THE TEXTILE AND CLOTHING INDUSTRY IN THE NEXT DECADE.
From an interview with the branch director of Institut Français de l’Habillement et du Textile (IFTH), the director of the International Textile Manufacturers Federation (ITMF), and the general secretary of the European Association for Fashion Retailers (AEDT) in 2010, some predictions emerge: Chinese-owned offshore production, unstoppable e-commerce, demand for eco-textiles, shifting luxury markets to Asia’s new middle class, and higher prices for everyone. At Marchi we share some of these predictions, and we already can see some are becoming real.

**Chinese-owned offshore production**

In particular, Jacques Hervé Levy, the branch director at l’Institut Français de l’Habillement et du Textile (IFTH), says that China’s current hold on the textile industry production will expand, with its companies outsourcing work overseas. “We don’t know where garments will be produced, but they will be owned and managed by the Chinese industry. If you look at what’s going on in Africa, much of the production is owned by the Chinese industry already,” he explains. Levy predicted this trend will continue on a small scale into the future as luxury brands try to continue on a small scale into the future as luxury brands try to

**E-commerce bandwagon**

Another cost-saving and business-boosting technology - when used well - is the internet. Increasing numbers of companies are expected to jump onto the e-commerce bandwagon in the next decade, to take advantage of the growing consumer acceptance of researching and shopping for products online, according to the European Association for Fashion Retailers (AEDT). Every day more and more companies and brands are taking advantage of social marketing, social networks, and e-commerce. This is an increasing trend that can only become more and more important. New generations and younger consumers are already so used to shopping online or doing research before they go to the physical shops. However, retailers should not expect online shopping to wipe out their street-level stores. There is a possibility of integrating the traditional shop with an online presentation of products. The potential is there, the challenge is to find the right strategy in terms of logistics, management of the shop online, IT experts, return on investment, and so on.

**Eco-textiles trend**

Eco-textiles is another important trend, as consumer awareness, company compliance and new environmental legislation come together to promote better environmental and social practices in the future. It shouldn’t be seen just as an obligation but also as an opportunity: something good for the sector, there have been many proposals for legislations and regulations to increase the level of product safety, and give more attention to environmental and social concerns. For example, a current European Union (EU) proposal concerning biocide use restrictions could affect the technical textile industry within the next ten years as the legislation is approved and implemented, and the ongoing REACH requirements will continue to cause administrative and logistical challenges for the industry. Organic textiles, although part of the eco-textile movement, currently hold less than 1% of the global cotton market, and are expected to remain a niche market although they will grow to some extent. Genetically modified cotton will definitely be a big research area, however, as scientists come up with stronger, more drought-resistant seeds. Cotton is a thirsty plant and with GM cotton there’s a huge potential for water-saving cotton varieties. There is a growing push to consider GM cotton organic because it eliminates the need for pesticides, fertiliser and excessive amounts of water.

**Growth in technical textiles**

Technical textiles are also expected to grow rapidly. Levy predicts that demand in emerging markets for technical textiles - used in the auto, aero or energy industries, for example - will make it the most rapidly growing sector in the industry. Functional garments will take a leading role in innovation and research, especially in areas where populations are aging, he adds.

Especially Western Europe and North America are trying to find solutions to keep their seniors living at home as long as possible, and we expect garments to be part of the solution. They will be monitoring vital data, or have alarms to communicate with emergency members and hospitals. These kinds of garments can improve the living conditions of senior citizens, people with disabilities, or those with severe health problems, helping them maintain independence. But at the end of the day - or the decade - the future of the textile industry is still hazy.
Marzoli has always monitored market conditions very carefully and is ever more attentive to the needs of its customers while considering a general decrease in the demand and the consequent need for high competitiveness.

In 2011, Marzoli launched the Galileo Line, which continues to experience a great success both at the technological and mechanical level.

Today, however, a renewal within the company is necessary that should not only aim at improving the quality of the product, but must also aim at TOTAL QUALITY. This entails the implementation of an effective system of integrated development, maintenance and quality improvement for all departments of the organization so that production and customer support ensure optimal service with full customer satisfaction with the minimum of cost.

This decision is based on a very simple concept: everything that means added value for the customer has a price, whereas that which has no added value (waste and inefficiencies), for the customer only represents a cost.

