



The Global Language of Business

GS1 standards Primer session

29th Global GS1 Healthcare conference
Dubai, United Arab Emirates





GS1 Healthcare, the global perspective

Anouk Chavel, Global Marketing Lead, GS1 Global Office



Agenda of the session



1. GS1 Healthcare, the global perspective

Anouk Chavel

2. Automatic Identification Data Capture

Chuck Biss

3. Patient and care provider Identification

Christian Hay

4. Master Data Management
and Global Location Numbers

Pete Alvarez

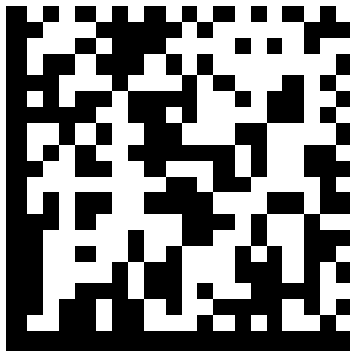
5. EPCIS

Craig-Alan Repec

6. Electronic Data Interchange (EDI)

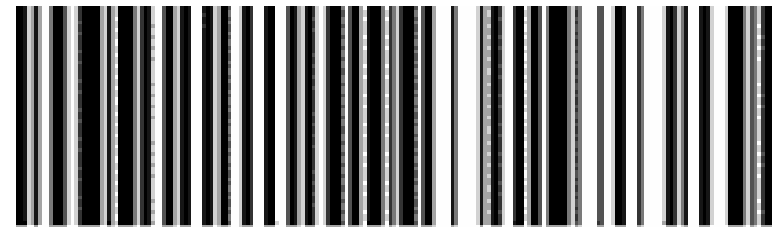
Tania Snioch

GS1, most widely used standards



(01)07612345678900(17)100503

(10)AC3453G3



(01) 0 0012345 67890 5

GS1 ensures end-to-end visibility in the supply chain



Identify: GS1 standards for identification

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



Capture: GS1 standards for barcodes and EPC/RFID

GS1 barcodes

EAN/UPC



GS1-128



ITF-14



GS1 DataBar



GS1 DataMatrix



GS1 QR Code



GS1 Composite Barcode



EPC HF Gen 2



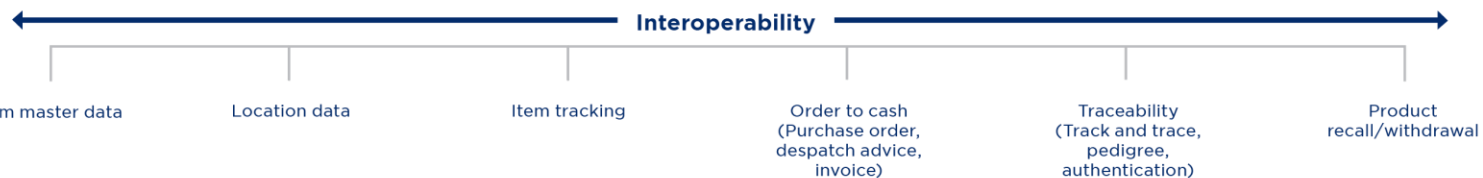
EPC UHF Gen 2



GS1 EPC/RFID

Share: GS1 standards for data exchange

Master data GLN Registry for Healthcare®, Global Data Synchronisation Network (GDSN) **Transaction data** GS1 EDI **Visibility event data** EPC Information Services (EPCIS)



GS1 enables



Patient safety



Lower costs



GS1: The Global Language of Business



GS1 is a neutral not-for-profit organisation driven by its users, that facilitates collaboration amongst trading partners, to create more efficient, safer and sustainable value chains through global standards.

Global reach, local presence



112 Member Organisations
More than 1,000,000 member
companies
150 countries served
2,000 + employees

Our vision 2005



The vision of GS1 Healthcare is to be the **recognised, open** and **neutral** source for regulatory agencies, trade organisations and other similar stakeholders seeking **input** and **direction** for **global standards** in healthcare for



patient safety



supply chain
security & efficiency

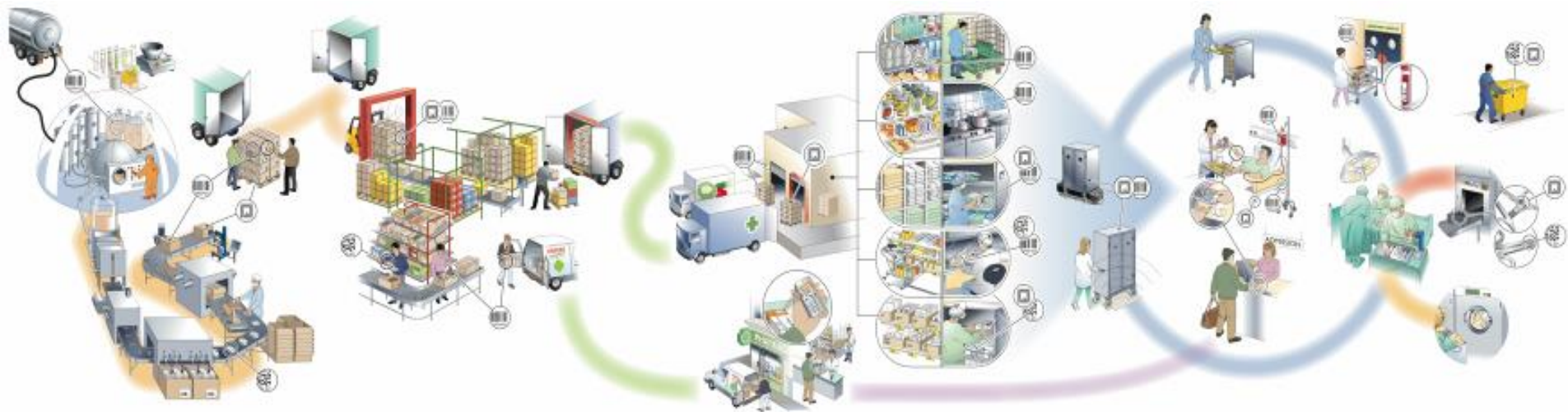


traceability



product data

GS1 Healthcare - Voluntary, Global Healthcare User Group



To lead the healthcare sector to the successful development and implementation of **global standards** by bringing together **experts** in healthcare to enhance **patient safety** and **supply chain efficiencies**.

GS1 Healthcare: an expanding, committed community of globally engaged stakeholders...



...and there are many more companies working with GS1 at a local level



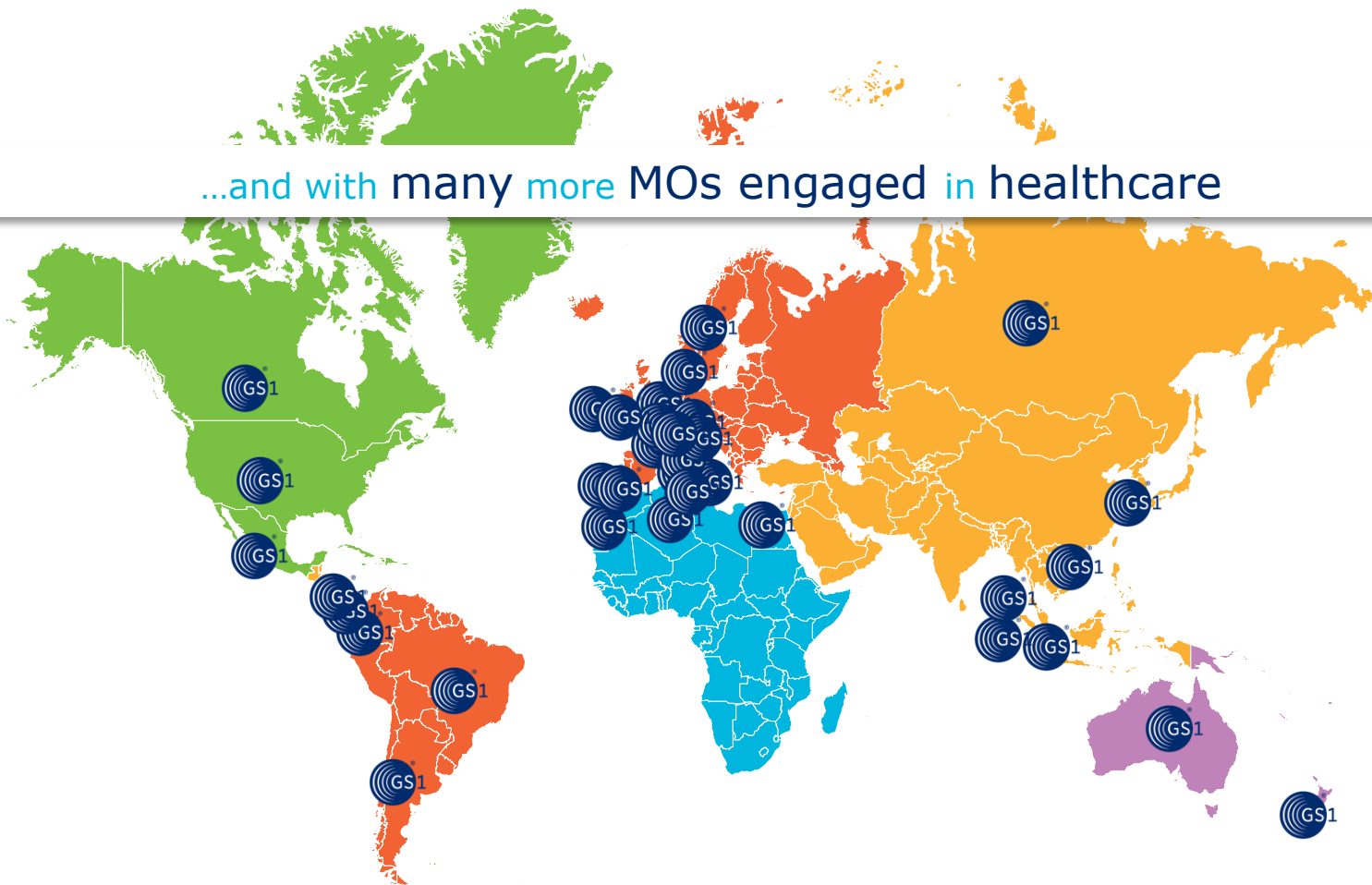
...as well as with leading healthcare providers to implement...



...working together with GS1 Member Organisation (MO) User Groups in 38 countries



...and with many more MOs engaged in healthcare



...and with global organisations...



International
Organisation for
Standardisation



European
Committee for
Standardization



Health Level 7
International



International
Health Terminology
SDO



Clinical Data
Interchange Standards
Consortium



Integrating the
Healthcare
Enterprise



Digital Imaging and
Communications in
Medicine

 **Joint Initiative Council**



World Health Organization



World Health
Organization



World Customs
Organization



International Hospital
Federation



International
Council for
Commonality in
Blood Banking
Automation



International
Society for Quality
in Healthcare



European
Association of
Hospital
Pharmacists



European
Federation of
Pharmaceutical
Industries and
Associations



Contact Information

Anouk Chavel

GS1 Global Office

Avenue Louise 326, bte 10
B-1050 Brussels, Belgium

T + 32 2 788 78 36

M + 32 473 66 67 41

E Anouk.chavel@gs1.org

www.gs1.org



Automatic Identification and Data Capture in Healthcare ...an AIDC short course

Chuck Biss, Senior Director, ADIC Healthcare, GS1 Global Office



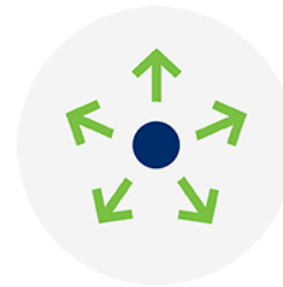
GS1 standards



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.

