



Customized Products: “Made in Italy” Craftmanship

More than 60% of North Americans consider the authenticity of “Made in Italy” products important and associate the phrase with exotic vehicles from Alfa Romeo, Ferrari and Lamborghini; fashionable clothing and accessories from Giorgio Armani, Fendi and Versace; pasta in its many forms and flavorful wines from Tuscany, Puglia, Sicily and Trentino Alto Adige.

However, none would be possible without the right tools to create textiles and fabrics; instruments and machines to produce leather goods or create highly technical man-made materials; robots to assemble and paint vehicles; and precision machinery to crush fruits, chill wines and even produce staples of life like pasta or tomatoes.

ACIMIT, the Association of Italian Textile Machinery Manufacturers (Milan, www.acimit.it) and other Italian trade associations create a flourishing environment suitable for evolution by encouraging members to emphasize the customization required to build customer value.

Marco Salvadè, president of ACIMIT, says the textile industry is dynamic and diversified, ranging from clothing products to technical materials used in automotive, geotextile and medical arenas. Therefore, the production of these different items needs machines built with technical specifications that vary depending on the material used.

“More than talking about specific technologies, it is necessary to emphasize digital solutions’ role in customizing production in the textile industry,” Salvadè says. “They provide high levels of flexibility, waste and resource use minimization and continuous quality control. Machine learning and generative AI (artificial intelligence) will be the next step. Intelligent solutions integrated into machinery that can collect data from the production process will be increasingly relevant for optimizing production of each textile company.”

Alcantara SpA (Milan, www.alcantara.com/) is a “Made in Italy” luxury lifestyle brand best known in North America for providing uniquely branded materials for high-end automotive interiors. The limited edition

of Lamborghini's Aventador Ultimae, for example, features laser-treated Alcantara with a "Y" pattern.

A leader in environmental initiatives, Alcantara was certified as carbon-neutral in 2009—the first Italian industrial company, and one of the first globally, to achieve this status. The manufacturer uses a proprietary technology to produce its often-colorful material for products as diverse as Microsoft's Surface tablet and top-end headphones. In the fashion world, Alcantara recently collaborated with two Japanese fashion brands, Facetasm and Fumie Tanaka, for special Capsule Collections presented at the Italian Embassy in Tokyo.



Alcantara technology enables it to provide unique customization options for automotive interiors. The limited edition Aventador Ultimae features laser-treated Alcantara with the Y pattern. (Provided by Alcantara)

"Our 100% 'Made in Italy' quality and our experience in customization are what make Alcantara the choice of the world's most admired brands," declares Andrea Boragno, Alcantara's chairman.

This includes working with Microsoft to develop renewable materials for product lines since the tech giant introduced its Surface portfolio of computers in 2017. Alcantara is also introducing new material with higher proportions of recycled polyester, which could lead to future products that rely solely on recycled material.

Innovation Enables Efficiencies

Savio Macchine Tessili SpA (Pordenone, www.saviospa.com/) was founded in 1911 by entrepreneur Marcello Savio as a small mechanical workshop. According to CEO Maruro Moro, Savio is the leading company in the

yarn-finishing machinery sector. "We were the first to introduce electronics and mechatronics into machinery, enabling us to offer more flexible, customized and 'non-mass-produced' solutions."

Savio's newest contribution to fashion, textiles and other materials is the Lybra Smartspinner, which uses air-jet spinning technology. This provides customers with a versatile, flexible, cost-saving and easy-to-use machine.

"Air-jet spinning offers yarn manufacturers the opportunity to produce yarn at high production rates and low processing costs," Moro explains. "The system can modify the composition of the blend directly from the machine (control system) without changing the feeding mechanism. This reduces production costs and optimizes the preparation lines."

The Smartspinner supports different material blends and color mixtures. It will be especially useful for knitting and home-textile applications, Savio says, "producing mélange knits and fabrics."

Biancalani Srl (Prato, www.biancalani.com/) is another well-known machinery builder. In 1957, Fiorenzo Biancalani opened his first factory, and quickly understood the need to develop new textile machinery that he thought could give a "magical touch" to fabrics. Biancalani developed a new method of driving fabrics at very high speed with airflows, and the original AIRO machine was created, which the company said "revolutionized the textile industry."

