# GS1 eCom Harmonisation in Healthcare

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**GS1 Netherlands**

# Agenda

- eCom standards

- Businesscases and Best Practices

- Global eCom Harmonisation

  - Healthcare Interoperability Model (HIM)

    – Fase I
    – Fase II
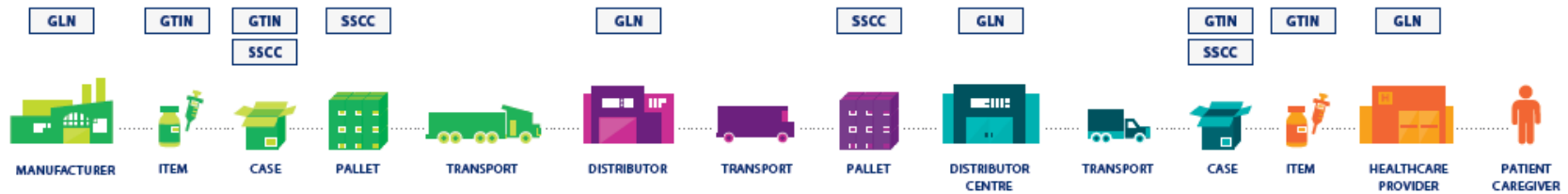
- Your help is needed!

  - Consignment

  - Peppol

# The GS1 System

# Supply chain visibility according to GS1



Production | Warehousing - Preparation | Shipping | Receiving | Healthcare delivery

# Supply chain visibility according to GS1



**Manufacturer**

**Enterprise Applications**

- CRM
- PIM
- TM
- WMS
- FIN
- ERP

EDI Gateway

EAI

Object Data

Event Data

**Master Data Synchronisation**

**EDI / INT**

- Order
- ASN
- Delivery
- GRN
- Invoice
- Invoice Errors
- Query Resolution
- Payment

**EPC Object & Event Data Transmission**

**RFID/Barcodes Tagged Pallets & Cases**

**Careprovider**

**Enterprise Applications**

- Cat Mgt
- Space Mgt
- PIM
- MM
- TM
- SCM
- WMS
- EPOS
- B2C

EDI Gateway

EAI

Object Data

Event Data

# IT Standards of eCommerce



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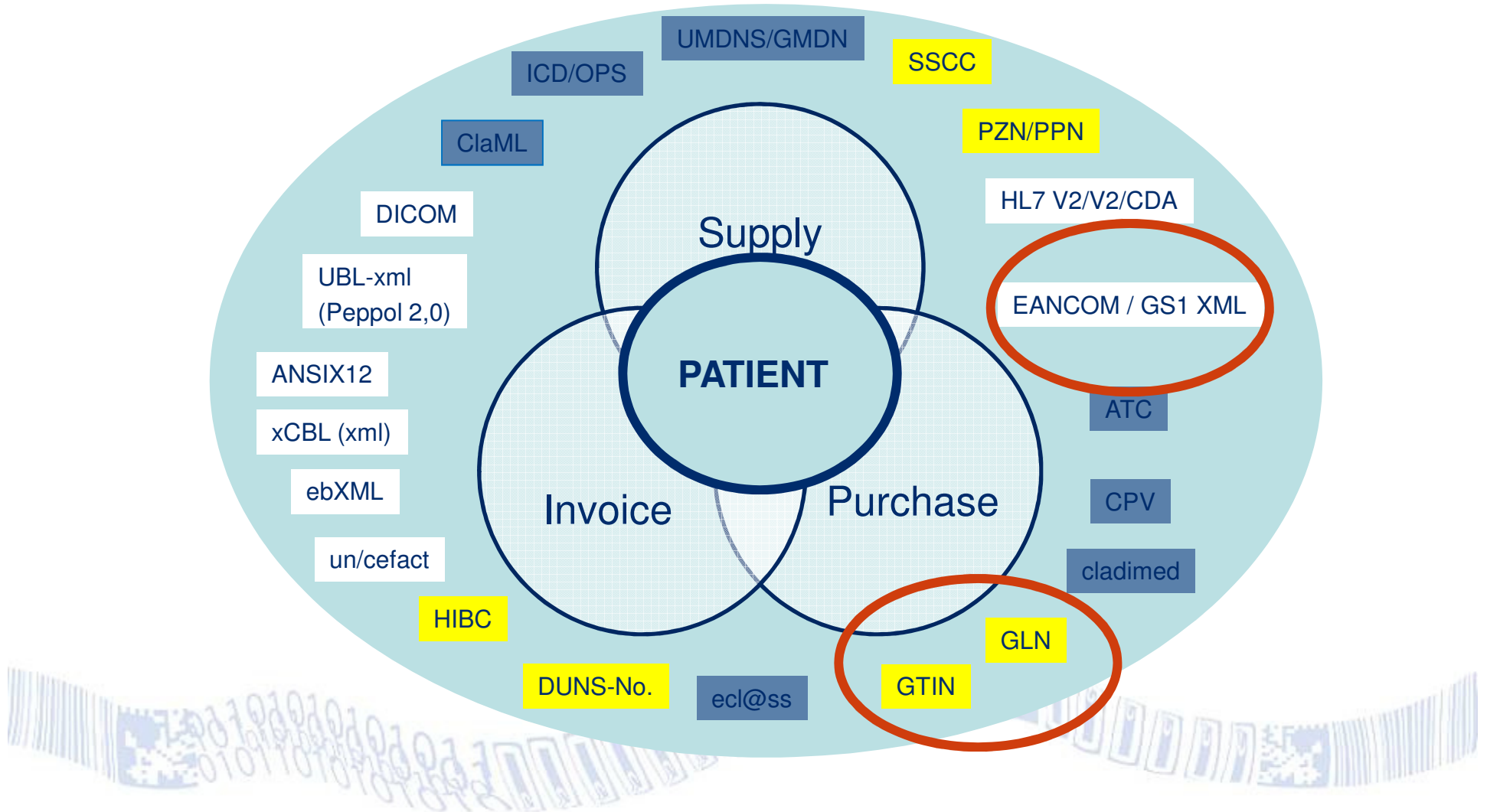
# GS1 XML implementation trend