Automatic Identification & Data Capture (AIDC)



“Automatic Identification and Data Capture (AIDC) refers to the methods of **automatically identifying** objects, **collecting data** about them, and **entering that data** directly into computer systems (i.e., without human involvement).”

Wikipedia, 2009



GS1 standards... and AIDC

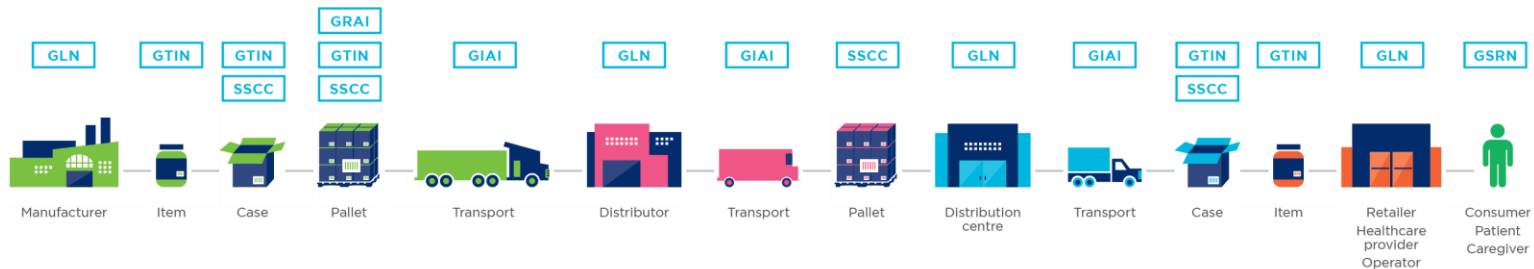


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Identify: GS1 standards for identification

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 and 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

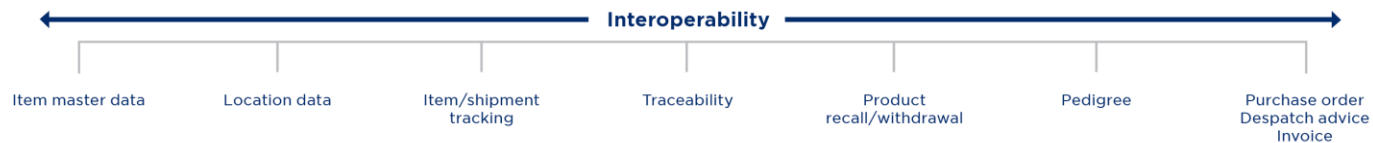


EPC UHF Gen 2



Share: GS1 standards for data exchange

Master data Global Data Synchronisation Network (GDSN) Transaction data GS1 EDI Visibility event data EPC Information Services (EPCIS)



Pete will cover next...



AIDC for Healthcare... the Vision



EVERY item has
ONE set of key identification data carried in
ONE data carrier
able to be scanned by **EVERYONE**
at every key process step...



Scope - All healthcare products...



Pharma / Vaccine / Nutritional



Medical devices



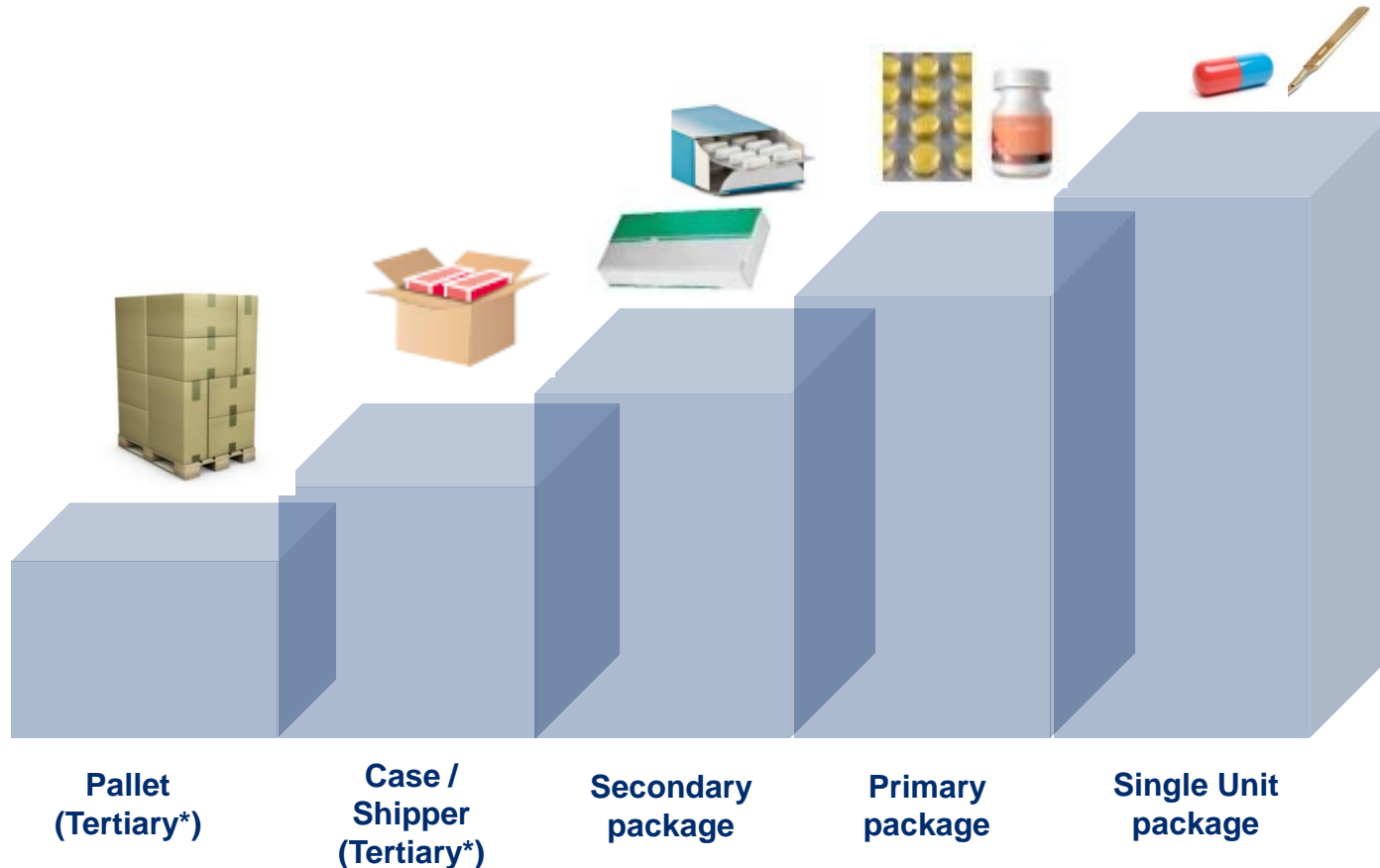
Retail



Non-retail



Scope – ID at all packaging levels...



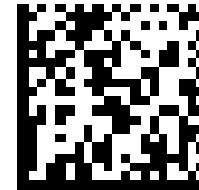
NOTE: * - Potentially a new definition that is needed...

Scope - Data & Data Carriers...



Data – a few examples:

- Global Trade Item Number (GTIN)
- Expiry Date
- Batch / Lot
- Serial Number



(01)07612345678900(17)100503
(10)AC3453G3 (21)123

Data Carriers – a few examples:



(01) 0 0012345 67890 5



102100012345678905

**GS1-128 &
GS1 DataBar**



(01)07612345678900(17)100503

(10)AC3453G3

GS1 DataMatrix



EPC / RFID

Foundation of the GS1 System...



GS1 Identification Keys

Provide access to information held in computer files –
Information about company/location, package, product,
price, etc.

1234567891234



GS1 Identification Keys...



Item identifier = **GTIN**

Global Trade Item Number



Logistics unit
identifier = **SSCC**

Serial Shipping Container Code



Location identifier = **GLN**

Global Location Number

...and there are more ...

- Unique
- Non-significant
- International
- Secure
- Foundational

...but sometimes there is need to capture data beyond basic item ID...



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

Item identifier

Expiry date

Batch/Lot number

Serial number

Trade Item Attributes





GS1 Application Identifiers...

The GS1 General Specification includes 100+ “Application Identifiers” (“Key Attributes” or “AI’s”) for various use cases & various sectors

..however the Application Identifiers **most commonly used at this time (in various combinations)** in Healthcare are:

01	GTIN (Global Trade Item Number)
10	Batch / Lot
11	Production Date
17	Expiry Date
21	Serial Number

Note – Other than certain efficiency recommendations within the GS1 General Specifications, the order of AI’s is *not significant and should not be mandated*.

GS1 Data carriers for Healthcare...



GS1-128 & GS1 DataBar

Preferred options if:

- ✓ Package size allows



(01)07612345678900(17)100503
(10)AC3453G3

GS1 DataMatrix

Preferred option if:

- ✓ Large amounts of data in a small space
- ✓ Variable information at high production rates
- ✓ Direct part marking



EPC/RFID

Additional option

- ✓ Non-line of sight
- ✓ Large amounts of data



Imager based bar code scanners
are needed in HC !!

**Important note
for new
implementations
or systems
updates**

GS1 System Standards



The Global Language of Business

**Revised
Annually!!**

Specifications

1 standard that defines how identification
and barcodes must be used in business



The Global Language of Business

GS1 Healthcare GTIN Allocation Rules

GTIN Allocation Rules for the Healthcare Sector

Release 9.0.1, Ratified, July 2015

GS1 General Specifications – the ONE global standard for AIDC in Healthcare

- The core standards document of the “GS1 System”... describes how GS1 keys & data carriers should be used - Available online at: http://www.gs1.org/docs/barcodes/GS1_General_Specifications.pdf

GS1 Healthcare GTIN Allocation Rules – GTIN assignment in Healthcare

- A guide to GS1 ID Key assignment... the GS1 GTIN Allocation Rules presented in Healthcare related terms with Healthcare specific examples – Available online at: http://www.gs1.org/docs/gsmf/healthcare/GS1_Healthcare_GTIN_Allocation_Rules.pdf

Many countries have already adopted GS1 Standards... and we anticipate many more!



AIDC this Week...



Throughout the conference sessions there will be AIDC related presentations... such as:

Tuesday 12:30 – 12:55 – ONE barcode for traceability and product information – pilot report from UAE

Tuesday 14:00 – 15:30 – Ask the Experts: GS1 DataMatrix

- Chuck Biss - Senior Director, AIDC Healthcare – GS1 Global Office

Tuesday 14:00 – 15:30 – Ask the Experts: Patient and caregiver identification

- Christian Hay - Senior Consultant - GS1 Global Office

Wednesday 10:05 – 10:35 – UDI – experiences of implementation of the U.S. FDA UDI rule

- Andrea Mitchell - Project Manager | Regulatory Affairs - Medtronic

For more information...



www.gs1.org/healthcare

www.gs1.org/healthcare/standards

For more information...



AIDC in Healthcare

Contact Details

Chuck Biss - GS1 Global Office

T + 1 (315) 252-5941

M +1 (315) 480-2034

E chuck.biss@gs1.org





The Global Language of Business

The use of GSRN for Patient and Care provider identification

Christian Hay



Uniqueness of Patient ID – the challenge



Positioning the problem



- Identification of subject of care is recognised priority and key to secure health care
- Which solution would be acceptable and efficient?



