
L'attitudine per l'impossibile
CREATED IN ITALY
An aptitude for the impossible

CREATED IN ITALY
AN APTITUDE FOR THE IMPOSSIBLE
TALES FROM ITALIAN MANUFACTURING

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Sponsored by: Istituto Italiano di Cultura Melbourne

An exhibition featuring the landscape of Italian Industry, under the auspices of the Board of Cultural and Economic Promotion and Innovation

Calendar: September 2021

An idea by the Cultural Promotion Office,
Ministry of Foreign Affairs and International Cooperation, Italy

CREATED IN ITALY _ L'ATTITUDINE PER L'IMPOSSIBILE / AN APTITUDE FOR THE IMPOSSIBLE STORIES OF ITALIAN MANUFACTURERS

CREATED IN ITALY is an exploration of modern Italian industry. Its aim is to tell a fascinating tale of Italian know-how and with the threads of each story, create a tapestry of the productive qualities and of the drive in the Italians' DNA.

These qualities include: the stubborn search for perfection and a universally recognised spirit of invention; the ongoing need to experiment which pushes one to break through the limits of the material; the pleasure taken in a well-made product; the fine-tuning of the instruments needed to better the life of people; the pleasure in beautiful objects and a life lived fully; the generosity in accepting challenges, in building "made-to-measure" products, in knowing how to adapt processes and techniques in this scope.

This exhibition offers visitors a tale of the Italian industrial system, an open-ended story that cannot cover everything, but hopes to be a first step, sharing the extreme variety of objects and constellations of product types which characterise Italian production: the same variety which can describe the complexity ofthe typically Italian productive qualities.

The variety of the Italian industrial landscape is mirrored in the varied the natural landscape which is so unique in its wealth of differences (from the Alps to the sea, from the planes to the Apennines, from the volcanoes to the islands...). Under this profile, the exhibition increases the awareness of the importance of this grand diversity - a characteristic trait of Italy which is often underestimated - which clearly comes through in the industrial products.
It is this wealth of objects and research which frames the background of a job done to perfection, of the artisanal matrix which lives on, evolving, in the industrial context.

This is a tale of a handful of meaningful examples, the result of diverse creative torque. It is accompanied by in depth analysis and by a parallel online exhibition and a catalogue.

ABSTRACT

The day-to-day routine of people practising the great art of industrial design in Italy brings them into contact with the amazing realities of production, manufacturing segments, expertise, and experiences peculiar to this country's economic fabric.
Foreign firms and designers who have watched ideas that seemed only vaguely hypothetical turn into feasible possibilities are always flabbergasted.

The solidification of ideas is thus a feature of the Italian industrial and semi-industrial landscape. Ideas. here in Italy, can be transformed from evanescent, iridescent substances into actual products, and ultimately into emotive answers to a challenge accepted and overcome.
And so, the idea of an exhibition that would stage the story of these remarkable capacities came into being. It would present paradigmatic examples of products that have driven technologies and experiments, materials, and expertise beyond their known limits until they themselves are paradigms.

In many ways this exhibition is a collection of stories. They might give the impression perhaps, of being "symptoms" of a "productive madness", but they are stories of people prepared to risk, whose motto is often "let's give it a try" instead of resting on the easier "it can't be done".

This exploration of Italian industry reveals an archipelago of successful endeavours, representing the peaks of an attitude that has made our nation unique. And all thanks to a system of medium and small businesses that have nevertheless achieved the gigantic feat of changing the world's history of material culture.

The same idea of our discipline, as the transformation of the mere drawing of objects into a medium and poetic instrument of storytelling and reflection, is embedded in Italy's productive and design history. The story unfolds as a minor atlas of finished products, but also of prototypes as steps in the development of pieces and samples during their various stages of production. As id in an ideally frozen process, each phase helps to explain the metamorphosis of matter into finished objects.

OBJECTIVES

To exhibit paths of design and such unusual, unexpected results is a means of recounting the intrinsically Italian ability of our industrial enterprises to tackle and transform difficulties into opportunities. The idea being that somewhere an Italian entrepreneur can always be found who is prepared to turn the seemingly “impossible” into the “possible”, to move information and knowhow from one trade sector to another, from one industrial practice to the next, not rigidly, but with a passion for the unexplored, and a heuristic attitude professed lightly yet deeply too.

This exhibition, hosted by Italian Cultural Institute worldwide, is intended to promote industrial expertise so as to attract other creative minds. In this way a dialogue and collaboration between Italian and international companies can be created to establish a repertoire of perfectly accomplished instances of research and development. This is pure oxygen for anyone on the lookout for productive situations open to ideas focused on innovation, while bringing different economic systems into contact and exchanging energies, in a B2B perspective

As a corollary to the exhibition, it would also be worthwhile organize events and seminars with the Italian companies involved, leave enough scope for the protagonists of our production system so we can listen directly from them, what it means to do (creative) business in Italy in and for the world.

SUPER SUPERFACES

Abet Laminati - Decorative surfaces in laminate
Bra (Cuneo) / Piemonte

Abet Laminati is an industry in the Piedmontese hinterland born from the production of tannin extracted from chestnut - destined for the tanning industry - which was converted towards the end of the 1950's into the production of laminates for architecture. Laminate was at that time a revolutionary product: resistant and colourful surfaces, produced through the stratification of kraft paper and thermosetting resins. The desire to experiment new paths and a certain long-term thinking in reckoning a reciprocally dependent relationship between industry and the art world pushed Abet to entrust the designers, artists, and architects with the work for finding an identity for a new "artificial" material which up to that point had only imitated natural materials such as marble and wood. Alessandro Mendini, one of the most sophisticated "ideologists" of decor, recognized that the collaboration of Abet with a large quantity of known and lesser-known creators was "one of the widest laboratories of decorative experimentation of recent years". The encounters with Gio Ponti have gone down in history as he called laminate an "extraordinary material for architecture, the first not to be tied to nature but elaborated by man", and then by Ettore Sottsass, who transformed it into the flagship of the anti-functionalist liberation of the 1980's. Abet has succeeded in establishing laminate as an expressive language on the international scene with a catalogue of decorative surfaces which is unparalleled.

