# GS1 Malaysia Healthcare Trial Project

GS1 Malaysia Berhad

The Global Language of Business

# GS1: What We Do

GS1 designs and implements a global system of supply chain standards. GS1 is the largest global supply chain standards setter in the world.

Global, neutral, multi-sector standards

Not for profit, user-driven organisation with 2.0 million members

112 local offices providing local support and expertise, serving 150 countries

# GS1 Standards Address Core Needs



| Manufacturer | Item | Case | Pallet | Transport | Distributor | Transport | Pallet | Distribution Center | Transport | Case | Item | Store | Customer |

**Efficiency**

**Safety**

**Sustainability**

**Visibility**

**Collaboration**

**Transparency**

**Reduce Cost**

**Anti Counterfeit**

**Optimize Assets**

**Enhance Security**

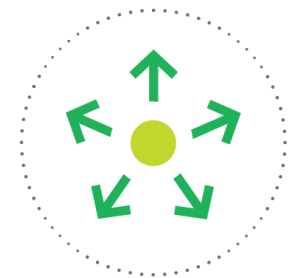**Global Standards**

**Recall**

GS1 Malaysia

# GS1 Standards

**IDENTIFY**

**CAPTURE**

**SHARE**

**GS1 Standards for identifying, capturing, and sharing information, about products, business locations, and more, make it possible for companies to speak the same language, connect with each other, and move their business forward.**
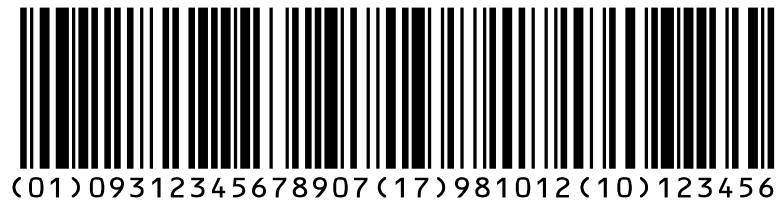
# GS1 BarCodes

**EAN-13 Bar Code**

**GS1-128 Bar Code**

MEDICINE

**Carton Format**

(01)09312345678907(17)981012(10)123456

**Single Unit**

9  551234  321689

(01)09312345678907(17)981012(10)123456

- GS1-128 can encode a wide range of information. Therefore it is used when more than just GTIN is required.

- Can contain a number of important data - Product number, Lot number, Serial number, Expiry date

**This enables traceability.**

# GS1 Bar Codes

**Some data carriers can carry more detailed information about that specific unit**



(01)10222222333334(17)091231(10)A1345B(21)1234

Item identifier

Expiry date

Batch number

Serial number

(01)0761234567890(17)100503
(10)AC3453G3 (21)123

# GS1 Bar Codes

## Data Matrix

- GS1 DataMatrix is a 2D (two-dimensional) bar code symbol.

- GS1 DataMatrix holds large amounts of data in a relatively small space as compared to traditional linear barcodes. Example information – expiry date, batch number & serial number

- GS1 DataMatrix barcodes are used on trade items that have limited space for product marking such as healthcare items not intended to pass through retail point-of-sale (POS) .

(17) 050101 (10) ABC123



(01) 04012345678901

# Benefits of Visibility in the Healthcare Supply Chain

## More Efficient Management & Answer to Industry Concerns:

➤ Better stock management, including issues of replenishment, expiration dates

➤ Physical control of in-coming and out-going goods

➤ In line with regulatory directions

➤ Globally supported

➤ Combats counterfeiting

➤ Simple, based on easy rules

# GS1 Malaysia Industry Project



## Pharmaceutical Products Authentication and Getting Started with Track & Trace : Manufacturer to Distributor to Retailer

**Objectives:**
To provide full visibility in the supply chain of pharmaceutical products.

**GS1 Keys used:**
Global Trade Item Number (GTIN)
Batch Number, Expiry Date, Global Location Number (GLN)

**GS1 Bar code used:**
EAN-13 – on retail packaging, GS1 Data Matrix – on retail packaging
GS1-128 – on non-retail carton