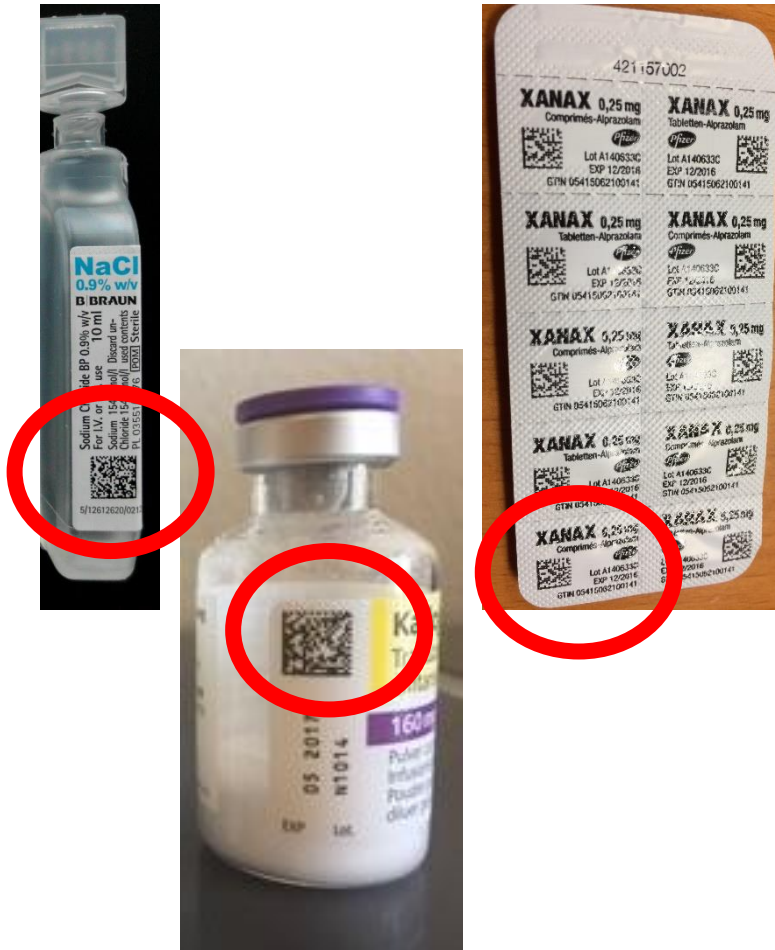
Efficiency by providing a homogeneous scanning environment



Homogeneous environment for scanning implies that one single system of standards is used



Homogeneous scanning environment





The Global Language of Business

GSRN – definition, structure and attribute



Definition GSRN (Global Service Relation Number)

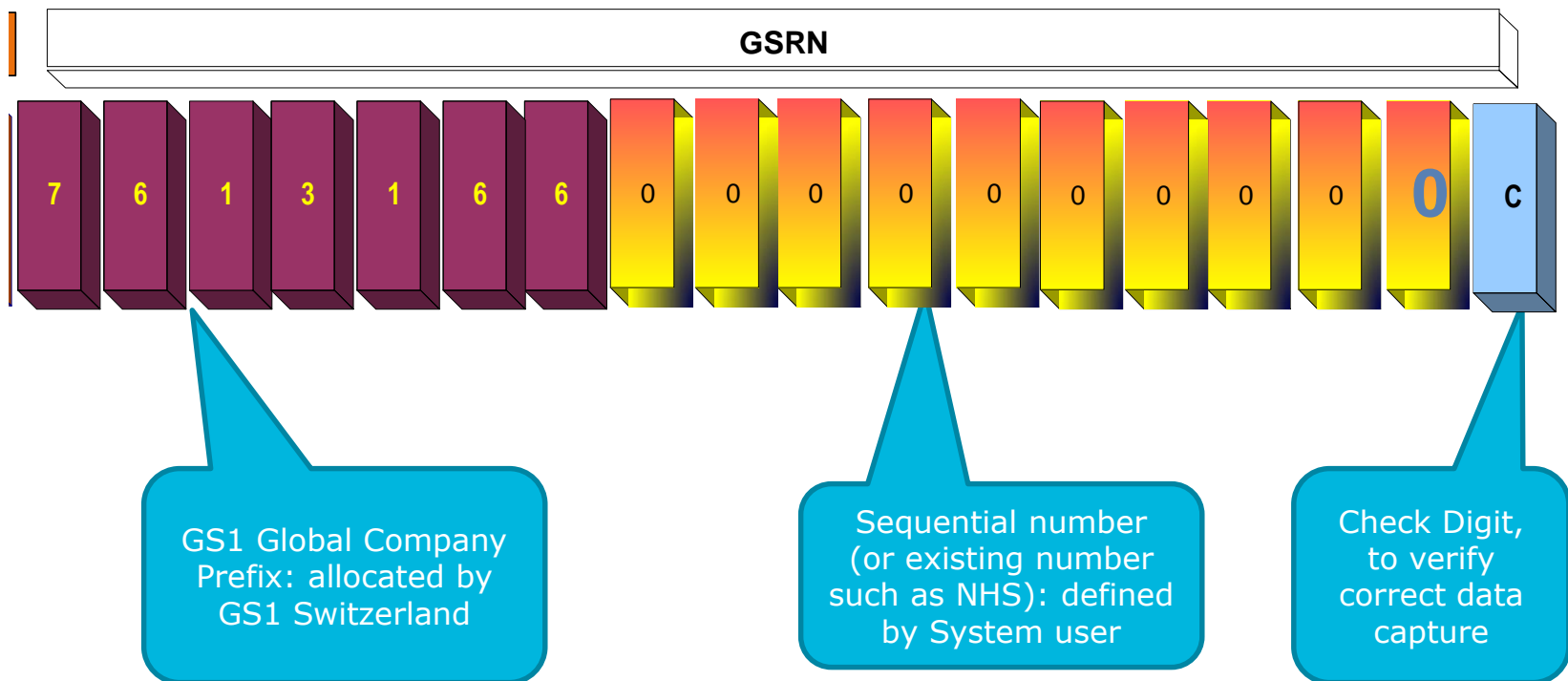


- Global Service Relation Number (GSRNs) can be used to identify the **service provider** and/or **service recipient** in any service relationship. A separate, unique number can be issued, normally by the organisation offering the service to identify the service provider and/or the service recipient, to identify any given service relationship. Once assigned, the GSRN becomes a unique and universal reference that can be used by all parties involved in the service relationship.
- A GSRN with either AI 8018 or AI 8017 are **mutually exclusive**, that is, a GSRN can only be assigned to a single role, recipient or provider, but not both.



Format of GSRN

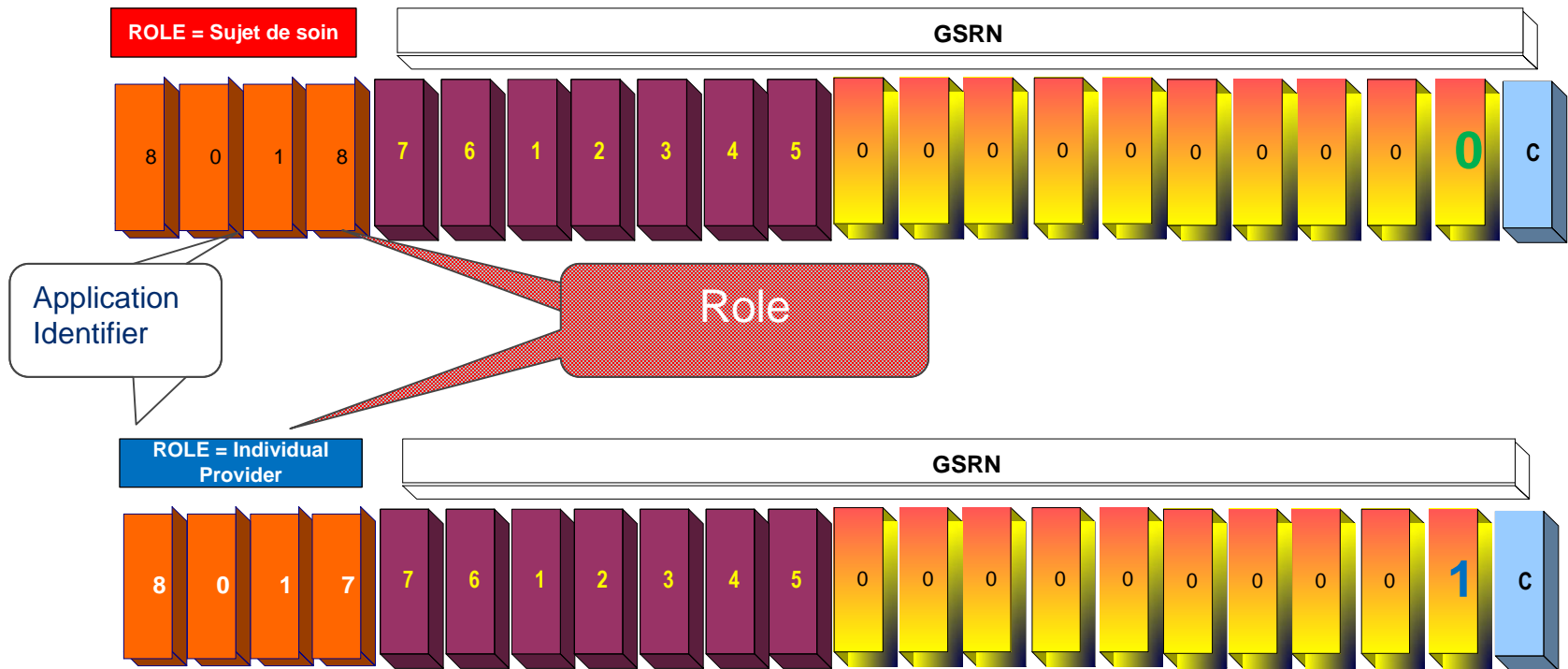
Format for both Subject of Care Identification and Individual Provider Identification is the « Global Service Relationship Number » (GSRN)



Application Identifiers 8018 - 8017



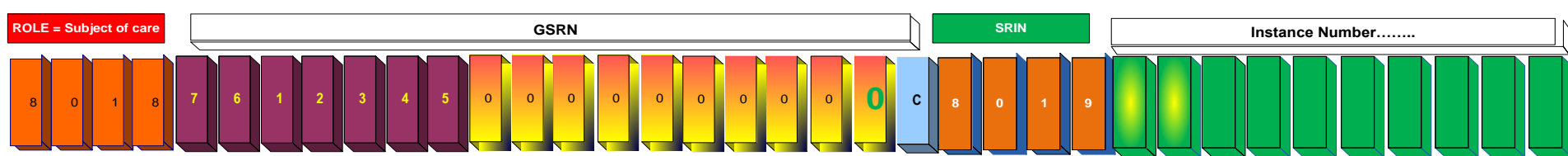
Distinguish provider from recipient of service



Application Identifier 8019



- The Service Relation Instance Number (SRIN) is an attribute to the GSRN which allows distinguishing different encounters during the same episode, or the reuse of the same GSRN in different episodes. SRIN is a 10 numeric digits variable length filed.

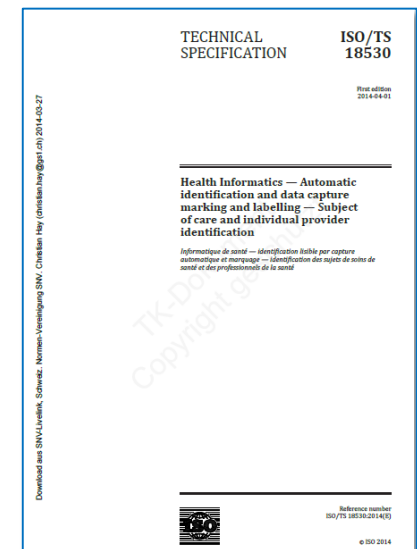


- For compliance **with ISBT 128**, the SRIN shall be used as a fixed length string with the first two digits (NN) reserved for the ISBT 128 location code (Table RT018); the selection of the remaining eight (8) digits is left to the discretion of the user and may be incremental.