## GS1 XML adoption 2005-2013

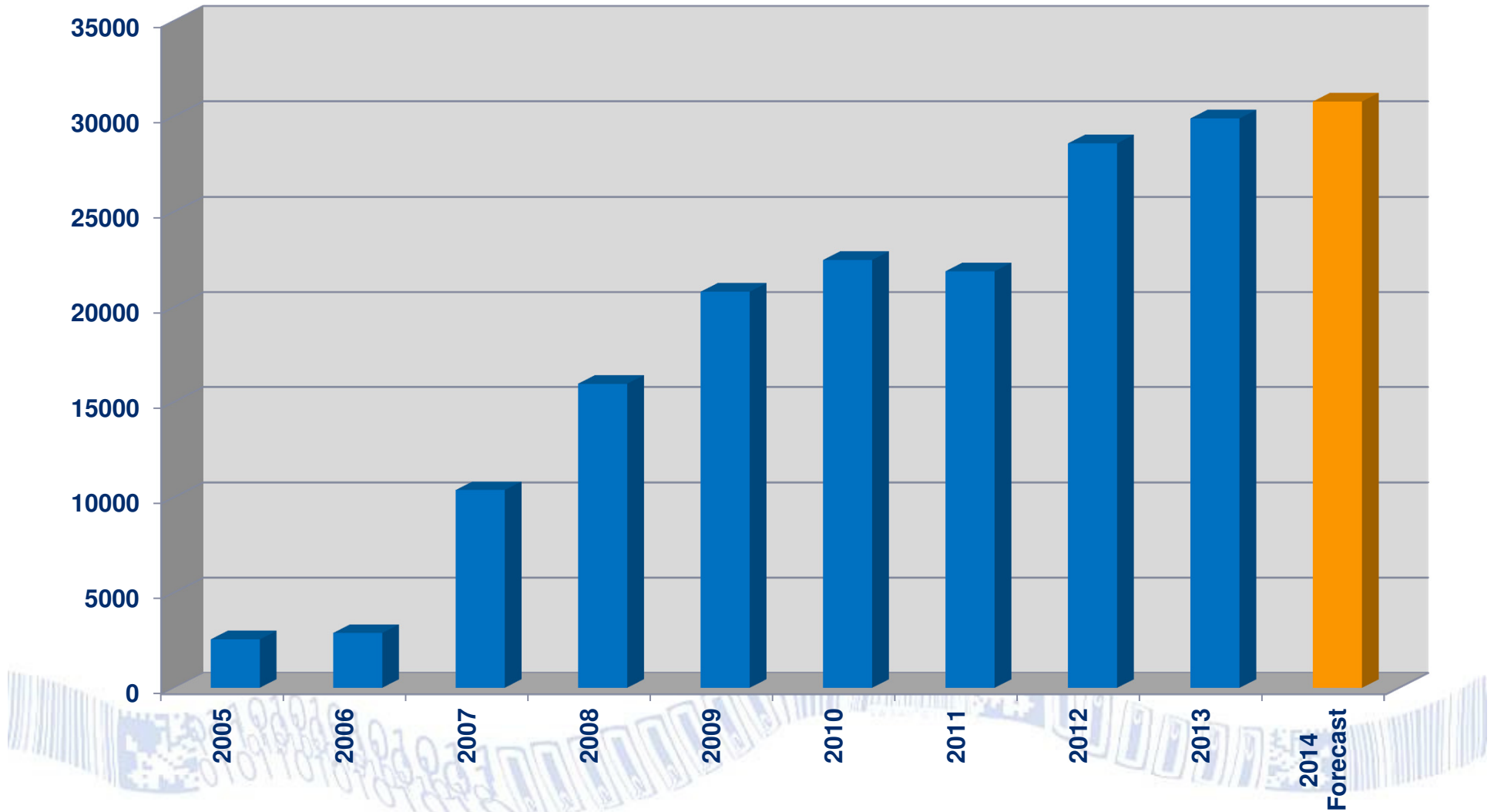# GS1 EANCOM® implementation trend

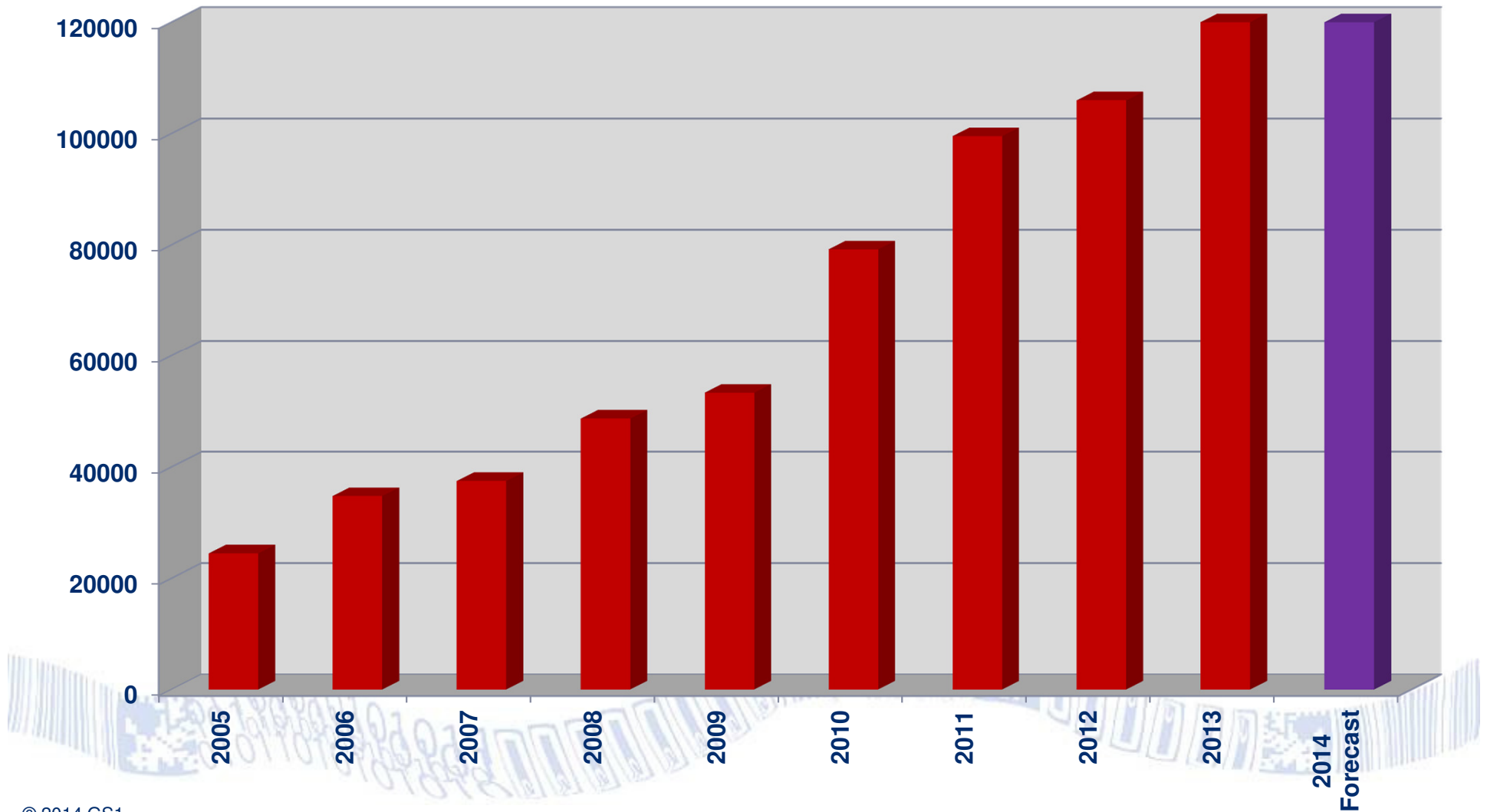**GS1 EANCOM adoption 2005-2013**
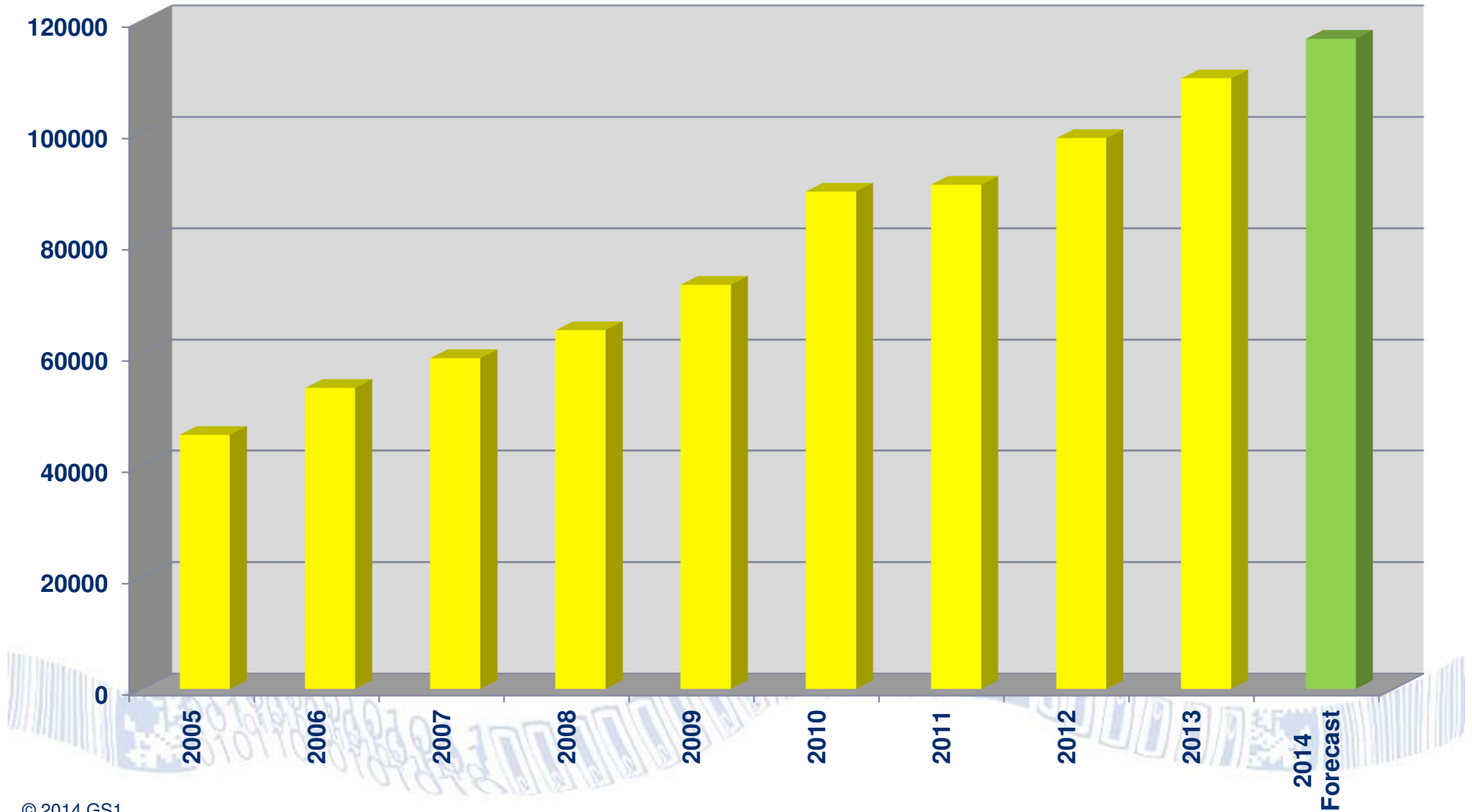
# Web EDI implementation trend

