

GS1 Ireland - Construction - CitA

No digitalisation without standard identification

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06 June 2023



GS1 – Global standards since 1974



>2.5 million

Developing standards for over 2.5 million companies worldwide

150 countries

25 industries served across 150 countries

>6 billion

Barcodes scans per day globally

116 MOs

Present in 116 countries (Member Organisations)

GS1's purpose



GS1 believes in the power of standards to transform the way we work and live.

- **We create** a common foundation for business by uniquely identifying, accurately capturing and automatically sharing vital information about products, locations and assets
- **We enable** visibility through the exchange of authentic data
- **We empower** business to grow and to improve efficiency, safety, security and sustainability

We are:

Neutral and not-for-profit

User-driven and governed

Global and local

Inclusive and collaborative

Key industries served



Retail



Healthcare



Construction



Foodservice



Transport & Logistics



CPG/Grocery



Apparel



Fresh Foods



General Merchandise

GS1 – working together internationally



Global standards development

- Represented on standards committees and work groups around the world
- Work with **NSAI**, BSi, AIM, DIN, AFNOR, etc.
- Work in ISO/CEN committees and workgroups.
- We have a Memorandum of Understanding with **buildingSMART International**
- Almost all GS1 standards are also ISO/IEC, CEN or other international standards.
- We have “donated” standards to ISO, e.g. EAN/UPC barcode and EPC/RFID standards.
- GS1 also provides global support in the adoption and use of these standards by means of user guidelines, training, support and advice.



GS1 Standards are ISO Standards



GS1 standards recognised by ISO and other standard bodies

GS1 component	External standard
GTIN (Global Trade Item Number)	ISO/IEC 15459-6
SGTIN (Serialised Global Trade Item Number)	ISO/IEC 15459-4
GLN (Global Location Number)	ISO/IEC 6523
SSCC (Serial Shipping Container Code)	ISO/IEC 15459-1
GIAI (Global Individual Asset Identifier)	ISO/IEC 15459-4 & 5
GRAI (Global Returnable Asset Identifier)	ISO/IEC 15459-5
GSRN (Global Service Relationship Number)	ISO/IEC 15418
EAN/UPC	ISO/IEC 15420
ITF-14	ISO/IEC 16390
GS1-128	ISO/IEC 15417
GS1 DataBar	ISO/IEC 24724
GS1 DataMatrix	ISO/IEC 16022
GS1 Composite	ISO/IEC 24723
GS1 QR Code	ISO/IEC 18004
UHF Class 1 Gen 2	ISO/IEC 18000-63
HF Class 1 Gen 2	ISO/IEC 18000-3
EPC Tag Data Standard	ISO/IEC 15962