Marzoli targets ambitious procedural goals, such as:

1. Order processing Lead Time shorter or no longer than 4 months: the market requires ever-faster turnarounds, which correspond to an increasingly reduced processing time (called Lead Time). This process starts with the confirmation of a client’s order and ends with the shipment of the machinery;

2. Reorganization of Logistics: strategic management of supplies, of the movement and storage of materials, parts and stocks completed (and related information flows) through the optimization of the flow of materials and spaces;

3. Increasing productivity and improving the efficiency of the processes through a direct and indirect organization divided in 4 product lines (frames, spinning machines, combing, and carding); this organization provides both greater accountability and specialization of human resources;

4. Supply Chain Optimization: improving all relationships, in order to make the product available along the ideal axis that goes from suppliers to customers.

There must be a unified approach: complete involvement of our human resources and their way of thinking. Marzoli must start thinking in a lean way. Each operator on one hand and each production partner on the other hand will work synergistically to increase productivity, and to make processes more efficient by the effectiveness of our actions:

1. Experience shows that by focusing on Lead Time with respect to the manufacturing process, from the customer’s purchase order to the shipment, all the various business sub-processes “adapt” accordingly. For example, the factory is already working to reduce production Lead Time by 50% compared with the standard; that reduction is obtained by rationalizing stocks, using real-time management, and reducing the workflow. The basic methodology used is what the Japanese call 5S:
   - SEIRI: Sorting
   - SEITON: Set in order
   - SEISO: Systematic cleaning
   - SEIKETSU: Standardizing
   - SHITSUKE: Sustaining

2. Marzoli will reach its Lead Time targets also thanks to a new Working Process and stocks management layout. In fact, work is being done to create four lines, Frames, Spinning Machines, Combing, and Carding (identified by four colors), which will lead to foster an immediate identification of the material moving through the lines.

In anticipation of the reduction of the movement of materials, the company has invested in the construction of a new 2,500 square meters plant adjacent to the existing production site. This plant, active since July, is where various interconnected departments will concentrate: machinery dispatch to customer, reception,
MARBOLI LEAN | Marzoli invests in renewal to acquire competitiveness
MARZOLI LEAN | Marzoli invests in renewal to acquire competitiveness
testing-acceptance, and line warehouses daily re-supplied by virtual call via the supplier’s digital platform.

3. Change has always been considered very difficult to sustain if not by strengthening the organization, also using new human resources to drive this transformation. In traditional businesses, at some management levels, we can still find multi-functional and centralized resources; the Lean environment emphasizes specialized management by product line.

4. Marzoli, however, does not stop at Lean Production but adds to this implementation the reduction of component management aiming towards industrialization of the product. This standardization process results in streamlining the supply chain with increased collaboration with fewer selected suppliers, who become working partners. In particular, the latter no longer offer individual machine parts but complete product line kits, thus serving as chief suppliers. In this way, the required quality is guaranteed by the greater expertise developed by the supplier within the scope of this close relationship. Finally, the exchange of data with the Supply Chain will be made even more interactive thanks to the new interface platform that will be activated starting in June by Marzoli and its partners, for faster kits management and constant control which will reflect on the processing of the orders. This platform will make use of a constantly visible indicator, termed vendor rating, which will monitor both delivery punctuality and quality requirements.

After having indicated the objectives and the approach that the company has set itself, we turn to emphasizing the results obtained in these first four months of 2013. Since January 2013, Marzoli has reorganized the first production line (Roving frames line) according to the Lean Production framework. This task was prepared and planned throughout the first quarter, and at the right moment, all of the necessary personnel got involved in the Lean transformation of the line within the space of a week. The approach used was the Rapid Improvement Week (Blitz Kaizen) which in just a few days made it possible to reach exceptional performance results. The Kaizen Week is the cornerstone by which the TPS (Toyota Production System) is introduced into the Company.

Implementing a Lean conversion may seem to be a very complex undertaking, but on the contrary, the transformation process happens very simply and efficiently in only 5 days. Kaizen Weeks enable the implementation of relevant improvements within a specific productive area: there is nothing more effective than experiencing the impact of this approach in practice and seeing the results for oneself. Experience shows that there can be no improvement without sustainability. To maintain the results obtained during the first quarter, the Roving frames line undergoes constant control thanks to performance indicators such as Lead Time, Productivity, Observance of the 5S, and Quality Cards, also known as Suggestions for Improvement provided by employees.

