

eBIZ-TCF

UKFT London May 15th 2013

Martin Baker (Tor Consulting)
Martin.baker@torisinfo.co.uk

eBusiness Requirements



- **Reference Architecture first published 2009**
- **Based on experience of both European and national projects and initiatives**
- **Covered both Upstream and Downstream supply chain**
- **Known to be incomplete**



- **Current project started Spring 2012**
- **“CEN/ISSS Workshop” with clearly defined procedures**
- **First task Gap Analysis to analyse State of the Art in Digital Supply Chain in the Textile/Clothing/Footwear sectors**
- **Invited contributions from registrants of Workshop and also invited proposals/suggestions for enhancements to Reference Architecture**
- **Gap Analysis completed September 2012**



- **12 Proposals received from 7 different countries**
- **Proposals for enhancements in both downstream and upstream chains**
- **One or two rejected as outside scope**
- **Others not implemented or not fully implemented because of limitations of timescale/resources**
- **Updated architecture completed Spring 2013**



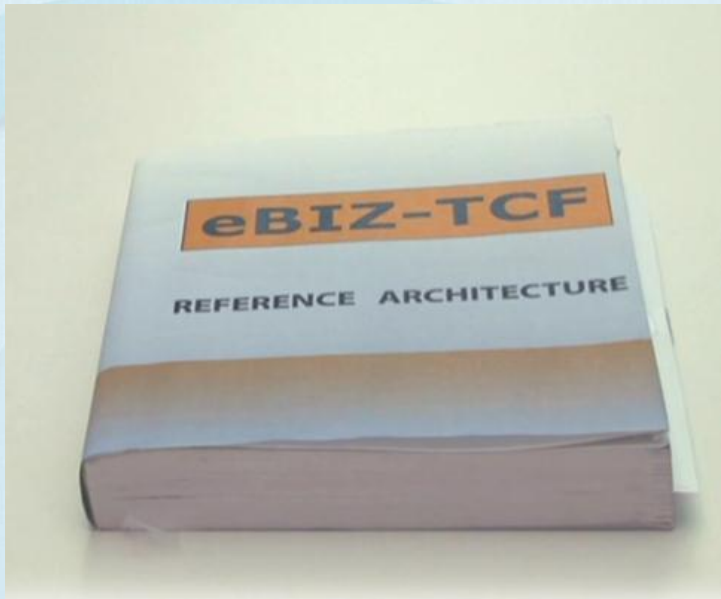
- **Provision for RFID including Electronic Product Code**
- **inclusion of e-Invoicing**
- **Inclusion of logistics processes**
- **new and changing business models including those for customised or man to measure products**



- **Processes for Yarn production in the upstream supply chain**
- **The Product Development Process (CAD)**
- **Virtual Prototyping**



- **eBIZ project ends Autumn 2013 now in Dissemination phase**
- **Achieving critical mass is key**
- **As is creation of platform/forum for continual improvement/enhancement in response to technological and business changes**



The Reference Architecture

Summary

- **The goals**
- **Some problems it addresses**
- **Elements of the architecture**
- **The Business Processes**
- **Tools supporting the architecture**



Interoperability

The goals

The goals

- **Enable interoperability between discrete systems**
- **Lowers threshold for starting e-Business especially for SMEs**
- **NOT to create a new technology or a new software solution of the architecture**

Scope of architecture

- To define an **architecture** for eBusiness in the two key areas of:
 - (a) production to retail relationship (**Downstream**)
 - (b) manufacturing networks (Upstream)
- To achieve the highest possible **compliance with existing European and International public standards** for B2B in the Footwear Textile and Clothing sectors.
- To create a business and technical reference facilitating interoperability between existing systems and organisations and tested by more than 150 pilots in the original eBIZ-TCF project)

The need for standards

- The main effort in implementing e-Business is in:
 - Aligning processes with trading partners
 - Mapping internal information towards an external format
- Using standard data formats based on XML means
 - Adapting internal systems and procedures to a reference model only once. A model that is shared, well tested and comprehensive
 - Reusable Interface; developed to enable connection to partners in different countries without ambiguity on the data model and coding
 - A solution giving structured contents, with many tools that are available to support
 - A much more flexible and cheap solution than traditional EDI

