

Heidelberg

Jews

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*With All
the Senses*

Werner Drechsler from Düsseldorf

COLD-FOIL FINISHING WITH FOILSTAR

High-quality products with metallic effects

**MOTHER NATURE'S MOST
BEAUTIFUL DAUGHTERS**

A new slant on historical colors

HEIDELBERG



Dear readers,

It's necessary to "dig deep" in order to stand out from the crowd these days. However, creativity and high-tech alone are not enough to distinguish the best from the rest – know-how is also a crucial ingredient. It is, in short, the only way to get the absolute best from the resources to hand.

As a prelude to our multiple series of articles on the theme of education, UN Secretary General Kofi Annan and international printing experts explain the central role played by training in general and its significance for the printing industry in particular in an exclusive round table discussion. Werner Albrecht, manager of our Market Center in Germany/Switzerland, also illustrates why employee training is essential, especially in high-earning areas.

Our profiles of Druckstudio GmbH, Germany, John Watson & Co. Ltd., Scotland and FacForm, Brazil demonstrate how it is possible to profit from an extremely diverse selection of unique selling points. In addition, we will be providing you with an exclusive insight into our new cold foil module, the FoilStar, presenting the adhesive binder Eurobind 4000 and investigating the secret of the Speedmaster SM 102's success.

Last but not least, we will be introducing you to Georg Kremer and Jürgen Riedlinger – two ink manufacturers who couldn't be more different.

We hope that you enjoy this new edition and that the articles strike a chord.

Happy reading!

Bernhard Schreier
Chairman, Heidelberger Druckmaschinen AG

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DRUCKSTUDIO GMBH DÜSSELDORF, GERMANY

With All the Senses

They specialize in the unusual. Employees at the Druckstudio GmbH in Düsseldorf are in their element when working on projects discarded in desperation by other print shops. They translate clients' ideas into a multi-sensory experience with the aid of specific screen processes, UV-technology and a variety of finishes on the most diverse printing stock imaginable.

The company swears by cutting-edge technology, and this approach pays off: Customers are addicted to its products.



A mutual passion for high-quality aesthetics: Werner Drechsler, Founder and Managing Director of the Druckstudio GmbH in Düsseldorf, and Ursula Rausch, Director of the Shiseido Training Center in Düsseldorf, examine a new cosmetics poster.



Werner Drechsler verifies the fragrance. The aromas in the fragranced coating are released via rubbing.

Sight, sense, smell – the products manufactured at the Druckstudio GmbH Düsseldorf appeal to all the senses, making a lasting emotional impression on the company's ultimate customers.

Werner Drechsler is on the move most of the time. During our conversation, he twiddles a pen with his fingers, balancing it upright on the desk. From time to time, the print shop boss springs up from his seat to fetch a print from his filing cabinet. Nevertheless, this man is not fuelled by frantic unease. On the contrary, the 52-year old exudes sheer vitality which drives him to try his hand at new projects – time and again. This vitality is echoed in the paintings by the French artist, Christophe Bouchet, whose works Drechsler reveres, several of which are displayed at his home and in the offices. The works depict painted figures radiating blithe sensuality, which are delineated in broad brushstrokes. And this sensuality is imparted to the observer, exactly like the owner's passion for beauty.

The quasi "energy-laden" environment resonates with the resolve which has spurred Drechsler to achieve his aims and do his own thing his whole life through. Yet Drechsler is not the driven one; he is the person setting the pace. And he operates at top speed, for he is convinced: "In today's competitive environment, the fast devour the slow. It's all about getting in first, being the first to track down new trends, and the first to use new techniques and to start up production as quickly as possible. It goes without saying that the quality has to be up to scratch." And Drechsler was always among the first. Eighteen years ago, he started printing using one of the first presses to be equipped with an inline coating unit, and UV offset printing has been the order of the day under the management of Drechsler's business partner, Rolf Albers, for 11 years now. This enthusiasm for the new, coupled with a distinctively service-orientated approach,

has earned the company a steady growth in sales over 29 successive years since it was founded in 1977. In the 2006 financial year, the Druckstudio GmbH and its 40 employees are aiming for a 30 percent increase in turnover, taking the total to 7.67 million US dollars (6 m. euros) and thus quadrupling profits. Drechsler has ensured that these triumphs continue thanks to the premature selection of his successors: The next generation, in the form of Dirk Puslat and Martin Piszczek, is already swelling the ranks of the management board.

Upscale market. The company's 1,000-strong client base, comprising mid-sized companies (70 percent) and agencies (30 percent), knows that it is in safe hands with the Düsseldorfers. Customers fully appreciate the cutting-edge technology and quality they receive. This is because many of them, especially cosmetic sector companies such as Shiseido or world market leader L'Oréal, with well-known brands like Lancôme, Vichy, Garnier, Biotherm, Jade Maybelline, Helena Rubinstein and Armani, automotive manufacturer Mazda, telecommunications giant Vodafone or clothing manufacturer Falke, inhabit the market's upper echelons and thus place great value on the high-class presentation of their products. This client base makes the print shop relatively immune to economic slumps, as the demand for luxury goods rarely declines during periods of financial depression with the intermediate market segment hit hardest instead. Added to this, ▶

"In today's competitive environment, the fast devour the slow. It's all about being the first to track down new trends."



Iridone creates a classy glossy effect.



Klaus Pöppinghaus prepares the punching cylinder for the next commission.



Andreas Spöhr inputting a print job at the Prinect CP2000 Center control console...



... and refilling the inking units on the Speedmaster CD 74-5 with coating unit, which is predominantly used to manufacture folding cartons.

“We recognised UV’s enormous potential immediately, as it allows us to create extremely beautiful products.”

be bettered, and the region is home to nine million people with above-average purchasing power. The infrastructure is also exceedingly good.” Of course, these factors also attract competition: greater Düsseldorf contains around 180 print shops.

Yet only a few of these competitors seem obsessed by the thought of going one better than Werner Drechsler. This was his prime motivation for starting his own business nearly 30 years ago. He took over a small express print shop in downtown Düsseldorf at the tender age of 23, an apprenticeship as a typographer and a degree in print technology in his pocket. Nothing special, but he adopted cunning marketing ploys, distributing a flyer which included a free perfume sample. It read: “If you use my printing services for a month, you’ll save enough to buy your wife, secretary or girlfriend a large bottle of perfume once a month,” explains Drechsler with an impish grin. The response was so overwhelming that he was forced to employ both a full-time member of staff and to enlist the help of two fellow students from the technical college, Rolf Albers and Hubert Spitzner, who came on board as co-partners.

