



HP Indigo press s2000

The powerful digital printing
solution for plastic cards

“The HP Indigo press s2000 has enabled us to become a player in a relatively new, but growing, market for this type of digital product.”

David Hayward, Print Manager
CSL Card Services, UK



What's in the cards for industrial printers?

Plastic cards are everywhere – used in almost incalculable numbers worldwide for an ever-expanding menu of applications.

Today, tens of millions of people will use printed plastic cards for processing vital transactions in commerce, finance, healthcare, security, government, and many other industries. Over the same period, companies will have their plastic cards applied millions of times in efforts designed to create better consumer relationships, build brand loyalty, establish corporate or product images, and enhance end-user convenience (see Fig 1). Additionally, plastic cards will serve countless times this day as a fundamental form of safeguard – maintaining critical security and assuring access control for all types of enterprises.

With more than nine billion units produced annually, plastic card manufacturers are racing to meet the needs of an increasingly dynamic market. As a plastic card manufacturer, how do you plan to participate in what is clearly a growth opportunity? What solutions do you plan to offer through card production to help customers build their businesses and protect their property and identity? In short, are you prepared to take advantage of the new climate for plastic cards – and grow your business?

Digital drives the transformation

Plastic card printing – and in particular, digital card printing technology – is evolving swiftly to meet the new and complex demands of the market. For example, leading card manufacturers use digital print production technology to incorporate wider color gamut, greater card quality, and more useful cardholder features. And they're doing so at lower total cost to themselves and their customers.

Advanced digital printing technology enables card manufacturers to provide output in low cost, short-run batches. It also permits the production of high quality, full-color cards that offer numerous, value-added features, including personalisation and covert security features. You can use digital printing to create cards with unique security-enhancing features or to simply add personalized color photos – features that make your cards and your service stand out in a crowded marketplace.

In addition to technological strengths, digital printing also offers some significant financial advantages versus traditional offset production. For example, digital printing eliminates most of the cost for set-ups, substrate waste, plates, film and much of the other expense associated with traditional offset processes.



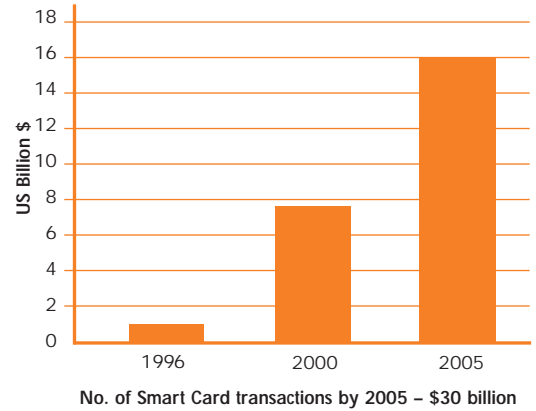
HP Indigo press s2000 – a productive, profitable powerhouse

The HP Indigo press s2000 is the most versatile, productive and high quality digital press in the card printing industry. With its full-color digital capabilities, it's changing the face of card printing by delivering the power of fast, efficient digital printing combined with the offset-like quality that your customers expect.

The HP Indigo press s2000 meets your most critical requirements: high quality output; compliance with all cards market standards; and compatibility with leading card-finishing processes. It also provides the flexibility your operation requires. It's fast and easy to change from job to job, and it allows for highly affordable proofing, design, and graphic variations.

The HP Indigo press s2000 also incorporates variable data printing power, so you can personalize any data element or graphic. In fact, you can print variable and full background graphics in a single pass with extreme ease and quality.

