

# Tex-Spin: a standardisation initiative for the B2B in the Textile-Clothing sector

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**Abstract:** *TexSpin is a standardisation initiative, promoted by CEN/ISSS and Euratex, addressing the Textile Clothing sector and aiming to define a collaboration framework for the data exchanges between the firms of the sector. Three of the most relevant aspects are the definition of public exchange formats fitting the Internet and XML technological scenario, the design of new collaborative intercompany processes and the achievement of a large consensus between the industry on a standard specification.*

## **The problem**

The European Textile-Clothing industry<sup>2</sup> is challenged by the low labour cost countries and is engaged to maintain its world wide leadership through the improvement of the quality of products and services, of the product availability and of the production flexibility.

One of the issues is to manage an increasing quantity of smaller and smaller production lots, while more services are required to the suppliers in order to improve production and logistic planning. The result is that an increasing quantity of information must be exchanged along the supply chain. But, in a manufacturing sector characterised by a large presence of SMEs and by the heterogeneity of organisations and ICT systems, setting up a B2B framework for independent firms is a challenging duty.

The two main aspects to be faced are the creation of a common model of interaction (**collaborative processes**) based on common interchange formats and the creation of an interoperability architecture that allows all the actors of the network to easily benefit of the participation to the collaborative game.

The presence of many industrial actors (SMEs) brings to deal with a lot of technological suppliers (SMEs in turn); thus no market leader can adopt and impose a common solution; a reasonable objective to create an accepted interoperability architecture is to define a common **standard** specification supporting intercompany collaborative processes and to allow the many actor of the supply chain to implement their own solution (i.e. software implementing the secure transport specifications).

The challenge is, in fact, to create a logical and technological platform supporting all the actors of a complex supply chain, the very small laboratory as well as the large brand owner, without SMEs that are contributing to the success of the industrial sector with their richness of creativity, professionalism and, mainly, flexibility.

The most relevant points are:

standards for eBusiness allow SMEs to maintain the independence of their information system (and of the related aspects of their own organisation) and to reduce the cost of interoperability with customers and suppliers

but SMEs are the least capable of the actors to deal with complex technological (and organisational) frameworks and to promote/participate the process of creation of standard.

Thus the availability of a sectorial standard reference for the intercompany data interchange and applicative integration is a key factor for the success and this is the reasons that urged to the Tex-Spin initiative as a sectorial public initiative, addressed to large industries as well as SMEs.

## **The experience of the TexSpin project**

The Tex-Spin project - Textile Supply Chain Integrated Network – Information System Standards - was a CEN/ISSS Workshop ([www.cenorm.be](http://www.cenorm.be)) and was a sectorial standardisation initiative aiming to provide a framework for the integration of the European Textile/Clothing / Distribution chain. It started on July 2002 and ended in July 2003.

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<sup>2</sup> Some figures on Textile-Clothing industry in EU-15:

- Employees: 3 Mill. in 1988, 2 Mill. in 2002
- Turnover 2002: 186 Bill. Euros
- Companies 2002: 108.000, the largest part are SMEs
- European T-C industry is world leader in Textile products and top quality clothing

It was co-ordinated by EURATEX (European Apparel and Textile Organisation) and was partially financially supported by the European Commission, in the framework of the eEurope initiative through the CEN/ISSS ISSS (a branch of the European Committee for Standardization concerned with initiatives for the "Information Society").

TEX-SPIN is an integral part of an ambitious strategic project, which has been planned by EURATEX (European Apparel and Textiles Association) and has the ultimate objective of providing a complete, consistent and standardized information technology framework for the implementation of electronic commerce and related activities within the European Textile-Clothing-Distribution (TCD) chain

Its technological starting point was the legacy of EDITEX specifications (based on EDIFACT technology), the objective was to establish a pre-normative -low cost- platform for the B2B exchanges in the T/C sector based on XML and Internet technologies with the aim to gain the advantages of the new technological infrastructure to overcome the limited diffusion of the EDI technologies in the sector.

The TexSpin initiative started from the previous results of two experiences realised in Italy (Moda-ML, [www.moda-ml.org](http://www.moda-ml.org)) and France (eTeXML, [www.nyc.fr/etexml](http://www.nyc.fr/etexml)) with the aim to exploit the respective work in order to provide a roadmap for the market players to exploit the suggested technical approach.