Skillful seduction. Spurred on by success, he swapped express printing for the “real printing business” in 1979 – with Heidelberg machinery. A few years later, he was the first in the region to introduce a press equipped with an inline coating unit. Drechsler’s marketing skills become apparent here, too; a seducer in the positive sense, who never coaxes, but convinces customers. He wooed important clients by offering to give commissions a special finish with dispersion coating – in the form of a free bonus. Another bull’s eye: “I got

the print shop does not depend on any one specific customer. Approximately 60 percent of its turnover is produced by 20 customers, none of whom generate more than 10 percent of this figure.

A Mecca of creativity. Many of the print shop’s important clients, among these a high number of famous cosmetic companies, have their German headquarters in Düsseldorf. With around 570,000 inhabitants, the Rhineland metropolis is currently booming and is becoming a much-loved Mecca for creative individuals. This is partly due to the inspiring surroundings: the city houses numerous museums, galleries and design stores, with plenty of space left over for Düsseldorf’s traditional avant-garde architecture, now an eye-catching presence along the Rhine promenade and in the trendy Media Harbour. Here, leading architects like Frank Gehry or Zaha Hadid have left an aesthetic mark with their designs, whose shapes and substances cause them to resemble oversized sculptures.

Düsseldorf caters to all tastes with consummate ease: “hip” lounges with sofas to die for, where you can nonchalantly slurp your cocktail in style, flank the banks of the Rhine, or, alternatively, an old town criss-crossed with a maze of endearing little alley-ways offering a rustic ambience and solid fare washed down with a swig of yeasty dark beer. Werner Drechsler is more than happy to sing the city’s praises: “Düsseldorf is an outstanding location. Quality of life can’t

the customers hooked on dispersion coating,” beams the streetwise businessman, still pleased with his ploy. “Our competitors had to have their products finished with dispersion coating by external suppliers. We were unbeatable.”

Creating new markets. The search for eye-catching, individual attributes continues to dominate the company’s business strategy. In 1996, Drechsler discovered that UV-technology was a gap in the market. “We recognised UV’s enormous potential immediately, as it allowed us to create extremely beautiful products in a completely different league to our competitors,” he says. With UV, printing on critical materials such as films, mirri card or iridescent paper, is no problem. The process also reduces throughput times, as the publications are transferred from printing to finishing directly from the press. Meanwhile, the Druckstudio manufactures 5 percent of all commissions using UV, and this figure is rising.

Drechsler’s strategy hinges on state of the art technology; it is crucial that the print shop remains truly cutting-edge and retains its self-styled status as one of Germany’s most modern enterprises. Each new Heidelberg innovation is evaluated as soon as it is launched on the market, and as a concept customer, the company is usually one

of the first to upgrade. The enterprise predominantly produces brochures and books up to 200 pages in length on its 26,910 sq. ft. (2,500 m²) premises, in addition to folding cartons, newspaper inserts, catalogs and folders. Substrates used range between 50 g/m² and 0.3 inches (0.8 mm) and the runs vary between 5,000 and 50,000 sheets. Nevertheless, sometimes only 50 copies of very high-quality publications are printed, for sales managers at large cosmetic companies, for example, who market their luxury products using exquisite brochures printed on laminated metallic paper with all possible frills. On the other hand, runs of up to five million newspaper inserts are also part of day to day business.

Sight, sense, smell. In the airy, spotless production halls, 10 printers operate a six-day-a-week, 24-hour-a-day triple shift system using a five-color Speedmaster SM 52 with inline coating unit plus IR and UV dryers. The SM 52 is complemented by a CD 74 and a CD 102, both with five inking systems, coating unit and IR dryer, and a two-color Printmaster. All presses are under a year old.

Two additional printers operate an embossing, groove and punching cylinder. The print shop boss reports: “The Speedmaster SM 52 is an extremely flexible combination press which we currently use ▶



The diverse nature of printing: The Düsseldorf experts' design for a catalog for a stylish perfume is just as captivating as a purist brochure for a brand launch.

spot and scented coatings. The huge diversity of exquisite prints tempts you to touch them and smell them, running your hands over film and rough or velvety substrates and caressing its embossments with your fingertips.

The Druckstudio GmbH caters to the highest-quality printing requirements with a shared pay printer. The cooperation works well, as both companies are certified in accordance with the offset printing process standard and use Prinect Color Solutions. "We print at an identically high level," stresses Drechsler. The fact that all the presses are in great shape despite non-stop operation is down to the Heidelberg system service – which includes rapid fault analysis via remote service. "We rely completely on Heidelberg's round the clock service provision. We also comply with all the stipulated servicing and cleaning intervals."

Quality above all. This extremely high-level quality naturally begins in the preliminary stages. Ten employees, who image around 1,500 plates per month, have access to all current graphics software, digital proofs, plotters and screen types. For example, the company uses either standard, stochastic (FM) or megadot screens, depending on the print motif. The FM screen (Prinect Stochastic Screening) makes it possible to eliminate the undesirable moiré effect, giving skin a smooth, velvety appearance in advertising material for cosmetic products. The extremely fine screen also generates an almost three-dimensional effect, which the company uses when printing metal items, such as high-class ball point pens. These seem so malleable in their silver authenticity that you have the urge to pick

them up and try them out. The FM screen also depicts crisply cut colored and black figures in a clothing manufacturer catalog, set against a black background.

Complete dedication. The ten employees in prepress and their 15 colleagues in postpress usually work on a 1.5 shift basis, but sometimes work a triple shift system if required. Folding is the focus of attention in the processing department, which contains two polar cutters and a saddlestitcher with six units. Here, the company relies on three Heidelberg Stahlfolders.

"All our employees are highly-motivated and highly-qualified," remarks Drechsler proudly during a guided tour of the company. He addresses all staff by name, and everyone is on good terms. "We all pull together, as we discuss everything with our employees and fill them in on important performance figures at our quarterly works meetings," he says. Decisions are often taken together, such as the appointment of two new sales managers at the beginning of the year, which led to the question of whether the resultant order inflow should be tackled by additional staff or overtime. The employees decided on the overtime option, even though they have been working straight through since April 2006, including Sundays and bank holidays, for which they receive bonuses.

