Using GS1 Codes in NHS Procurement

*How procurement departments can make best use
of bar code technology*

Preface

Coding International Ltd (CIL) is a company that was formed in 2000. Previously they were a department in the NHS called the NSV Centre (created in 1990) and were part of NHS Supplies. The department's role was to supply and maintain a standardised database of procurement information for procurement departments in the NHS and Government. The database comprised a standardised description and a National Supplies Vocabulary (NSV) code. This information was mapped to suppliers' catalogue numbers (and EANs where available) UNSPSC and CPV. More recently NSV codes have been cross-referenced to NHS-eClass. The staff at CIL have over 22 years experience in procurement coding and are the foremost authority in the UK.

The Department of Health is recommending that the GS1 system should be adopted throughout the healthcare system in England for manufactured products. Although this sounds easy, implementation will be very difficult, even on a small scale and will still leave the problem of integrating data from GS1 with other information on the same products from suppliers not using bar coding. The implementation will also need to consider other questions such as which GS1 codes are most appropriate, persuading Manufacturers to apply them, accessing information from the codes and getting the best use from this information. This paper shows how some of these problems can be solved.

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These coding problems are not new and have been subject to various reports over the years e.g.

Quotes from Efficiency in Civil Government Procurement (1998) Report (ISBN 0947819592)

"Chapter 3: Collaboration and Joint Procurement

3.4 *TO BE EFFECTIVE, collaboration and joint procurement needs full and reliable information about who is buying what, from whom, and through what means. This will entail use of a common coding system such as the National Supplies Vocabulary (NSV) in which government has already invested."*

"Annex B

National Supplier Vocabulary (NSV)
Background
NSV is the public sector coding standard recommended as the procurement code for all departments. It is an alpha-numeric code, used to specify products and services, which has been developed to cover both goods and services."

Contents

Executive Summary

That bar-coding and similar coding technologies, and the positive impact they could have on healthcare, particularly patient safety, as outlined in Helen Lovell's report *"Coding for Success,"* is in no doubt. However as the Department of Health review summarises "overall progress has been a little slower than expected"

The main problems are related to manufactured products:

- Very few suppliers to the NHS use GS1 numbers to identify their products

- The GS1 is pack size specific, meaning different quantities have different GS1s

- Gaining and using data from products with GS1 numbers and integrating the information with suppliers that do not, is difficult

- The GS1 cannot be easily used to compare prices on the same products from the same or different supplier

- Using GS1 information to improve efficiency and make cash savings has also proved difficult

There is only one way to link all the information, and that is to use a Standardised Code and Description, the National Supply Vocabulary, which was created for the NHS and is still in use today*.

This standardised record can link all the information related to a standardised description, overcoming the problems of GS1 codes being pack size and manufacturer specific.

This is the key to creating accurate procurement history on all products and services which can aid benchmarking prices, standardisation, rationalisation and reduced spend. **This is how the £500 million savings per annum by the NHS, estimated by the NAO in their report, 'The procurement of consumables by NHS acute and Foundation trusts' can be made.**

*See Hillingdon Hospital NHS Trust Case Study.

Introduction

In 2007 Helen Lovell sets out in her paper 'Coding for Success' that there are many reasons within a hospital environment for using auto-identification. To quote, "The technology has been in use for decades in many sectors of industry, the most familiar of which is retail, where bar codes on products have been used to improve supply chain efficiency, driving down costs and giving retailers a rich source of information about what shoppers buy."

Her report also correctly identifies that the bar codes can provide a great deal of information on products, if this has been applied by the manufacturer, as well as linking a medical device to a patient's records.

In October 2010 the Department of Health reviewed implementation progress and made the following comments:

- "Although we now have the basis for introducing a common standard, manufacturers currently use a range of coding systems, which means that devices cannot be identified uniquely. The NHS does not yet have mature adoption and use of the technologies that facilitate the more effective identification, use and control of devices. This lack of widespread implementation of eEnablement means that even if unique identifiers were available, NHS trusts would not always be able to use them in their systems and maintain traceability."

- "Effective use of coding within the NHS supply chain is a major contributor to delivering the savings that can be realised from more effective use of product data in the NHS supply chain data as a whole."

