

## Existing Market Growth

The industrial print market is fundamentally driven by consumers (i.e. packaging), and the industrial infrastructure (building, durable goods, electronics, infrastructure etc.).

There is no virtual threat to this kind of printing. No Internet application to date replaces the need for cornflakes to be bought in a container, for example. Good news for anyone used to the collapsing document print market. Secondly, the overall market is linked to the world economy which rises with growing demand for products. The consumer-driven part of industrial print will also benefit from the underlying dynamic of the world economy, which is the growth in a global middle class.

The industrial print market is not subject to any external threat other than general recession. It will continue to exist in its present form and will grow until it is replaced by something better. The only candidate on the horizon for such improvement is digital print.

## The Place of Digital Print in Industrial Print Markets

Digital print in industrial markets is at a very early stage of development. It is estimated that the industrial print markets will be bigger, more valuable and more defensible for digital than all the digital document printing markets put together.

However, knowledge of users and digital technology providers is minimal, and the conditions for entry are formidable. This is happening at a time of existential crisis for the \$150B digital print industry as about 90% of its markets (office and consumer) are in more or less relatively steep decline. That bodes ill for resource application to industrial under the current financial organisation of the vendors, although some very important early wedges have been driven into the market in areas such as label printing, 3D 'printing', textiles and ceramics.

The prospects for digital printing rest on some critical factors and value propositions which are summarised below:

- **Printing Scale**

In general the economics and capabilities of industrial analog print (the way it is done now) are showing signs of diverging from the underlying developing demand patterns for the products being printed. For example, much of packaging printing is geared towards very high volumes and low costs. This however, happens at a time when demand patterns for products are becoming much more fragmented due to changing demographics and more focused product diversification in a way which might better suit a press-button on-demand digital print mode. On the other hand, in the automotive industry for example, competitive pressures are making it cumbersome for an instrument panel decorator to print formable panels with ten screen passes where a theoretical single Inkjet pass would do the job (already done in Japan). Similarly, why print screen identical spot colour panels for multiple aircraft interiors when single aircraft could be individualised with process colour images?

- **Non-Contact Benefit of Inkjet**

Inkjet technology is a non-contact print technology. In theory at least (though little realised today) this means that you have a universal technology able to deal with almost any chemistry on almost any substrate on any scale. This is the promise of Inkjet, and one that is achievable.

- **Inkjet's Newly-Established Credibility**

Inkjet technology has reached a credibility breakthrough in the last five years in terms of volume capability (speeds of up to 800 feet/minute at widths of up to 42") as well as in terms of reliability (head life commonly exceeding 1B pages in document presses). Textiles can now be printed with specialised textile chemistry at up to 1,000 M2/hour – a true production speed.

Inkjet printers can print reliably at production speeds pigments in ceramic tile factories on the production line – the Ceramics industry is in the process of replacing up to 70% of its analog capacity with Inkjet.

- **Digital Print's Promise of True Customisation of Messaging**

Inkjet and digital printing technology in general carries with it the long-term promise of true customised print based on fully variable data input. Now there are in fact major obstacles to the development of that true capability which have more to do with IT issues than print. The ultimate value proposition of digital print however, will come to be the ability to target all communications within a massive market in aggregate. This is what analog print will never be able to do.