The right to opinions inspires. The employees were also allowed to have their say when it came to maintaining quality standards. "We can't afford any complaints in connection with our top-quality products. That would be the death of the company," comments the

print shop boss. We thus created a series of quality control checks which take place after each stage of production. And those responsible for misprints are not paid for the time it takes to do the reprinting; this is deducted from the employee's time sheet. This strategy has proved successful, with (internal) complaints falling by 30 percent.

The high-level quality and approach means it comes as no surprise that business is booming. The company is currently working to 110 percent capacity. This doesn't leave Werner Drechsler, who works a 14-hour day and is available to his customers 24-7, with much time to relax. He has been recharging his batteries by playing golf for a couple of years now. If possible, he plays every Wednesday afternoon and on weekends. He has developed a formidable handicap of 11.3. "I think of golf as my autogenous training," he says, and promptly disappears. Today is Wednesday, after all. ■

Facts & Figures

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FACFORM, BRAZIL

And The Winner Is ...

.... FacForm. Winning one award after another, in only a few short years the print shop from Recife with a staff of forty has become one of the best-known printing companies in all of Brazil – with creative packaging and calendars being their specialty. In an exclusive interview, Heidelberg News analyzed FacForm’s secret recipe for success and spoke with its owner, Francisco de Assis Nunes, who goes by the nickname of “Chico”.

Mr. Nunes, being based in northeastern Brazil, what impact does geographical location have on the success of your company?

FRANCISCO DE ASSIS NUNES: FacForm was founded in Recife, in northeastern Brazil – in the region of Sertão, an area with picturesque beaches and robust people. This is a region full of history, with countless artists and rich craftsmanship. It is from this region and these people that we draw all our energy, inspiration and creativity.



We translate the beauty, landscapes and poetry of our region into graphic art. I am convinced that our geographical location is the basis for our company’s success.

With all your recent awards, are customers beating your doors down?

FRANCISCO DE ASSIS NUNES: No, unfortunately it’s not that simple. Every single day we work hard to earn our success. I used to work as a printer for 18 years, but unfortunately was prevented from attaining my high standards of quality since I didn’t have any direct influence on the choice of employees, paper, colors and technology. Since starting my own business in 1992, however, I’ve manufactured only top quality products and have always been able to meet deadlines. My clients soon noticed this. But I’ve never just leaned back and waited for customers to knock on my door.

Are you as creative in winning new customers as you are in designing your products?

FRANCISCO DE ASSIS NUNES: Yes, in marketing I took my destiny in my own hands as well. For example, I once designed ten beautiful calendars and mailed them to the most important companies in the region, customized with their addresses and

company logos. And – wouldn’t you know it – eight of the ten companies I contacted placed orders. This is certainly motivating.

Where do you get your ideas for your design concepts, these special and unique calendars and packaging?

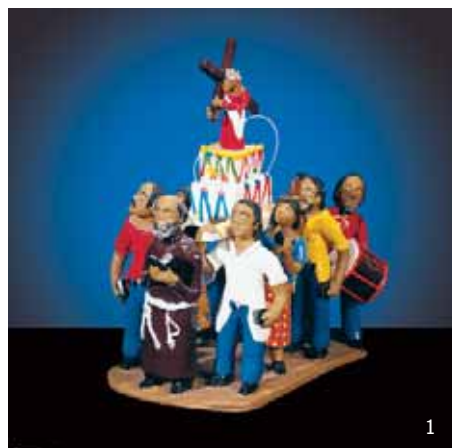
FRANCISCO DE ASSIS NUNES: I love graphic art. My passion for this region of Brazil is reflected in the ideas for the calendars, too. I try to reflect everything I see, feel, and value so highly around here. For our other products I am inspired by my contacts with agencies, artists or journalists. We also experiment, so that every piece of art becomes something unique – with post press and finishing stages really surprising our customers.

At first, creative work was quite difficult for me. At that time I was still operating the printing presses and quite often worked 18 hours a day. Now that my employees take care of this work, my mind is free for creative endeavors despite working 12-hour days.

The ideas for packaging and calendars are all my own. I always put special emphasis on post press and finishing. For me that doesn’t necessarily mean complex printing technology and elaborate folding schemes. Creativity is close to my heart – and with that I mean the fact that you can use simple methods and still achieve very pleasing visual effects. But I also place a high emphasis on technology standards, since these are essential for producing top-notch quality. This is why we print on a Speedmaster CD 74 and utilize Heidelberg equipment for postpress processes as well. An uncluttered and clean printing floor is key, too, since we maintain close relationships with our customers. When they visit us, ▶



FacForm attracted new customers by developing their own personal calendars. The above image shows a calendar sheet for the month of May.



1, 6, 7, 11: Calendar sheets showing typical scenes from the Sertão in northeast Brazil.
 2, 8, 9, 12: Manual work is the order of the day at FacForm. Many hands make light work – and contribute to the success of the company, something which makes “Chico” particularly proud.
 3, 5: Expertly-trained employees and high technical standards ensure top quality results.
 4: From the outside, the print shop makes a colorful, clean impression.
 10: “Chico” and his wife Aizla Jardim (both to the right of the photograph) enjoy the beach at Recife.



they have every right to expect a professional operation. Just like in a restaurant: if the kitchen is not tidy, nobody will trust the chef to cook a good meal.

How are your clients structured?

FRANCISCO DE ASSIS NUNES: About 60 percent of our customers are “creatives” themselves – meaning advertising agencies, whereas 40 percent are from industry. Eighty-five percent of our orders are advertising products such as brochures, flyers, and catalogues. Fifteen percent are calendars and elaborate packaging solutions. This is the area where we have won most of our awards. Purely creative products are fun and do produce some revenue, but you can’t really make a living with them. That’s only possible with “regular” printed matter. However, these extraordinary products send a message to our customers. FacForm is able to deal with complex requirements as well, and that’s why all your printing needs are in good hands with us.

What has been your biggest success so far?

