TEXSPIN: Supply-Chain collaboration in the Textile-Clothing sector

1. Problem definition of the collaboration among enterprises of the Textile-Clothing sector

The Textile-Clothing sector is characterized, on one side, by **fragmentation of the productive chain** in a great number of actors (clothing manufacturers, fabric suppliers, darn service suppliers, dyers, yarn suppliers, etc.) who need to work together for realizing their final product; on the other side, the size of these enterprises and cultural tradition of this sector seem to **prevent to find out a common exchange format**, agreed upon by everyone (i.e. a standard); in fact there isn't any leading company able to impose a common format on the whole sector.
Furthermore, the international vocation of the sector (in terms of target markets but also in terms of disposition to delocalize workings and supplying of raw materials on a worldwide scale) forces to exploit the services offered by Internet by creating international **collaboration networks**.

From a strategical point of view, the Italian, and European as well, Textile-Clothing sector, that focus on product quality compete with low cost labour countries, works on production lots that are becoming smaller, more customized (even towards a single final client) and with shorter timing requirements than ever; this leads to manage an increasing mass of information for every single unit of product and to exchange information more and more detailed and 'critical' with a growing number of partners.
It's clear that the change needed regards essentially business models, so it's almost organizational and managerial, but it's also easy to understand how wastes and inefficiencies due to bad interfacing are becoming less and less acceptable.

From the enterprise point of view, the ability to make different and independent information systems communicate directly, without having to re-input data every time they cross enterprise borders , is a dramatic urgency. Moreover, a channel for automatic exchange of information could consent to activate **new services** by sending information that would be too expensive to exchange in a traditional way and that is already available inside enterprises information systems (think about exchanging information on the status of an order or on the defect map of a piece of fabric).

2. The need for a common language: looking for a standard

The technologies aimed to support the collaboration among enterprises using different and independent information systems and organizations are called **interoperability** technologies; at the moment we think that interoperability is one of the great challenges for building an European Information Society and one of its most interesting issues is the definition of the standards suitable for supporting collaborative processes on the infrastructure offered by Internet (see "CEN/ISSS report and recommendations on key eBusiness standards issues 2003-2005", which is available at http://www.cenorm.be/sh/eBiz).

Without any common standard accepted by a large number of supply chain actors and by their clients, every enterprise must implement as many interfaces as its clients' information systems, with the consequent increasing costs for developing and maintaining them (a fabric supplier, partner of the Moda-ML project, estimated at 40.000 Euros per year the saving on EDP costs obtainable by adopting a common interface).

The adoption of a common exchange standard, as it already happens in other sectors (automotive, for example), is therefore a solution for cutting down these costs and to concentrate more on business models and on the services to implement and less on communication issues and intefaces.

Until some years ago, the only technologies available were the so-called EDI (essentially EDIFACT and ANSI X.12, on private networks), that didn't succeed to spread throghout the whole Textile/Clothing supply chain (except for the big distribution chains) because they were rigid and expensive. With the diffusion of XML on the Internet, now there's a new opportunity for finding a low cost, but still scalable solution, capable to satisfy the needs of small enterprises as well as great organizations.

This is the opportunity exploited by the initiatives presently promoted at a european level by CEN/ISSS (a part of the European Committee for Standardization concerned with initiatives for the "Information Society"), through its TEXSPIN Workshop (http://www.uninfo.polito.it/WS_TEXSPIN/default.htm or http://www.cenorm.be/isss), co-ordinated by Euratex (european association of the industrial associations of the sector) and comprehending the contribution of MODA-ML and eTeXML experiences.
The goal of TEXSPIN Workshop is to supply a pre-normative platform of data exchange models, XML messages and dictionaries of terms that cover different aspects of the supply chain, from sales organization to production in its different aspects.

This means that TEXSPIN supplies some suggested models and an exchange language that technological solutions providers and enterprises will be able to conveniently use for implementing their own solutions.

Started on July 1st 2002 at CEN/ISSS, the TEXSPIN ("Textile Supply Chain Integrated Network") workshop aimed to set up at European level a "pre-normative" platform for the electronic data interchange among the enterprises of the Textile/Clothing supply chain.
Workshop milestones:

- July 1st, 2002, the WS/Texspin started with a plenary session;
- April 11th, 2003, in Milano the second plenary session of the workshop was held (jointly with the final event of Moda-ML);
- the third and final plenary session was in Paris, on June 25th 2003;
- Half of September 2003 the final CWA was approved
- Spring 2004 the CWA was published (CWA 14948, http: //www.cenorm.be/cenorm/businessdomains/businessdomains/isss/cwa/textilecwa.asp)

Documentation is accessible on http://www.cenorm.be/isss/Workshop/TEX-SPIN/Default.htm or www.moda-ml.org

MODA-ML: XML messages to exchange information of the textile/clothing sector are available

*The up-to-date results of the MODA-ML project are available: the results of the project are now available with the issue of **2005-1 version** (June 2005). They can be freely accessed by those firms in the Textile/Clothing sector which are interested in carrying out analyses and experimentation to improve their capabilities to interact with the information systems of clients and suppliers.*

Project Activities

MODA-ML activities focused on the analysis of the most important (actual or potential) exchanges of technical, administrative or management information among producers of textiles and clothing manufacturers. A protocol of electronic exchange has been created based on the following:

- standardisation of a number of co-operation **models** among firms
- a set of **XML documents** necessary to represent data used in international processes
- a front-end demonstration **software** to forward and receive XML documents based on the electronic protocol which is compatible with the ebXML (MSH) specifications
- a demonstration software to assist in the creation of testing messages (MCM)
- development and easy maintenance **methodology** for "families" of XML exchange documents.

One particular feature of Moda-ML, in respect of many other standard creation initiatives, was that it led from the collaboration of a group of well-known and significant Textile/Clothing firms and research centres, universities and companies that are working long since on the technological support to the integration of the supply chain and that have a consolidated know-how on this topic.

Another peculiarity is that its results are available for free for every enterprise or software house wishing to use them in their software solutions.

Industrial partners: **Corneliani, Successori Reda**, **Piacenza**, **Loro Piana**, **Vitale Barberis Canonico**.
Technological partners: **Enea**, **Politecnico di Milano**, **Gruppo SOI**, **Domina**, **IFTH**.
The external partners who worked on its activities were **Sistema Moda Italia** and **Associazione Tessile Italiana** (industrial association of the sector), which gave their substantial support to the project.
Besides the group of partners, other actors played a key role in the development of the project, both from the research world (**Università di Bologna**, **Forum per le Tecnologie dell'Informazione**, **Università di Lecce**) and from the industrial world as well.
The **focus groups** and the **newsletter** of the project were addressed to the T/C firms and to the technology and solution providers, with the aim to inform and collect feedback and comments to improve the generalizability of the project results (you can subscribe in http://www.moda-ml.org).

The MODA-ML project formally ended on April 2003, but the working group (Enea, Politecnico di Milano, Gruppo SOI, Institute Francais Textile Habillement) goes on with new activities, thanks to new fundings, aiming to develop a complete european standard and to promote its adoption.