**Partners:**
Manufacturer: Duopharma Malaysia
Distributor: CARING Pharmacy Retail Management Sdn Bhd
Retailer: CARING Pharmacy Retail Store
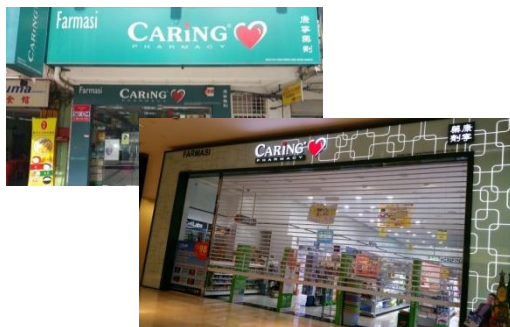
**Timeline:** Early August 2016 to November 2016

**Products:** Uphadyl Forte Expectorant 90ml Bottle & Upha Oral Aid 6ml

**Logistics Route :** Duopharma CCM Warehouse (Bangi) > Caring HQ Warehouse (PJ) >
Caring Retail Outlets (1. Pavillion Branch & 2. Jalan Ipoh Branch)

# GS1 Malaysia Industry Project
## - What was Done

The GS1 2D DataMatrix labels were put onto individual bottles for the 2 products and the logistics labels (GS1-128) barcode were stuck onto the inner box (Oral Aid) and outer case carton (Uphadyl). The logistics labels were scanned by the different stake holders to connect the movement of products throughout supply chain indicated by the GLN (Global Location Number).

# GS1 Malaysia Industry Project

**The project involved two test cases.**

- Case 1 – It was completed in end of September 2016 involving **track and trace** of the selected products at the manufacturer and distributor by **scanning the products leaving Duopharma/CCM warehouse and arriving** at the warehouse of Caring Pharmacy. The matched information provided visibility in the supply chain, completing the test case.

- Case 2 – It was completed in November 2016. This case involved track and trace of selected products from Duopharma/CCM warehouse to Caring's warehouse and **eventually to selected Caring retail stores**. This case provided **full visibility** from manufacturer up to the retail outlet thus completing the full supply chain test case.

# GS1 Malaysia Industry Project
## - Overview of the Track & Trace Events: **CASE 2**

**Pharmaceutical Products Authentication and Getting Started with Track & Trace : Manufacturer to Distributor to Retailer**

**Manufacturer** → **Distributor / Warehouse / Logistics** → **Retailers**

**CCM Upha Bangi**

**07/11/2016 10.00am**
**Event : Packaging**
144 Bottles Uphadyl (2 Ctns)
120 Bottles Oral Aid (10 Ctns)
**GLN : 9554290000017**

**15/11/2016 10.00am**
**Event : Despatch**
144 Bottles Uphadyl (2 Ctns)
120 Bottles Oral Aid (10 Ctns)
**GLN : 9554290000031**

**Caring HQ/Warehouse**

**15/11/2016 03.00pm**
**Event : Arrival**
144 Bottles Uphadyl (2 Ctns)
120 Bottles Oral Aid (10 Ctns)
**GLN : 9554290000024**

**17/11/2016 10.00am**
**Event : Despatch**

**17/11/2016 10.00am**
**Event : Despatch**

**Jln Ipoh Branch**

**17/11/2016 02.00pm**
**Event : Arrival**
72 Bottles Uphadyl (1 Ctn)
24 Bottles Oral Aid (2 Ctns)
**GLN : 9554290000048**

**Pavillion Branch**

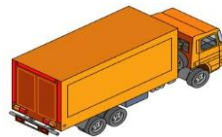**17/11/2016 02.00pm**
**Event : Arrival**
72 Bottles Uphadyl (1 Ctn)
96 Bottles Oral Aid (8 Ctns)
**GLN : 9554290000055**

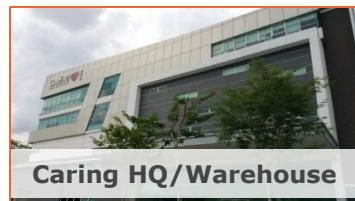**Uphadyl Forte Expectorant**
GTIN : 9557046006141
Expiry Date : 30-09-2019
Batch No. : 1609059A
Carton : 19557046006148 (72x)