Their new AIRO24 DUETTO, with double capacity, dries and softens fabrics in less space. Fabric is processed inside the upper part of AIRO24 DUETTO and then in the lower part for effective double-drying and softening actions. Important to factory design, overall height is minimally increased.

At **ITMA (www.itma.com/)**, the world's largest textile and garment technology conference, in Milan was the "Blue Jean Lady" Aquaria with three

distinct denim treatments—Aquastone, Aquaflat and Aquafixto. Aquastone delivers stonewashed and worn effects without eliminating color. Aquaflat provides smooth, flat fabric with a soft feel. Aquafix, utilizing AQUARIA's mechanical washing, can remove up to 50% of color without employing harmful substances.

Customized Solutions

Comez International Srl (Cilavegna, Pavia, www.comez.com) delivers custom machinery for highly specialized applications ranging from rigid and elastic crocheted products to industrial and technical cloths and surgical-knit fabric. Comez's experience as a knitting-machine manufacturer facilitates delivery of what it calls "non-standard realization," yielding customized customer solutions.

Originating in 1953, and today a part of the Swiss Jakob Müller Group, Comez now supplies warp-knitting machines with single- and double-needle beds, as well as mechanical and electronic crochet machines featuring compound needles.

The company has received requests for “non-standard realization” since at least 2019, particularly in North America, where requests for customized machinery have reached 60%. Globally, such requests “mainly concern technical sectors, such as automotive, orthopedic, surgical and r&d,” the company says, with fewer custom needs from home textiles and traditional apparel markets.

The company developed customized machinery for specialized applications such as forked veins, heating mats and elastic bands with loop effects. Personalized applications may require special devices, such as custom and automated feeding and collecting systems, as well as special needles to allow processing all types of yarns, according to the company. This includes synthetics (polyester, polyamide and polypropylene), traditional natural yarn and specialty yarns such as aramid and fiberglass.

“Customer-driven needs have had a positive impact within our organization as it allowed us to further develop new technologies that increase our know-how,” Comez says. “Each customer’s request is carefully evaluated to offer the best solution for performance and workability, and our technical department may even develop a prototype and perform testing to ensure custom machinery is set up based on the customers’ needs. Further, our group can add functions (accessories or machines) such as warping, confection, winding and finishing systems.”

Speed Drying

RF Systems (Solagna, Vicenza, www.rfsystems.it/) uses radio frequency (RF) technology in speed drying and thermal processes, cutting energy costs and operating expenses. RF technology provides uniform chemical- and radiation-free drying in just minutes or even seconds.

With more than 1,000 machines delivered globally, RF Systems provides machinery for non-wovens, textiles, recycling and waste material reuse, as well as for food.

Sign of the Times

EFI Reggiani (Milan, www.efi.com/), founded in 1988 in San Francisco, Calif., originated the well-known Fiery color server for printing professionals, and later acquired Italy’s Reggiani Macchine after deciding professional super-wide inkjet printers were necessary to the textile industry. With multiple acquisitions in inkjets, ceramic tile decoration, corrugated packaging, 2D and 3D CAD/CAM software, EFI Reggiani recently celebrated 75 years in textiles. Today, the company drives its growth with a portfolio of products, services and partnerships for the manufacturing of signage, packaging, textiles, ceramic tiles and building materials.

After examining other digital printers (many with closed ecosystems), Springs Creative purchased a Reggiani Terra Gold because of the Italian textile company’s well-established pedigree and “open system.” After several years using dye-sublimation printing, Springs Creative expanded into other forms of textile printing using digital technology.

The company planned on pigmented inks printed on fabric as a sustainable solution that uses less water, explains John Wirth, vice president of technical and global sourcing for Springs Creative. This cut the lead time from printing fabric to shipping to customers.

With its customer committed to pigment ink, Reggiani was challenged by significant changes in the drying section to fully complete the curing of the pigment ink and binder, but the partners ultimately prevailed.



Savio’s new winding machine, the Proxima Smartconer, is capable of perfectly adapting to demands of connectivity, Industry 4.0 and Industrial Internet of Things. (Provided by Savio)

While no machine has 100% uptime, Reggiani has been very responsive to requests for maintenance and service interventions, Wirth says. “When we print a fabric and it comes off the exit end of the printer, it’s ready to ship to the customer. ... We have not missed customer deliveries because of unplanned downtime on the machine.”

