



The Global Language of Business

Ms. Nuran Idris, GS1 Global Office
Mr. Nelson Uyirwoth, GS1 Kenya

June 12, 2025



Nuran Idris

Manager, Healthcare Africa, GS1 Global Office



Nuran joined the GS1 global office in January 2020. Her primary responsibility within the Healthcare team is to promote the awareness of GS1 global standards and assist African countries in implementing pharmaceutical traceability using these standards.

With over 10 years of experience in healthcare digitalization and recently in global standards, Nuran is a dedicated collaborator and a strong advocate for harmonization across Africa. She firmly believes that the adoption of standards can lead to greater efficiencies and significantly improved patient care.

Nuran holds qualifications as a Political Scientist and a global eHealth specialist.

Nelson John Uyirwoth

Team Leader Industrial Engagement | GS1 Kenya



Nelson John Uyirwoth has been with GS1 Kenya for the past seven years and currently serves as the Team Leader for Industrial Engagement. In this role, he is responsible for promoting and supporting the adoption of GS1 Standards and solutions across key sectors of the Kenyan supply chain, including Healthcare, Construction, Academia, and Transport & Logistics.

He collaborates closely with major stakeholders through capacity-building programs and awareness initiatives aimed at enhancing supply chain efficiency, traceability, and interoperability. Nelson brings a wealth of experience in the technical implementation of GS1 Standards and has led or contributed to numerous projects supporting their integration across diverse industries.

Nelson is a scholar in Information Technology and Business Administration, with a strong foundation in applying supply chain traceability.

Agenda



- What is track & trace, serialisation
- What is GS1
- A close look at the GS1 DataMatrix
- Building blocks of traceability
- How much - entry point (Cost)
- Not a burden - concern of vendors, vendor driven initiatives
- Map of regional developments

Counterfeit medicines are everywhere:



2025

14 May 2025 | Medical product alert

**Medical Product Alert N°3/2025:
Falsified IMFINZI (durvalumab)
injection 500mg/10ml**

23 April 2025 | Medical product alert

**Medical Product Alert N°2/2025:
Falsified HEALMOXY (Amoxicillin)
Capsules 500mg**

31 March 2025 | Medical product alert

**WHO information notice for users
of malaria IVDs 2025/1**

12 March 2025 | Medical product alert

**Medical Product Alert N°1/2025:
Falsified (contaminated)
OXYCONTIN 80mg**

2024

23 December 2024 | Medical product alert

**Medical Product Alert N°5/2024:
Falsified IMFINZI (durvalumab)
injection 500mg /10ml**

10 October 2024 | Medical product alert

**Medical Product Alert N°4/2024:
Falsified USP/EP PROPYLENE
GLYCOL**

5 August 2024 | Medical product alert

**Medical Product Alert N°3/2024:
Falsified (contaminated)
Oxymorphone Hydrochloride
40mg**

19 June 2024 | Medical product alert

**Medical Product Alert N°2/2024:
Falsified OZEMPIC (semaglutide)**

2023

7 December 2023 | Medical product alert

**Medical Product Alert N°8/2023:
Substandard (contaminated)
syrup and suspension medicines**

4 September 2023 | Medical product alert

**Medical Product Alert N°7/2023:
Falsified DEFITELIO (defibrotide)**

7 August 2023 | Medical product alert

**Medical Product Alert N°6/2023:
Substandard (contaminated)
syrup medicines**

19 July 2023 | Medical product alert

**Medical Product Alert N°5/2023:
Substandard (contaminated)
syrup medicines**

2022

27 December 2022 | Medical product alert

**Medical Product Alert N°8/2022:
Substandard (contaminated)
METHOTREX 50mg**

2 November 2022 | Medical product alert

**Medical Product Alert N°7/2022:
Substandard (contaminated)
paediatric liquid dosage medici...**

5 October 2022 | Medical product alert

**Medical Product Alert N°6/2022:
Substandard (contaminated)
paediatric medicines**

25 August 2022 | Medical product alert

**Medical Product Alert N°5/2022:
DIPRIVAN**



How global standards strengthen supply chains



Data quality
visibility and
insights



Reduced time
and costs to
gather and
verify data



Easy access to
product data



More reliable
product
information



Better brand and
counterfeit
protection



Improved
patient safety
and care
outcomes

So, are there any benefits?



