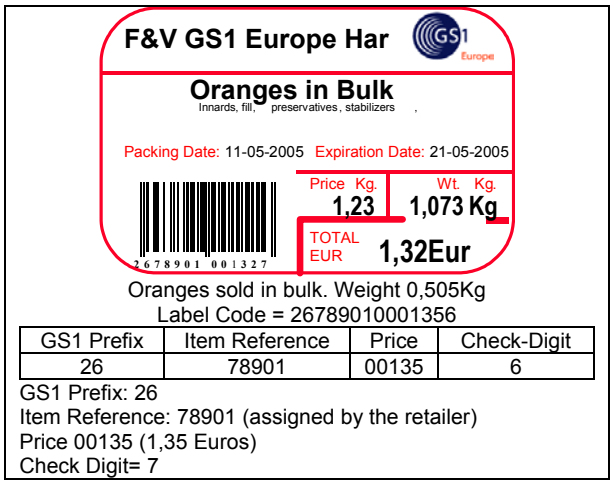
The code to identify the product is normally assigned by the retailer or by the GS1 Member Organisation.

Example: Oranges are sold in bulk. The Final consumer of a retailer takes 1.073 kilograms of Oranges from a Box in the Fruit section of a supermarket. The total weight is 1.073 Kilograms and the price per kilogram is 1.23 €.

Even if different approaches to the usage of 02 and 20s codes exist, let us assume for the example that the Data Structure for the code on the label is:

Label Code = GS1 Prefix+Item Reference+Price+CD

Code	Description
GS1 Prefix	02 or 20 to 29 GS1 Prefix
Item Reference	Code assigned by the Retailer to an Article
Price	Price in Euros with 2 decimal digits
Check-Digit	



Oranges sold in bulk. Weight 0,505Kg
Label Code = 26789010001356

GS1 Prefix	Item Reference	Price	Check-Digit
26	78901	00135	6

GS1 Prefix: 26
Item Reference: 78901 (assigned by the retailer)
Price 00135 (1,35 Euros)
Check Digit= 7

5.2 Align Process

Without the use of EAN•UCC standards, such as GTIN (Global Trade Item Number) for product identification, GLN (Global Location Number) for location identification and the GS1 Electronic commerce standards (EANCOM and XML) businesses would find it more difficult to trade with each other.

Master data in an organisation such as product information, dimensions, delivery date, and pallet information, is key to all business systems within a company. Similarly, sharing master data between trading partners is key to supply chain success. Common requirements between trading partners are defined and then master data is exchanged.

Master data alignment involves the maintenance of accurate and synchronised databases for products, prices, promotions, and locations. It is the basis of a joint catalogue between supply chain partners and many businesses have reaped the benefits of developing these data pools. They include:

- An improvement in the quality of orders, invoices and other business documents
- A reduction in the number of delivery errors
- A reduction in the administrative work related to the maintenance of product and location information.

The Align process will allow trading partners to share Master Data information. For the correctness of this align process, one of the most important field in the Align process is the Global Trade Item Number (GTIN). The objective of this chapter is to allocate GTIN in Fruits&Vegetables according to rules defined in GS1 General Specification.

The EAN/UCC-8, UCC-12, EAN/UCC-13, and EAN/UCC-14 Identification Numbers are used to identify trade items. Each can be considered a GTIN when stored in the GTIN Format, a 14-digit reference field.

	Storage in the GTIN Format													
Data Structures	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}
EAN/UCC-14	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}	N_{11}	N_{12}	N_{13}	N_{14}
EAN/UCC-13	0	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}	N_{11}	N_{12}	N_{13}
UCC-12	0	0	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}	N_{11}	N_{12}
EAN/UCC-8	0	0	0	0	0	0	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8

For Fixed Weight products, GTIN detailed in the align process is the GTIN that appears bar-coded at the point-of-sale. However, for point-of-sale use in variable weight products the allocated code on the label of the product can not be used for transactional data and it will necessary to allocate a regular GTIN (administrative) to this item for this purpose. This administrative code is a virtual GTIN and will never appear on the product at the point-of-sale, a link between the administrative GTIN and 02 or 20 to 29 codes is necessary. 02 and 20 to 29 codes will used for item-scanning at the point-of-sale.

5.2.1 Fixed Weight

Options available when numbering and symbol marking Fixed Measure Trade Items are the following ones:

Data Structure	Bar Code Symbol	Comments
EAN/UCC-13	EAN-13	For all items
UCC-12	ITF-14	Not for Point-of-Sale
EAN/UCC-13	ITF-14	Not for Point-of-Sale
EAN/UCC-14	ITF-14	Not for Point-of-Sale
UCC-12	UCC/EAN-128 (AI 01)	Not for Point-of-Sale
EAN/UCC-13	UCC/EAN-128 (AI 01)	Not for Point-of-Sale
EAN/UCC-14	UCC/EAN-128 (AI 01)	Not for Point-of-Sale

Retail consumer trade items crossing the Point-Of-Sale will be identified using an EAN/UCC-13, UCC-12 or EAN/UCC-8 data structure.

Standard trade item groupings must be identified using EAN/UCC-14 or EAN/UCC-13. Since these are not variable measure items, the indicator (N1) of EAN/UCC 14 must never be equal to “9”. It is very important to allocate a GTIN for each item in the product hierarchy.

The GTINs allocated to the trade item must be used in all transactions related to the product: Purchase Order, Despatch Advice, Invoice, …

To clarify the implementation of this Data Structure we have examples built on these names detailed in page 14.

5.2.1.1 Supplier/Producer Brand

The supplier/producer is the party responsible to assign the GTIN to the items in the hierarchy. The supplier/producer will use its GS1 company prefix and a unique number to create the GTIN for each item in the hierarchy of the product.

GTIN Retail Consumer Trade Item Unit: Supplier assigned 13-digit GTIN
GTIN Standard Trade Item Grouping Unit: Supplier assigned 13-digit GTIN ***or*** Supplier assigned GTIN based upon 14-digit data structure using Indicator Digit

5.2.1.2 Retailer Brand

The retailer is the party responsible to assign the GTIN to the items in the hierarchy. The supplier will use its GS1 company prefix and a unique number to create the GTIN for each item in the hierarchy of the product.

GTIN Retail Consumer Trade Item Unit: Retailer assigned 13-digit GTIN
GTIN Standard Trade Item Grouping Unit: Retailer assigned 13-digit GTIN ***or*** Retailer assigned GTIN based upon 14-digit data structure using Indicator Digit

5.2.1.3 Generic Products (non-branded items)

For non-branded items, the supplier should be the responsible to assign the GTIN to the items in the hierarchy. This principle is very important if we want to have full traceability through all the supply chain, since merchandise coming form different suppliers has different GTINs.