THE RE-INVENTION OF WOOD

Alpi - Superfici Decorative surfaces of composite wood
Modigliana (Forlì-Cesena) Emilia-Romagna

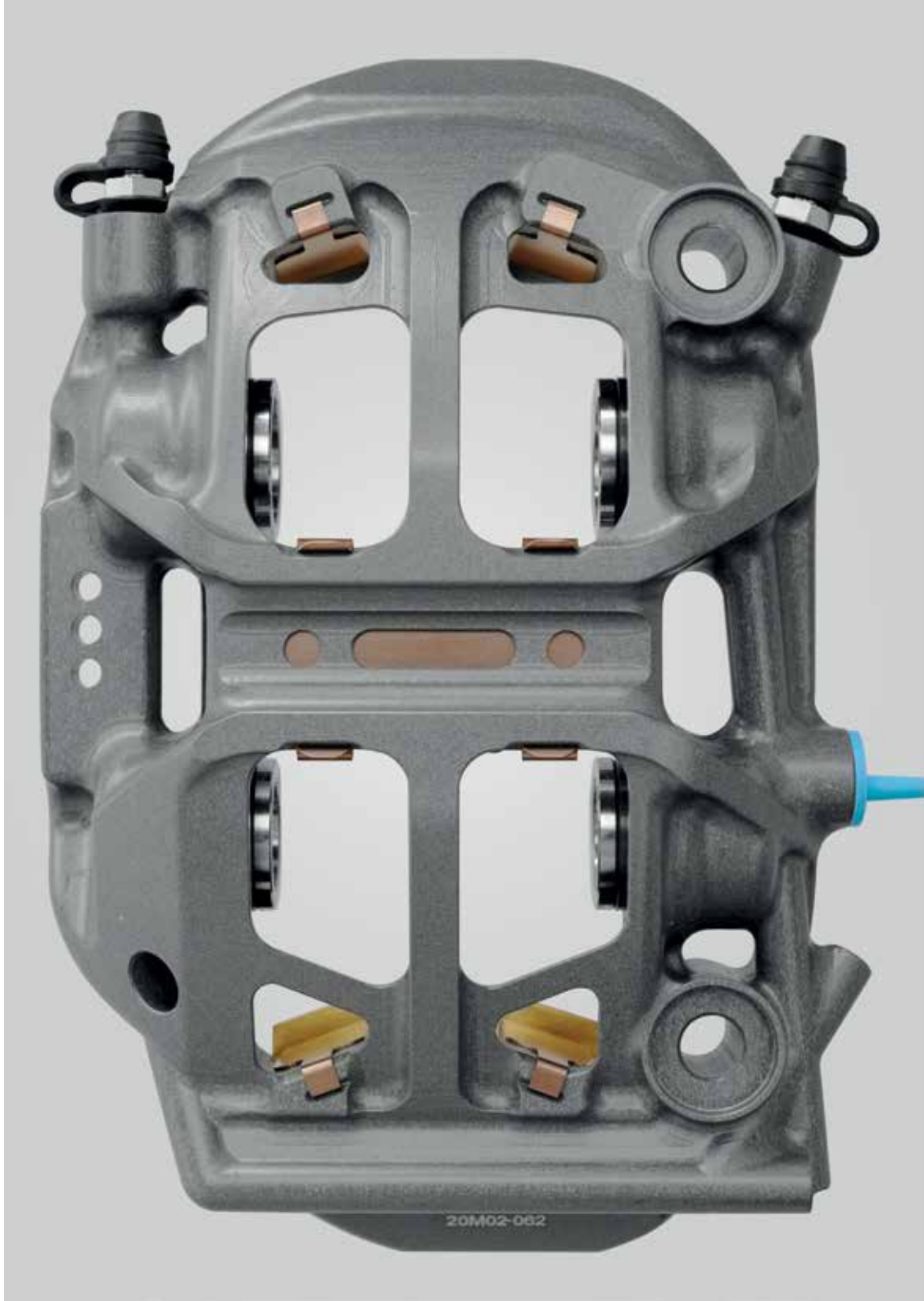
Alpi produces decorative surfaces of composite wood thanks to the invention of a manufacturing process that the Alpi family industrialised at the beginning of last century with an eye to finding an affordable alternative to the market of prized essences which exist in nature: a way to produce new ones while respecting environmental resources. Alpi deconstructs and reconstructs the wood in infinite essences, finishes and decorations through an extremely sophisticated process, making the collaboration with designers an integral part of the exploration of the possibilities of reinventing and designing new grains in the wood. The continuity of production over time of an identical design represents a significant industrial parameter. Alpi's is a vast collection, comparable to a mine, an archive, a library, which allows customers and clients to choose from an infinite range of essences, textures, and tonalities.

