



Pristine conditions are found throughout both the Dani tanneries.

Tannery of the Year: Gruppo Dani, Arzignano, Italy

As one of the biggest and longest established full-service tanneries in the northern Italian cluster of Arzignano, Gruppo Dani has grown into the role of an ambitious and pioneering company, determined to uphold the quality of 'Made in Italy' while making continuous progress in sustainability and in communicating openly with the outside world.

Gruppo Dani is one of the biggest and best known of the 150 tanneries in and around the town of Arzignano in the province of Vicenza in northern Italy. It was founded in 1950 by Angelo Dani and he ran operations himself until the 1970s. He handed over the responsibility for running the company to Giancarlo Dani, the youngest of his six sons, who is still the chief executive today. In addition, seven of Angelo Dani's grandchildren are involved in the running of the company.

It runs full-service production, one of the few companies in Arzignano that does so these days, making at least 97% of its finished leather from raw bovine hides, which the company

sources—fresh when possible, salted when not—from southern and northern Germany, from Scandinavia, the UK, Ireland, Spain, Switzerland. Relationships between tanners and raw material suppliers are changing, Mr Dani believes. Companies such as his are much more inclined to talk directly to big packer firms now, rather than rely entirely on specialist traders, and bring in more hides directly from the abattoir. He describes this as a way of making the leather value chain shorter. This is already happening today, he insists; big beef companies are developing closer relationships with tanneries and in some parts of the world, notably in the Americas, it's perfectly normal for the big packer



firms to run their own tanneries. "They're trying this in Europe too," he adds, "but I think so far they've just seen that running tanneries is not so easy in Europe."

The remainder of production at the moment is devoted to deerskin, specifically white-tailed deer from North America, with each skin yielding between eight and nine square-feet of leather. It currently has around 500 employees and a turnover of approximately €140 million, with 30% of its output staying inside Italy, 40% going to other European countries and 30% to the rest of the world. The company invests about 1.5% of its turnover in research, development and innovation projects.

Gruppo Dani has two separate production units, about one kilometre apart in Arzignano. The newer of these is Dani Automotive, established in 2009 after the group acquired the premises of a tannery that had gone out of business. It has its own wet end producing wet white rather than wet blue for retanning and finishing. Around 40% of Dani Automotive's output at the moment goes into steering-wheel covers, which have to be resistant to light, including the inner areas that are only visible through the perforations automotive brands prefer leather steering-wheel covers to have. This is a challenge that has become easier to meet since the recent advances the big leather chemicals manufacturers have introduced in the last two years to the processing of wet white hides, according to the general manager of Dani Automotive, Valerio Mazzasette. It is progress he is happy to have witnessed, believing as he does that economies need people to make things, that it has been "a disaster" for European economies to become so reliant on banking systems, and numbers and pieces of paper. "Even after 20 years in this industry, what I still like best is to come to the end of the tanning hall at the end of the working day," he explains, "while the drums are turning and everything is scrubbed clean. It's the most beautiful sight."

The older production line works from raw through to chrome-tanned leather for customers in the furniture upholstery, high-end leathersgoods and footwear sectors. In addition, the group has sales offices in Flanders, New Jersey, and in Guangzhou in China, which hold stocks of finished hides in a wide range of colours for client organisations in those markets to use in a range of applications--mostly furniture, automotive, aircraft and marine interiors for the US and furniture and footwear for China.



Pagani's Huayra model is now in manufacture. These exclusive vehicles are upholstered and trimmed throughout with luxury leathers manufactured by Dani to each customer's colour specification.

