



The Global Language of Business

GS1 EDI in Healthcare

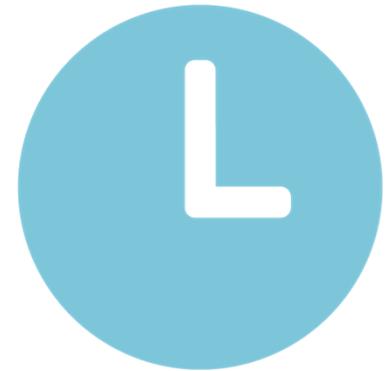
Expert Session

Tania Snioch, Director Healthcare, GS1 Global Office
19th April 2016



Agenda

- EDI & its principles
- Healthcare EDI guideline
 - Business & technical content
 - Business Document Specification Summary
 - Mapping
- How to proceed locally
- How to keep the standard internationally aligned

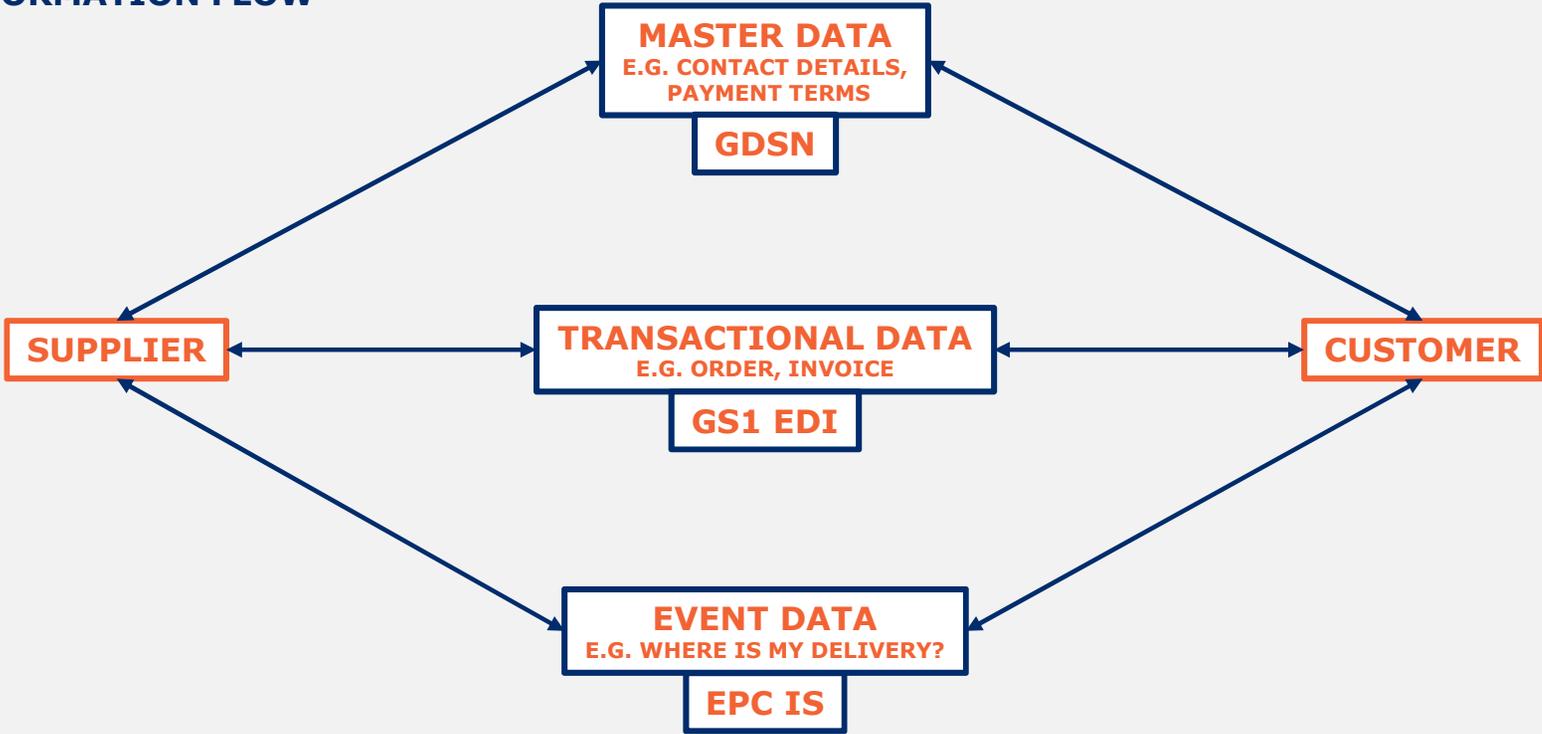


GS1 EDI standards are used throughout the **Global** Healthcare supply chain from supplier to **logistics** end-user