In fact, according with CEN/ISSS procedures, three international public sessions were organised to present and discuss the objectives, the partial and final results of the project (more than one hundred representatives of industry and technology providers attended these events). The results were summarised in a formal document (CEN Workshop Agreement –CWA) approved following the CEN/ISSS procedure to create voluntary standards (**CEN/ISSS CWA 14948**<sup>3</sup>).

The CEN/ISSS CWA presents guidelines for the design and implementation of an XML based framework for the communication of players in the TCD chain. It provides common infrastructure components (namely sector specific terms and definitions as well as technology related terms and definitions) and functional features that must be addressed for its successful adoption in business practice ( e.g. security, accountability versatility etc). But also a set of data exchange specifications (scenarios but also messages templates, XML Schemas) were developed and published for the eBusiness actors (large and small manufacturing companies and their software providers).

Finally the CWA discusses the convergence of the approach(es) discussed and it relates to the ebXML work in progress.

Two different paradigms have been tested in two different business scenarios:

A scenario focused on large organisations based on brand ownership or on retail organisations that have a relevant role in the definition of the offer of products (in some cases they can directly manage fabric suppliers and the clothing manufacturers, and the quality check services respond directly to them)

- A scenario focused on the clothing manufacturers that design their own products, manage the production and their suppliers and, then, face the retail channels. A scenario where the relationship with the fabric supplier enter also in the phase of design of the product. In this area the relationship with small and medium organisations appears relevant and the need for simplicity is relevant to set-up the exchange and human readability of the messages. Probably this scenario is more significant in some countries than in others, for certain upper class products that for other classes of products, but this should a point to be investigated.

The analysis of these experiences has put in evidence that:

From a high-level prospective (market needs, business strategies, customer service) the TCD supply chain is ONE. But when we look at operative details we see that the industry sector upstream and downstream of the Apparel Manufacturing show different requirements as regards the effective use of many "building bricks" of the information exchange like article coding, parties identification, automatic identification of physical objects, etc..

The downstream experience appears to assume as priority efficiency in the data exchange and normalisation of the product description: messages are essential and compact, universal coding is an important aspect to facilitate data interchange towards large retail organisation.

The upstream scenario appears to privilege efficacy and richness of the information content: the upstream organisation needs flexibility in order to exchange many information between the actors of the supply chain. Flexibility is a target also as a representation of productive processes which are continuously evolving and changing.

Thus no wonder if specific solutions have been developed for the upstream and the downstream sides of the TCD industry and show a large base of "commonalities" in what could be defined the cross-sector aspects.

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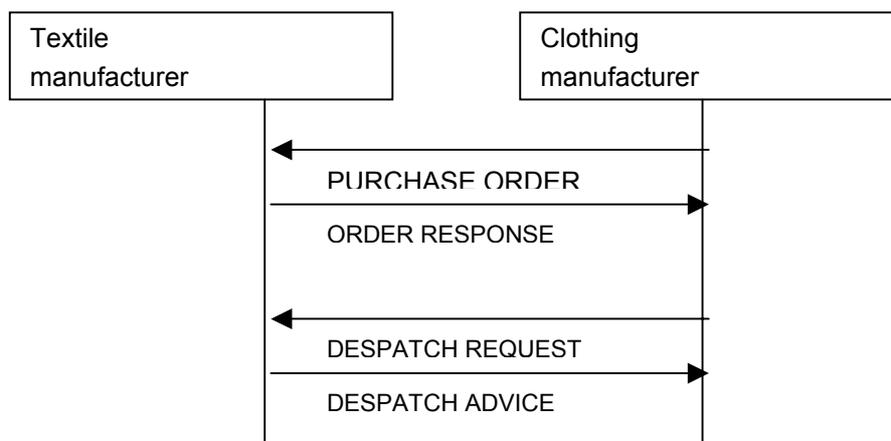
<sup>3</sup> <http://www.cenorm.be/cenorm/businessdomains/businessdomains/iss/cwa/textilecwa.asp>

The existence of different approaches fitting specific scenarios has been considered a richness for the TexSpin activities, thus two of the most relevant experiences in the XML/EDI field, Moda-ML and eTeXML, have been examined with the aim to improve their results and to lead them to a common framework available for the whole sector.

## The technological architecture

TexSpin defines an architecture of message exchange based on XML documents built on – top of a vocabulary of XML business components. Differently from the diffused ASP models, the idea is to enable direct data exchanges on a bilateral basis (peer-to-peer), without depending upon the presence of ASP centers. ASP centers could offer, on the other hand, integration services that add more functionalities beyond the pure data exchange, that, anyway is the basis to create a critical mass of B2B actors.