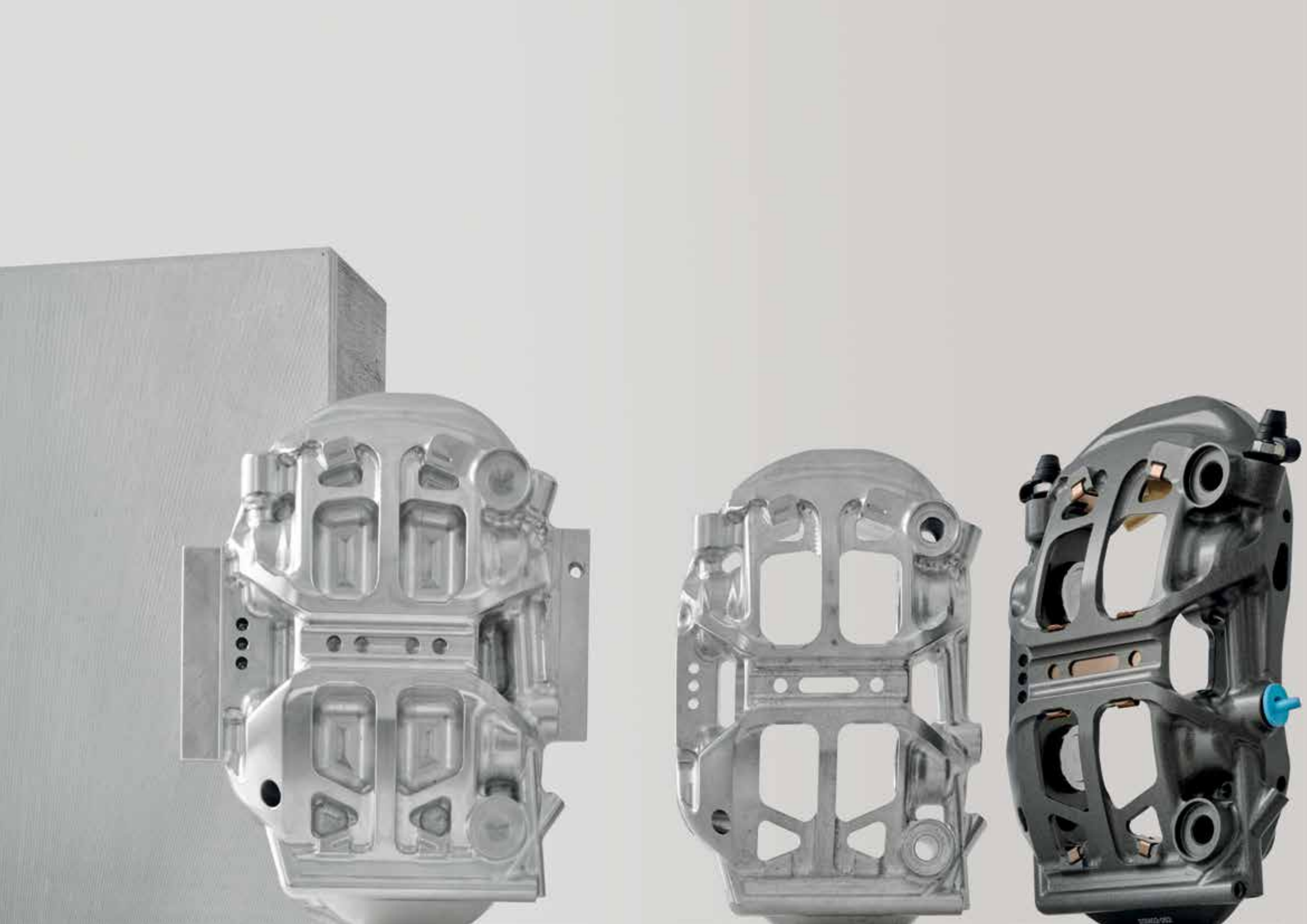
FROM 300 KM/H TO 0 IN 3 SECONDS

Brembo - Brake caliper for Formula E
Stezzano (Bergamo)/ Lombardia

Having started in 1961 as a small mechanical workshop, Brembo has specialized since the mid-1960s in the production of brake discs and calipers. In a very short space of time, it grew to become official supplier to Ferrari and to the leading automobile and motorcycle racing teams. An absolute global landmark in the braking systems industry, Brembo transformed a mechanical component so successfully into “a sculpture with outstanding performances” as to win the prestigious Compasso d’Oro design award twice. The company operates in 15 countries on 3 continents and relies on the services of over 11,000 people. Of these, a considerable number (about 10%) are engineers and specialists involved in research and development.

Caption:
Brembo, brake caliper for Formula E, 2017 (Compasso d’Oro 2020). Four processing stages: the caliper is a monoblock machined from solid billet aluminium alloy quad block. The development of the caliper (like the special carbon discs) was specially adapted to the requirements of a fully electric single-seater. It is consequently the most advanced result of an intensive drive to achieve ever better performance and lightness. It weighs just 965 grams. From the material to the finished caliper: 1. Aluminium alloy quad block (initial semi-finished product)/ 2. Semi-finished product in the initial processing stage / 3. Semi-finished product in an intermediate processing phase / 4. Finished caliper.





NATURALLY FIREPROOF

Coex - Naturally fireproof technical fabrics
Pieve Porto Morone (Pavia) Lombardia

Founded as a spin-off of Torcitura Padana (a textile company specialised in producing threads) and Zanolo Group (a longstanding company from the Biella region specializing in dyes), Coex has fine-tuned a patented technology for rendering natural fibres intrinsically fireproof, without that is the use of additives (no chemical product as flame retardant o fireproofing resins). The textile is thus biodegradable and hypoallergenic, soft and comfortable: in other words, it is indistinguishable from every other type of quality thread as the character of innovation is imperceptible to the senses. When exposed to flames it does not burn, it doesn't drip, it doesn't emit toxic smoke (such as dioxin) and can withstand even the highest of temperatures. "We are the first in the world to have patented a fireproof natural fibre", says Simona Pesaro, AD of Coex. "Both of our companies have worked together for years in the production and the dyeing of threads. When it was time to think about exploring possible innovations together, one of our young chemists suggested digging up an old study from the 1950s which was about a chemical process for modifying cellulose-based fibre to form a barrier that fire couldn't penetrate. The research carried out by the University of Chemistry in Pavia was crucial and after 4 years of research and substantial investments we succeeded in patenting a technology based on the characteristics of phosphorus, nitrogen and sulphur which modify, without additives, the cellulose molecular structure. The result has surprised even us. From therein the production of the first threads, in linen and cotton, which don't burn and are biodegradable".

CONCRETE DESIGN

Crea - Manufacts in cement for mono-material landscapes
Darfo Boario Terme (Brescia) Lombardia

Crea was founded in 1997 by the Piccinelli family, active for generations in the world of building constructions amongst the best of the traditions found in the Bergamo and Brescia territory. The company, following many years of experience in the manufacturing of cement, specialises at first in the production of building products; thereafter it changes intervention scale from buildings to small sized products until it enters the world of industrial design as supplier of many well-known creators such as Alessi, Foscarini, Alias and Kristalia. CREA, while building products made of cement wholly by hand, is characterised by an engineered production line and a wide-ranging experience in the engineering of mixing cement for varied uses.