Problems Addressed

The problem: being networked

- **networks (of knowledge, of demand, of supply, ...)** as a key factor of **competitiveness**

The amount of information/knowledge available and required about a each product or component is **INCREASING**

- **TRENDS:**

- Reduced time to respond/deliver
- Smaller batches of goods being shipped with more requests for customised products (and services)
- Increased interdependence between companies in the supply chain
- Demand for better services (control and planning)

- **ICT systems are enablers :**

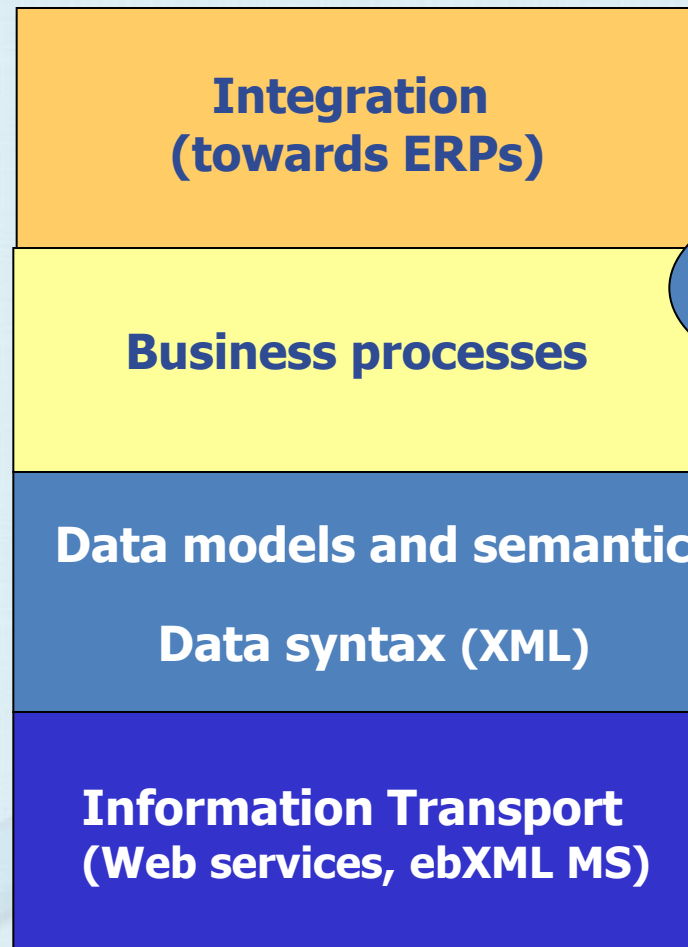
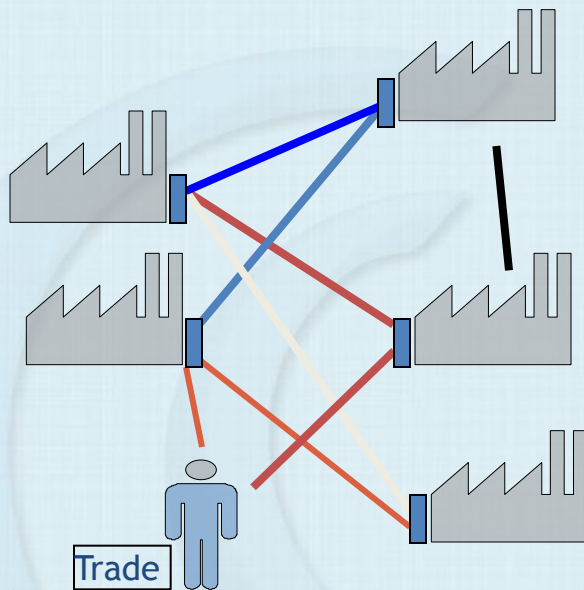
- Data flows between organisations are an issue

IT systems should be 'invisible'

