GS1 DIY Self-Learning Materials

How to assign GS1 barcode numbers
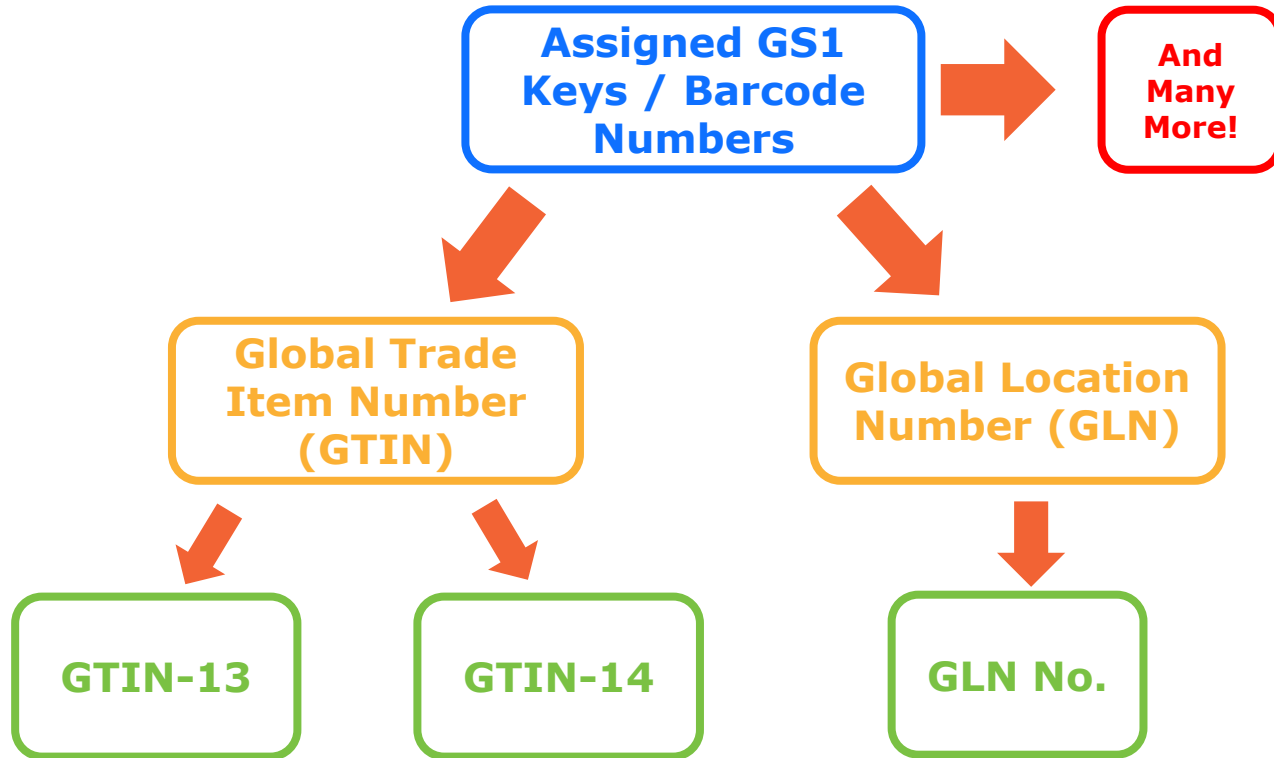
GS1 Malaysia Berhad

7th Edition

Preface

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

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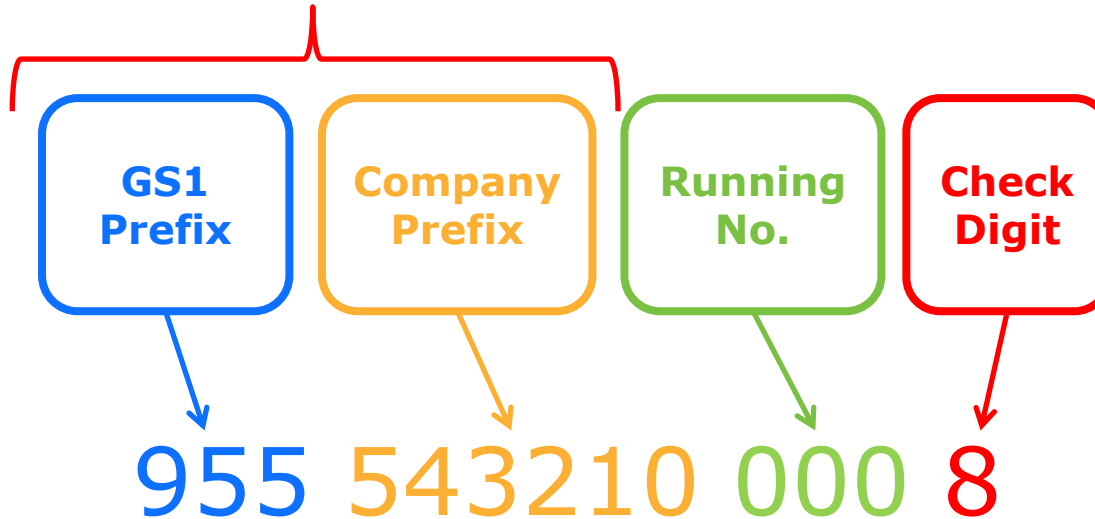   - **Assigning** GS1 identifiers