FIRST UNDERWATER

Cressi – Scuba gear
Genoa/ Liguria

Cressi Sub is one of the longeststanding scuba gear factories in the world. It was the Cressi brothers, who were fishing and sea enthusiasts, who invented the first series-manufactured mask, along with numerous other scuba devices and pieces of equipment such as the first closed-circuit breath tank. Before World War 2, Egidio and Nanni Cressi had already begun to design the first artisanal scuba products. They continued to build a know-how that led them to produce the first industrial product for seeing underwater: a single lens mask called Sirena. It was with the Pinocchio mask, however, that Cressi Sub gained worldwide fame. Fitted with a shaped nose pocket, it gave better compensation to free divers. Still in the catalogue continuously since 1953 it can be considered the best selling model in the world. Cressi Sub is proud of making the bulk of its products in its central headquarters in Genoa. To this day, Antonio Cressi (son and nephew of the company's founders), is accustomed to test every new product in the nearby bay of Portofino. It is this kind of inventiveness, and the desire to make underwater sea exploration accessible to all, that explains the existence in Genoa of one of the world's most important scuba dive locations.

LIFESAVING DESIGN

Dainese - Smart Jacket
Vicenza / Veneto

Dainese focuses its mission on body and life protection. Its keyword is “safety and its principal products are “protections”. It is in this light that Lino Dainese, the company’s founder, although operating with a wide margin of invention within the narrow framework of absolutely reliable body protection, explains the starting point of his corporate goal: “We feel closer to medicine than to fashion”. When the first functional back-protector model made by Dainese, named “Aragosta”, saved the spine of racing driver Freddie Spencer after a fall on the Kyalami circuit in 1981, it came as a turning-point in Lino Dainese’s business development. From motorcyclists’ clothing he switched to protection gear: devices to complete the motorcyclist’s apparel. Over the years, that safety culture steadily advanced and the firm’s interest in body armour expanded to include new applications such as the protection gear used by the Luna Rossa’s Prada Pirelli Team during the America’s Cup.


PIRELLI
PRADA
LUNA ROSSA


SIRENA
04

CLEANING THE SEA WITH GRAPHENE

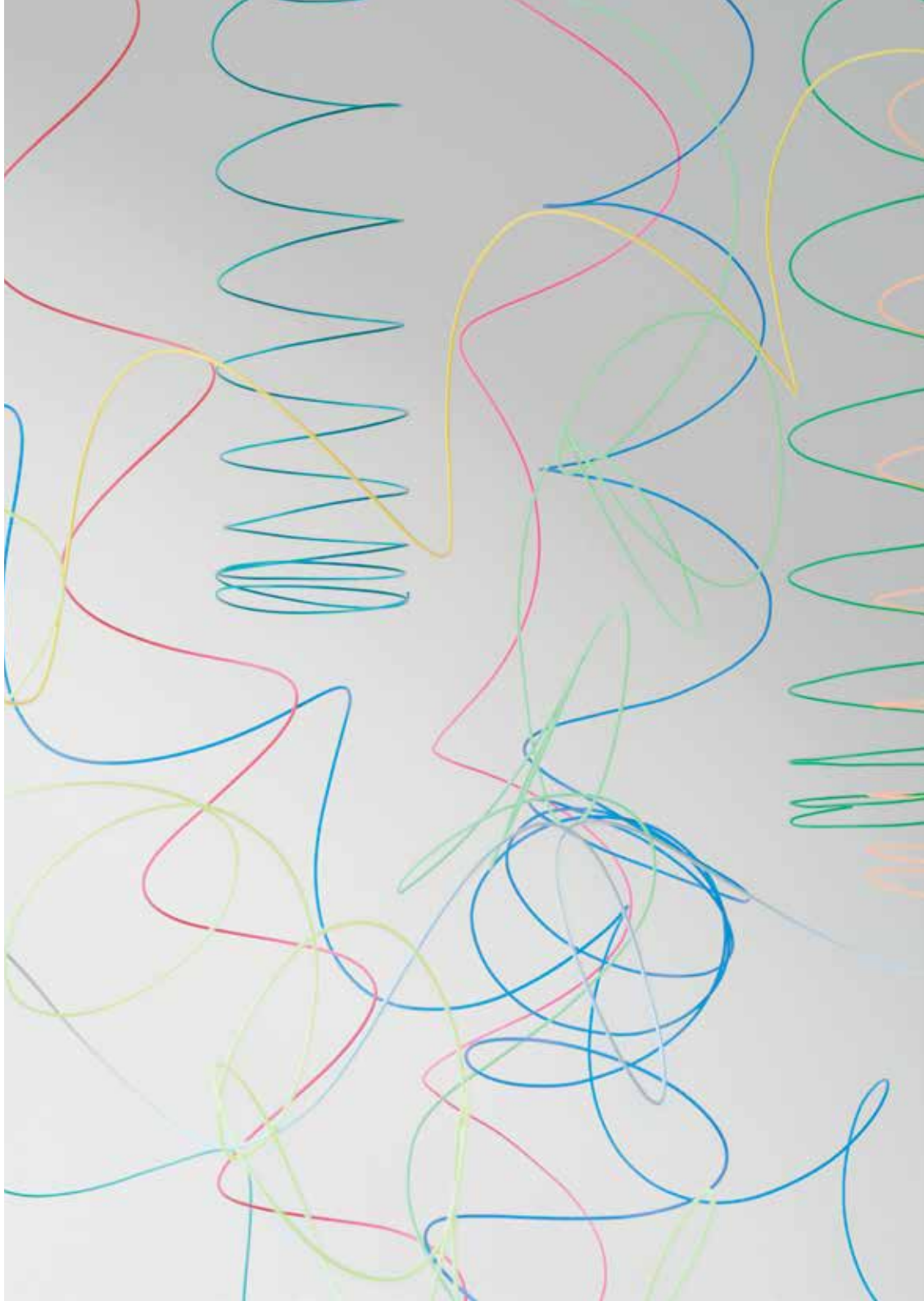
Directaplus – Grafysorber®, a device for the depollution of water, composed of graphene-based three-dimensional nanostructures (patent Directa Plus)
Lomazzo (Como) / Lombardia

