GS1 DIY Self-Learning Materials

How to assign GS1 barcode numbers
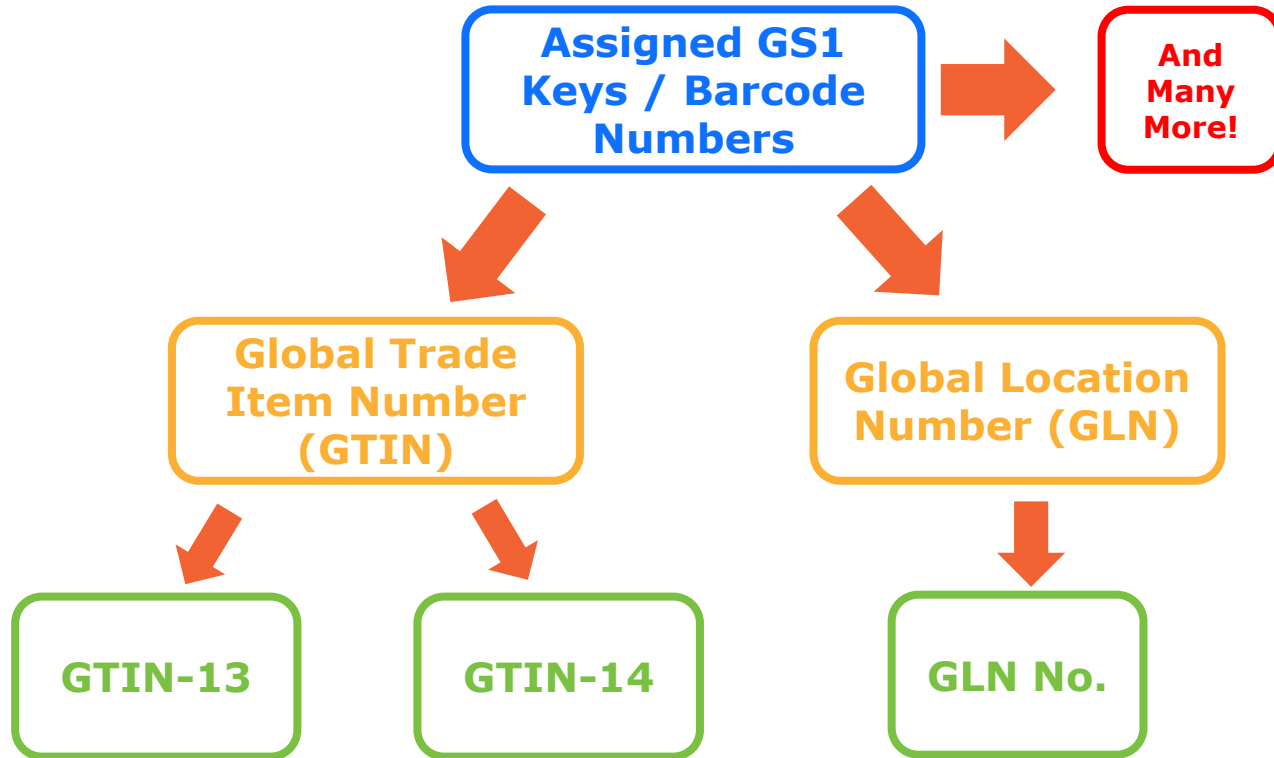
GS1 Malaysia Berhad

7th Edition

Preface

- This DIY Self Learning Material will provide you with details on:

  - The **Types** of GS1 Identification Keys
  - **Generating** GS1 identifiers
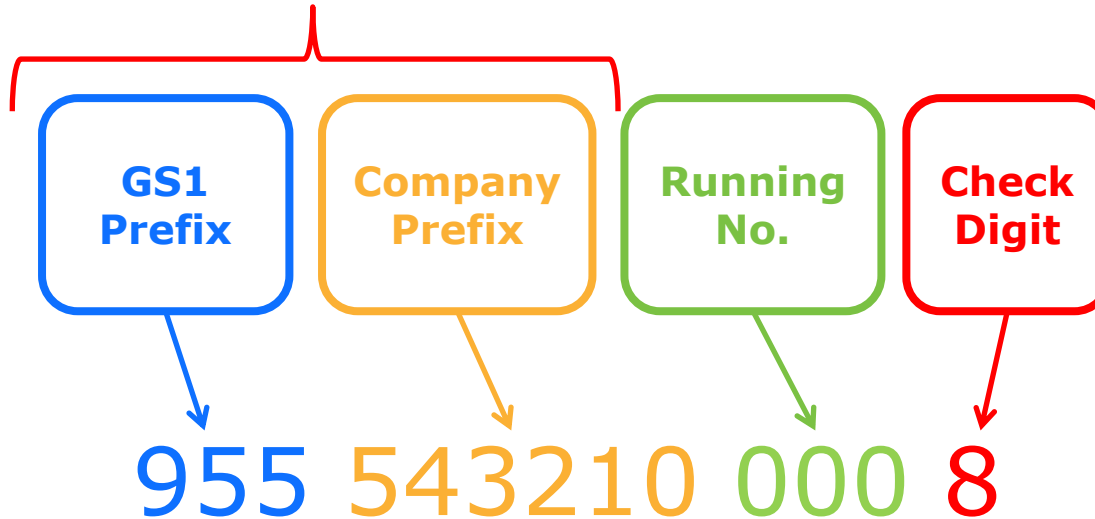 - **Assigning** GS1 identifiers

Types of GS1 Identification Keys

```
          ┌──────────────────────┐        ┌──────────────┐
          │   Assigned GS1       │ ──────▶│  And Many    │
          │  Keys / Barcode      │        │   More!      │
          │     Numbers          │        └──────────────┘
          └──────────────────────┘
            │                  │
            ▼                  ▼
  ┌──────────────────┐  ┌──────────────────┐
  │  Global Trade    │  │  Global Location │
  │ Item Number      │  │  Number (GLN)    │
  │   (GTIN)         │  └──────────────────┘
  └──────────────────┘            │
     │         │                  ▼
     ▼         ▼           ┌──────────────┐
┌─────────┐ ┌─────────┐    │  GLN No.     │
│ GTIN-13 │ │ GTIN-14 │    └──────────────┘
└─────────┘ └─────────┘
```

GS1
Malaysia

Breakdown of a GTIN-13

Global Trade Item Number (GTIN)

GS1 Company Prefix (GCP)

GS1 Prefix	Company Prefix	Running No.	Check Digit
955	543210	000	8

Breakdown of a GTIN-14

Carton Identifier (1 – 8) : Assigned as required by the member. It can use up to 8 separate carton indicators to indicate different carton sizes, as long as they contain the same product unit inside.

Problems Generating your GTINs?

GS1 Malaysia's barcode number generation service can help you generate your barcode numbers for a modest fee:

GTIN-13 (Product-level / SKU)
RM 100.00 for **10** GS1 barcode numbers **(Small Block Only)**
RM 375.00 for **250** GS1 barcode numbers
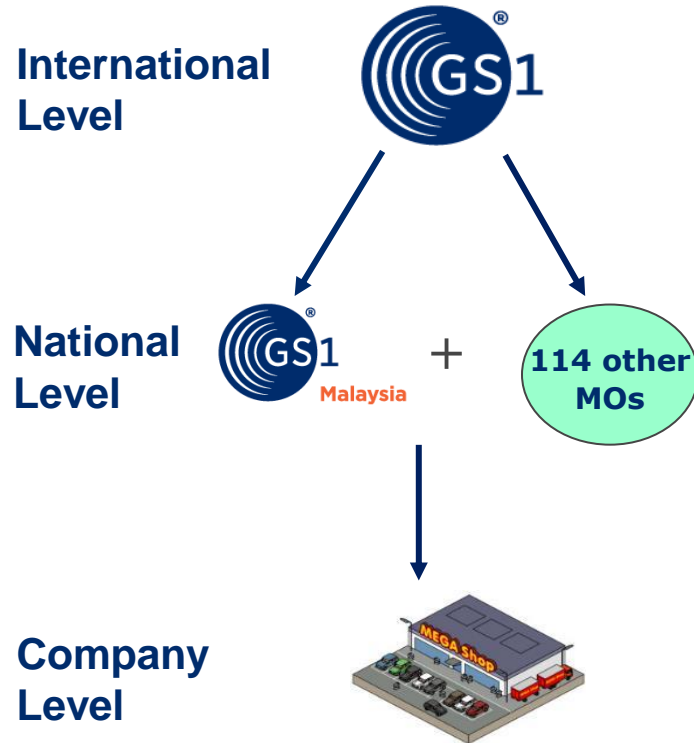**RM 500.00** for **1,000** GS1 barcode numbers