- **Difficulties to overcome, especially SMEs:**

not only technological but also organisational

Critical aspects of B2B integration in m:n networks

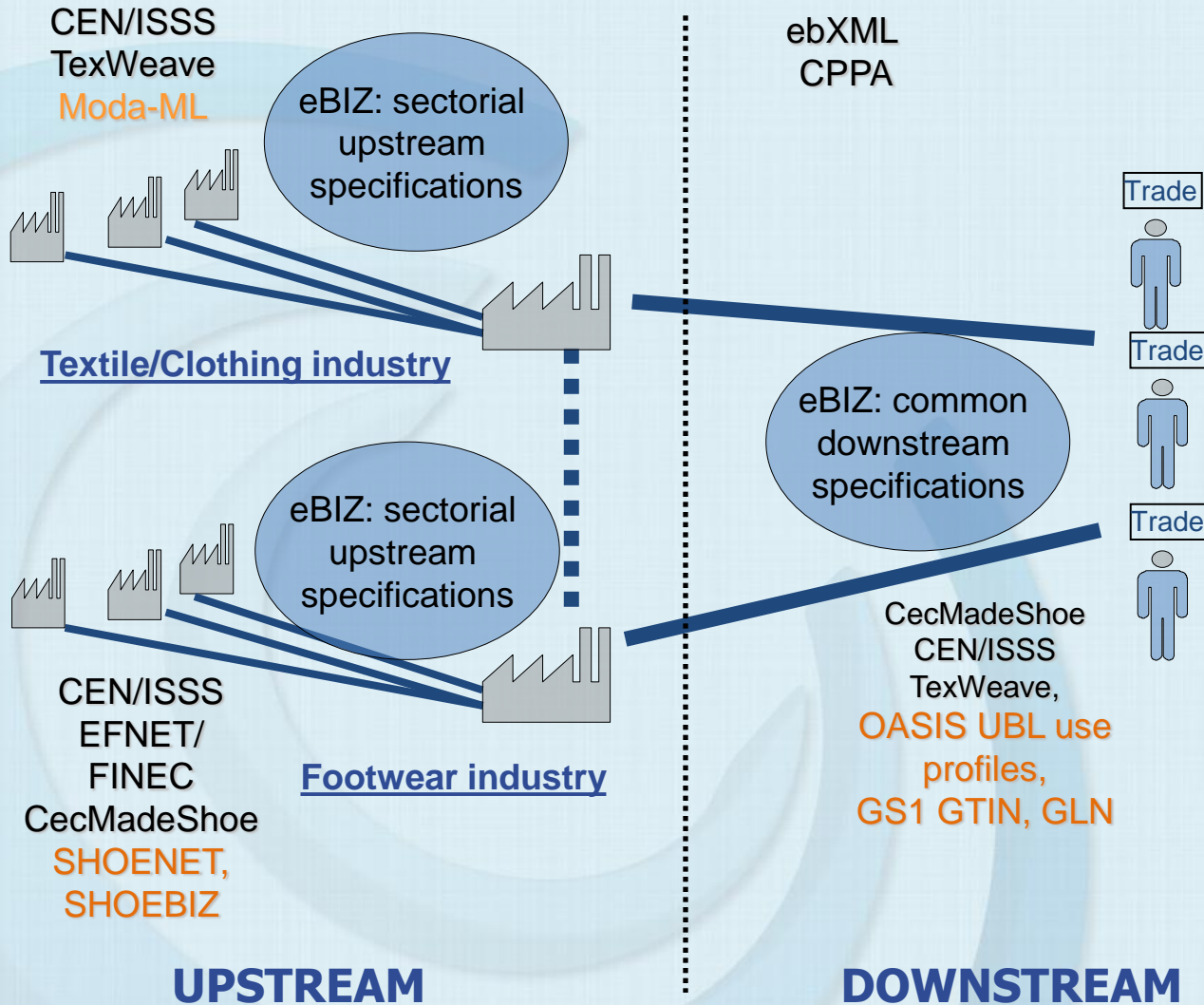


**Domain/Applic.
driven**

CRITICAL AREA!

**Technology
driven**

The architecture: the domain



- Based on past experiences
- Accept different needs
- Deliver public usable specifications
- Support different sizes and models: ASP, P2P, Hub...