- "Although considerable progress has been made to introduce a coding culture to the NHS across a diverse range of practices and the key partners continue to promote good practice, overall progress has been a little slower than expected."

This highlights that the biggest problem is with manufactured products and how to best use GS1 data in the procurement department. Using GS1 data is not straightforward because:

- the same product can have many bar codes, depending if it is bought from a manufacturer or supplier

- each different pack quantity has a different GS1 number

- the bar code has no associated description, just a product number which is linked to the catalogue number, the description is attached to the catalogue number

A way of linking all the product data together is needed so that the information can be transferred to the procurement record to build up correct procurement history for each product and range of products.

Auto-identification

When auto-identification is applied to products it is in the form of a bar code. All bar codes represent data in a machine readable form. The different widths of bars and spaces in a bar code symbol represent different numbers and letters that can be decoded or "scanned" by a bar code scanner. The scanned data is then sent to a computer system where it is recorded and processed. They are used to enable rapid and unambiguous identification of products. Using bar codes can greatly reduce human errors in data entry and processing, eliminate ambiguities caused by inconsistent approaches to product labelling and mistakes in reading handwriting.

Companies using bar codes

Before a company can begin using bar codes, they must create the numbers that go inside the bar code. These numbers are called GS1 Identification Keys. The first step in building a GS1 Key is to obtain a GS1 Company Prefix. GS1 Company Prefixes are used to identify over 1 million companies today and form the foundation of uniquely identifying everything in the supply chain. In England, they are obtained from GS1UK.

Selecting the correct bar code

Once a company has received their Company Prefix, they then have to decide what information they wish to show, what type of packaging it will be printed on to and many other considerations as this will decide which bar code will be needed. The size can vary from 8 digits to 128 digits. If the information is static a simple code is needed such as the EAN-13. If however it is required to contain variable information like serial numbers, expiry dates, measures etc. then the bigger GS1-128 is required.

Static Product Information
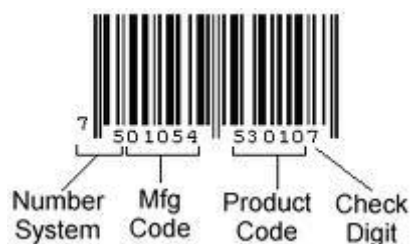
This is basic product information using EAN-13, used worldwide. The first 2 digits are normally the 'country code' which identifies the country in which the manufacturer is registered (not necessarily where the products are made), then a 5 digit manufacturer code, a 5 digit product identifier and finally a check digit. The product identifier is related to a pack quantity. This is so that the auto-identification process can recognise the product and its quantity. This means that different quantities of the same product have different EANs depending on whether they are a single item, case, pallet, etc. For over 20 years European Article Numbers (EANs) have been used for trading in the NHS, using Electronic Data Interchange (EDI). GS1 has superseded EANs although EAN terminology is still in use.

Auto-Identification

Similar to a supermarket checkout, hand held scanners are used to automatically scan and identify products delivered to a NHS store. However the bar code number on the packaging has to exist within the procurement computer system for the order being delivered, and be for the correct pack quantity, otherwise the order will cannot be recognised and be rejected.

Manufacturer Product Codes

These codes can be any combination of numbers, letters and punctuation marks and are used by manufacturers to identify the products they make. They are used in catalogues to sell their products, thereby becoming a catalogue number. Suppliers (e.g. Supply Chain) also use catalogue numbers in their catalogues to sell products. This means that the same products can have many different catalogue numbers depending on from where they are bought. Manufacturers catalogue numbers generally are specific to a product and are cross-referenced to the relevant bar codes. Because they are related to quantity there may be several bar codes for each catalogue number. These are rarely shown in the catalogue and can be quite difficult to obtain.