FRANCISCO DE ASSIS NUNES: Our biggest success so far is without question the acknowledgment we receive through the various awards. We’ve been participating in national and international competitions for only four years now and have already won 11 Brazilian and two international awards. We landed our biggest coup in 2005 here in Brazil, when seven of the 15 products we submitted made it to the finals and placed in the “top six”. What’s more, we took first place two years in a row in the “Technological Innovations” category. This competition, which started 15 years ago, is like the “Academy Awards” of the Brazilian graphic arts industry, with the Fernando-Pini-Award from the Brazilian Printing Association (ABTG – Associação Brasileira de Tecnologia Gráfica) being the “Oscar”. That’s why that famous line also applied to us: “And the winner is... FacForm!” Customers, friends – everyone who participated directly or indirectly in this event acknowledges our success. ■

Recife & The Sertão

The metropolis of Recife, with a population of approx. 1.5 million, is the capital of the state of Pernambuco-often called the Venice of Brazil due to its many canals, rivers and bridges. The city is located on three islands in the middle of the Beberibe and Capibaribe rivers and has 39 bridges and 50 canals. Coastal reefs (recife means “reef” in Portuguese) gave the city its name. The commercial port is the most important harbor in northeastern Brazil. With its beautiful sandy beaches, the city and region-with a combined population of over 2.7 million-are known the world over as a tourist paradise.

Further west of Recife lies the Sertão, which is the name of the semi-desert and the surrounding region. The chief vegetation there consists of cacti and thorny bushes that have adapted to the extreme heat and lack of water. This 308,881 square miles (800,000 sq. km) territory stretches over almost the entire northeast of Brazil and is broken up by small patches of tropical forest and savannah. Francisco de Assis Nunes was born and raised in the Sertão, about 50 miles (80 kilometers) away from Recife. The people of the Sertão have the reputation of being good and hard workers.

Facts & Figures

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A printing dynasty rich in tradition: John Watson, Officer of the Order of the British Empire, and his wife, Kirsty, in their Scottish manor, "Bankell House".

ESTD 1824

JOHN WATSON & CO. LTD.

**A FINELY-CLAD
SCOTCH**

Scotch symbolizes Scotland just as much as bagpipes and Loch Ness. The amber-colored beverage is a true bestseller. Its smoky, intensive taste has made whisky the "King of Drinks" in the eyes of devotees worldwide. No one would blame John Watson for feeling rather regal, either. He dominates the Scottish whisky label market with a share of almost 50 percent. He has even been personally decorated by the Queen in return for his services to the Scottish printing industry as well as for charitable purposes.



“We can’t afford to rest on our laurels, we have to keep on the move. Our business is a race against time.”

And that’s supposed to be Scotland? Instead of the usual cliché of rain coupled with a cool breeze, visitors to Glasgow are greeted by temperatures of 86°F (30°C) in the shade. A couple of high-spirited souls have placed a traffic cone on the head of the Duke of Wellington, cast in lead and enthroned on his trusty steed in front of the Gallery of Modern Art, in a thoughtful gesture perhaps devised to protect his noble head from sunstroke. About eight blocks further north, the fans in the John Watson & Company offices are whirling at full speed, yet relief is somewhat limited. Under the circumstances, proprietor John Watson decides to treat his staff, 76 employees, to a refreshing round of ice creams. “Mr. Watson is an incredibly fine boss who really cares,” comments Anne Ralston, who is responsible for the accounts.

Watson enters the office in person soon afterwards. He is wearing a dark blue suit which he teams with an azure shirt. “Kilts are reserved for special occasions, like weddings. Just putting them on is extremely time-consuming, as a single kilt consists of around seven yards of tartan,” says the 58 year old. Although kilts prove impractical for everyday use, the boss simply can’t resist tartan’s charms – a compromise, in the form of a checked carpet, graces the floor of his office. It goes without saying that this is the Watson clan’s own tartan: a blue and green checked pattern with triple yellow stripes as well as red and dark blue lines running through it.

Venerable printing dynasty. Watson is the eighth generation of a printing dynasty whose roots stretch back to 1824, the heyday of the Industrial Revolution. The charismatic boss proudly presents an edition of ‘The Looking Glass’, a Glasgow-based satirical magazine with color lithographs which lampooned socio-political issues such as the increase in environmental pollution or the population’s not inconsiderable whisky consumption. “We originally believed that our print shop was founded in 1851. However, last year we got a call from an acquaintance who had discovered a copy of ‘The Looking Glass’ at a flea market with the declaration ‘Printed by John Watson, Glasgow 1824’. A priceless treasure,” remarks Watson with enthusiasm.

His predecessors’ high-minded pursuits may have brought home the bacon, but Watson’s printing activities are higher-percentage, as a single glance at the display case in his office confirms. This contains at least two dozen bottles of Scotch, vying for attention like models on the catwalk, sporting stylish labels in want of more conventional

attire. The Glasgow company produces over 500 million of these a year, satisfying the needs of around 50 percent of the Scotch whisky market in the process. Around 70 percent of the company turnover, which capped almost 14 million US dollars (10.9 m. euros) last year, is generated from this market. High-class commercial jobs account for the remaining business. From time to time, the native Glaswegian enjoys a good quality snifter at the end of the day at his Victorian country seat, “Bankell House”, where he lives with his wife and four sons. He always drinks it straight up, diluted, at the very most, with a small shot of mineral water at room temperature, allowing the delicate aromas to unfurl more fragrantly and indulging the palate in the process.

The very opposite of good taste. It’s hard to believe that, in fact, a whisky connoisseur like Watson owes his labeling career to a pretty outrageous concoction. That was back in 1975. One of the entrepre-



Whisky shops without a “John Watson label” are an exception to the rule. Joint Managing Director Robert McLachlan and CEO John Watson talk shop.