The global language of business



GLN

GTIN



Identify

GS1 Identification Numbers

Companies, Products, Locations, Assets and Logistics Units



Manufacturer

Item



Capture

GS1 Data Carriers

Barcodes and RFID tags



Share

GS1 Data Exchange

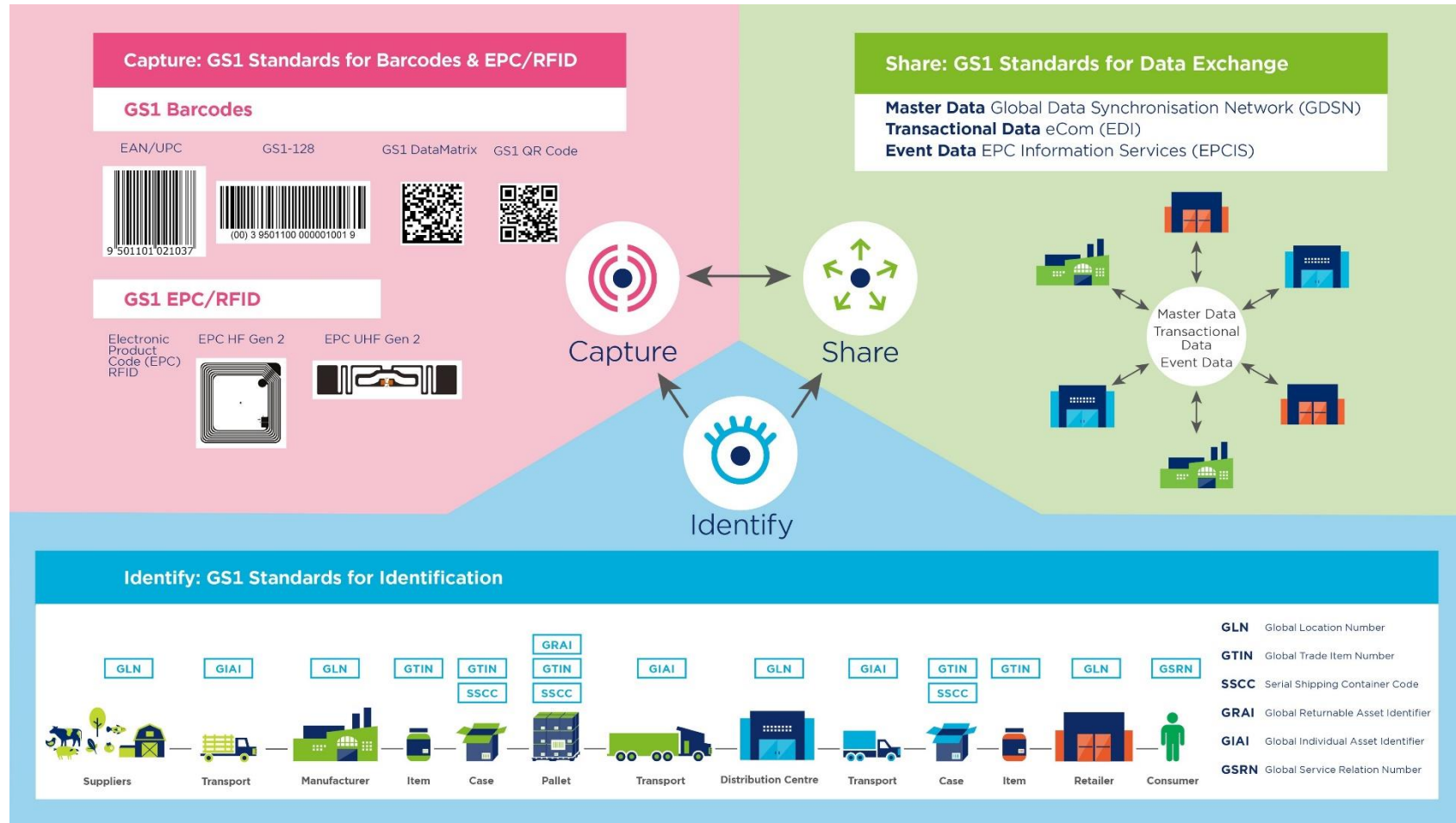
Master Data, Transactional Data and Event Data

Master Data

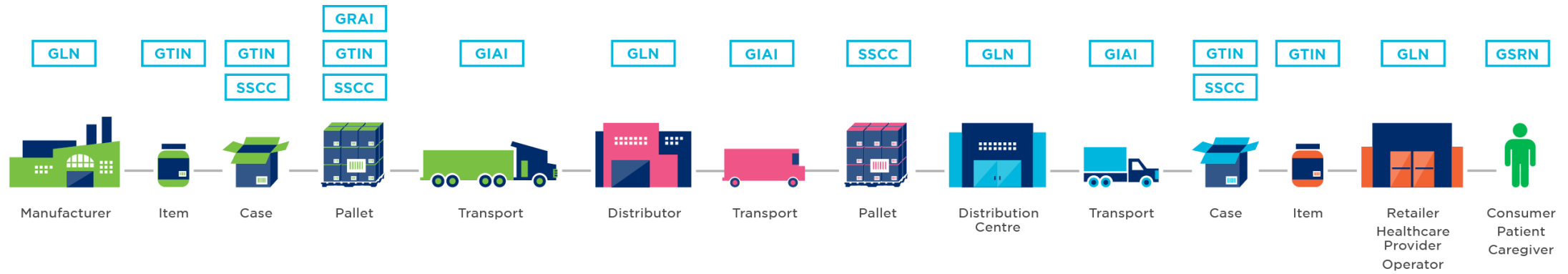
Transactional Data

Event Data

Identify, Capture and Share



Identify



Company & Location

- Global Location Number (GLN)

Product

- Global Trade Item Number (GTIN)
- Serialised Global Trade Item Number (SGTIN)

Logistics & Shipping

- Serial Shipping Container Code (SSCC)
- Global Shipment Identification Number (GSIN)
- Global Identification Number for Consignment (GINC)

Assets

- Global Individual Asset Identifier (GIAI)
- Global Returnable Asset Identifier (GRAI)

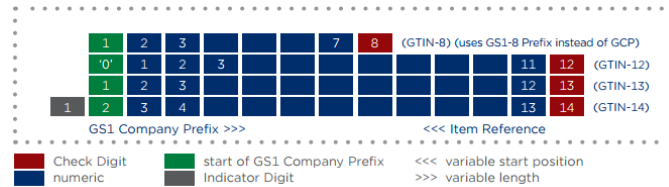
Services & More


- Global Service Relation Number (GSRN)
- Global Document Type Identifier (GDTI)
- Global Coupon Number (GCN)