Procurement Departments Need For Coding

Procurement Departments need for coding is at several levels as it provides information on:

- what products and services they buy

- how many of the same products they buy from different suppliers/manufacturers

- which suppliers are used

- how much the product or service costs

- which suppliers are cheapest at the required quality

- the procurement history of all products and services purchased

- budget history on spend on different product/service groups

Procurement History

This is a record of all items purchased; it should contain a good quality standardised description of the product or service and a code for easy recognition. Originally this information was written manually on to 'Bin Cards' which needed to be stored in order that the information could be retrieved easily, so it needed a code. The NSV code was created for this purpose in the early seventies. The code was designed to contain heading information to show the group of products to which the item belongs, plus a unique identification number. This card contained a record of every purchase, including supplier, catalogue number, price etc. plus all issues, including department, quantities etc. This Procurement Record although now computerised, is still vital and contains other related reference information, e.g. CPV code and any other relevant procurement code.

From an analysis of procurement history it can be determined which items should be on contract, or purchased by other means. A benchmark price should be created so that an easy comparison can be made as to which suppliers are cheapest.

Budget History

All groups of items will have a budgeted spend for the year, by department. The procurement system should be able to provide actual spend data of selected groups of products or services, compared with anticipated budgetary spend. This should be available for each budgetary department monthly plus as required.

NHS-eClass

NHS-eClass is a classification originally chosen by the NHS Purchase and Supply Agency (PASA), now closed, for the collection of management information. It is a heading-only system that does not go down to item level. PASA also stated that they wished to use GS1 information to collect product information. This is now a Department of Health objective. This in itself creates a problem, as there can be no link between a classification heading and product data in bar code format.

Major Obstacles to Data Collection

The reason for data collection is so that the 5 'rights' of purchasing are known

- right quality
- right quantity
- right price
- right place
- right time

To this should be added the right product. This information should be collected from the procurement records of all items bought. This is so that it is easy to see which products are cheapest. In theory this appears simple. In practice it doesn't normally work like that, as buyers are not trained to describe products accurately and consistently, in a standardised way. This creates the following problems:

1. Every time a product is purchased a new description and therefore new product record is created. Our experience has shown that there can easily be more than 60 different descriptions for the same product within a procurement database where the descriptions are similar but not exactly the same. For a computer this makes it a different product, even if a correct NHS-eClass has been attached. This unfortunately makes price comparison impossible, so easy savings are missed. It has been estimated that if a common description were used for all these different descriptions, easy savings of up to 5% could be made.

2. Collecting data using the GS1 is even more limiting. The GS1 is manufacturer and pack size specific. It can therefore only be used to collect data with exactly the same code. The following will not be taken into account:

   - The same products from the same manufacturer with a different pack size

   - The same products from suppliers selling the same manufacturers products but using their own GS1

   - The same products made by different manufacturers or sold by different suppliers

   This obviously makes aggregation of ranges of products very difficult.

3. Sharing information between Trusts needs a common denominator so that price comparison and the creation of benchmark prices is possible. This cannot take place without a common procurement record being used by all trusts.

4. Contract collaboration is also difficult for the same reasons.

National Supplies Vocabulary (NSV)

NSV was created in the NHS to be the Standardised Description for the Procurement Record. The code consists of three alphas representing the NSV classification heading, with four numerics added. This is linked to a standardised description created to QA rules that have been in place for 22 years. Where possible the description is created generically so that it covers products made by different suppliers and can then be easily used to compare prices. The NSV code is easily cross-referenced to Manufacturers/Suppliers catalogue numbers and other procurement classifications and from the early 1990's was also cross-referenced to EANs. The NSV code has been in use in the NHS from the 1980's and been providing spend information from that time. The NSV code is also mapped to NHS-eClass, therefore creating the link to GS1.

How GS1 information can be used

Supermarkets use bar codes for everything they sell as they need product specific information related to sales. This is not the same for the NHS, who need information related to purchases. To make use of the GS1 information, a cross-reference is needed from all suppliers, of their bar codes mapped to their catalogue numbers. This is so that the total quantity received can be collected and matched to a catalogue number. So that this information can be accurately recorded on a procurement record the catalogue number needs to be cross-referenced to a NSV code. The following is an example of products bought from two different suppliers of the same product over the last year:

Supplier A

50 x GS1 product A (each)	= 50	Catno A	NSV - ABC1234
2 x GS1 product A (Box 100)	= 200	Catno A	NSV - ABC1234
1 x GS1 product A (Pallet 100 boxes)	= 10,000	Catno A	NSV - ABC1234

