



GSMP:

General Specifications Change Notification (GSCN)

GSCN #	GSCN Name	Issue Date	Status
WR15-260	GLN in GS1 2D symbols	May 2016	Ratified

Associated Work Request (WR) Number:

15-000260

Background:

Hospitals identify wards, store room etc by using GLN. By using GS1 DataMatrix and AI 414 they want to put a label on each door frame. A GS1 DataMatrix has the right size and format.

GS1 General Specification Change:

The recommended changes are highlighted in the attached excerpt from the GS1 General Specifications, v16.

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companies is often identified with a GLN. The EDI standards promoted by the GS1 system (EANCOM, GS1 XML) make full use of GLNs to simplify the automation of business messaging.

GLNs and associated information of trading partners are communicated at the start of the relation through the party information message (PARTIN). GLNs are then used during the trading relationship in any other business message, such as invoice, order, pay, or deliver.

GDSN

Data pools and the GS1 Global Registry that links them for the purpose of global data synchronisation mandate the use of GLNs to identify each party that provides information to any data pool or who requires information about products and locations.



Note: The *GS1 General Specifications* do not provide details on business messages or the Global Data Synchronisation Network (GDSN). For further information, please consult the relevant GS1 standard.

EPCIS

Electronic Product Code Information Services (EPCIS) is a GS1 Standard that defines a common data model for visibility data and interfaces for capturing and sharing visibility data within an enterprise and across an open supply chain. GS1 EPCIS implementations use the GLN to identify Read Points and Business Locations. A Read Point indicates the specific location at which an event took place, and thereby the whereabouts of objects at the time of a given event. A Business Location indicates the specific place of objects following a given event.

2.4.3 Application overview

The GLN is used in applications that cover the electronic sharing of location information and the automatic identification and data capture (AIDC). The following applications focus on the use of the GLN in AIDC applications. Three broad categories of use of the GLN exist:

1. Identification of a physical location, for example through a label attached to a loading dock or to a shelf location in a warehouse.
2. Specification of a delivery location, for example a ship to location on a logistics label.
3. Specification of a party, for example the invoicing party on a payment slip.

2.4.3.1 Identification of a physical location

Application description

The following Application Identifiers enable the identification of a physical location using a data carrier present at the location itself:

- AI (414) Physical Location
- AI (254) GLN extension component

AI (414) Physical location

The GLN can be used to identify a physical location represented in a data carrier on the location itself. Physical locations may, for example, be a room, a door of a warehouse, an x-ray room in a hospital, or a control point.

The element string may be used to record and confirm presence at a given location for any purpose. An equivalent field will hold this information in electronic messages.

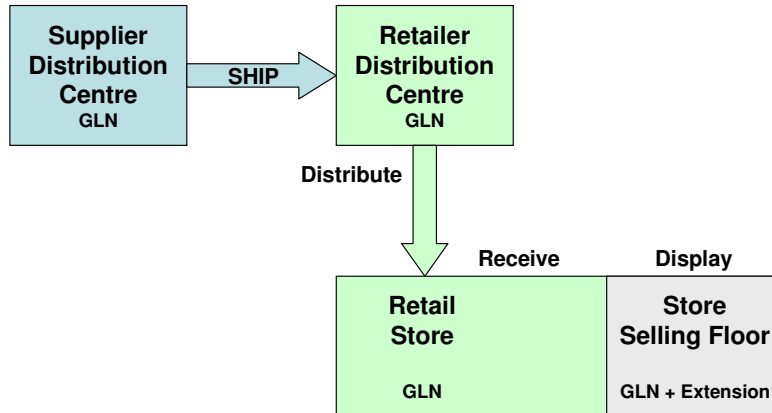
AI (254) GLN extension component

Business processes causes objects (products, assets, or other equipment) to move from one physical location to another. The ability to have visibility of these movements is an essential element in any supply chain. These physical locations can be a site such as a distribution centre or a specific location within the site such as a selling floor, a room in a hospital or a yard of a warehouse; it can even be as granular as a specific area on a shelf.

The GLN extension component may be used to identify internal physical locations within a location identified with a GLN (e.g., stores, factories, buildings). A company may alternatively choose to assign a unique GLN, without an extension component, as a way to identify these locations.

The following figure illustrates just one likely example; it is not the only normative solution.

Figure 2.4.3.1-1. Physical locations in a logistic process



Important:

- The use of GLN + GLN extension component is restricted to physical locations.
- The GLN extension component may be communicated to trading partners, by mutual agreement.
- If the GLN + GLN extension component are used to identify locations within the site, each sub-location identification SHALL follow the same allocation rules defined for the physical location GLN, see section 4.

GS1 key

Definition

The Global Location Number (GLN) is the GS1 identification key used to identify physical locations or parties. The key is comprised of a GS1 Company Prefix, location reference, and check digit.

Identification of a Physical Location - Global Location Number: AI (414)

Rules

All GLN Allocation Rules described in section 4.