Information sharing

INFORMATION FLOW



PHYSICAL FLOW



GS1 EDI Standards



Identify



Capture



Share

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)

GS1 Standards for Barcodes & EPC/RFID

GS1 Barcodes

EAN/UPC
 9 501101 021037

GS1-128
 (00) 3 9501100 00000100

ITF-14
 00001101021037

GS1 DataBar
 (01) 0 9501101 021037

GS1 DataMatrix

GS1 QR Code

GS1 Composite Barcode

GS1 EPC/RFID

Electronic Product Code (EPC) RFID

EPC HF Gen 2

EPC UHF Gen 2

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

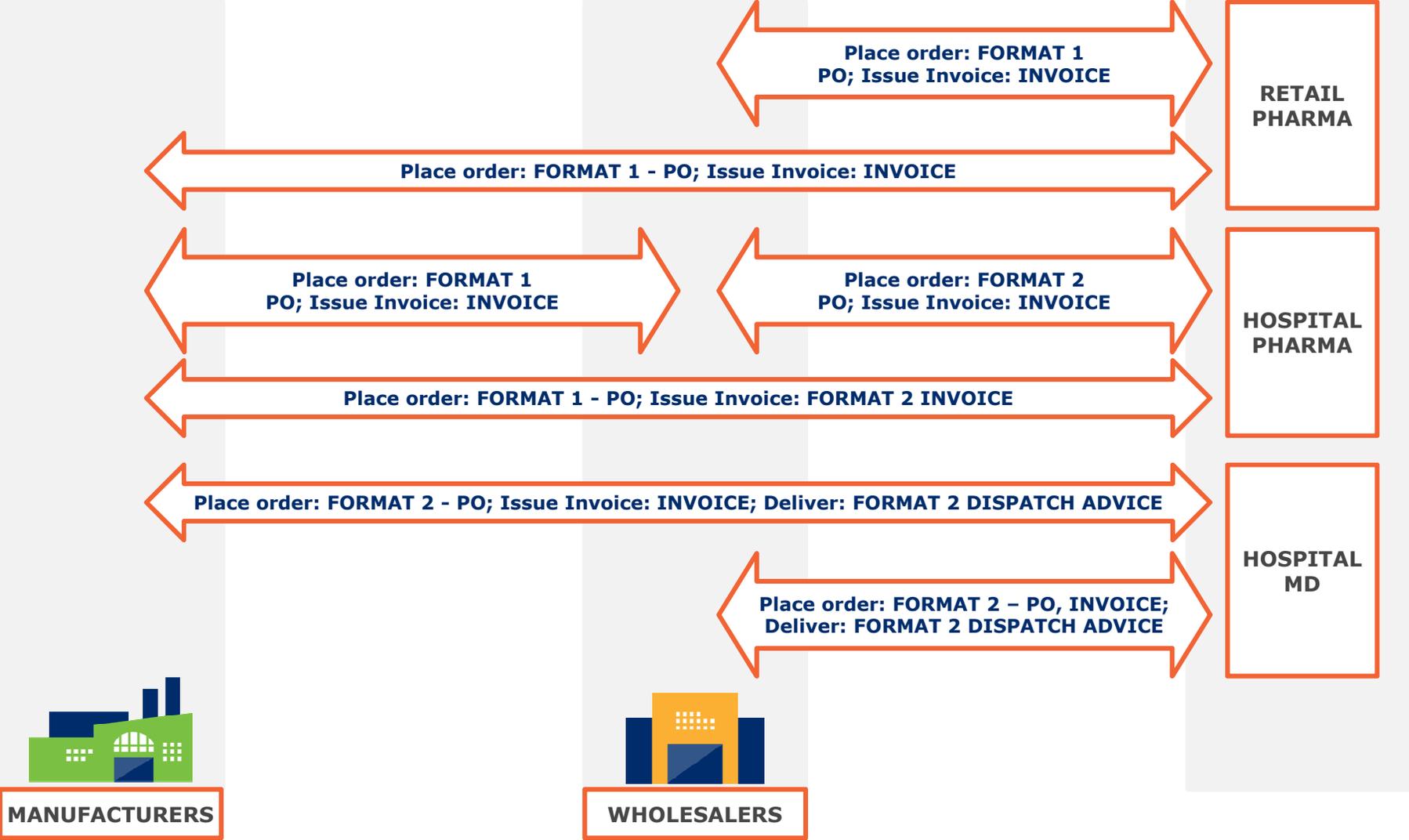


Non GS1 EDI Standards also used by member companies

- LOCAL/NATIONAL STANDARDS
- LEGACY STANDARDS
- NOT INCLUDED IN THE GLOBAL GUIDELINE, BUT SOMETIMES SUPPORTED LOCALLY
- THE PROCESS MODEL AND BUSINESS DOCUMENTATION SPECIFICATION (BDS) ARE APPLICABLE