Elements of the architecture

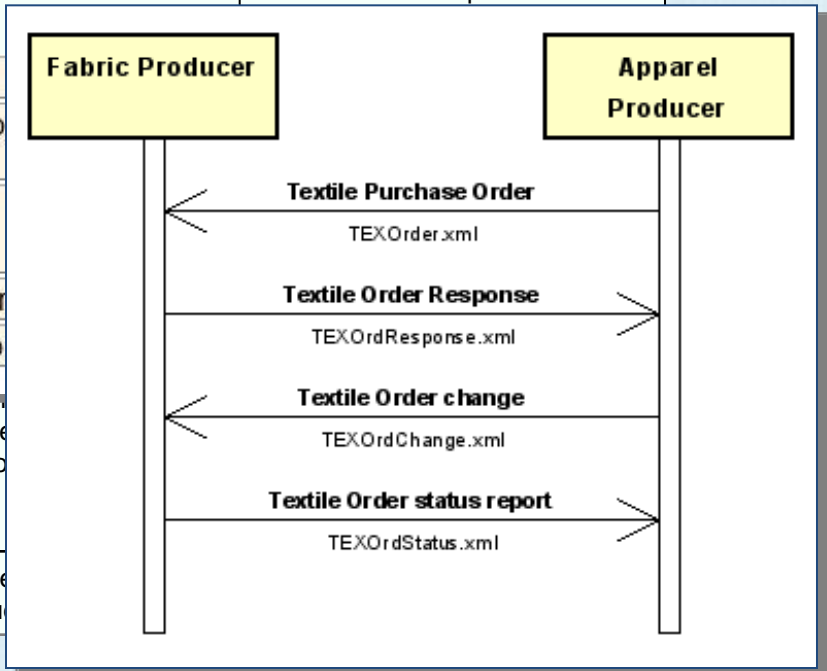


Architecture elements: processes

A description of the main reference **PROCESSES** and related activities (fabric supplying, shoes component supplying, vendor managed inventories, ...)

Process	Activity	Actor	Document
Fabric supply	Selection of fabrics	Fabric Producer Apparel Producer	Textile catalogue Fabric Technical Sheet Textile Collection Forecast
	Purchase of fabrics	Apparel Producer Fabric Producer	Textile Purchase Order Textile Order Response

4.1.1 Pro	Activity Name	Report of sales data												
	Description	At the end of each sales day a sales report is sent to the retailer												
	Process Name													
	Actors													
	Description													
	Transactions	<ul style="list-style-type: none"> Sales report 												
	Pre-conditions	All sales data of all sales locations of the retailer is available												
	Post-conditions	The sales information is available at the producer												
	Activities	<p>4.1.2.4.1 Transactions inside the activity "Delivery"</p> <p>Action 1 (Request from Producer to Retailer)</p> <table border="1"> <tr> <td>Action Name</td> <td>Article catalogue</td> </tr> <tr> <td>Action Description</td> <td>The article information for the additional products is transferred to the retailer</td> </tr> </table> <p>Action 2 (Request from Producer to Retailer)</p> <table border="1"> <tr> <td>Action Name</td> <td>Despatch advice</td> </tr> <tr> <td>Action Description</td> <td>The delivery is announced by the despatch advice with date, EAN and quantity</td> </tr> </table> <p>Action 3 (Response from Retailer to Producer)</p> <table border="1"> <tr> <td>Action Name</td> <td>Receiving advice</td> </tr> <tr> <td>Action Description</td> <td>After goods receive the retailer reports back the products which arrived with the delivery announced in the despatch advice</td> </tr> </table>	Action Name	Article catalogue	Action Description	The article information for the additional products is transferred to the retailer	Action Name	Despatch advice	Action Description	The delivery is announced by the despatch advice with date, EAN and quantity	Action Name	Receiving advice	Action Description	After goods receive the retailer reports back the products which arrived with the delivery announced in the despatch advice
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Reference the related ebBP														



Architecture elements: data models

Electronic **DOCUMENT models** needed for each data exchange of the processes (purchase order, quality report, sales report, request for quote,...)