Types of GS1 Identification Keys

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

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

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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
RM 250.00 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.*

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GS1 Barcode Prefix Assignment

International Level

National Level

+

114 other MOs

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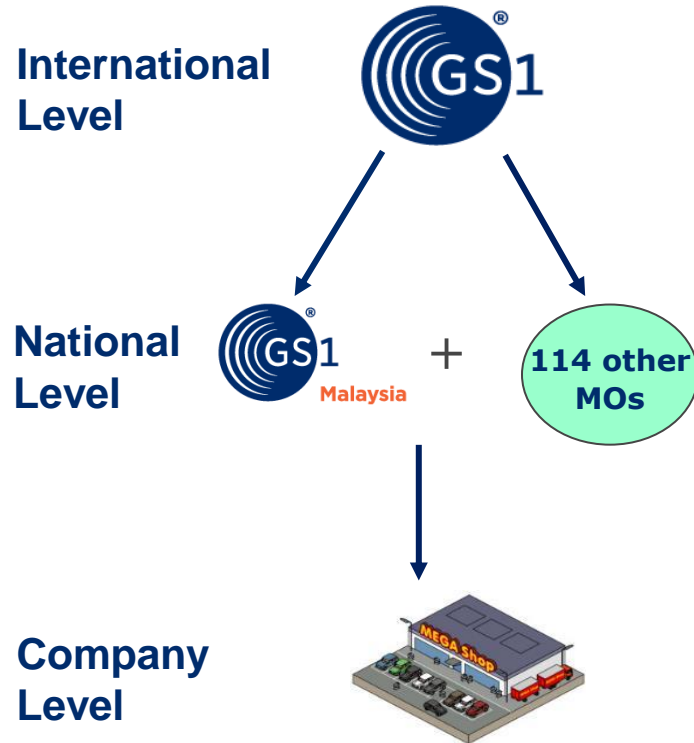
Malaysia	955
Singapore	888
China	690 - 699
Australia	930 - 939
USA	001 - 019
France	300 - 379
Philippines	480
New Zealand	940 - 949
Ireland	539
Belgium & Luxembourg	540 - 549
Japan	450 - 459
	490 - 499
Hong Kong	489
Taiwan	471

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.
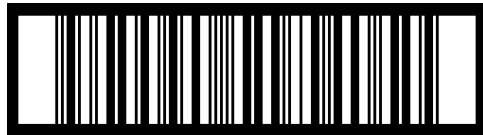
Commonly Used 1D GS1 Barcode Symbols

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.