EDI in Healthcare



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**



Business contents and technical information separated

1 HEALTHCARE BUSINESS PROCESS MODEL

2 BDS - BUSINESS DOCUMENT SPECIFICATION

3 BDS SUMMARY

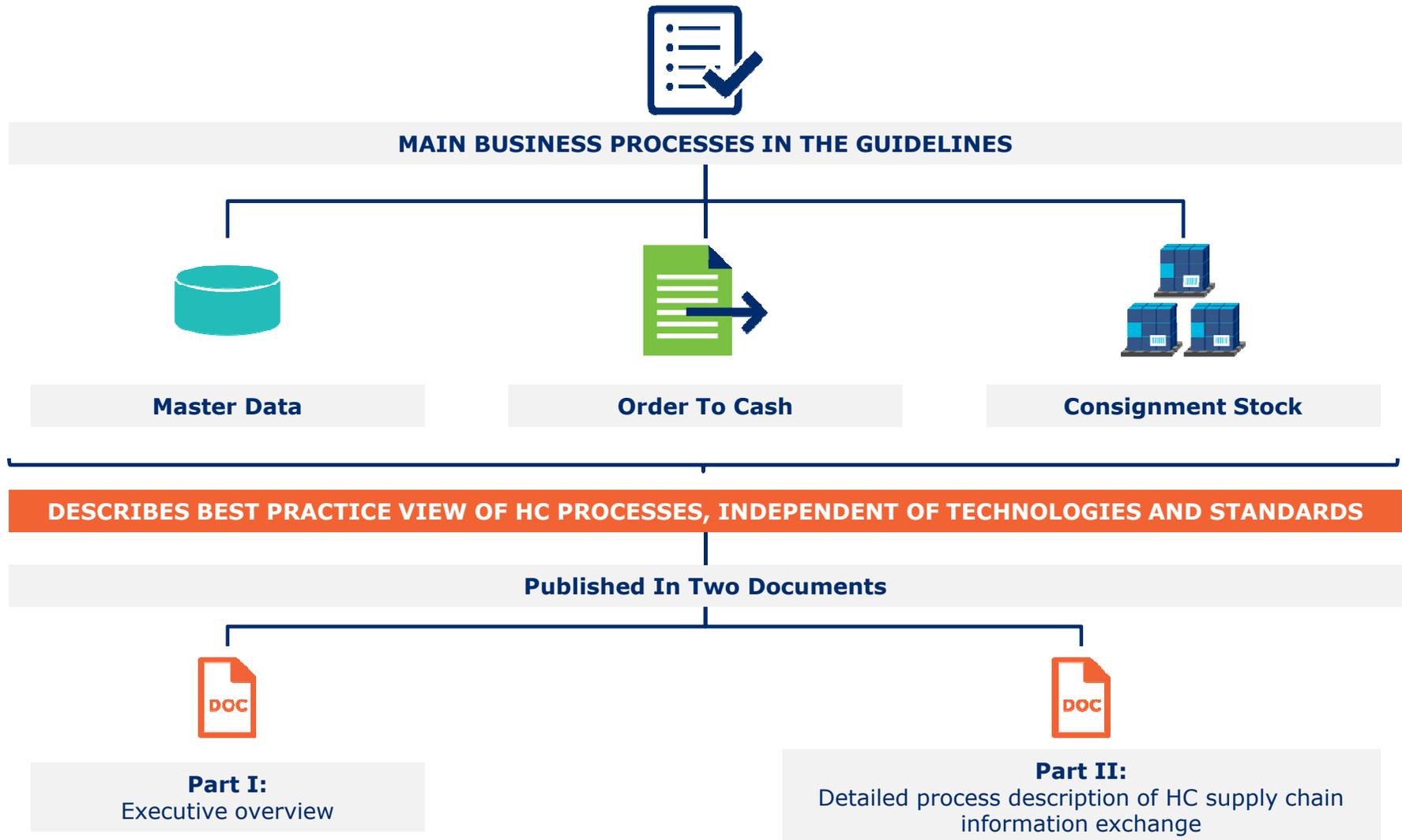
4 MS EANCOM – MAPPING SPECIFICATION

5 MS XML– MAPPING SPECIFICATION

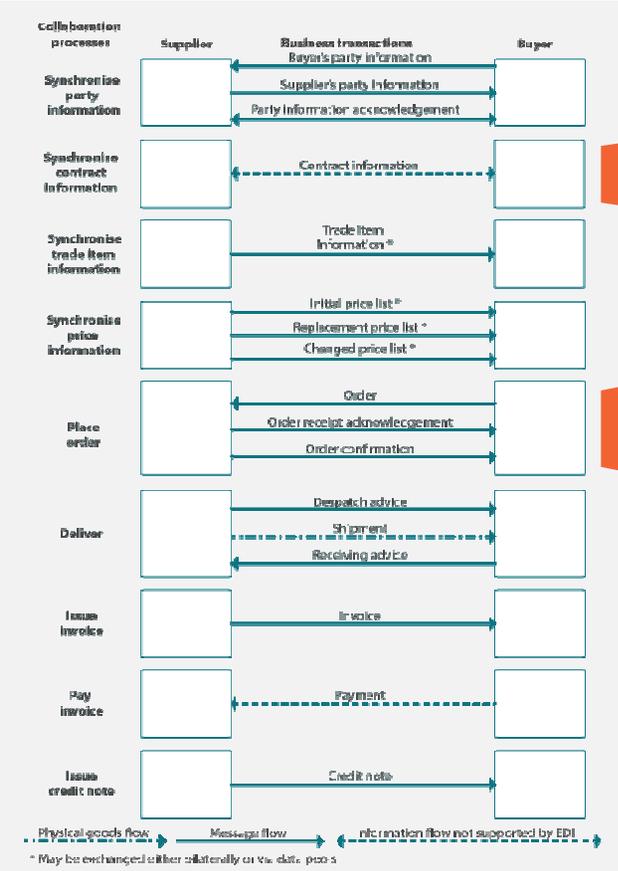
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1. Healthcare Business Process Model



Order to cash process



Synchronise contract information

Contract information

This is master data that needs to be agreed and exchanged before the EDI (transactional) exchange starts. Example of contract details could include:

- How often deliveries are to be made.
- When the supplier expects to be paid (usually when delivery has been made).
- Terms of delivery – when responsibility is transferred from the supplier to the buyer.
- Freight charges

Includes the processes by which buyer and supplier agree what should be delivered and on what terms agreed in 'synchronise contract information', using purchase order and order response.



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2. Business Document Specification



