An Italian printer, from Abruzzo, has revolutionised production of its offset displays and packaging by installing a Durst Delta WT 250 and an Elitron Kombo TAV.

Graf Color invests in the “green” cardboard industry, with water-based inkjet and automation

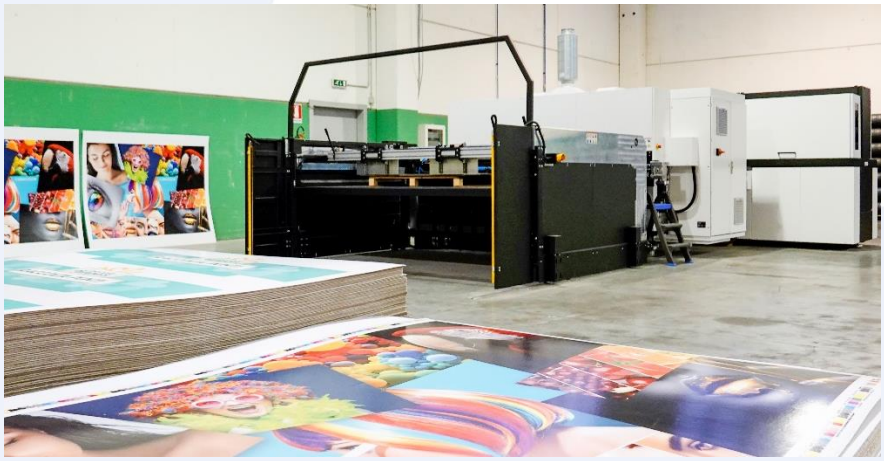
Translated from an article written by Lorenzo Villa, Italia Publishers

Graf Color is part of that large group of graphic companies that we would define as “digital natives”; businesses founded in the period from the eighties to the nineties, together with the advent of desktop publishing and digital printing. The company history is closely connected to that of its founder, Constantino Fidanza, born and raised in Brazil, but then moved to Abruzzo, almost by chance.

«I started working in prepress when I was 15, in Sao Paulo. After my father died, my brother Dante came to Italy and found a job in a photolithography business based in Pescara. In 1987 I joined him for what should have been a temporary position, but I never left», says Fidanza. «In Abruzzo there were no expert drum scanner operators, and the company Dante worked for offered us both a stake in the company, if we’d stay on».

In 1989, Fidanza separated from the partners and started his own business and, in 1992, he founded Graf Color. The company started in photolithography, with scanners and tables for manual film assembly, but soon he introduced vinyl cutting plotters and the first digital printer.

In 2005, Graf Color purchased its first large format hybrid printer with UV-curable inks: a Grapo Octopus; then, in 2012, he raised the bar by installing a Durst Rho P10 200 and a Kongsberg XP cutting plotter.



«We created display cases for prestigious customers in the region, such as the Sixty Group clothing and accessories brands. The local group, Fater, started commissioning corrugated displays, and thus we entered the cardboard industry», explains Fidanza.

In the middle of the 2000s, the company opened a sales office in Milan and expanded the window display and paper converting business, with new orders from clients such as Tod's, Diesel and Benetton.

Between 2015 and 2018, the Graf Color machinery range further evolved, with the installation of a Durst P10 200 HS, a Kongsberg C44 and a Protek Unico TT.

Then, in 2019, the company attained the ISO 9001 certification; and, from January 2020, it moved to a new, 2400 m² site.

There they installed a Durst Delta WT 250 (the first in Italy) and a fully automatic Elitron digital cutting line, consisting of a Kombo TAV cutting system and a Reversa sheet-turner.

Finally, in September 2020, Graf Color invested in an Elitron Heleva automatic feeding unit, which automated the loading of the material onto the Durst Rho P10. Today, the company has 20 employees, plus as many external collaborators, with a turnover that exceeds three million euros (2019).