Complete cycle

The group sources an average of 5,000 hides per day, 100,000 per month. At the moment, 60% of this raw material is going into wet blue production and 40% into wet white. Gruppo Dani is committed to preserving its status as a full-service tannery and is pleased that the Italian tanners' association Unic has developed, in addition to its 'Made in Italy' label, a separate label for leather made from start to finish at a single full-service tannery, 'Made in Italy Full Cycle'. "This guarantees continuity," Giancarlo Dani explains, "and that's important. We've all seen the stories of members of the public complaining of skin reactions after sitting on leather furniture. It means it's important for us to control the full cycle and always to deliver the same quality. Plus, it's certainly the case that if you have good tanning at the wet end you stand a better chance of producing good finished leather. So we want to manage the whole process. We want to control the chemicals used to make our wet blue. We want to be sure of their quality and make sure we tan with the same recipe to guarantee that continuity. We've seen some competitors compromise on this and they have had a bad experience. Just doing wet blue to finished leather meant losing quality and losing their means of differentiating their product. You leave yourself more vulnerable to copying that way. Work on a hide from the start and you get to put your stamp on it, you can make it distinctive, make it yours."

Customers know

A guarantee to the customer is one of the things that sets Italian leather suppliers apart, he says, referring again to the sector across the country rather than just to his tannery. Customers know what goes in and know that what comes out will be good because the skills, the quality chemicals and the know-how are all here. Yes, labour costs are higher than in many leather-producing countries, but he insists that, across the global industry, labour contributes only 8% and 10% of the total cost of a finished hide and that any saving you make can easily vanish because of lower productivity. Plus, if you are further away from the main chemical suppliers (most of whom are in Europe), you will need to tie up capital in a big warehouse and hold a lot of buffer stock in case chemical supplies run short. All that inventory adds cost to your operation too. Finally, tanneries in Arzignano have an advanced common effluent treatment plant at their disposal, which means a further saving compared to a tannery that works in isolation and has to build and maintain its own waste management operation.

In a similar way, many of the world's most prominent tanning machinery manufacturers have their base in and around Arzignano and relations between them and tanners such as Gruppo Dani are well established. One of the main advantages of proximity to the machinery suppliers and good relationships with them is the possibility for customising particular machines. This happened with a fleshing machine supplier in the Gruppo Dani tannery, made to suit the company's



From a technical point of view

(1) Overview of operations

The company operates two production units, both situated near to each other and located within the industrial zone of Arzignano. The Gruppo Dani chrome tannery processes approximately 1,500 raw hides per week mainly as full chrome leather to finished leather for furniture, decoration, footwear and leather goods. Dani Automotive is of similar size, and became part of the group in 2009. This tannery produces mainly wet white leather from raw hides and specialises in leather for the auto sector.

(2) Manufacture and processing

The two tanneries have different layouts and demand different approaches to manufacture because of their respective market supply. However, they share many common features:

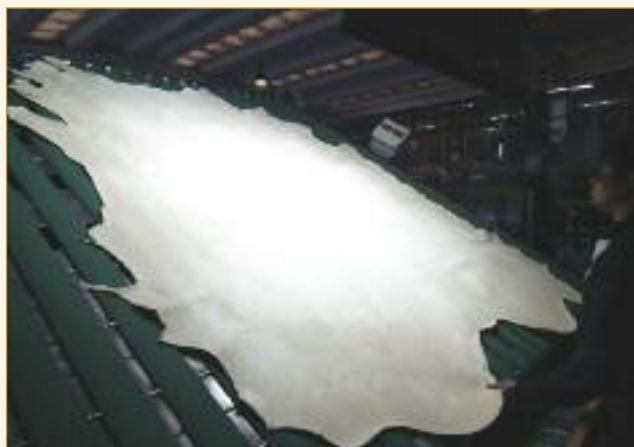
- It is considered by the company that 90% of the properties of leather are developed from processing from the raw to tanned state. For this reason manufacture at both tanneries is based on full wet processing as this provides a secure foundation for the rest of the processes – retanning, dyeing, fatliquoring and finishing – to achieve the highest leather quality and consistency.
- Both tanneries have a very refined traceability system that not only incorporates a record of hide source and full details of process and handling operations, but also full chemical traceability. Samples of every delivery of chemicals, auxiliaries and dyestuffs are sampled on arrival, and analysed to determine compliance to standards. The details of manufacture of each batch of leather produced – including its analysis, specimens used for testing purposes, chemical and finishes used – are traceable from a code stamped on every piece of leather or component that is manufactured. This is a total quality assurance system, with chemical suppliers viewed as partners not just suppliers.
- Each of the tanneries has its own fully equipped laboratories central to this control and the maintenance of records. Services also include the casting of finishing films from binders to ensure the physical properties of the final finish, and chemical analysis of volatiles to ensure standards are met. This function is over and above the provision of full chemical and physical analysis for internal control, and meeting the needs of the quite different and very comprehensive customer demands. To substantiate this control, samples of deliveries are held up to 10 years for any future reference.
- Since its acquisition in 2009 Dani Automotive has received significant investment, so that much of the machinery and handling systems are now common, especially in the beam house and tanning areas. The drum layouts, loading and discharge systems vary, but chain conveyor linkages are used for the movement of limed goods to fleshing and lime splitting, with conveyors used for loading the allocated drums for tanning.