The supplier will use its company prefix and a unique number to create the GTIN for each item in the hierarchy of the product:

GTIN Retail Consumer Trade Item Unit: Supplier assigned 13-digit GTIN
GTIN Standard Trade Item Grouping Unit: Supplier assigned 13-digit GTIN ***or*** Supplier assigned GTIN based upon 14-digit data structure using Indicator Digit

Example: Fixed Weight Item Hierarchy using EAN·UCC 13 in Standard Group Trade Item

Product	Type	Item Identification	GTIN	Label
Orange Bag (1Kg aprox)	Fixed Weight	Regular GTIN	8456789000007	Regular GTIN at POS
├ Case of 12 units	Fixed Weight	Regular GTIN	8456789000014	Regular GTIN
│ ├ Pallet 20 cases	Fixed Weight	Regular GTIN	8456789000021	Regular GTIN
│ └ ½ pallet 10 cases	Fixed Weight	Regular GTIN	8456789000038	Regular GTIN
└ Case of 24 units	Fixed Weight	Regular GTIN	8456789000045	Regular GTIN
└ Pallet 10 cases	Fixed Weight	Regular GTIN	8456789000052	Regular GTIN

Example: Fixed Weight Item Hierarchy using EAN·UCC 14 in Standard Group Trade Item

Product	Type	Item Identification	GTIN	Label
Orange Bag (1Kg aprox)	Fixed Weight	Regular GTIN	8456789000007	Regular GTIN at POS
├ Case of 12 units	Fixed Weight	Regular GTIN	18456789000004	Regular GTIN
│ ├ Pallet 20 cases	Fixed Weight	Regular GTIN	28456789000001	Regular GTIN
│ └ ½ pallet 10 cases	Fixed Weight	Regular GTIN	38456789000008	Regular GTIN
└ Case of 24 units	Fixed Weight	Regular GTIN	48456789000005	Regular GTIN
└ Pallet 10 cases	Fixed Weight	Regular GTIN	58456789000007	Regular GTIN

5.2.2 Variable Weight

5.2.2.1 Pre-packed Items

All items in the Product Hierarchy must be identified using an EAN/UCC-14 code. Since we are dealing with variable measure items, the first digit (N1) of EAN/UCC-14 code must be equal to “9”, including the code of the retail consumer trade item and the code of the standard trade item grouping.

5.2.2.1.1 Supplier/Producer Brand

The supplier/producer is the responsible to assign the GTIN to the item. The supplier/producer will used its company prefix and a unique number to create the GTIN for the product.

GTIN Structure for Retail Consumer Trade Item and Standard Trade Item Grouping:
9+GS1 Company Prefix+Item Reference+CD assigned by the supplier.

5.2.2.1.2 Retailer Brand

The Retailer is the responsible to assign the GTIN to the item. The retailer will used its company prefix and a unique number to create the GTIN for the product.

GTIN Structure for Retail Consumer Trade Item and Standard Trade Item Grouping:
9+GS1 Company Prefix+Item Reference+CD assigned by the retailer.

5.2.2.1.3 Generic Products (non-branded items)

For non-branded items, the supplier should be the responsible to assign the GTIN to the item. This principle is very important if we want to have full traceability through all the supply chain, since merchandise coming from different suppliers has different GTINs. If a retailer has more than a supplier providing the same type of goods, the retailer will be responsible to handle all different GTINs for the same product in the replenishment process.

The supplier will use its company prefix and a unique number to create the GTIN for the product.

GTIN Structure for Retail Consumer Trade Item and Standard Trade Item Grouping:
9+GS1 Company Prefix+Item Reference+CD assigned by the supplier.

Example 1: Full Variable Weight in all the Hierarchy

Product	Type	Item Identification[1]	GTIN	Label
6 Apple Pack	Variable Weight	R. GTIN starting with 9	98456789000000	20-series or 02 at POS
├ Case of 12 units	Variable Weight	R. GTIN starting with 9	98456789000017	R. GTIN starting with 9
│ ├ Pallet 20 cases	Variable Weight	R. GTIN starting with 9	98456789000024	R. GTIN starting with 9
│ └ ½ pallet 10 cases	Variable Weight	R. GTIN starting with 9	98456789000031	R. GTIN starting with 9
└ Case of 24 units	Variable Weight	R. GTIN starting with 9	98456789000048	R. GTIN starting with 9
└ Pallet 10 cases	Variable Weight	R. GTIN starting with 9	98456789000055	R. GTIN starting with 9

Example 2: Mixed Case: Fixed Weight at POS + Variable Weight Hierarchy

Product	Type	Item Identification	GTIN	Label
6 Apple Pack	Fixed Weight	Regular GTIN	8456789000007	Regular GTIN
├ Case of 12 units	Variable Weight	R. GTIN starting with 9	98456789000017	R. GTIN starting with 9
│ ├ Pallet 20 cases	Variable Weight	R. GTIN starting with 9	98456789000024	R. GTIN starting with 9
│ └ ½ pallet 10 cases	Variable Weight	R. GTIN starting with 9	98456789000031	R. GTIN starting with 9
└ Case of 24 units	Variable Weight	R. GTIN starting with 9	98456789000048	R. GTIN starting with 9
└ Pallet 10 cases	Variable Weight	R. GTIN starting with 9	98456789000055	R. GTIN starting with 9

5.2.2.2 Sold in bulk items

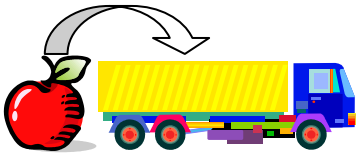
Since items sold in bulk to retailers are variable measure items, the first digit (N1) of EAN/UCC-14 code must be equal to “9”.

[1] As General Specs are today, “9” is mandatory. There is change request on the GSMP to deal with “9” issue.

Item sold in Bulk will be identified using a Regular GTIN Starting with 9. Articles sold in bulk have no specific hierarchy so that hierarchical units can not be identified.

Example 1: Apples sold in bulk. Apples sold in bulk from the supplier to the retailer have no specific packaging, so they can be delivered within boxes or containers.

Product	Type	Item Identification	GTIN	Retail Label
Apples	Variable Weight	R. GTIN starting with 9*	9845678900000	20-series or 02 at POS

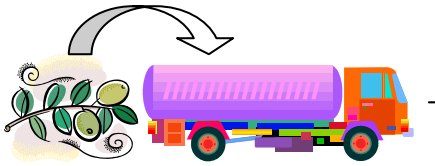


Apples in a Truck

Retail
Store/Distribution Center

Example 2: Olives sold in bulk. Olives sold in bulk from the supplier to the retailer have no specific packaging and they can be delivered inside a tank truck.