These latter group activities lead to a series of other results such as voluntarism, i.e., the voluntary participation of people who want to be an integral part of this transformation, and growth of the staff members who are ready to “study” and learn to improve their skills. In conclusion, the Company plans to complete the “Lean transformation” of its production lines within 2013. Reorganization will continue in June with the Spinning Machines Line, then in September with the Combing Line, followed with the Carding Line by the end of 2013.

Nicola Donini
Supply Chain Manager
Camozzi Group
MARZOLI LEAN | Marzoli invests in renewal to acquire competitiveness
WE AIM TO OFFER OUR CUSTOMERS HIGH QUALITY FINAL PRODUCTS

At Marzoli we strongly believe in our clients’ product research and development because our clients are our partners and we grow thanks to their demand for high quality products. For this reason, Marzoli’s R&D team is certain to guarantee customers and partners a competitive advantage in the continuous manufacturing of their yarns, the capability of changing formulas (ricette) and using organic or biotech fibers, the introduction of new yarns in the final stages of weaving or knitting with the certainty of reducing their energy consumption.

Last February we launched at Paris Texworld the new four logos and names of the new four types of yarn that are Marzoli trademarks: KOMBED, KOMPACT, FANCY AND TECHNICAL. Numerous customers and potential clients of ours and of our clients visited our booth during this expo and declared our presence and main items to be very interesting and rich in know-how and update technology. They are mainly seeking high quality, green environmental advanced developments, and eco friendly yarn solutions. Marzoli’s R&D department is taking our machinery concepts in a more and more green and sustainable direction in order to reduce energy consumptions and waste. This is also a reason why we have been awarded the “green label” for sustainable manufacturing from Acimit for three years in a row.

Marzoli offers the new yarn logos and names to its clients in order to identify their own final yarn features and quality. They will label any item produced by these types of yarn.

Virgilio Maringoni
Sales Director
The roving frame, which unlike the carding machine, drawing frame or comber is not directly responsible for the final quality, is one of the spinning line machines that are often unfairly overlooked. Actually, the quality of the spun yarn and the performance of the spinning machine also depend on the quality of the frame bobbins. The bobbins must be well made, suitably compact and should be constantly taut over the whole formation without affecting performance or output.

The Marzoli roving frame was first created over ten years ago and today is still an important machine on the global marketplace as it fully meets all these requirements and combines product quality with production capacity, reliability, efficiency and energy saving. The quality of the Marzoli frame starts with the sliver accompanying system on the feeding creel with hexagonal rollers. This is followed by the pneumatic arm and then gradually by the flyers of the compressor and synchronisation of the movements.

With its new FT6 and FT7 models, the Marzoli electronic roving frame has been reconsidered both from a mechanical and electrical/electronic point of view in order to further reduce energy consumption.

The new motors for the control of the 3kW spindles are highly efficient and are fixed directly on the rail. The motors control 32 spindles on the FT6 model and 24 on the FT7 model via timing belts. The new independent belts. The new independent motorisation allowed the universal joint to be removed, thus simplifying the mechanical system and increasing the efficiency of the motor power transmission. This, together with the subsequent simplification of the head, reduction in maintenance and application of the latest edition Siemens Sinamics drive system has resulted in a tangible reduction of consumption.

The power consumption for the production of Ne 0.80 roving on a frame with 192 spindles is less than 0.080 kW/kg.

Moreover, by acquiring the special Energy Saving solution, the energy consumption on the roving frame can be further reduced by at least 3 kWh thus reducing the production costs per kg of spun yarn produced. This solution allows the suction system to be removed from the basic machine. The moving blower along with the Marzoli R2S solution for monitoring breakage on the single roving in combination with the use of individual cleaners allows an adequate cleaning of the drafting area. Furthermore, the flat surface

**Reduction in power consumption last 20 years Ne 0.80**

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<th>Model</th>
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<tbody>
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<td>BC16 S</td>
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<tr>
<td>BCX16</td>
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<tr>
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<td>FT6 - FT7</td>
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The power consumption for the production of Ne 0.80 roving on a frame with 192 spindles is less than 0.080 kW/kg.
beneath the roller system helps this stay clean. The power can consequently be reduced to 4kW because the suction motor is not used.

The R2S system designed and manufactured by Marzoli is simple, compact, easy to maintain, allows the breakage of a roving to be quickly detected and stops the machine to avoid dangerous winding. In combination with the new RTS Marzoli System, it allows the roving tension to be accurately checked during all stages of the formation.

The precision in the rail movement control, the option of using different speed settings during the formation of the bobbin and the constantly monitored stability of the ratio between the speed of the spindles, flyers and roller system enables high quality bobbins to be formed with no variations in tension between the start and end of the bobbin.