**Web EDI adoption 2005-2013**

# eCom implementation geography



**Legend:**
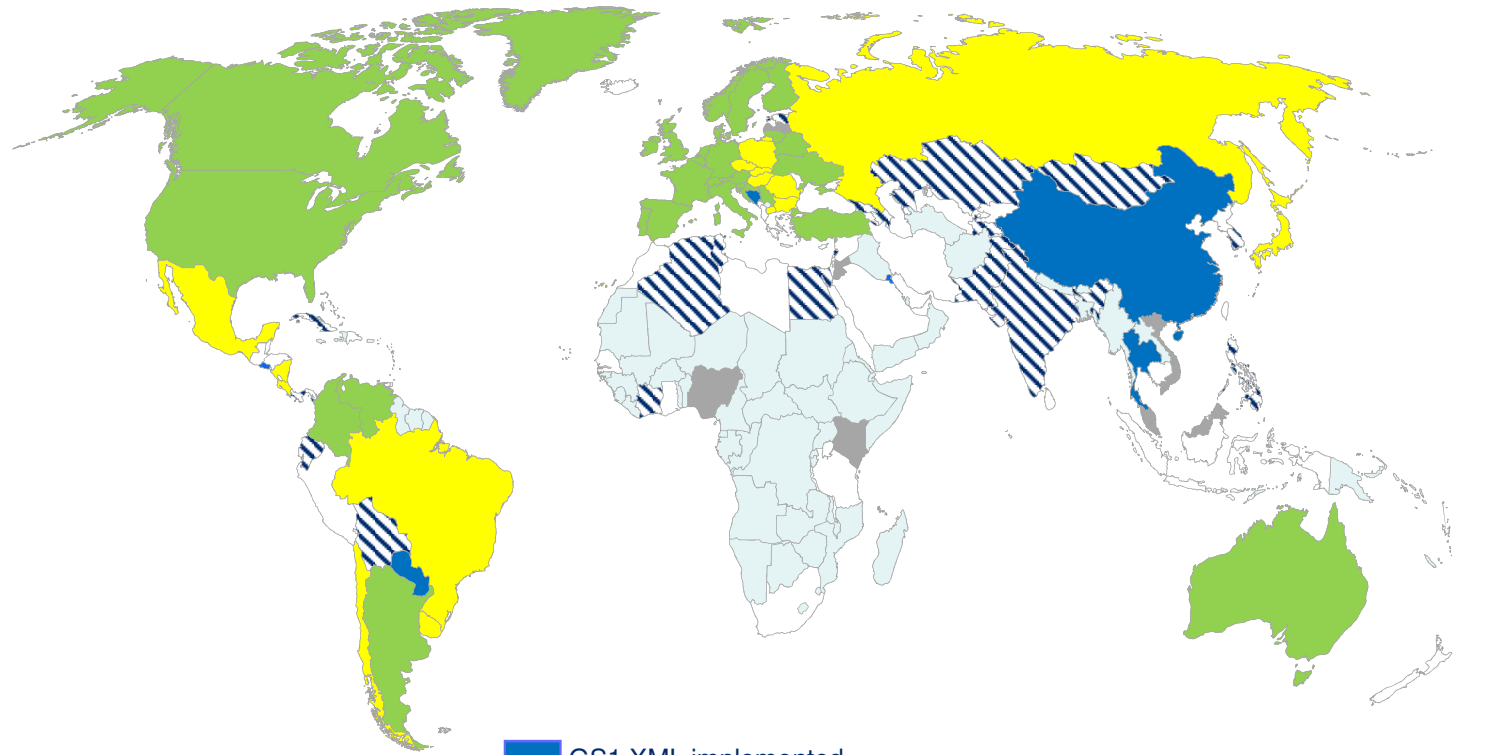
- GS1 XML implemented
- EANCOM implemented
- Both GS1 XML and EANCOM implemented
- Only non-GS1 eCom standards implemented
- No eCom standards implemented
- Non-GS1 member countries (no data available)

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# Businesscases on standards

# New McKinsey & Company report on benefits of a single global standard



Source: http://www.mckinsey.com

New McKinsey report "Strength in unity: The promise of global standards in healthcare"

Highlights the cost savings and patient safety benefits of adopting a single global supply chain standard in healthcare