Product	Type	Item Identification	GTIN	Retail Label
Olives	Variable Weight	R. GTIN starting with 9*	9845678900017	20-series or 02 at POS



Retail
Store/Distribution Center

5.3 Identification of single pieces of Fruits & Vegetables

The way to allocate GTINs to singles pieces of Fruits&Vegetables will follow the rules defined in 5.1 and 5.2 and it basically depends on the way companies will trade with these single pieces along the supply chain and at the point-of-sale.

If the piece is sold by “unit”, i.e. each apple is sold at the same price regardless of the weight, then pieces shall have a regular GTIN, this GTIN needs to be labelled on the product. This GTIN will be the base unit of the logistic hierarchy.

If the piece is sold by “weight”, i.e. each apple has different prices depending on the weight, the pieces will be labelled with a 02 or 2x code at the point-of-sale. A regular GTIN will be assigned to the apple for trading purposes.

5.4 When to change a GTIN

The table detailed below shows the criteria to be adopted by companies related to the change of a product GTIN.

Criteria	Align Process	At the Point-of-Sale
Brand Name	Yes	Yes
Product Family (Avocado, Apricot, Pineapple,)	Yes	Yes
Variety (Victoria pineapple, green pineapple)	Yes	Yes
Type of presentation/Packaging (crate, box, punned, …)	Yes	Yes

Quality (PGI, AOC, …)	Yes	Yes
Category (extra, 1st, 2nd, …)	Yes	Yes
Calibre/Commercial Size/Grade	Yes	Yes
Type of cultivation/production/GMO	Yes	Yes
Country of Origin	Yes	Yes
Degree of maturity	No	No

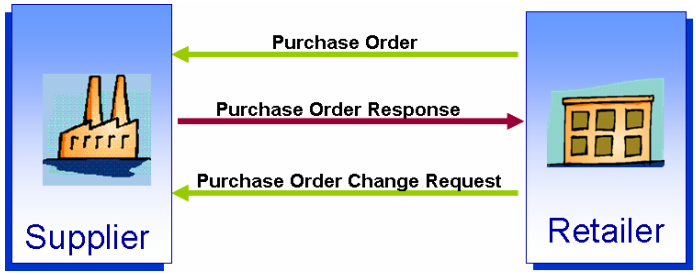
At the point-of-sale when the 02 or 20 to 29 codes are assigned by the retailer, it is up to the retailer to decide to change the 02 or 20 to 29 internal code assigned to the product.

6 How to Trade with Fruits&Vegetables Trade Items

6.1 Order Process

The Order process is triggered when the buyer needs to request and send a Purchase Order to his supplier.

The Order process and messages involved are shown in the next picture:



The Purchase Order message is transmitted by the customer to his supplier to order goods or services and to specify the relevant quantities, dates and locations of delivery. The Purchase Order may refer to an earlier Quotation received from the supplier for the ordered goods or services. The message will refer to the location and product codes exchanged previously in the Party Information and Price/Sales Catalogue Messages. It is intended to be used for the day-to-day ordering transaction with, as a general rule, one Purchase Order per delivery, per location.

The Purchase Order Change Request is sent by the customer to the supplier to specify the details concerning modifications to a previously sent Purchase Order. The customer may request to change or cancel one or more goods items or services.

The Purchase Order Response is sent by the supplier to his customer in relation to one or more goods items or services to acknowledge the receipt of the Purchase Order, to confirm its acceptance, to propose any amendments, or to notify non-acceptance of all or part of the Purchase Order. The Purchase Order Response may also be used to respond to a Purchase Order Change Request Message. A buyer's Purchase Order may be responded to by one or more response messages according to business practice.

The exact information flow with regard to the Purchase Order, the Purchase Order Response and the Purchase Order Change Request messages can vary. The procedures to be followed by the trading partners should be specified in the Interchange Agreement. An example of procedural difference might be not having the supplier send a Purchase Order Response message if there are no modifications to be made to the original order.

GS1 Europe is working in the Harmonisation of Purchase Order message to have a uniform approach for the implementation of this message across GS1 Europe Member Organisations.

6.2 Deliver Process

The Deliver process is triggered when an inquiry or order is received from a customer. The delivery process includes the care and custody of the goods, picking orders, arranging transportation and issuing or shipping the goods.

The Deliver process and messages involved are shown in the next picture:

To complete the deliver process, the Despatch Advice is an EDI message specifying details for the goods despatched with the function of advising the receiver (consignee) of the detailed contents of a consignment. The message allows the receiver to know what materials were despatched and when, allowing him to prepare the reception of the goods and to crosscheck the delivery with the order.

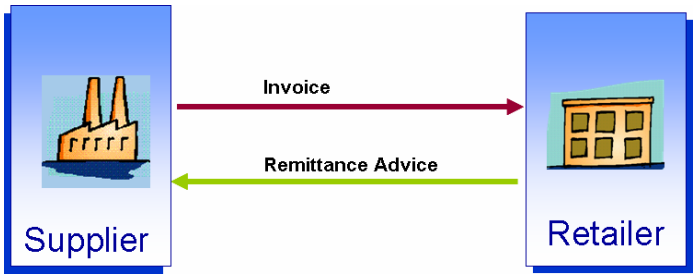
The correct use of Logistic Units bar coding and the use despatch Advice is the basis for traceability since it also allows companies the means to extract and store traceability data (SSCC, GTINs, Quantities, Batch numbers, Packaging date, Best before date, …) and link this information with the pallet and boxes received, ensuring accurate record keeping and reading of relevant information.

The Receiving Advice is a message specifying details for the goods received under conditions agreed between the buyer and the seller, with the function of advising the consignor of the received contents of a consignment. The message relates to a single receiving point and a single despatch point and it may cover a number of different items, packages or orders. The message allows the consignor to know what materials were received/not received against the original order and what materials were accepted/not accepted. This information allows the consignor to prepare an invoice for the customer.

GS1 Europe is working in the Harmonisation of Despatch Advice message to have a uniform approach for the implementation of this message across GS1 Europe Member Organisations. GS1 Europe is also working in the harmonisation of the content of EAN/UCC-128 Logistic labels.

6.3 Pay Process

The Pay process starts when the goods have been received by the consignee and acknowledged. The Pay process and messages involved are shown in the next picture:



The Invoice message is sent by the supplier to the customer claiming payment for goods or services supplied under conditions agreed by the seller and the buyer. This same message with correct data qualification also covers the functions of proforma invoice, debit and credit note. The seller may invoice for one or more transactions referring to goods and services related to one or more order, delivery instruction, call off, etc. The invoice may contain

references to payment terms, transport details and additional information for customs or statistical purposes in the case of cross-border transaction.