1. Ensuring only authorized products, registered or approved, circulate in the legal supply chain
2. Preventing the distribution and/or dispensing of falsified, expired, prohibited or recalled products
3. Facilitating efficient and fast product recalls
4. Improved visibility in the supply chain – enabling multiple opportunities including facilitating real-time monitoring, enhancing quantification & forecasting capabilities
5. Identifying shortages and monitoring the reasons for shortages and stockouts.

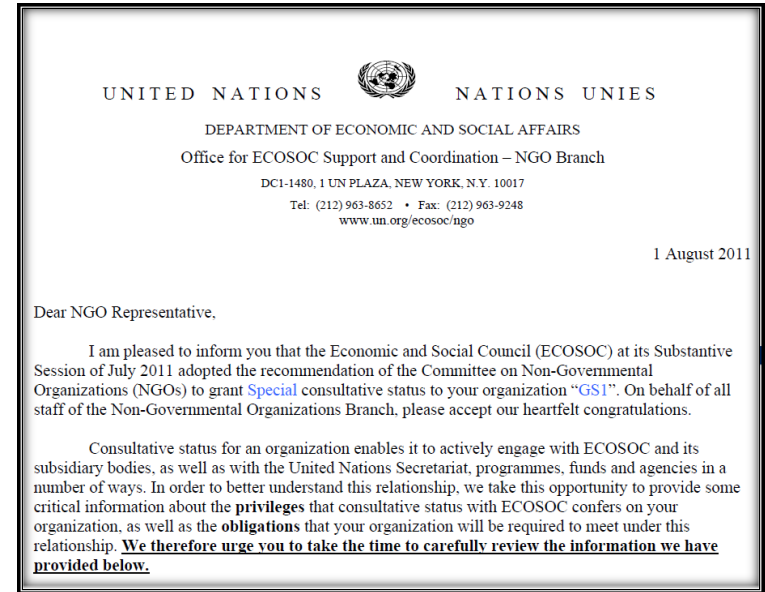
Source: WHO Policy Paper on traceability

<https://www.who.int/publications/i/item/policy-paper-on-traceability-of-medical-products>

GS1 – the global language of business



- Global Organisation
- SDO , Standard Development Organisation
- NGO, Non-Governmental Organisation



GS1 is a global organisation



GS1 is both global and local



GS1 Global Office

Identification, creation, development and maintenance of standards and our foundational architecture, coordination with other international bodies, development of training programmes...

GS1 Member Organisations

Local offices in 120 countries around the globe. Implementation of standards, local regulatory adjustments, community management and relationship management with government, local stakeholders, regulatory agencies...

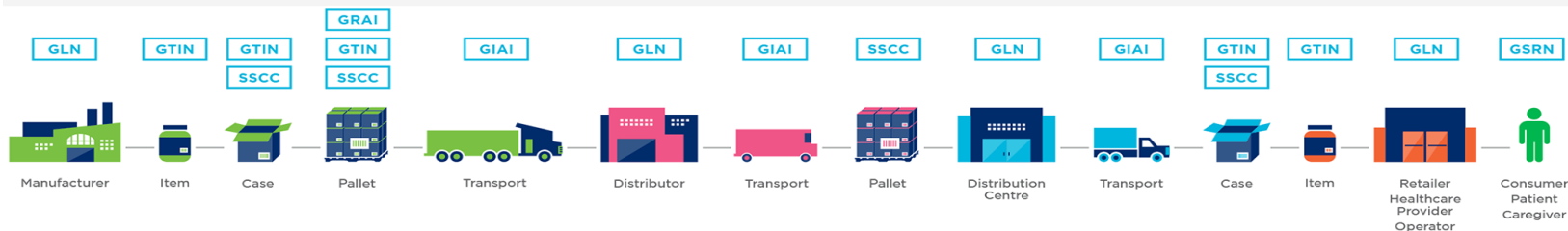


The GS1 Standards



Identify: GS1 Standards for Identification

GLN Global Location Number GTIN Global Trade Item Number SSCC Serial Shipping Container Code GRAI Global Returnable Asset Identifier GIAI Global Individual Asset Identifier GSRN Global Service Relation Number



Capture: GS1 Standards for Barcodes & EPC/RFID

GS1 Barcodes

EAN/UPC



GS1-128



ITF-14



GS1 DataBar



GS1 DataMatrix



GS1 QR Code



GS1 Composite Barcode



GS1 EPC/RFID

EPC HF Gen 2



EPC UHF Gen 2



Share: GS1 Standards for Data Exchange

Master Data Global Data Synchronisation Network (GDSN)

Transactional Data eCom (EDI)

Event Data EPC Information Services (EPCIS)





What is traceability?

