



The Global Language of Business

# GS1 – AHWP Liaison Member Updates

Géraldine Lissalde-Bonnet, Director Public Policy, GS1 Global Office

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14 November 2019



# GS1 is a global standards organisation



Neutral and  
not-for-profit

User-driven  
and governed

Global  
and local

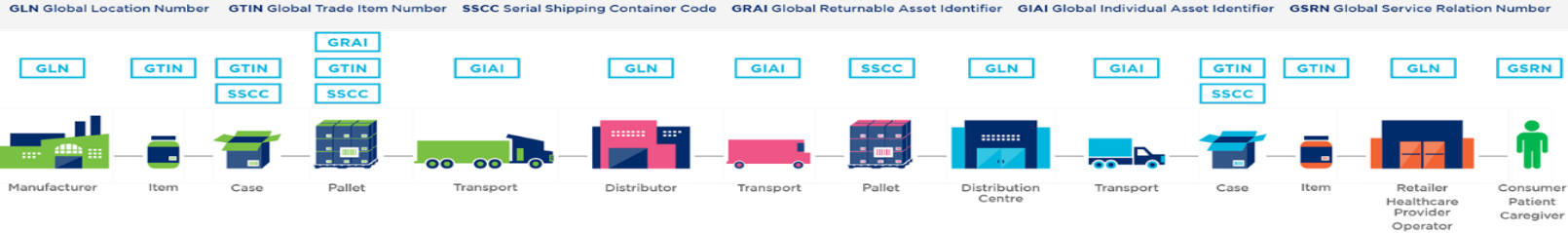
Inclusive and  
collaborative



# GS1: global system of standards



## Identify: GS1 Standards for Identification



## Capture: GS1 Standards for Barcodes & EPC/RFID

### GS1 Barcodes



### GS1 EPC/RFID



## Share: GS1 Standards for Data Exchange

Master Data Global Data Synchronisation Network (GDSN)

Transactional Data eCom (EDI)

Event Data EPC Information Services (EPCIS)

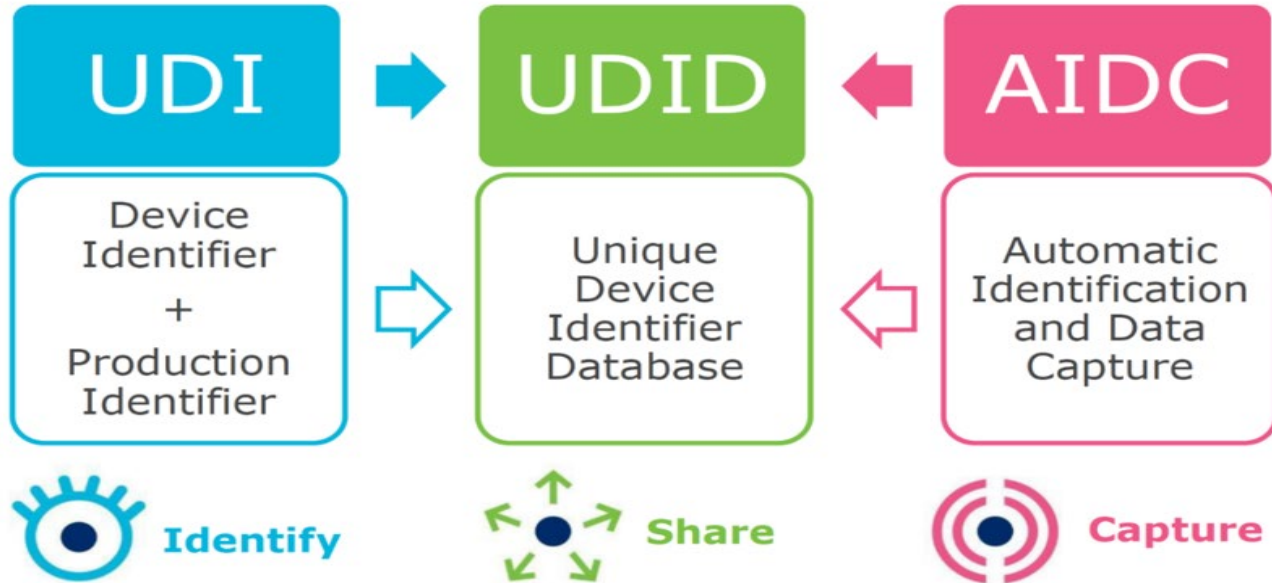


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# IMDRF UDI system and GS1 system