Developments: Oxidative unhairing. Hides following this sulfide free unhairing technique can be compared to the hides from the standard unhairing liming process that are also suspended from the chain conveyor.



Dani Automotive Tannery: After tanning, the wet white leathers are moved to the sammying area where they are hooked into a chain conveyor for separation and feed to the sammying machine conveyor for grading, sammying and stacking as assessment.



Dani Automotive Tannery: After samm/set, the wet white leathers are assessed for quality, then automatically stacked as graded loads on elevated pallets located beneath the samm/setting/grading/stacking line.



- After tanning, both blue and wet white leathers are chain conveyed to the samming operation, then automatically stacked on pallets into seven different gradings. Both water and chemical solutions and processing are managed by computer control: the two systems differ in detail, but essentially the systems operate in the same way and ensure precision of operation.

DANI TANNERY

In addition to bovine leather, a small but important line is the processing of wet blue and crust deerskins for leather goods manufacture.

Special product developments within this tannery include the oxidative unhairing process. After 30 months development, this has reached a stage where loads of two ton in-pot weight are being produced on regular basis. The process uses hydrogen peroxide for unhairing and sodium hydroxide as the source of alkali. A polypropylene drum fitted with an internal water jacket for temperature control has been specially installed to operate this process. These hides are being processed into both wet blue and wet white leathers for a comprehensive range of outlets.

Other innovation is found in the development of new tanning systems in conjunction with Naples University. Mr Nicola Mimo, responsible for research and development activities, explains this includes tannages based on starches and polysaccharide tannages and, in particular, a tannage based on potato starch that provides a shrinkage temperature of 72°C and shows good dyeing properties. And within the finishing departments, all of the water used for blending and diluting finishes is produced by reverse osmosis. Over and above a high level of control of pigments and resins—including the on-site manufacture of plasticisers to rigorous standards—to ensure the highest finish performance, the need for pure water is viewed as a key factor for security of the finish.

An important service provided by the company is found in the considerable stock of finished furniture leather held in the final warehouse. This extends to a palette of more than 300 colours provided by the company in nine different textures, enabling instant provision for bespoke furniture manufacturers with purchases as small as an individual hide.

DANI AUTOMOTIVE TANNERY

All of the drums from soaking to dyeing are set in one single line in this tannery. This includes six stainless steel tri-compartmental dyeing drums, being of three different sizes. This is to ensure that with different load weights, the correct level of mechanical action is provided to each individual load.

All of the chemicals are held under carefully controlled conditions of temperature and relative humidity. Everything is recorded, and it is considered essential to have state-of-the-art storage to avoid any possible deterioration of products used in manufacture to maintain the highest standards.

In addition to wet white auto leathers, the tannery processes wet blue splits for the auto sector. The finishing is specialised, and this has requires a separate finishing department from grain leathers.