CEN ISO TS 18530



- Technical Specification which provides guidance on actual and future users / implementers of “bedside scanning”
 - Built on a series of use cases, which illustrate the benefits of using a global standardized identification of patients (in their relation with the care provider) and the healthcare professionals (in their relation with the provider they work with).
-
- CEN ISO TS 18530 does not replace or supersede GS1 General Specification.
 - To be used as a kind of a good practice and high level implementation guide



For more information...



Liaison with other Standard Organisations in Healthcare

Contact Details

Christian Hay- GS1 Global Office

T + 41 21 825 32 19

M +41 76 369 10 54

E christian.hay@gs1.org



Managing Master Data Global Location Numbers

Inaccurate or bad data adds risk and cost

Pete Alvarez, Senior Director Master Data Management



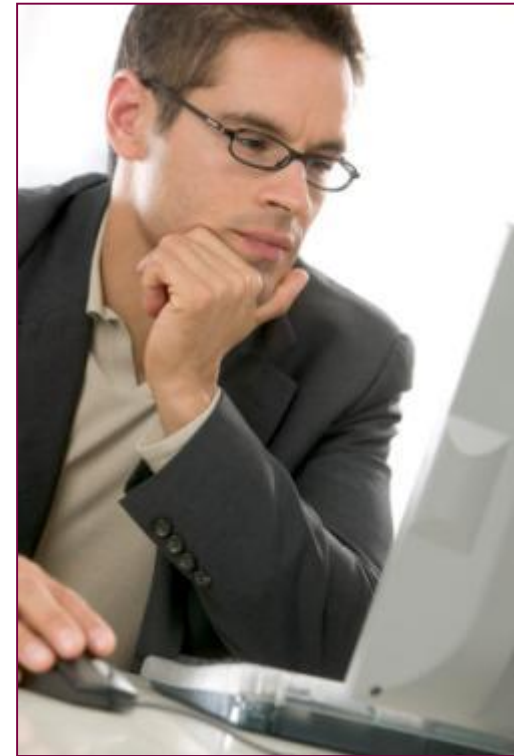
- Master Data Management & Data Quality
- The Global Data Synchronisation Network
- Global Location Numbers & the GLN Service



The master data problem

Every company has a **database** filled with master data about the products they **make, sell, or buy**

But when one company **changes** any bit of information in their database or **add a new item**, another database becomes outdated!



The Australian data crunch report puts a cost on the problem!



Potential cost of manual checking of unit of measure



Potential cost of manual PRC clarification by hospitals



Potential savings from improved data quality³

By conservative estimates, more than \$100 million in potential savings can be achieved by addressing product data quality issues by making only minor adjustments to existing processes.



Potential cost associated with independently sourcing product weight and dimensions



Potential lost revenue from unclaimed joint replacement prostheses



Conservative potential savings from improved data quality for all business processes met by the NPC data set



Potential cost of urgent deliveries due to undersupply



Potential savings for 5 scenarios studied



The most important impact: Patient safety and care providers



We need to understand the provider's data pain points...



...in order for them to trust & use the data





The challenge : for hospitals

Product catalogues - current situation:

- Ineffective methods of communicating information
 - Supplier A – printed catalogue
 - Supplier B – price quote
 - Supplier C – PDF data
 - Supplier D – Excel tables
 - Supplier E – text data
 - Supplier F – link to website
- Varying methods of communicating updates/changes (or not communicating)
- Varying descriptions and levels of detail (product attributes)
- Varying levels of data quality



Hospitals need single and integrated source of “trusted data” on all products consumed

Managing Master Data

How to improve?



Supplier = data source

Needs single point-of-entry

- One database to load new item data and update data on existing items

Needs security

- Authorisation access by supply chain partners

Standards-based

- Standard identification keys
- Predefined (set of) product attributes

Hospital = data recipient

Needs single point-of-truth

- One source for up-to-date, accurate data
- Continuous synchronisation

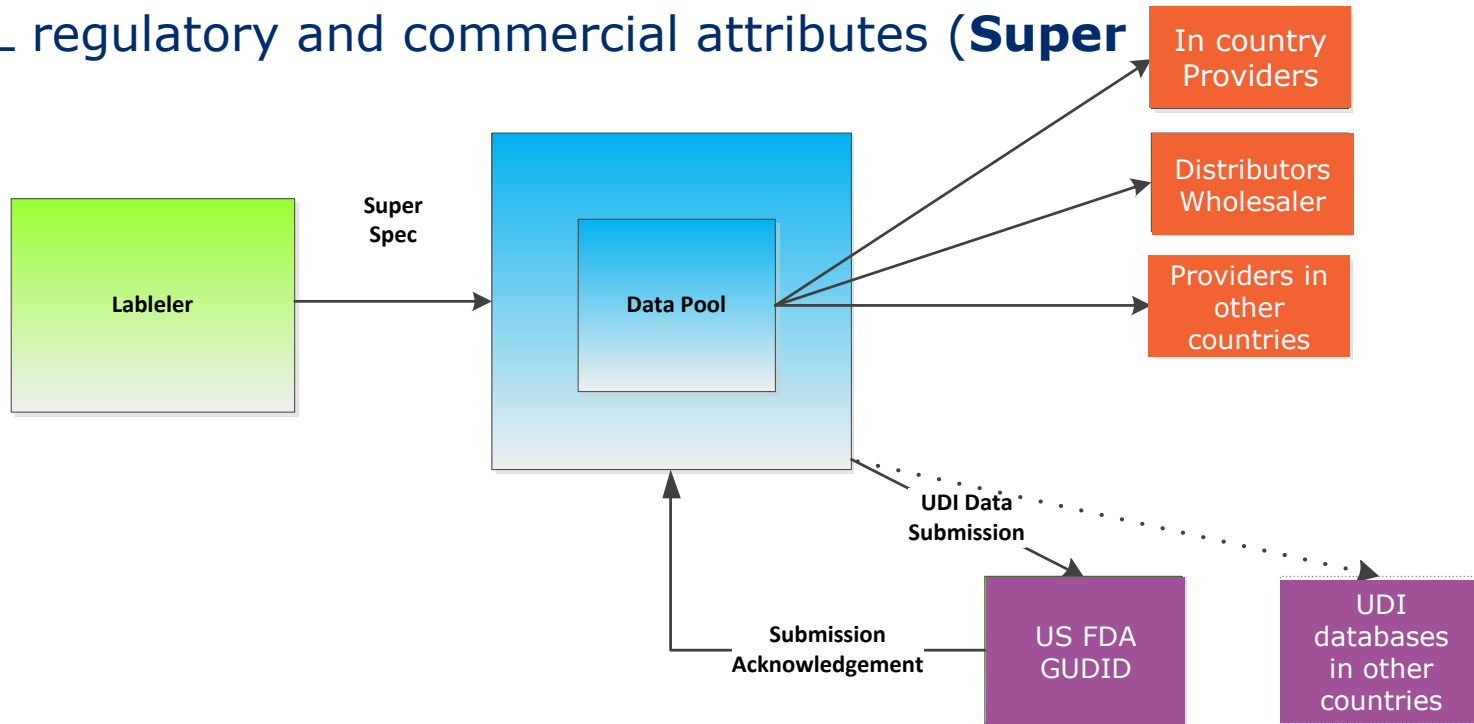
Standards-based

- Standard identification keys
- Consistently formatted information
- Complete information

Managing data at local level and global levels



1. Find a **standards based** solution which can scale as the demand for data increases (i.e. GDSN and certified Data Pools)
2. Find a technology partner that can **connect you globally**
3. Define ALL regulatory and commercial attributes (**Super Spec**)



Master Data Management (MDM)



Data Governance



Roles and Responsibilities



Enterprise wide Data Management



Data Quality

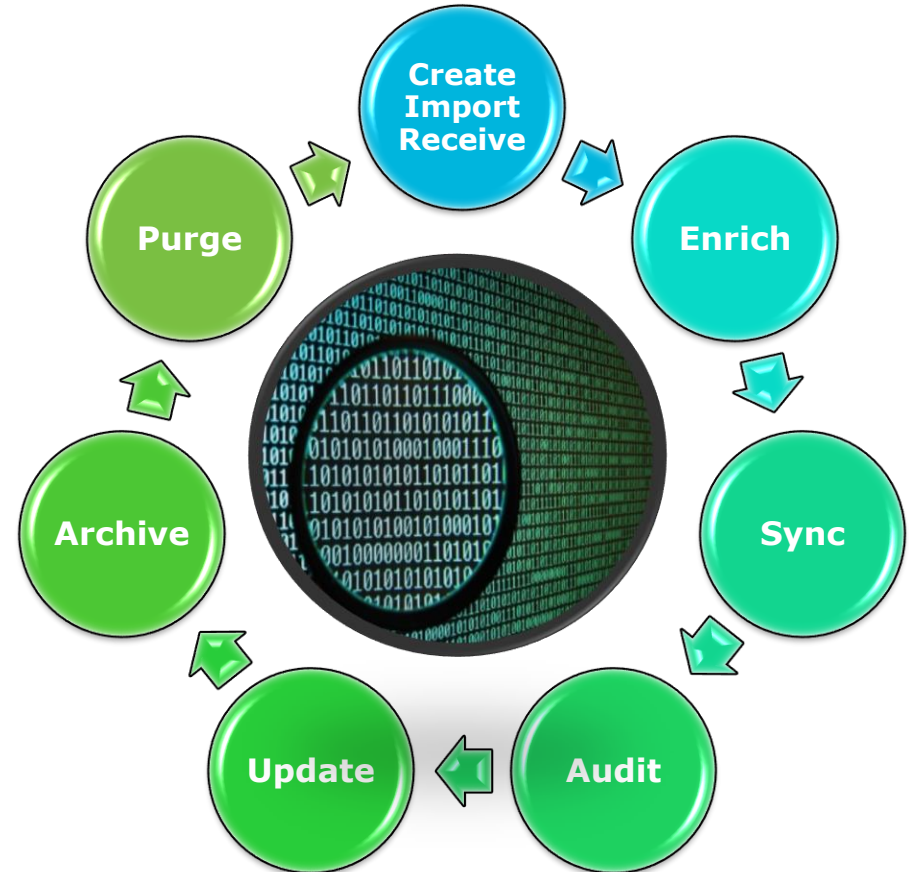
The quality of the data is reflection on the quality of the product