GTIN-14 (Carton / Non-retail level)*
RM 100.00 for **80** GS1 barcode numbers

Note: This service generates numbers only from your allocated GS1 licenses!
** To use this service, you must provide GS1 with **10 x GTIN-13 barcode numbers** to serve as the **base barcode number** for the GTIN-14 generation.*

GS1
Malaysia

GS1 Barcode Prefix Assignment

International Level

National Level

GS1 Malaysia + 114 other MOs

Company Level

Malaysia	955
Singapore	888
China	690 - 699
Australia	930 - 939
USA	001 - 019
France	300 - 379
Philippines	480
New Zealand	940 - 949
Ireland	539
Belgium & Luxembourg	540 - 549
Japan	450 - 459
	490 - 499
Hong Kong	489
Taiwan	471

Scan for full list

Data Carrier = Barcode Symbol

What is a Barcode?

A series of dark bars and light spaces on a light background.

Each dark bar and light space arrangement represents a number or character !

Why Use a Barcode?

Fast and accurate capture of information into a computerised system, with little to no human error.

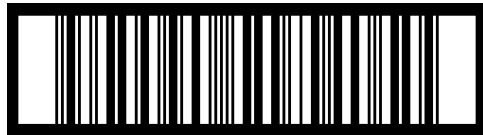# Commonly Used 1D GS1 Barcode Symbols

EAN-13

The EAN-13 barcode symbol is generated from a GTIN-13 barcode number.
Used to label products
EAN = European Article Number.

ITF-14

The ITF-14 barcode symbol is generated from a GTIN-14 barcode number.
Used to label cartons and trade items
ITF = Interleaved.

GS1-128

Used for **traceability** of products and trade items, for **inventory and logistical use**. Able to contain additional production information such as batch/lot, expiry date, etc.

GS1 Malaysia

Definition of a Retail Unit & Non Retail Unit

Product Level / Retail Unit

➢ Usually scanned in a retail environment, through a Point of Sale (POS) System.
➢ Uses **GTIN-13** for identification.
➢ Standard barcode symbol = **EAN-13**

Carton Level / Non-Retail Unit

➢ Trade item not intended for sale in a retail environment.
➢ Created to facilitate operations of handling, storing, shipping and etc. of product units.
➢ Uses the **GTIN-14** for identification.
➢ Standard barcode symbol = **ITF-14** or **GS1-128**
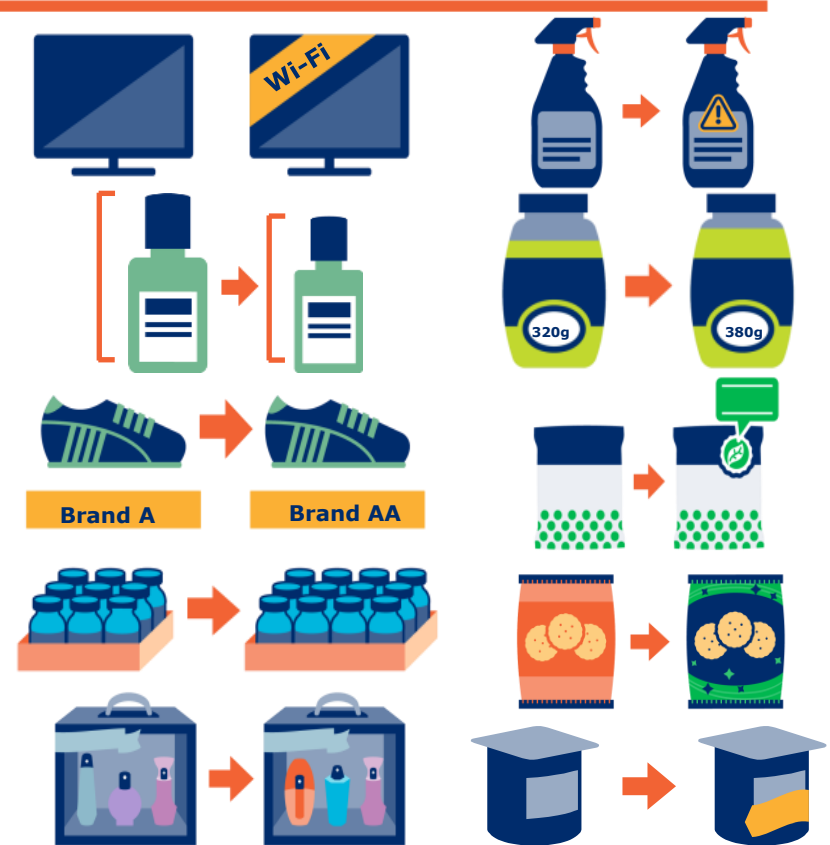➢ If being traded at retail level, must be allocated with a GTIN-13 barcode number.