Available at:

http://www.gs1.org/healthcare/mckinsey

# Huge cost savings and patient safety benefits when adopting a single global standard in healthcare

- "Implementing **global standards** across the entire healthcare supply chain **could save 22,000-43,000 lives** and avert 0.7 million to 1.4 million patient disabilities"

- "Rolling out such standards-based systems globally **could prevent tens of millions of dollars' worth of counterfeit drugs** from entering the legitimate supply chain"

- [We] "estimate that **healthcare cost could be reduced by $40 billion-$100 billion globally**" from the implementation of global standards

- "Adopting **a single set of global standards** will cost significantly less than two" (between 10-25% less cost to stakeholders)

SOURCE: McKinsey report, "Strength in unity: The promise of global standards in healthcare", October 2012

# GHX 2009



$ billion

| Health care cost \| US$ billion | | | |
|---|---|---|---|
| Medication error cost | -9-58 | | ~50% |
| Recall handling cost | ~1 | | 30-40% |
| Inventory financing cost | -4-6 | | 10-20% |
| Inventory mgmt cost | -6-8 | | ~15% |
| Obsolescence cost | -19-27 | | 35-55% |
| Data management cost | -1 2 | | 40-45% |
| **Total** | **~-40-100** | | **25-35%** |

# B&D and Mercy/ROi

# The Perfect Order

# Perfect Order Definition
## *Perfect Order and Beyond*

### What is a Perfect Order?

**Perfect Order:** A purchase order processed electronically (from order to payment) without human intervention, which is delivered to the correct location, on time, undamaged, at the right price, with the desired quantity, on the first attempt.

www.smisupplychain.com

- **Phase I** – Establish the technology infrastructure and processes to achieve Perfect Order

- **Phase II** – Implement GS1 data standards to make the process more efficient and sustainable. Include clinical processes.

ROi

BD

# Data Challenges are a Barrier

## Perfect Order and Beyond
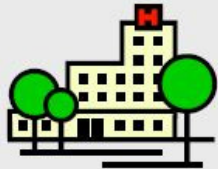
### Many Proprietary Numbers for Each Customer

**Just 1 Hospital**

| St. Michaels | St Michaels | St. Michael's | Saint Michaels | 100084547 | CA2053 |
|---|---|---|---|---|---|
| 50003000431 | 1000014082 | 1000014769 | 1000042141 | 1000118699 | 50003000306 |
| 50003000308 | 50003000309 | 50003000312 | 50003000313 | 50003000314 | 50003000315 |
| 50003000316 | 50003000330 | 50003000366 | 50003000406 | 50003000422 | 50003000426 |
| 50003000431 | 50003000432 | 50003000433 | 50003000440 | 50003000442 | 50003000453 |
| 50003000456 | 50003000468 | 50003000472 | 50003000473 | 50003000476 | 50003000477 |
| 50003000480 | 2104372 | 2104379 | 2108919 | JGGG | (178 Total) |

### Many Product Numbers for Each Product

| | |
|---|---|
| BD | 329461 |
| BD | 00382903294619 |
| CARDINAL HEALTH | BF329461 |
| OWENS & MINOR | 0722329461 |
| OWENS & MINOR | 0723329461 |
| AMERICAN MEDICAL DEPOT | 777127217 |
| AMERICAN MEDICAL DEPOT | 777127218 |
| GOVERNMENT SCI SOURCE | FSC1482679CS |
| GOVERNMENT SCI SOURCE | FSC1482679PK |
| ALLIANCE JOINT VENTURE | 888021932 |
| THOMAS SCIENTIFIC | 8938M25 |
| THOMAS SCIENTIFIC | 8938M28 |
| VWR INTERNATIONAL | BD329461 |

### 350+ Ways to Spell BD (1 Customer)

| | |
|---|---|
| B D VACUTAINER DIV | B-D DIAGNOSTICS |
| B-D SUP CHAIN SVCS | BD / ELASTIC HEALTH SUPPORT |
| BD BLOODCOLLECTION | B D ACUTECARE |
| B-D LABWARE | B-D VASCULAR ACCESS |
| BD ACUTECARE | BD CONVENTION NEEDLES |
| B D DIAGNOSTIC | B-D MICRO BIOLOGY SYSTEMS |
| B.D. MICROBIOLOGY | BD ACUTECARE DIV |
| BD CRITICAL CARE | B DICKINSON |
| B-D MICROBIOLOGY | BARD PARKER |
| BD ACUTECARE DIV. | BD DBA BECTON DICKINSON AND CO |
| B&D | B-D MICROBIOLOGY SYSTEMS |
| BARD-PARKER | BD BIO SCIENCE |
| BD DIAGNOSTIC | B-D |
| B-D PRIMARY CARE | BARD-PARKER RESPIRATORY |
| BD BIO SCIENCES | BD DIAGNOSTIC INSTRUMENT SYST |
| B-D / VISITEC | B-D PRIMARY CARE DIAG |

# Sunrise Dates Achieved - February 2011
## *Perfect Order and Beyond*

- End-to-End Integration of GLN/GTIN Achieved February, 2011
- Additional Implementation Steps Continue