The discovery of graphene in 2010 earned a Nobel for the two scientists who researched it. A material with promising characteristics, graphene conducts electricity better than copper, it is transparent like glass, more resistant than steel and can be moulded like plastic. Directa Plus is the biggest European graphene production company (in terms of production volume) and the fourth largest in the world. Its forte is that of having been the first to develop a production technology based on a completely physical process requiring no chemical agents. Its industrial production is thus fully sustainable. The company started from an intuition pursued by Giulio Cesareo, the founder partner and CEO where graphite is subjected to a process called plasma super-expansion. This uses very high temperatures, of around 10,000 degrees, well beyond that of the sun's surface. After studying production technology in the United States, he brought it to Italy where Directa Plus put down its roots with the idea of bringing to bear the excellence of its territory in terms of human resources.

3D MULTI- COLOUR

Eumakers – Filaments for 3D printers
Barletta (Barletta-Andria-Trani) / Puglia

Eumakers is the new branch of Rigenera Biocompound, part of the group of companies set up around Sfregola Materie Plastiche, which has been active for over 50 years in the processing and transformation of plastics, and in the production of a wide range of biodegradable, compostable trash bags, can liners and shoppers for numerous types of waste sorting, special rubbish and urban cleaning. The idea of Eumakers is to reuse the processing scrap left precisely by this vast industrial output, for their transformation into raw material for 3D printers while concentrating on colour.
It is concerned in fact with producing filament reels in ninety different varieties of colour



THE FARMERS" MULTINATIONAL

Falci - Forged iron manual agricultural tools/cutting tools
Dronero (Cuneo) Piemonte

Falci (scythes) is a maker of scythes located in Dronero: blacksmiths since 1600. In a valley in the province of Cuneo the master craftsmanship of the world's most perfect cutting tools has been passed down ever since. An absolute landmark for farmers from every corner of the planet, Falci keeps an archive of myriad different models and forms, all interpreting the same movements. With over 300 different models of scythes. A scythe is forged entirely by hand in 25 passages. "The advantage of the sharp cut, for example, is that the grass recovers immediately and stays clean on the ground ready for use as mulch. From the productive point of view, perhaps not everyone knows that and cannot be made in any other way. Forging is a violent processing of steel. The hammers compress the molecules, and it is this treatment that gives the scythe its flexibility. And thus, a sharp, thin, and light but also highly resistant object is obtained. It does not bend, it is sturdy, and since it must be gripped, it adjusts to the movement of the arm. A scythe in fact must weigh on average two or three (approx. 7 or 10½ oz.) hectograms" explains Carlo Pedretti, chairman of Falci. The last manufacturer existing in Europe with expertise in this sophisticated industrial culture, Falci is the world leader and operates in 56 countries. There exists a whole chunk of the world in which farmers see manual tools as offering many advantages compared to machinery.


Acier Diamant

3D-PRINTED BIOMECHANICAL SADDLES

Fizik - Antares Versus Evo Adaptive saddle
Pozzoleone (Vicenza) / Veneto

Antares Versus Evo Adaptive is the first 3D-printed high performance saddle. With a honeycomb geometrical structure and shock-absorbing frame divided into functional areas, it was developed by Fi'zi:k through hundreds of practical load tests. The production of both prototypes and final products uses Digital Light Synthesis processes, an innovative technology deploying digital ultraviolet light projection and programmable liquid resins to make parts with excellent mechanical properties. The saddle is produced in collaboration with Carbon®, a digital production company headquartered in Silicon Valley. This product development model ushers in a new idea of varied series production: industrial products made to fit the body of each individual cyclist.

TECHNOLOGICAL SUPERCAR TRIMMING

Fontana Group – Moulded aluminium automotive components
Calolziocorte (Lecco) Lombardia

Fontana group is one of the most important makers of super car bodies. It is also a world leader in the manufacture of moulds and in the moulding of aluminium car bodywork. The group started in the 1950s when Pietro Fontana founded a workshop for mechanical processing and blanking focused on small metal parts. It is this aptitude for perfection in smaller items stayed with him when he moved his sphere of application to concentrate on what became his core business: the making of automotive moulds. In the 1980s, he brought the first numeric simulation software into the factory for the study of materials deformation: showing how a constant interest in the most advanced technologies can be grafted onto a habitual state-of-the-art craftman's approach. As in a tailor's shop, Fontana Group designs and makes the car apparel for customers like Audi, BMW, Ferrari, Jaguar and Rolls Royce. For Ferrari alone, Fontana Group made 100% of the Granturismo car bodywork. Outstanding is the masterly production of geometrically complex pieces with advanced materials (such as high-resistance aluminium alloys, magnesium alloys and carbon fibre composites) and technologies such as Blow Forming or additive manufacturing. In recent years the company expanded its expertise gained in the automotive sector to include the aerospace and furniture industries, with the opening of its new divisions F-Blow and Altreforme.

FISHING FOR LAMPS

Foscarini - Mite lamp, design Marc Sadler
Marcon (Venezia) Veneto

Foscarini is a company that started in the same area of Venice in which the art of glassmaking was traditionally consolidated, including the historical manufacture of decorative chandeliers. Foscarini built its reputation on the making of lighting products. Collaboration with the design culture of figures like the designer Marc Sadler led Foscarini to create synergies with operators from different sectors by experimenting with the transfer of techniques and technologies to the sphere of light. From the use of glass resin to Kevlar and to composites and concrete, Foscarini products relate their innovation process to a readiness to turn ideas into real products and to “investigate” the potentials of materials and technologies. Carlo Urbinati, the company’s chief executive, explains: “There are times when the presentation of a project by us is greeted with a peremptory ‘it can’t be done’. In which case we hope to be on the right road towards doing something original, because we have learnt that this comment often means ‘we have never done that’”.