How to assign your Barcode Numbers

Global Trade Item Number (GTIN) Allocation Rules
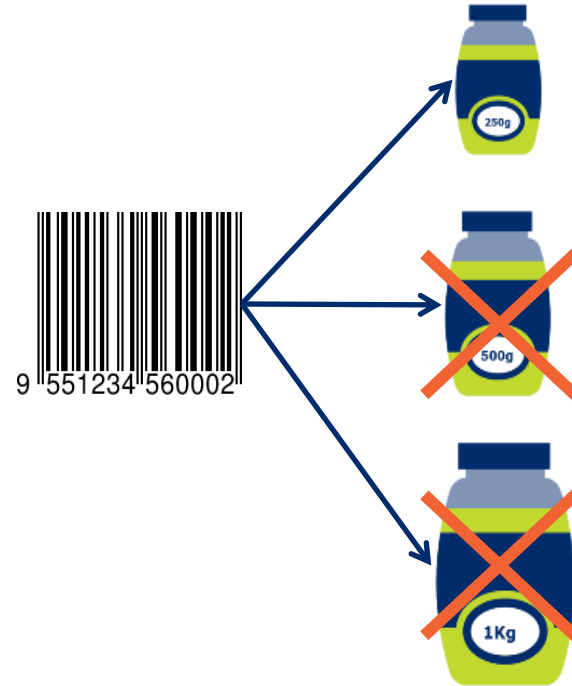
10 Simple Rules:

1. New Product Introduction
2. New Formulation / Functionality
3. New Net Content
4. Dimension / Weight Change
5. Add or Remove Certification Mark
6. Different Brand
7. Different Pack / Case Quantity
8. Time Critical / Promotional
9. Change in Pre-Defined Assortment
10. Price on Pack / R.R.P.

Most Basic Rule

1 PRODUCT TYPE / VARIANT (SKU) = 1 GTIN

1 Product cannot have more than 1 barcode number!

9 551234 560002

9 551234 560019

9 551234 560026

9 551234 560002

250g

500g

1Kg

1 barcode cannot be assigned to more than 1 product type / variant!

Carton / Non-Retail Barcode Assignment Rules

1 **Assigned by Packing Level**

Product level
1 bar of chocolate
955 543210 123 C

Inner Pack / Carton
50 of single bars
1 955 543210 123 C

Outer Carton Case (OCC)
10 boxes of Inner Pack / Carton
2 955 543210 123 C

2 **Assigned by Quantity**

Product level
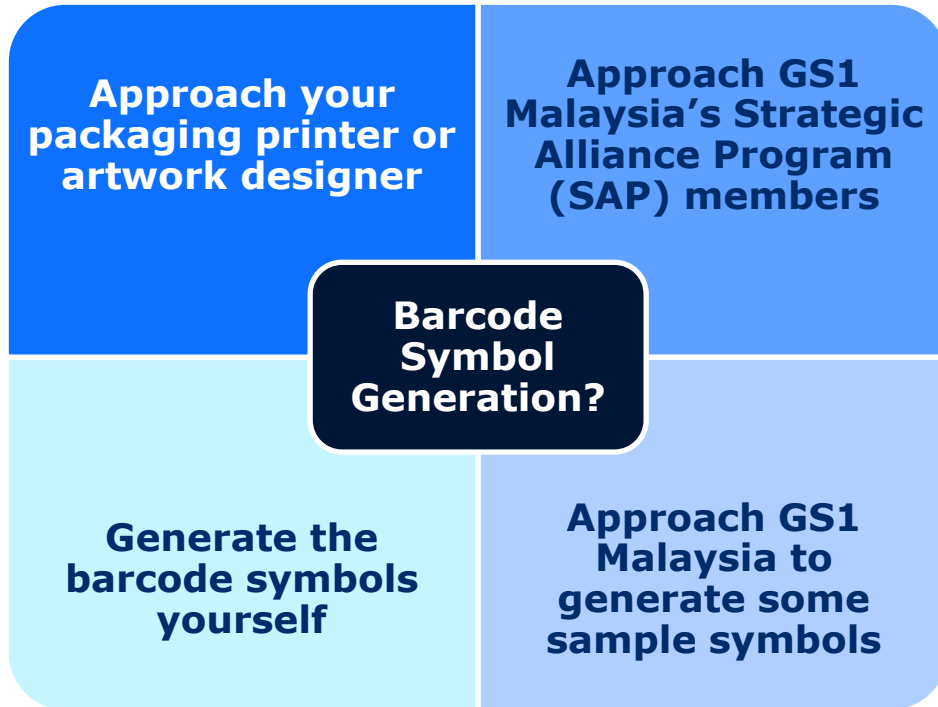1 box of Macaroni
955 543210 123 C

