



The Global Language of Business

# An Introduction to the Global Location Number (GLN)

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## About GS1

GS1® is a neutral, not-for-profit, global organization that develops and maintains the most widely-used supply chain standards system in the world. GS1 Standards improve the efficiency, safety, and visibility of supply chains across multiple sectors. With local Member Organizations in over 110 countries, GS1 engages with communities of trading partners, industry organizations, governments, and technology providers to understand and respond to their business needs through the adoption and implementation of global standards. GS1 is driven by over a million user companies, which execute more than six billion transactions daily in 150 countries using GS1 Standards.

## About GS1 US

GS1 US®, a member of GS1 global, is a not-for-profit information standards organization that facilitates industry collaboration to help improve supply chain visibility and efficiency through the use of GS1 Standards, the most widely-used supply chain standards system in the world. Nearly 300,000 businesses in 25 industries rely on GS1 US for trading-partner collaboration that optimizes their supply chains, drives cost performance and revenue growth while also enabling regulatory compliance. They achieve these benefits through solutions based on GS1 global unique numbering and identification systems, barcodes, Electronic Product Code-based RFID, data synchronization, and electronic information exchange. GS1 US also manages the United Nations Standard Products and Services Code® (UNSPSC®).

# 1 What is a Global Location Number?

The Global Location Number (GLN) is a globally unique GS1 Identification Key used to identify parties and locations. The GLN allows users to answer the questions “**who**” and “**where**” within their own organization and throughout the entire, global supply chain.

## 1.1 What is a party?

A party is an entity that needs to be represented in a business-related transaction. A GLN identifying a party answers the question of “**who**” is involved within the use case leveraging GS1 standards. This may be a legal entity or function.

- A **legal entity** is any business, government body, department, individual, or other institution that has standing in the eyes of the law and has the capacity to enter into agreements or contracts. This could be whole companies; subsidiaries or divisions within a company; health system corporation, etc.
- A **function** is an organizational subdivision or department that is most commonly segmented based on the specific tasks being performed, as defined by the organization, such as an accounting department, purchasing department, hospital pharmacy, etc.

## 1.2 What is a location?

A location is a particular place or position. A GLN identifying a location is used to answer the question of “**where**” something has been, is, or will be and can be physical or digital in nature.

- A **physical location** is a tangible place that may be represented by an address, coordinates, or other means. Physical locations can be fixed, like a manufacturing facility, distribution center, dock door, hospital wing, bin location, or something mobile, such as an ambulance or ship.
- A **digital location** is an electronic (non-physical address) such as an Electronic Data Interchange (EDI) gateway or enterprise resource planning (ERP) system.

# 2 Where are GLNs used?

GLNs are used anywhere that a party or location needs to be identified. This includes business transactions, IT systems, a physical location itself, and more. GS1 Standards define how to format and use the GLN in a wide variety of applications so that the same GLN can be used to identify the party or location for any of those needs.

- **Databases & IT Systems:** A GLN is a single identifier that can be used in all systems (e.g., purchasing, inventory management, logistics, analytics, reporting, etc.). This maintains the connection between systems so they can be used collectively to enhance the quality and amount of data available to support operational processes as well as business intelligence and analytics.
- **Business Transactions:** GLNs can be used in business transactions (e.g., purchase order, Advance Ship Notice, invoice, etc.) to support business processes by identifying originating or destination locations and who is involved. GLNs are an integral data element of most Electronic Data Interchange (EDI) transactions in order to reduce errors and support machine-to-machine processing dealing with whom is involved and where things came from and are going.
- **Visibility Applications:** GLNs provide a globally unique answer to the “where?” portion of Electronic Product Code Information Services (EPCIS) read events that are used as the basis for global visibility and traceability in the supply chain.

- **Global Data Synchronization Network™ (GDSN®):** The GLN is a required component for parties using the GDSN to exchange product master data.
- **Data Carriers:** Use of GLNs in barcodes can identify a product’s destination or capture where it came from. Use of EPC/RFID tags and readers can support automatically capturing the movement of goods without the need for line-of-sight scanning or other manual intervention.