MONTESSORI MATERIALS/MAKING SCHOOLS

GAM Gonzagarredi Montessori - Learning devices
Gonzaga (Mantova) Lombardia

"A key to open the world" is the image used by Maria Montessori to explain the function of the educational materials developed in close collaboration with her friend Maria Maraini Guerrieri Gonzaga. These materials were designed and made with the idea of attracting children's attention and supporting the way their minds work: by associating manual dexterity with the cognitive process. Maria Montessori prompted the extraordinary pedagogical revolution that recognised children's right to be helped to "do it by themselves" and thus to undertake a path of "self-education". Also, among her many merits was that of having re-thought the children's surroundings as a place of learning in themselves. And from this perspective she may be considered a pioneer in design for childhood and for processes of knowledge as exercises in freedom to experiment directly. GAM Gonzagarredi Montessori took up the inheritance of the "Società Anonima per il Materiale Didattico Montessori" created in the early 1900s, precisely to produce the first educative materials. Still in Gonzaga, it continues to produce and to collaborate with the world's most important Montessorian experts and associations.

U.F.O. UNPOLLUTING FLYING OBJECTS

Gemar - Biodegradable latex balloons (baloon district)
Casalvieri (Frosinone) Lazio

Located in the Frosinone countryside, at Casalvieri to be exact, in an area known as the “balloon district”, is Gemar, a company that has been making latex balloons since 1902, now perfectly biodegradable. Gemar, with its coloured balloons, bears witness to the variety of Italian industrial districts. It seems incredible that Italy can also boast the European record in the production of this type of manufacture. At the rate of six million a day, Gemar continues to make the “Italian balloons” sold worldwide in more than 100 shapes and sizes and bright colours.

HIGH_ALTITUDE SAFETY

Grivel – Duetto helmet, G22 Plus crampons
Courmayeur (Aosta) Val d'Aosta

Grivel is the name of the historic blacksmith's workshop in Courmayeur, which had always built its business around the needs of a small community living at the foot of Mont Blanc.
At the beginning of the nineteenth century the passion for modern mountaineering began to spread, and the Grivel smithies found themselves able to satisfy the demands of a new category of customers. When climbers from all over the world began to arrive with the intention of climbing the highest peak in Europe, the smithies started switching their production of agricultural tools to that of climbing gear. In 1909, from an encounter between Henry Grivel and the British railway engineer Oscar Eckenstein, sprang the idea of making a tool that would revolutionize ice-climbing. The first modern crampons launched a production of mountain equipment that is to this day among the best and most advanced in the application of new technologies. Although still on a manageable and family scale, Grivel operates in over 50 countries, to which it exports 90% of its products; and so it might be called a "pocket multinational".

Caption:
_Grivel, Duetto helmet, EPP (expanded propylene), (53-60 cm). Duetto is an innovative helmet. Its name indicates the concept of a double certification as a rock climbing, mountaineering and ski helmet. Moulded in EPP (expanded polypropylene), it weighs 215 grams and is much lighter than all of its current competitors. Its thickness ensures excellent all-round protection.
_Grivel, G22 Plus crampons. This is a modern and lightweight crampon for technical climbing. Characterised by its two T-structured forged steel front spikes that can be replaced, if necessary, the plasticity of the forged steel guarantees a safe grip plus "soft" ice penetration. The position of each spike is calculated to provide maximum stability in all climbing postures and on all forms of ice. The Antibot system prevents snow accumulating under the crampon.

AUTONOMOUS ROBOTIC

Goliath is the first portable and autonomous CNC robotic tool
(design Lorenzo Frangi, Alessandro Trifoni, Davide Cevoli)
Milan / Lombardia

Goliath is the first robotic CNC portable and autonomous milling machine produced by Springa, a company established in 2016 to develop robotic tools for digital manufacturing. For its first product the collective of young designers and engineers from the Milan Polytechnic developed through a Kickstarter crowdfunding the project for a robotic machine tool that changes the ratio between a milling machine and worktop by reversing the point of view: from fixed to mobile. The worktop in fact becomes the panel itself that is being milled, while the most consistent part of the machine (usually a kind of cumbersome table) disappears. When the digital fund surprisingly raised the sum of $ 1,072,544, the product's engineering was further galvanized in the knowledge that it had hit on a need felt by the world community of makers. The Goliath CNC miller removes the fixed borders of work tools while imagining a dynamic workspace built on freedom of action.

NEW SHAPES OF SOUND

K-Array - Flexible Anakonda snake speaker
(design Alessandro Tatini)
San Piero a Sieve (Firenze) Toscana

Flexible Anakonda snake speaker (design Alessandro Tatini)
Italy has a number of important sound engineering districts, where small and medium firms have sprung up from the initiatives of engineers and musicians driven by the need to meet specific acoustic and sound reproduction targets. K-Array, one of the most interesting enterprises in this field, designed Anakonda, a flexible, windable, crush-resistant and modular speaker. It can be considered the first “folding” speaker in the history of sound diffusion.

INVENTING THE CARABINER

Kong - Connectors in every shape and type
Monte Marenzo (Lecco) / Lombardia

Kong is a leading maker of carabiners and safety equipment, used in climbing, rescue, speleology, sailing and altitude work. The brand was created in 1977 to carry on the experience gained over the years by the Bonaiti family's mechanical workshop, specialized in the production of wire-derived articles such as nails, buckles, chains and farm tools. Located in the Lecco mountains, on the road formerly known as the iron and timber way, the firm has been active since 1830. Kong entered the history of mountaineering after joining the evolution of safety gear. It started from the invention of the D-shaped carabiner, when the legendary climber Riccardo Cassin asked Felice Bonaiti to perfect pear-shaped hooks used by the Munich firefighters which the climber Otto Herzog had adopted to climb the south face of Schüsselkarspitze around 1914. It is on this type of experience that Kong built its reputation for inventing and developing the standard of safety equipment. In the 1960s the Bonaitis "cold"-manufactured the first light alloy carabiners for extreme climbing, reducing their weight from 200 to 65 grams. Over the years, this output extended to other rescue articles such as the "Lecco" stretcher which became a standard part of mountain rescue work. In this field, Kong is now a landmark name in rescue and safety training practices.