# GS1 and UDI around the world...



**Accredited as UDI Issuing Agency by the US FDA**

**99% of medical devices identified with GTIN in Japan**

MHLW Annual Survey, 2012

**UDI assigning entities listed in the EU MDR**

GS1 standards to be used for UDI implementation in **China, Saudi Arabia and South Korea.**



**Mandated by ANMAT for traceability of certain devices in Argentina**

**£3 million on average saved each year in every NHS hospital in England**

Lord Carter interim report, 2015

**91,8% of devices identified with GTIN in Turkey**

Turkish National Drug and Medical Device Databank (TITUBB)

GS1 supporting regulators in developing UDI requirements (e.g. **Australia, Brazil, Egypt**)



# Facilitating UDI implementation





# UDI in GS1 AIDC terms

Required  
in the EU

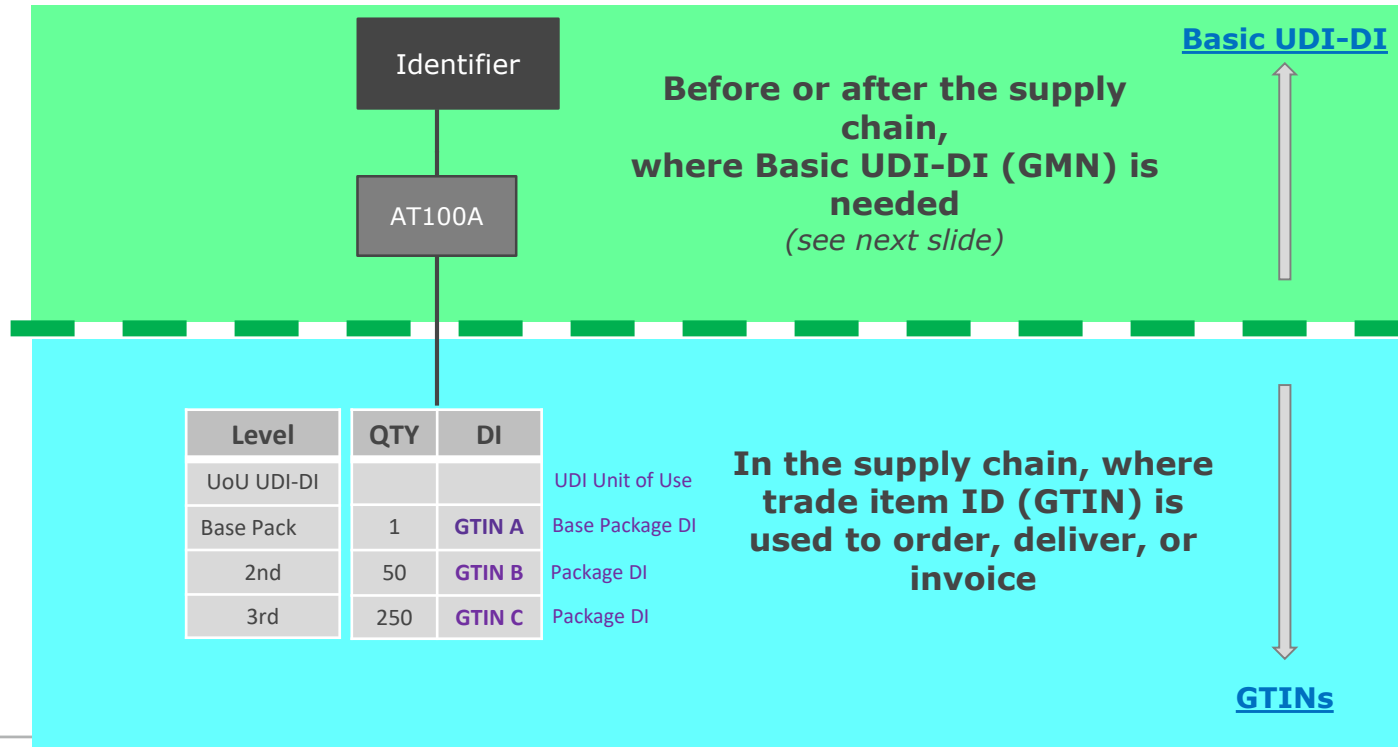
UDI regulatory requirements	GS1 Standards
<b>Basic UDI-DI</b> « New » level of identification in the EU	<b>GMN</b> (Global Model Number) <i>No Application Identifier (AI) for regulated medical devices</i>
<b>UDI-DI *</b> Device Identifier (DI)	<b>GTIN *</b> Global Trade Item Number
<b>UDI-PI *</b> Production Identifier (PI) <i>(if applicable)</i>	<b>AI *</b> Application Identifier (AI) <ul style="list-style-type: none"><li>• Expiration date AI(17) - e.g. 141120</li><li>• Batch – lot AI(10) - e.g. 1234AB</li><li>• Serial number AI(21) - e.g. 12345XYZ</li><li>• Manufacture date AI(11) - e.g. 250717</li></ul>
<i>Production Identifier data will vary by medical device type and manufacturer current practice.</i>	
<b>UDI-DI + UDI-PI = UDI</b>	<b>GTIN or GTIN + AI(s) = UDI</b>