The Remittance Advice is a communication between buyer and seller which provides detailed accounting information relative to a payment, or other form of financial settlement, on a specified date for the provision of goods and/or services as detailed in the advice. The message may be initiated by either the buyer or seller. The Remittance Advice is a notice of payment to be made covering one or more transactions.

6.4 Regular GTINs and Units of measure

In all the processes detailed before: order, deliver and pay, the major challenge in all transaction with variable weight trade items is that the code used at the point of sale is not code allocated for replenishment purposes and we need to use the Regular (administrative) GTIN assigned where applicable.

It is mandatory to use the Regular GTIN as indicated in the previous chapter in all transactions involved in the trade process. Codes starting wit 02 or 20s can never be used for replenishment purposes and are only used for item identification at the point-of-sale.

The table detailed below shows the unit of measure to be used in each transaction depending on the type of product:

	Orders	**Despatch Advice**	**Invoice**
Fixed Weight	Units	Units	Units
Variable Measure	Units	Units and Weight	Weight
Sold in Bulk	Weight	Weight	Weight

It is mandatory to use the highest level GTIN in the product hierarchy to allow a unique identification of item to be delivered.

Example:

Product	Type	Item Identification	GTIN	Label
6 Apple Pack	Variable Weight	R. GTIN starting with 9*	98456789000000	20s or 02 at POS
├ Case of 12 units	Variable Weight	R. GTIN starting with 9	98456789000017	R. GTIN starting with 9
│ ├ Pallet 20 cases	Variable Weight	R. GTIN starting with 9	98456789000024	R. GTIN starting with 9
│ └ ½ pallet 10 cases	Variable Weight	R. GTIN starting with 9	98456789000031	R. GTIN starting with 9
└ Case of 24 units	Variable Weight	R. GTIN starting with 9	98456789000048	R. GTIN starting with 9
└ Pallet 10 cases	Variable Weight	R. GTIN starting with 9	98456789000055	R. GTIN starting with 9

If we are planning to order a pallet containing 10 cases of 24 units of 6-unit apple packs, it is strongly recommended to use pallet GTIN 98456789000055 and order 1 unit, if the GTIN for the pallet exist. Requesting 240 units of GTIN 9845678900000 may arise some problems since GTIN 98456789000055 and GTIN 98456789000024 have 240 units contained.

7 New Technologies for variable measure products in-store coding

It would be desirable to have one single global approach throughout the whole supply chain, including POS, to eliminate discrepancies caused national solutions for Variable Measure – in-store numbering. New technologies (RSS, EPCglobal, etc.) would fulfil these requirements, but adaptation at the POS-applications is requested

If the GS1 community wants to achieve real harmonisation, it will have to change the Point-of-sales systems to cope with more information than 13 digits for item-identification and additional attributes and new symbologies (or combination of symbologies) at the POS to encode this more of information: RSS-expanded stacked, EAN-13 plus composite component, Datamatrix ECC 200 and RFID/EPC.

There is no guideline for the way of identification with the technologies detailed above in the field of identification of F&V at the moment of writing. None of the technologies detailed is fully developed at the moment for large implementations but it is under construction.

Appendices 1.- Glossary of Terms

Brand Owner	The party that is responsible for allocating GS1 System numbering and bar code symbols on a given trade item. The administrator of a GS1 Company Prefix.
Carrier	The party that provides freight transportation services or a physical or electronic mechanism that carries data.
Check Digit	A digit calculated from the other digits of an Element String, used to check that the data has been correctly composed. (See GS1 Check Digit Calculation.)
Company Number	A component of the GS1 Company Prefix. GS1 assign GS1 Company Prefixes to entities that administer the allocation of GS1 System identification numbers. These entities may be, for example, commercial companies, not for profit organisations, governmental agencies, and business units within organisations. Criteria to qualify for the assignment of a GS1 Company Prefix are set by the GS1 Member Organizations.
Composite Component®	This term is used to refer to either a linear or 2D symbol component within a composite symbol.
Composite Symbology®	An GS1 System composite symbol consists of a linear component (encoding the item's primary identification) associated with an adjacent 2D Composite Component™ (encoding supplementary data, such as a batch number or expiration date). The composite symbol always includes a linear component so that the primary identification is readable by all scanning technologies, and so that 2D imager scanners can use the linear component as a finder pattern for the adjacent 2D Composite Component™. The composite symbol always includes one of three multi-row 2D Composite Component™ versions (e.g., CC-A, CC-B, CC-C) for compatibility with linear- and area-CCD scanners and with linear and rastering laser scanners.
Customer	The party that receives, buys, or consumes an item or service.
Data Carrier	A means to represent data in a machine readable form; used to enable automatic reading of the Element Strings.
Data Structure	GS1 data structures defined in the various lengths required for the different identification purposes, which all share a hierarchical composition. Their composition blends the needs of international control with the needs of the user.
EAN·UCC-13 Data Structure	The 13-digit GS1 System data structure composed of a GS1 Company Prefix and Check Digit as well as an Item Reference, Location Reference, or Asset Type.
EAN·UCC-13 Identification Number	The GS1 System identification number comprising 13 digits; used to identify trade items, locations, and special applications (e.g., coupons).
EAN·UCC-14 Data Structure	The 14-digit GS1 System data structure composed of an Indicator, GS1 Company Prefix, Item Reference, and a Check Digit.
EAN·UCC-14 Identification Number	The GS1 System identification number comprising 14 digits; used to identify trade items.
EAN·UCC-8 Data Structure	The eight-digit GS1 System data structure composed of an EAN/UCC-8 Prefix, Item Reference, and Check Digit.

