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HP provides industry-leading print solutions that help companies stay competitive

Innovative colour technology that fits every office

The current economic climate has placed greater pressure on companies to remain competitive. Throughout a business, from the chief executive, the business manager to the IT Manager, all employees have had to scrutinise the effectiveness of their operations and evaluate which processes are working well or in need of review. In recessionary times, companies automatically look to reduce external costs such as outsourcing, external consultants or company expenses and they look internally at facilities and workflows to see ways in which cost savings can be achieved.

The printing environment is not always the first area considered when it comes to staying competitive. However, no one can deny the significance of printing in our everyday working lives. Printing is as much a business process as attending a meeting or writing a proposal and has the same effect on an organisation's bottom line.

It does this via two channels. The first is quite simply through communication; printing informs, persuades and promotes a company to external and internal audiences. It has the ability to lend weight and power to information and in this way affect customer or employee behaviour or even a buying decision. Secondly, printing is an internal resource with the ability to impact the productivity of work teams.

The power of colour

If you add colour into the printing equation, the impact of printed communication is even greater. In HP's recent Colour Adoption Study, customers felt that colour adds three very important benefits to their communications.

1. Colour can **inform**: from mundane uses such as highlighting debits in red on a financial document, to dramatic full-colour graphics or maps in a report, colour increases comprehension and understanding.
2. Colour can **persuade**: colour documents communicate more effectively and help sell ideas more readily. Unlike colour, black and white documents often appear 'draft-like'. According to US market research firm MetaFacts, the second most popular use of a workplace printer (behind letter writing) is printing reports or proposals, documents that benefit greatly from being produced in colour.
3. Colour can **promote**: colour helps businesses effectively communicate their company image, drive revenue and help deliver results. Brochures, flyers, advertisements and marketing collateral are all more eye-catching and memorable when created in colour.

A case for colour?

Analyst firm Lyra Research found that the top three benefits of adding colour to a document were that colour made it easier to remember, more professional and easier to read. Other statistics speak for themselves¹:

- People are **55%** more likely to pick up a full-colour mail piece first
- Readers pay attention up to **82%** longer with colour
- Use of colour in printed material increases readership by up to **80%**
- Use of colour on selling material can increase the likelihood of a purchase by **80% or more**

¹ Data Sources: Color for Impact, Jan V. White 1996; The Persuasive Properties of Color, Robert E. Green, Marketing Communications; USA Today, Wharton Business School, Case & Company, Management Consultants; Bureau of Advertising, Color in Newspaper Advertising; Whats Working in Direct Marketing

- Printed publications are perceived **60%** better when colour is added
- Use of colour in printed material increases retention on average of **65%**
- Brand identification is increased **70%** when colour is added
- Information is communicated up to **70% faster and 77% more** effectively with colour versus black and white
- Use of colour can increase motivation or participation by up to **80%**

With such a strong argument for the use of colour in printed communications, it begs the question why colour printing has not yet become the office 'norm'? In fact, recent research conducted by HP in 2001 has revealed that the majority of European companies questioned do have one colour ink printer and one colour laser printer, but a far larger majority of those asked own more than one black and white ink or laser printer. Furthermore, in Germany, Sweden, the Netherlands and the UK, black and white laser printers were reported to be significantly more popular.

Barriers to colour printing?

According to Morgan Stanley Dean Witter, "colour technology has been on the horizon for years, but it is starting to make its way into the mainstream." There are a number of reasons for the slow adoption of colour printing in business and also why colour printing is starting to take off:

1. **Cost** – the perception that colour printing is expensive has made customers reluctant to buy colour printers. However, colour laser printers are now more affordable than ever. The fact that colour lasers also have the workspace advantage of printing in monochrome for the same cost as a comparable monochrome printer is fuelling colour adoption in the office, according to *Quality Publishing*. More than 56% of offices surveyed by Lyra Research now have a colour printer or colour photocopier.
2. **Speed** – early colour laser printers were slowed as they dealt with the large processing demands colour images required. Multiple-pass printing engines that made printing four times as slow as monochrome printing affected their adoption as well, according to Morgan Stanley Dean Witter. By incorporating new, in-line technology which prints colour onto a page in one single pass

instead of four, colour printing is now just as fast as monochrome printing. As this technology moves into the desktop arena, it will accelerate the adoption of colour laser printers, according to CAP Ventures. High-powered processors also speed colour printing by crunching the large data files colour prints create, helping the printer engine work as fast as possible.