The word whisky is derived from the Celtic “uisge beatha” and means “water of life”. In addition to barley and yeast, Scotch actually contains a large proportion of water, although its purity and origin (such as Loch Lomond, pictured) have a decisive influence on the whisky’s taste.

neur’s friends committed a scandalous crime. He mixed wine and whisky and named the new blend “Scotsmac”, and it became a resounding success. “The drink was a real moneyspinner, and we printed the labels for it on a Heidelberg five-color GTO press,” recalls Watson. “Sometimes you need a little bit of luck to succeed in this business, and I guess providence just prevailed.” Thus the print shop profited from the consolidation of the Scotch market. During the 1980s, many distilleries merged or were taken over by multinational drinks corporations. They controlled both world-famous whiskies like Chivas Regal, Glenlivet, Bowmore and Glenfiddich, as well as producing and marketing gin, vodka and cream liqueur labels. This not only resulted in an increase in brand diversity from Watson’s clients but also swelled his transaction volume. The proximity to customers also proved highly advantageous. Many whisky distilleries have their bottling plants in the greater Glasgow area. The site of Morrison Bowmore Distillers Ltd., situated around 5 minutes north of the city center, is one such example. The John Watson print shop not only produces the labeling but also provides the tube and box wraps for the packaging of many of today’s “Malt” ranges.

The way to the bottling plant leads past Victorian sandstone houses and modern, faceless buildings, past the sweeping green spaces which give the Clyde metropolis its Gaelic name Glasgow. The literal translation of ‘Glasgow’ is ‘dear green place’. With its 650,000 inhabitants, the city lived predominantly from the smoke-stack industries until well into the 1970s, and has now developed into a magnet for media and service enterprises. With three universities, ▶



Jaxon Bowden cleans the five-color SM 74 with coating unit.



John Watson & Co. Ltd. from Glasgow prints a variety of labels and packaging for the drinks and spirit industries.



“We are as flexible and as efficient as a task force. We take on a commission, execute it and are ready for action again almost straight away.”

numerous museums and art galleries and gargantuan shopping centers, Glasgow attracts more tourists than the more romantic but rather tranquil Edinburgh. The fun-loving city is also a great place to go out on the town. In the classy Merchant City quarter, an abundance of restaurants, brasseries, and cafés invite visitors to eat, drink and be merry at their leisure. Scotch naturally plays a starring role on the menus, be it haggis, fine meat dishes or straight up in the form of a shot of single malt from the Isle of Islay.

Bowmore whisky originates from the little Hebridean island of Islay. Its smoky, slightly peaty aroma seasons the air in the Glaswegian bottling plant so pungently that you can taste it on your tongue with every breath. “Over recent years, whisky sales have risen constantly, partly because new markets in Asia have developed. This consignment is bound for China, for example,” explains Ian Hamilton, Purchasing Manager at Bowmore. Bottles queue up on the conveyors to receive a wet glue label, the machines processing a bottle a second, after their honey-colored contents have matured for twelve years in oak barrels. “The whisky market is a cut-throat business. This is why we value so highly, our excellent partnership with John Watson, with whom we’ve been collaborating for almost 20 years now. John delivers first-class quality, reliably and quickly to boot,” stresses Hamilton.

Task force efficiency. The competitive pressure among the manufacturers continues in the printing sector. “We can’t afford to rest on our laurels, we have to keep on the move. Our business is a race against time,” explains Joint Managing Director, Robert McLachlan. And John Watson endorses this: “With our 76 employees, we are as flexible and as efficient as a task force. We take on a commission, execute it and are ready for action again almost straight away.” Customers encounter this fast-reacting approach as soon as they contact the company. Every client who rings the company receives a response from their designated account handler straight away. “We live according to the one-stop-shopping principle and provide our customers with everything they need from a single source – from the design and photos to printed catalogues or the label itself. We also keep to our appointments and deadlines, come what may,” points out Watson.

This works only thanks to the dedicated, flexible production team. The 76 employees, with seven in prepress, 25 in the pressroom and 26 in finishing and quality management, work various shifts around the clock, six days a week. During normal production periods, the company operates 12-hour shifts on three consecutive days. “The

long shifts don’t bother me, as the days off are a short break in themselves,” comments Margaret Geary from the quality management department. There, she and three other colleagues check all the label sheets by hand for scratches and other possible blemishes before they are made ready for dispatch. For the company credo is: “Only the best for our customers.”

Faster, bigger, brighter. Watson expects the same levels of flexibility, speed and quality from his staff and his presses. This prompted his decision to champion Heidelberg right from the start when he joined his father’s business in 1964. “We were a small print shop with eight employees, with a stationer’s business on the side. But it wasn’t going anywhere. So we decided to buy a Heidelberg platen press and began to overprint labels,” he says. From then on, Watson tailored his printing equipment decisions more and more precisely to market trends. The business gradually gained momentum with the addition of a single-color GTO which was followed by a two-color model and, finally, a five color GTO press.

The multi-colored production rapidly pepped up the print runs, heralding the start of an upward spiral. The formats increased, and finishing became more and more popular. “We subsequently invested in a UV press in order to be able to print on metallic paper to satisfy customer requirements. This resulted in new commissions, like the one for a brand of sparkling wine. Millions of bottles of it are sold in supermarkets. We then needed a B1 press to cope with these increased volumes. That naturally led to a change in plate imaging in prepress,” reports Robert McLachlan.

Today, the print room contains a five-color Speedmaster SM 74 with integrated coating unit and a six-color Speedmaster SM 74-6 with UV coating technology. A 3.8 million US dollars (2.96 m. euros) spend was sanctioned in 2003 and a six-color CD 102 with two coating units and a DryStar interdeck dryer was commissioned. “UV-printing has now become indispensable – we’re already using it to print around 65 percent of all commissions,” comments McLachlan. The main benefit: The labels or commercial jobs can be finished straight away.

This time gain is crucial in the light of runs of between 20,000 and 40,000 sheets, which have to be foil-blocked, stamped and overprinted after the original process is complete. The finishing department contains two Swiss foil-blocking presses for foil applications, mainly gold and silver, as well as for embossing. In addition, the equipment comprises machines for cutting, folding and ram-punch-



The Glasgow print shop produces around 500 million labels a year. Alan Edwards, Production Manager, discusses a commission with Fraser Joyce, Production Planner (from left).

ing, plus the four original Heidelberg platen presses with which John Watson began his labeling career. The finished labels are subsequently shrink-wrapped in plastic film in packs of 1,000 before being delivered.