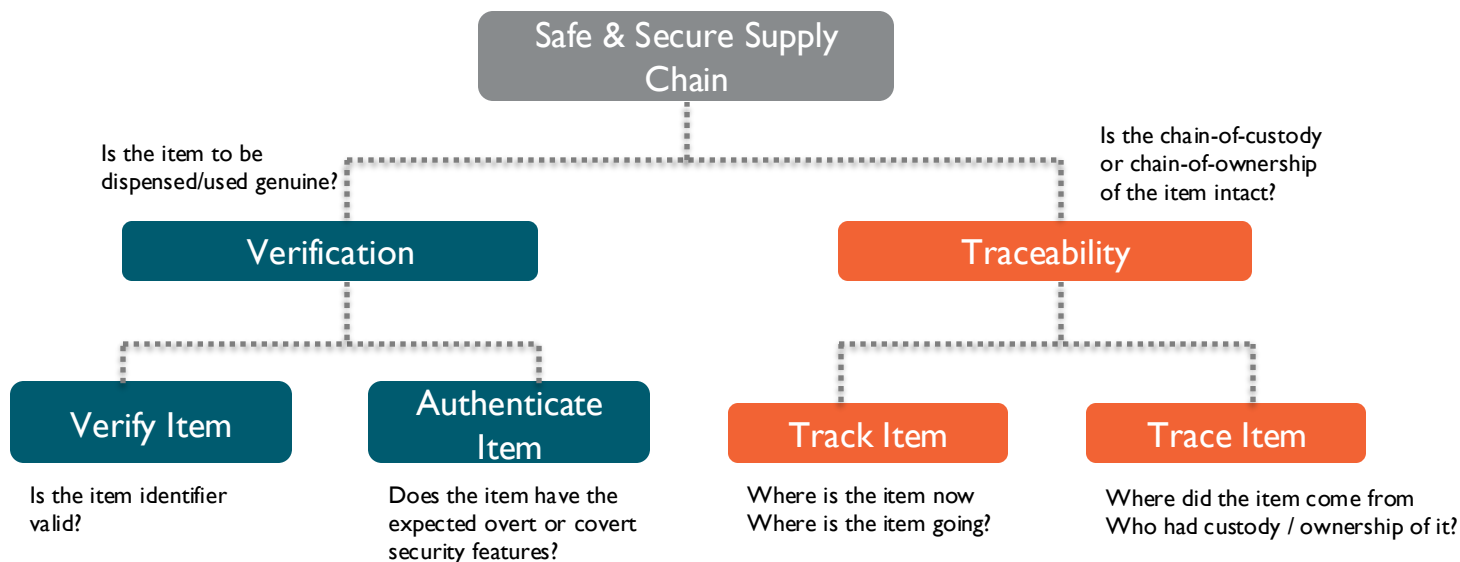


- “Traceability is the ability to **track forward** the movement through specified stage(s) of the extended supply chain and **trace backward** history, application or location of that which is under consideration”.
- Fundamental to traceability : in parallel with the flow of product there has to be a flow of information about the product.