**BD (Product Design)**

GLN

(AI) 10,17…

SSCC

GTIN

**Mercy (Patient)**

ROi

BD
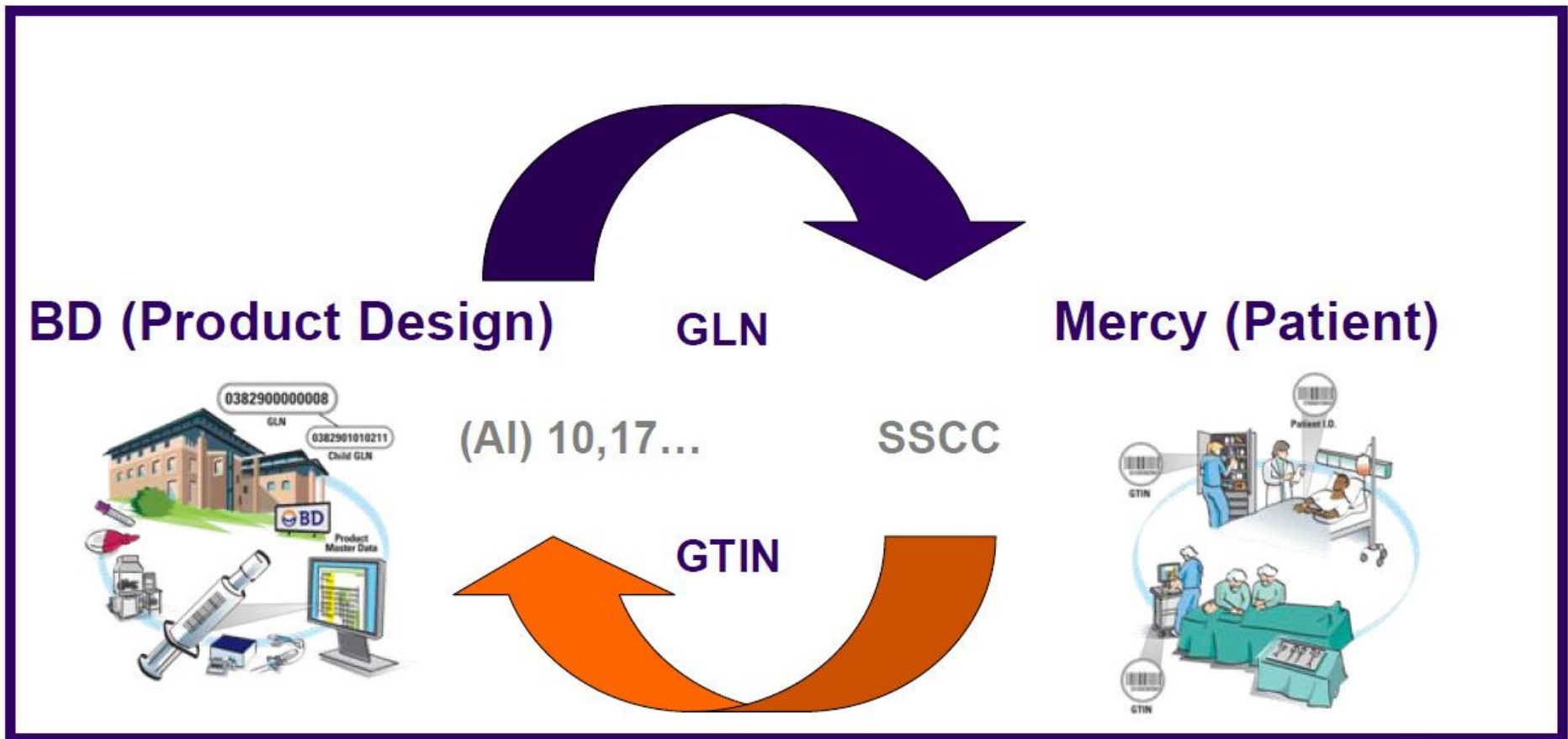
# BD

## Perfect Order and Beyond



- **GTINs created for each product and package level**

- **Product data defined, created and managed**

- **BD GLNs assigned and managed**

- **Validated customer GLNs collected and stored**

- **Synchronization of EDI Processes**

- **Order Management**

- **Data stored in ERP system**

# Use of GTINs
## *Perfect Order and Beyond*

Each Level GTIN in a
GS1-128 barcode

**00382903065073**

Shelf Pack Level GTIN and
Production Data in GS1-128
barcodes

**30382903065074**

Case Level GTIN and Production
Data in GS1-128 barcodes

**50382903065078**

Pallet License Plate — Serial
Shipping Container Code (SSCC)

*The illustrations above are provided as
examples and are not exact replicas of
actual labels.*

## Challenges Included:

- Reconciling Data

- Using BD's GTIN Data in
  Mercy/ROi IT Systems

- Mutually Learning to
  Transact w/GTINs

# Mercy/ROi Data
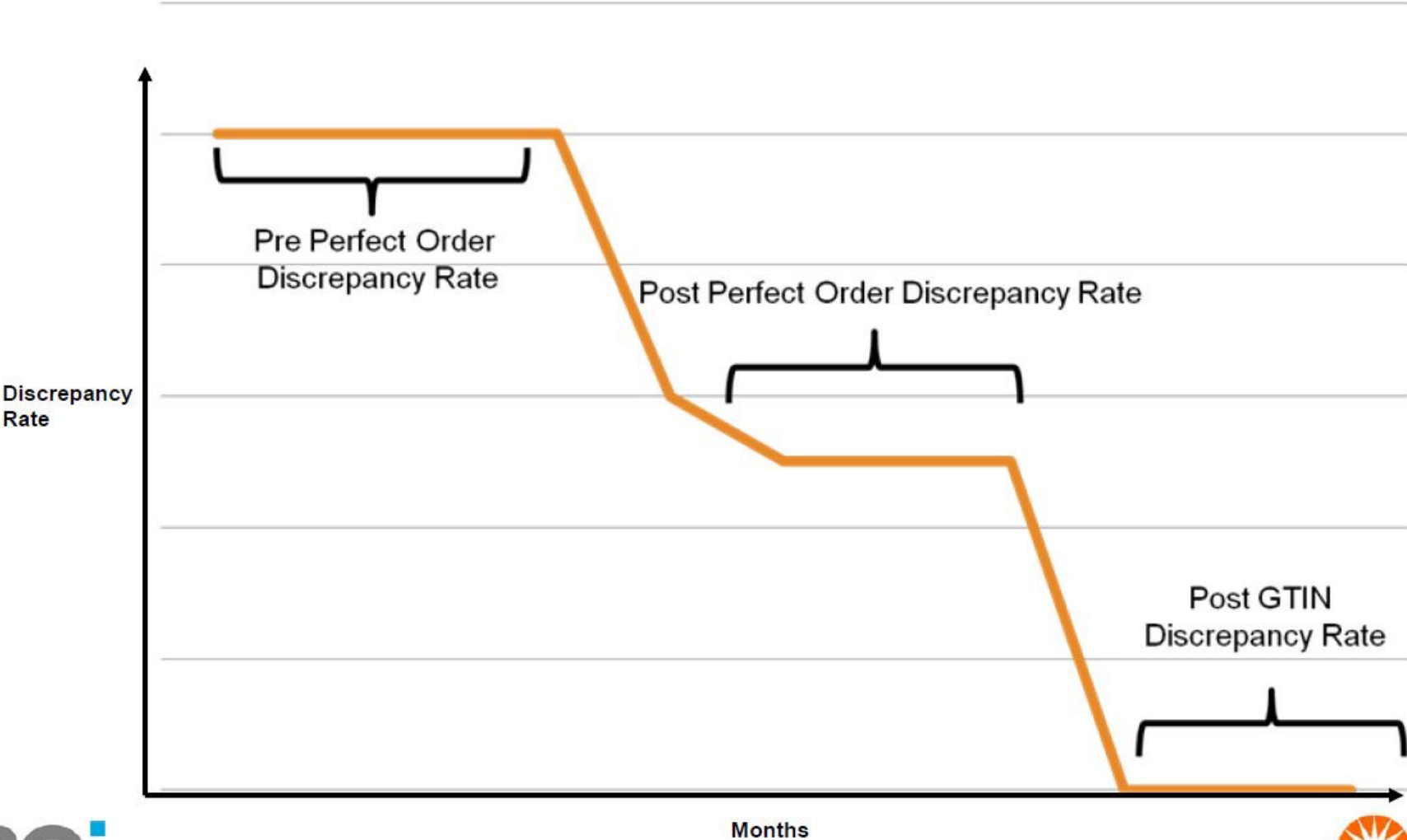## *Perfect Order and Beyond*



Inventory
Management &
Replenishment

Patient Charge

Electronic
Health Record
(EHR)

ROi

BD

# Reduced Error Rate
## Perfect Order and Beyond



Part # & UOM Discrepancy Rate

# Many Benefits Achieved
## *Perfect Order and Beyond*

- Achievement of Perfect Order

- More accurate purchase orders, invoicing and payment

- Clean data on delivery locations and account information

- Up-to-date item master and vendor master

- Real-time product usage and consumption

- Better product and lot number tracking

- Improved infrastructure and data accuracy for future patient care initiatives and the recall process