Fraud-resistant top quality. Speed combines with quality to play a central role at the print shop. This is why Watson is so satisfied with his newest purchase, the CD 102-6-LYLX. “Instead of printing 40 labels per sheet, we can now more than double our output. This results in a considerable reduction in throughput times and costs – which, in the light of our larger print runs, is crucially important to competitive production,” he says. To this end, the print shop also collaborates closely with the manufacturers, since, at the end of the day, every minute gained during bottling is cash in hand. “We support the bottlers by helping them to successfully apply labels made from various materials to the bottles quickly. We test papers, coatings and finishes. For example, one of our customers was able to increase bottling speed by 50 percent due to a minor change in material specification and print processes, reports a satisfied McLachlan. This top quality is important, as certain customers who are prepared to spend 95 US dollars (75 euros) on a bottle of whisky rightly expect a classy label to go with it.

Although less discerning in terms of exclusivity, the British Government nevertheless insists on fraud-resistant measures, pocketing over 15 US dollars (11.8 euros) in taxes on each bottle of whisky.



Precision work: Jim Gaffney at the high-speed cutter Polar 137 Autotrim M.



“It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change.”

To discourage the import and sale of illegal goods, the print shop thus uses special UV-coating to apply a security feature which glows green under UV light.

A Darwinian recipe for success. When it comes to corporate philosophy, Watson agrees and quotes Charles Darwin: “It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change.” As a result, the print shop has always been able to metamorphose, continually orienting itself towards customers and trends. “If we see that we’re not making any profit, then it’s ‘game over’ right away. We subsequently attempt to reinvent ourselves and invest in new markets,” Watson sums up succinctly.

A new business segment has recently emerged, taking the form of the management of label supplies for a whisky brand, a phenomenon also known as ‘Vendor Managed Inventory’. Not the whisky company,

but the print shop is responsible for ensuring that an adequate supply of labels is always available, and that no shortages ensue when the bottlers order replenishments. The company receives access to sales forecasts in order to be able to manufacture and store the correct amount of labels. “On average, we stock around 50 million labels for approximately 200 brands – whisky, gin, vodka and cream liqueur – in our warehouses. This logistic service is far more lucrative than waiting for manufacturer commissions,” explains Watson.

Decorated by Her Majesty. The astute businessman is still bubbling over with ideas and enthusiasm despite his 42 years in the printing industry. He is a well-known figure in Glasgow, the city of his youth. “The aspect is crucial in printing, which is why it’s important to be extrovert and to network,” comments John Watson, divulging one of his recipes for success. The Scottish CEO is also involved in social and charitable projects.

The sporty boss’s stressful everyday existence doesn’t leave him much time to pursue his many hobbies like golf, skiing or squash, which keep him mentally and physically fit. However, none less than the Queen gave him a recent energy boost. She appointed the successful businessman an “Officer of the Order of the British Empire” (OBE) for his services to the Scottish printing industry and for his social dedication. The printer, overjoyed and stunned by this news, has already received the confirmatory certificate. The honor will be officially conferred during a ceremony in Buckingham Palace in London this fall, an occasion which is bound to persuade John Watson to sport his tartan kilt in the clan colors. ■



Each sheet is checked by hand. Pictured: Margaret Geary.

Facts & Figures

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News & Reports

Long-running Success: 30,000 Speedmaster SM 74 Printing Units



Managing Directors of Acorn Print, Alan Broadhurst, Gary Morgan and Grahame Woakes (from left), accept a certificate from Heidelberg CEO Bernhard Schreier (center) and Cliff Hatton Heidelberg UK sales (right) celebrating the 30,000th Speedmaster SM 74 printing unit, which is now performing its services for Acorn Print as part of a five-color model.

Since its introduction in 1994, the Speedmaster SM 74 has become a long-running sensation, with the 30,000th printing unit recently delivered, which is now performing its services as part of a five-color press at Acorn Print in the UK. Like many other users before them, Acorn Print aims to use the SM 74 as a stepping stone to move into the A2 format, bridging the gap between commercial and industrial printing in the process. The press's enduring suitability and quality is the result of continual model upgrades. Today, the highly automated SM 74 is available in different versions, ranging from two-color to ten-color models, with optional perfecting device and coating unit. It is capable of processing print stock thicknesses from 0.001 to 0.02 inches (0.03 to 0.6 mm). It can also process 15,000 sheets per hour and can be incorporated into Prinect Work flows with ease. The Alcolor inking and dampening unit ensures that high-quality printed products are the order of the day. Additionally, the press can be equipped with the spectrophotometric measuring system, Prinect Axis Control, or the quality precision measuring system Prinect Image Control, with InkLine, an automatic ink supply system, as a further option. It thus comes as no surprise that this jack of all trades has won thousands of fans worldwide since its invention twelve years ago.

“Systemservice 36plus” Launched in Austria



Peter Burgstaller and Thomas Huber (from left) recently introduced the “systemservice 36plus” to the Austrian market.

Austria. Since early summer 2006, Heidelberg customers in Austria have been enjoying access to an extensive service package which comes with each new press purchased. The so-called “systemservice 36plus” offers a range of services which go far beyond the minimum services and terms stipulated by law. A selection of services included in the package over a period of 36 months comprises all remote service activities, ensuring a rapid remote diagnosis, full telephone support by Heidelberg experts, trouble-shooting by fast-reacting service technicians (including travel costs), all requisite service components and all available software updates released over this period of time. In addition to Print Shop Planning work, it goes without saying that additional service modules can also be ordered as extra options (an expendable parts package or an extended software upgrade package, etc.). Any customers interested in this “all-round carefree package” from the Heidelberger Druckmaschinen Austria Vertriebs GmbH are welcome to contact the two service experts, Thomas Huber and Peter Burgstaller, at systemservice.at@heidelberg.com for further information.

Foil Printing Kit: Secure, High-speed Foil Printing



Stepping up the speed – safely: the ultra-sound sensor in the foil printing kit integrated into the Speedmaster XL 105 contributes to fast, reliable foil processing.

Heidelberg plans to equip the foil printing kit for the Speedmaster XL 105 with an innovative ultra-sound sensor at the end of this year, which has several enormous advantages over conventional, optical sheet travel sensors. The acoustic analyzers can detect all print stock types used, irrespective of whether paper, cardboard, transparent foil, aluminum, lenticular or other substrates are involved. This results in reliable sheet monitoring when the sheet in question is transferred to the next gripper in the printing unit, regardless of the material being used. If the system detects a faulty or damaged sheet, the press is stopped automatically. The fact that the foil printing kit perfectly integrates anti-static and sheet transport components also ensures that even tricky printing stock can be processed almost twice as fast as presses without the printing kit. The Heidelberg foil printing kits are also available for use with the Speedmaster SM 102, CD 102 and CD 74 models. These presses will be equipped with the foil printing kits, including new ultra-sound sensors, from the start of 2007.