EAN·UCC-8 Identification Number	The GS1 System identification number comprising eight digits used to identify trade items and special applications.
EAN·UCC-8 Prefix	A one-, two-, or three-digit index number, co-administered by EAN International and the Uniform Code Council (UCC™), denoting the area of distribution of trade items identified by an EAN/UCC-8 Identification Number.
EAN/UPC Composite Symbology® Family	A family of bar code symbols comprised of the UPC-A Composite Symbology®, UPC-E Composite Symbology®, EAN-8 Composite Symbology®, and EAN-13 Composite Symbology®.
EAN/UPC Symbology	A family of bar code symbols including EAN-8, EAN-13, UPC-A, and UPC-E Bar Code Symbols. Although UPC-E Bar Code Symbols do not have a separate Symbology Identifier, they act like a separate symbology through the scanning application software. See also EAN-8 Bar Code Symbol, EAN-13 Bar Code Symbol, UPC-A Bar Code Symbol, and UPC-E Bar Code Symbol.
EAN-13 Bar Code Symbol	A bar code symbol of the EAN/UPC Symbology that encodes EAN/UCC-13 Identification Numbers.
EAN-13 Composite Symbology®	The Composite Symbology® that utilises an EAN-13 Bar Code Symbol as the linear component.
EAN-8 Bar Code Symbol	A bar code symbol of the EAN/UPC Symbology that encodes EAN/UCC-8 Identification Numbers.
EAN-8 Composite Symbology®	The Composite Symbology® that utilises an EAN-8 Bar Code Symbol as the linear component.
EANCOM®	The international Electronic Data Interchange (EDI) standard provided by GS1, conforming to the UN/EDIFACT standard.
EDI	Abbreviation for Electronic Data Interchange.
Electronic Commerce	The conduct of business communications and management through electronic methods, such as Electronic Data Interchange (EDI) and automated data collection systems.
Electronic Message	A composition of Element Strings from scanned data and transaction information assembled for data validation and unambiguous processing in a user application.
Fixed Measure Trade Item	An item always produced in the same pre-defined version (e.g., type, size, weight, contents, design) that may be sold at any point in the supply chain.
General Distribution Scanning	Scanning environments that include bar coded trade items packaged for transport, logistic units, assets and location tags.
Global Trade Item Number®	A Global Trade Item Number® may use the EAN/UCC-8, UCC-12, EAN/UCC-13, or EAN/UCC-14 Data Structure.
GS1	The global organisation responsible for the GS1 System (formerly EAN International)
GS1 Check Digit Calculation	A GS1 System algorithm for the calculation of a Check Digit to verify accuracy of data decoded from a bar code symbol.
GS1 Company Prefix	Part of the international GS1 System data structures consisting of a GS1 Prefix and a Company Number, both of which are allocated by GS1.
GS1 Europe	Collaboration of Europea GS1 Member Organisations to lead the creation and implementations of harmonised, user-driven solution for improving the Supply and Demand Chain Management.

GS1 Member Organisation	A member of GS1 International that is responsible for administering the GS1 System in its country (or assigned area) and for managing the correct use of the GS1 System by its member companies.
GS1 Prefix	A number with two or more digits administered by GS1 denoting the format and meaning of a particular Element String.
GS1 System	The specifications, standards, and guidelines administered by GS1.
GTIN®	Abbreviation for the Global Trade Item Number®.
GTIN® Format	The format in which Global Trade Item Numbers® (GTINs®) must be represented in a 14-digit reference field (key) in computer files to ensure uniqueness of the identification numbers.
Indicator	A digit to complete a particular identification number or to add some sort of significance to a particular Element String.
Item Number	See Item Reference.
Item Reference	The part of the data structure allocated by the user to identify a trade item for a given GS1 Company Prefix.
Item Reference Number	See Item Reference.
Logistic Unit	An item of any composition established for transport and/or storage that needs to be managed through the supply chain. It is identified with SSCC.
Manufacturer's ID	See GS1 Company Prefix.
Manufacturer's Number	See GS1 Company Prefix.
Measure Check-Digit	A digit calculated from the measure field of an Element String encoded using the EAN/UPC Symbology. Used to check that the data has been correctly composed.
Numbering Organisation (NO)	See GS1 Member Organisation.
Point-Of-Sale (POS)	Refers to the retail type checkout where bar code symbols are normally scanned.
Price Check-Digit	A digit calculated from the price field of an Element String encoded using the EAN/UPC Symbology. Used to check that the data has been correctly composed.
Primary Bar Code	The bar code containing the identification number of the item (e.g. GTIN®, SSCC, etc.). Used to determine the placement of any additional bar code information.
Reduced Space Symbology® (Rss)	A family of bar code symbols, including RSS-14®, RSS Limited®, RSS Expanded®, and RSS-14® Stacked. Any member of the RSS family can be printed as a stand-alone linear symbol or as a composite symbol with an accompanying 2D Composite Component® printed directly above the RSS linear component.
Retail Consumer Trade Item	The trade item intended to be sold to the end consumer at retail Point-of-Sale. They are identified with a unique EAN/UCC-13, UCC-12, or EAN/UCC-8 GTIN.
RSS Composite Symbology® Family	A family of symbols comprised of the RSS-14® Composite Symbology®, RSS-14® Stacked Composite Symbology®, RSS Limited® Composite Symbology®, and RSS Expanded® Composite Symbology®.
RSS Expanded® Bar Code Symbol	A bar code symbol that encodes an EAN/UCC-14 Identification Number plus supplementary AI Element Strings, such as weight and "best before" date, in a linear symbol that can be scanned omnidirectionally by suitably programmed Point-of-Sale scanners.

RSS Expanded® Composite Symbology®	The RSS Composite Symbology® that utilises an RSS Expanded® Bar Code Symbol as the linear component.
RSS Expanded® Stacked Bar Code Symbol	A bar code symbol that is a variation of the RSS Expanded® Bar Code Symbol that is stacked in multiple rows and is used when the normal symbol would be too wide for the application.
RSS Expanded® Stacked Composite Bar Code Symbol	The RSS Composite Symbology® that utilises an RSS Expanded® Stacked Bar Code Symbol as the linear component.
RSS Limited® Bar Code Symbol	A bar code symbol that encodes an EAN/UCC-14 Identification Number with Indicators of zero or one in a linear symbol; for use on small items that will not be scanned at the Point-of-Sale.
RSS Limited® Composite Symbology®	The RSS Composite Symbology® that utilises an RSS Limited® Bar Code Symbol as the linear component.
RSS-14® Bar Code Symbol	A bar code symbol that encodes an EAN/UCC-14 Identification Number in a linear symbol that can be scanned omnidirectionally by suitably programmed Point-of-Sale scanners.
RSS-14® Composite Symbology®	The RSS Composite Symbology® that utilises an RSS-14® Bar Code Symbol as the linear component.
RSS-14® Stacked Bar Code Symbol	A bar code symbol that is a variation of the RSS-14® Symbology that is stacked in two rows and is used when the normal symbol would be too wide for the application. It comes in two versions: a truncated version used for small item marking applications and a taller omnidirectional version that is designed to be read by omnidirectional scanners. RSS Expanded® can also be printed in multiple rows as a stacked symbol.
RSS-14® Stacked Composite Symbology®	The RSS Composite Symbology® that utilises an RSS-14® Stacked Bar Code Symbol as the linear component.
Serial Reference	The part of the data structure allocated by the user that, in conjunction with the Extension digit, establishes a unique SSCC for a given GS1 Company Prefix.
Serial Shipping Container Code	See SSCC.
SSCC	Term used for the Serial Shipping Container Code. The unique identification of a logistic unit using an 18-digit data structure.
SSCC Serial Number	See Serial Reference.
Standard Numbering Structures	See data structure.
Standard Trade Item Grouping	A standard composition for a trade item(s) that is not intended for Point-of-Sale scanning. They are identified with a unique EAN/UCC-14, EAN/UCC-13, or UCC-12 GTIN.
Supplier	The party that produces, provides, or furnishes an item or service.
Symbology	A defined method of representing numeric or alphabetic characters in a bar code; a type of bar code.
Symbology Element	A character or characters in a bar code symbol used to define the integrity and processing of the symbol itself (e.g., start and stop patterns). These elements are symbology overhead and are not part of the data conveyed by the bar code symbol.