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.
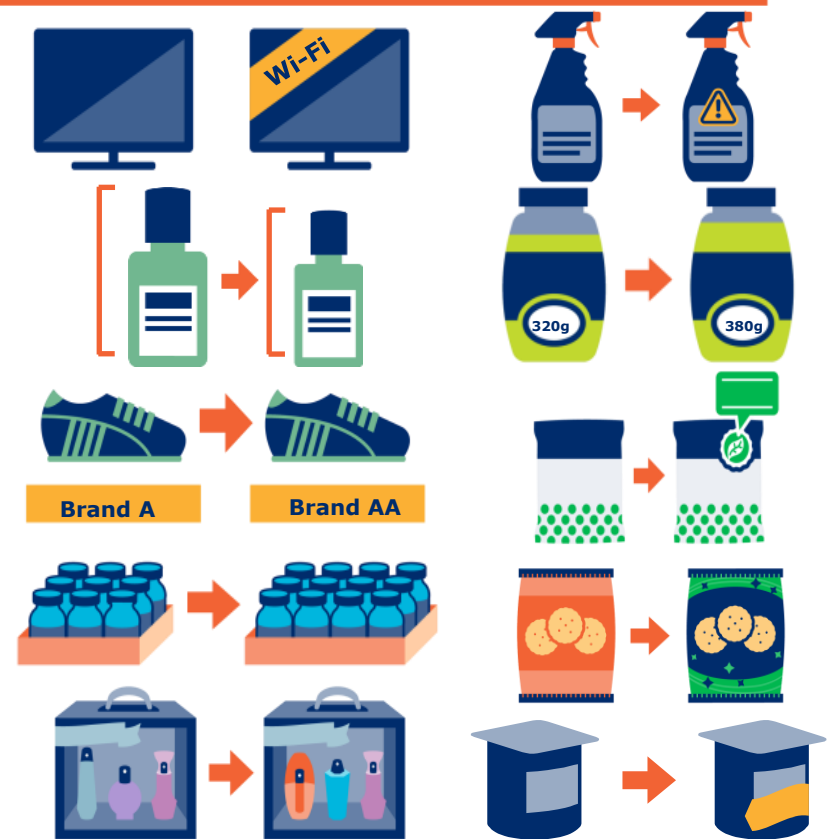
Most Basic Rule

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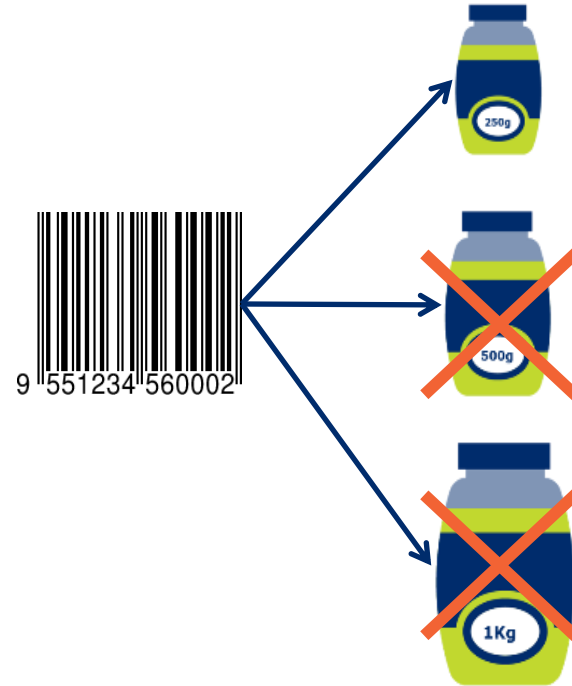
1 barcode cannot be assigned to more than 1 product type / variant!

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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

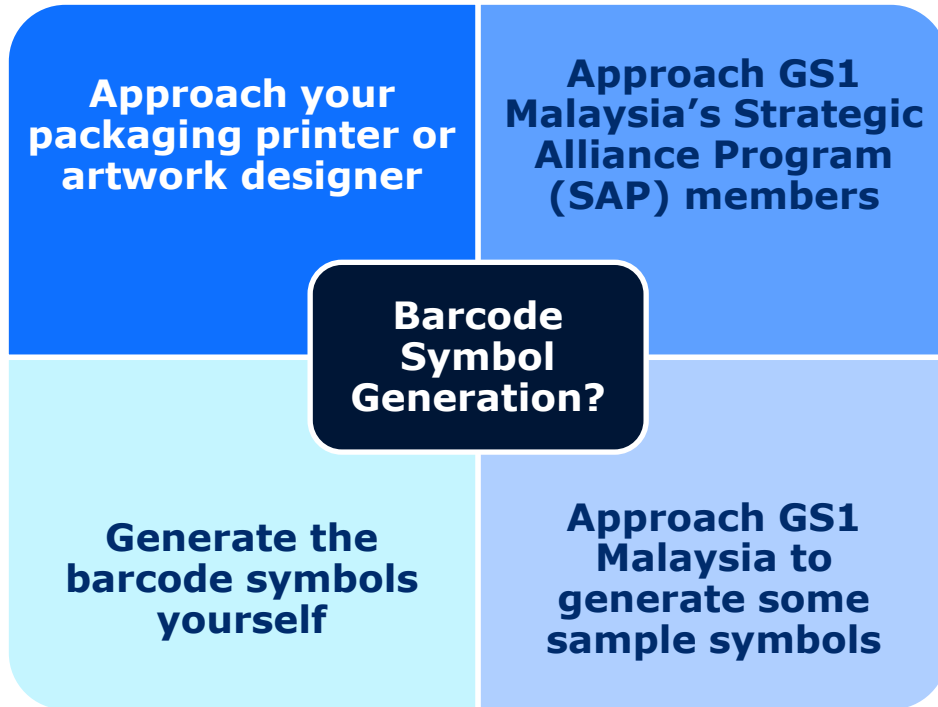**2** **Assigned by Quantity**

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

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How to generate your Barcode Symbols

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How to get GS1 barcode symbols?