The full case study can be found at: www.gs1us.org/BDMercystudy

**ROi**

**BD**

# Discussions and Statements

# 1 Format in EANCOM and GS1-XML ?

80 – 90 % Global harmonized data and use

10 – 20 %
Country specific
add-ons

## Key factor is harmonization of business processes!!

# Healthcare Interoperability Model (HIM)

## GOAL:

Develop a framework to align GS1 eCom standards so they can be used throughout the <u>Global</u> Healthcare supply chain from supplier to <u>logistic</u> end-user
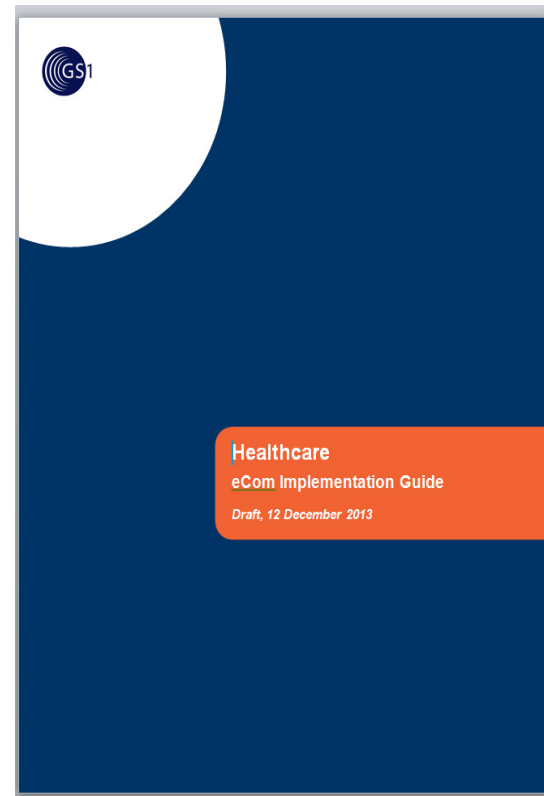
## HOW:

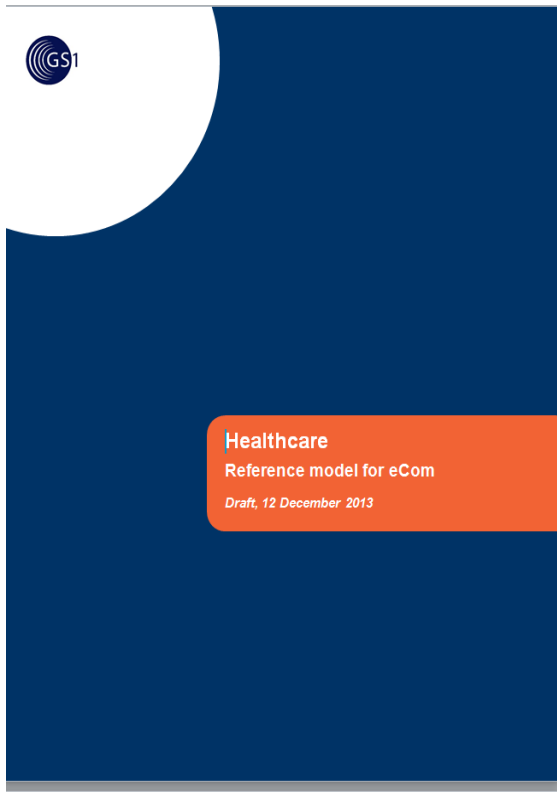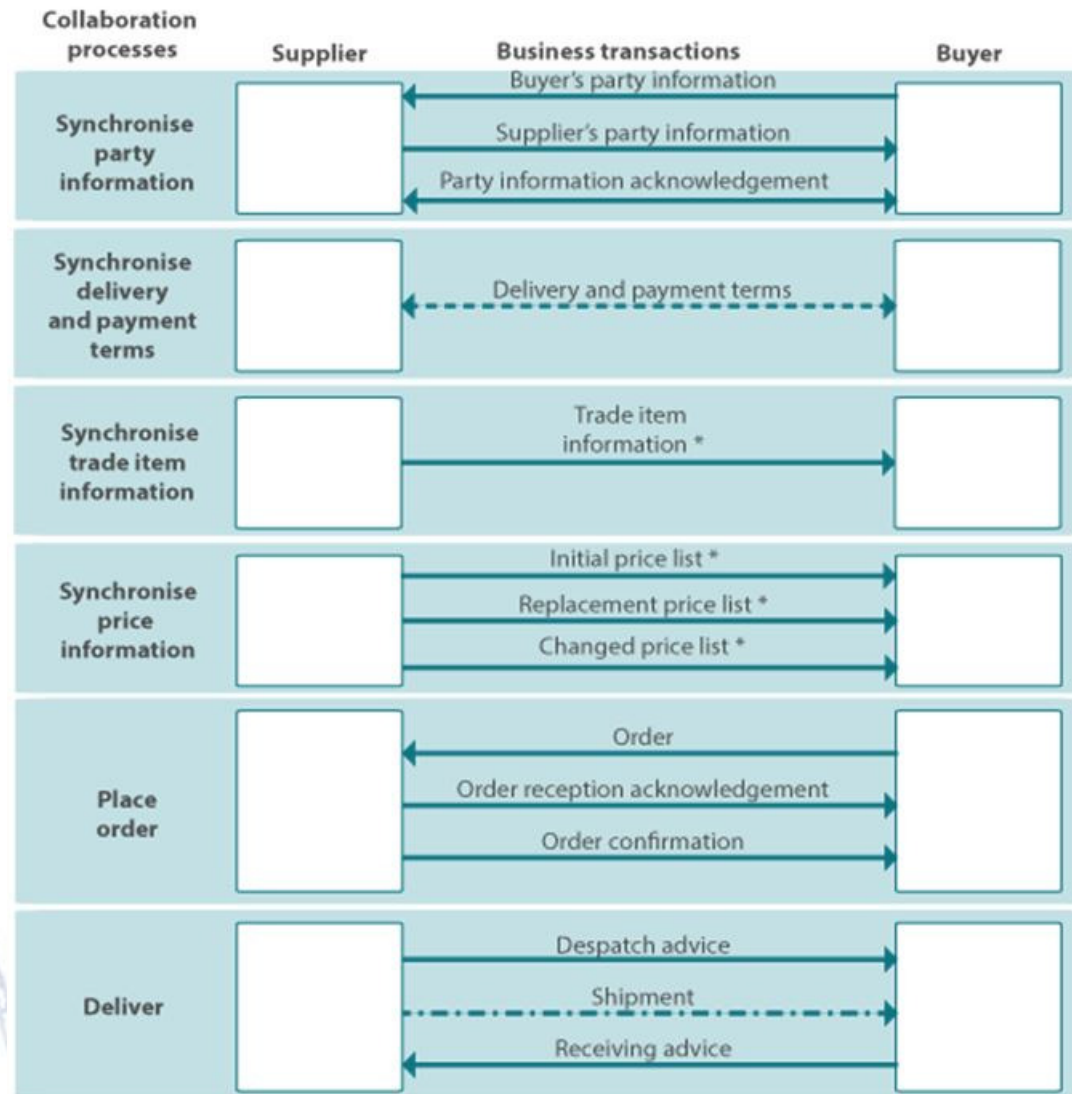Define a common **Global Healthcare Process Model**