3. **Complexity** – early colour laser printers were complicated to use with many additional supplies to change. HP has overcome this issue by developing a range of colour laser and business inkjet printers with easily changeable supplies. Everything can be accessed from the front of the printer, while gauges on the front of some of the printers let users know exactly how much ink they have left.
4. **Durability** – colour inkjet printers have made their way into the office environment yet IT administrators have been cautious in placing a consumer-oriented device into a demanding business network environment. HP found businesses felt that inkjet was an old technology, suitable only for low volume use in the home, unlike laser technology. HP's colour laser printers have always boasted superior reliability and HP is transferring this into its business inkjet range with the introduction of a new class of business inkjet printers. With LaserJet-class reliability, the new Business Inkjet 3000 has a monthly duty cycle of more than 30,000 pages, robust networking and durable components.

In today's competitive landscape, companies are finding that the time to add colour to their business has never been better. Not only does it provide all the benefits discussed here, but it is also becoming a competitive requirement to help businesses stand out from the crowd. For this reason, colour laser printers and colour printers in general are becoming the fastest growing segment in office printing with a projected annual growth rate of 38% over the next three years (according to CAP Venture). HP is ideally positioned to meet this growth in demand.

From desktop to print shop, HP has a solution for every business need

As the leader in colour printing solutions, HP offers a line of colour printers that serve the needs of businesses from the simple home office worker to the high-end colour production technician. These products offer speed, simplicity, reliability and cost effectiveness.

Firstly **speed**: by incorporating new, inline technology (to be discussed in detail on page 6) which prints colour onto a page in just one single pass instead of four, colour printing is now just as fast as monochrome printing. According to CAP Ventures, as this new technology moves into the desktop arena, it will accelerate the adoption of colour laser printers. High-powered processors also speed colour printing by crunching the large data files colour prints create, helping the printer engine work faster.

Secondly **simplicity**: instead of having multiple different places to change supplies and operate a colour printer, HP's new colour laser and business inkjet printers have supplies that are easy to change. "Ink gauges" on the front of some of the printers let users know exactly how much of each colour they have left. Everything can be accessed from the front of the printers. HP's intention was to make colour printers as easy to use as a typical HP LaserJet printer, and these new printers have met that goal.

Thirdly **reliability**: the colour laser printers from HP are renowned for being extremely reliable. A Lyra Research survey found that 84% of respondents thought today's colour printers were just as or even more reliable than monochrome printers. HP also brings LaserJet-class reliability to inkjet technology with the introduction of new business inkjet printers. HP's Business Inkjet 3000, for example, has a high duty cycle of more than 30,000 pages, robust networking, and durable components.

Finally **cost effectiveness**: colour laser printers are now more affordable than ever. The new HP Color LaserJet 2500 printer starts at around 1200 Euros. HP's new single-pass colour laser printers, such as the 16 ppm HP color LaserJet 4600, start at around 2500 Euros. The Color LaserJet 5500 is a workgroup printer at a breakthrough price point for wide format (A3) printing with 4520 Euro. More than 56% of offices surveyed by Lyra Research now have a colour printer or colour copier.

A technology for every need

When the needs of a business customer include powerful networking, fast printing speeds and document durability, they can turn to HP's family of colour LaserJet printers.

HP has pioneered two technologies that will help create the right colour LaserJet print solution for different office environments, depending on their needs: in-line technology and four-pass technology. HP's vertical in-line technology allows a printer to work much more quickly with exceptional output quality, while HP's four-pass technology enables exceptional image quality and establishes new boundaries of printer size and price.

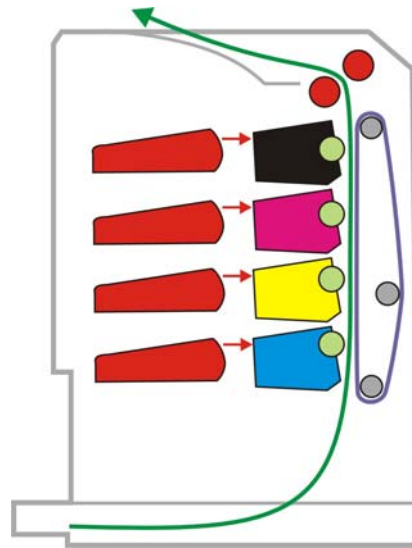
Both HP technologies hold benefits and disadvantages, so while the speed provided by HP's in-line technology increases productivity and saves time, HP's four-pass technology is more cost effective, especially when combined with lightweight, convenient devices.

• HP's in-line technology

Each technology has different characteristics geared around a specific purpose. HP's in-line technology is able to improve efficiency. It is characterised by a simple paper path design that streamlines the printing process. In doing this it significantly reduces the time it takes to print in colour and makes paper jam clearing very easy.