Dani Tannery: After wet blue tannage and grading and samm/setting, the hides are fully sealed with polythene and held in store. After drum wet back they are discharged onto a belt conveyor, then clipped onto a chain conveyor for delivery to samm/setting.



Dani Tannery: The mezzanine serving the retanning/dyeing drums and the experimental dyeing departments are fully fitted with stainless steel. This includes all pipe work, feed hoppers for chemicals, safety guarding and staging.



Dani Automotive Tannery: Part of the drying and milling area. This part of the Gruppo Dani operation also has a separate finishing department for automotive leathers.



Dani Tannery: Over and above normal warehousing requirements, a considerable quantity of leather is held in stock for off-shelf purchases of furniture leather. Nine different textures are held within these racks in a range of more than 300 colours.



Dani Automotive Tannery: After careful assessment, cutting dies are placed onto leathers designated for steering wheels. The quality variations across the hide have been identified and graded. The cutting of components for automotive seating is automatically managed according to the cross-hide quality ratings via computer control.

Approximately 50% of the production is sold as finished hides, but the majority is cut to order in a state-of-the-art cutting department equipped with two production lines.

For leather seating the hides are first examined for quality, and then marked to identify three quality zones. Each customer has its own level of acceptable defects, so these assessments are individual and vary. These components are automatically cut under computer control,

made up into batches containing the specified seat components, and then packaged according to customer packaging requirements. Steering wheel leathers are produced on a second line where they are assessed for quality, but then hand clicked to take natural directionality within the leather into account and to ensure shape retention in final use. Finally, these leathers are laminated, stamped with logos as specified, and then packaged.

particular needs some years ago and continuously improved and modified as time has gone on. Likewise, setting machines have helped the tannery to production by increasing the area of each hide that it is able to turn into finished leather, Giancarlo Dani says. "We're in continuous dialogue with these companies," he continues. "We all want to improve production and lower costs. We are waiting for a renewal in liming and unhairing, which could change the kind of drums we use. We will invest in new technology if the benefits are clear."

"I like Made in Italy," Mr Dani says with a smile. "You can always find reasons to move away, almost always related to cost. But those who have tried always seem to find reasons to move back. Made in Italy means having control of the whole production cycle and it means a guarantee of quality and continuity." Companies can always do more to promote leather as a material of choice, he accepts, but just as charity begins at home, his feeling is that tanners and leather-focused consumer-product brands have to invest first in improving their own performance. Investing individually can help the collective effort, he says. "To sum this up in a few words," he says, "we love leather. Our investment in

sustainability is a demonstration of this passion. Our philosophy is that we really believe in what we are doing now, and that we are determined to do even better in the years ahead."

A visit from the neighbours

For a town so long associated with the tanning sector, Arzignano and the surrounding area still seems to have plenty to learn about what goes on behind the gates of the production facilities. One Sunday in May 2012, Gruppo Dani took part in a local project called Fabbriche Aperte (Open Factories). Families with children, people who had lived in and around Arzignano all their lives came to take a look; many had never been inside a tannery before and felt that Dani's automotive production line, the one that opened up for the day, looked more like an operating theatre than the stereotypical view of a tannery.

Excellence is the word Giancarlo Dani uses to talk about the Italian tanning sector in general, not just his two production lines. "We are very proud of this," he says, "we have it in our blood. But for far too many years tanners (in general, not just us) were reluctant to tell their stakeholders about what they were doing. Everything was

internal. But now we want to share this and communicate it externally. Italian leather is a luxury product; we are proud to show it to people." But the term excellence applies directly to Gruppo Dani; Giancarlo Dani received an award for excellence in innovation in June 2011 from the president of Italy, Giorgio Napolitano. This was a moment of great pride, the tanner concedes modestly, and he has stopped to reflect more than once in the intervening 12 months on how pleased his father would have been by this accolade.