The architecture is inspired to the reference framework ebXML (electronic business XML), an initiative of UN/CEFACT and OASIS, and develops an original collaboration architecture tailored for the specific sector that, traditionally, has been poorly permeated by EDI tools.



*Intercompany collaboration based on exchanges of messages:  
a different template of message for each different kind of transaction*

To face the heterogeneity of the T/C community it has been defined a model of integration with legacy systems and with poorly equipped companies in order to lower the technological threshold to participate the collaborative models; the aim is to lead ERPs, medium sized Company Information Systems and very small enterprises equipments to join the same logical platform with advantages for all.

In Moda-ML and eTeXML a set of tools have been provided on the purpose:

- a repository of common XML Schemas and User Guides for the documents
- a bilingual dictionary of terms on-line
- a self standing application implementing the ebXML transport specifications
- a 'document factory tool' for an efficient maintenance of the vocabulary and document templates
- security aspects implemented using XML Encryption and XML Signature to the messages
- a web service available to the firms for testing their systems in the framework.

In parallel an implementation of the transport system based on the ebXML CPA (Collaboration Protocol Agreement) has been realised in order to simplify the management of the interface in a self-adaptive perspective: the transport messaging system is enabled to adopt the right profile of transmission depending on the characterisation of the partner that is the destinatory of the XML document to be send (or received).

The TexSpin specifications were implemented in a Web service, operated by NYC, for the **downstream** area of the supply chain, dealing with the retailing organisations.

The **upstream** area of the chain was supported with a second group of Schemas, that were implemented by Moda-ML, version 2003-1. After the conclusion of the project a new and more complete version (2004-1) was released by the Moda-ML technical committee (see [www.moda-ml.org](http://www.moda-ml.org)).

Process: Garment sales		
Product Catalogue	The product catalogue (characterisation of the product)	Clothing → Retail
Pricelist	The (price) list of products offered for sale	Clothing → Retail
Purchase order	The order placed TO the Clothing Manufacturer	Clothing ← Retail
Dispatch advice	The anticipation of the dispatch by the Supplier	Clothing → Retail
Invoice	The invoice	Clothing → Retail
Sales report	Report of sales to the supplier	Clothing ← Retail

Process: Fabric supplying		
Activity: Fabric Selection		
Textile Catalogue	The (price) list of products offered for sale	Textile→Clothing
Fabr. Tech. Sheet	The technical characteristics and properties of the article	Textile→Clothing
Textile Advance Notice	The anticipation of articles included in the Clothing Manufacturer's collection and of foreseen volumes of production that clothing manufacturer will request (no details on colours and variants)	Textile←Clothing
Activity: Purchase fabric		
Text. purchase order	The order placed by the Clothing Manufacturer	Textile←Clothing
Text. order response	The response provided by the Fabric Supplier	Textile→Clothing
Text. order change	The order change initiated by the Clothing Manufacturer	Textile←Clothing
Text. order status report	The status of the fabric order reported by the Supplier	Textile→Clothing
Activity: Dispatch fabric		
Text. Despatch request	The request/scheduling of the despatch of parcels made by the Clothing Manufacturer	Textile←Clothing
Text. Despatch advice	The anticipation of the despatch of the parcels by the Supplier	Textile→Clothing
Text. Quality Report	The report of the defaults and other non-conformities of the goods, as provided by the Supplier or by an independent Quality Controller	Textile→Clothing
Invoice	Invoice for the supplied material	Textile→Clothing

Process: Fabric production		
Activity: Subcontracting fabric darning		
Textile darn order	The specifications of the darning operation required for each piece; includes allowed worktime, position and type of faults; it could contain or refer to a despatch advice	Textile → Darning
Textile darn return	The returning information about the darning operations; include the worktime spent, the position and type of faults and the associated information about the position, the initial status, the worktime and the final status	Textile ← Darning

### The project team of TexSpin:

Lutz Walter (project responsible), Deborah Santus (Euratex, Belgium)

Dimitri Baltas (project technical coordinator), George Kartsounis (ATC, Greece)

Piero De Sabbata (workshop chairman) , Piergiorgio Censoni, Massimo Marzocchi (Enea, Italy)

Patrick Robinet (Institut Francais Textile Habillement, France)

Jean-Marc Dufour, Hugo Le Quellec (NYC, France)