

Inkjet Wallpaper and Decor on Demand:

Patrick Le Galudec, Sihl, the Coating Company

Abstract

Inkjet wallpaper and décor on demand paper describes an attempt to develop together with engineers and designers innovative product that can contribute to the décor community development and serves as a springboard towards the expansion of digital manufacturing applied to the décor.

The wallpaper opportunity:

In 2009, Sihl had grown into a well-established inkjet media manufacturer and supplier of inkjet signage media, with CAD papers, poster papers and selected fine art printing specialties such as Canvas.

Some of these applications were reaching saturation point, other still growing: nevertheless there was a consensus within management to explore new emerging business opportunities.

The French home décor market was living a “sticker craze” with literally hundreds of designers printing and selling vinyl stickers for interior decoration.

At the same time there were already attempts to digitally image wall-covering materials, with technologies ranging from special inkjet printers (Agfa Dotrix) to toner printing (Xeikon printers). Several types of inkjet substrates were already for sale in Japan (LAG system from Lintec Corp.) and in the USA.

The long term direction was clear: zero stock, manufacturing on demand of décor articles, close to the clients, so that another industry would undergo the same digital transition experienced earlier by document, music and publishing.

The product opportunity was in “getting the details right”: how to go from A: early adoption stage/pioneer times to D: mainstream component of an industry, this with limited resources.

Through a precedent – failed - attempt with inkjet printable scrapbooking paper, we knew at least that we needed to:

- Define precisely which specific part of the market we would start with,
- Ally ourselves with Décor experts motivated to go digital,
- Provide contacts, surrounding picture and clear specification objectives to the engineers,

During the first 6 month, we conducted open interviews on European trade shows, Heimtextil in Germany and Maison & Objet in France. We listened to every interested actor involved into interior design, wallstickers, decorative materials and of course wallpapers. We also tried to understand the economic circuits, who was selling what to whom, what made the costs and prices of the final product.

This provided us with a long list of contacts interested to see if we could come back to them with “something”, and with a first mapping of the industry, where it worked well, where there were unfulfilled requirements and frustrations to address.

Industry Mapping (Europe):

| Industry / products | Analogue producers | Big retail diy stores | Designers / Editors | Designer /Artist |
|---------------------|------------------------------------|-------------------------------------|--|------------------|
| Wallpapers | Not so motivated by change in 2009 | Digital printing expensive ,complex | Looking for better product & able to sell | |
| Interior textile | Different industry | | | |
| Wallposters | Declining market | Declining market | -- | -- |
| WallStickers | Sideline product | imports | Sideline business | Cottage industry |

At the end of the process, we had identified a small core of independent designers/editors, with a “can do” attitude, sharing common requirements:

- 1)_Wallpaper was to be the key product: the global market was growing again since the opening of Russian market,
- 2)_A new generation of Designers was experimenting with colourful & trendy motives for a public bored with decades of painted “Bauhaus-style” austerity interiors,
- 3)_These Designers were environment conscious, opposed to vinyl, solvents and requesting compliance with EU standards (EC norms and REACH compliant substances),
- 4)_They wanted best possible imaging output, whitest substrates, widest colour gamut, darkest blacks and would often print by themselves on smaller wide-format inkjet printers.

Sihl engineers went on selecting suitable materials:

Material mapping:

| Proposed materials | Imaging performance | Environmental performance | Price |
|--------------------|---------------------|---------------------------|-------------|
| Wet-strength paper | Good | Good | Low |
| Vinyl (PVC) | Good | Challenged | Low |
| Vinyl on non-woven | Good | Challenged | Fair |
| Non-Woven | Excellent | Good | Fair |
| Glass fiber | Not tested | Not Good | low |

Then we went back to the same list of contacts with the prototypes. At the third meeting, interesting group dynamic started to happen, with converging demand for a specific combination (whitest samples with solid black imaging property).

From this point dialog developed, with the contacts turning into prospects and guiding us through all the specificities of wallpaper production:

- 1)_Image permanence, expressed in years, with special attention to light stability,
- 2)_Special formats and converting to minimize the extra work required to deliver finished rolls to users,
- 3)_Glues to test, wall application and removal from wall,

The result was a first Sihl IJ 3260 wallpaper, build on a non-woven base material, coated for water-based inkjet technology.

This media remains well suited for the reproduction of vintage/historic wallpapers, unique projects with architects and very short production runs.

From about 2010, we noticed 2 major evolutions:

- 1)_The successful emerging designers/editors increased their production capacities with more productive machines to keep-up with demands,
- 2)_Manufacturers in Germany invested into décor on demand marketing solutions, starting from order-taking terminals placed in retail stores to inkjet-based production on demand factories. Printer manufacturers invested into customized machines and solutions.

This led to the launch of an additional Persomural IJ wallpaper from Eco-solvent inks.

Inkjet wallpaper has moved from less than 1% of wallpaper production to around 5% within a few years. The next milestone should be implementation of digital manufacturing for mass market and several entrants already line up themselves.

Traditional wallpaper makers and their big retail allies, traditional photo-finishers reinvent themselves into décor-on-demand manufacturers. Together with internet vendors, all foresee

a point where digital could represent up to 30% of the volumes, through a broader range of products.

For ink developers, it implies progress in imaging speed AND major reductions in the costs of inks.

For media manufacturers, a wider range of media, including cost-reduced products, pre-pasted materials, media compatible with metallic inks, volume inks and varnishes to generate structure effects.

We can expect some interesting challenges as suppliers, manufacturers and retailers try to find a balance between economic constraints and available technologies.

As for the wallpaper Designers, they also have their visions and dream about a system that would enable them to offer their creation around the world, with local and affordable manufacturing next to the clients, and this safely with regards to payments and intellectual property.

All this calls in for a multi-disciplinary approach, with creative designers having a good understanding of technology, business people helping to consolidate and sort out the priorities and talented engineers delivering solutions to the requirements expressed by the two first sensitivities.

References:

- [1] AS-Creation – Presentation to Analyst meeting 22.03.2012 (in German)
- [2] Wallpaper association Germany (www.tapeten.de)
- [3] International wallcovering association (www.igiwallcoverings.org)
- [4] Increation papiers peints sur mesure (www.increation.fr)
- [5] Le Papier peint Dominique Petit, Caractère 06/06/2007

Author Biography

Patrick Le Galudec graduated from « Hautes études Commerciales » Paris, France in 1982, worked as marketing manager for Bull Peripherals, then Nipson printing systems on high speed printing machines.). He lives now in Switzerland and works on inkjet media OEM development and new Décor business for Sihl, the Coating Company.