Name		Description	Type
GTIN	1-1	GTIN article identification code.	
Label price	0-1	The price to have be printed on the label (the selling price that will be applied by the retailer).	
Label price @Currency	1-1	The currency that is used for the "Label price".	ISC
Label text	0-5	The text that has to be printed on the label.	
Line number	1-1	An unique identifier for the order line.	
Order price	0-1	The purchase price applied by the Supplier to the Buyer (allowances and charges are included, Vat is excluded). It's referred to a single unit.	
Order price @Currency	1-1	The currency of the "Order price".	ISC
Order quantity	1-1	The ordered quantity of items for the order line (the measurement unit should be specified).	
Order quantity @Measurement unit	0-1	The measurement unit of the "Order quantity".	Co

<p>SENDER</p> <p>BIANCHI CONFEZIONI SPA IT23456789012 Dept: UOMO Person: Omero via del mughetto 99 22222 Abitopoli ER ITALY</p>		<p>TEXTILES PURCHASE ORDER blanket Document status: original AB003 of:24/06/2008 Currency: Euro</p> <p>Reference Id price catalog.LT004 (Buyer) Season: A/W 2008</p>																
<p>INVOICEE</p> <p>FINBIANCHI SPA IT45678901234 Dept: Fornitori Person: Ulisse via dei Finanziari 99 44444 Dollaropoli LB ITALY</p>	<p>RECIPIENT</p> <p>TEXTILES ROSSI SPA IT12345678901 Dept: Magazzino Person: Marini via del ciclamino 13 62100 Macerata MC ITALY</p>																	
<p>TERMS OF PAYMENT AND DELIVERY: Payment: PAYMENT 90 DD AFTER RECEIPT OF INVOICE Mode: bank transfer</p> <p>Trade: EXW - c/o Macerata Plant</p>																		
<p>TRANSPORT DETAILS: Reason: to sell Transport Mode: ROAD TRANSPORT Carrier: YOUR CARRIER Transport Condition: packaging paid by Supplier</p>	<p>PACKAGING: Piece Pack: Protective cellophan film</p> <p>BANK DETAILS:</p>																	
<p>ALLOWANCE AND CHARGES: Category AC: penalty for works behind schedule Percent. AC: 15%</p>																		
<table border="1"> <thead> <tr> <th>Line N</th> <th></th> <th>Q.ty</th> <th>um</th> <th>price</th> <th>amount</th> <th>delivery date</th> <th>discount</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Coding Buyer: T10125-B12Blue Gentleman</td> <td>400</td> <td>MTR</td> <td>25.50</td> <td></td> <td>01/09/2008</td> <td>10%</td> </tr> </tbody> </table>	Line N		Q.ty	um	price	amount	delivery date	discount	1	Coding Buyer: T10125-B12Blue Gentleman	400	MTR	25.50		01/09/2008	10%		
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A description of the main reference **PROCESSES** and related activities (fabric supplying, shoes component supplying, vendor managed inventories, ...)

Electronic **DOCUMENT** models needed for each data exchange of the processes (purchase order, quality report, sales report, request for quote...)

- **Product and party identification method**
- **Reliable and safe communication protocols for data exchange**
- **Product classification system**

The Business Processes

What is covered

2 key areas

– manufacturing networks:

Sector specific *solutions* to obtain maximum performance & flexibility and to quickly react to market trends.

– production to retail:

Common specifications to obtain maximum simplicity with “scalable” level of complexity for supporting different class of products. Mandatory use of Global Product Code identification.



Manufacturing networks (upstream)

- Highly specialised networks
- Close collaborations (small numbers, strong partnership, clusters)
- Keywords: *flexibility* and *completeness*
- Sectorial XML specifications (real use is beyond formal standard CWAs)
 - Footwear CEN/ISSS EFNET / **SHOENET** (17 docs)
 - Textile/Clothing CEN/ISSS TEXWEAVE / **MODA-ML** (64 docs)
- Objective:
 - **Favourable environment to setup a collaboration**



Manufacturing networks (textile-clothing)