Total products bought of Catno A, from supplier A = 10,250

Supplier B

200 x GS1 product B (each)	= 200	Catno B	NSV - ABC1234
150 x GS1 product B (Box 144)	= 21,600	Catno B	NSV - ABC1234
2 x GS1 product B (Pallet 100 boxes)	= 28,800	Catno B	NSV - ABC1234

Total products bought of Catno B, from supplier B = 50,600

Total products bought with NSV code - ABC1234 = 60,850

Therefore if going to tender with this product, knowing that 60,805 is the annual usage is vital tender information for reducing the cost of this product. Whereas if the GS1 information was not linked to an NSV code it would only have be useful for auto-identification.

How GS1 can be linked to NHS-eClass

In the example above it is shown that all GS1 codes can be linked to a NSV code whether they are for static product, or more complex information. Once the GS1 information is linked to a NSV code the product and quantity is correctly identified, it can then be used on the procurement history record. As each NSV code is matched to a NHS-eClass code, a management report in NHS-eClass format should be easy to produce.

Code link diagram

Annex 1 shows graphically how the procurement record can be linked to GS1 information plus other procurement classifications, such as NHS-eClass.

Annex 2 shows how the NSV Code and Description provides the information link between all the different classifications and coding systems.

Main Benefits of Using NSV

By using NSV for the Procurement Record all the data is then able to be aggregated so that full procurement history can be researched to show the what is being bought, from whom and at what price. This in turn creates the following benefits:

- Contract tendering based on accurate usage information possibly leading to lower prices

- Transparent pricing information to be shared with other trusts

- Collaboration with other trusts on contracting to gain the best prices form bulk ordering

- Rationalisation of products, leading to placing fewer orders for higher quantities

- Zero tolerance on invoice checking to ensure correct contract prices are paid

- Overall cash savings should be possible of 5-20% or £0.5m to £1m per trust

Conclusion

Although the arguments for using bar codes in hospital procurement are sound, the practicality of using them can be very difficult. Very few suppliers have them, the Department of Health estimate this at 6% of all suppliers. This situation may improve over the years but will never be significant as it is impractical to insist suppliers use them. Also services cannot have them.

Automatic goods receipt can only happen when the correct GS1 has been used on the order. When broken down for ward distribution the GS1 on the packaging will be different; this problem need to be addressed, to aid stock control and distribution round the hospital.

The GS1 can provide very useful information, particularly if GS1-128 is used, as batches can be traced to source if there is a problem with a medical device or other type of product. For hospitals to make best use of bar codes and relate this information to NHS-eClass, only NSV can accurately provide the link to the Procurement Record.