**The bobbin construction process can be entirely programmed via easy and intuitive display menus.**

FT6 gauge 220 mm from 32 to 192 spindle flyers 6 x 16”
FT7 gauge 260 mm from 48 to 144 spindle flyers 6x16 or 7x16”

The Marzoli roving frame is the ideal solution when both manual and automatic doffing is required to transport the bobbins to the spinning machines. During manual doffing, at the end of formation, the rail descends and is positioned so as to allow the operators easy access to remove the full bobbins and introduce empty tubes.

Automatic doffing occurs outside the machine and does not interfere with the operations of the personnel in any way. The machine stoppage time for doffing on a frame with 192 spindles is around three minutes.

The standard machine has a 3-over-3 roller system with pneumatic arm and 32 mm bottom rollers. 27mm rollers can be used for cotton with short fiber. With this solution the distance between the 1st and 2nd roller is reduced to only 45 mm, thus improving the control of the short fiber and consequently the quality of the roving.

Another option is the four roller system which can be obtained by adding a pair of rollers (bottom and top roller).

**Alessandro Ondei**
Test center manager
NEW TECHNOLOGIES | Marzoli Roving Frame: Innovation and competitiveness

ROVING FRAMES SALES

<table>
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MARZOLI
AUTOMATION FOR THE LEADER IN INNOVATION.  
A trusting partnership bonds Marzoli and Siemens.

In their cooperation, their individual core competencies are optimally applied, which in turn secures the ongoing technological development of Marzoli machines and systems.

Everything but hand-knitted: Marzoli – the textile machinery specialist is securing its power of innovation by entering into a long-term partnership with Siemens automation technology. Marzoli strength lies in its portfolio of machines and systems that covers the complete spinning production process. The company’s portfolio extends from machines for processing cotton, man-made and composite fibers from bale breakers to carding lines, drawframes, flyers to the manufacturing of yarn using a ring-spinning process.

Strategic partnership creates security.

Its many years of experience, in-depth industry know-how, high level of technological competence and flexible manufacturing system allow Marzoli to respond to market demands with a high degree of innovation. To secure this position Marzoli has been working closely with Siemens for many years in the field of automation and drive technology. Their complete portfolio of machines has been equipped with SIMOTION and SINAMICS to achieve the highest degree of homogeneity in the different machine series.

Efficient drive technology

The modular, scalable structure of the SINAMICS S120 family of drives and the enormous flexibility of SIMOTION controllers significantly simplify and rationalize the development of various machine types. For instance, machines can essentially “inherit” the hardware and software engineering that has been implemented in other machines.

The multi-axis technology of the SINAMICS S120 family allows the control cabinet design to be optimized: the space required is minimized, cabling and electromechanical components are reduced.

Rugged and durable

The configuration of motor modules connected to a common DC bus and fed by an Active Line Module guarantees a high degree of reliability and ruggedness, even if the quality of the line supply is poor. This feature is of special significance for flyers and spinning frames. Until now voltage dips or power failures could cause all of the yarns to break, resulting in significant production downtimes. The SINAMICS drive modules with Cold Plate technology dissipate the power loss using an external heat sink via the thermal interface at the rear of the unit. This technology avoids the risk of the power unit overheating, which can occur in environments heavily laden with lint.

Integration makes the difference

The principle of integration employed by the multi-axis system SINAMICS S120 allows all of the drive parameters to be saved on one compact flash card, therefore significantly simplifying the commissioning of serial machines. The system also proves itself in operation: The Control Unit recognizes if a module is defective and the spare part is automatically integrated – without having to recommission the drive. Using the standard STARTER software tool, it is also possible to engineer all of the converters and servo drives of the SINAMICS family. The diagnostic tools available in STARTER allow the dynamic behavior of the drive components to be analyzed in detail.

As a result of the extensive options for setting the control parameters in the drive, the Marzoli application engineers can implement increased levels of machine performance without overstressing the mechanical system. The mechanical transmission elements are specially protected as the torques of the individual motors in the coupled drive train can be flexibly distributed. The fact that the components are fully integrated via a fieldbus allows a whole series of internal drive parameters to be displayed at the operator interface where they can be easily monitored. Consequently, maintenance technicians can simply call up useful information for monitoring the condition of the machine. Using the operator interface (MP 277) and communication with the Marzoli supervisory system via Ethernet, operators can simply adapt the process parameters to the particular yarn.