HP's in-line printers contain a vertical stack of four print cartridges. During the printing process the paper or other types of media are transported upwards past each of these. This enables the printer to

deliver colour to the paper in a single pass in contrast to traditional products that bring each of the four colours (cyan, yellow, magenta, black) to the paper one after the other, thus needing four passes. The result is a print speed four times faster than traditional colour lasers.



HP's vertical in-line technology

(Color LaserJet 4600,
Color LaserJet 5500)

"In-line technology is what many of HP's customers have been waiting for", claims Roland Farian, European Product Manager for Colour LaserJets. "Businesses and business creatives have traditionally had to outsource or buy expensive machinery when looking for high performance colour printing solutions, but our in-line technology means this will no longer be necessary".

Business creatives need a printer that will offer maximum output without any compromises to quality. A standard office printer is simply not relevant to their needs when it comes to image creation.

This year HP is introducing a new range of vertical in-line printers designed to meet the high-volume, high-quality colour printing needs of workgroups and business creatives, and at a competitive price.

The new colour LaserJet 5500 printer series gives businesses and business creatives fast, high quality, cost-effective, creative and flexible ways to communicate in colour, with the flexibility to print in wide format custom media. The printer features significant performance features including: 22 pages per-minute printing in colour and monochrome, a

400-MHz processor, up to 160 MB of memory and increased paper capacity.

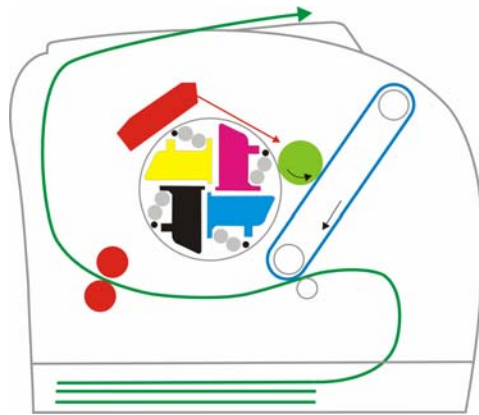
The colour LaserJet 5500 also represents a breakthrough in ease-of-use; exchanging the reduced number of supplies can be done in seconds and the smart consumables and low intervention rates mean low cost of ownership and operation. The printer follows closely in the footsteps of the colour LaserJet 4600, launched in Spring 2002 and is equally revolutionary. Both print in colour as fast as in black and white (16 pages per minute in monochrome or colour), without enlarging the printer footprint.

- **HP's four-pass technology**

HP's four-pass printing employs a different technology, based on more traditional printing methods. There are six main components for the four-pass colour print process - three colour cartridges (cyan, magenta and yellow), one black cartridge, an intermediate transfer belt and an imaging drum. For colour printing each colour is transmitted onto the imaging drum and subsequently onto the intermediate transfer belt, before finally being transmitted onto the paper.

This involves a longer colour printing process than with HP's in-line technology, but is compensated for by automatic colour calibration functionality, which creates a faster first page out time. In addition, monochrome printing speeds are the same as in-line printers at 16 pages per minute as this requires only one drum rotation.

Whilst HP's four-pass technology is not ideally suited to the needs of the of a business creative team, it is a good match for offices who need a colour solution but who mostly print in monochrome. For customers where restricted budget and office space is an issue, HP's four-pass technology is the most appropriate technology to give users access to colour as well as black and white printing.



HP's four-pass technology (Color LaserJet 2500)

HP's latest four-pass technology printer, the colour LaserJet 2500 is able to offer them quality print images in either colour or black and white and at a low purchase price. The colour LaserJet 2500 also answers their needs in terms of office space, because its industry leading weight (starting at just 21kg), and compact design, with the smallest footprint of any laser printer, means that companies do not have to compromise on office space either.

HP's four-pass technology mean that small businesses, small work teams and individual users can realise the benefits of colour printing at an affordable price and with the quality and speed of a monochrome laser printer for black and white printing.

Rising to the occasion

Investment in other print technologies such as HP's existing Inkjet ranges are also important as HP looks to raise the standards of colour printing as a whole. HP is providing a series of products based on a series of 'givens' – that colour quality is a given, that speed is a given, that competitive pricing is a given and performance is a given.

Print services should contribute to business success. The challenge for the print industry is therefore to increase the effectiveness of *all kinds* of printing and give customers the best choice possible with the best solutions possible. As an industry leader investing in leading technology, we are in a strong position to do this.

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