**FOR EACH SUB-PROCESS IN THE BUSINESS PROCESS MODEL,
DESCRIBE THE INFORMATION NEEDED**

INDEPENDENT OF WHICH TECHNOLOGY/STANDARD THAT WILL BE USED

ELEMENT NAME	DATA TYPES
DEFINITION	CONSTRAINTS
COMMENTS	ENUMERATIONS

2. Business Document Specification



Business Document Specification

Order

Issue date: 2015-06-25
Version: 1.1 beta

GS1 XML message: GS1 XML Order
EANCOM message: EANCOM ORDERS, Purchase order

Business document structure	Usage	DEFINITION
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>Order</p> <p>ORDER HEADER</p> <p>Document type, code</p> </div> <div style="width: 10%; text-align: center;"> <p>1..1</p> </div> <div style="width: 60%;"> <p>DEFINITION</p> <p>This business document is used when a buyer sends an order to a supplier.</p> <p>Comment: The class is used to specify general information about the order. The class must always be used.</p> <p>Definition: Code indicating the type of the document. Identifies the kind of purchase order, enabling the recipient of the order to determine the appropriate processing. Using Rush order must be agreed between the parties. GS1 XML Order: Allowed code values are specified in GS1 XML Code List OrderTypeCode. EANCOM ORDERS: Allowed code values are specified in EANCOM Code List 1001 Document name code.</p> <p>Applicable types</p> <p>Order 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.</p> <p>Blanket order Usage of document/message for general order purposes with later split into quantities and delivery dates and maybe delivery locations.</p> <p>Rush order Document/message for urgent ordering.</p> <p>Call off order Document/message to provide split quantities and delivery dates referring to a previous blanket order.</p> <p>Consignment order Order to deliver goods into stock with agreement on payment when goods are sold out of this stock.</p> </div> </div>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>Document identification</p> </div> <div style="width: 10%;"></div> <div style="width: 60%;"> <p>COMMENTS</p> <p>ENUMERATIONS</p> </div> </div>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>Document function, code</p> </div> <div style="width: 10%; text-align: center;"> <p>1</p> </div> <div style="width: 60%;"> <p>DATA TYPES</p> <p>CONSTRAINTS</p> <p>DEFINITION</p> <p>The unique identification of the business document. 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. Each new order must be assigned a unique identity.</p> <p>Comment: String</p> <p>Constraint: 1..30</p> <p>DEFINITION</p> <p>Code indicating the status of the document. GS1 XML Order: Allowed code value is specified in GS1 XML Code documentStatusCode. EANCOM ORDERS: Allowed code value is specified in EANCOM Code List 1225 Message function code. The document status of the order is always "Original".</p> <p>Applicable types</p> <p>Original Initial transmission related to a given transaction.</p> </div> </div>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>Creation date time</p> </div> <div style="width: 10%; text-align: center;"> <p>1..1</p> </div> <div style="width: 60%;"> <p>DEFINITION</p> <p>Date and time of creation of the document.</p> <p>Comment: Date when the order was issued.</p> <p>Data type: Date and time</p> </div> </div>		

0..1 = no or only one occurrence | 1..1 = occurs exactly once
0..unbounded = no or several occurrences | 1..unbounded = one or several occurrences

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3. BDS Summary

Usage	Business document structure
	Order
1 .. 1	Order header
1 .. 1	Document type, code
1 .. 1	Document identification
1 .. 1	Document function, code
1 .. 1	Creation date time
0 .. 1	Currency, code
0 .. 1	Order logistical information
0 .. 1	Shipping marks, text
0 .. 1	Order logistical date information
0 .. 1	Requested delivery date
0 .. 1	Earliest delivery date
0 .. 1	Latest delivery date
0 .. 1	Reference
0 .. 1	Reference to price list
0 .. 1	Reference to contract
1 .. 1	Supplier party
1 .. 1	Supplier identification, GLN
1 .. 1	Buyer party
1 .. 1	Buyer identification, GLN
0 .. 1	Invoice address identification, GLN
0 .. 1	Buyer's delivery addresses
0 .. 1	Consignee identification, GLN
0 .. 1	Delivery place identification, GLN
0 .. 1	Buyer's contact information
0 .. 1	Department name
0 .. 1	Telephone number
0 .. 1	E-mail address
0 .. 1	Telefax number
0 .. 1	Invoice party
0 .. 1	Invoice identification, GLN
1 .. unbounded	Order line item
1 .. 1	Line number
1 .. 1	Ordered item
1 .. 1	Trade item identification, GTIN
0 .. 1	Additional trade item identification
0 .. 1	Manufacturer's article number
0 .. 1	Supplier's article number
0 .. 1	Buyer's article number
0 .. 1	National trade item identification
1 .. 1	National trade item identification, code
1 .. 1	National trade item identification system, code
1 .. 1	Ordered quantity
1 .. 1	Ordered quantity, value
0 .. 1	Unit of measure for quantity
0 .. 1	Trade item price information
0 .. 1	Contract price
0 .. 1	Line amount
0 .. 1	Currency, code
0 .. 1	Tax
1 .. 1	Tax rate
1 .. 1	Tax type, code
0 .. 1	Summary level
1 .. 1	Total line item amount

HIGH LEVEL LISTING OF SYNTAX NEUTRAL DATA

PROVIDES A READABLE VIEW OF DATA AND HOW THEY RELATE TO EACH OTHER (HIERARCHY)

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4. MS EANCOM - Mapping Specification