# Process Model Order to Cash

**Healthcare**
**Reference model for eCom**
*Draft, 12 December 2013*

**Healthcare**
eCom Implementation Guide
*Draft, 12 December 2013*
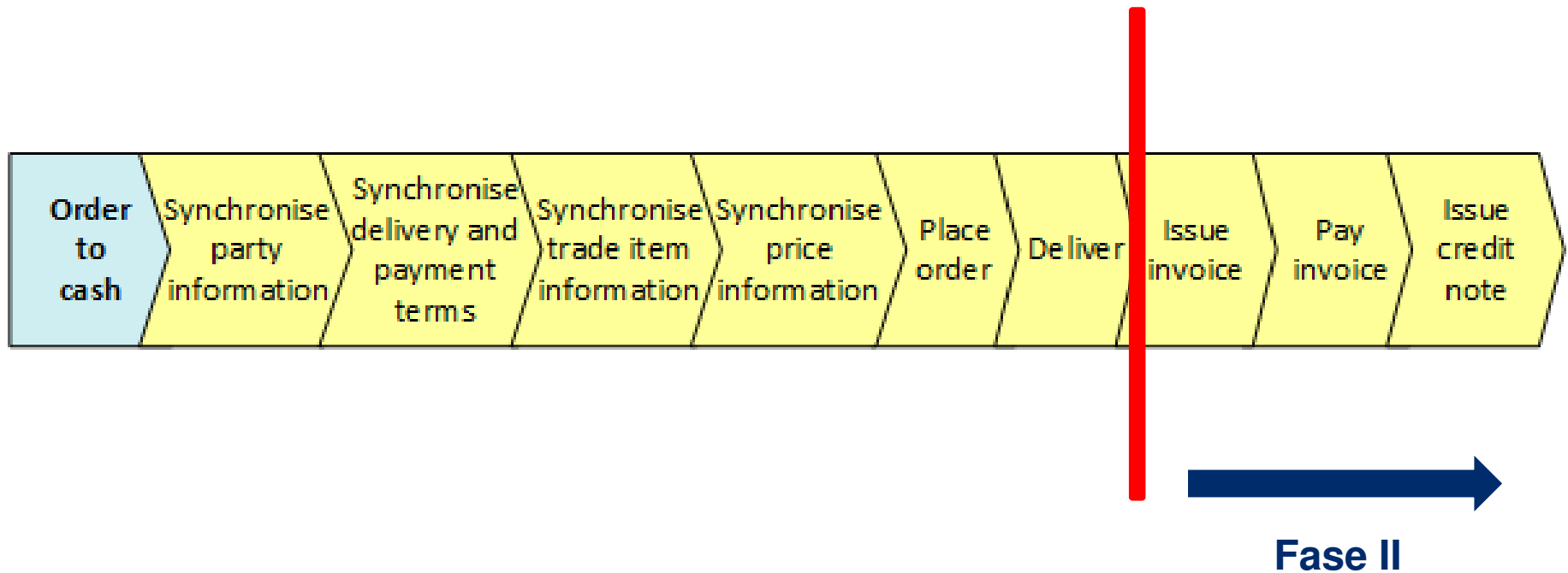
# Fase I: processmodel Order to Cash

# Business Document Specification for implementing Ordermessages

| Order | | This business document is used when a buyer sends an order to a supplier. | |
|---|---|---|---|
| ORDER HEADER | 1..1 | Comment: | The class is used to specify general information about the order. The class must always be used. |
| Order type, code | 1..1 | Definition:<br>Comment: | Code specifying an order type.<br>Identifies the kind of purchase order, enabling the recipient of the order to determine the appropriate processing.<br>Using Rush order must be agreed between the parties.<br>Allowed code values when using GS1 XML Order are specified in GS1 Code List OrderTypeCode.<br>Allowed code values when using EANCOM ORDERS are specified in EANCOM Code List 1001 Document name code. |
| | | Data type:<br>Constraint: | String<br>1..30 |
| | | Applicable types | |
| | | | **Order**<br>Document/message by means of which a buyer initiates a transaction with a seller involving the supply of goods or services as specified, according to conditions set out in an offer, or otherwise known to the buyer.<br>**Blanket order**<br>Usage of document/message for general order purposes with later split into quantities and delivery dates and maybe delivery locations.<br>**Rush order**<br>Document/message for urgent ordering.<br>**Call off order**<br>Document/message to provide split quantities and delivery dates referring to a previous blanket order. |
| Document identification | 1..1 | Definition:<br>Comment:<br><br>Comment:<br>Data type:<br>Constraint: | The unique identification of the business document.<br>In order to guarantee a globally unique identity, a GDTI may be used. A GDTI (Global Document Type Identifier) is an alphanumeric string including from 14 up to 30 digits.<br>Each new order must be assigned an unique identity.<br>String<br>1..30 |
| Document function, code | 1..1 | Definition:<br>Comment: | Code indicating the status of the document.<br>Allowed code value for GS1 XML Order is specified in GS1 Code documentStatusCode.<br>Allowed code value for EANCOM ORDERS is specified in EANCOM Code List 1225 Message function code.<br>The document status of the order is always "Original". |
| | | Applicable types | |
| | | | **Original**<br>Initial transmission related to a given transaction. |
| Creation date time | 1..1 | Definition:<br>Comment:<br>Data type: | Date and time of creation of the document.<br>Date when the order was issued.<br>Date and time |

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# Fase I: Order to Cash



Order to cash → Synchronise party information → Synchronise delivery and payment terms → Synchronise trade item information → Synchronise price information → Place order → Deliver → Issue invoice → Pay invoice → Issue credit note