Symbology Identifier	A sequence of characters transmitted with the decoded data that identifies the data carrier from which the data has been decoded.
Trade Item	Any item (product or service) upon which there is a need to retrieve pre-defined information and that may be priced, or ordered, or invoiced at any point in any supply chain.
Variable Measure Trade Item	An item always produced in the same pre-defined version (e.g., type, design, packaging) that may be sold at any point in the supply chain, which either may vary in weight/size by its nature or which may be traded without a pre-defined weight/size/length.

Appendices 2.- Use of 02 and 20 to 29 Codes in GS1 Europe Countries

One or more of the EAN.UCC prefixes 02 and 20 through 29 are normally used for the identification of Variable Measure Retail Items. Most GS1 Member Organisations have adopted a solution which is for internal use and different in each country.

Hereafter you will find the approach of each GS1 Europe Member Organisation to the use of 02 and 20s for Fruit&Vegetable in-store coding.

Legend

R = Retailer assigned	**M** =Manuf. assigned	**V** = Verifier digit	**W** = Weight
I = MO assigned	IM = Manuf. ID for special product ass. by MO	**P** = Price	**N** = Pieces/Other

GS1 AUSTRIA

2 0	R	R	R	R	R	R	R	R	R	R	C	*Retailer assigned*
2 1	R	R	R	R	R	W	W,	W	W	W	C	*Weight – Retailer assigned*
2 2	R	R	R	R	R	P	P	P,	P	P	C	*Price – Retailer assigned*
2 3	0	I	I	I	I	P	P	P,	P	P	C	*0 + SAN + Price*
	1-9*	IM	IM	IM	IM	P	P	P,	P	P	C	*Allocated and managed by GS1-Austria*
2 4	R	R	R	R	R	P	P	P,	P	P	C	*Retailer assigned*
2 7	0	I	I	I	I	W	W,	W	W	W	C	*0 + SAN + Weight*
	1-9*	IM	IM	IM	IM	W	W,	W	W	W	C	*Allocated and managed by GS1 Austria*
2 8	R	R	R	R	R	N	N	N	N	N	C	*Piece*
2 9	0	I	I	I	I	N	N	N	N	N	C	*0 + SAN + Piece*

* Allocated and managed by GS1 Austria

GS1 BELGIUM&LUXEMBOURG

0 2	R	R	R	R	V	P	P	P,	P	P	**C**	*P =Euro*
2 0	R	R	R	R	R	R	R	R	R	R	**C**	
2 1	R	R	R	R	R	R	R	R	R	R	**C**	
2 2	R	R	R	R	R	R	R	R	R	R	**C**	
2 3	R	R	R	R	R	R	R	R	R	R	**C**	
2 4	R	R	R	R	R	R	R	R	R	R	**C**	
2 5	R	R	R	R	R	R	R	R	R	R	**C**	
2 6	R	R	R	R	R	R	R	R	R	R	**C**	
2 7	R	R	R	R	R	R	R	R	R	R	**C**	
2 8	I	I	I	I	I	W	W,	W	W	W	**C**	
2 8	**9**	I	I	I	I	W	W,	W	W	W	**C**	*I = national catalogue number for generic fruit & vegetables P = Euro*
2 9	**5**	I	I	I	I	I	P	P,	P	P	**C**	*P = Euro*
2 9	**6**	I	I	I	I	P	P	P,	P	P	**C**	*P = Euro*

2 9	**8**	**0**	I	I	I	I	P	P,	P	P	**C**	*I = national catalogue number for generic fruit & vegetables P = Euro*

GS1 CZECH

0 2	R	R	R	R	R	R	R	R	R	R	**C**	*Free Structure*
2 0	R	R	R	R	R	R	R	R	R	R	**C**	
2 1	R	R	R	R	V	P	P	P	P	P	**C**	*CZK*
2 2											**C**	*reserved for EURO*
2 3											**C**	*reserved for EURO*
2 4	R	R	R	R	V	P	P	P	P	P	**C**	*TOTAL CZK*
2 5	R	R	R	R	V	N	N	N	N	N	**C**	
2 7	I	I	I	I	V	P	P	P	P	P	**C**	*CZK*
2 8	R	R	R	R	V	W	W	W	W	W	**C**	
2 9	I	I	I	I	V	W	W	W	W	W	**C**	

GS1 DENMARK

0 2	R	R	R	R	R	R	R	R	R	R	**C**	*Internal*
2 0	R	R	R	R	P	P	P	P	P	P	**C**	*Internal price*
2 1	I	I	M	M	P	P	P	P	P	P	**C**	*Price*
2 2	I	I	M	M	P	P	P	P	P	P	**C**	*Price*
2 3	I	I	M	M	P	P	P	P	P	P	**C**	*Price*
2 4	I	I	M	M	P	P	P	P	P	P	**C**	*Price*
2 5	R	R	R	R	W	W	W	W	W	W	**C**	*measure*
2 6	I	I	I	M	W	W	W	W	W	W	**C**	*measure*
2 7	I	I	M	M	P	P	P	P	P	P	**C**	*Price*
2 8	I	I	M	M	P	P	P	P	P	P	**C**	*Price*
2 9	I	I	I	I	R	R	R	R	R	R	**C**	*membership no.*

GS1 ESTONIA

0 2	R	R	R	R	R	R	R	R	R	R	**C**	*In-store*
2 0	I	I	I	R/M	R/M	R/M	P	P	P	P	**C**	
2 1	I	I	I	R/M	R/M	R/M	P	P	P	P	**C**	
2 2	I	I	I	R/M	R/M	R/M	P	P	P	P	**C**	
2 3	I	I	I	R/M	R/M	R/M	W	W	W	W	**C**	
2 4	I	I	I	R/M	R/M	R/M	W	W	W	W	**C**	
2 5	I	I	I	R/M	R/M	R/M	W	W	W	W	**C**	
2 7	R	R	R	R	R	R	W	W	W	W	**C**	
2 8	R	R	R	R	R	R	P	P	P	P	**C**	

GS1 FINLAND

0 2	R	R	R	R	R	R	R	R	R	R	**C**	
2 0	I	I	I	I	M	M	P	P,	P	P	**C**	
2 1	I	I	I	I	M	M	P	P	P,	P	**C**	

2 2	I	I	I	I	M	M	P	P	P	P	**C**	
2 3	I	I	I	I	M	M	W,	W	W	W	**C**	
2 4	I	I	I	I	M	M	W	W,	W	W	**C**	
2 5	I	I	I	I	M	M	W	W	W,	W	**C**	
2 8	R	R	R	R	R	P	P	P,	P	P	**C**	