The only way to merge the GS1 information with all the data from the other 94% of suppliers is by using the NSV code and standardised description. This is the key to creating Procurement History on all products and services which can aid benchmarking prices and reducing spend.
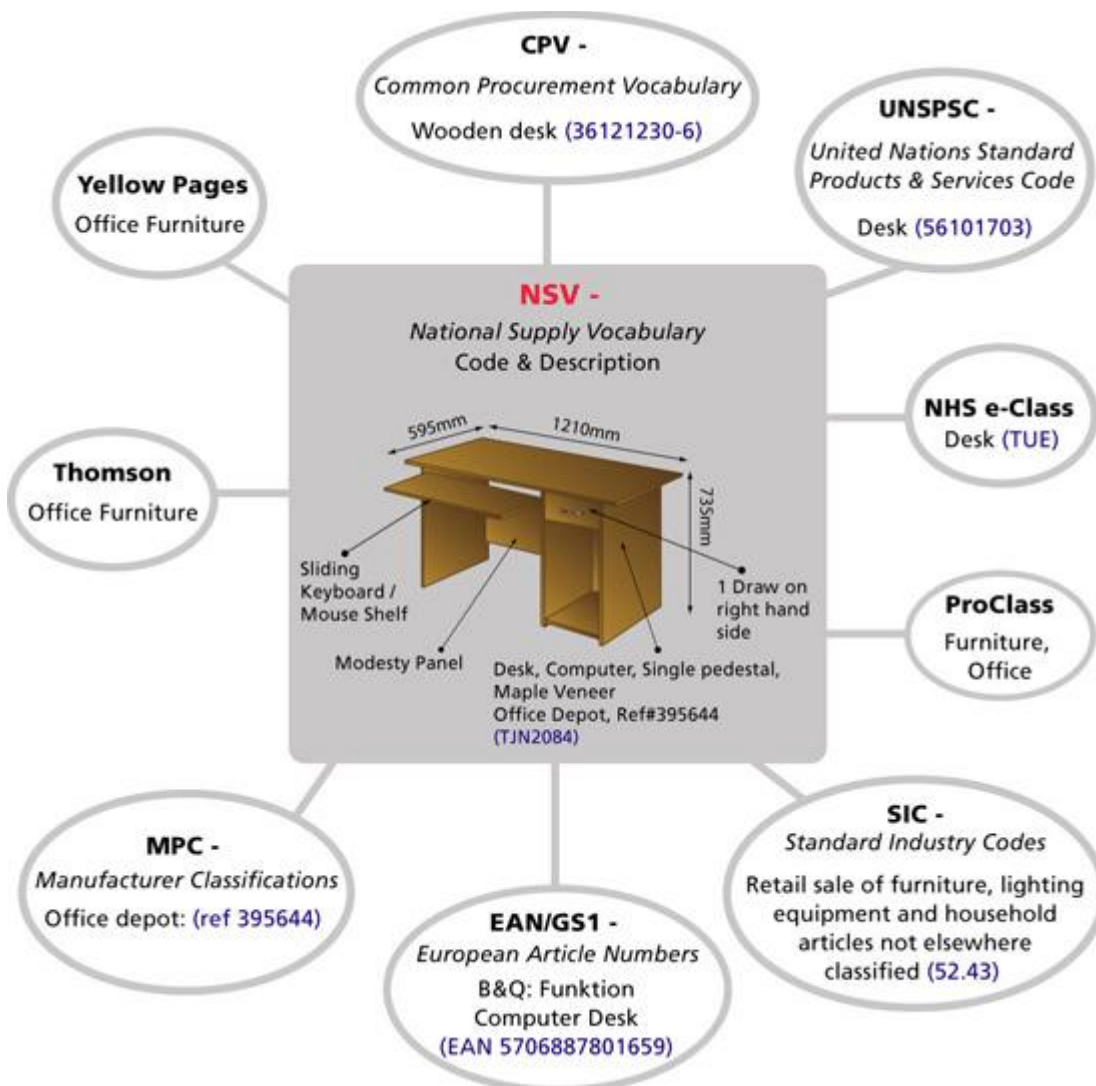
Annex 1