Information lifecycle management

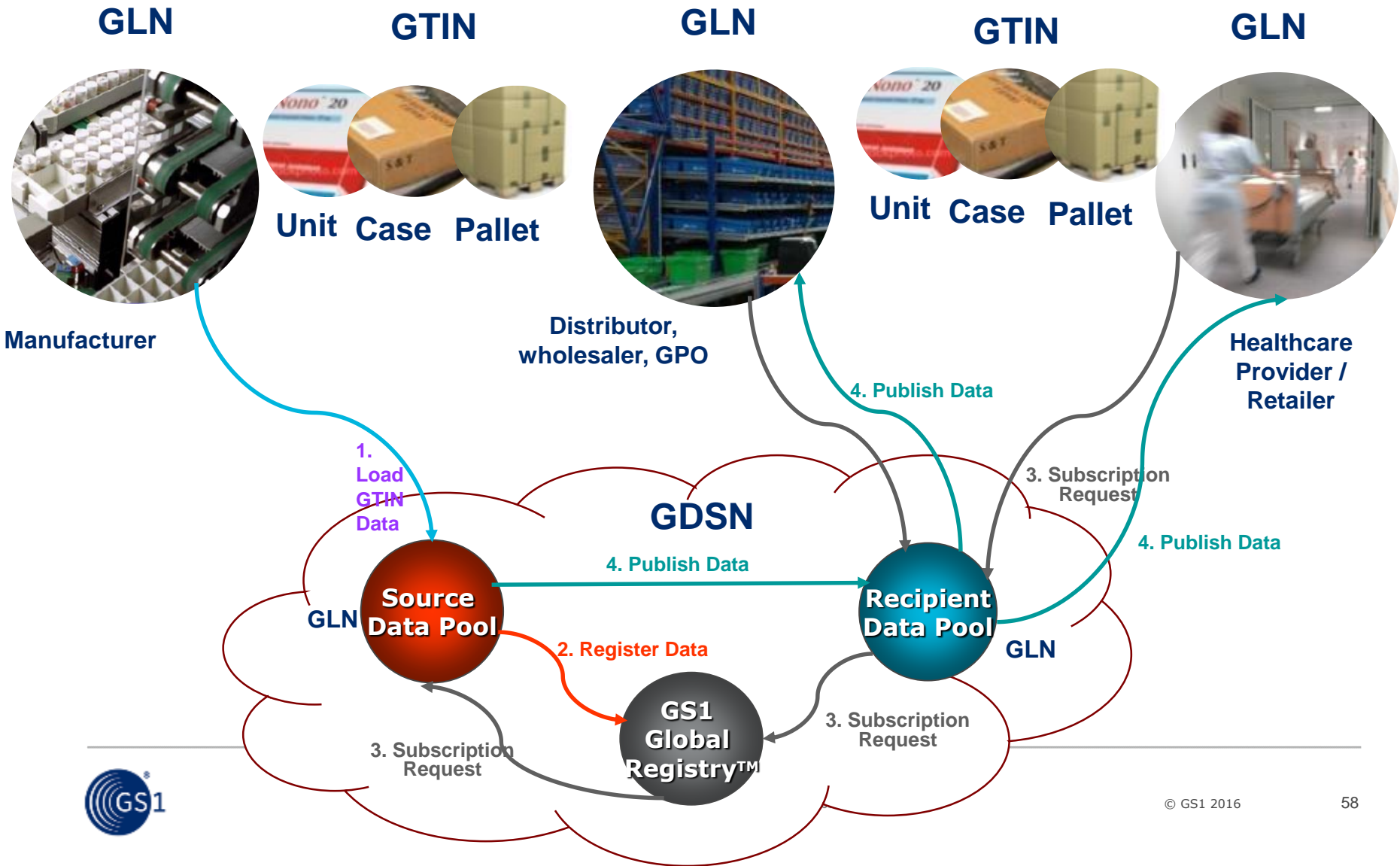
Key Concepts – Information Lifecycle Processes



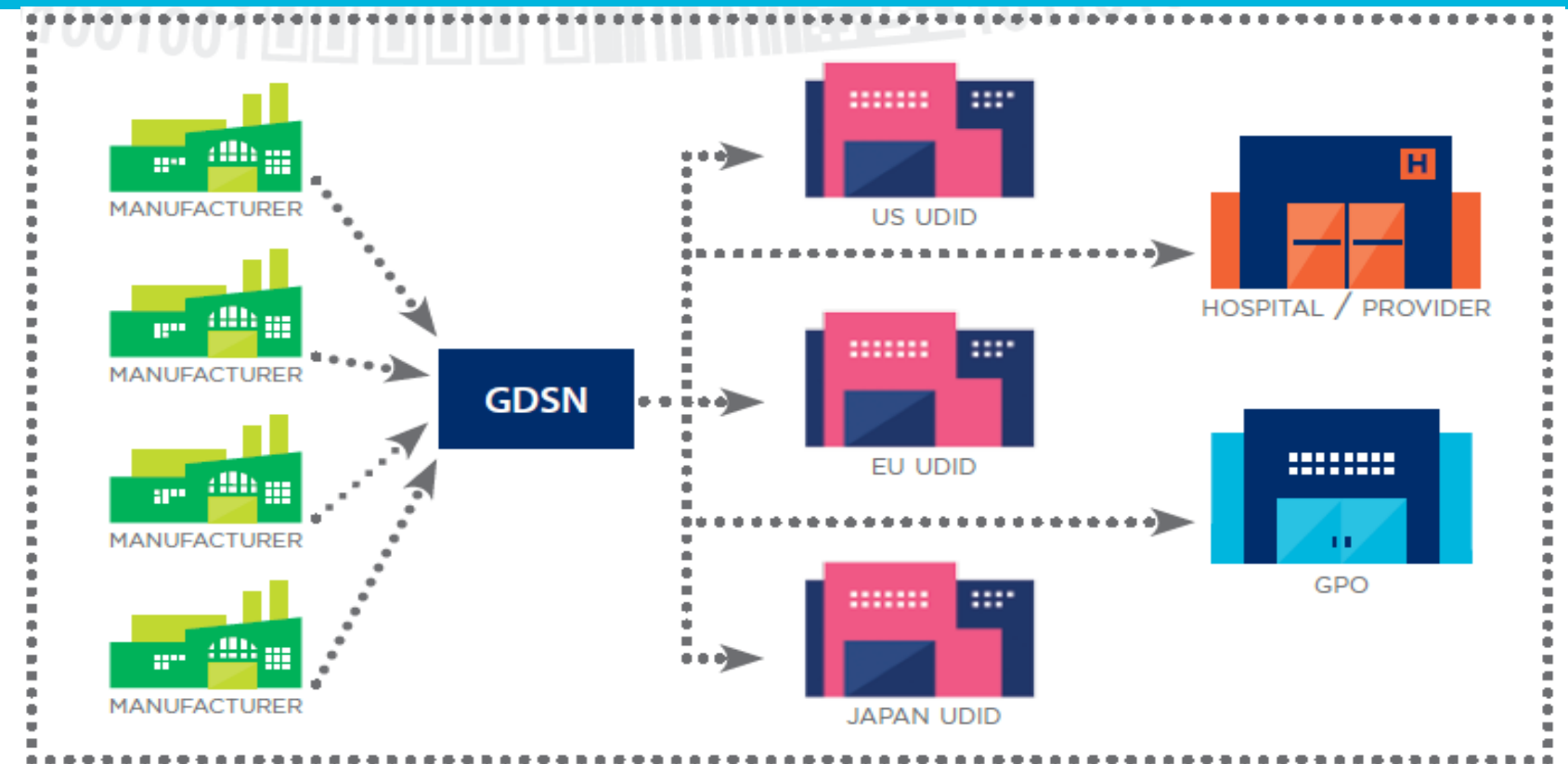
- 1. Create, Import or Receive**
 - *Collect, Create, Receive & Capture*
- 2. Enrich/Validate**
 - *Data Quality*
- 3. Sync/Activate**
 - *Push to users*
- 4. Audit/Evaluate**
 - *Routine Monitoring*
- 5. Update/Maintain**
 - *Maintain, Protect & Preserve*
- 6. Inactivate/Archive**
 - *Remove from active use*
- 7. Purge**
 - *Delete from system*



The Global Data Synchronisation Network (GDSN) in action



The right data for the right product to the right recipient



Manufacturers can register their product data in the GDSN and [make it available to all of their customers worldwide, in secure and trusted environment](#). At the same time they can direct their Data Pool to register the appropriate device data in the GUDID, and any other UDI database anywhere in the world when they come online, [via a single connection](#).

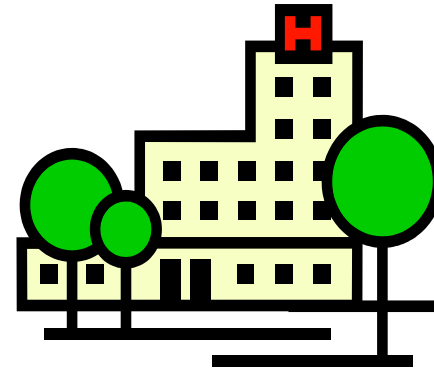
The Global Locations Number (GLN)



The problem with location identification



- SAINT JOHN'S QUEENS HOSPITAL
- 1100004570208
- ST JOHN'S QUEENS HOSPITAL
- 100084547
- SAINT JOHNS QUEENS HOSPITAL
- JAOE
- SAINT JOHN'S QUEEN HOSPITAL
- 50003000431
- SAINT JOHN'S QUEEN'S HOSPITAL
- CA2053
- ST. JOHN'S QUEENS HOSPITAL
- OM 12345



Many different **names**
different **location numbers**
for 1 hospital

The problem with location identification in healthcare



Manufacturer	Manufacturer	
SOUTHLAND TECHNOLOGY 3M	3M 800-327-5380	3M C/O EC
3M CO PHOTO PRODUCTS DIV	3M CO	3M C/O FL
3M DIAGNOSTIC SYSTEMS INC	3M DENTAL 800-237-1650	3M C/O GC
3M ELECTRICAL SPECIALTIES DIV	3M ESPE DENTAL DIVISION 800-364-3577	3M C/O HC
3M HEALTH	3M ESPE UNITED STATES	3M C/O INI
3M HEALTH CARE CDI	3M ESPE	3M C/O JA
3M HEARING COMPONENTS	3M HEALTH CARE 800-521-2818	3M C/O LL
3M INDUSTRIAL TAPES LTD	3M HEALTHCARE PRODUCT	3M C/O NA
3M MEDICAL DEVICE DIV	3M HEALTHCARE	3M C/O NC
3M MEDICAL IMAGING SYSTEMS DIV	3M MEDSURGE	3M C/O OX
3M MEDICAL PRODUCTS DIV	3M MINNESOTA MINING MFG OFFICE	3M C/O RE
3M MEDICAL-SURGICAL DIV	3M MINNESOTA MINNING & MFG.CO.	3M C/O SA
3M MEDICAL/SURG	3M OCC. HEALTH AND ENV. SAFETY DIV	3M C/O SC
3M PHARMACEUTICS AND MEDICAL S	3M OCC. HEALTH AND ENV. SAFETY DIV.	3M C/O TH
3M-MEDICAL/SURGICAL	3M SARNIS/CDI	3M C/O TH
3M/ OCCUPATIONAL AND SAFETY DIV	3M SURGICAL	3M C/O TH
3M - MINNESOTA MINING & CO	3M UNITEK 800-423-4588	3M C/O TI
3M FEDERAL GOVERNMENT	3M UNITEK	3M C/O W.
3M FEDERAL SYSTEMS DEPARTMENT	THREE M/ ESPE	3M C/O W.
3M HEALTH CARE SYSTEMS	3M COMPANY C/O VAHL CORP.	3M COMM
3M HEALTHCARE \$250 MINIMUM ORDER	MINNESOTA SCIENTIF	3M COMM
3M HEALTHCARE (MINNISTOTA MINNING)	CALIFORNIA ALLIANCE 3M CUSTOMER SERV	3M COMP
3M MEDICAL - CREDIT CARD	3M HEALTHCARE	3M COMP
3M MEDICAL PRODUCTS	3M UNITEK CORP	3M COMP
3M OCC. HEALTH AND ENV. SAFETY DIVISION	3-M	3M COMP
3M OCCUPATIONAL AND SAFETY DIV	3-M COMPANY	3M COMP
3M SAFETY DIVISION	3-M COMPANY-C/O O	3M COMP
3M-DENTAL PRODUCTS DIVISION	3-M COMPANY-C/O OEM PRODUCTS	3M CONS
3M-HEALTH CARE	3-M PHARMACEUTICALS	3M CONSI
3M DENTAL PRODUCTS DIV.	33M HEALTHCARE	3M CORP
3M UNITEK CORPORATION	3M	3M DENT#
3M UNITEK DENTAL PRODUCTS	3M PUERTO RICO	3M DENT#
3M BIOLOGICAL	3M SPECIALITY CHEMICAL	3M DEUT
3M ESPE DENTAL PRODUCTS	3M % SAN-MAR	3M HEALT
3M HEALTH CARE (MED/SURG PRODS)	3M (CRJ7242)	3M HEALT
3M C/O CHECKPOINT METO	3M - MINNESOTA MI	3M HEALT
	3M - MINNESOTA MINING & MFG.CO	3M HEALT