GS1 FRANCE

0 2	0 1-9	R M	R M	R M	R M	P	P	P	P	P	**C**	*0=instore* *1-9=Manuf.*
2 0	R	R	R	R	R	R	R	R	R	R	**C**	*Instore*
2 1	M	M	M	M	M	W	W	W	W	W	**C**	*Manuf or Retailer*
2 2	M	M	M	M	M	P	P	P	P	P	**C**	*Manuf or Retailer*
2 3	M	M	M	M	M	W	W	W	W	W	**C**	*Manuf or Retailer*
2 4	M	M	M	M	M	P	P	P	P	P	**C**	*Manuf or Retailer*
2 5	I	I	I	I	I	W	W	W	W	W	**C**	*National sol.*
2 6	M	M	M	M	M	P	P	P	P	P	**C**	*Manuf or Retailer*
2 7	M	M	M	M	M	W	W	W	W	W	**C**	*Manuf or Retailer*
2 8	I	I	I	I	I	P	P	P	P	P	**C**	*National sol.*
2 9	0 1-9	R M	R M	R M	R M	W	W	W	W	W	**C**	*0=instore* *1-9= Manuf or Retailer*

(1) The Price is expressed in French Francs in the bar code. To obtain the price in Euro when reading the bar code divided by the fixed exchange rate (6.55957) and round to two digits. The price in Euro is always expressed to two decimal places.

(2) Manufacturer numbers are allocated by GS1 France to company.

GS1 GERMANY

0 2	R	R	R	R	R	V	P	P,	P	P	**C**	*P=USD resp. EURO*
2 0	R	R	R	R	R	R	R	R	R	R	**C**	
2 2	R	R	R	R	V	P	P	P ,	P	P	**C**	*P=EURO*
2 3	I	I	I	I	V	P	P	P ,	P	P	**C**	*P=EURO*
2 4	R	R	R	R	V	P	P	P ,	P	P	**C**	*total dept. price in EURO*
2 5	R	R	R	R	V	N	N	N	N	N	**C**	
2 6	I	I	I	I	V	N	N	N	N	N	**C**	
2 8	R	R	R	R	V	W	W,	W	W	W	**C**	*in kg*
2 9	I	I	I	I	V	W	W,	W	W	W	**C**	*in kg*

GS1 GREECE

2 0	R	R	R	R	R	W_1	W_2	W_3	W_4	W_5	**C**	*Note 1*
2 1	R	R	R	R	R	W_1	W_2	W_3	W_4	W_5	**C**	*Note 1*
2 2	R	R	R	R	R	R	R	R	R	R	**C**	*Note2*
2 3	R	R	R	R	R	R	R	R	R	R	**C**	*Note2*
2 4	R	R	R	R	R	R	R	R	R	R	**C**	*Note2*
2 5	R	R	R	R	R	R	R	R	R	R	**C**	*Note2*
2 9	I	I	I	M	M	W_1	W_2	W_3	W_4	W_5	**C**	*Note 1*

Note 1 The decimal point is placed between W_2 and W_3

Note 2 Used for fixed measure items numbered by the retailer.

GS1 HUNGARY

2 0	R	R	R	R	R	R	R	R	R	R	**C**	

2 1	R	R	R	R	V	P	P	P	P	P	**C**	
2 2	R	R	R	R	V	P	P	P	P	P	**C**	
2 3	R	R	R	R	V	P	P	P	P	P	**C**	
2 4	R	R	R	R	V	P	P	P	P	P	**C**	
2 5	R	R	R	R	V	N	N	N	N	N	**C**	
2 8	R	R	R	R	V	W	W	W	W	W	**C**	

GS1 ICELAND

0 2	M	M	M	M	M	M	M	M	M	M	**C**	*Internal use*
2 0	I	I	I/M	M	M	P	P	P	P	P	**C**	*Price*
2 1	I	I	I/M	M	M	P	P	P	P	P	**C**	*Price*
2 2	I	I	I/M	M	M	P	P	P	P	P	**C**	*Price*
2 3	I	I	I/M	M	M	W	W	W	W	W	**C**	*Weight*
2 4	I	I	I/M	M	M	W	W	W	W	W	**C**	*Weight*
2 5	I	I	I/M	M	M	W	W	W	W	W	**C**	*Weight*
2 0	**0**	M	M	M	M	P	P	P	P	P	**C**	*Internal - Price*
2 1	**0**	M	M	M	M	P	P	P	P	P	**C**	*Internal - Price*
2 2	**0**	M	M	M	M	P	P	P	P	P	**C**	*Internal - Price*
2 3	**0**	M	M	M	M	W	W	W	W	W	**C**	*Internal - Weight*
2 4	**0**	M	M	M	M	W	W	W	W	W	**C**	*Internal - Weight*
2 5	**0**	M	M	M	M	W	W	W	W	W	**C**	*Internal - Weight*

GS1 IRELAND

0 2	R	R	R	R	R	V	P	P	P	P	**C**	
2 0	**I**	**I**	**I**	**R**	**R**	**V**	**P**	**P**	**P**	**P**	**C**	*P = Euro*

GS1 ITALY

2 0	R	R	R	R	R	P	P	P	P	P	**C**	
2 1	R	R	R	R	R	P	P	P	P	P	**C**	*item numbers assigned 1 by 1*
2 2	I	I	I	I	I	P	P	P	P	P	**C**	
2 3	I	I	I	I	I	P	P	P	P	P	**C**	
2 4	I	I	I	I	I	P	P	P	P	P	**C**	
2 5	I	I	I	I	I	P	P	P	P	P	**C**	
2 6	I	I	I	I	I	P	P	P	P	P	**C**	
2 7	I	I	I	I	I	P	P	P	P	P	**C**	
2 8	I	I	I	I	I	P	P	P	P	P	**C**	
2 9	I	I	I	I	I	P	P	P	P	P	**C**	

GS1 NETHERLANDS

2 0	R	R	R	R	R	R	R	R	R	R	**C**	
2 1	R	R	R	R	V	P	P	P	P	P	**C**	
2 2	R	R	R	R	V	P	P	P	P	P	**C**	
2 3	I + R/ M	I + R/ M	I + R/ M	I + R/ M	I + R/ M	V	P	P	P	P	**C**	*Price in euros, source marking; a 5 digit block is assigned to a retailer or an manufacturer. The R or M allocates within this range codes to its products.*
2 8	R	R	R	R	V	W	W	W	W	W	**C**	*Used by wholesalers*

