

# (Inkjet) Developments in Display Graphics

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## Abstract

### Wide Format Graphics and Display Graphics

Graphics used in displays is usually printed on wide format substrates (i.e. from 75 cm up to even 5 m wide). Both analogue technologies (mainly screen- and offset-printing) and digital technologies (mainly inkjet printing) are used for wide format printing. We refer to the Display Graphics (DG) market as that part of the Wide Format Graphics (WFG) market that is printed by digital (mainly inkjet) technology. This DG market originated from new applications (for example short run graphics for events and superwide format graphics) that could economically be produced by inkjet technology. Further growth of the DG market will be stimulated by technology advances enabling additional new applications, but also at the expense of analogue printing.

Our WFG and DG definitions do not include industrial printing applications such as packaging. Nevertheless, it is clear that especially printed packaging is closely related to wide format graphics used for in-store advertising. Moreover, several printer vendor companies are presently exploring possibilities of inkjet technology to address such industrial printing applications.

### Wide Format Graphics Application Areas

Large companies (e.g. brand owners) often spend the majority of their marketing budget on mass marketing, which is an effective way of building a brand. The incentive is to reach a very large audience in a limited period of time by means of a marketing mix (e.g. Newspapers 35%, Television 32%, Magazines 20%, Outdoor Advertising 6%, Radio 5%, Cinema 1% and Internet 1%).

The only mass marketing channel that uses wide format graphics is Outdoor Advertising. In the example of a bus-shelter campaign the graphics will be printed by analogue technology (offset or screen-printing) because it is faster and more economical at the required high run length. Alternatively, billboards and truck-side graphics require much smaller run lengths and may demand unusual sizes. Therefore, these applications are often produced by inkjet technology.

However, Mass Marketing is not the only area in which wide format graphics is applied. We segment the WFG market in five application areas.

1. Mass Marketing, explained above
2. Point of Purchase Graphics, explained below
3. Event Graphics  
Event graphics (posters, banners, exhibition stands, etc.) is typically encountered at exhibitions. The

graphics may be produced in high (photo-like) quality, but the required run length is mostly very limited. Analogue printing is not economical in this case and digital printing is readily preferred.

4. Printed Signage  
Printed Signage contains text and graphics that intends to direct and/or inform people. Typical examples are traffic signs, shop-signs, information boards at construction sites, nameplates, flags etc. Many of these will be used for many years. Today, digital (inkjet) printing can ensure enough durability to be an effective alternative for e.g. cutting characters from self-adhesive vinyl and mounting these to board.
5. Decorational Graphics, explained below

### Point of Purchase Printing

Out-of-store marketing material builds brand recognition and/or encourages people to go shopping. However, the best way to actually influence buying behaviour is precisely at the Point Of Purchase (POP). Investigations by POPAI, the trade association for the global retail marketing industry ([www.popai.com](http://www.popai.com)), have revealed that 70-75% of purchase decisions are taken at the last moment, i.e. in the store in front of the shelf. Consequently, there is an increased interest in the use of POP graphics (cardboard displays, top-boards, floor graphics, shelf hangers, atmospheric graphics, etc.) as an effective advertising means to increase sales. In principle, product packaging graphics is also POP advertising. Ideally, the packaging graphics should be consistent with other promotional graphics that is put up at the point of purchase.

Traditionally, brand owners hire an advertising agency (internal or external) for executing promotional campaigns. Unfortunately, these agencies are not very interested in print. They often employ print buyers that hunt for the lowest price. Therefore, the graphics is often produced with analogue technology in large series and then distributed by mail to all the shops. Research has shown that the material often remains, unpacked, in the mail room. Placement rates may not exceed 30%. However, brand owners are now starting to recognise the importance of POP advertising and are increasingly willing to cooperate with shop owners. In some cases, shop owners even succeed in selling display space to brand owners.

POP graphics may also be ordered or produced by retail chains themselves. Some use central in-house production of (limited run length) display graphics by own inkjet printers. After printing, the graphics is

distributed to their stores. Alternatively, they may use a solution that allows those stores to use templates for easy insertion of variable data (e.g. last-minute price changes). A local, in-the-shop, (inkjet) printer can then be used for very fast turnaround production of the graphics.

The growing interest for POP printed graphics might be limited by the emerging use of electronic displays that either send dynamic content or provide a means to give customers more product information. Many stores are already installing such screens. At present, the general opinion seems to be that these electronic displays will not replace printed graphics, but will coexist with it. Moreover, creative people are still in search of effective content for attracting customers' attention. An electronic display is passed by shoppers within several seconds. As a result, it totally differs from any dynamic medium that is known today. In addition, a system that is capable of managing the content for electronic displays is expensive and thus imposes a risk of return on investment. This is in conflict with the typical retailer mentality. Nevertheless, brand owners may start transferring their budgets for television commercials to in-store advertisement on electronic displays. Television commercial budgets are quite substantial and it is generally recognised that these commercials are losing effectiveness.

In summary, it is expected that the importance of POP printed graphics will remain growing. Traditionally, these applications provided the bread and butter for screen printers. However, offset printers, with digitised prepress operations, can successfully compete against screen-printing for ever lower run lengths of posters printed on paper. Inkjet printing is still developing (with respect to production speed, cost and quality) and becomes increasingly competitive with screen printing for a wide variety of applications from the lower run length side. Digital printing of POP graphics is, therefore, also expected to grow at the expense of screen-printing.

## Decorational Graphics

The application area "Decorational Graphics" is still in its early stages of development. Nevertheless, it may have a substantial growth potential, because it can exploit the specific advantages of digital printing. People desire to decorate their environments (houses, offices, etc.) according to their own, personal wishes. It is one of the ways to express their personal identity or the identity of their company, etc. Before the existence of digital printing, one either had to decorate a room with mass-produced articles that were cheap but not personalised or with more unique handcrafted articles that are relatively expensive. Digital printing is especially suited for producing very personalised articles in limited series at relatively low cost. The required inkjet technology is clearly advancing and providing increased possibilities for printing on all kinds of substrates. Flatbed inkjet printers with UV-curable ink technology are, for example, capable of printing on bathroom tiles, doors, toilet seats, table covers, etc. In addition, inkjet printers exist that are capable of printing on wall-paper, see-through window material and even all kinds of textile applications.

Thus, there appear to be many opportunities for substantial growth of decorational graphics applications. This growth is based on the enabling of new applications instead of replacing analogue printed volume.

## Conclusion

Further growth of the DG market will be stimulated by (inkjet) developments enabling additional new applications, but also at the expense of analogue printing.

## Biography

**Marcel Kremers** was born in 1967. He has a university degree in Chemistry and holds a PhD in Theoretical Physics. In 1997 he joined Océ R&D in the Netherlands. There he is involved in the research of inkjet technology. In addition, he closely cooperates with the marketing departments to perform studies on end-users and (new) markets.