GS1 Keys for Construction - example



Product



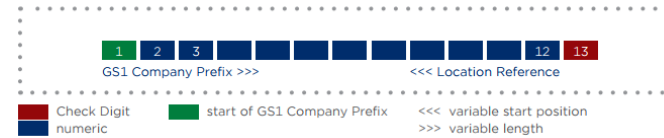
Product (01) 05391234123456 


Expiry (17) 151231
Batch (10) 987654321ABCD
Serial (21) ABCD1234 → Additional Information may be provided:


Place



Hospital



GLN (414) 5391234123456 

Extension (254) C12D01 

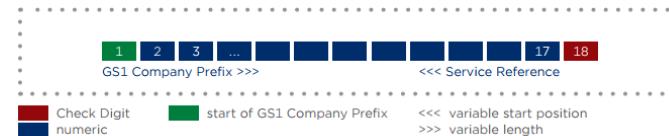
Existing location identifier can be embedded in the barcode and linked to the GLN


Asset




Asset

Person



FM Technician (8017) 53912345000023451 

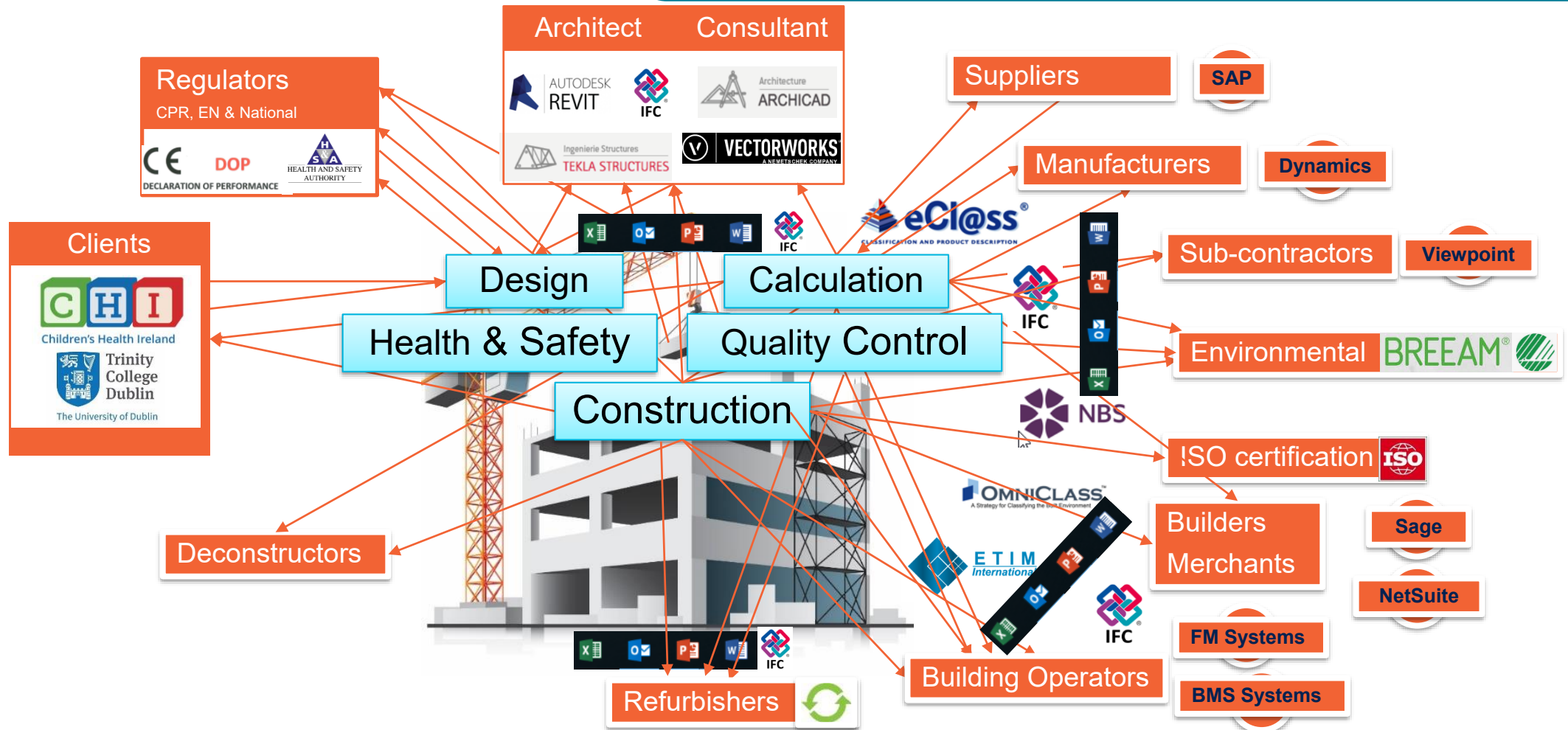


Asset (8004) 53970219991001834 

Complex Landscape

- Unstructured data
- Own terms and definitions
- Manual data transfer
- Siloed systems

- Increased administration
- Increased cost
- Lack of visibility
- Wasteful & inefficient



Common need = **Globally Unique Identifier**



As the key to:

- **Master Data** (product description and structured attributes)

and as an enabler of:

- **Part Authentication** – direct comparison, anti-counterfeit
- **Inventory / Warehouse visibility**
 - predictive replenishment
- **Maintenance, Repair & Overhaul** – make processes more efficient
 - Preventative maintenance, real-time performance monitoring
- **Lean manufacturing** - Manufacturing 4.0, Industrial Internet of Things
- **Systems interoperability**
- **Warranty management**
- **Regulatory compliance**

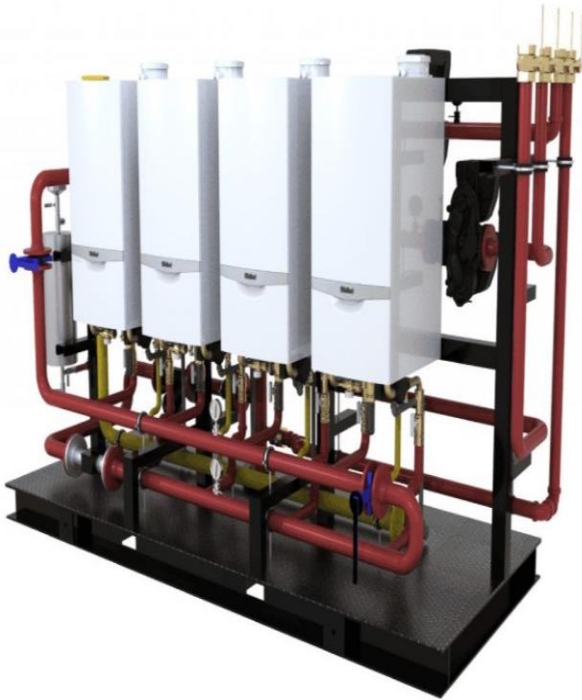
Must be Interoperable

Must be Persistent

Building Information Management



Physical Asset



Graphical Data

3D Object

- Unique ID (GTIN, GIAI)
- Geometry
- Location