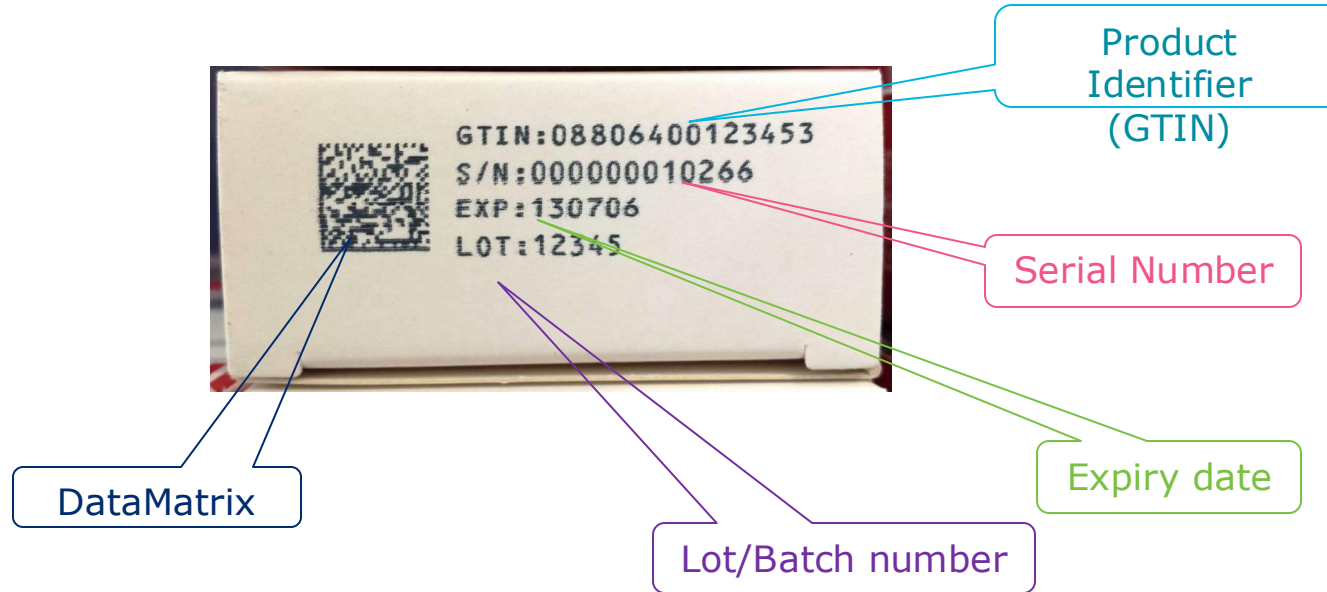
Verification vs Track & Trace



- Can the product identification features be verified?
- Can the product be tracked to where it is – or traced from where it has been?



Harmonising behind the GS1 DataMatrix



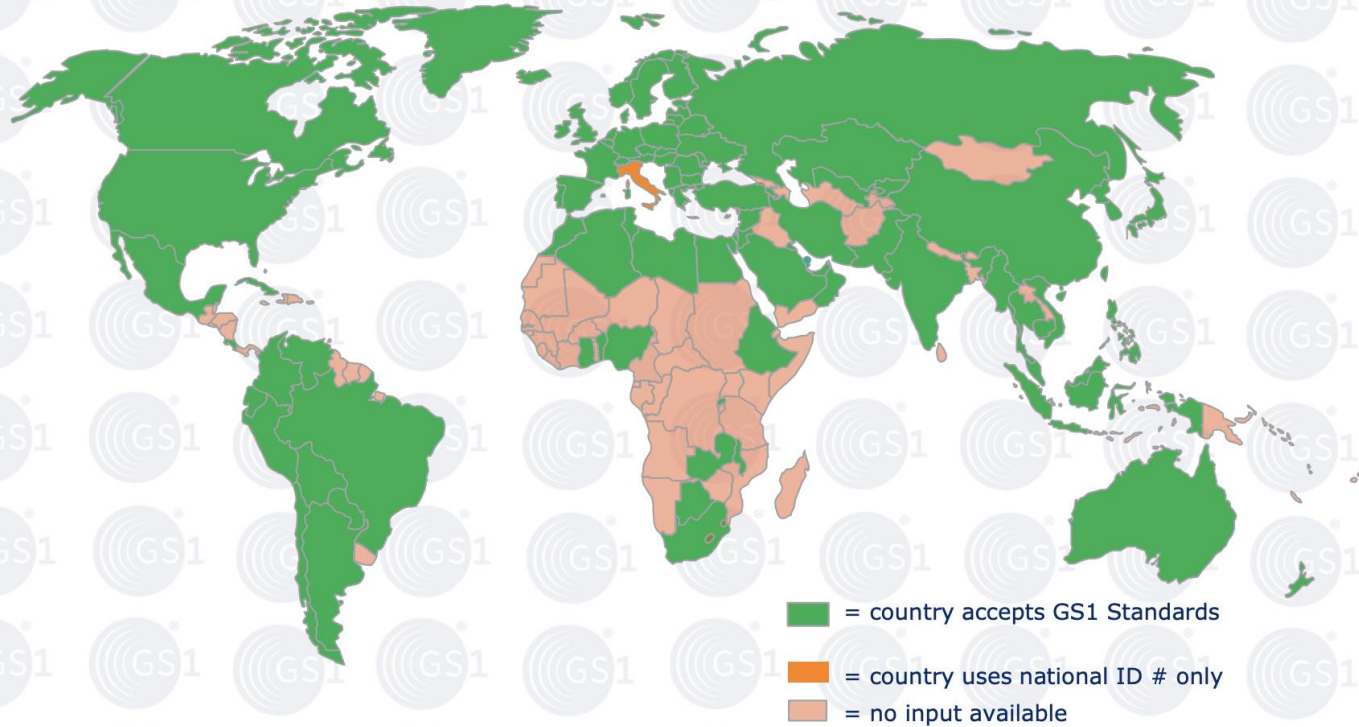
1. Referenced by WHO in 2021 policy paper: <https://www.who.int/publications/i/item/policy-paper-on-traceability-of-medical-products>
2. GS1 Position paper deep dive on GS1 DataMatrix: https://www.gs1.org/sites/default/files/gs1_datamatrix-final_approved.pdf