\* The HRI Format shall follow the rules of the UDI Issuing Entity



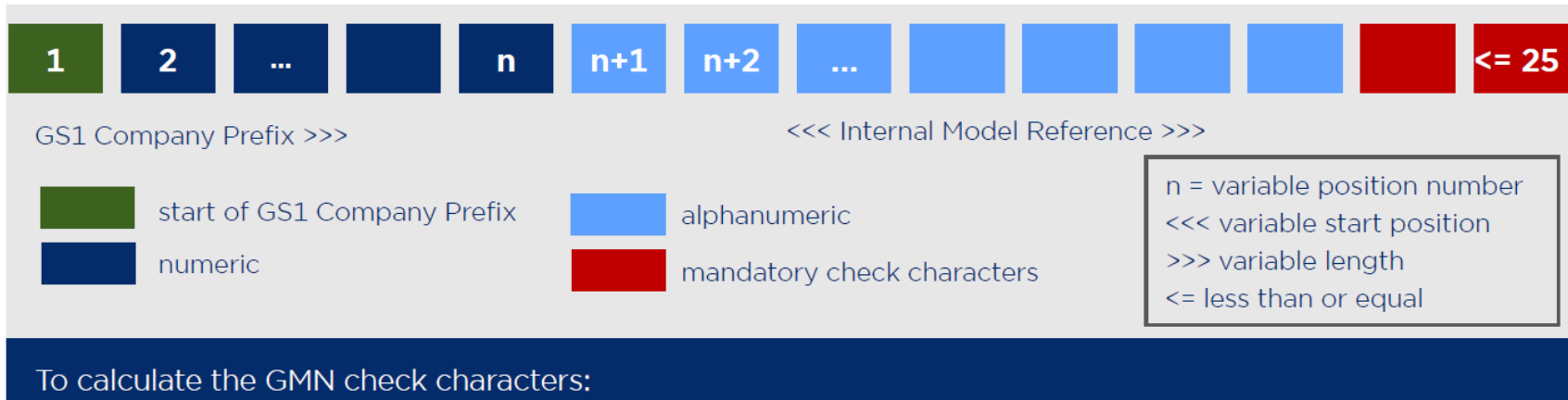


# EU specificity: "Basic UDI-DI" for illustration only





# Composition of the GMN (Basic UDI-DI in the EU)



<https://www.gs1.org/services/check-character-calculator>

# GS1 Global Model Number (GMN) v.2



## For regulated healthcare medical devices:

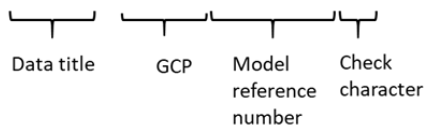
- GS1 Company Prefix + internal model reference + 2 check-characters (no special characters)
  - alphanumeric
  - Length: max 25 characters (23+2)
- independent of packaging
- never used in a data carrier
- Updated standard released and GS1 implementation guide to follow