GS1 PORTUGAL

0 2	R	R	R	R	R	R	R	R	R	R	**C**	
2 0	R	R	R	R	R	R	R	R	R	R	**C**	
2 1	R	R	R	R	R	R	R	R	R	R	**C**	
2 2	R	R	R	R	R	R	R	R	R	R	**C**	
2 3	R	R	R	R	R	R	R	R	R	R	**C**	
2 4	R	R	R	R	R	R	R	R	R	R	**C**	
2 5	I	I	I	I	I	N	N	N	N	N	**C**	*Only for Suppliers*
2 6	R	R	R	R	R	P	P	P	P	P	**C**	
2 7	I	I	I	I	I	P	P	P	P	P	**C**	
2 8	R	R	R	R	R	W	W	W	W	W	**C**	
2 9	I	I	I	I	I	W	W	W	W	W	**C**	

Note: The label besides several information must contain, in human readable dada, the price per Kilo, the weight (or the quantity in case of prefix 25) of the item and the value that consumer will pay for it

GS1 LATVIA

0 2	R	R	R	R	R	R	R	R	R	R	**C**	
2 0	0 1-9	R I	R I	R I	R I	R I	P P	P, P,	P P	P P	**C** **C**	- 0= in strore - for future use
2 1	0 1-9	R I	R I	R I	R I	R I	P P	P P	P, P,	P P	**C** **C**	- 0= in store - for future use
2 2	0 1-9	R I	R I	R I	R I	R I	P P	P P	P P	P P	**C** **C**	- 0=in sore - for future use
2 3	0 1-9	R I	R I	R I	R I	R I	W, W,	W W	W W	W W	**C** **C**	- 0=in store - 1-9 GS1 LATVIA
2 4	0 1-9	R I	R I	R I	R I	R I	W W	W, W,	W W	W W	**C** **C**	- 0=in store - 1-9 GS1 LATVIA
2 5	0 1-9	R I	R I	R I	R I	R I	W W	W W	W, W,	W W	**C** **C**	- 0=in store - 1-9 GS1 LATVIA
2 7	R	R	R	R	R	R	R	R	R	R	**C**	
2 8	R	R	R	R	R	R	R	R	R	R	**C**	
2 9	R	R	R	R	R	R	R	R	R	R	**C**	

GS1 LITHUANIA

2 0	R	R	R	R	R	R	R	R	R	R	**C**	in store
2 1	R	R	R	R	R	W	W	W	W	W	**C**	in store
2 2	R	R	R	R	R	R	R	R	R	R		in store
2 4	I	I	I	I	I	I	W	W	W	W	**C**	

2 5	I	I	I	I	I	W	W	W	W	W	**C**	

GS1 POLAND

2 0	R/M	R/M	R/M	R/M	R/M	R/M	R/M	R/M	R/M	R/M	**C**	R/M – for internal use
2 3	I	I	I	I	V	P	P	P,	P	P	**C**	I – national catalogue number
2 4	R/M	R/M	R/M	R/M	V	P	P	P,	P	P	**C**	
2 7	I	I	I	I	V	W/N	W,/N,	W/N	W/N	W/N	**C**	I – national catalogue number
2 9	R/M	R/M	R/M	R/M	V	W/N	W,/N,	W/N	W/N	W/N	**C**	
02, 21, 22, 25, 26, 28												For future use

GS1 SLOVAKIA

2 6	I	I	I	I	V	P	P	P	P	P	**C**	*price*
2 8	R	R	R	R	V	W	W	W	W	W	**C**	*weight - internal usage*
2 9	I	I	I	I	V	W	W	W	W	W	**C**	*weight*

GS1 SLOVENIA

2 0	R	R	R	R	R	R	R	R	R	R	**C**	
2 1	R	R	R	R	R	P	P	P	P	P	**C**	
2 4	I	I	I	M	M	N	N	N	N	N	**C**	*99999 pieces*
2 5	I	I	I	M	M	P	P	P	P	P	**C**	*9999.9 SIT*
2 6	I	I	I	M	M	W	W	W	W	W	**C**	*99.999 kg*
2 7	R	R	R	R	R	N	N	N	N	N	**C**	
2 8	R	R	R	R	R	W	W	W	W	W	**C**	

GS1 SPAIN

2 0	R	R	R	R	R	R	R	R	R	R	**C**	
2 1	R	R	R	R	R	R	R	R	R	R	**C**	
2 2	R	R	R	R	R	R	R	R	R	R	**C**	
2 3	R	R	R	R	R	R	R	R	R	R	**C**	
2 5	R	R	R	R	R	P	P	P	P	P	**C**	
2 6	R	R	R	R	R	P	P	P	P	P	**C**	

GS1 SWEDEN

0 2	R	R	R	R	R	R	R	R	R	R	**C**	
2 0	I	I	I/M	I/M	M	M	P	P,	P	P	**C**	
2 1	I	I	I/M	I/M	M	M	P	P	P,	P	**C**	
2 2	I	I	I/M	I/M	M	M	P	P	P	P	**C**	
2 3	I	I	I/M	I/M	M	M	W,	W	W	W	**C**	
2 4	I	I	I/M	I/M	M	M	W	W,	W	W	**C**	
2 5	I	I	I/M	I/M	M	M	W	W	W,	W	**C**	

GS1 SWITZERLAND

0 2	R	R	R	R	R	V	P	P	P	P	**C**	

2 0	R	R	R	R	R	R	R	R	R	R	**C**	
2 1	R	R	R	R	V	P	P	P	P	P	**C**	
2 2	I	I	I	I	V	P	P	P	P	P	**C**	
2 8	R	R	R	R	V	W	W	W	W	W	**C**	
2 9	I	I	I	I	V	W	W	W	W	W	**C**	

GS1 UNITED KINGDOM

0 2	R	R	R	R	V	P	P	P	P	P	**C**	
2 0	I	I	I	M	M	V	P	P	P	P	**C**	
2 1	R	R	R	R	R	R	R	R	R	R	**C**	
2 2	R	R	R	R	R	R	R	R	R	R	**C**	
2 3	R	R	R	R	R	R	R	R	R	R	**C**	
2 4	R	R	R	R	R	R	R	R	R	R	**C**	
2 5	R	R	R	R	R	R	R	R	R	R	**C**	
2 6	R	R	R	R	R	R	R	R	R	R	**C**	
2 7	R	R	R	R	R	R	R	R	R	R	**C**	
2 9	R	R	R	R	R	R	R	R	R	R	**C**	

Appendices 3.- Bibliography

General EAN·UCC Specification V6.0, GS1, 2005
Fresh Produce Traceability Guidelines – GS1, 2001
EAN·UCC Traceability Implementation – GS1, 2003
Banana Supply Chain Traceability – GS1, 2004