Diagram showing how the NSV Code and Description provides the information link between procurement classifications and coding systems and makes the information from GS1 usable.
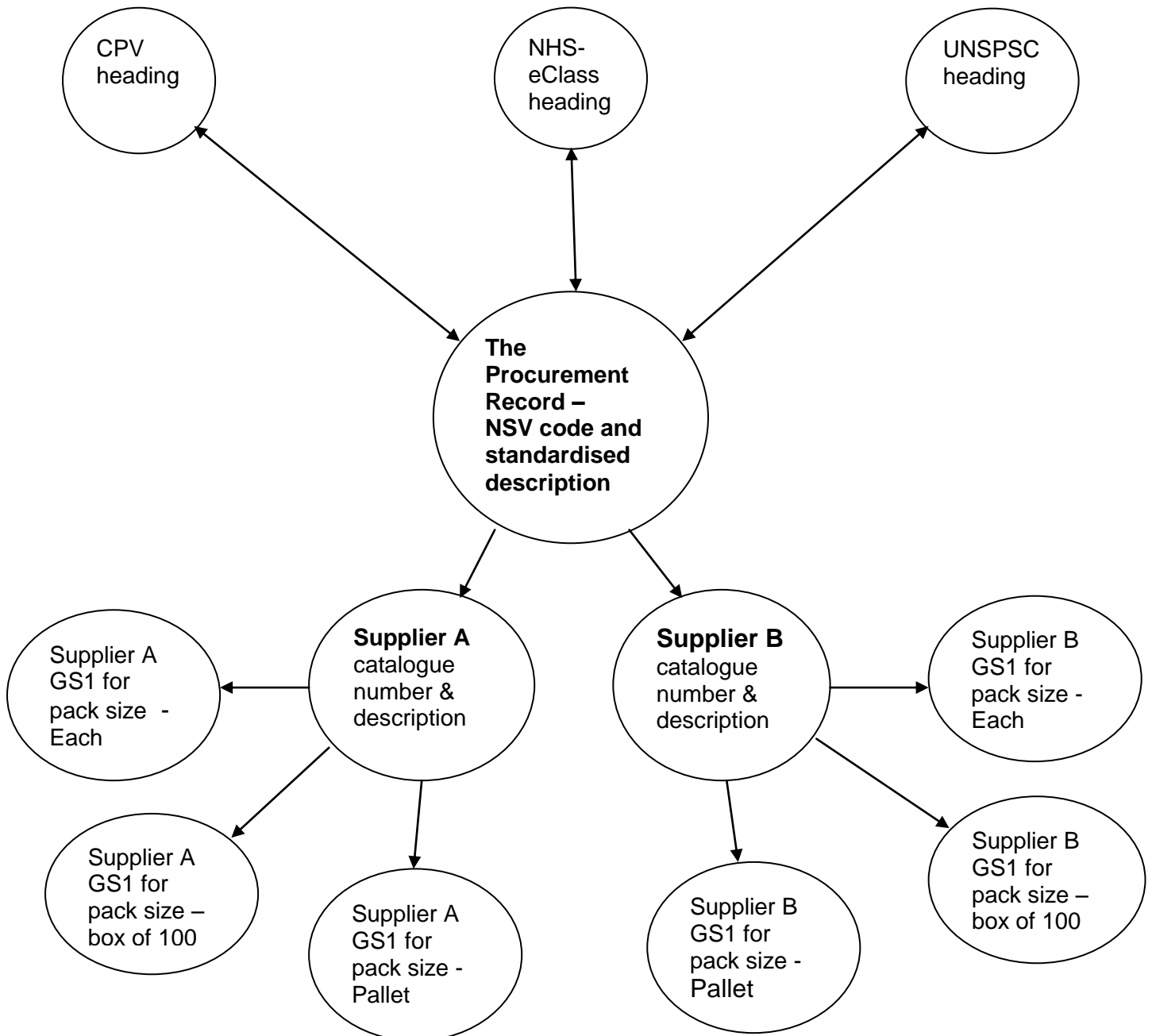
Annex 2

A further diagram showing how the NSV Code and Description provides the information link between all the different classifications and coding systems.

Annex 3

Courtesy of GS1

GS1 Glossary

This glossary provides definitions for the implementation of GS1 Standards.

A I

Abbreviation for Application Identifier

A I D C

Abbreviation for Automatic Identification and Data Capture

A d d - o n   s y m b o l

A bar code symbol used to encode information supplementary to that in the main bar code symbol

A l p h a n u m e r i c   (a n)

Describes a character set that contains alphabetic characters (letters), numeric digits (numbers), and other characters, such as punctuation marks

A p p l i c a t i o n   i d e n t i f i e r

The field of, three or four numbers at the beginning of an Element String that uniquely defines its format and meaning

A t t r i b u t e

A piece of information reflecting a characteristic related to an identification number (e.g., Global Trade Item Number™ (GTIN™), SSCC)

B r a n d   o w n e r

The party that is responsible for allocating GS1 System numbering and bar code symbols on a given trade item. The administrator of an GS1 System Company Prefix

C h e c k   d i g i t

A digit calculated from the other digits of an identifier such as a GTIN, used to check that the data has been correctly composed

C o m p a n y   n u m b e r

A component of the GS1 Company Prefix. GS1 Member Organisations 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 an GS1 Company Prefix are set by the GS1 Member Organisations.