Attributes

Required

Not applicable

Optional

The extension component may be used to identify internal physical locations within a location identified with a GLN (e.g., stores, factories, buildings). The use of GLN extension component is restricted to physical locations.

The GLN extension component may be communicated to trading partners, by mutual agreement.

The GS1 Application Identifier (254) is used to represent the GLN extension component in conjunction with AI (414).

For more information, see section 3.2 for the list of GS1 Application Identifiers.

Rules

See section 4, Mandatory association of element strings.

Data carrier specification**Carrier choices**

The GS1 data carriers that can be used to represent the GLN or GLN + GLN extension component are:

- ~~GS1-128~~
- [GS1 DataMatrix](#)
- [GS1 QR Code](#)
- ~~EPC/RFID~~



Note: GS1's Tag Data Standard (TDS) defines the SGLN as a Global Location Number (GLN), with or without the optional extension (AI 254), which is used to identify physical locations. Examples of such locations include a specific building or unit of shelving within a warehouse. For more information on EPC carriers see the *EPC Tag Data Standard*

Symbol X-dimension, minimum symbol height, and minimum symbol quality

See section [5.5.2.7.9](#), GS1 system symbol specification table 9.



Note: For location marking barcodes may be printed at a higher maximum X-dimension: ~~GS1-128~~ at 1.016 mm (0.0400 inches), [GS1 DataMatrix and GS1 QR Code at 1.520 mm \(0.0600 inches\)](#).

Symbol placement

Not applicable

Unique application processing requirements

For a description of processing requirements, see section 7.

2.4.3.2 Specification of a delivery location**Application description**

The following Application Identifiers enable the specification of a physical location on a label or document, relative to its role in a business process:

- AI (410) Ship to - Deliver to.
- AI (413) Ship for - Deliver for.

AI (410) Ship to - Deliver to

An element string with an Application Identifier AI (410) represents the Global Location Number (GLN) of the recipient of a logistic unit. The GLN refers to the address where a particular transport unit identified with an SSCC is to be delivered. This element string is used in single leg transport operations. A logistic unit may include a barcode carrying the GLN of the unit's intended destination. When scanning this element string, the data transmitted may be used to retrieve the related address and/or to sort the item by destination.

AI (413) Ship for - Deliver for

An element string with Application Identifier AI (413) is used by the consignee for determining the internal or subsequent final destination of a physical unit.

Cross docking is a typical application using this element string. Here, a barcode carrying the element string AI (410) is placed on a logistic unit at the point of creation to direct the goods to the



✓ **Note:** Since June 2007 GS1 has recommended all trading partners in the healthcare sector invest exclusively in imaging-based scanners. Now that GS1 DataMatrix has been approved within the standard, it is important to inform all trading partners of a process within GS1 to establish target deployment dates. Without these dates, brand owners do not have a way to know when to deploy GS1 DataMatrix on their packaging and those needing to invest in scanning equipment may inadvertently purchase equipment that will not support the standards. To see GS1 healthcare's position paper on GS1 DataMatrix adoption, visit <http://www.gs1.org/healthcare>.

5.5.2.7.9 Symbol specification table 9 - GS1 keys GDTI, GRAI, GIAI and GLN

Figure 5.5.2.7.9-1. GS1 system symbol specification table 9

Symbol(s) specified	X-dimensions mm(inches)			Minimum symbol height for given X mm(inches)			Quiet Zone		Minimum quality specification
	Minimum	Target	Maximum	For minimum X-dimension	For target X-dimension	For maximum X-dimension	Left	Right	
GS1- 128	0.250 (0.0098")	0.250 (0.0098")	0.495 (0.0195")	12.70 (0.500")	12.70 (0.500")	12.70 (0.500")	10X	10X	1.5/06/660
GS1 DataMatrix (ECC 200) (*)	0.380 (0.0150")	0.380 (0.0150")	0.495 (0.0195")	Height is determined by X-dimension and data that is encoded			1X on all four sides		1.5/08/660
GS1 QR Code (*)	0.380 (0.0150")	0.380 (0.0150")	0.495 (0.0195")	Height is determined by X-dimension and data that is encoded			4X on all four sides		1.5/08/660

(*) 2D X-dimension - Optical effects in the image capture process require that the GS1 DataMatrix and GS1 QR Code symbols be printed at 1.5 times the equivalent printing X-dimension allowed for linear symbols.

- ✓ **Note:** See section [2.7](#) to ensure the correct symbol specification table is used.
- ✓ **Note:** This table contains several symbol options. All are permitted to promote backward compatibility, but section 2 application standards define which symbols are the preferred options for the future.
- ✓ **Note:** For location marking ~~GS1-128~~ barcodes may be printed at a higher maximum X-dimension: [GS1-128 at 1.016 mm \(0.0400 inches\)](#), [GS1 DataMatrix and GS1 QR Code at 1.520 mm \(0.0600 inches\)](#). See section [2.4.3.1](#).