INFINITE PASTA SHAPES

Landucci - Extruder dies and inserts for traditional
and fancy formats
Pistoia / Toscana

For Italians the multiplication of pasta shapes is not only a food tradition but one of the foundations of its material culture. Landucci can boast nearly a hundred years of experience in the production of pasta extruders: an experience that evolved in the passage from the completely hand-made to industrialized production processes.
The extruder die is the mainstay on which the industrial processing of pasta rests: an unexpectedly sophisticated device made by just five factories in the world, four of which are in Italy. Thanks to a constant dialogue with the makers of production lines and pasta makers, Landucci can offer an infinite variety of pasta shapes in a repertoire developed during almost a century. Founded in 1925 by Sestilio Landucci, it is still a family business, now into its fourth generation and operating on a globalized market.

SUSTAINABLE TEXTILE

Limonta - Bio-based technical fabrics
Costa Masnaga (Lecco) / Lombardia

A symbol of the evolution and constant updating of the textile sector, Limonta was established and developed in Costa Masnaga in the Lecco area, in one of the oldest European textile tradition zones, between Lake Como and Milan. The company, which started with the production of tapestries and jacquard fabrics, in the course of time specialized in the integration of chemistry and textiles to transfer into the sectors of fashion and furniture the results of this research geared to product innovation and diversification. Among Limonta's iconic products is "Dolmias", a nylon technical fabric with a particular silky effect, a polished look, and a compact touch. Founded on this type of industrial invention is the firm's global success, making it a landmark name in the world of technical fashion textiles, with an unmatched authority in the sphere of fashion design. Today Limonta's new frontier concerns textile sustainability both using regenerated nylon and hands-on research in the field of biopolymers and bio-based technical yarns.

Caption:
_Samples of Dolmias technical fabrics, made by Limonta 2021.

ENZYMATIC INDUSTRIAL MANAGEMENT

Magis - Chair_ONE, design Konstantin Grcic
Torre di Mosto (Venezia) / Veneto

Magis performs a unique role in terms of research and the technological transfer of industrial knowhow into the furniture sector. Its CEO, Eugenio Perazza, was decisive in reconnecting to the purest Italian tradition of design factories and rooting this model in a territory endowed with such outstanding industrial vitality as that of the North-East. Matching a technical flair with a passion for design culture, Perazza built up a solid reputation starting from the 1980s. His firm is today one of the most influential on the contemporary Italian design scene. Due to his convinced introduction of design to a district until then configured as a sort of system of suppliers of technical and industrial knowledge, Perazza and Magis unmistakably represent the enzymatic function of design as a catalyser. By combining different agents, it has generated innovation and paradigmatic objects in the history of Italian design. At the head of a company which he defines as being "without a factory", Perazza maintains that "whilst it is true that the technology is available on the market, the technique, intended as the capacity to make technology work, is not so. Rather, it is part of the company's own exclusive intellectual capital".

Caption:
_Chair_ONE, chair with swivel seat, design Konstantin Grcic, seat in die-cast aluminum, base in concrete.

HIGH CRAFSTMANSHIP OF SPIRIT

Nonino - Nonino Cru monovitigno
Ronchi di Percoto – Pavia di Udine (Udine) / Friuli Venezia Giulia

Grappa is a typically Italian product. For decades it was little more than a spirit popular among the farmers and inhabitants of the northern Italian mountains. But all that was before Nonino di Percoto, in Friuli, ennobled grappa and transformed it into a high-quality distillate. To the point where it was awarded the 2019 World's Best Distillery Prize at the Wine Enthusiast_ Wine Star Awards in San Francisco. The Nonino family has been devoted to the art of distillation in Friuli since 1897. Founded by Orazio Nonino as a travelling distillery, it was in 1973 that Nonino, thanks to the enterprise of Benito and Giannola Nonino, underwent a major evolution based on the intuition of separately distilling the Picolit pomace to launch the tradition of single-vine grappa. The Nonino family deals personally with the buying of raw material, namely the pomace derived from the time-honoured Friuli vines. This retrieval and recycling is important furthermore in preserving autochthonous species.

DESIGNED TO DISAPPEAR

Novamont - 4th generation Mater-Bi, biodegradable compostable bioplastics
Novara / Piemonte

Among the many Italian industrial excellences, Novamont is exceptional, thanks to its highly strategic activity in bioplastics and research into renewable raw materials. Continuing the work begun within the core of Italian chemistry, Novamont, under its CEO chemist Catia Bastioli, immediately stood out for its study of innovative bioplastics derived from agricultural waste: maize starch, corn and potatoes. Starting with the upstream agricultural chain this research led, in the early 1990's, to the invention of Mater-B, the first certified biodegradable, compostable bioplastic disposable with organic waste. Mater-Bi is used mainly for the production of biodegradable bags to replace those in the traditional polyethylene, and in the production of biodegradable film for agricultural crop mulching. Mater-Bi created the world's first biodegradable plastic bag, produced under a pilot project for urban refuse collection conducted by the Bavarian town of Fürstenfeldbruck in 1992.