300 different names for the same supplier



Why use Global Location Numbers (GLN)



- A global standard for identification of legal entities and physical locations
- A GLN is an identification Key

Different locations in a hospital



- Vital for GS1 eCom messaging so that all parties and locations may be uniquely identified
- A pre-requisite for Global Data Synchronisation

Accessing GLN information globally



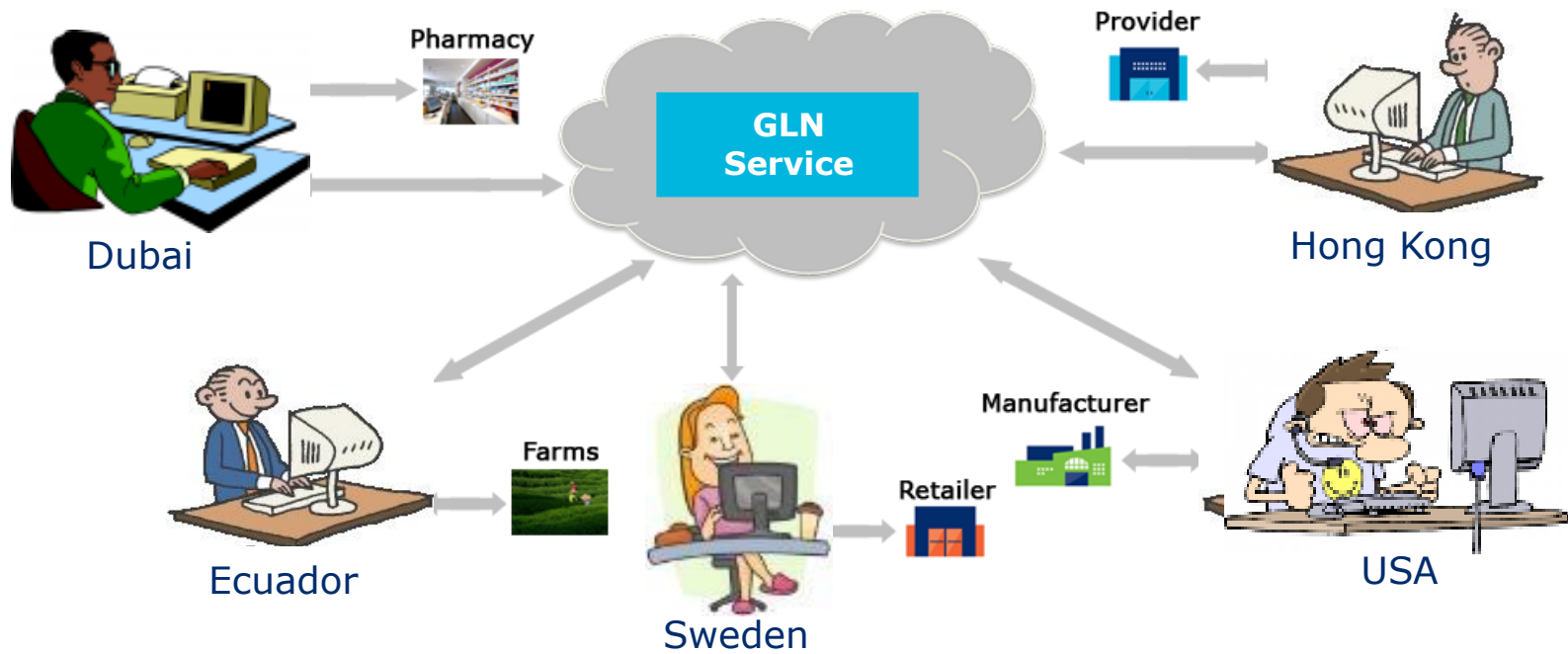
Users need and expect a:

- simple and effective means of exchanging GLN and basic information with their trading partners “globally”
- single point of local access. They do not want to join multiple registries and pay multiple fees
- minimum set of attributes supported by all registries
- solution which can scale as the needs of the community grows

The GLN Service: Global exchange of GLN master data



Single point of access to GLN Master Data, globally, via the local GS1 Member Organisation





Data sessions **This Week:**

Tuesday 14:10 – 15:30 – Ask the Experts: Master Data Management

- Peter Alvarez, Senior Director Master Data Management

Wednesday 10:35 – 11:05 - GDSN implementation, UDI Databases and Product Data for Hospitals

- MJ Wylie, Global GDSN Deployment, Johnson & Johnson
- Nick Manzo, Global Senior Director of Industry Development, 1WorldSync

Wednesday 10:35 – 11:05 - Benefits of Quality Data and GS1 EDI for Healthcare

- Andrew Potter, Group Inventory Manager, Ramsay Health Care, Australia



Join Us!

Download the paper



<http://www.gs1.org/healthcare/share-data>



Contact Information



Peter Alvarez

GS1 Global Office

Senior Director, Master Data Management

+1 609 557 4547

peter.alvarez@gs1.org

For more information



www.gs1.org/gdsn

www.gs1.org/healthcare

EPCIS

Craig-Alan Repec, GS1 Global Office



The Global Language of Business

Event Based Traceability in Healthcare

Your 15-minute EPCIS primer...

Craig Alan Repec, Senior Manager EPCglobal Technology, GS1
18 April 2016 in Dubai





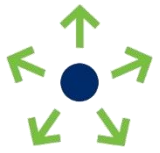
Identify



Capture

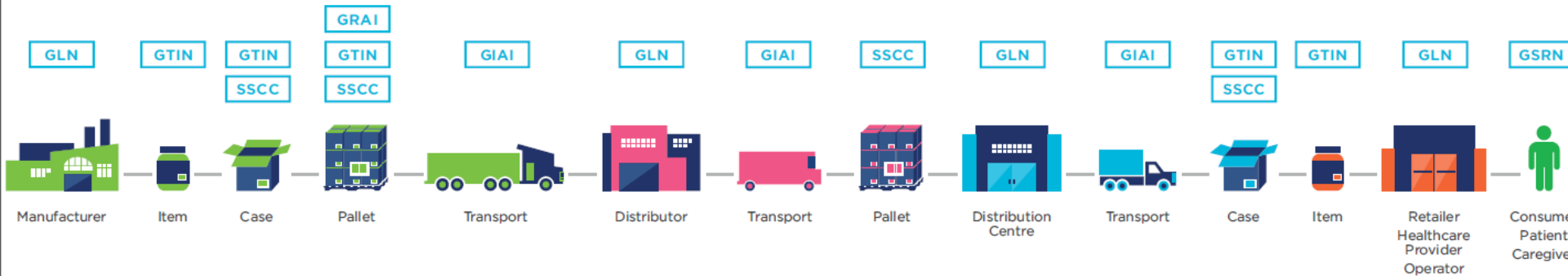


Share



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

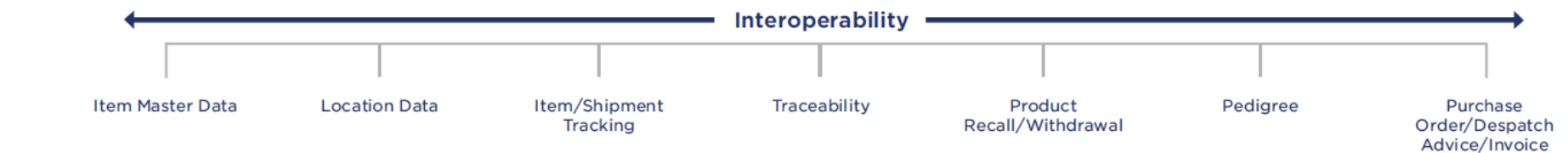


GS1 EPC/RFID



Share: GS1 Standards for Data Exchange

Master Data Global Data Synchronisation Network (GDSN) **Transactional Data** eCom (EDI) **Event Data** EPC Information Services (EPCIS)



EPCIS, a GS1 open standard . . .

- defines technical interfaces for capturing/sharing data
- defines a framework data model for event data
- helps create & share visibility data within/across enterprises
- enables services and solutions for supply chain visibility
- GS1 Keys identify the “what” & “where” of visibility events...
...*encoded as data-carrier neutral EPCs*
...*even when used with GS1 barcodes (instead of RFID)*
- Approved as **ISO/IEC 19987** in July 2015



Four dimensions of an EPCIS event



WHAT objects are the subject of event?

Individual objects (SGTIN) or groupings (GTIN + Lot/batch)

WHEN did this event take place?

Date, time, time zone

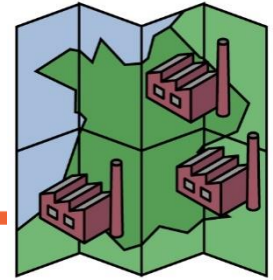
WHERE did this event take place?

GLN of physical location & object's subsequent whereabouts

WHY did this event take place?

Business step, Disposition, Source/Destination info

EPCIS enables supply chain visibility



- **Tracking**
Where are the pharmaceuticals I shipped?
- **Tracing**
Where did this batch of pharmaceuticals come from?
- **Chain of Custody (CoC) / Chain of Ownership (CoO)**
Which parties had custody of these pharmaceuticals?
- **Recall**
Where were meds produced on 14 April shipped to?
- **Asset Management**
Where are all of the hospital's balloon pumps?

EPCIS implementations 2016 and beyond

- Food / Fresh Produce Packaging and Distribution
- Fish Packaging and Distribution 
- Vehicle Visibility in Rail
- Digital Coupon Management in retail
- Asset management
- Apparel Stock-Taking & Cycle Counting
- **Pharmaceutical** chain-of-custody 

DSCSA – 2015, 2017, 2023

Drug Supply Chain Security Act



Packaging level: Saleable units and homogeneous cases

- Data carrier: 2D DataMatrix
- Data elements: NTIN, expiry date, lot/batch, serial number

Deadlines

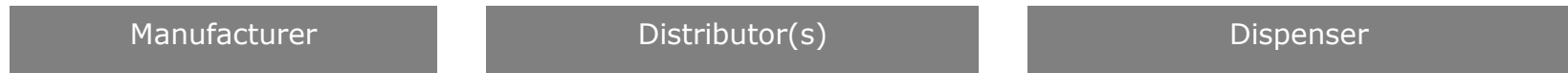
- 2015: Lot based (March 2016 for dispensers)
- 2017: **Serialisation** by manufacturers and repackagers
- 2023: **Full traceability** back to manufacturer or repackager

EPCIS is explicitly mentioned in a Nov 2014 US FDA draft guidance as a means for the interoperable exchange of pharmaceutical traceability data

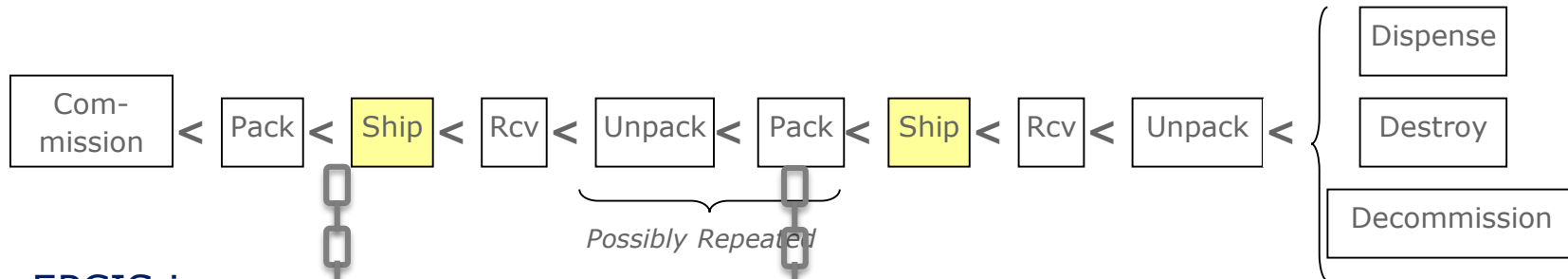
EPCIS & DSCSA

why EPCIS based traceability systems?