1st Carton Type
20 Box of Macaroni
1 955 543210 123 C

2nd Carton Type
40 Boxes of Macaroni
2 955 543210 123 C

How to generate your Barcode Symbols

How to get GS1 barcode symbols?

Approach your packaging printer or artwork designer	**Approach GS1 Malaysia's Strategic Alliance Program (SAP) members**
Generate the barcode symbols yourself	**Approach GS1 Malaysia to generate some sample symbols**

Barcode Symbol Generation?

Note: Kindly refer to the GS1 barcode symbol specifications here when you generate your barcode symbols:

https://gs1my.org/sites/default/files/Topic%208%20-%20GS1%20DIY%20Self-Learning%20-%20GS1%20Barcode%20Specifications_2.pdf

Want to learn more?

Attend GS1 Malaysia's
Capacity Building & Implementation Program
to find out more!

GS1 MALAYSIA BRIEFING & TRAINING SCHEDULE

Free Briefings			Premium Training			
Fulfilling Market & Regulatory Guidelines Using GS1 Standards	**GS1 2D Standards and VbG-PDSS Fulfil Sustainability & Circularity**	**Unlocking Traceability Potential with GS1 2D Standards & Keys**	**Industry Focus Forums (Chargeable)**			**In-House Training & Business Consultation (Chargeable)**
			Topic 1: Supply Chain Optimisation and Regulatory Fulfilment using Global Location Number (GLN) and GS1 Services	**Topic 2:** Meeting Global Healthcare Guidelines using GS1 Standards	**Topic 3:** The Importance of GS1 Global Location Number (GLN)	
3.00pm to 4.00pm (Every Monday and Wednesday)	11.00am to 11.45am (Every Thursday)	3.00pm to 4.00pm (Every Tuesday)	**2 hours per session, 1 topic per session. Session conducted by appointment only**			
- Understand why GS1 Standards & Keys is widely recognised and accepted - Learn why GS1 Standards & Keys protects product identity integrity and improves the Customer Buying Experience.	- Learn how GS1 supports the global migration towards 2D Barcodes for greater product visibility, traceability, and authentication.	- Learn how GS1 supports the global migration towards 2D Barcodes for greater product visibility, traceability, and authentication.	• Comply with **Retail Merchandising Principles** • Fulfil **Global Regulatory Compliance** • Track & Trace using GS1 Traceability guidelines and 2D Datamatrix.	• Achieve compliance with international and country-specific directives on Healthcare Products, such as **US FDA GUDID, EU EUDAMED, China NMPA, UAE BrandSync, etc.**	• Compliance to EU directives such as EUDR, ESPR, CEAP, etc. on **Sustainability and Circularity** using GS1 unique identification **(GTIN, GLN)** • Fulfil **Digital Product Passport (DPP)** requirements	• Training is **tailored** to company's requirements • Can be conducted at **company's premises of choice** or via **Zoom** • Full day session includes **quiz activity** • **Travelling charges** will be incorporated into the training fees

* GS1 Malaysia reserves the right to adjust the sessions based on availability & minimum attendance.

Official GS1 Communications Channels

Official GS1 Malaysia WhatsApp

+6014-3933 228
(Membership, Services & Support)

+6011-1616 8228
(Membership, Services & Support)

+6016-2455 228
(Strictly for Payment Only)

+6012-2722 646
(Strictly for Payment Only)

Official GS1 Malaysia Land Line & Fax Line

Land: +603-6286 7200

Fax: +603-6276 1042

Official GS1 Malaysia Emails

gs1malaysia@gs1my.org

membership@gs1my.org

payment@gs1my.org

gs1mymembership@googlegroups.com

Official GS1 Malaysia Website

www.gs1my.org

GS1 Malaysia