Fig 1: Global Smart Card marketing opportunities
Source: Killen & Associates



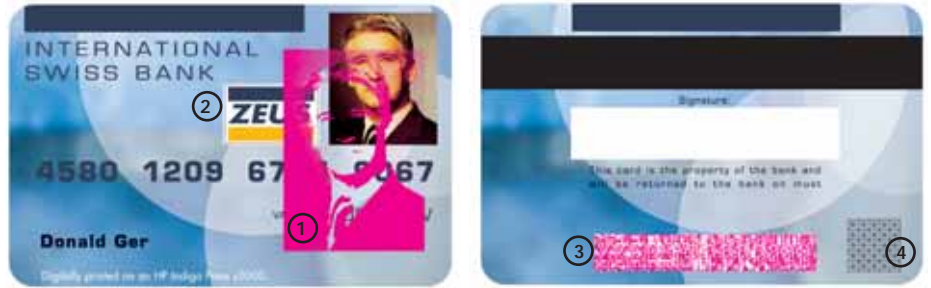
As a cost-efficient solution, the HP Indigo press s2000 will also have a positive impact on your ROI and profitability. It requires less expensive overhead for operation, and eliminates the exorbitant time and cost of films, proofs and plates. You'll also profit from a reduction in wasted substrates. But that's not all.

The HP Indigo press s2000 has been engineered to make low-volume print runs a viable, profitable service. As a result, you don't have to demand any minimum quantity or incur extra cost for last minute job changes.



Fig 2: Multiple card security features

1. Personalized invisible ink.
2. An alphanumeric micro-text surrounds the ZEUS logo.
3. Invisible ink provides a more aesthetic, as well as secure method of barcoding.
4. This graphic symbol is a sequence of 4 digits, resulting in a complex alphanumeric code.



Feature-rich and ready to run

The HP Indigo press s2000 offers a broad array of features that keep your card-printing operation running at peak efficiency.

- Broaden your range of value-added services by delivering affordable short-run, full-color card printing.
- Reduce costs significantly by eliminating make-ready, film, plates, job start-up time, waste and redundant inventory.
- Dramatically shorten turnaround time with throughput speeds of up to 11,000 cards (double-sided) per hour.
- Maximize productivity and streamline your operations with electronic collation, seamless job changes and color personalization.
- Apply variable printing simultaneously with image printing to enhance security and protect identity.
- Expedite client approvals by proofing the job right on the client-specified plastic substrate.
- Maximize your production compatibility with leading substrates – including optimised PVC, polyester, polycarbonate and others.

New opportunities for new generation printers

The HP Indigo press s2000 opens the door to a world of new business opportunity – all driven by on demand flexibility, short runs, variable data, and personalization. You can apply these powerful capabilities to assist current customers, and also grow your client base with a broad array of new applications. The world is rapidly embracing smart cards, loyalty club cards, promotional cards, as well as enhanced ID cards, credit cards, licenses and ATM cards, and now you can become a valued supplier.

Forgery and counterfeiting of identity and security cards are an enormous and costly problem – representing more than \$400 billion annually in expense for industry and governments worldwide. With easy, fast incorporation of new card security features, you can also readily help customers protect property, identify rightful owners, control access, and generally minimize dishonest or illegal activity.

For customers who need extra measures of security achievable only via a digital system, the HP Indigo press s2000 easily meets the challenge. Now you can accept and print all forms of variable data, including serial numbers, names and other personalized identifiers.

The possibilities for a truly secure printed piece are unlimited when you combine personalized data with the wide range of security features available from the HP Indigo press s2000 (see Fig 2), including:

- **Invisible ink.** Visible only under an ultraviolet lamp – invisible ink can complement any of the following features for added security, as well as improved aesthetics.
- **Alphanumeric codes.** Graphic representations of digits or numbers combine to form a code which can be placed on the card as easily as any other visual element.
- **Barcodes.** With HP Indigo technology, barcodes may be optimized to contain unlimited amounts of unique data. You can also print invisible barcodes to eliminate unwanted graphic elements, while increasing security.
- **Micro-text.** HP Indigo technology allows printing at a resolution and line screen that delivers text so small as to be nearly imperceptible to the untrained eye.
- **Digital watermarks.** Place personalized, machine readable, covert patterns into your digital image to enhance security and link to database information – available to HP customers through reputable 3rd-party partners such as MediaSec Technologies and Digimarc.

“With the ability to add the 5th or 6th color, the HP Indigo press s2000 allows the addition of extra security features to high-end ID documents.”