**Oral Aid**
GTIN : 9557046999993
Expiry Date : 31-07-2019
Batch No. : 1607071A
Carton : 19557046999990 (12x)

Logistic Number

# GS1 Malaysia Industry Project
## - GS1 Keys Used

## How does GS1 Keys Facilitate the Traceability Process

### Item

**GTIN** = Product Level EAN-13 to identify the specific product.

**Batch Number** = Indicate the production batch number of the item.

**Expiry Date** = Indicate the expiry date of the item of the specific batch.

### Logistic Units

**GTIN** = Logistic unit EAN-14 based on the product GTIN to indicate the content of the inner carton or outer carton. This will immediately deliver the information about the quantity of items in the specific inner carton or outer carton.

**Batch Number** = Indicate the production batch number of the product content.

**Expiry Date** = Indicate the expiry date of the product content for the specific batch.

(01)19557046006148(17)190930(10)1609059A

### Event

**GLN** = GLN (Global Location Number) to identify the location of the event of the tracking. GLN is also use to identify the identity of the respective stake holders.

**Event Date** = Date of the event being scanned by the respective stake holders.

# GS1 Malaysia Industry Project
## - Key Learnings from the Project

- The **project has successfully validated the implementation and benefits of using GS1 keys** and standards to facilitate the pharmaceutical products' traceability and to increase the visibility of the production/manufacturing information to consumers and stake holders.

- The Industry Project **demonstrated effective track and trace**, authentication by using GS1 Standards and GS1 identification keys for the following benefits:

  - Proper **control of inventory** and stock optimisation
  - Able to **make informed management decisions** prior expiry date of the products
  - **Reduce wastages** due to expired products

- With the implementation of GS1 standards, **each product can be uniquely identified** using GTIN with additional attributes such as Expiry Date and Batch No. to provide additional information on each item using the GS1 Data Matrix.

# GS1 Malaysia Industry Project
## - Key Learnings from the Project

- **Logistic units** using GS1-128 can facilitate the warehouse and inventory processes by providing information such as Quantity, Expiry Date and Batch No. of the product on the carton level.

- **GLN** containing information about specific locations and identity of the stake holders was also used in the project.

- Using the GS1 keys, the stakeholders would be able to do **recall effectively** and efficiently using the Batch No. and GLN.

- Caring Pharmacy will be using the batch number and expiry date for full visibility in their inventory. This increases overall efficiency in inventory management and further optimises their stock turnover, which will eventually allow them to make better management decisions regarding their inventory (for example, to move the products that are going to expire to fast moving retail stores).
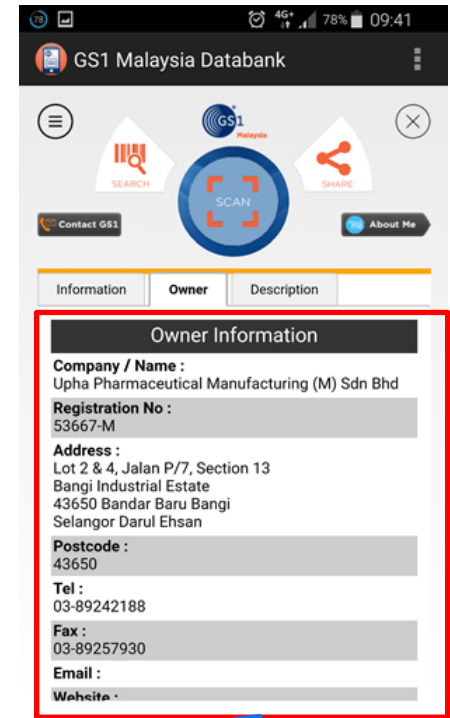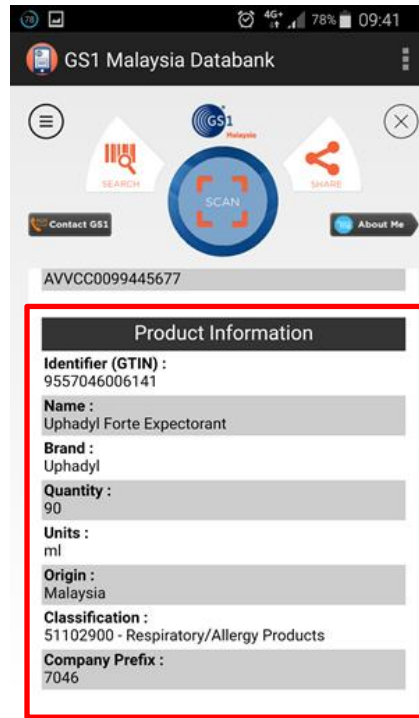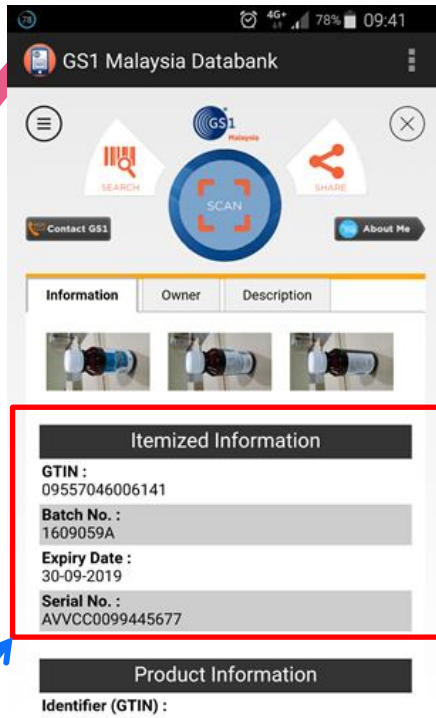
# GS1 Malaysia Industry Project