1



EPCIS is Flexible



2

EPCIS is Extensible



3

EPCIS includes the ability to query (ask for information):



- Commissioning Event
- Packing Event
- Shipping Event

4

EPCIS is Global !



THE GLOBAL LANGUAGE OF BUSINESS

EPCIS Development activities – April 2016

- EPCIS/CBV enhancements (anticipated Q3 2016)
 - Support for event retraction / correction
 - Additional business vocabulary to satisfy Pharmaceutical regulations in US (FDA DSCSA) and Brazil (Anvisa)
 - Specification of Master Data attributes for EPCIS events
- GCP Length Table published and accessible online
<http://www.gs1.org/gcp-length>
 - Machine-readable file to determine length of GS1 Company Prefix
 - Will simplify use of EPCIS in conjunction with pharmaceutical products that are serialized and barcoded with GS1 DataMatrix
- GS1 US Rx Guideline for DSCSA www.GS1US.org/RxGuideline
 - Application of EPCIS for serialized item-level traceability



Clearing up misconceptions on EPCIS

EPCIS is . . .

- a complex technical standard in GS1's "Share" layer
- an open ISO standard
- an enabler for commercial traceability solutions & services
- data-carrier-neutral, suited to GS1 DataMatrix barcodes

EPCIS is not . . .

- a product or service for sale by GS1
- an out-of the box solution
- a standalone answer to visibility issues
- GS1's portfolio is greater than the sum of individual parts
- Serialization and event-based traceability will fundamentally change how a supply chain works... EPCIS will support this

For more information on EPCIS . . .



Craig Alan Repec

Senior Manager, EPCglobal Technology

GS1 AISBL

Blue Tower, Avenue Louise 326, bte 10

1050 Brussels

Belgium

+32 2 788 7816

E craig.alan.repec@gs1.org

EDI in Healthcare

An introduction

Tania Snioch, Director Healthcare, GS1 Global Office

GS1 EDI is part of the GS1 System of Standards



Identify: GS1 standards for identification

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



The globally unique identifiers of items, companies, locations, logistics units, assets, etc, are the foundation of the GS1 System that enables the different parts to work seamlessly together – we can link the physical flow with the information flow, transactional information to the pre-aligned master data and so on.

Capture: GS1 standards for barcodes and EPC/RFID

GS1 barcodes

EAN/UPC



9 501101 021037

GS1-128



(00) 3 9501100 000001001 9

ITF-14



00001101021037

GS1 DataBar



(01) 0 9501101 021037

GS1 DataMatrix



GS1 QR Code



GS1 Composite Barcode



9 501101 021037

GS1 EPC/RFID

EPC HF Gen 2



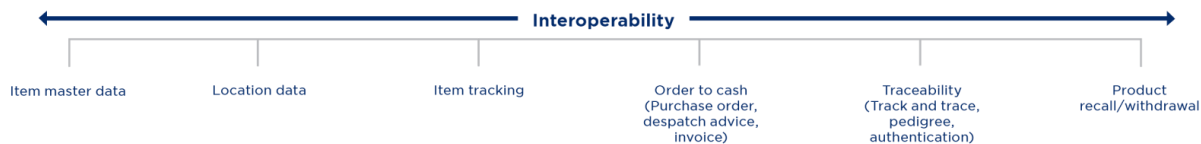
EPC UHF Gen 2



Enables physical items such as items and pallets to be marked with the unique identifiers and automatically capture through barcode and Radio Frequency (RFID) technology.

Share: GS1 standards for data exchange

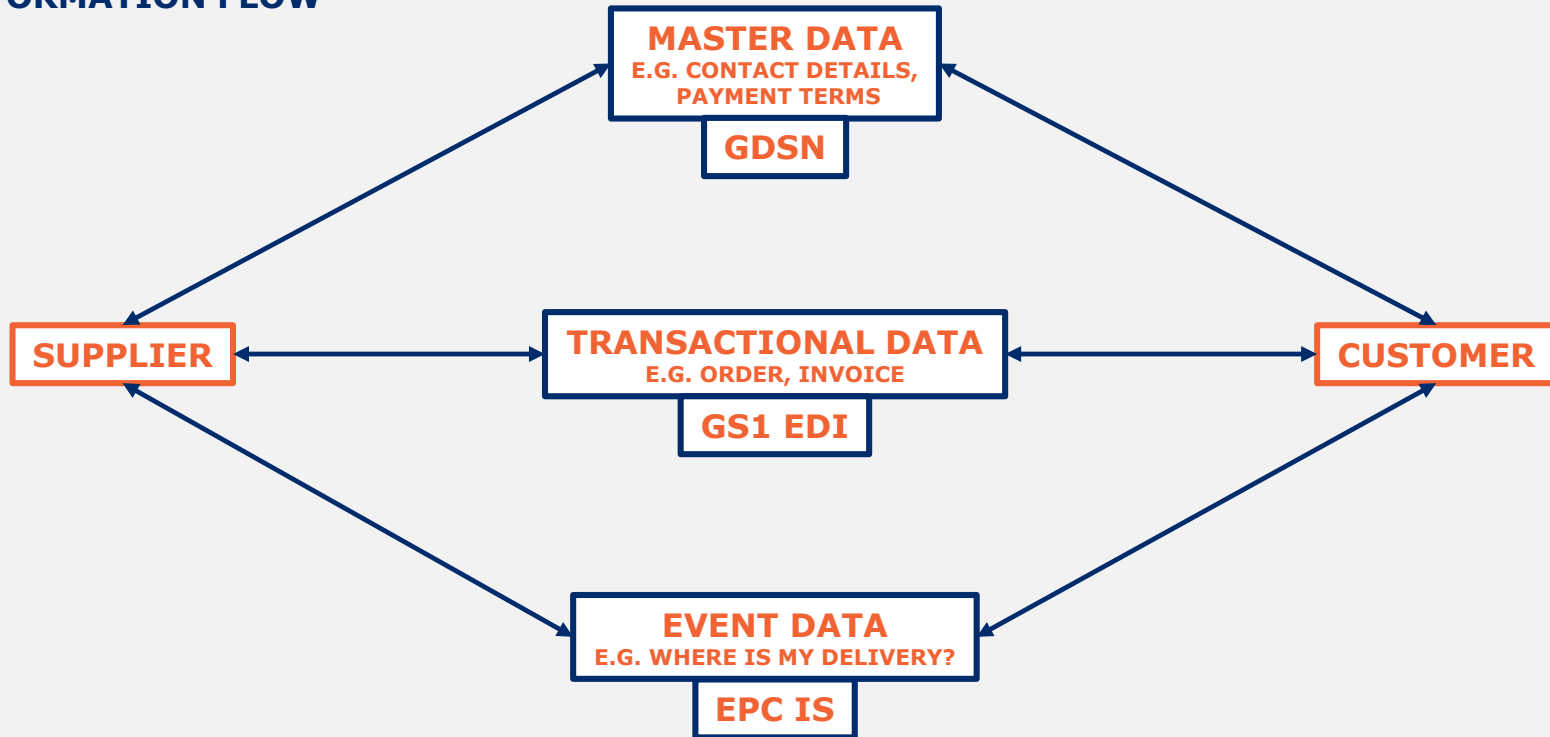
Master data GLN Registry for Healthcare®, Global Data Synchronisation Network (GDSN) **Transaction data** GS1 EDI **Visibility event data** EPC Information Services (EPCIS)



Defines how we share the information between stakeholder throughout the supply chain. The share level is further detailed in three areas: Master Data, Transactional Data and Event Data

Information sharing

INFORMATION FLOW



PHYSICAL FLOW



GS1 EDI Standards



Identify

GS1 Standards for Identification

Company & Location

- Global Location Number (GLN)

Product

- Global Trade Item Number (GTIN)
- Serialised Global Trade Item Number (SGTIN)

Logistics & Shipping

- Serial Shipping Container Code (SSCC)
- Global Shipment Identification Number (GSIN)
- Global Identification Number for Consignment (GINC)

Assets

- Global Individual Asset Identifier (GIAI)
- Global Returnable Asset Identifier (GRAI)

Services & More

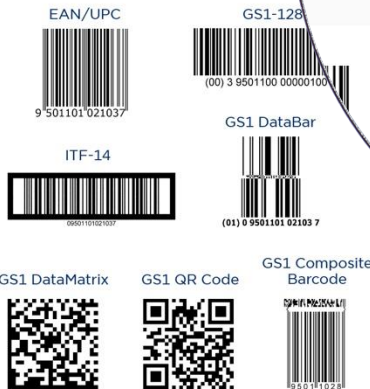
- Global Service Relation Number (GSRN)
- Global Document Type Identifier (GDTI)
- Global Coupon Number (GCN)



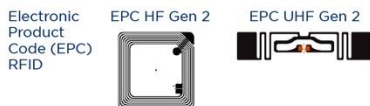
Capture

GS1 Standards for Barcodes & EPC/RFID

GS1 Barcodes



GS1 EPC/RFID



Share

GS1 Standards for Data Exchange

Master Data

- Global Data Synchronisation Network (GDSN)