MAPS THE INFORMATION IN THE BDS TO THE REQUIRED GS1 EDI STANDARD

PUBLISHED: EANCOM AND GS1 XML

PLANNED: GDSN

FUTURE: BY REQUEST

MAPPING TO LOCAL/REGIONAL STANDARDS MAY BE PROVIDED BY GS1 MEMBER ORGANISATIONS

Usage	Business document structure	UNH	Message header	M		
1..1	Order header	0082	Message reference number	M	an..14	
1..1	Document type, code	S009	Message identifier	M		
1..1	Document function, code	0085	Message type	M	an..8	ORDERS Purchase order message
1..1	Creation date time	0052	Message version number	M	an..3	D Draft version/UN/EDIFACT Directory
0..1	Currency, code					01B Release 2001 - B
0..1	Order logistical information					UN UN/CEFACT
0..1	Shipping marks, text	0054	Message release number	M	an..3	EAN010 GS1 version control number (GS1 Code)
0..1	Order logistical date information					
0..1	Requested delivery date	0051	Controlling agency	M	an..2	
0..1	Earliest delivery date					
0..1	Latest delivery date	0057	Association assigned code	C	an..8 R	
0..1	Reference					
0..1	Reference to price list					
0..1	Reference to contract					
1..1	Supplier party					
1..1	Supplier identification, GLN					
1..1	Buyer party					
1..1	Buyer identification, GLN					
0..1	Invoice address identification, GLN					
0..1	Buyer's delivery addresses					
0..1	Consignee identification, GLN					
0..1	Delivery place identification, GLN					
0..1	Buyer's contact information					
0..1	Department name					
0..1	Telephone number					
0..1	E-mail address					
0..1	Telex number					
0..1	Invoice party					
0..1	Invoice identification, GLN					
1..unbounded	Order line item					
1..1	Line number					
1..1	Ordered item					
1..1	Trade item identification, GTIN					
0..1	Additional trade item identification					
0..1	Manufacturer's article number					
0..1	Supplier's article number					
0..1	Buyer's article number					
0..1	National trade item identification					
1..1	National trade item identification, code					
1..1	National trade item identification system, code					
1..1	Ordered quantity					
1..1	Ordered quantity, value					
0..1	Unit of measure for quantity					
0..1	Trade item price information					
0..1	Contract price					
0..1	Line amount					
0..1	Currency, code					
0..1	Tax					
1..1	Tax rate					
1..1	Tax type, code					
0..1	Summary level					
1..1	Total line amount					

BGM	Beginning of message	M				
C002	Document/message name	C	R			
1001	Document name code	C	an..3 R			
C108	Document/message identification	C	R			
1004	Document identifier	C	an..35 R			
1225	Message function code	C	an..3 R			
Example: BGM+220+73000152012297654+9'						
DTM	Creation date time	M				
C507	Date/time/period	M				
2005	Date or time or period function code	M	an..3			137 Document/message date/time
2380	Date or time or period value	C	an..35 R			
2379	Date or time or period format code	C	an..3 R			204 CCYYMMDDHHMMSS
Example: DTM+137:20140423:204'						
DTM	Requested delivery date	M	D			
C507	Date/time/period	M				



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5. MS XML– Mapping Specification

Usage	Business document structure	No	Xpath	Business data term
1..1	Order	001	orderMessage/order/orderTypeCode	Document type, code
1..1	Order header	002	orderMessage/order/orderIdentification/entityIdentification	Document identification
1..1	Document type, code	003	orderMessage/order/documentStatusCode	Document function, code
1..1	Document identification	004	orderMessage/order/creationDateTime	Creation date time