**Implementation Demo : Pharmaceutical Products Authentication using GS1 Data Matrix and GS1 Malaysia Databank App**



Interconnected using **GS1 GTIN** number.

**GS1 Datamatrix** carries **Manufacturing/Production** information.

**GS1 Malaysia Databank** carries **authenticated product and company** information.

# Roadmap - Way Forward

1.  GS1 will continue to **collaborate with Caring Pharmacy** as the roadmap and ongoing strategy is to **drive the GS1 standards**, to **educate and encourage the adoption** by the industry and to promote **track and trace** by using GS1 keys.

2.  GS1 will **assist Duopharma (CCM) to implement the GS1 2D Datamatrix onto their retail products**. Currently Duopharma has implemented the 2D Datamatrix with Batch No. and Expiry Date onto the outer case carton labelling.

3.  **Create awareness** on the healthcare pilot project to **GS1 members, hospitals and members of healthcare associations**.

    ▪ GS1 Malaysia will organize **healthcare talks** to create awareness about the GS1 keys which can provide **track & trace capabilities** and other benefits like **inventory management**.

# Roadmap - Way Forward

4. To **promote & provide guidance to serialisation**. With **serialisation at the consumer level**, each product will have a unique code which can be scanned by a consumer to **verify product authenticity**. Serialization using the existing GTIN (Global Trade Item Number) – a **serialised GTIN** can be used for a **more integrated approach** to achieve the key benefits as follows:

- ✓ Better Transparency
- ✓ Fight Counterfeiting
- ✓ Minimise Recalls
- ✓ Protect the Brand

- ✓ Build Consumer Trust
- ✓ Control Inventory & Shipping Accuracy
- ✓ Improve Procurement Efficiency

5. The Healthcare Associations and industry stakeholders will be **updated on the outcome of this Industry Project** as they are also interested in using GS1 standards to improve the tracking and tracing of their products.

# Roadmap - Way Forward

6. **Healthcare Product Databank**

- GS1 Malaysia would create a healthcare product databank to **gather relevant information** about the pharmaceutical company and its products.

- The Healthcare Product Databank would capture the **Global Trade Item Number (barcoded number), batch number and expiry date.**

- This would provide the ability to track and trace all pharmaceutical products.

- All healthcare companies would be encourage to participate.

**GS1 Malaysia Berhad** (1201396-K)

Wisma FMM, No. 3, Persiaran Dagang,
PJU9, Bandar Sri Damansara
52200 Kuala Lumpur
Tel: 603-62867200
Fax: 603-62761042
Email: gs1malaysia@gs1my.org
Website: www.gs1my.org