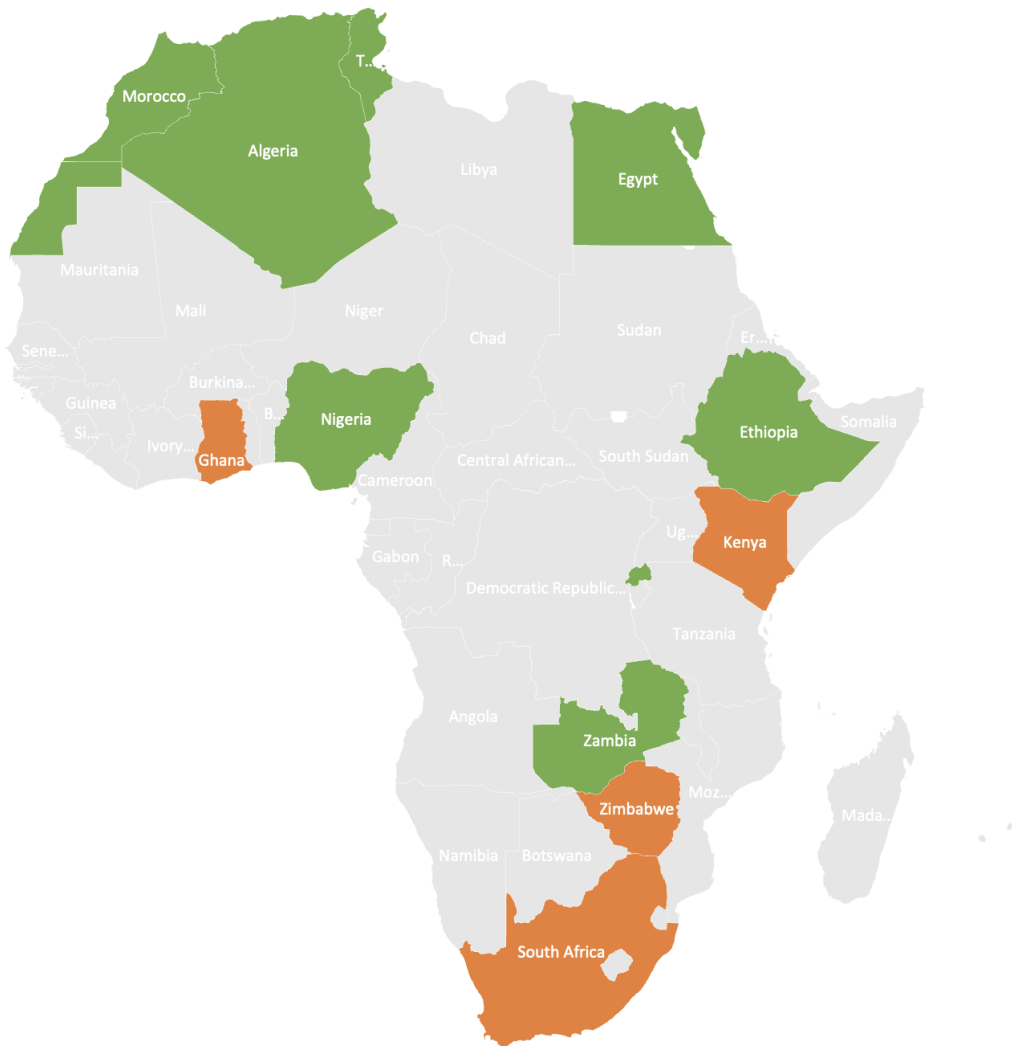
Why use the GS1 DataMatrix?