Environmental responsibility

The Dani quality manager, Guido Zilli, points out that a change has occurred in the way companies here, as in many parts of the world, view environmental management now. It used just to be a burden, a responsibility to be met, legislation to comply with. Then, a few years ago, some companies began to view environmental good practice as an opportunity. Tanneries in Arzignano are lucky, he says, to have the benefits of the common effluent treatment plant. It's a testament to a collective approach that first came in in the late 1970s and 1980s and represents, Mr Zilli insists, best practice at a European level." The [EC



IPPC] BREF in Seville has called the common effluent treatment plant in Arzignano a beacon for water treatment," he says. Another positive development is SICIT, a company owned by a collective of local entrepreneurs that turns fleshings into fertiliser. In 2009, the authorities in Italy put together a ranking of 'eco-districts' in Italy. Arzignano came fifth overall, but it came out top among the country's leather clusters and the main reason for this, according to Guido Zilli, was the collective approach that now reigns. "There is more we can do," he says, "and we will increase our efforts, but, in spite of the length of time the common effluent treatment plant has been running, people were still producing without thinking about the environment as an opportunity. I would say real collaboration here only began four or five years ago, and I would also say it started thanks to the efforts of a real pioneer, Giancarlo Dani. He has a genuinely long-term perspective, and he lives here."

The company now has 'Sustainable Leather' on its logo, which it justifies by having figures for greenhouse gas emissions throughout its supply chain, from livestock farms to the delivery of finished leather to its customers. This is far from easy. For example, do you calculate the carbon footprint from the cow or from the hide? If you link it to the food industry, you have to include the impact of the agricultural parts of the chain. If you regard the hide as waste, you can start from there because, as Guido Zilli puts it "waste has no memory". He would like this debate to become wider and for more data to become available. Gruppo Dani also has certification from international bodies such as the Swedish-run organisation that helps companies make an Environmental Product Declaration for its leather, and from German organisation Der Blaue Engel and Golden M. It says the Blaue Engel certification, established in Germany, was the most difficult to achieve, and that Germany is "a generation ahead" of Italy in these matters.

Signs of change

Nevertheless, there are signs of change in Italy. Recent invitations to bring the Sustainable Leather concept to the attention of a wider audience have included participation in an event held in Milan at the end of May called Dal Dire al Fare (literally "from words to deeds") to celebrate Italian companies' commitment to manufacturing high-quality products in the most sustainable way possible. Following this came opportunities to present at the conference at the Automotive Interiors Expo in Stuttgart in June and a workshop arranged in Treviso at the start of July by the



Sulfide-free liming systems based on oxidative unhairing products are producing both wet blue and wet white leathers.



Part of the "Fabbriche Aperte" day, when people from Arzignano visit the tanneries, and in this situation are being shown around the laboratories.

umbrella organisation for Italian chambers of commerce.

Giancarlo Dani says it has been "new and surprising" for a tannery to take part in such events. He says there is awareness among leather producers that this is an industry that has an impact on the environment, but insists these invitations indicate recognition that it is working hard to reduce its impact. He talks about all this as an "enrichment of management choices" that has come about as a direct result of making a commitment to producing leather in a way that transparently aims to reduce impact on the environment. What it can lead to, he believes, is a stronger set of relationships between tanners and the companies that use their leather.

"We carry out a customer survey every

year," he explains, "asking people how satisfied they are with the quality of our leather, with delivery times and so on.

"This year, working with a team from the university of Padua, we also wanted to evaluate how interested customers and final consumers are in sustainability. We wanted to know how much our customers, and how much they consider their customers, want the leather they choose to be sustainable. The results were encouraging, especially from European customers. They showed us we are going in the right direction. Now we have to find the right way to communicate this to the wider customer community. We want to avoid being considered as a commodity. We want to be much more than that."



From a technical point of view

(3) Solid waste management

Apart from chrome tanned splits which are sold, none of the solids generated from process are treated by the tanneries but collected by specialised companies. The tanneries pay for this collection, and the companies providing this service process the solids into a range of products. These include fertilisers, leatherboard, hydrolysates, and chromium recovered from chrome shavings and trimmings.