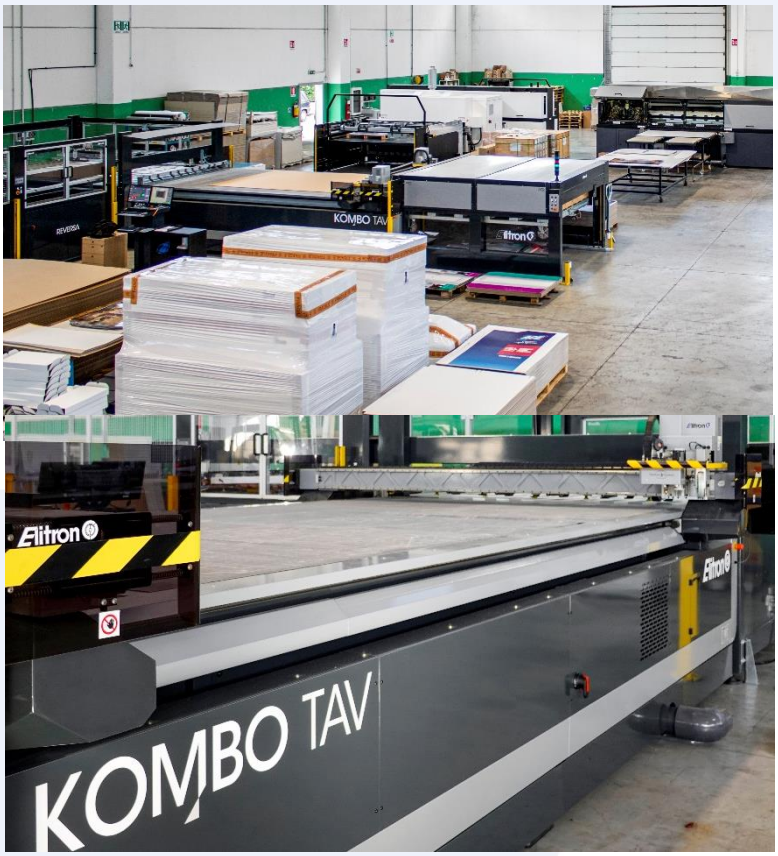
Elitron
ROBOTIC CUTTING INTELLIGENCE

Paper Converting as core business

The growing demand for point-of-sale material paved the way for Graf Color to become a point of reference for research, development and supply of innovative displays and paper converting solutions.

«Paper converting allows you to capitalize on ideas, planning and innovation, for important production volumes», explains Fidanza.

Today, the production of corrugated cardboard displays represents about 65% of the company's turnover, and this percentage is expected to further increase in the coming years.



Water-based printing: a precise and differentiating choice

Graf Color uses 3D CAD software, and expert designers, as well as prototyping systems.

The printers used in the production department produce a print quality comparable to offset, thereafter there is then the lamination process, die-cutting, and finally assembly. In this last phase, the displays are glued, assembled, subjected to various stress tests, and then they’re prepared for shipping.

Up until just over a year ago, the company only printed small quantities internally, using its Durst Rho P10. Larger orders were outsourced to external printers, using offset technology, and they also supplied the flat sheets to be coupled with the corrugated. During 2019, however, the time was ripe for a change of pace internally.

During roundtable meetings with customers and agencies, Fidanza and his team discuss and debate the development of paper converting materials, sharing their technical expertise. It was during these meetings that the entrepreneur understood that the demand for eco-sustainable products was rapidly growing.

«Conversations about the recyclability of materials, the elimination of plastic, the use of water-based inks, were becoming more and more frequent. So, I decided to act», explains Fidanza. «After an analysis of the few digital technologies available, I focused my attention on Durst's Water Technology. The results of the tests carried out were astounding, so, we decided we wanted to be the first to have it in Italy».

Aesthetic, technical, and economic advantage

From the very first print runs, the print quality of the Durst Delta WT 250 appeared well defined, and with bright colours, both on coated and natural papers.

«The print is brilliant, just like the quality required by our customers and the brands we work with. On natural papers we get a glossy effect, which contrasts with the opacity of the material itself, and which I really like», explains Linda Di Stefano, co-owner of Graf Color. «Finally, unlike prints made on machines using UV inks, which require protective lamination, prints produced with Delta WT withstand creasing, folding and abrasion extremely well».

