GS1 ID Keys

- GS1 Data Matrix (DM) Barcode

A) Definition

It is a graphic representation of any digital data in a 2-dimensional format, with high decoding information capacity that can be read by optical equipment. It provides:

- High storage capacity: Encoding and marking of a greater amount of data within a smaller space.
- Direct marking: On items where labels may not be practical.
- Image Readable.
- Auto-correction: Error detection and correction capabilities to improve the readability of bar codes despite irregular packaging or physical damage to a label.

B) Printing Location

The Data Matrix barcode must be printed on one of the sides of the secondary packaging. It must be placed preferably on a flat surface & white background. To facilitate the reading process, it must be placed on the same side where possible.

C) Printing Instructions

- Ensure that the surface to be marked is suitable for printing.
- Verify through testing that rubbing does not damage the marking,
- Testing the legibility of barcode marking in certain moist conditions.
- Using the same printing quality for information redundancy.

D) Readers

To read the Data Matrix barcode, camera-based bar code scanners are required. Laser bar code scanners cannot read data matrix bar codes. However, camera-based bar code scanners can read both linear and all 2-D bar codes such as Data Matrix. Generally, camera-based scanners have a higher price point than laser scanners, but they offer distinct advantages, such as:

- Flexibility: they can read both 2D and linear bar codes versus laser scanners which can only read linear bar codes.
- Reliability: It has less moving parts than laser based scanners. Therefore, lower total cost of ownership.
- Compact: allow easier integration with other systems (e.g. packaging line verification) or in a handheld computer.

- Global Trade Item Number (GTIN)

A) Definition

The GS1 Global Trade Item Number (GTIN) is an identification key that uniquely identifies products worldwide. It can be encoded into various types of data carriers such as Data Matrix.

B) GTIN-14

GTIN's are available in several lengths. GTIN-14 is the required form and it is composed of 14 digits:

- One digit representing the Indicator digit to indicate packaging level.
- Twelve digits the GS1 Company Prefix and the Item Reference assigned by your company.
- One digit representing the Check Digit.

C) Why GTIN

- It facilitates the global flow of trade products and associated information used in electronic commerce.
- Uniquely identifies trade products at all levels of packaging (item, case, and pallet).
- Allows accurate machine reading of trade products when placed in bar codes.
- Delivers trade products data in a consistent format and structure.
- Simplifies supply chain management.

SSCC (Serial Shipping Container code)

The Serial Shipping Container Code can be used by companies to identify a logistic unit, which can be any combination of trade items packaged together for storage and/or transport purposes; for example a case, pallet or parcel.

• The SSCC is a crucial key for traceability, since it uniquely identifies each distributed logistic unit and its content.

• The SSCC enables companies to track each logistic unit for efficient order and transport management. • The SSCC can be encoded in a barcode or EPC/RFID tag, ensuring the logistic unit can be accurately and easily identified as it travels between trading partners, anywhere in the world.

• When SSCC data is shared electronically via EDI or EPCIS, this enables companies to share information about the status of logistic units in transit, and reliably link it to related transport information such as shipment details.

 • The SSCC enables companies to link to additional information about the logistic unit. This information can be communicated via a Dispatch Advice or Advanced Shipping Notice (ASN) prior to the logistic unit's arrival. Upon receipt the SSCC will be scanned, providing the required information to speed up the receipt of goods as well as the subsequent invoicing process. THE SSCC IS FULLY COMPATIBLE WITH ISO/ IEC 15459 – PART 1: UNIQUE IDENTIFIERS FOR TRANSPORT UNITS. THIS IS OFTEN REFERRED TO AS THE ISO LICENCE PLATE AND IS A PREREQUISITE FOR TRACKING AND TRACING LOGISTIC UNITS IN MANY INTERNATIONAL SUPPLY CHAIN.

Global Location Number (GLN)

A) Definition

The Global Location Number (GLN) is a globally unique GS1 Identification Number that is used to identify any location in the supply chain that needs to be uniquely identified.

B) Why GLN?

GLN is very important to help in the location identification process. It links to the organization's name, address, and type in the databases, reducing effort to maintain and communicate this information between all parties. This increases the efficiency, accuracy and precision of sharing location information, crucial to logistical operations. It is also substantial to achieve traceability in healthcare and improve supply chain efficiency and visibility.