(4) Water and environmental management, Acque del Chiampo

The effluent produced is not treated on site, but by the Arzignano common effluent treatment (CETP) which serves all of the tanneries in the area. After coarse screening at the tannery, the effluent is monitored for volume of discharge and sampled to determine the effluent strength and to calculate charges. It is then discharged into a dedicated pipeline that serves the tanneries in the district for delivery to the CETP.

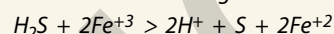
The input of tannery effluent to this plant is 30,000 m³/day, and the effluent is first received into a series of five holding tanks of 35,000 m³ capacity, with the homogenation assisted by blowing compressed air through the effluent.

Two of the tanks are covered to contain odour, and the air vented from these tanks is wet-scrubbed before discharge to the atmosphere. The washings contain hydrogen sulfide in solution, and are treated by controlled oxidation to produce colloidal sulfur. The three remaining tanks are being capped, and will then be operated in the same way.

The effluent is discharged at uniform rate from the homogenation tanks through a 5,000 m³ clarification tank to enable settling of fine solids and skimming of surface scum before delivery for biological treatment.



Air ducted from the encapsulated homogenation tanks is treated to oxidise hydrogen sulfide gas and produce colloidal sulfur in the following manner:



Panel 1: Arzignano CETP performance parameters

Parameter Mg/l	Average composition of tannery effluent received 2009	Composition of treated effluent discharged (tannery & municipal blended)
(Tanneries)	(160 serviced)	
Volume	30,000m ³	30,000m ³ + 8-10,000m ³ municipal
pH	7.9	
COD	5551	101
BOD	2246	<5
TKN	430	6
TSS	2263	10
Cl	2344	1485
SO ₄	1542	1328
Cr ³⁺	78	0.26
S	70	ND

More than a supplier

Marketing and communications manager, Paola Molon, describes this quite simply: she says it's about being not just a supplier, but a partner. She has hopes that a small group of customers will engage in joint communications including mutual links on corporate websites and printed material to make an impact on the final consumer in retail outlets. So far, Gruppo Dani has had an extremely positive response from organisations such as exclusive automotive manufacturer Pagani and Dutch high-end furniture brand Leolux. The Modena-based car company has highlighted Gruppo Dani as one of its partners for the amazing Huayra sports car, which it launched at the 2012 Geneva Motor Show (where it took pre-orders for 18 cars). Pagani only makes 40 cars a year and customers have to be content to wait for their own vehicle. However, one of the pluses is that they get to specify exactly the colour of leather interior they want (sometimes leading to the curious exercises finishing departments in

many tanneries are familiar with: having to match the finished leather to the colour of favourite shoe and other day-to-day objects). Meanwhile, Leolux will engage in a programme to promote sustainable leather from Dani to a group of around 80 retail customers in its home region, the Benelux countries. "The response of our customers has impressed us," she says. "One even responded to the suggestion by saying, 'At last; a company with a vision.'"

Ms Molon says that, contrary to mainstream opinion, not all the news from the furniture industry in recent years has been bad. High-end manufacturers are doing well. Leolux, for example, has said that its sales in the first half of 2012 are stable, but that it is anticipating growth in the second half of the year, with most of the focus on the Benelux market. Italian furniture companies may be exporting most of their output these days, because of the prevailing mood of austerity in their domestic market, but life goes on for them too. Small, high-end furniture manufacturers across Italy

appreciate being able to order minimum quantities of just one hide at a time if they want to work on a product prototype, and being able to choose from nine articles in more than 300 colours from the Gruppo Dani finished leather warehouse; order one day and receive delivery within 48 hours.