For four generations, **Guarneri Technology Srl (Busto Arsizio, Varese, www.guarneri-technology.com/en)** has delivered calender manufacturing

and service to the textile, technical textile and paper industries. Calenders, a series of temperature- and pressure-controlled rollers, are used to smooth and coat fabrics like cotton, linen, silk or manufactured polymers such as vinyl.

Because the distance between rollers—the nip—is adjustable, fabric effects like moiré, embossment and ribbing can be created. Guarneri employs a variety of calenders, particularly those using NIPCO adjustable technology, which allows a variety of material-dependent pressures and widths. Some machines deliver independent pressure settings in each nip between 50 and 400 N/mm. With motorized width adjustment, retracting forces can be automatically combined. Pressure across the width can be automatically set to fabric width,



More in less space, with twice the capacity and a softer hand, the new AIRO24 DUETTO dries and softens your fabrics like never before. (Provided by Biancalani)

allowing the pressure to be released in the non-fabric area and protecting the sleeve from burning. Notably, Siemens S7 computer systems are employed to control machines and make maintenance and service announcements.

Guarneri's new NIPCO HT applies flexible pressure across the entire material width for technical fabric finishing and may heat select roll surfaces up to 300°C. The company has also developed embossing calender machines for the paper industry using similar technology.

Finding the Right Frequency

Stalam SpA (Nove, Vicenza, www.stalam.com/en), established in 1978, is known for its use of RF equipment on food-product processing requirements such as tempering, sanitizing and pasteurizing. The ACIMIT member uses RF power in drying and thermal processing, often in machines customized for medium and large dye houses to efficiently dry materials at production scale. Additionally, air circulation and evacuation systems assist in evaporation to maximize moisture removal.

San Francisco-based Ziel uses Stalam's RF technology to remediate mold and other microbial pathogens in food products. RF is an FDA-approved organic process and thus requires no extra labeling and retains organic labeling for all nuts, seeds, hemp and cannabis.

A Cut Above the Rest

Tecnofirma SpA (Monza, www.tecnofirma.com/en) traces its origins to 1949, based on technology originated by Roto Finish in Kalamazoo, Michigan, and became Tecnofirma in 1985. The Italian Roto Finish was established in Italy to introduce mass deburring and cleaning processes, and after introducing the first carbon-dioxide-washing plant in the world, expanded into the treatment of plastic and metal surfaces. This is particularly relevant to the motors used in the growing electric vehicle market.

Tecnofirma opened a facility in Charlotte, North Carolina, to serve customers in North America, says Dario Geraci, country manager. With the North American market contributing about one-fourth of its revenue, Tecnofirma continues to invest in its regional engineering team.

"Our products are customized based on customer needs regarding production capacity, parts, dimensions and process requirements," Geraci explains, citing cleaning, coating and impregnation equipment. "The impact is especially (strong) on the design phase to fulfill all the customer customization needs," he says.

Lamebo Srl (Leni, Salina, www.lamebo.it/home.php?lang=2), an ASSOMAC member, produces splitting band knives for tanneries, shoe and leather manufacturing, paper and foam materials. All Lamebo knives are custom products delivered to a variety of machine manufacturers. "Customization starts with the choice of the steel used for our knives and continues into branding and packing, passing through our production process, which includes the specific type of bevel

and finishing," notes CEO and Director Gabriella Marchioni Bocca.

Lamebo offers a wide range of machine-specific blades of different widths and thicknesses, producing splitting band knives for tanneries, shoe and leather manufacturing, paper, foam materials and non-woven fabric.

Choosing the correct alloy is based on customer trials and production requirements. Because processes vary, the customer can select between types of blades with differing tolerances. Three quality levels are available: Platinum, Extra and Silver. "Customization delivered to machine manufacturers continues into branding, as customers can request their logo on Silver and Extra splitting knives," Bocca says, adding that the "Lamebo Platinum" trademark is reserved for top-of-the-line knives.

"Our more than 3,000 customers appreciate our assistance before and after sales and the care we give them," Bocca says. And, he adds, the company continues to look for ways to improve its operations, including upgrading machinery and processes to better serve North American customers.

Innovation, Industry 4.0, digitalization, and environmental sensitivity lie at the heart of today's customized, "Made in Italy" machinery and products. No matter the arena—textiles, leather goods, food service, human medicine, or energy—Italian industry has created and sustained its enviable pedigree of technological competence and responsiveness to customer's needs. 🇮🇹