- Today, regulators from over 70 countries are systematically requesting for 4 data elements included in a standardised barcode type – GS1 DataMatrix
- This enables harmonisation on the asks from the manufacturers/distributors.
- Actual implementation varies vastly from country to country

Identification of pharmaceuticals-2





Regulation as the primary building block

■ Regulation
■ Regulation DRAFT

Some cost Elements for Health Product Standardization Implementation*



1. Hardware & Software:

- System Upgrades, Integration & Development
- Master Data Management (MDM) Setup
- Data Cleansing & Migration
- Scanners, printers, verifiers etc.

2. Process enhancements

- Training & Capacity Building
- Change Management & Stakeholder Engagement
- Monitoring, Evaluation & Continuous Improvement

3. Labelling & Packaging

- Procurement and set up
- Definition of requirements & setting up compliance mechanisms

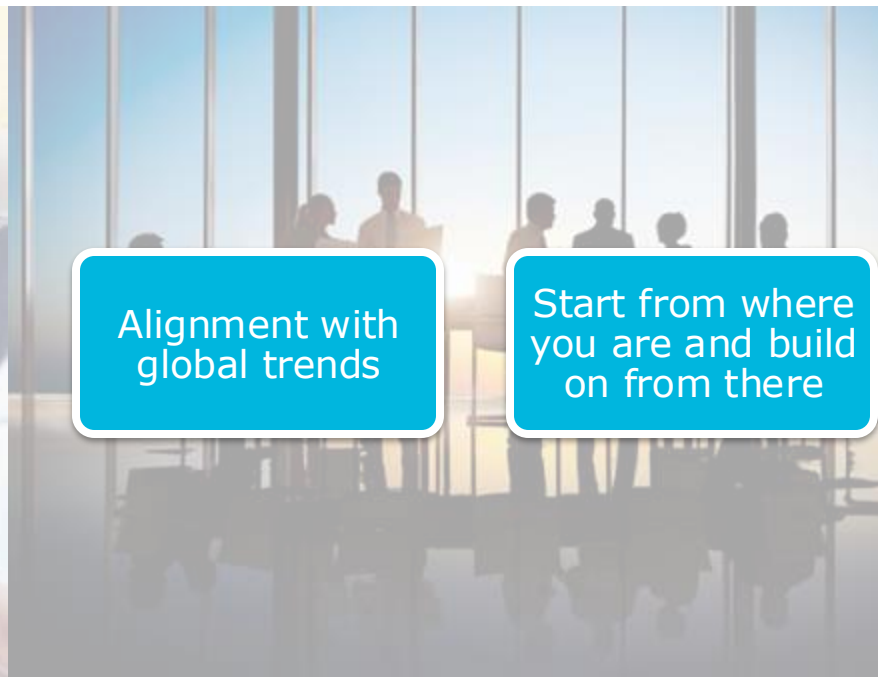
***NB:** *A full set of cost items can be established after reviewing the existing capabilities and defining the vision*

What are some common learnings?



Local champions

Multi-stakeholder
effort &
coordination



Alignment with
global trends

Start from where
you are and build
on from there



Membership



Training



Implementation



Collaborations

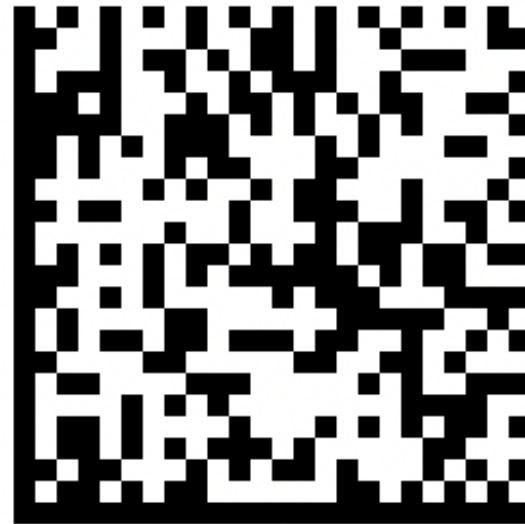
What are these barcode types?



Option 1



Option 2



Interested to learn more? Please reach out!



