EMCC
European Monitoring Centre on Change

Italy: Successori Reda, case study

22 January 2013 | Observatory: EMCC

About

Case study name:
The greening of industries in the EU

Country:
Italy

Organisation Size:
100-499

Sectors:
Textiles and leather

Successori Reda is a medium-size woollen mill of the industrial district of Biella, the only certified EMAS in the EU thanks to continuous investments and use of compressed air jet looms. This technology was fully established in 2005 and ensures a 10% savings in energy consumption per square metre of cloth. Employment is stable since the past decade, while it declined to one fourth in the overall district. Technicians and operation low level management benefit the most of this practice by integrating their competences in traditional looms with ICT skills. Case study was prepared in January-March 2012.

Introduction

The textile sector is a key resource for the Italian fashion supply chain and the main contributor to Italy's trade balance. According to the 2011 Istat annual report (in Italian, 4.91Mb PDF), textile and clothing industries account for 2.8% and 4.6% respectively of total Italian exports, with shares in world exports of 5.7% and 7%%, well above the Italian share (4.1%). Relocation of medium and low quality manufacturing, especially to the Far East, has heavily affected employment levels.

Successori Reda, located in Vallemosso, was established in 1865 and has been owned since 1910 by the Botto Poala family, among the most ancient entrepreneurial families in Biella. It produces ultra-fine wool cloths, mostly for men's formal wear, for the most famous Italian labels. It has 350 direct employees, almost 80% of them employed in the production phases of the cloth, and a further 350 outsourced employees with a €70 million turnover and €4.2 million net profits in 2010. It has been EMAS-certified since 2005 – still the only woollen mill in the EU to have EMAS certification - and has been OHSAS 18001-compliant (an internationally recognised standard for occupational health and safety management systems) since 2007.

Implementation of compressed air jet looms, achieved in 2005, is the Green Business Policy (GBP) from which Successori Reda develops its green brand; the looms allow lower energy consumption – the major cost in woollen mills – by overcoming the significant technical and organisational problems created by the intrinsic characteristics of wool.

Drivers and motivations

Italian woollen mills have faced bitter competition since the mid-1990s. While the industrial district of Prato, where medium/low quality production was concentrated, shrank by 90% from almost 30,000 employees in 2001 to about 3,000 in 2011, employment the Biella district fell by about 75%, from 40,000 to just over 10,000, thanks to its specialisation in high quality production. Only the two leading manufacturers – Ermenegildo Zegna and Loro Piana – were able to make the transition into 'total look' labels. The other high quality mills had to search for alternative strategies as high-end fashion labels are their main customers for their cloths.

Successori Reda focused on sustainability as a means of creating an image that would fit with the increasing role of ethical consumption. It developed a wide set of ethical indicators, from wool traceability to the minimisation of water and power consumption through modernisation of its facilities (internal depurator, condensed heath and vapour generators, photovoltaic plant), and opted to have these factors monitored by EMAS certification, achieved in 2005. Finally, in 2011, the company launched an active wear line entirely in its ultra-thin wool Rewoolution, with a strong ecological image.

The company's green strategy is backed by technological innovation in the weaving unit, the use of compressed air jet looms, fully introduced

in 2005 after 20 years of trials. This technology ensures a 10% savings in energy consumption per square metre of cloth, but its implementation in woollen mills posed serious technical problems because of wool thread is less regular and has more mechanical resistance than cotton. While competitors did not pursue this technology further, Successori Reda gradually revised the full upward process by successfully implementing these looms, thus achieving both lower costs and better quality.

Green business practices

Compressed air jet looms were introduced in the 1980s in both cotton and wool mills. They ensure better performance than shuttle looms because they are faster and allow lower energy consumption. They are, however, very sensitive to any irregularity in the thread, such as lack of knots between two bobbins of thread, flames in knotting, micro-variations in threads that are apparently identical, and imperfections in twisting that might cause ruptures in the cloth. Such irregularities are more frequent in wool than in cotton fibres because of its lower mechanical resistance and so, while compressed air-jet looms were widely introduced into cotton production, they were rarely used in the weaving of wool.

Successori Reda was the second woollen mill to introduce these looms in 1986 and, unlike its competitors, saw in them an opportunity to both increase the quality of their product and reduce costs. This has required considerable effort to achieve the required quality standards. The full upward process has been systematically revised through a 'Japanese approach' outlined by the HR manager.

- Higher standards in raw wools was achieved by sourcing wool from family farms in New Zealand where sheep density is low, since any competition for food stresses the sheep and causes fleece irregularities.
- Higher quality of combed wools was achieved by buying a share of wool combing operations.
- The upward internal phases, from the storeroom to warping (Figure 1), were revised to remove causes of thread discontinuities, thus increasing internal quality.
- A further control was introduced before the yarning phase. It is performed by an automated pretensioner that unrolls and re-rolls bobbins while suitably tensioning the thread, filling any missed knots and signalling any further irregularity.