MAKE-UP MAKERS

Omnicos - Makeup powders and colours

The Cremona area is of worldwide importance in the production of make-up. It is estimated that 65% of lipsticks, eyeshadow, foundation cream and, more generally, of every type of product for makeup and cosmetics, are made by firms located around Crema and in a wider area that also includes Bergamo, Milan and the whole of Brianza. The globalized cosmetics hub lies in the heart of the Po Valley and represents a supply chain offering all the services necessary to support the rapidly succeeding collections created by the world's top make-up brands. This "sartorial" service covers the complete cycle from raw materials research to packaging, where a reputation depends on the speed of action in designing and producing at the rate of 13 or more collections per year. To give an idea of the sophistication of the creative aspects of the R&D process, as regards lipstick colour shades, 400 types of red can be counted, not to mention the myriad qualities of surface texture "pearls". Omnicos Group is distinguished, in the local industrial landscape, for its outstanding vocation for research.

ENGINEERED WOOD

Pedrali - Frida chair, design Odo Fioravanti
Mornico al Serio (Bergamo) / Lombardia Manzano (Udine) / Friuli Venezia Giulia

Founded in 1963 in Palazzolo sull'Oglio (near Brescia), Pedrali is an avantgarde maker of urban, office and home furniture. The business started from an initiative by Mario Pedrali, an entrepreneur-craftsman guided by an uncommon passion for production and factories that eventually crowned his career as an "imprenditore olivettiano" (an Olivettian industrial manager) in 2017. The company made its name as a highly respected maker of chairs and tables, following the tradition of Italian design to become internationally famous. "The industrial philosophy that my farther taught me concerns the capacity to invest in new technologies, but also to think of making a beautiful factory", says Giuseppe Pedrali, Mario's son and CEO. "From the obsession with quality sprang the decision to produce everything internally in the two production plants at Mornico al Serio and Manzano. The aim is to offer customers a genuine guarantee of quality, ensured by a 360-degree control of the entire production chain". This attention to the quality of the production process and of the working environment, the selection of certified raw materials, research and the implementation of the most advanced technologies, are the mainsprings that identify Pedrali as an excellent interpreter of the Italian industrial panorama. In the past decade the company has been busy building one of the largest production plants in Europe for the processing of wood, grafted into the Friuli district traditionally known as the "chair triangle".

SUPERPOWERS OF MATERIALS

Petroceramics - Ceramic matrix composites
Stezzano (Bergamo) / Lombardia

Petroceramics, established in 2003 as a spinoff from the Faculty of Geology at the Università degli Studi in Milan, has been working for over 15 years on a process called Liquid Silicon Infiltration (LSI). It plays a key role in the development and production of carbon ceramics for aerospace and automotive applications and in all those sectors requiring superpower materials usable in extreme conditions and very high temperatures. One of its principal R&D activities concerns a carbo-ceramic for the production of disk brakes and friction pad materials, made in collaboration with Brembo. On the aerospace research front, Petroceramics has developed with the Centro Italiano Ricerche Aerospaziali (CIRA) a ceramic-based compound registered under the trademark “ISiComp” for the production of some of the thermal protection components in the future ‘reusable’ aerospace vehicle to be deployed in the European Space Agency (ESA) mission scheduled for 2023.

ADMIRABLE UNDERGROUND FITTINGS

Plastitalia - Fittings for PE pipes with integrated anodes
to facilitate welding
Brolo (Messina) / Sicily

Plastitalia represents in the world the excellence of polyethylene fittings for water, gas and industrial fluids. It started in 1987 in the province of Messina, as a business unit of Eurocondotte for the purpose of producing quality joints. Nino Lenzo, its founder, has made his experience in the world of underground conducting pipes a model for the creation of new products that simplify pipe laying operations. Since 1998 he has been producing electro-weldable connectors that can evolve up to integrated GPS versions to trace each single joint in a conducting system.

GROUND HERO

Terra Davis - Crushed brick for clay tennis courts
Torre De' Picenardi (Cremona) / Lombardia

The clay extracted from the quarries near the river Po has always been used to make the typically red bricks of the Po Valley landscape. Obtained from their grinding after the demolition of old agricultural and residential buildings is a powder that is perfect for tennis courts. Terra Davis began making crushed brick courts in 1975 and rapidly grew to become a market leader, serving some 2500 tennis clubs and sports facility builders. Major international tennis tournaments, including those of the Foro Italico in Rome, have been played on their clay courts.

SAFETY CELL

TT Adler - Carbon fibre safety cell
Airola (Benevento) Campania

Tecno Tessile Adler is part of an international group with head offices in Ottaviano, near Naples. It designs, develops and industrializes components and systems for the transport industry. Founded in 1956 by Achille Scudieri, who had intuited the potentialities of polymers, the group is now the foremost Italian maker of acoustic and thermal comfort systems, door cladding and panels and internal carpeting (of which it is world's second most important maker). TT Adler creates, develops, and manufactures products for the transport industry. Its safety cells in composite materials are used for sports cars made by the world's leading automakers.

Caption:
Carbon fibre central cell for safety car interiors. The Alfa Romeo 4C chassis comprises a monocoque made entirely of carbon fibre. Weighing 80 kg, it is built with a technology gained from Formula 1 racing experience. The prepreg carbon monocoque, with Ergal, Nomex and Rohacell inserts, uses the technology of laminated pre-preg carbon plies on carbon moulds with an autoclave cure cycle. It is produced in the Tecno Tessile Adler factory in Airola (Benevento) where composite components for the automotive industry are also studied, designed and produced. 240x190x110 cm.

DOWN SIDE UP

Vibram - High-performance soling systems
Albizzate (Varese) / Lombardia

The company was founded in 1939 by the mountaineer Vitale Bramante. After a climbing accident, he set about inventing a more reliable boot sole that would guarantee outstanding traction. He named it “Carrarmato” (tank). His intuition was to adopt rubber, an innovative material at the time, as a marked improvement on the traditional hobnailed leather soles of the mountain boots used previously. Vibram today is the internationally acclaimed model for the production of rubber lug soles, by now an essential feature of globally renowned footwear like Nike, Timberland or Prada. In its more recent history, Vibram reversed the concept of a previously hidden component and turned it instead into an eye-catching part of the shoe, as in the rubber exoskeleton on the multiaward winning Furoshiki or on the Fivefingers.