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Team Lead Industrial Engagement, GS1 Kenya

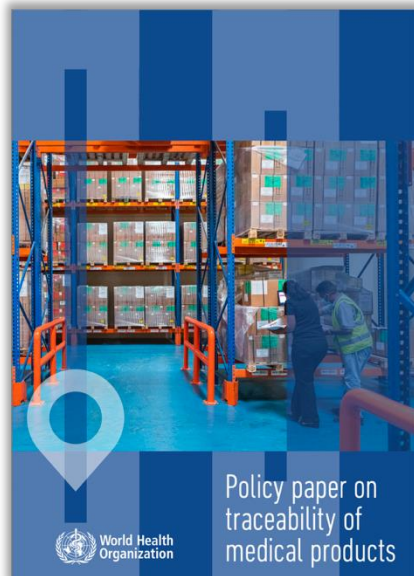
E nelson@gs1kenya.org / info@gs1kenya.org

W www.gs1kenya.org

Questions & answers!!



Three key resources & 2 videos



Country experiences on implementation of traceability for medical products



<https://www.who.int/publications/i/item/policy-paper-on-traceability-of-medical-products>

<https://iris.who.int/bitstream/handle/10665/380837/9789240103535-eng.pdf?sequence=1>



<https://www.gs1.org/docs/healthcare/position-papers/GS1-DataMatrix-Position-Paper-FINAL.pdf>



<https://youtu.be/6ISGMQEXoIg?si=4irpj3whSEefe3Q>



<https://youtu.be/Rwre5x8a1nA?si=1eFqymHBNSH4S9dS>



Healthcare

Turkish Pharmaceutical Track and Trace System (ITS)

ITS was the first successful application of a "Pharmaceutical Track and Trace System" in the world and is designed to track the location of every drug unit to ensure the reliable supply of drugs to patients.

Challenge

To ensure and guarantee the reliable supply of legitimate drugs to patients in Turkey. Like most countries, this supply was put at risk by illegal activities that could seriously impact public health and safety.

Approach

Turkey developed a Pharmaceutical Track and Trace System and built a centralised repository to monitor drug movement throughout the supply chain. With this central management system in place, the ITS can track and trace a drug from the point of manufacture to the point of dispense by leveraging GS1 identification keys, attributes and barcodes.

Results



**Reliable and safe
supply of drugs
to patients**

**More than
45
million
daily transactions
through ITS**

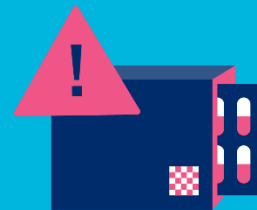
**Enhanced
ability to combat
illicit drug sales,
barcode scams
and theft**



**Response time is
0.02 seconds
per transaction**



**More than
\$1 billion
in annual savings**



**Sophisticated and
efficient recall
management**

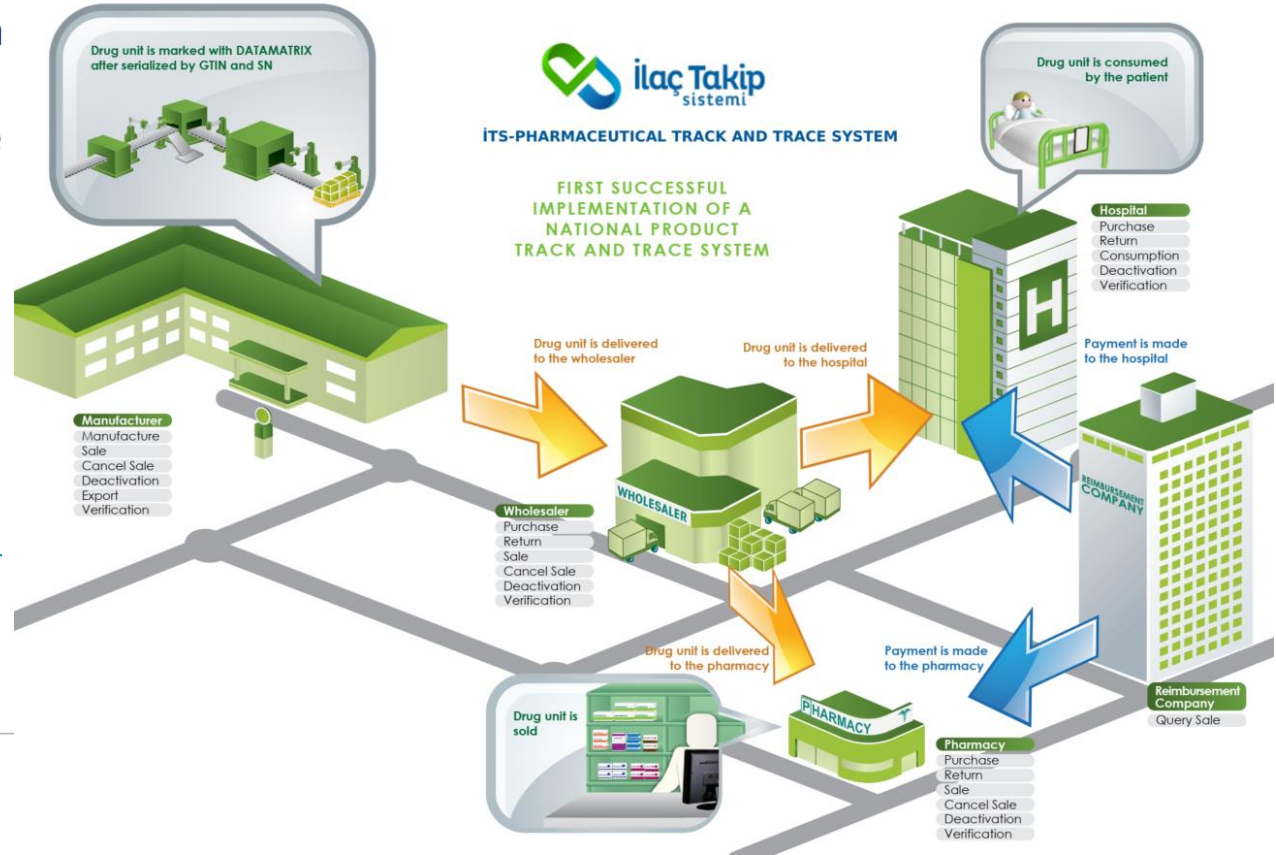
Turkey: Track & Trace – actions connected to a central database