The outcome is an overall reduction of 10% in energy cost per square metre of cloth. This includes both the higher efficiency of the looms and lower re-working and product losses. On the other hand, the increase of kwh/ton over the same span of time (+10%) is mainly due to the shift towards ultra-thin wool cloths, which require a more complex energy-consuming finishing process.

Currently, Successori Reda is the only woollen mill fully converted to compressed air looms, thus gaining a significant competitive advantage. The company's management expects that these looms will considerably reduce their power consumption performance in the medium term, as all loom producers stressed the power savings of these types of loom at the 2011 International textile machinery fair in Barcelona, the most important in Europe. The HSE manager said: 'Perhaps it is just a shift in focus, but this probably anticipates the launch of a new generation of looms with better green performance.' However, as looms are replaced every five years, Successori Reda is ready to seize new opportunities to maximise technological efficiency.

Anticipation and management of the impact of green change on quantity and quality of jobs

Impact on quantity of jobs

The introduction of compressed air looms did not substantially affect employment levels, which have fluctuated between 350 and 380 employees over the past 15 years. Nor did it affect the professional profile of the workforce. Fluctuations in demand have been dealt with through measures other than dismissing staff. For instance, the 2009 slump was dealt with by wide recourse to work suspensions (wage integration funds) financed by social security. The launch of the Rewoolution line in 2011 required the hiring of five technicians to control process quality, while its production is outsourced to an Italian knitwear factory. It is therefore too early to assess its overall impact.

The HR company approach

The managerial approach is oriented to continuous, and mainly incremental, innovation intended to improve product quality and respond to variable demand. 'We feel a bit Japanese' says the HR officer responsible.

Learning policies differ amongst technicians and clerks, including research laboratories and technical assistants, on the one hand, and blue collar workers at shopfloor levels on the other. While the former receive regular formal training according to an analysis of their training needs, learning patterns of the latter are mainly based on work experience and socialisation with their colleagues, and the mainstreaming of those benefitting from formal training.

Technicians' formal training includes courses provided by loom manufacturers in order to fully master the technical characteristics of the machinery, and language courses (mainly in English and German) so that workers can properly interface with manufacturers' technicians.

Blue collar workers develop long, extensive, experience-based tacit knowledge. 'Eventually, although you cannot explain how, the product is fine,' as a workers' representative puts it. Achieving such know-how requires several years (from three years in spinning to 10 years in the finishing phases) and relies on workers' ability and opportunity to learn from both their own and each others' experiences.

Initial training has greatly changed in the past decade. The district training centre, Città Studi, in which social partners, local governments and local foundations are involved, used to provide a one-year training at a pilot integrated factory, from handling the raw wool right through to production of the final formal wear. This course was suspended in the late 1990s as the weaving district shrank, and was replaced by an 80-hour course covering general themes (for instance, occupational health and safety, labour contracts, general principles of textile production) provided only to apprentices. Città Studi also provides a wide range of continuous vocational training courses, although Successori Reda prefers to collaborate with its staff for specific technical consultancies.

Task rotation is gaining wider influence, because it allows workers to improve process know-how, thus increasing their employability in the remote case of company turmoil, while also increasing both productivity and final product quality. Cooperation is warmly encouraged. 'If the machines you are assigned to are working properly, you are kindly invited to support any colleague who has a problem,' says a workers'

representative. Technicians, foremen and assistants mainstream all the necessary information for a technical supervision and are ready to intervene in case of technical problems.

The high feelings of security and confidence in the employer's efforts favour this cumulative process. 'When the crisis was announced, we provided supplementary health insurance to all employees' family members, in order to give them reassurance in the face of uncertainty,' says the company CEO.

A workers' representative commented: 'Notwithstanding that there was quite a lot of work suspension in 2009, we always felt confident because the company continued its regular turnover in equipment.'

Impact on skills development

The introduction of compressed air jet looms mainly affects two professional groups, the equipment regulators (20 technicians, including assistants, foremen and maintenance personnel) and menders (about 100 workers, mostly outsourced), and the numbers in both groups has remained stable over time. While the former experienced a substantive development from the purely mechanical background required by shuttle looms, to the mechatronic skills of the new looms, the latter had to refine their manual and visual skills in coping with even minor imperfections, thus ensuring higher quality standards. On the other hand, the new technology had little impact on semi-skilled blue collar workers' competences.

The skills development of equipment regulators occurred from the late 1980s to the mid-1990s. After a preliminary training in computing literacy, they attended a series of courses at loom manufacturers' premises, lasting on average three months. These stages aimed to give them full confidence with programming which was then internalised by intense cooperation when returning to the factory. Cooperation among technicians in solving technical issues, especially in terms of achieving higher reliability of the whole production process, favours both knowledge internalisation and socialisation, and is a further step fostering their programming skills. Since then, introduction of any new equipment has been coupled with a short update at the providers' premises.