Indra Paul, President
Digimarc ID Systems, USA

HP Indigo press s2000 –
the inside story

1. Work station
2. Writing head
3. Developer roller
4. Inking injectors
5. Photo imaging cylinder (PIP drum)
6. Blanket cylinder (ITM drum)
7. Impression cylinder
8. High capacity feeder
9. Printed sheet exit tray
10. Ink cartridges





The one, true choice for offset digital quality

The HP Indigo digital offset color process is the only digital printing technology that matches the quality and color range of offset printing. And as it's dry to the touch – right off the press – HP ElectroInk also saves you production time and money.

HP ElectroInk. Impress your most demanding customers with vibrant image quality from liquid HP ElectroInk – the core technology that elevates the print quality of HP Indigo presses above any other digital press. HP ElectroInk complements the texture of any substrate to produce higher resolution, sharp images and vibrant colors.

The result – one that meets the high standards set by you and your customers – is the only digital output with the look and feel of offset printing.

Special colors. The HP Indigo press s2000 offers optional 5 and 6-color inking stations – making it easy to print corporate colors, as well as white ink and special invisible inks. It expands the color gamut and capabilities to a range that competing digital print technologies simply cannot deliver.

Two options for maximum color production flexibility include:

- HP IndiChrome on-press is a 6-color printing process that uses orange and violet inks in addition to the standard CMYK, achieving an expanded color gamut.

- HP IndiChrome off-press enables printers to specify special spot colors to be loaded on the press. These colors are manufactured and supplied by HP Indigo's Special Ink Mixing Services, or can be prepared on-site with the HP IndiChrome Ink Mixing System – to enable printing of corporate colors, simulating 97% of the PANTONE® Colors range.

Add variable data with HP SNAP Technology.

HP optimizes performance for your complex, personalized printing applications with its SNAP (Swift Native Accelerated Personalization) technology. HP SNAP accelerates the processing of variable-information jobs by minimizing the pre-processing of the data as it flows in from various sources. Variable text and images can be processed without using the Postscript RIP, and repeating elements may be efficiently used and re-used.

Unmatched substrate flexibility. In the competitive marketplace of plastic and smart card printing, customers are demanding all types of media. The HP Indigo press s2000 can print on PVC, polyester, polycarbonate, Teslin and others. And just to make sure you'll always have access to a wide range of cost effective substrates, HP maintains ongoing partnership programs with the largest, most respected and reliable substrate vendors in the world.

Finishing and workflow. The HP Indigo press s2000 offers full compatibility with the leading providers of finishing processes, including roll and platen lamination, thermo-forming, and embossing from Oasis, Spartanic, TMP, OEM, D&K, Autofeeds, Media SE, NDG Mark and others.

“The main advantage of the HP Indigo press s2000 is the flexibility it gives us in production. We can use it for the shorter runs, or when we need variable printing. Being able to print the main images and the variable data in one go is a real advantage.”

Karl-Heinz Ball, General Manager
NOVO GmbH, Germany



Strong 3rd-party partnerships

HP has forged solid partnerships in the digital printing industry with the most innovative providers of specialized hardware and software applications. If 3rd-party firms deliver what you need to fill any gap in the solution chain, HP will make sure it's part of your customized package. HP is a leader in integrating mission-critical technologies into a single cohesive solution for workflow, e-commerce, web-to-print and front-end personalization, as well as substrates.

Partnering with HP means gaining access to a more comprehensive solution unlike anything else in the digital printing industry. HP's complete set of start-to-finish communication solutions is driving the momentum for digital printing.

HP at your side

HP has the proven experience and track record for providing its customers with top-class solutions. With its full support, training and service approach, HP assumes the leadership position in today's printing industry. This also makes HP an ideal partner for you.

Designed to streamline the creation and production of high value card output, these A-to-Z solutions enhance your ability to acquire and retain customers and build customer loyalty.

The bottom line is this: HP helps you stand out in the card production market, meaning more jobs, more business and more profit



Full support and service – to get you going and keep you running

HP has implemented progressive new strategies that yield the most rewarding customer experience in the industry – one based on your preferences and measured on the complete resolution of your needs. That's why HP's new principles for "Total Customer Experience" focus on the most important areas of customer satisfaction: problem prevention, fast response times, rapid, accurate problem resolution, seamless installation and superior customer care.