**Fase II**

# Fase II:

- Consignment
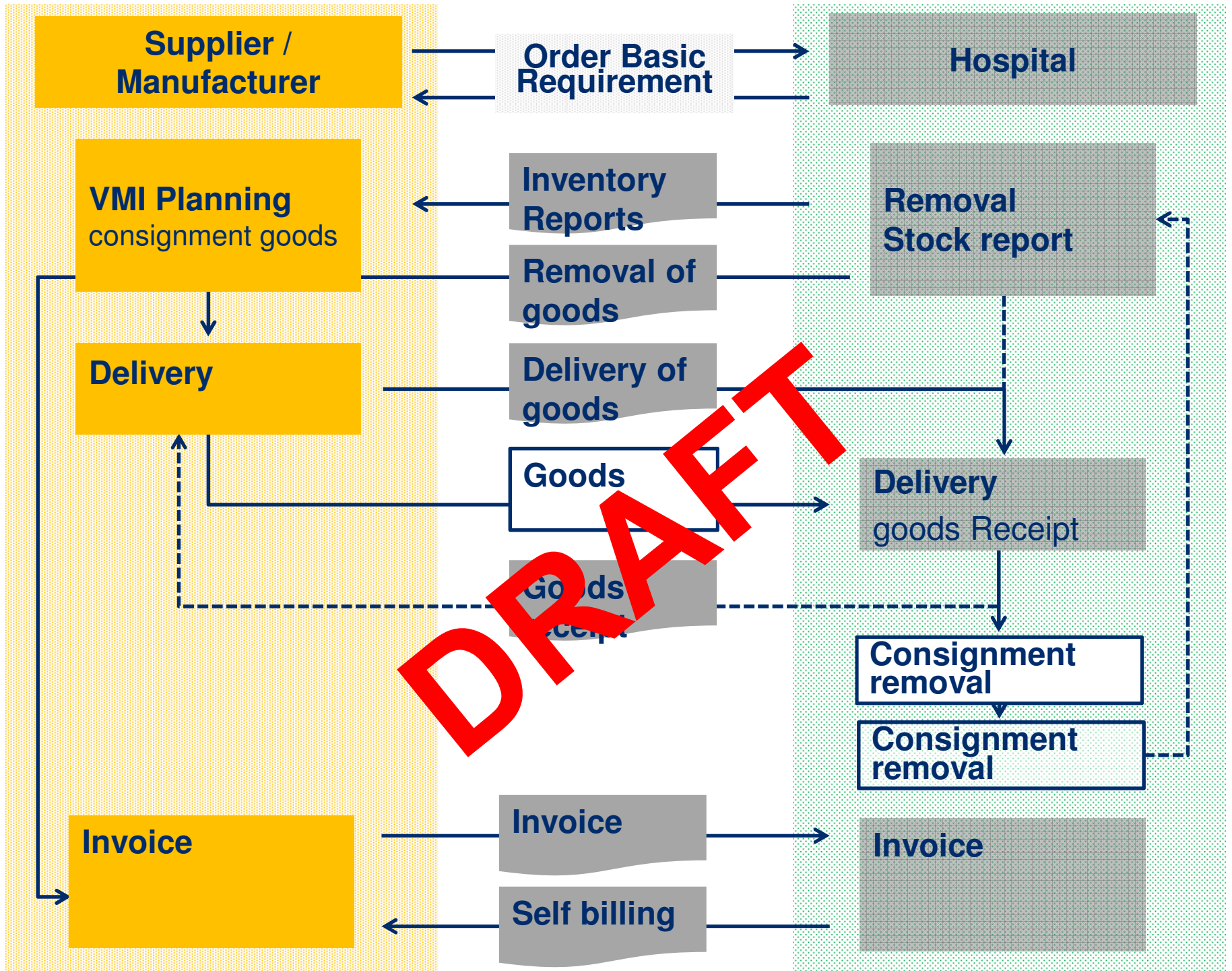- Masterdata
- Invoice

# Consigment - Vendor Managed Inventory (VMI)

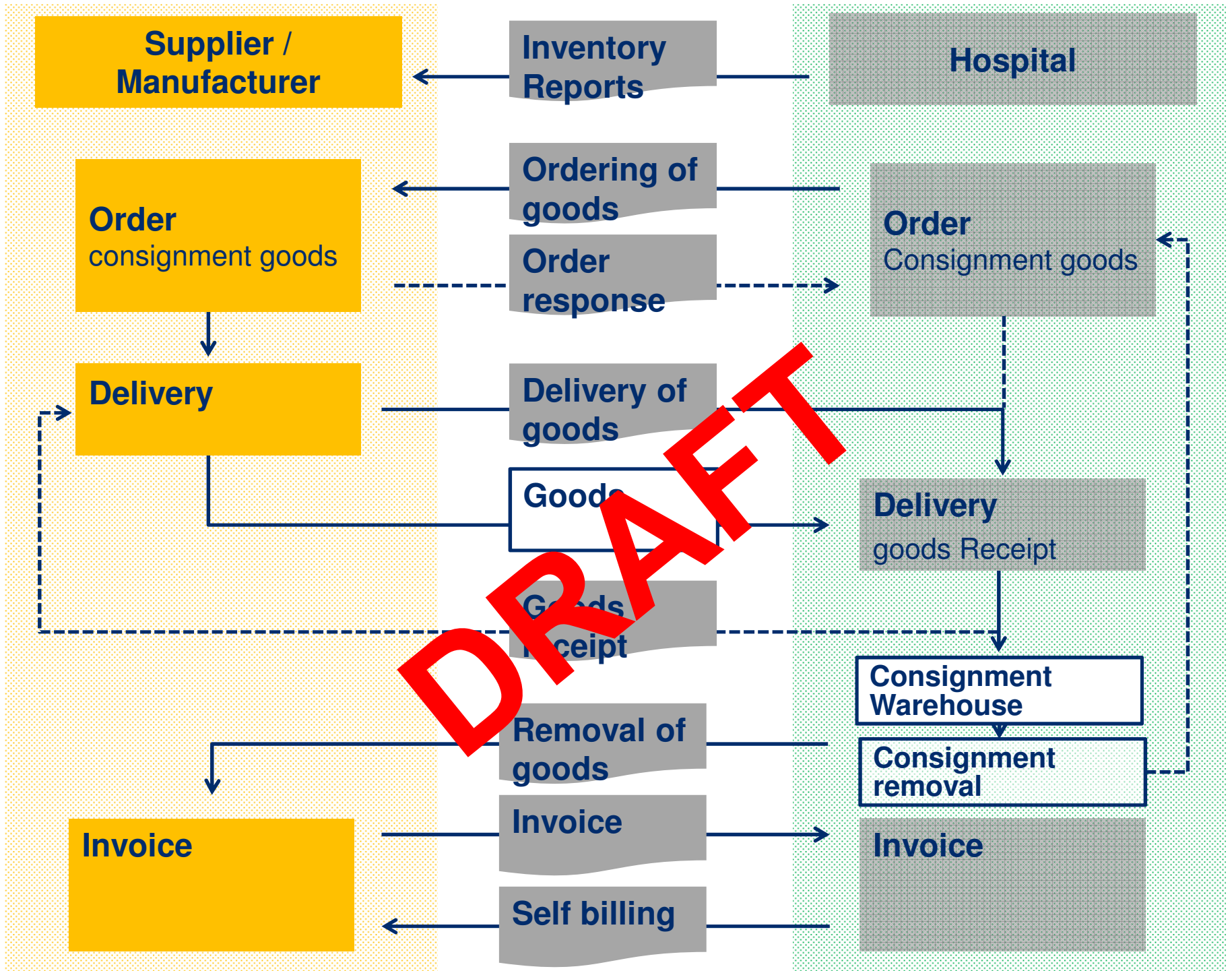- The consignment process is controlled by the supplier (VMI)

# Consigment - Buyer Managed Inventory (BMI)

- The consignment process is controlled by the hospital (BMI)

# We need your help!!!

The basic "consignment stock" process can be described as two stages:

(1) **An establishment and a replenishment stage:**

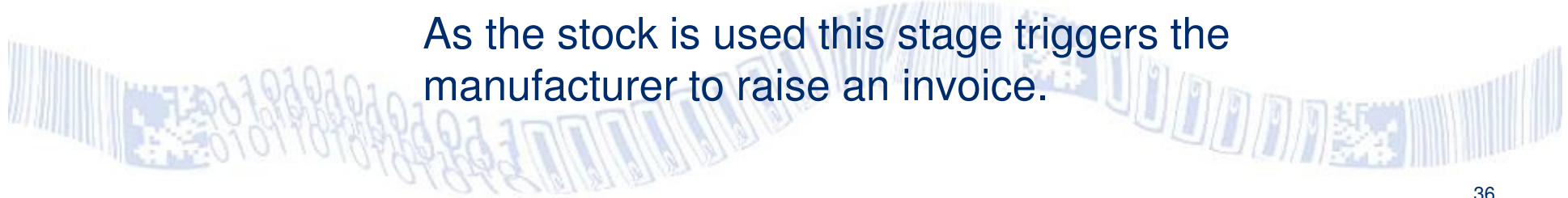- List new items and to store them in the hospital warehouse

- Reconciliation of the stock to maintain stock accuracy

- Replace stock that has been consumed

- Plan the demand for stock to cover future clinical procedures.

(2) **A consumption (usage) and payment:**

- As the stock is used this stage triggers the manufacturer to raise an invoice.

# We need your help!!!

- Do you use consignment stock?
- Which processes do you use?

# We need your help!!!

**Please fill in the questionnaire at:**

https://gs1.wufoo.eu/forms/consignment-stock-questionnaire/

# We need your help!!!

- Peppol:
  - What information do you have about Peppol?

# Questions?

# Contact Details

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