

# FIVE AREAS OF INKJET GROWTH

Through the 2020s, inkjet will be the fastest growing print process. John Nelson of Smithers discusses the latest forecasting from the company showing that the value of inkjet-printed graphics, packaging and label work will increase by 8.6% by 2027



John Nelson, Editor at Smithers

In 2022 the value of inkjet printing is estimated to reach \$86.8 billion. This will expand at a compound annual growth rate (CAGR) of 8.6% through to 2027, yielding a market value of \$128.9 billion. In contrast, flexo print value will be more depressed with a 2.5% CAGR for the same period, while sheetfed litho will be essentially flat at just 0.5%. There are several technical advantages inkjet delivers in these applications, including its versatility and capacity to print on non-planar substrates, which has also been central to success in industrial print. Indeed from 2017–2022 inkjet grew faster in these applications than in conventional print.

## COVID-19 DISRUPTION

As the market stabilises post Covid, these increases will continue to provide an additional revenue stream, worth \$23.5 billion in 2022, to the broader inkjet market. As with much of conventional print, many industrial markets – such as transportation, fashion and construction – have seen demand fall temporarily due to the pandemic. However, the prospect remains positive.

## TILES AND OTHER CERAMICS

Ceramic tile printing is a textbook example of a disruptive innovation totally changing supply. The driver for this was the market acceptance of reliable, single-pass inkjet systems, where recirculating printheads allowed reliable performance in the hot, humid and dusty environments of ceramic manufacture.

Inkjet print now dominates such work because a non-impact method allows the whole of the tile to be printed, with no breakages. Tile manufacture totals some 12–13 billion square metres of product, and approximately 70–75% of this is printed. As well as tiles, crockery, bathroom and kitchenware are adding new revenue streams.

Importantly, most ceramic inkjet-printing systems have open-ink models; users are free to purchase from a variety of ink vendors, so they can select on the basis of price and performance. This competition has made inks

affordable and high performance, with the overall volumes growing strongly.

## INTERIOR DÉCOR AND LAMINATES

Printed interior décor, including flooring and surface laminates, were less affected than some industrial divisions during lockdown. While commercial property sales were impacted, this was countered by more home improvement work in the private sector. This now includes a wider use of bespoke designs sold to end users via web-to-print businesses, allowing customers to order unique items tailored to their own vision.

Narrow-web machines are established, printing thin edge bands, usually onto plastic and finished strips. These are produced for furniture and work surfaces as a flexible, low-cost alternative to analogue printing on short runs. The use of single-pass, wide-web and sheetfed equipment is now increasing, with companies such as Hymmen, Palis, Barberán, Cefla Finishing, Bürkle, Qres Technologies and Koenig & Bauer selling dedicated high-performance printers.

## GARMENTS AND TEXTILES

Textiles are forecast to be the fastest growing area of all industrial inkjet printing. The market has seen over a decade of solid growth, but there is still ample room for digital to displace existing analogue print.