C o m p o s i t e   c o m p o n e n t ™

This term is used to refer to the 2D symbol component of a composite symbol

C o m p o s i t e   s y m b o l o g y ™

A 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

C o n t r a s t

See Symbol Contrast

C o u p o n

A voucher that can be redeemed at the Point-of-Sale for a cash value or free item

Customer

The party that receives, buys, or consumes an item or service

E A N   I n t e r n a t i o n a l

EAN International is the former name of GS1

E A N - 1 3   B a r   c o d e   S y m b o l

A bar code symbol of the EAN/UPC Symbology that encodes GTIN-13 Numbers

E A N - 8   B a r   c o d e   S y m b o l

A bar code symbol of the EAN/UPC Symbology that encodes GTIN-8 Numbers

E D I

Abbreviation for Electronic Data Interchange

Electronic Message

A composition of Element Strings from scanned data and transaction information assembled for data validation and unambiguous processing in a user application

Element String

A piece of data defined in structure and meaning, comprising a defining part (prefix or Application Identifier) and a data part, represented in an GS1 System endorsed data carrier

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

Fixed length

Term used to describe a data field in an Element String with an established number of characters

GIAI

Abbreviation for the Global Individual Asset Identifier

GLN

Abbreviation for the Global Location Number

GRAI

Abbreviation for the Global Returnable Asset Identifier

GS1

GS1, based in Brussels, Belgium, and who manages the GS1 standards for bar codes, business messaging, RFID and GDS.

GS1-128 Bar code Symbol

A subset of the Code 128 that is utilised exclusively for GS1 System data structures

GS1 System

The specifications, standards, and guidelines administered by GS1

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 common currency coupon Code

An identification number for coupons issued in a common currency area (e.g., the euro currency) that uses the GTIN-13 Data Structure

GS1 company prefix

Part of the international GS1 System data structures consisting of an GS1 Prefix and a Company Number, both of which are allocated by GS1 Member Organisations

GS1 DataBar Composite Symbology™ Family

A family of symbols comprised of the GS1 DataBar-14™ Composite Symbology™, GS1 DATABAR-14™ Stacked Composite Symbology™, GS1 DATABAR Limited™ Composite Symbology™, and GS1 DATABAR Expanded™ Composite Symbology™

GS1 DataBar Expanded™ Bar code Symbol

A bar code symbol that encodes an GTIN-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

GS1 DataBar Expanded™ Composite Symbology™

The GS1 DataBar Composite Symbology™ that utilises an GS1 DataBar Expanded™ Bar code Symbol as the linear component

GS1 DataBar Expanded™ Stacked Bar code Symbol

A bar code symbol that is a variation of the GS1 DataBar Expanded™ Bar code Symbol that is stacked in multiple rows and is used when the normal symbol would be too wide for the application

GS1 DataBar Expanded™ Stacked Composite Bar code Symbol

The GS1 DataBar Composite Symbology™ that utilises an GS1 DataBar Expanded™ Stacked Bar code Symbol as the linear component

GS1 DataBar Limited™ Bar code Symbol

A bar code symbol that encodes an GTIN-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

GS1 DataBar Limited™ Composite Symbology™

The GS1 DataBar Composite Symbology™ that utilises an GS1 DataBar Limited™ Bar code Symbol as the linear component

GS1 DataBar-14™ Bar code Symbol

A bar code symbol that encodes an GTIN-14 Identification Number in a linear symbol that can be scanned omni-directionally by suitably programmed Point-of-Sale scanners

GS1 DataBar-14™ Composite Symbology™

The GS1 DataBar Composite Symbology™ that utilises an GS1 DataBar-14™ Bar code Symbol as the linear component

GS1 DataBar-14™ Stacked Bar code Symbol

A bar code symbol that is a variation of the GS1 DataBar-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 omni-directional version that is designed to be read by omni-directional scanners. GS1 DataBar Expanded™ can also be printed in multiple rows as a stacked symbol

GS1 DataBar-14™ Stacked Composite Symbology™

The GS1 DataBar Composite Symbology™ that utilises an GS1 DataBar-14™ Stacked Bar code Symbol as the linear component

GS1 member organisation

A member of GS1 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

GSRN

Abbreviation for the Global Service Relation Number

GTIN™

Abbreviation for the Global Trade Item Number™

GTIN-12 Data

The 12-digit GS1 System data structure composed of a UPC Company Prefix, Item Reference, and Check Digit

