

Digital Printing and the Future of Corrugated Packaging

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Digital Printing and the Future of Corrugated Packaging Market Scenario:

Since years there is an unbroken increase of numbers of orders, together with an ongoing decrease of numbers of copies – a trend towards small run production. Was the average order years back 10.000 peaces upwards, its nowadays 10.000 downwards, trending to 5.000 and lower. Above that, the increasing number of new products and the global marketing and design of these brand products forces to shorter product lifetime, shorter production time and as a follow smaller run lengths, higher flexibility and creativity in packaging and displays. These trends cannot be met with the existing way of working in Design, Printing and Die Cutting procedure – costs are too high, manufacturing time is too long and the flexibility for personalisation and individualisation is simply not given. The state-of-the-art- solution is the digital workflow of all elements, the **Digital To Sheet** production and the logical consequence - the Digital Finishing.

The traditional suppliers of the packaging industry are not very well prepared for these requirements thus there is a possibility for newcomers to succeed – a number of packaging companies are already experimenting with any kind of digital printing machines, which up to now are not able to fulfil the needs of the packaging industry:

Direct Digital Production, using different substrates in big sizes and thicknesses, starting with the first key stroke all the way through, packaging and display on demand and just in time delivery – leads to short production time: **12 hours instead of 12 days!**

Digital Printing Technologies

Electro Photographic

This technology transfers the graphics using special toners, with a high colour range, running the process with a multi pass method and a rather complex drum technology. Cannot be used for DTS!

Electrostatic Technology

This printing process needs a two-step sublimation process based on chemical dispersion. The required heat, pressure, print surface preparation as well as the use pf special toners and a limited colour range does not allow the DTS-Production.

Thermal Technologies

The wax based or thermal ink jet process needs heat, pressure and surface treatment and runs the print process via drum system. This does not allow printing DTS!

Laser Xerographic Technology

A drum to paper process using special photopolymeric foils for transfer of images to a prepared plate surface – no DTS possible.

Ink Jet Technology

The ink jet process does not need any heat, pressure or drum technology to fire the droplets onto the paper – using flat bed, plotter based techniques to get the image on the substrate - this is the only process to run a DTS-Production for the corrugated industry.

There are two major developments fulfilling the needs of the industry in terms of speed and overall performance : Xaars ink jet heads (up to 7 cm long) working in different mechanical OEM constructions and Aprions ink jet array (15 cm long).

Up to now there is only one and unique solution being developed from scratch as a wide format production orientated flat bed ink jet printer – the **DigiComb 2000**, based on **Aprion's Magic®** ink jet head, accomplished by Lasercomb's digital finishing machine. This combination, headed by **Quintessence**, the frontend software especially designed for importing any kind of data, allows the analysing, mix and merge, and after layouting, ripping and real time control of production flow – digital from first keystroke, finished by **Lasercomg's DigiPop** ready for to delivery.

What is the Impact?

Running a DTS Production will have a massive impact in production time, response time to the market and allows doing the proof and printing process on the same press. It needs a small space operation, few operators with a shorter training circle.

DTS eliminates the cost and time consuming steps for the whole pre print and plate making process and allows the centralised design and decentralised printing.

For the market it will mean the ability to do short run based campaigns and the flexibility needed to personalise products with the target of individualisation together with a quick turnaround time.

Biography

Gerhard Schäfer, today the Managing Director of Lasercomb Systems Ltd, started his career years back with Linotype as regional Sales-Rep leaving this company after eight successful years as National Salesmanager for Germany After some years with Bobst Graphics and Scitex he found Europe`s first company for

Total Page Make-Up, always visionary driven by the general guideline of digital workflow. After seven successful years as General Manager for Artios in Germany, he is today the driving force behind Lasercomb´s new image and new business development for Complete Digital Solution´s, including the distribution of Aprion´s large format Inkjet Printer "DigiComb".