Process	Activity
Fabric subcontracted darning	Subcontracted fabric darning
Fabric subcontracted manufacturing	Subcontracted warping
	Subcontracted weaving
	Subcontracted fabric dyeing-finishing
	Subcontracted fabric printing
Fabric supply	Selection of fabrics
	Purchase of fabrics
	Fabric delivery with quality reporting by Producer
	Despatch of fabrics with groupage (Alternative to the previous one)
	Fabric delivery with quality reporting by Controller (Alternative to the previous one)
	Invoicing of fabrics
Garment accessory supply	Purchase of Garment accessory
	Delivery of Garment accessories
Knitwear subcontracted manufacturing	Knitting and assembling
	Knitwear finishing
On line stock service	Offer stocks on-line
Yarn subcontracted manufacturing	Subcontracted dyeing of raw material
	Subcontracted spinning of raw material
	Subcontracted yarn twisting
	Subcontracted yarn dyeing
Yarn supply	Purchase of yarn
	Delivery of yarn



Manufacturing networks (footwear)

Process	Activity
Component supply	Transfer Of Order
	Status Report
	Technical Specification
	Delivery

Production to retail (downstream)

- Anonymous communications (large numbers)
- Keywords: efficiency and normalisation
- Syntax independence:
 - a common abstract data model
 - 2 implementations with GS1 EANCOM as well as XML UBL
(through 15 UBL use profiles, 3 new UBL templates submitted to OASIS UBL TC)
- Objective:
 - Fast and simple connection to hubs and retail

Production to retail (downstream)

Process (downstream)	Activity
cyclic replenishment program - CRP	Transfer of base article catalogue (mandatory)
	Initial stocking of the area by retailer
	Periodic (weekly) replenishment (mandatory)
	Report of sales and inventory movements (mandatory)
	Invoicing
	Synchronizing of stock information
	Changes to the article catalogue (mandatory)
classical preorder	Initial transfer of order and article data (mandatory)
	Transfer of changes to the order
	Finalizing of the order
	Delivery (mandatory)
	Invoicing
	Report of sales data (mandatory)
vendor managed inventory - VMI	Initial stocking of the area by vendor (mandatory)
	Daily report of sales and inventory movement (mandatory)
	Permanent replenishment (mandatory)
	Invoicing
	Returns initiated by the producer
	Price adjustments (mandatory)
replenishment on customer demand	Transfer of base article catalogue (mandatory)
	Periodic transfer of article availability information (mandatory)
	Initial stocking of the area by vendor and buyer (mandatory)
	Periodic replenishment (mandatory)
	Report of sales and inventory movements
	Invoicing (mandatory)
	Synchronizing of stock information (mandatory)
Changes to the article catalogue (mandatory)	

Tools supporting the architecture

- Full online technical documentation (user guides, XML samples, XSL, ..)
- XML Schema for data models
- ebBP representation of the PROCESSES (ISO15000)
- On-line validation tool (xml schema based, business rules support soon available)



Reference Arc x eBiz-TCF : Arc x eBiz-TCF : Arc x eBIZ-TCF Valic x eBIZ-TCF Valic x

winter.bologna.enea.it/eBiz-TCFValidator/

Google Joe De Sabbata eBay Importati da IE TP Tecnopolo Locale TP Tecnopolo Lab Repository 2010



eBIZ-TCF documents Validator

Insert the xml file to validate: Nessun file selezionato

[Link to eBIZ](#)

The Validator

This is the tool to check conformance of the eBIZ-TCF XML documents.
(Presently both downstream and upstream documents are implemented)

The aim of this tool is to check the conformance of XML instances to the specification of eBIZ-TCF data models.

- Upstream (textile clothing footwear) data models: the conformance test is based on reference XML Schema (Moda-ML and Sho)
- Downstream data models: the conformance test is based on two stages of validation:
 - ◊ validation against generic UBL 2.0 specifications (XSDs)
 - ◊ validation against the use profile of eBIZ-TCF (using customised XSDs and co-constraints)

[Explanation about the usage >>](#)

Technical Contact

Piero de Sabbata (ENEA, Italy)

piero.desabbata@enea.it

- www.ebiz-tcf.eu

... and also:

- www.moda-ml.org
- www.shoenet.info
- www.shoebiz.com