1..1	Document function, code		Missing Xpath	Currency, code
1..1	Creation date time		Missing Xpath	Shipping marks, text
0..1	Currency, code	005	orderMessage/order/orderLogisticalInformation/orderLogisticalDateInformation/requestedDeliveryDateTime/date	Requested delivery date
0..1	Order logistical information	006	orderMessage/order/orderLogisticalInformation/orderLogisticalDateInformation/requestedDeliveryDateRange/beginDate	Earliest delivery date
0..1	Shipping marks, text	007	orderMessage/order/orderLogisticalInformation/orderLogisticalDateInformation/requestedDeliveryDateRange/endDate	Latest delivery date
0..1	Order logistical date information	008	orderMessage/order/tradeAgreement/entityIdentification	Reference to contract
0..1	Requested delivery date		Missing Xpath	Reference to price list
0..1	Earliest delivery date	009	orderMessage/order/seller/gln	Supplier identification, GLN
0..1	Latest delivery date	010	orderMessage/order/buyer/gln	Buyer identification, GLN
0..1	Reference		Missing Xpath	Invoice address identification, GLN
0..1	Reference to price list		Missing Xpath	Consignee identification, GLN
0..1	Reference to contract	011	orderMessage/order/orderLogisticalInformation/shipTo	Delivery place identification, GLN
1..1	Supplier party	012	orderMessage/order/buyer/contact/departmentName	Department name
1..1	Supplier identification, GLN	013	orderMessage/order/buyer/contact/communicationChannel/communicationValue	Telephone number
1..1	Buyer party			Code value: TELEPHONE
1..1	Buyer identification, GLN			Code list: communicationChannelCode
1..1	Invoice address identification, GLN	014	orderMessage/order/buyer/contact/communicationChannel/communicationValue	E-mail address
1..1	Consignee identification, GLN			Code value: EMAIL
1..1	Delivery place identification, GLN	015	orderMessage/order/buyer/contact/communicationChannel/communicationValue	Code list: communicationChannelCode
0..1	Buyer's contact information			Telefax number
0..1	Department name	016	orderMessage/order/billTo/gln	Code value: TELEFAX
0..1	Telephone number	017	orderMessage/order/orderLineItem/lineItemNumber	Code list: communicationChannelCode
0..1	E-mail address	018	orderMessage/order/orderLineItem/transactionalTradeItem/gtin	Invoice identification, GLN
0..1	Telefax number	019	orderMessage/order/orderLineItem/transactionalTradeItem/additionalTradeItemIdentification	Line number
0..1	Invoice party			Trade item identification, GTIN
0..1	Invoice identification, GLN			Manufacturer's article number
1..1 unbounded	Order line item	020	orderMessage/order/orderLineItem/transactionalTradeItem/additionalTradeItemIdentification	Code value: MANUFACTURER_PART_NUMBER
1..1	Line number			Code list: additionalTradeItemIdentificationTypeCode
1..1	Ordered item			Supplier's article number
1..1	Trade item identification, GTIN			
0..1	Additional trade item identification			
0..1	Manufacturer's article number			
0..1	Supplier's article number			
0..1	Buyer's article number			
0..1	National trade item identification			
1..1	National trade item identification, code			
1..1	National trade item identification system, code			
1..1	Ordered quantity			
1..1	Ordered quantity, value			
0..1	Unit of measure for quantity			
0..1	Trade item price information			
0..1	Contract price			
0..1	Line amount			
0..1	Currency, code			
0..1	Tax			
1..1	Tax rate			
1..1	Tax type, code			
0..1	Summary level			
1..1	Total line item amount			