Increased purchasing of customised

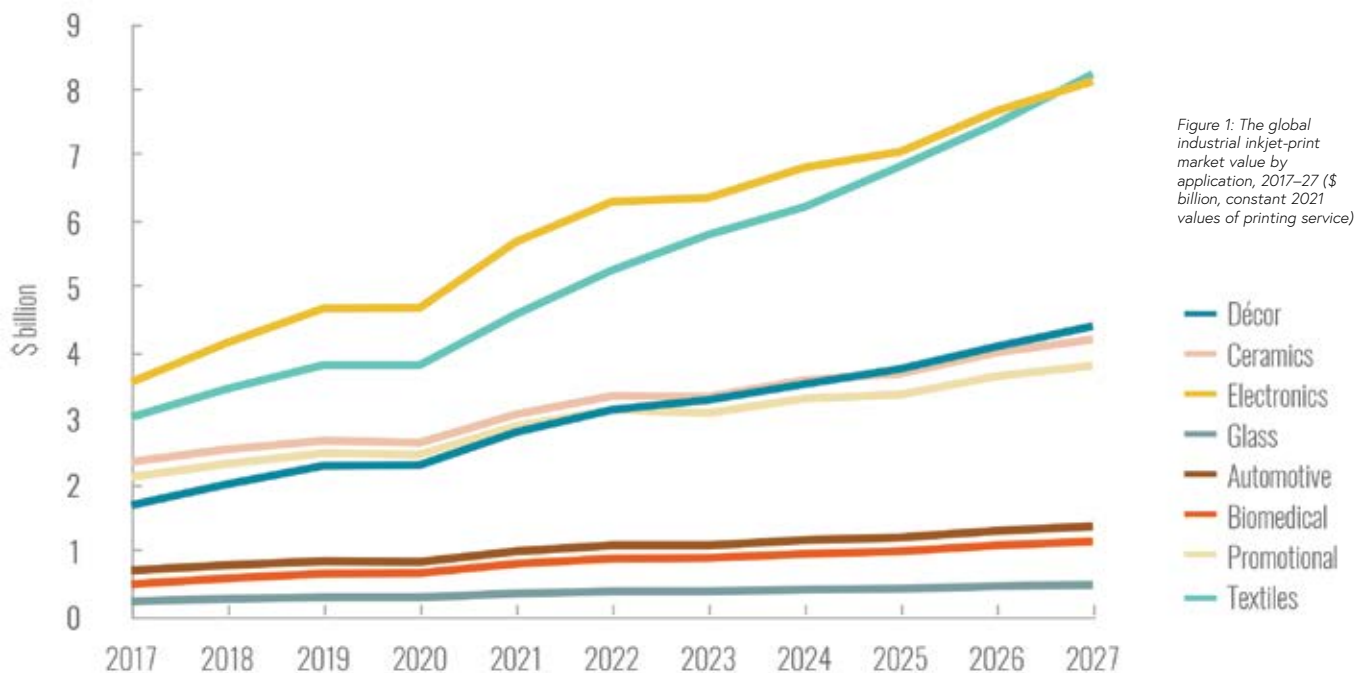


Figure 1: The global industrial inkjet-print market value by application, 2017–27 (\$ billion, constant 2021 values of printing service)

apparel, e-commerce selling and disruption of conventional sales chain are all supporting a wider transition to inkjet, with the installation of more roll-to-roll and direct-to-garment (D2G) presses. Excluding soft signage, global inkjet textile printing is set to grow by an annual average of 11.1% over the five years to 2027 as more productive machines come on stream.

This part of the business also makes wide use of web-to-print services in order to offer short runs and personalised

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designs, best illustrated by the profusion of t-shirt-printing businesses online. These smaller suppliers are now facing the very real challenge of Amazon with its Merch platform. In clothing, the print-on-demand model is seen as a major advantage as it prevents stock-outs with more popular sizes and styles printed locally in small quantities, while the higher manufacturing cost is countered by reduced risk for the retailer.

#### PRINTED ELECTRONICS

Another potentially disruptive technology is printed electronics. It is seeing new interest as the world faces a global shortage of conventional silicon-integrated circuits (semiconductors). Other print processes are more established for printing electronics, including membrane switches, RFID antennas, circuitry, OLED displays and photovoltaics, although inkjet is being rapidly adopted. Use grew at a 12.1% CAGR (by value) across 2017–2022, with participation from the likes of Toppan and Dai Nippon.

Inkjet can be used to print a final component with functional inks, but more commonly it is employed to produce masks used in the manufacturing process for displays, circuitry and photovoltaics. Inkjet can produce patterned, thin films – a key requirement for organic (flexible) electronics. Specific functionalities can be added using inkjet printing onto substrates with existing electronics fabricated using other technologies.

#### TRANSPORTATION

A wide array of vehicles, from bicycles to jet liners, can be enhanced with functional and decorative inkjet printing. Upholstery, carpets, interior, switches, windows, dashboards and instrument panels may also be directly printed or decorated with custom decals and transfer prints from inkjet machinery.

While some of these commissions are still proofing or prototyping, decoration of parts is now standard with some manufacturers, as is coding and part identification. The future holds many new possibilities for direct printing onto components, even whole road vehicles or aircraft.

#### CONCLUSION

The outlook for these and other industrial print markets is available to purchase now in *The Future of Inkjet Printing to 2027*. These are presented as part of a comprehensive, expertly researched dataset that includes all conventional inkjet printing, end-use applications, geographic and regional markets, ink volumes and equipment sales from 2017–2027. ■

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