- Connections

Enabling BIM dimensions

- 3D Coordination (clash detection)
- 4D Sequencing and Logistics
- 5D Quantity Extraction (cost, carbon)
- 6D Analysis (structural, energy, etc.)
- 7D Operations/FM

Non-graphical Data

Attributes

- Unique ID (GTIN, GIAI)
- Uniclass/Omniclass Code
- Manufacturer
- Description
- Make
- Model

Documents

- Unique ID (GTIN, GIAI)
- Drawings
- Schedules
- Specifications
- Bill of Quantities
- Declarations of Performance
- CE-Mark
- Environmental Product Declarations
- Product Data Sheets
- Commissioning Certs
- Technical Submissions
- Operators' Manuals
- Digital Product Passports
- Building Logbook

Swedish Sector Adopts the GTIN



Stockholm 2021-11-22

NCC
Johan Lindqvist
Head of Purchasing

PEAB
Marcus Holtz
CEO

VERBODEN
Charlotta Nilsson
Executive Vice President
Building Construction

Marcus C Nilsson
Executive Vice President
Infrastructure Solutions

SKANSKA
Anna Säfwenberg
Head of Purchasing
Skanska Sverige

**byggmaterial
industrierna**
Anna Ryberg Ågren
CEO

Byggmaterialhandlarna
Monica Björk
CEO

To meet future needs, digitalised construction follows the entire process.

We are a collaborative industry that demands the introduction of a standardized identifier.

GTIN FOR CONSTRUCTION PRODUCTS BEFORE 2022-07-01

We, national construction contractors, together with industry organizations in the building trade, building materials manufacturers and civil infrastructure, demand that GTIN*, as a common identifier of construction products, be introduced by the end of the first half of 2022.