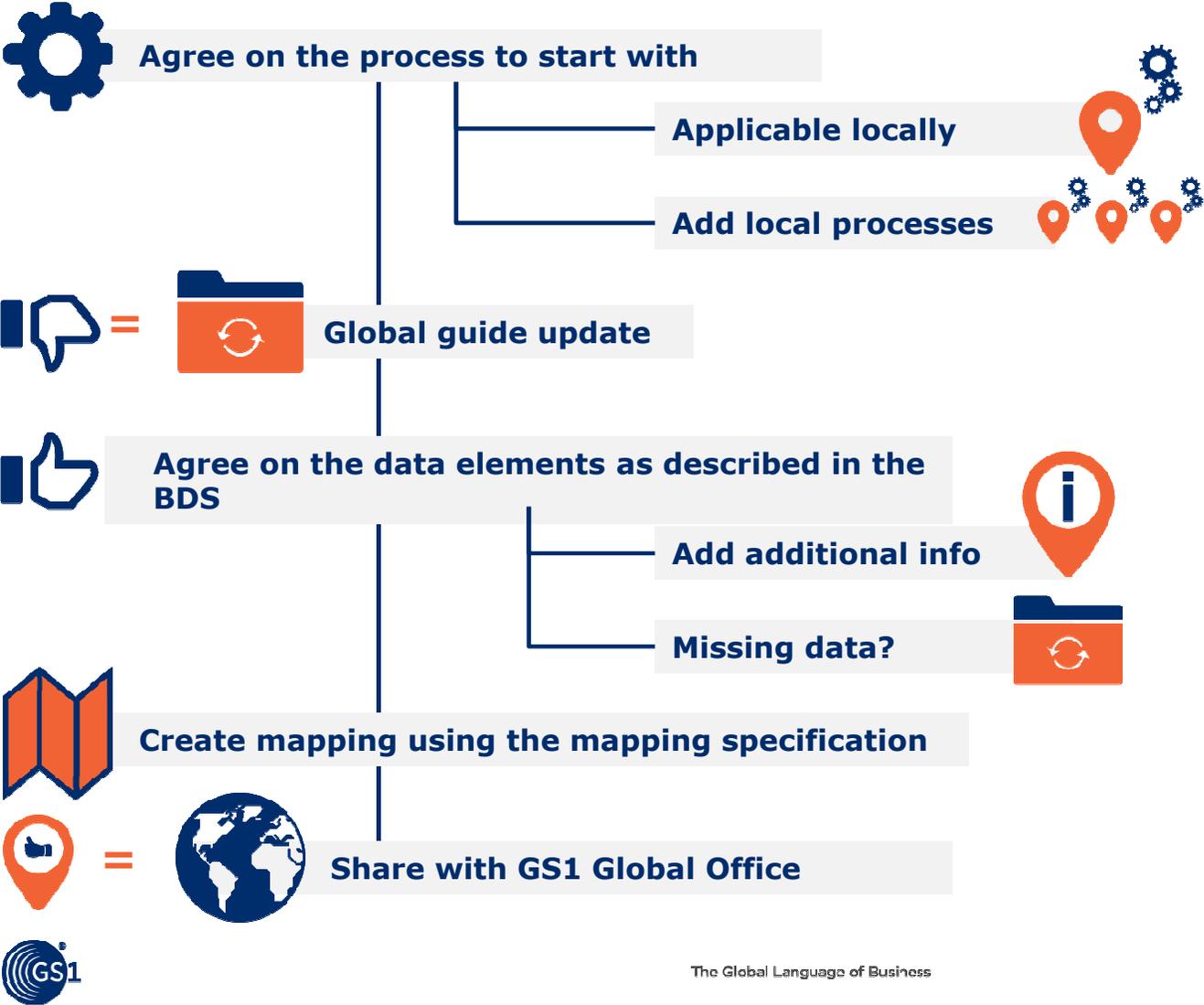
THE INFORMATION IN RED IS CURRENTLY NOT MAPPED IN XML



How to use the global guideline when creating new local guidelines at the regional level



How to use the global guideline when creating new local guidelines?



How to apply the guideline to existing local guidelines?

STATUS	DEFINITION	ACTION
COMPLIANT 	<p>The data element is mapped to exactly the same location and in exactly the same way in the harmonised guidelines and in the current local guideline.</p>	<p>No action required.</p>
PARTIAL 	<p>An aspect relating to the mapping is unclear and further information is required to assess the true status of the data element mapping when compared between the harmonised guidelines and the existing local guideline. For example, are different terms being used for the same data element in the two documents?</p>	<p>Clarification should be sought to determine if the partial mapping is in fact compliant, non-compliant or local. It is important to note that at the completion of the overall mapping exercise and when all additional information has been received, all partial mappings should have been re-classified per above.</p>
NON-COMPLIANT 	<p>The data element is not mapped to the same location in the harmonised guideline and the existing local guideline.</p>	<p>Migrate the local guideline mapping to be aligned with that of the harmonised guideline.</p>
LOCAL 	<p>The data element is included in the existing local guideline but not the harmonised guideline and is a requirement for the local market.</p>	<p>If this data element is similar to data elements exchanged in other markets place a work request to have this element included in the harmonised guidelines. If this data element only exists for the local market, e.g. being a legal requirement, keep the mapping as it is in the current local guideline.</p>
GLOBAL 	<p>The data element is included in the harmonised guideline but not the in the local guideline.</p>	<p>There is no obligation per se to include optional information in the local guideline but careful consideration should be made if this would impact users, notably in cross-border trade.</p>

How to apply the guideline to existing local guidelines?