Management stresses the company preference for transforming existing jobs by training people in depth rather than hiring new personnel with ICT competences. There was a general lack of mechatronic skills at the district level, and cooperation between 'new' and 'old' technicians was seen as highly problematic because of potential mutual jealousies, thus raising potentially disruptive conflicts in the key area. Such a nesting approach enhanced shared habits in terms of trust in managerial strategies, cooperation, strong focus on problem-solving and orientation to new challenges as they are posed.

Finally, the skills levels of menders was considerably affected. While visible defects declined because there were less ruptures during the more efficient manufacturing process, Successori Reda also stepped up its demand for even fewer visible defects, thus improving its quality standards. This phase is mainly outsourced and menders are required to increase both their skill in detecting visual defects detection and their manual repair skills.

Impact on other job quality dimensions

While compressed air jet looms have a marginal impact on semi-qualified blue collar workers, they have a more significant effect on job quality. Reduction in thread-break changes, and the balance between direct supervision (the 'patrolling' task) and manual intervention in knotting in favour of the former, reduces task variation. However, cooperation amongst employees usually prevents the development of stressful situations.

Successori Reda increased production from five to seven days a week in the late 1980s in the spinning and weaving units because of the higher capital investment in these areas. This was done by introducing a working week of 32-hours concentrated into just three days, composed of two 12-hour weekend shifts and one eight-hour shift between Monday and Friday. Although not a full working week, those who work this pattern are paid as full timers. Such an arrangement is shared by all spinning and woollen mills in the district that have continuous production schedules. A roughly analogous composition by gender among full timers and part timers does not signal potentially segregating outcomes, thanks to both equal pay and the shift in 'normal' working times. However, according to trade union officers, there is no direct link between such a schedule and introduction of compressed air jet looms.

Compressed air jet looms have a strongly positive impact on health and safety, especially in lowering workplace accidents, thanks to higher automation of carrying heavy loads, thread insertion and repair, and maintenance. Lower manual intervention in retrieving broken threads reduces the risk of accidental cuts, while ICT support considerably reduces the physical fatigue in performing equipment maintenance. The wide presence of safety devices (mainly photoelectric cells) ensure that equipment stops when any manual intervention is performed and also greatly reduces the risk of serious work accidents.

'It is almost ten years since we had a serious work accident,' states a workers' representative. This outcome can be better appreciated by comparing it with the district-wide frequency of 20 accidents per 1,000 employees, well above national sectoral rate of 16 per 1,000 employees. OHSAS 18001 certification for the whole plant is part of this attention to occupational safety and health.

Conclusions and recommendations

Successori Reda is a good example of how small and medium enterprises, when confronting competitive challenges by focusing on both high quality products and frontier process technologies, may become aware that their newly consolidated practices are also 'green'.

It displays how a green business practice (GBP) could be the outcome of strategic choices carried out in a previously competitive scenario. Despite the crucial role of compressed air jet looms in paving the company's way to its environmental sustainability, this explains why they are not described as a pillar of GBP in its environmental declaration.

Further, it is not possible to detect any deep cultural change within the company. Instead there has been a cultural evolution able to anticipate new potential demands. When such a potential emerges, such as the increase in the popularity of ethical consumption, skills developed in the previous competitive scenario grant a competitive advantage too wide to be filled in the medium period by any competitor.

Woollen mills in the Biella district are characterised by a long-standing cooperation among employees, especially those producing the finest cloths. When introducing these new looms, Successori Reda mobilised the collaborative attitude among its employees by prioritising the technological issues and process optimisation. Once achieved, this opened new scope for enhancing product quality and associating new 'green' values.

Extensive cooperation was never formalised in any high performance work practice. Instead it was manifested through a well consolidated social compromise which granted an equivalent high level of trust. While the owners offer both job and income security, and consider a good work climate as a necessity for the development of experience-based competences, employees are willing to actively contribute according to their competence level.

While technical jobs, mainly process regulators, were substantively transformed by this green business practice as they moved from a mechanical to a mechatronic paradigm, blue collar workers report only a small adjustment in their skills. Such an outcome reproduces the dualistic skills distribution in the textile industry between skilled process regulators and semi- and low-skilled shop floor blue collar workers.

European Monitoring Centre on Change - EMCC

About EMCC

European Restructuring Monitor

European Jobs Monitor

Labour market research

Case studies

Future of Manufacturing in Europe (FOME)

European Observatory on Quality of Life - EurLIFE

European Observatory of Working Life - EurWORK

Quick links

- Legal information
- Data protection
- Environmental policy
- Cookies
- Subscriptions
- Multilingualism
- Templates for Eurofound reports
- Eurofound style guide
- Management Board extranet
- Map - how to get to Eurofound
- FAQ
- Sitemap

Contact us

Eurofound, Wyattville Road, Loughlinstown, Co. Dublin, D18 KP65, Ireland

Phone: (00) 353 1 2043100

E-Mail: information@eurofound.europa.eu

Press: media@eurofound.europa.eu

MEMBER OF THE NETWORK OF EU AGENCIES

EUROFOUND ACHIEVES EMAS REGISTRATION

EUROFOUND IS AN AGENCY OF THE EUROPEAN UNION

Eurofound