

A member of the European Blue Box Partner alliance, the Parma-based converter has chosen digital single-pass post-print to introduce new products and new levels of service.

The Inkjet guides Sandra towards a more tailored offer and more personalized products.

For over sixty years, Sandra has been producing corrugated cardboard packaging for a wide range of customers. Following the introduction of a 3.35 metre BHS corrugator (the largest model available on the market) in 2010 and the installation of a single-pass inkjet printer in 2017, the company has progressively expanded its product portfolio with new types of packaging, as well as displays and point-of-sale materials. Sandra, despite its turnover of over €130 million (2018), is still a family business, headed by Fausto Ferretti, son of the founder. Last January, we met Ferretti at the company's headquarters, in San Polo di Torrile (PR), and visited the group's production facilities, led by Daniele Plazzi, director of R&D.

Between joint ventures and alliances, national and European.

Serving some of the most important brands operating on the national territory, in the last two decades Sandra has first of all had to face the challenge of logistic efficiency. "With rare exceptions, moving corrugated packaging is reasonable within a 400-500 km radius of the production site," explains Ferretti. "In order to be able to effectively serve the entire national territory, particularly in Southern Italy, in 1998 we set up the joint venture Cart-One with Antonio Sada & Figli di Salerno".

A successful collaboration, which led two companies to join the Blue Box Partner (BBP) alliance in 2014, which boasts 87 plants in 24 countries, and a production capacity of about 3.9 billion square meters of corrugated cardboard per year.

The members of BBP are all family-owned companies active in the production of packaging, displays and paper: Klingele Papierwerke in Germany; VPK Packaging Group in Belgium; Hinojosa Packaging Solutions in Spain; and Cart-one in Italy. In their various national markets, each member of BBP pursues individual goals and plans. At the supranational level, however, they act together, defining common strategies and supporting each other in the development of products and services. "As a group we are stronger in many ways, including commercially. Only in this way can we present ourselves to brands and be equated with the big multinationals," explains Ferretti. "Of course there has to be synergy between the owners and the aptitude to exchange skills and know-how, which in our case is total". A shared research and development platform allows members to make collective decisions regarding the introduction of new technologies and the expansion of production lines, as well as the improvement of workflows and ICT platforms. A way of doing things that has led BBP members to own the largest installed base of single-pass inkjet presses in Europe today.

From boxes to point-of-sale materials.

Before adopting digital printing, Sandra handled occasional display orders, mostly as an accessory product, combined with packaging supplies. In the last two years, however, the company has set up a department and team dedicated exclusively to this type of product. With the big brands, Sandra's professionals participate in a shared process of product design and validation (technical and functional). For smaller customers, the company also takes care of both structural design and product creativity, offering a turnkey service from idea to production. The range of materials for the point of sale includes floor and counter displays, fruit and vegetable trays, bag-in-boxes and shelf-ready packaging.

Analogical and digital excellence, with an eye to the future.

Sandra's corrugators and converting lines are fully integrated, both in the San Polo di Torrile (PR) and Casale di Mezzani (PR) plants, which opened in 2005. For the production of printed packaging, which has always been managed in post-print mode only, the company uses case makers with four units for flexographic printing, and six 5/7 colour Flexo HD 5/7 colour machines of the Cuir and Bobst brands. The Agnati corrugator, already in use at the San Polo di Torrile plant, was flanked in 2010 by the 3.35-metre BHS corrugator installed at the Casale di Mezzani plant. Also installed here is the Nasikajet digital production line, developed by the company's technicians from a Barberán Jetmaster 1890 inkjet printer.

When digital is a strategic vision.

For Sandra, the process of investigating digital printing technology began about ten years ago. Already in 2012, Ferretti theorizes a digital production aimed at the on-demand supply of corrugated cardboard packaging. However, his goal is not to replace flexographic post-print with digital. Rather, his idea revolves around three key points: compressing the time-to-market of products, from weeks to hours, by efficient production processes and supply chain; reducing the minimum size of production batches, from a few thousand to a few hundred sheets; making it easier and faster to customize packaging and materials for the point of sale. To achieve these goals, Sandra entrusts the design of a digital production line to her research and development department - established in 2013 with the entry into the company of Daniele Plazzi and five other engineers. The common denominator of the members of the department is the origin from different industrial sectors than packaging and a background in lean management.

A pragmatic analysis of technologies and suppliers.

In approaching digital production, Sandra intends to differentiate itself from the competition and adopt techniques and processes that are difficult to replicate by other Italian players. "We have invested time, economic resources and energy, travelling between North America and Japan, to visit manufacturers and developers and to understand in advance the progress that technology would make in the near future. Our goal was to reduce the dependence on external suppliers for pre-press processing and printing equipment. We wanted to provide customers with quicker responses so that they could shorten the time to launch new products on the market," explains Plazzi. Like other corrugated operators, Sandra is closely observing the first installations of web-fed pre-print inkjet technologies. However, the Parma-based group concludes that a post-print solution is the right choice. "At the time, the choice was limited to a couple of suppliers for single-pass post-print machines," says Plazzi. "On the one hand, UV inks with piezo heads and, on the other, water-based inks with thermal heads. But we didn't want to make it a matter of faith.

Plazzi's team thus begins an in-depth analysis of the technical, operational and economic background of the two platforms and concludes that Barberán's is the most valid choice, also thanks to advantageous operating and maintenance costs. "The possibility of freely choosing the ink supplier, within a selection of already validated brands, was an important argument," points out Plazzi. "It gives us peace of mind and is a great competitive advantage. During the testing of the various digital options available on the market, Sandra's engineers compare Jetmaster's quality results with both water-based inkjet and HD flexo. Rather than replicating the results of conventional processes, digital was meant to be a tool for Sandra to open up new horizons. "If consumers' purchasing decisions are also influenced by the appearance of boxes and displays, our aim was to offer a brighter and more glossy print that would capture more attention," continues Plazzi. "The six-colour configuration, which extends the range of reproducible spot colours, was

also a decisive factor". So in 2017 the Sandra plant in Casale di Mezzani welcomes Nasikajet, the digital printing line based on Barberán inkjet technology, which Sandra has customised and renamed.

The ability to experiment.

During the design of the digital line, Sandra involved various partners and put all of her engineering and process skills into play. The system installed at Sandra can produce up to 60m/min, depending on the desired quality and is compatible with all types of cardboard and wave. Moreover, thanks to the orange and purple colours, it can reproduce 98% of PANTONE spot colours with a Delta E of less than 3. The inks used are low migration and thanks to a maximum sheet size of 1,950x3,000 mm (maximum print width 1,890 mm) the system is also ideal for display printing. Although low migration UV inks are mainly ideal for printing secondary packaging, they also meet the compliance requirements of many primary packaging. The suitability tests for the use of a particular packaging in the food industry are commissioned by Sandra to independent, often specified by customer, institutes.

Towards new horizons

Thanks to the maturation of digital printing technology, Sandra is considering new medium-term investments. For this reason, the company's R&D closely follows the evolution of single pass technology, keeping constantly updated on new products available on the market, with particular interest in machines with larger print formats and new types of inks. The company is also involved in numerous other development projects. One of these concerns the progressive replacement of plastics in the field of disposable packaging, such as those used in canteens and fast food. Sandra's specialists are analysing these applications in depth - especially with regard to their durability, storage and interaction with other packaging materials - in order to prepare to offer eco-friendly alternatives that can guarantee the same performance.