People from all over

Gruppo Dani employs 500 people in Arzignano, but more than half of them come from outside Italy. The proportion of employees born in Italy is now 44%; 25% of the whole workforce is from Bangladesh, although they were in the region already (Dani didn't travel to Asia to recruit them). There are also substantial numbers of people from Africa and from eastern Europe. The company says it is working to build a structure to increase integration among workers from different backgrounds, but its starting point is that all its workers are entitled to their own culture and their own beliefs. No one will ask them to leave their private lives at the door when they come



This takes place using two treatment lines of the same capacity. These operate in the same way, and provide the same performance, the only difference between the two is that the depth of the first tanks is 6m (installed 1984), whereas the second tanks installed in 1997 are 12m depth to maximise area use. The capacity of each line is 56,000 m³ aerobic and 9,000 m³ anoxic.

The effluent is first delivered to the aerobic section where the sulfides are oxidized to sulfate, and the COD lowered biologically. Constant recirculation of effluent between this and the anaerobic section causes nitrification and denitrification cycles which remove the nitrogen component from the effluent, with nitrogen discharged as gas to the atmosphere.

At the completion of this biological process, the effluent is discharged from the aerobic section, then chemically dosed with a blend of aluminium and ferric salts with polyelectrolyte, then settled to remove any residual suspended solids and chromium.

After this tertiary treatment, the effluent is mixed with domestic sewage that has been separately treated at the same location before discharge. In turn these discharges are mixed with four other treated effluents to dilute the salinity to acceptable levels. These comprise similarly treated tannery effluent from the Montebello district diluted with domestic effluent, and effluent from three other municipal plants. This is followed by discharged to river.

Solids disposal from Arzignano common effluent treatment plant

All of the solids from the Arzignano CETP plant are blended together, and then dewatered using two filter presses to produce a cake of approximately 25% solids. These solids are further



All of the emissions from the tanneries are wet scrubbed to remove hydrogen sulfide and ammonia gas from the wet processing area and extractions from the finishing departments.

dewatered using a pair of rotating cylindrical vessels where the solids are subjected to thermal treatment via internal piping circulating with oil at high temperature. This produces dried solids at 15% moisture, which are extruded from the system, cooled and stored in hoppers. These solids are finally discharges into poly bags, and then collected for controlled landfill.

Emissions from the tanneries

All of the emissions from wet processing and finishing departments are subjected to wet scrubbing using chemicals appropriate for any emission before discharge to atmosphere. ☺

onto the Gruppo Dani premises. Everyone brings their own values to work; most of these values are common to people from all parts of the world.

Like many parts of northern Italy, Arzignano is a diverse community now, something for which Paola Molon says the tanning sector must be grateful. "It's not so easy to find local people who want to work in the leather sector now, unfortunately," she explains. "And you can see that many of our younger workers in particular are from overseas."

The group is making a total of 7,000 hours of training available to its workforce in 2012, up by 1,000 hours compared to 2011. Safety in the workplace and quality issues are important training topics, as are communication and team-building. Other options are training in lean thinking and lean production from experts at the University of Padua.

"In committing ourselves to these developments, I hope we can be an example for tanning companies in the future as the industry moves forward," Giancarlo Dani concludes. "We don't want to be special. We just want to be considered a business with a vision for the future." ☺



LABORATORY SERVICES

The laboratories provide a full range of analysis as appropriate for automotive, furniture, footwear and leather goods manufacture. In addition these laboratories are central to a traceability and product control system that encompasses quality assurance of all chemicals used in leather manufacture.

APPROVAL AND CERTIFICATION Control and accreditation

- 1997 - ISO 9001
- 2010 - ISO TS 16949
- 2009 - UNI 11239 - Leather from Italy Full Cycle
- 2009 - UNI 11181 - Environmental Product Balance
- 2011 - ISO 14067 - Carbon Footprint
- 2012 - ISO 14025 - Environmental Product Declaration
- 2012 - RAL UZ 148 - Der Blaue Engel
- 2012 - RAL GZ 430 - Golden M