### 3 GLN Structure

The GLN is a 13-digit number that includes three components:

- **GS1 Company Prefix:** A globally unique number licensed to a company by a GS1 Member Organization to serve as the foundation for generating GS1 Identification Keys (e.g., GLN, GTIN). GS1 Company Prefixes are assigned in varying lengths depending on the company’s needs.
- **Location Reference:** A number, containing no logic, assigned by the user to identify the party or location. The Location Reference varies in length based on GS1 Company Prefix length.
- **Check Digit:** The final digit calculated from the preceding digits of the GLN. This digit is used to check that the data has been correctly composed. GS1 US provides a [check digit calculator](#) to automatically calculate check digits for you.

**Figure 3-1** GLN data structure



### 4 How are GLNs allocated?

Allocation is the association of a GLN to a party and/or location in accordance with the GS1 standards. In other words, allocation is the process of connecting a specific GLN to what it is used to identify. How GLNs are allocated will impact:


- The organization responsible for allocating the GLN
- What information can be associated to the GLN and how it can be used
- Which GLN Management Rules apply
- How GLNs can be connected to other GLNs

**There are three basic steps for creating GLNs:**

1. License a GS1 Company Prefix or a single GLN. GS1 US licenses a GS1 Company Prefix that provides the foundation for generating GS1 Identification Keys, such as GLN, GTIN, and more. For businesses that only need to identify a small number of parties/locations, individual GLNs can be licensed outside of a GS1 Company Prefix.
  - a. For those who license a GS1 Company Prefix, the organization allocates and generates their own GLNs based on their GS1 Company Prefix, GS1 Standards, and GLN Management Rules. It is recommended that no logic be put into the location reference number and that the numbers are assigned sequentially.
2. When an organization creates GLNs, they define a prescribed set of data which describes the party or location. This data is considered core information required to enable use cases and establish

relationships (e.g., parent company, party/location name, address, coordinates, roles, collaborative identifiers, etc.).

3. The GLN and associated party or location information is then saved in a database, such as GS1 US Data Hub | Location, and shared among supply chain partners.

 **Note:** GS1 US provides an online tool, known as [GS1 US Data Hub® | Location](#), to support users in creating GLNs, defining the associated information, and sharing details.

## 4.1 Selecting What the GLN Should Identify

There are two strategies used to allocate GLNs. The first assigns a unique GLN to each individual legal entity, function, physical location, digital location, or a combination of these. The second strategy assigns a unique GLN to a location that performs multiple functions.

### 4.1.1 GLN Allocation to Identify One Party or Location

Party and location use cases can be complex and have overlapping elements. When a GLN identifies an individual party or location, multiple GLNs can be allocated in any combination required by specific use cases without duplication.

As an organization expands, additional parties, functions, or locations can be allocated new GLNs. If a party, function, or location is discontinued, it can be removed from use with minimal impact to other GLNs.

**Figure 4-1** One GLN identifies one party or location example



### 4.1.2 GLN Allocation to Identify Combination of Party and Location

Those companies that execute their business processes (e.g., manufacturing, shipping, accounting etc.) in one location may have limited identification requirements and can successfully utilize a single GLN to identify one legal entity, function, physical location, and/or digital location simultaneously.

However, using this allocation method may result in issues when scaling to meet business needs or when trying to achieve more complex use case requirements.

**Figure 4-2** One GLN identifies a combination of party and location example



## 4.2 Responsibility for Allocating a GLN

GLNs are allocated by the organization that defined the party/location in support of their business operations.

### 4.2.1 Responsibility for Allocating a GLN to a Party

Who is responsible for allocating a GLN?

|                      |   |
|----------------------|---|
| <b>Legal entity:</b> | The legal entity itself or another legal entity that is part of the same organization |
| <b>Function:</b>     | The organization identifying their own, internal functions                            |

A GLN must be allocated by a part of the organization being identified.



**Important:** When representing itself as a legal entity or function in transactions, an organization can only use a GLN licensed or created from their GS1 Company Prefix. This means that an organization cannot use another organization's GLN to represent itself as a party.

### 4.2.2 Responsibility for Allocating a GLN to a Location

Who is responsible for allocating a GLN?

|                                      |  |
|--------------------------------------|--|
| <b>Physical or digital location:</b> | The owner or primary user(s) of the location |
|--------------------------------------|--|

The **owner** is the organization that has the legal or rightful title to the physical or digital location.