[https://www.gs1.org/docs/barcodes/GSCN\\_19-012\\_GlobalModelNumberUpdate\\_v3.pdf](https://www.gs1.org/docs/barcodes/GSCN_19-012_GlobalModelNumberUpdate_v3.pdf)

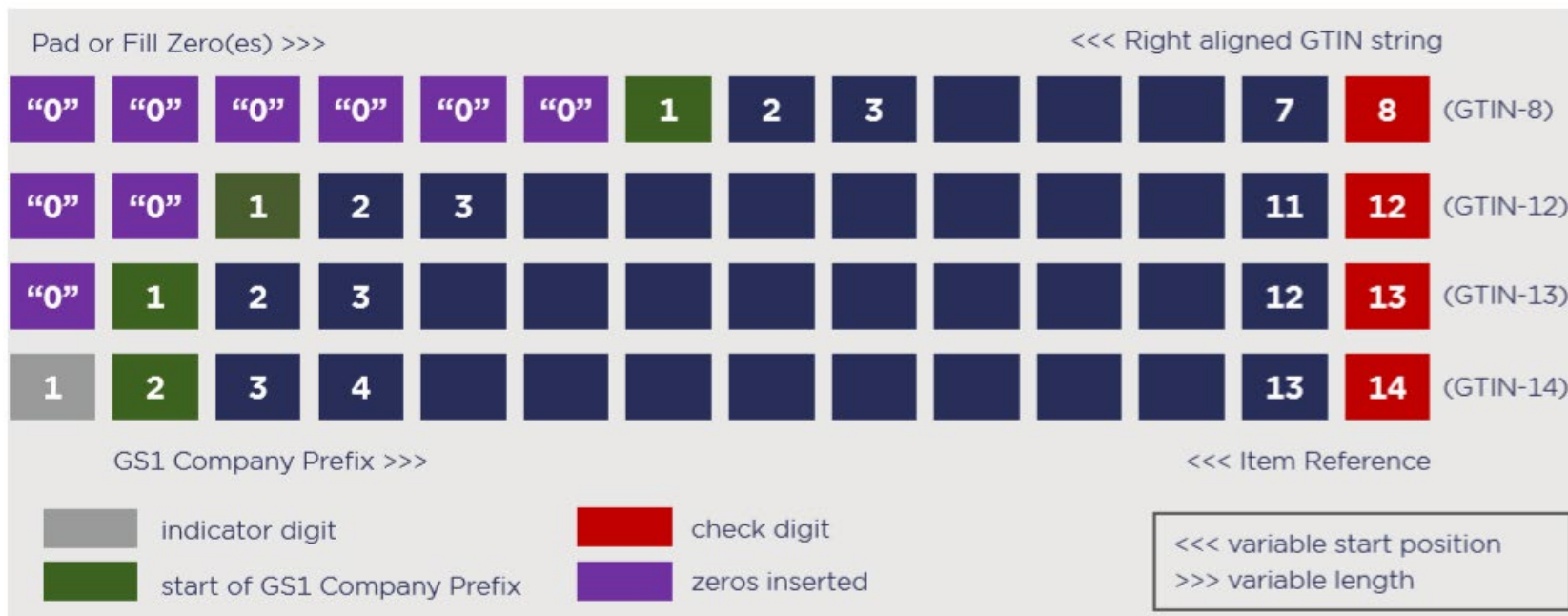


**Example** of Basic UDI-DI on regulated documentation:

GMN : 5149854J856MRN



# Composition of the GTIN (UDI-DI)



<https://www.gs1.org/services/check-digit-calculator>



# UDI-DI assignment



## Packaging Levels:

The UDI should be in the AIDC data carriers (i.e. bar code symbol) and also in human-readable form on each applicable packaging level as defined by regulation.

Each designated packaging level that is a trade item must have its own DI (GTIN).