Transactional Data

- eCom (EDI): EANCOM, GS1 XML

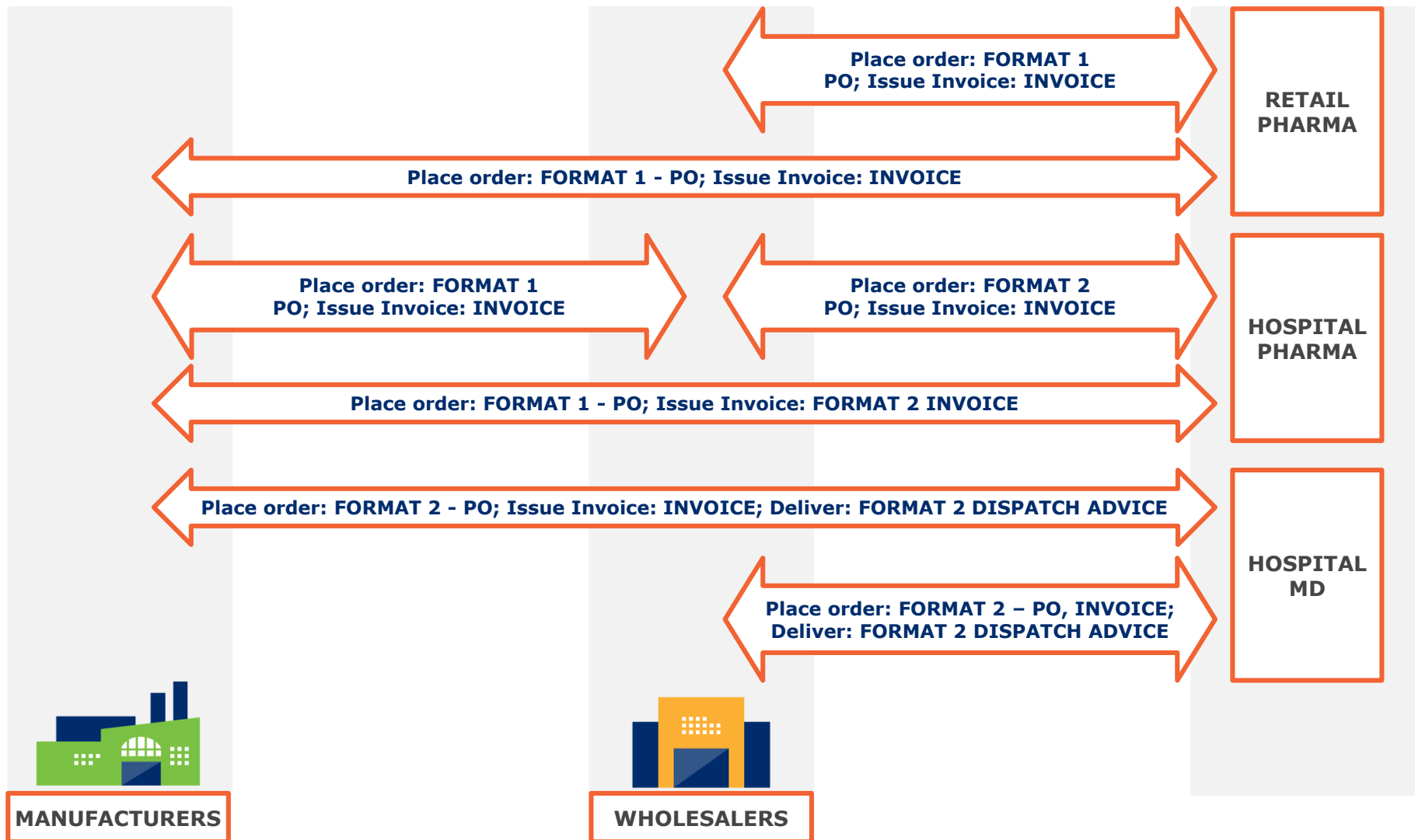
Event Data

- EPC Information Services (EPCIS)

EANCOM

GS1 XML

EDI in Healthcare



EDI implementation drivers

- 1 **HELPING TO ENSURE QUALITY OF CARE**
- 2 **MEETING REGULATORY OR TRADING PARTNER REQUIREMENTS**
- 3 **FACILITATING PRODUCT TRACEABILITY**
- 4 **INCREASING BUSINESS EFFICIENCY, ACCURACY AND REDUCING COST**
- 5 **ENABLING NEW BUSINESS PROCESSES**

Principles

Design principle for GS1 EDI

- Master Data alignment
 - All foundational information must be agreed and shared before exchanging EDI, such as contract details, delivery addresses, bank accounts
- Use of GS1 globally unique identifiers – GS1 Keys
- Only coded information (machine readable) in EDI, exceptions:
 - Legal requirements
 - Text to be printed on paper, e.g. transport labels
- **Global Guideline**
 - Global core processes and data
 - Local guidelines adding legal requirements and specific processes
- **Business contents and technical information separated**

Global Guideline - Business contents and technical information separated

1 HEALTHCARE BUSINESS PROCESS MODEL

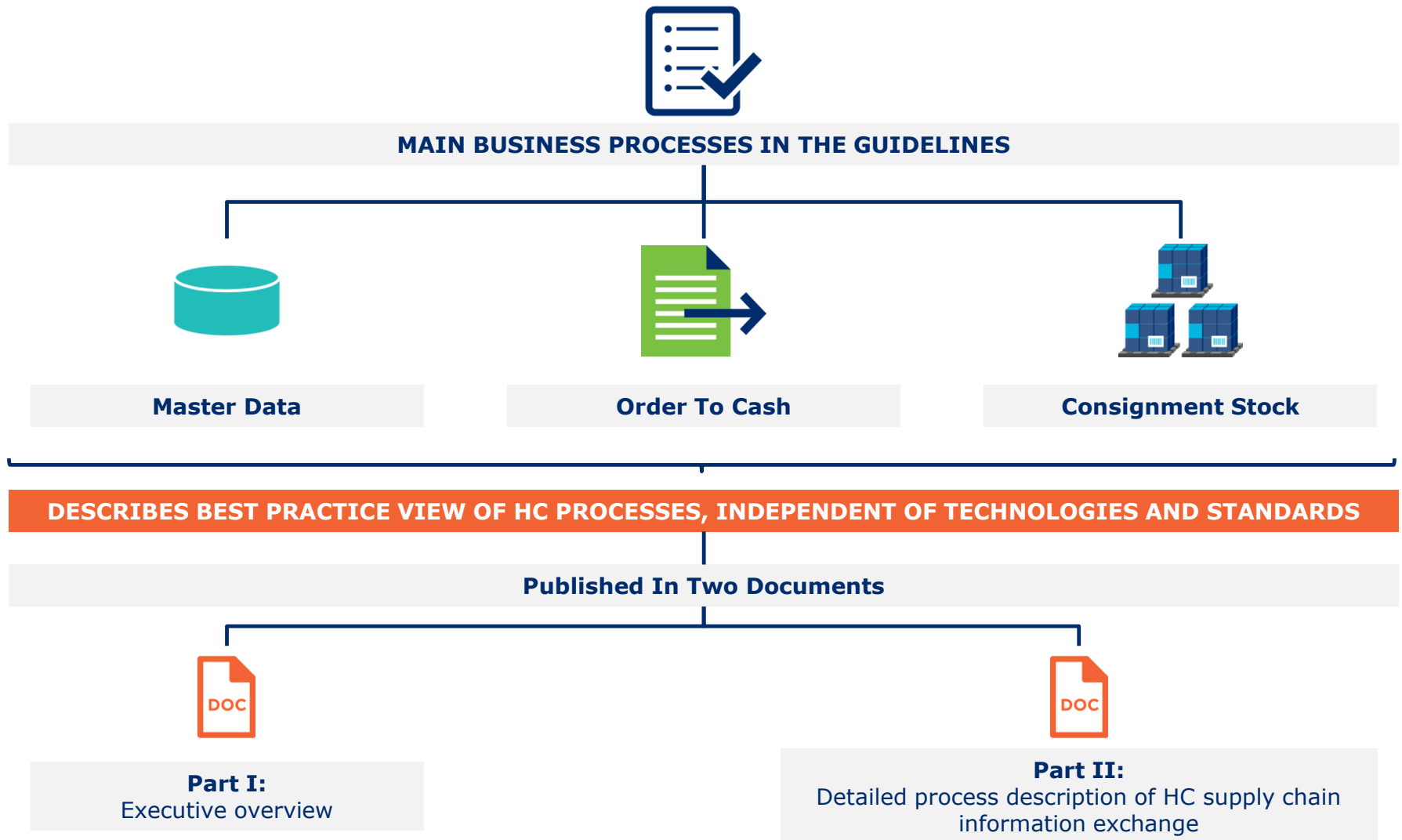
2 BDS - BUSINESS DOCUMENT SPECIFICATION

3 BDS SUMMARY

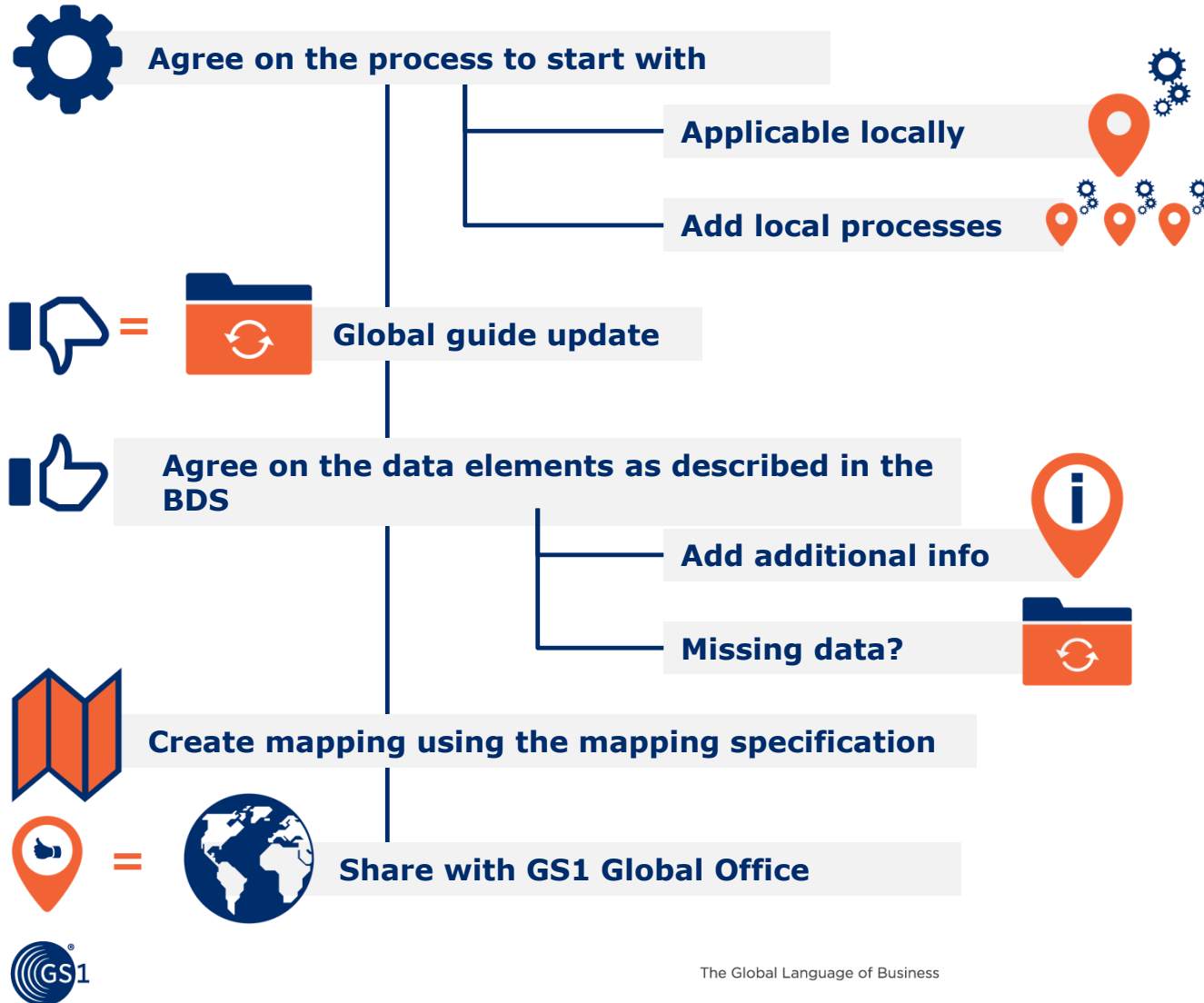
4 MS EANCOM – MAPPING SPECIFICATION

5 MS XML– MAPPING SPECIFICATION

Healthcare Business Process Model



How to use the global guideline when creating local guidelines



Contact Information



Tania Snioch

GS1 Global Office

Avenue Louise 326, bte 10
B-1050 Brussels, Belgium

T + 32 2 788 78 92

M + 32 492274419

E tania.snioch@gs1.org

www.gs1.org





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