Korus Packaging: a French One-off

France. Print shop Korus Packaging in Bordeaux can boast of having purchased an authentic one-off product: the packaging specialist recently invested in a Speedmaster CD 74 + L-P-1+LY-5+LX to satisfy the high demands of its customers from the cosmetics and perfume sector. This mnemonic monster is, in fact, a custom-made product based on the Speedmaster CD 74. It is equipped for mixed operations involving conventional and UV-applications, UV-applications in perfecting mode and for coating applications or flexographic printing before and after offset printing. This is a crucial plus point for the print shop, because a great deal of luxury packaging, which is now gravitating increasingly towards double-sided printing, can only be manufactured in a single pass. Consequently, Korus customers will benefit by receiving high-quality packaging quicker than ever before. The press, which was developed through the mutual efforts of Heidelberg and Korus Packaging, has already been launched, predominantly printing runs of between 8,000 to 10,000 select sheets on various substrate thicknesses ranging from 280 to 350 g/m².



Convincing one-off product based on the Speedmaster CD 74: Serge Durandet (3rd from left), Managing Director of Korus Packaging, was as impressed with the print results of the test runs at Wiesloch on his custom-made design as the project team from Heidelberg.

China: High-Security Printing with the Speedmaster CD 102

China. The China Banknote Printing and Minting Corporation (CBPM) plans to launch a total of twelve Speedmaster CD 102 models and six Prinect Image Control color measuring systems for security printing purposes at the end of the year. The six four-color and six six-color presses will be printing bank notes, securities and invoices at half a dozen locations across China. Each model is being specially equipped with a rainbow printing device, allowing the simultaneous processing of different inks in a single ink fountain. The CBPM, which is under the direct leadership of the state-owned People's Bank of China, employs a total of 30,000 people in 18 enterprises and one technical center, making it the largest bank note printer in the world.

JDF Workflow: Heidelberg Integrates Cutting Presses and Gluers



Heidelberg recently completed its first ever integration of a Dymatrix 106 CSB and a Diana Pro 74 into a JDF-based production workflow at Friedrich Freund, a Krefeld-based German folding carton manufacturer.

Heidelberg recently made history by integrating finishing processes into a production workflow based on the Job Definition Format (JDF) at Friedrich Freund, a Krefeld-based German folding carton manufacturer. In the process, Freund's production and information system, Prinect Data Control, was combined with the sectoral management information system, "Boxsoft". The result: Freund now operates its two six-color Speedmaster CD 102 models, a Dymatrix 106 CSB die cutter and a Diana Pro 74 folding

carton gluer via a mutual, integrated JDF workflow. The company is now not only benefiting from more transparent production but from the fact that operations have also become more flexible and efficient in the process. In addition, an optimum range of pre-programmed settings allows follow-up commissions to be executed at maximum speed.

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Heidelberg and KAMA: Together We're Stronger

Heidelberg has been collaborating closely with die-cutting manufacturer Kama in Germany and Switzerland since July 2006. Kama is currently expanding its distribution network in Western Europe with Heidelberg's help, while the latter has increased its portfolio in the field of high-quality die cutters thanks to Kama. Negotiations on the matter are being held in UK. Dresden-based Kama GmbH predominantly manufactures space-saving, all-purpose, flexible die cutters for the lower performance sector for small to medium runs, thus complementing Heidelberg's Varimatrix and Dymatrix series, which are firmly established in the mid- to high performance sectors. Heidelberg is now in a position to provide the perfect press for every application. Investing in post-press equipment for cutting, creasing, scoring, perforating, kiss-cutting, blind stamping or hot foil stamping allows both smaller print shops and industrial enterprises to increase their potential.



The first manifestation of the expanded distribution partnership between Heidelberg and Kama: the die cutter KAMA TS 74. Launched at Ipex 2006, it comes with a new design and increased performance levels.

Heidelberg Southern Africa – Training for Previously Disadvantaged Youths

South Africa. Heidelberg Southern Africa has initiated a training program for previously disadvantaged young people. The three year program will enable six youths that were unprivileged due to the previous regime ruling the country to become qualified printing press mechanics and electricians. The program will also satisfy South Africa's Black Economic Empowerment policy, which is aimed at encouraging black and previously disadvantaged segments of the population in various branches of industry. The training will consist of 60 units as prescribed by MAPPP-SETA, a government organization which supports relevant training programs in the Media, Advertising, Publishing, Printing and Packaging sectors. Heidelberg Southern Africa hopes that the initiative will encourage more young people to take a greater interest in the printing industry. Participants who successfully complete the program will have outstanding career prospects, either at Heidelberg itself, or with other industry employers.



Heidelberg South Africa is training formerly underprivileged teenagers to become press mechanics and electricians.

Seven at a Stroke: Al-Wahda is the World's Largest CTP Pioneer in Syria



Not just a first for Syria, but, with seven models, the world's biggest Suprasetter user: state-run print enterprise Al-Wahda and its headquarters in Damascus.

Syria. As part of the Syrian Ministry of Information, the "Al-Wahda Establishment for Press, Printing, Publishing and Distribution" is one of the country's largest printing institutions. A total of 2,800 employees print several daily newspapers and weekly magazines, including numerous commercial jobs at a variety of locations. Last year, Al-Wahda became the first company in Syria to take a chance at the computer-to-plate process, investing in a Suprasetter S105 including Prinect software, accessories and service components in order to increase the productivity of its sheet-fed offset system. Al-Wahda's managers were obviously very impressed by the Suprasetter, Prinect Workflow and Heidelberg system service at their headquarters in Damascus, so impressed, in fact, that the company soon installed six further Suprasetters at their other production sites! This means that Heidelberg's Syrian distributor, Tarabeine Trading Co., was not only able to inspire the first Syrian user, but the world's largest CTP user on Heidelberg's behalf.