NOTE: The GMN/Basic UDI-DI is never to be captured in AIDC and never to be applied on the packaging/label/devices



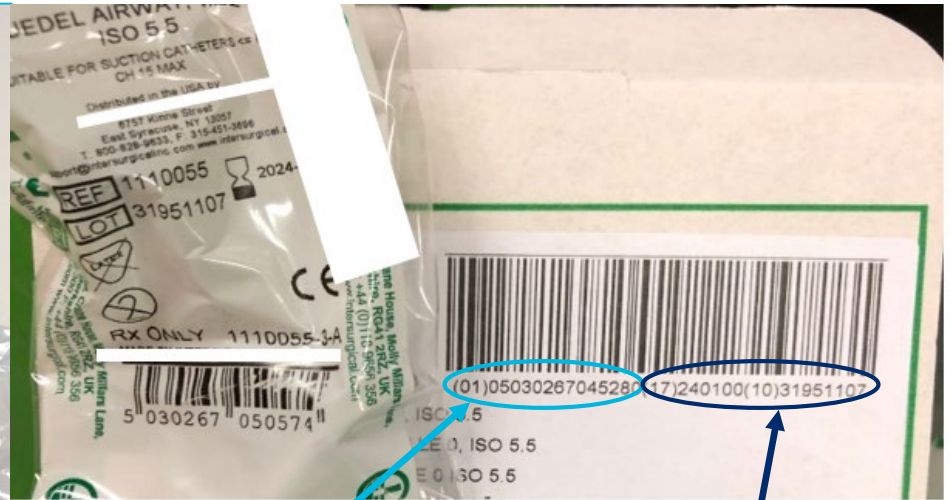
NOTE: GTINs below for illustration only

Single Unit Package	Multiple Unit Package	Case
GTIN A	GTIN B	GTIN C
00857674002010	10857674002017	40857674002018

## Logistics units are exempt.

*Unless they are considered a trade item and are identified with a GTIN*

# Each different packaging level requires a specific UDI-DI (GTIN) - examples



**Device Identifier (DI)**  
“Static” portion  
GTIN (product identifier)

**Production Identifier (PI)**  
“Dynamic” portion  
Application Identifiers  
(e.g. serial number, lot number, expiry date)



# UDI carriers



ISO compliant machine-readable Data Carriers on the product (*via label or Direct Marking*) or its packaging, which contain the UDI : 1D/Linear & 2D/Matrix bar code symbols, RFID.

## Data Carriers

The manufacturer must determine whether their products fall under Direct Marking criteria or whether their products meet an existing exception.



**“Direct Marking”** - not **“Direct Part Marking”** - on devices that are “to be used more than once and reprocessed before use”. It means that the mark must be useable for the useful life of the product.



# Reference documents



**GS1 General Specifications** – describes how GS1 keys & data carriers should be used  
<http://www.gs1.org/barcodes-epcrfid-id-keys/gs1-general-specifications>

**GS1 Healthcare GTIN Allocation Rules** – GTIN assignment in Healthcare with Healthcare specific examples  
[http://www.gs1.org/docs/gsmf/healthcare/GS1\\_Healthcare\\_GTIN\\_Allocation\\_Rules.pdf](http://www.gs1.org/docs/gsmf/healthcare/GS1_Healthcare_GTIN_Allocation_Rules.pdf)





# Providing a platform for collaboration on UDI



# Requirements for medical device identification



**And more coming**



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# How to work with GS1 MOs



- To obtain a UDI, companies need to be a member of **any of the 114 GS1 Member Organisation around the world**
- GS1 Member Organisations assign a **GS1 Company Prefix** to the company that is then used to generate:
  - **UDI-DIs (GTIN)**
  - **Basic UDI-DIs (GMN)**
- GS1 Member Organisations also provide relevant support in applying GS1 standards in a consistent and harmonised way globally