Communication with a central database is critical throughout the movement of the product

Watch an illustrative video:

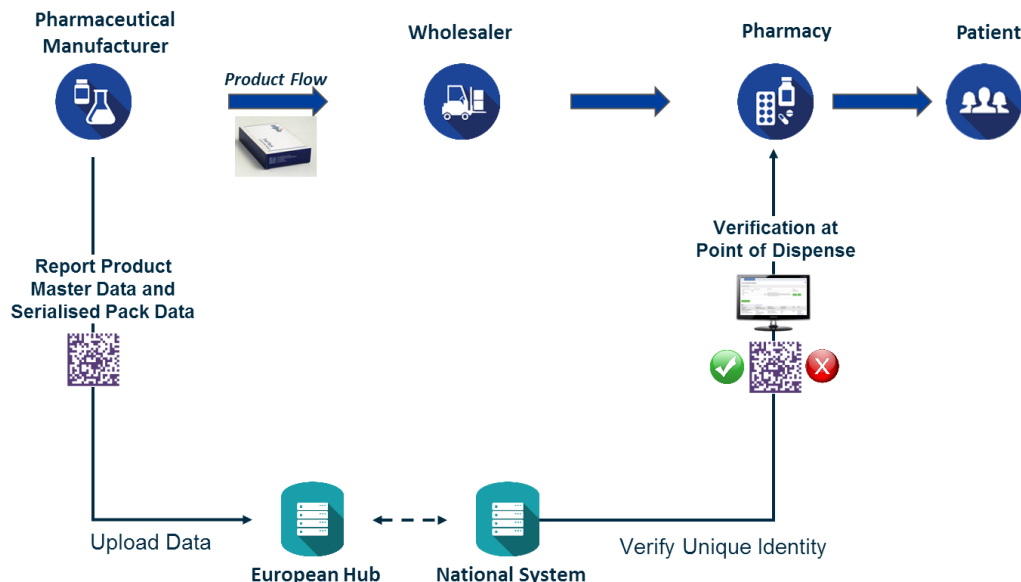
<https://youtu.be/6ISGMQEXoIg?si=iMsqoYQXkICQhid->



EU: Verify before dispensing



- The manufacturer has to register product data to the EU HUB.
- Each product has to be identified by the manufacturer using a unique identifier harmonized across the EU.
- The dispenser to verify the product registered in the HUB before dispensing
- Dispenser is obligated to report any suspicion of falsified medicines.



Broad focus on digital transformation



- Implementation of tools and technologies to digitally transform the health supply chain cannot happen in isolation.

<https://www.who.int/publications/i/item/9789240101197>