STEP 2 - DEFINING THE MIGRATION APPROACH

- Implementation with new trading partners: new local guideline should apply
- New document types added to existing trading partner implementations: the updated local guideline should take effect for this new document type.
- Existing implementations: maintaining multiple mappings for a single document type can be difficult.
 - ➔ If migration of existing implementations is to occur, this should be by consultation and agreement between both sides of the EDI relationship.
 - ➔ In other cases, maintaining existing implementations as per the previous version of the local guideline may prove least impactful for the market and still deliver the benefits of EDI.
- **Scenario 1**: users have divergent local guidelines and need to develop a new version that is aligned with the global guidelines
- **Scenario 2**: Alignment to the global guidelines is not enough for the user community to motivate a new version of the local one. The global guidelines will be used as a foundational reference when the next version will be developed for other reasons

Ongoing Alignment with the harmonised Global Guidelines

How to keep local implementation in line with the harmonised guidelines in case they change (due to standards releases or new requirements)

- New versions on the GS1 EDI standards EANCOM and GS1 XML are released every two years. Minor changes are in addition released between the official versions.
- The Global Harmonised Guidelines are not periodically revised but updated upon request.
- the issuing organisation should undertake periodic reviews corresponding to the global development

How to specify local requirements for global consideration

- Local information defined in the local guideline do not need to be present in the global guideline as long as they truly are local, such as national regulations and local tax systems. They must however be present in the base GS1 standard.
- If a local requirement is considered relevant for inclusion into the global guideline, a work request must be submitted to GS1
- If the required information are not present, or incorrect separate work request will have to be submitted.



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