With this decision, we enable both traceability in the construction process and that unique data can be linked to each product in the digital information flow.

In order to succeed with the introduction of GTIN, it is important that all stakeholders in the industry help, take initiatives, and work actively so that:

- GTIN will be able to be used operationally in business relations and internal processes
- manufacturers and suppliers always have GTIN on their construction products and follow the GTIN Management Rules, and connect product information and data to the GTIN.
- assessment and certification companies, and other database owners for product information, have GTIN as a mandatory, quality-assured information and identifier
- business and IT systems can handle and communicate GTIN

Common

GS1 adoption in Norway & Finland



The Global Language of Business

Veileder GTIN for byggenæringen



- Construction
- City
- •



Versjon 0.9 – 18. mars 2021

“Datahub uses GS1 standards for global uniqueness of accounting points and interoperability”

FINGRID

Datahub

Using GS1 IDs in the electricity retail market

News Posted 24.4.2023

A recent study by Aalto University recommends the large-scale implementation of GS1 standards for the construction industry



“Statsbygg has set a requirement that all products included in a building/delivery must be identified with a GTIN”



GTIN - Identification enables Digitalisation

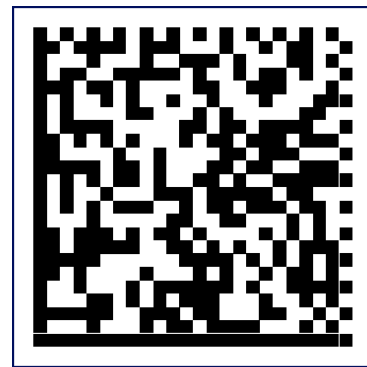


GTIN
Global Trade
Item Number
(EAN/UPC)

- Globally unique**
- Interoperable**
- Persistent**

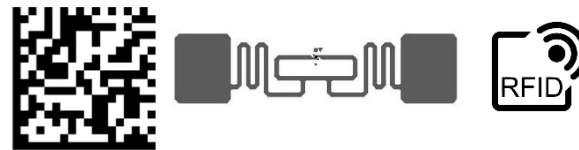
- Key used worldwide to **identify, capture** and **share** different types of information
 - **Master Data**
 - **Transactional Data**
 - **Event-based Data**

Serialised GTIN for a Window



sGTIN

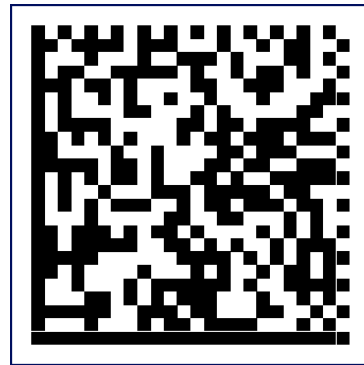
serialised



- Globally unique**
- Interoperable**
- Persistent**

- Key used worldwide to **identify, capture** and **share** different types of information
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Digitalisation requires Identification

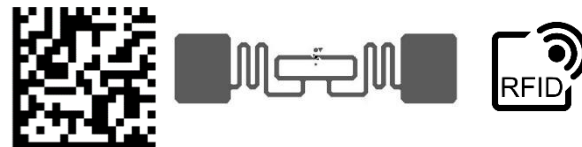


SGTIN

- Globally unique**
- Interoperable**
- Persistent**

- Key used worldwide to **identify, capture** and **share** different types of information
 - **Master Data**
 - **Transactional Data**
 - **Event-based Data**

serialised



Tag Materials



ISO/IEC CD 8506 – AIDC in Industrial Construction



Industrial Construction Products



Auto ID Capture for Concrete Products



Digital Link



<https://id.gs1ie.org/01/5391234123456/?linktype=VbG>



GTIN (01) 05391234123456
Batch (10) 987654321ABCD
Expiry (17) 231231
Serial (21) ABCD1234

DATAMATRIX (GS1)

(01) 05391234123456 (10) 987654321ABCD
(21) ABCD1234 (17) 231231

<https://id.gs1ie.org/01/5391234123456/21/123456789?linktype=EPD> [GTIN & Serial]

<https://id.gs1ie.org/01/5391234123456/21/123456789?linktype=DPP> [GTIN & Serial]

https://id.gs1ie.org/8004/53912340AHU001?linktype=CE_MARK [Global Individual Asset Identifier]

<https://id.gs1ie.org/8013/5391234123456?linktype=PDT> [Global Model Number]

<https://id.gs1ie.org/01/5391234123456/21/123456789?linktype=PDS> [GTIN & Serial]

Contact me for more information



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