Energy-saving is a must

A large family of reliable motors power the Marzoli machines, starting with 1FK7 servomotors for dynamic axes up to 1LG and 1LE induction motors for higher power ranges. Marzoli has made a fundamental decision to use IE2 motors with increased efficiency according to the latest European energy-saving standard for all of their machines. The use of induction motors with increased efficiency in conjunction with the SINAMICS Active Line Module infeed units (with active front-end technology) clearly demonstrates that Marzoli is convinced that energy-saving and innovation go hand in hand. According to the company’s philosophy of standardization, SINAMICS S120 Motor Modules are used for all of the machine types. With a few components and a minimum stock of spare parts it is possible to cover the complete range of drives installed in the system. In conjunction with the global presence of Siemens, it is ensured that maintenance costs and system downtimes can be reduced across the board.

More than just a supplier relationship

In its partnership with Siemens, Marzoli has found a single supplier for the complete automation of its machines and systems – one single partner for the quality, the integration and the after-sales support provided through the global Siemens service centers. In close cooperation, the common objectives are pursued in an open spirit of partnership – which in turn guarantees a continuous improvement process. Starting with the technical optimization of the solutions, which are used for the complete range of machines, up to the joint logistical control of supplied machines, both partners work hand in hand to create optimum solutions to address the current challenges of the spinning frame industry.

Offered by:
Siemens AG
Industry Sector
Motion Control Systems
MARZOLI GREEN INNOVATION PROJECT:
a guarantee of growth and success

For more than a decade, the textile industry has been directed towards models with processes, technology and machinery which are energy-efficient and with a low environmental impact so as to guarantee a new growth spurt. The reduction in costs as a positive effect of the application of sustainable technology is an essential theme for the textile companies that wish to compete successfully.

MARZOLI SpA presents its green vision as a winning strategy, not only for the reduction of environmental impact, but also because of its efficient resource management and its contribution to innovation. A continuous process based on the careful monitoring and analysis of the mechanical, electrical/electronic and technological aspects.

The experience gained during these years at the Marzoli Research and Development department indicates how much innovating the production processes in order to protect the environment is an important, continuous and difficult challenge. It entails the need to combine innovation and the protection of environmental resources with the preservation and at the same time, constant improvement of the product. In terms of safety and Green Innovation, on one hand the main player is increasingly sophisticated technology and on the other, new material. When combined with high quality, they guarantee the reduced environmental impact. The need for a minor environmental impact consequently becomes the driving force behind the innovation of materials which results in positive feedback not only with respect to the company image but also in economic terms for the final client.

Marzoli participates in the ACIMIT “Sustainable Technology” project and in 2012 renewed the Green Label certificate for the FT6/FT7 roving frame. Via a continuous analysis of technical rationalization it not only achieved a further reduction in the CO2 emissions per kg of processed material, but also represents an example of the reduction in the environmental impact and energy saving thanks to the choice of deep groove ball bearings with RSL low-friction seals by the Marzoli Research and Development department. These bearings provide greater precision, less noise, better sealing properties and an improved working life. In fact the bearings used by Marzoli have the RSL seals on both sides, ensuring a better exclusion of contaminating substances and humidity; they have lifetime lubrication and consequently do not require maintenance operations. Finally, the deep groove ball bearings allow a considerable reduction of the friction. One need only consider that in a single machine there are around 700 to 900 ball bearings of this type, according to the number of spindles with which the machine is equipped. Therefore, this mechanical variation saves at least 5% on power. Finally, greater precision and lower noise and vibration levels result in more silent bearings able to reach higher speeds.

Cristian Locatelli,
Mario Mascheretti
Technical Office
and R&D Direction

www.marzoli.it
INNOVATION, COOPERATION AND KNOWLEDGE MANAGEMENT. Marzoli, with the Italian Embassy and the Institute of Textile and Light Industry of Tashkent, started a path of networking and support of scientific potential by defining study and practice programs for foreign students.

Potential for innovation of textiles companies could be considered at different levels, internal technical competencies, but also international cooperation to increase its knowledge base. Better coordination of knowledge generation and collaborative research, in particular between public and private R&D, could also improve the innovation potential of the sector.

European countries are indeed now trying to redevelop their industry towards a more knowledge-based industry in order to face international competition but they still have very different industrial structures due to the long history of the sector. Nonetheless, activity in the sector should be better considered at the regional level than at the national level since it is in general a rather concentrated industry. Furthermore, potential for innovation of textiles companies could be considered at different levels depending on the subsector: pure technological innovation concerns more technical textile whereas innovation in the clothing industry depends more on creativity and design.