Approach your packaging printer or artwork designer

Approach GS1 Malaysia's Strategic Alliance Program (SAP) members

Barcode Symbol Generation?

Generate the barcode symbols yourself

Approach GS1 Malaysia to generate some sample symbols

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

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Want to learn more?

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

Fulfilling Market & Regulatory Guidelines Using GS1 Standards (FOC)

Fulfilling Market & Regulatory Guidelines Using GS1 Standards

Date	Time	Highlights
Every Monday and Wednesday *Subject to change*	**3.00 PM - 4.00 PM**	• Learn how to assign GS1 barcode numbers. • Fulfil the VbG-PDSS initiative by uploading your product information to our online repositories for visibility, authenticity & regulatory fulfilment. • Why an active GS1 Membership is important for the validation of your Business, Brand, Product & Services to improve Customer Buying Experience.

JOIN US NOW ON ZOOM!

Fulfilling Market & Regulatory Guidelines Zoom Link:
https://us06web.zoom.us/j/89614519211

Migration to "Data-Rich 2D" Initiative for Customer Experience Improvement (FOC)

Migration to "Data-Rich 2D" Initiative for Customer Experience Improvement

Date	Time	Highlights
Every Wednesday *Subject to change*	**11.00 AM** **-** **11.30 AM**	• Learn how GS1 supports the **global migration towards 2D Barcodes** for greater product **visibility, traceability,** and **authentication.** • **Case studies** about successful 2D barcode **usage & implementation** in Healthcare and Retail **around the world**

Migration to "Data-Rich 2D" Zoom Link:
https://us06web.zoom.us/j/82513900764

JOIN US NOW ON ZOOM!

Why VbG-PDSS Matters to Circularity & Sustainability Initiatives (FOC)

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Why VbG-PDSS Matters to Circularity & Sustainability Initiatives

Date	Time	Highlights
Every Thursday of the Month *Subject to change*	**11.00 AM - 11.30 AM**	• **WHAT is VbG-PDSS?** • **HOW can VbG-PDSS Fulfil Circularity and Sustainability Initiatives such as UN SDG, EU CEAP, EU ESPR, EUDR, EU DPP, etc.?**

JOIN US NOW ON ZOOM!

VbG-PDSS Zoom Link: https://us06web.zoom.us/j/89770665451

GS1 Industry Focus Forums

GS1 Malaysia Industry Focus Forums

TOPIC 1	TOPIC 2	TOPIC 3
Supply Chain Optimisation and Regulatory Fulfilment using Global Location Number (GLN) and GS1 Services	**Comply with Global Unique Device Identification (UDI) Regulation & Directive of Healthcare using GS1 Standards**	**The Importance of GS1 Global Location Number (GLN)**
Key Learnings: • Comply with **Retail Merchandising Requirements** • Fulfill **Global Regulatory Compliance** • **Track & Trace** using the **GS1 2D Datamatrix**	**Key Learnings:** • Achieve compliance with international directives and country-specific regulations on **medical devices** and **pharmaceutical products** • Fulfilling regulatory compliance required by **US FDA GUDID, EU EUDAMED, China NMPA, UAE BrandSync**, and many more.	**Key Learnings:** • Comply with international directives and country-specific regulations on location and entity identification such as the **Russian certificate of conformity** for all products originating outside of EAEU and the use of GLN by **NPRA-MOH** for **COVID-19 vaccine** track and trace.

*Write to **databank@gs1my.org** to book your session!*

*Chargeable:
1-5 people – RM 500
6-10 people – RM 1000

In-House Business Consultation

Need a special tailor-made **In-House Business Consultation** session? GS1 Malaysia can provide advisory support for you to meet your specific needs.

Each session can be **half-day** or **full day**.

Scan here for the Fee Structure:

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)

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(Strictly for Payment Only)

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Official GS1 Malaysia Website

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