A **primary user** is an organization that directly transacts with a physical or digital location. There may be multiple primary users associated to a single location.

**Example:** An owner would be the organization that has legal ownership of a mall. A primary user would be the organization that is leasing a space within the mall for their retail store.

This means that it is possible for a single physical location to be identified by multiple GLNs as each lessee could allocate a GLN for the space they lease with the mall.

## 5 Business Benefits of Using GLNs

As a key component of the GS1 System, the GLN is established as the standard used worldwide for party and location identification. GLNs enable trading partners to manage information efficiently and effectively using a unique, global standard for identification. This facilitates the communication of accurate information among trading partners to support supply chain operations and optimize business intelligence. Use of the GLN streamlines supply chain management and promotes accuracy, speed, and efficiency for your business.

- **Establish Consistency:** The standards and guidance for GLN are defined through a community-based forum for businesses facing similar problems to work together and develop standards-based solutions to address them. This process is administered by GS1, a not-for-profit standards organization.
- **Global Use:** The GLN is a global standard that can be used by any organization involved with any industry sector throughout the world. This enables any party or location to be uniquely identified using the same standardized identifier, regardless of where they do business.
- **Enhance Other Standards:** All parts of GS1 System of Standards are designed to work together to address the needs and priorities specific to an organization. This means that those already using GTINs to identify their products or Serial Shipping Container Code (SSCC) to identify their logistic

units can incorporate GLNs to provide the “**who**” and “**where**” to the “**what**” already being identified.

- **Connect Collaborative Identifiers:** There are a wide variety of identifiers that are required for specific use cases. Some may be mandatory regulatory requirements and others are designed for specific applications. These collaborative identifiers can be associated to a GLN to have a single source of truth for how a party or location is identified in all scenarios. Additionally, proprietary identifiers can be associated to a GLN to support transitioning to standardized identification that can be used throughout the open supply chain.
- **Improve Data Quality:** Party and location use cases require standardized, quality data. GLN standards, services, and solutions provide the means for the accessible, complete, and clear data needed to move business forward.
- **Build Trust:** Trading partners know that they are getting reliable, consistent information about who they are interacting with and where each company is conducting business.

## 6 Frequently Asked Questions About the GLN

### What is a GLN?

The Global Location Number (GLN) is a unique identifier that can identify a party (i.e., legal entity, function) or location (i.e., physical location, digital location). For more information, see [section 1](#).

### How can a company get a GLN?

There are different ways to obtain GLNs that start with either licensing a GS1 Company Prefix or individual GLN through a GS1 Member Organization (MO). More information on getting started with GLN can be found on the [GS1 US website](#).

- **GS1 Company Prefix License:** Organizations that license a GS1 Company Prefix (GCP) from a GS1 Member Organization (MO) can create, or allocate, GLNs using that GCP. Note that GCPs vary in length. The length of the licensed GCP will determine how many GLNs can be created.
- **Individual GLN License:** Some GS1 MOs offer an option to license individual GLNs separate from a GS1 Company Prefix. These are ideal for users that have limited identification needs or specific regulatory requirements.
- **Provided by GS1 Member Organization Upon Initial License:** Many GS1 MOs provide a GLN to organizations when they first license a GS1 Company Prefix or other individual GS1 Identification Key. This GLN commonly appears on the license certificate.

### What is the relationship between a GLN and a GTIN?

GLNs identify parties and locations while GTINs (Global Trade Item Numbers) identify trade items (i.e., products and services). Within the GS1 System, the GLN and the GTIN are two distinct identifiers. There is no conflict when a GTIN and a GLN have the same digits as the application because the data carrier formatting or database field will define which identifier is being referenced. The use of GLN compliments GTIN by adding information on who interacts with a trade item as well as where it was, is, or has been.

### Why use GLNs instead of an internal system?

Any organization can design its own internal system and code structure to identify all the locations covering its operating requirements. Although an internal solution might seem to be the easiest and fastest way forward, this approach presents several problems when information is exchanged between trading partners, such as:

- **Duplication:** Two or more trading partners may use the exact same location code to identify an internal location in their company. There is no guarantee of uniqueness.