GTIN-14 number

The GS1 System identification number comprising 14 digits; used to identify trade items

GTIN-8 number

The GS1 System identification number comprising eight digits used to identify trade items and special applications

General Distribution Scanning

Scanning environments that include bar coded trade items packaged for transport, logistic units, assets and location tags

Global Individual Asset Identifier

A number that uniquely identifies an individual asset

Global Location Number

A number that the identifies physical, functional, or legal entities

Global Returnable Asset Identifier

A number that uses the EAN/UCC-13 or UCC-12 Data Structure to identify Asset Type combined with an optional serial number

Global Trade Item Number™

A Global Trade Item Number™ may be 8, 12, 13, or 14 digits in length

Human Readable Interpretation

Characters that can be read by persons, such as letters and numbers, as opposed to symbol characters within bar code symbols, which are read by machines

ITF Symbolology

The Interleaved 2 of 5 Symbology

ITF-14 Bar code Symbol

An ITF Symbol used by the GS1 System to carry GTIN-12, GTIN-13 or GTIN-14 Numbers

Individual Asset

An entity that is part of the inventory of a given company (See also Returnable Asset)

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

Light Margin

See Quiet Zone

Light Margin Indicator

See Quiet Zone Indicator

Location Number

See Global Location Number

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

Magnification

Different sizes of bar code symbols based on a nominal size and a fixed aspect ratio; stated as a percent or decimal equivalent of a nominal size

Manufacturer's ID

See GS1 Company Prefix

Manufacturer's Number

See GS1 Company Prefix

Payment slip

The end customer's notification of a demand for payment for a billable service (e.g., utility bill) comprising an amount payable and payment conditions

Point-of-Sale (POS)

Refers to the retail type checkout where only EAN/UPC bar code symbols are normally scanned.

Quiet Zone

A clear space containing no machine readable marks, which precedes the Start Character of a bar code symbol and follows the Stop Character. Formerly referred to as "Clear Area" or "Light Margin"

Quiet Zone Indicator

A greater than (>) or less than (<) character, printed in the human readable field of the bar code symbol, with the tip aligned with the outer edge of the Quiet Zone

Reduced Space Symbology ® (GS1 DATABAR)

A family of bar code symbols, including GS1 DataBar-14™, GS1 DataBar Limited™, GS1 DataBar Expanded™, and GS1 DataBar-14™ Stacked. Any member of the GS1 DataBar 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 GS1 DataBar linear component

Refund Receipt

A voucher produced by equipment handling empty containers (bottles and crates)

Restricted distribution

Signifies that such system data may be applied on goods to be processed only in certain environments, defined by the appropriate GS1 Member Organisation (e.g., a country, company, industry)

Retail consumer trade item

The trade item intended to be sold to the end consumer at retail Point-of-Sale. They are identified with unique GTIN-8s, GTIN-12s, GTIN-13s

Returnable Asset

A reusable entity owned by a company that is used for transport and storage of goods

SSCC

Term used for the Serial Shipping Container Code. The unique identification of a logistic unit using an 18-digit data structure

Scanner

An electronic device to read bar code symbols and convert them into electrical signals understandable by a computer device

Serial Shipping Container Code

See SSCC

Supplier

The party that produces, provides, or furnishes an item or service

Symbol

The combination of symbol characters and features required by a particular symbology, including Quiet Zone, Start and Stop Characters, data characters, and other auxiliary patterns, which together form a complete scannable entity; an instance of a symbology and a data structure

Symbol character

A group of bars and spaces in a symbol that is decoded as a single unit. It may represent an individual digit, letter, punctuation mark, control indicator, or multiple data characters

Symbology

A defined method of representing numeric or alphabetic characters in a bar code; a type of bar code

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

UPC-A Barcode Symbol

A bar code symbol of the EAN/UPC Symbology that encodes GTIN-12 Identification Numbers

UPC-E Barcode Symbol

A bar code symbol of the EAN/UPC Symbology representing a GTIN-12 Number in six explicitly encoded digits using zero-suppression techniques

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

X-dimension

The specified width of the narrow element in a bar code symbol