HP is also focused on providing the widest range of flexible and competitive price offerings. Plus, HP's post installation services are designed to help you achieve maximum uptime and profitable operation. HP's powerful global field organization is second to none in providing customer consultation, systems implementation, training and support.

The HP commitment to customers is a support system that includes:

Full setup and maintenance services:

- Site preparation
- Workflow setup
- Remote diagnostics
- On-site field service
- Fast part delivery
- Hotline help desks

World class training:

- Operator training ranges from basic to advanced levels.
- Maintenance training teaches preventative and/or corrective actions, providing the operator the skills to perform quicker problem resolution with the support of the Customer Support organization.
- Shortly after installation, operators receive support from the Implementation Team to ensure that skills learned in the classroom are transferred to the production environment quickly during the ramp-up period. This ensures that the operator is confident in working with the press and is using the press to its full potential.
- Visits to customer sites help assess infrastructure, technology and workflow, and create an individualized plan for integrating the appropriate HP solution.

Attractive financing options:

- Affordable packages for presses, software and installation services
- Flexible terms of 36, 48 or 60-month contracts
- Trade-up options and special programs

“We clearly have made a strong commitment to digital printing, and we think that it’s the wave of the future.”

Kevin Cowie, Director of Marketing, Banking and Retail, N.A, General Manager, Consumer Direct
Giesecke & Devrient, USA



HP: a global company, a world of benefits

No other company within digital printing matches HP’s global reputation for innovation and its tradition of services and support. No other company delivers greater across-the-board expertise. And no other company offers you such an accomplished array of start-to-finish digital print solutions.

HP focuses on providing you with top value capabilities and results in return for your investment. You can count on HP to work alongside you and to offer you a partnership supporting all the needs and facets of your business.

In every HP Indigo press you’ll always find HP’s world-renowned value features: fast turnaround, cost-effective production, liquid ink offset quality, a wide range of substrates and the most advanced technology for digital production printing. And behind every HP Indigo press stands the industry’s strongest, most trusted service, training and support team, as well as HP’s trusted partners – preeminent 3rd party providers of complementary applications to make your business grow and prosper.

Find out more today, and join in HP’s dramatic transformation in the world of card printing and print communications.

Technical specifications

HP Indigo press s2000

Print engine specifications:

Printing speed	1,000 4-color 11.69" x 16.53" sheets per hour (up to 21,000 card faces)
Image quality	800 x 800 dpi 800 x 2,400 dpi when printing in high resolution mode Line screens: 144 (sequin), 175, 195, 230 lpi
Image size	12.1" x 17.2" max.
Sheet format	12.6" x 18.2" max.
Sheet thickness	250-600 micron
Printing technology	HP ElectroInk technology
Process colors:	
Standard 4-color printing	Black, Yellow, Magenta and Cyan
HP IndiChrome 6-color printing	Black, Yellow, Magenta, Cyan, Orange and Violet
PANTONE Colors	Prints PANTONE Colors mixed using the HP IndiChrome Ink Mixing System or ordered via the HP Indigo Special Ink Mixing Services
Special inks	Fluorescent and invisible inks
Dimensions of print engine	Length: 76.8" Width: 65" Height: 69"
Weight of print engine	3,439 lb

Digital front end specifications:

Software platform	Microsoft® Windows XP® Professional
Hardware platform	2.8 GHz Pentium® 4 processor, 36 GB hard drive 512 MB base memory, expandable to 4 GB 15" flat screen monitor DVD-RW/CD-RW Image disks – two 36 GB drives which provide 70 GB of image memory
Network protocols	TCP/IP
Physical network connection	10/100/1000 Base-T
Supported formats and standards	Postscript Level 3, PDF 1.4, TIFF, JPEG, EPS, PPML 1.0, JLYT
HP Indigo Yours Truly	Full-color personalization

Optional equipment/configuration:

Expanded color capabilities	HP IndiChrome 5 and 6-color printing HP IndiChrome Ink Mixing System
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