# GS1 is a Standards Development Organisation working with others



International Organisation for Standardisation



European Committee for Standardization



Health Level 7 International



International Health Terminology SDO



Clinical Data Interchange Standards Consortium



Integrating the Healthcare Enterprise



Digital Imaging and Communications in Medicine

 Joint Initiative Council



World Health Organization



World Customs Organization



International Hospital Federation



International Council for Commonality in Blood Banking Automation



International Society for Quality in Healthcare



European Association of Hospital Pharmacists

European Federation of Pharmaceutical Industries and Associations

European Federation of Pharmaceutical Industries and Associations



MedTech Europe  
from diagnosis to cure

European Association of Medical device and diagnostics industry



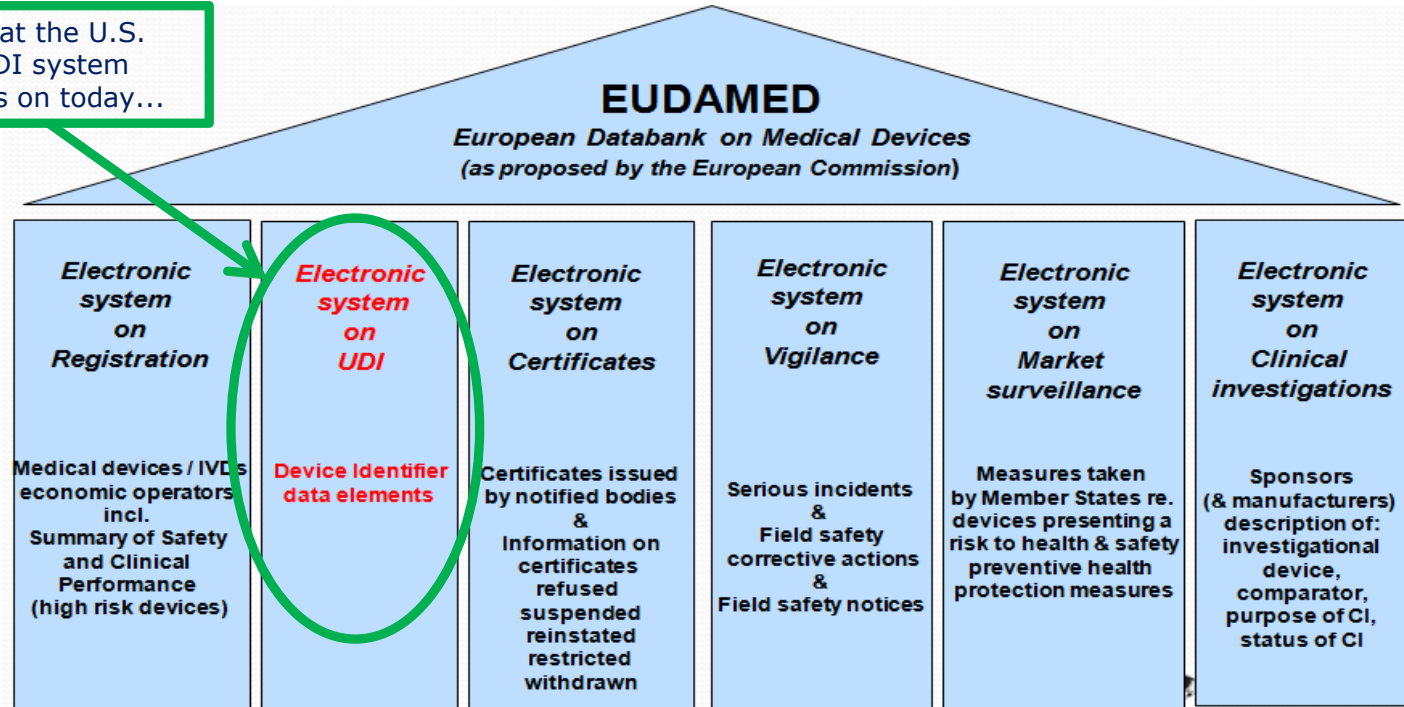
# UDI Databases – need for alignment



# UDI Databases – USA and EU



Part that the U.S. FDA UDI system focuses on today...