From a quality point of view, Graf Color is enthusiastic about the numerous pluses offered by Water Technology. Firstly, the extremely uniform ink layer, and the homogeneous spot colours. Also, the high resolution (1000 dpi) and the small size of the ink droplets (10 pl) allow the Delta WT to reproduce small texts, barcodes, and images with particularly fine details.

These features, combined with the productivity of the printer (up to 345 m^2/h), have almost zeroed the need of Graf Color to use external print shops.

«By feeding the machine with 120x160 cm cardboard sheets, two at a time, we can produce up to 1000 sheets in one shift», explains Fidanza. «In terms of printing, we spend a little more, but we have eliminated the plasticization process, and only necessary quantities are produced. In addition, we have eliminated warehouse stocks and waste. All of this largely offsets the extra cost of printing».

For file verification, nesting and colour management, Graf Color uses Durst Workflow, the new software suite, developed by the South Tyrolean manufacturer to optimize the workflow of the printers.

Kombo TAV has completely eliminated the die-cutting bottleneck

Using both the Rho P10 250 HS and the Delta WT 250, which together can print more than 300 m²/h, Color Graf was faced with the difficulty of die-cutting the increased volumes produced, from one day to the next.

To overcome this critical situation, the company first placed a flatbed die-cutter, 1200x1600 mm format, alongside the existing cutting plotter. However, the solution soon proved to be unsuitable for digital production, mostly made of fragmented and heterogeneous orders.

«Being able to die-cut the highest volumes gave us breathing space, but it tightened the workflow and made us dependent on the time and cost of dies suppliers», explains Fidanza. «We needed firepower and automation, but without compromising on the benefits of a digital workflow».

Having seen a demonstration of Elitron's Kombo TAV in the past, the founder of Graf Color turned his attention to this technology from the industrial manufacturer based in the Marche region. The system is consolidated, trusted technology, with widespread installations in corrugated cardboard converter sites.

At the Elitron demo centre, Fidanza put the Kombo TAV through numerous, intensive tests; at the same time, Elitron presented the new Reversa sheet turning system, which can also be integrated in-line with the Kombo TAV. The success of the tests and the features of Reversa lead Fidanza to decide to purchase a complete configuration, capable of feeding sheets up to 3200x2200 mm, with a maximum stack height of 1100 mm.

«Kombo TAV can cut and stack entire pallets of printed corrugated cardboard, and the combination with Reversa makes manual turning of the stack or single sheet unnecessary», explains Fidanza. «Moreover, thanks to the Airo Panel system, which picks up and transports the cut sheets, we can cut completely without any bridging notches, simplifying the off-cut, stripping removal process».

The format and features of Kombo TAV and of the two Dursts allowed Graf Color to develop an effective model of gang-run printing, which combines more orders on the sheet and allows a notable reduction of waste material.

Industrial Eco Digital Print, and Elitron automation for digital printing

By investing in cardboard and water-based printing, Graf Color has not only met and anticipated the requests of its customers, but it has been able to create a completely new type of product offering. To emphasise this, they created the "Eco Digital Print" brand line, which comprises water-based, recyclable, and odourless printed cardboard products. In addition to white, coated, and natural papers, the company has recently added brown cardboard, which gives displays an "ecological" look, and is also greatly praised by brands specializing in organic products.

In order to produce urgent orders, and runs of up to a few hundred pieces, Graf Color reorganized the raw materials warehouse, unifying the cardboard stocks of both micro-wave and micro-triple, for the three most common offset formats: 100x140, 120x160, 160x200 cm.

In recent months, the installation of the Kombo TAV, coupled with the growth in orders has put pressure on the printing department and increased the number of operators needed to handle the media. The company again turned to Elitron, this time to purchase Heleva, the automatic feeding system which is compatible with both hybrid and flatbed printers.

«The priority was and remains to have a more efficient workflow, minimizing unnecessary manual intervention, in prepress, printing, cutting and packaging», concludes Fidanza, «whilst being able to safely feed sheets, including cardboard pallets that are not perfectly flat and levelled. The Delta WT 250, Heleva and Kombo TAV work for hours on end, without any operator intervention, and allow us to print and cut at night, with the pallets ready for the next process, or direct shipping in the morning».

Constantino Fidanza & Linda Di Stefano
Co-owners of Graf Color