Social capital is considered extremely important in this sector. Local embeddedness and proximity were determinant factors for the more traditional sub-sectors. The best known example is that of the Third Italy (see Becattini, 1969) “industrial districts” with a high degree of co-operative production and economic development based on a large number of small, family-owned firms. Vertical and horizontal specialisation are high, and competition too. Competition is however limited to certain spheres of activity, in which firms might be expected to develop distinctive competences (Robertson, Langlois, 1995). As a result, small firms are able to sell their output in world markets and to gain some of the benefits of scale economies while continuing to compete strongly with each other. As underlined by Fioretti (2001), industrial districts are an example that “the whole is more than the sum of its parts”. Frequent subcontracting, workers’ mobility and the fact that the technical innovations made in the area are incremental and can be easily adopted make technical information spread rapidly throughout the district. In general, the experts of the Europe Innova panel agreed on the point that the primary channels of cross-border knowledge transfer are competition and cooperation, a kind of “coopetition” that is combining both aspects. SMEs need indeed partners and competitors in order to remain reactive. The combination of strengths of different companies could help them win new markets without giving away private information.

Furthermore, the supply chain in the textile sector remains fragmented; therefore action is needed to support the consolidation of knowledge covering the whole production process. In order to sustain competition, the building of networks around global players is of central importance for smaller companies. In this context companies act as key suppliers but also as developer of ideas and PR partners.

The textile sector needs internal technical
competencies, but also international cooperation to increase its knowledge base. The challenge therefore is to establish cross-disciplinary communication patterns and to have an open attitude to other cultures, both in terms of foreign workers and in terms of mobility of the workforce. Infusion of knowledge from other countries is very important for the textiles and clothing sector. It allows transfer of knowledge about opportunities (how to start a business, how to get finance...). Nonetheless, in the textile and clothing industry such transfer of knowledge happen more between regions than between countries. Furthermore, cooperation should not only take place within the textile industry but also with other sectors like biotechnologies or information and communication technologies in order to reach higher steps of knowledge.

Better coordination of knowledge generation and collaborative research, in particular between public and private R&D, could also improve the innovation potential of the sector (European Commission, 2006). The panel of experts highlighted that the gap between universities and industry is broad. Intermediaries are needed in order for the industry to be able to transfer scientific knowledge to practical fields and to apply the technology. There is a need for academic and industrial worlds to work closer together even if they are still speaking different languages.

The initiatives related to clusters, especially those directed at cross-sectoral undertakings, internationalisation activities and the building of virtual clusters would be of particular importance. Cluster policies in general, help companies meeting new partners and gain confidence in them. Nonetheless, this does not necessarily imply the establishment of physical clusters since competencies are often spread and the collaboration could be needed for a short period of time only. This could also happen through virtual clusters of companies and research centres.

In agreement with this theory, in 2012 Marzoli started up a project of internal technical and technotextile education, in collaboration and cooperation with the Embassy of Italy in Tashkent, Uzbekistan, Mr. Riccardo Manara and the dean of the Institute of Textile and Light Industry Jumaniyazov Kadam. Firstly, they hosted three young students from the Institute of Textile and Light Industry of Tashkent. The company offered free of charge a training course, united investigation on science equipment, tutors training course on spinning equipment, in order to understand how in the real company a production works, how the R&D department develops its own discoveries, reaches its foreseen results, and forecasts for future implementation of technology and mechanics. Innovation means also working with new minds. This would help to dynamically network enterprise and the research centres for innovation.

Innovation in the sector often depends from inputs of partners in the region, from other innovative sectors. The sector requires a high level of differentiation, we know the exchange of knowledge, culture and communication and marketing actions are therefore important in the sector to highlight the specific characteristics of the new products (ethical, social and environmental aspects included). Effective interaction with the Universities, but also social community, internationally spread which might show concerns about security or health, appears particularly important to develop and promote the take-up of new technical innovations in textiles. (*Socio-cultural determinants of innovation in the textile and clothing sector, Nelly Bruno, Michal Miedzinski Alasdair Reid, Miriam Ruiz Yaniz, February 2008)

Ilaria Tagliaferro
Marketing Consultant
MARZOLI
past, present and future of spinning.

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your strength
your comfort
your style
your safety