# Data attributes



## Appendix B - EUDID list of attributes

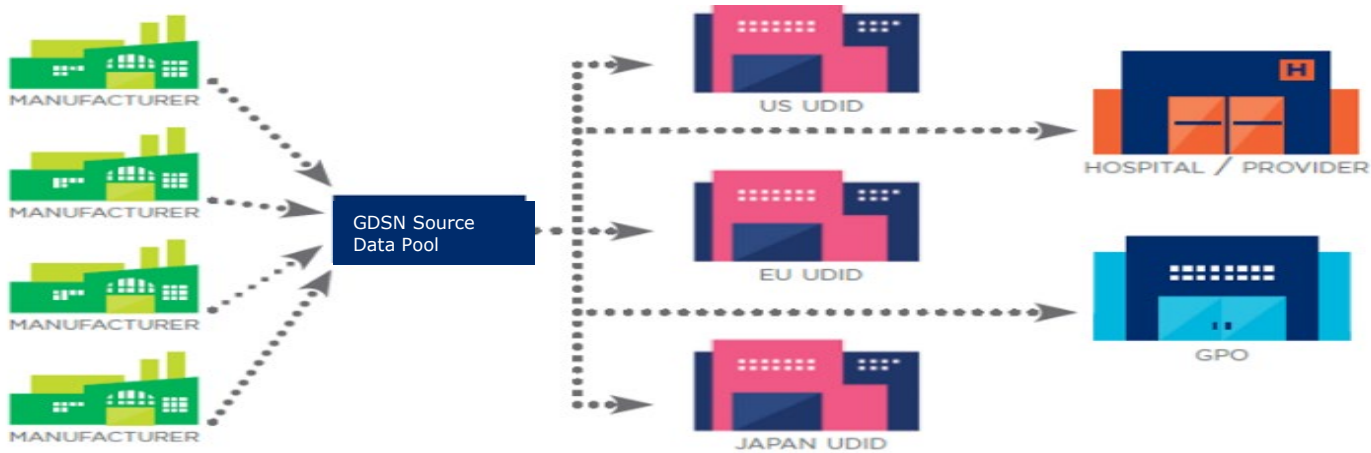
Data Element	Description	Data Entry Notes	Single or Multiple Entries	Mandatory (MAN) or Optional (OPT)	Data Type & Length	Entry List of Values	New DI Trigger
Issuing Agency	Organization accredited by EU to operate a system for the issuance of UDIs.	Choose a value from the drop down.	single	MAN	alphanumeric, 30	GS1; HIBCC; ICCBBA	Yes
Primary DI Number	An identifier that is the main (primary) lookup for a medical device and meets the requirements to uniquely identify a device through its distribution and use. The primary DI number will be located on the base package, which is the lowest level of a medical device containing a UDI.	GS1- 14-digit numeric value HIBCC - 6-23 character alphanumeric value ICCBBA- 10 or 16 character	single	MAN	numeric or alphanumeric, 6-23 characters		Yes
Device Count	Number of medical devices in the base package. For example : Base Package = Box of 100 gloves; Primary DI = 101; Device Count = 100.	Enter a numeric value.	single	MAN	numeric, 7		Yes
Unit of Use DI Number	An identifier assigned to an individual medical device when a UDI is not labeled on the individual device at the level of its unit of use. Its purpose is to associate the use of a device to/on a patient.	GS1- 14-digit numeric value HIBCC - 6-23 character alphanumeric value ICCBBA- 10 or 16 character alphanumeric value  If Device Count =1, cannot add Unit of Use DI Number.	single	MAN - if device count is > than 1	numeric or alphanumeric, 6-23 characters		No
Manufacturer DUNS Number	Business number issued by Dun & Bradstreet (D&B) that matches the Labeler (Company) name on device label.	Choose appropriate DUNS Number from drop down.	single	MAN	numeric, 9	from DUNS in real time	No

**We will see local differences, but hopefully maximum alignment**





# Managing data and global standards: Global Data Synchronisation Network (GDSN)



GDSN mappings are provided by GS1 Healthcare as a courtesy to the industry, it is not a requirement of an Issuing Entity\*

\*= UDI databases do not subscribe to the GDSN and are an out of network connection.  
Data Pools offer the data registration as a value-added service to their customers. This is not governed by GDSN policy.



# The need for harmonised UDI requirements



- UDI is very beneficial - it is crucial that regulators around the world align on the IMDRF Guidelines and ensure consistency when setting-up regional/national UDI system.

Ultimately, it is all about patient safety !  
Safer, more efficient care starts with a simple scan.



<http://www.gs1.org/healthcare/udi>



# Contact Details

Géraldine Lissalde-Bonnet  
Director Public Policy  
GS1 Global Office, Brussels  
E [g.lissalde@gs1.org](mailto:g.lissalde@gs1.org)  
W [www.gs1.org/healthcare](http://www.gs1.org/healthcare)