- **Complexity:** Internal codes will have a variety of structures and formats, making application programming more complex and application changes costly – which can lead to transcription errors.
- **Significance:** Codes that contain logical information related to the party and/or location in the code structure itself will become difficult to handle as the coding structure evolves to incorporate new meanings.

**What does a GLN hierarchy look like?**

The below is an example of what a GLN hierarchy may look like. Each party and location that needs to be identified in business transactions has a unique GLN allocated to it. The hierarchy will vary based on what is being identified.

**Figure 6-1** GLN hierarchy example

| Party/Location   | Global Location Number (GLN) |
|--|------------------------------|
|  <b>Corporate Entity</b>        | 0 8 5 0 0 0 6 0 0 0 0 7 4    |
|  <b>Distribution Center A</b>   | 0 8 5 0 0 0 6 0 0 0 0 8 7    |
|  <b>Distribution Center B</b>   | 0 8 5 0 0 0 6 0 0 0 0 9 8    |
|  <b>Store 1</b>                 | 0 8 5 0 0 0 6 0 0 0 1 0 4    |
|  <b>Store 2</b>               | 0 8 5 0 0 0 6 0 0 0 1 1 1    |
|  <b>Accounting Department</b> | 0 8 5 0 0 0 6 0 0 0 1 2 8    |

**If a GLN is no longer being used, can it be assigned to something else?**

As of 01 July 2022, GLNs cannot be reused in any industry. GLN non-reuse helps to ensure unique, persistent party and location identification. When a GLN is used internally, shared with trading partners and government organizations, or is part of consumer applications, it is clear exactly what that GLN is identifying.

There are two exceptions that allow for a GLN to be reused.

- The first is when a specific GLN is never published or shared externally. If a company began to allocate a GLN to a party or location, but then decided against it before sharing that GLN with partners, the GLN can be reused immediately.
- The second is when a GLN is made inactive, but later reactivated to identify the original party or location. In these cases, the pre-existing GLN can remain the same.

**What changes require a new GLN to be allocated to a party/location?**

The [GS1 GLN Allocation Rules Standard](#) contains GLN guiding principles and management rules that are used to support consistent decision making on when a new GLN is needed. For information on when a new GLN is needed, please see this [GLN resource page](#).

**Who assigns and communicates information about GLNs?**

GLNs are assigned, or *allocated*, by the organization that defined the party/location in support of their business operations. For more information, see [section 4.2](#).

It is the responsibility of the organization that allocated the GLN to keep business partners informed of all GLNs allocated and their associated information.

### **Do GLNs require data to be associated to them?**

All identifiers must have data associated to them to provide meaning to what is being identified. Without data being associated to a GLN or any other identifier, it has no context or value.

If all data that needs to be associated to a GLN is not known at the time of creation, more data can be added over time.

### **What GS1 Application Identifiers are used for GLNs?**

- AI (410) "Ship to – Deliver to" GLN
- AI (411) "Bill to – Invoice to" GLN
- AI (412) "Purchased from" GLN
- AI (413) "Ship for – Deliver for – Forward to" GLN
- AI (414) Physical Location GLN
- AI (415) Invoicing Party GLN
- AI (416) Production or Service Location GLN
- AI (417) Party GLN

## **7 Tools and Resources**

GS1 US offers several easily accessible online tools and resources that can help guide you through the GS1 Standards and processes:

- [Get Started with GLN](#): Online guidance to help you obtain a GS1 Company Prefix with the correct capacity to create GLNs, and more.
- [Check Digit Calculator](#): Helps you assure that the GLN components have been entered correctly
- [GS1 US Data Hub | Location](#): Online tool that helps companies quickly and accurately create, manage and share GLNs.
- [GLN Standards](#): Provides overview of key GLN Standards concepts, information on [GLN non-ruse](#), the [GS1 GLN Allocation Rules Standard](#), the [GLN Date Model Solution Standard](#), and implementation guidance.
- [Resource Library](#): Documents, videos, and other information to increase the value of standards for all trading partners in the value chain.
- [FAQs](#): Frequently asked questions about GS1 Standards, implementation, and how to get started.

### **For more information about GS1 US, GLNs, and other GS1 Standards:**

- **Email**     info@gs1us.org
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