Happy 100th Birthday: POLAR Does a Little Gift-giving

Germany. The POLAR Mohr machine distribution company celebrates its 100th anniversary this year. Founded in 1960 as the Adolf Mohr factory, the company initially manufactured processing machines for the regional wood and furniture industry. It started developing and producing cutters after many cutting machine manufacturers vanished behind the Iron Curtain after World War II, and has been collaborating closely with Heidelberg since 1949. This year, its anniversary year, the world's largest manufacturer of cutting machines has dreamed up a special surprise for its customers. All POLAR high-speed cutters ordered in 2006 will include the following optional extras, free of charge: the X-models will come with the "process visualization" option, XT-models (beginning with POLAR 115) will automatically be delivered with a turning saddle, and POLAR 78 and 92 XT high-speed cutters will be supplemented by two classy air tables (30×30 inches/75×75 cm). The offer applies worldwide with the exception of a few countries which are currently promoting other special offers. All high-speed cutters and cutting machines purchased in 2006 will also bear the company's celebratory centenary logo. All those interested in finding out more about the 100th anniversary offers or the history of POLAR should pay a visit to www.polar-mohr.com. The company chronicle and details of other publications will be posted on the website beginning October 2006.



Thoughtful little gifts oil the wheels of friendship: POLAR is celebrating its centenary by delivering its high-speed cutter with free optional extras in many countries.

Speedmasters XL 142 and XL 162: Groundbreaking for a New Home



Gigantic: the future production halls for the new 6 and 7b presses, the Speedmaster XL 142 and XY 162 models, are currently under construction at the Wiesloch site.

Germany. Heidelberg is currently building a prestigious assembly hall at Wiesloch for the big sister to the Speedmaster XL 105. The first turf for hall 11, which is not only designed to look like a Speedmaster XL 142 or XL 162 (including feeders and delivery units), but will also reflect the presses' increased dimensions, was dug in early summer 2006. With a basic area of 41,860 square yards (35,000 sq.m.), the new production hall, home to Heidelberg's future flagship press, is almost as big as five football fields. Construction of the hall, which is 853 feet (260 meter) long, 443 feet (135 meter) wide and 56 feet (17 meter) high, will be finished by mid-2007, on time for the Wiesloch plant's 50th birthday celebrations. Production of the two 6 and 7b format presses, whose larger versions are capable of printing 40 A4 pages on each side of a sheet, is planned for September 2007. Heidelberg is planning to present the new format models to the public at drupa 2008.

SPEEDMASTER SM 102

WELCOME TO THE CHAMPIONS LEAGUE



The Speedmaster SM 102 has been the undisputed champion in the 70×100 format for years and is still going strong. The market leader has continued to inspire, thanks to its high-performance functions, setting new standards time and again in the process. Whether as a short or long press, with or without perfecting device, the SM 102 is a real all-rounder which can do almost everything – except, perhaps, score goals.

It's a well-known fact that, in some countries, the world revolves around the ball and not around the sun. At Heidelberg, everything revolves around quality and cost effectiveness. The Speedmaster SM 102 perfectly exemplifies this philosophy. Since its beginnings, the press has undergone continual metamorphoses, adjusting itself to customer requirements in its quest to be quicker, more economic and easier to operate. It has set new industry standards with sophisticated technology and an abundance of high-performance innovations. In short, the SM 102 is synonymous with successful production in the perfecting mode. One-pass productivity has opened up new perspectives for sheetfed offset printing in the commercial industry. The eight-color Speedmaster SM 102 with perfecting device, launched in 1995, revolutionized production at commercial print shops, reducing throughput times by almost 50 percent. The reward: "The SM 102 really is a nose ahead of the rest of the perfecting presses," Sebastian Schwarz, Product Manager at Heidelberg, reports proudly. And it's no wonder as the "World Champion" offers the right configuration for every business model. It caters to the needs of the entire commercial segment in the process – from the two-color model used to print packaging inserts to the twelve-color SM 102 with coating and perfecting units, which is capable of producing high-quality annual reports and art catalogs in perfecting mode.

High-level teamwork. While sheet-reversal is a guarantee of higher flexibility in straight-printing when printing 2/2 color and 1/4 color in the case of models with up to eight inking units, perfecting mode continues to dominate among the longer models. The bulk of these presses are used in the Pacific region, North America, Germany and the UK. "The industrial structures dictating these markets result in enormous time- and cost-related pressures, with the result that the SM 102, with benefits like high speed and automation levels, makes a huge difference," explains Schwarz.

However, the SM 102 doesn't owe its leading position solely to sophisticated perfecting technology. On the contrary, the press components convince thanks to a high-level, cohesive team performance. That said, new talent, like the CutStar Can, the sheeter which underwent a complete makeover in 2006, or the technological transfer from other series, such as the Preset Plus feeder and delivery unit, launched at the drupa 2004, is pushing back the performance boundaries further than ever before. That's reason enough to take a closer look at the "team lineup". ▶

Cost-effective “off the reel” printing. Print shops can now process reel applications with the Speedmaster SM 102’s integrated roll sheeter. The press feeder accepts all paper types, from lightweight paper to grammages of up to 300 g/m². “The direct paper feed, straight off the reel, guarantees stable production. For example, one of our customers produces 280 g/m² greeting cards using the CutStar. Processing higher grammages off the reel means the products can be flat-stacked perfectly, and also enables the client to cater to the entire range of printing stock,” comments Schwarz.

The CutStar Can picks up added brownie points for its expanded reel diameter, the rapid conversion from sheet to reel and back, plus its continuously adjustable cutting length. And as the paper constitutes up to 50 percent of commission value, the CutStar is extremely cost-effective, too.

Secure sheet travel. The SM 102 processes diverse printing stock impeccably – whatever the pace. This is because the Preset Plus feeder and delivery units, whose design originates from the even faster Speedmaster XL 105, transport sheets securely and free from distortion to both printing unit and stack. The speed compensation function is responsible for adjusting the press to the various printing speeds. The multi-stage sheet monitoring system prevents double or multiple sheets from entering the press.

Soaring to the stack. Connected to the final printing unit, the Preset Plus system ensures controlled, smudge-free sheet delivery. It uses aerodynamic optimized gripper bars and patented Venturi technology in the process. This high-tech approach in terms of speed is utterly necessary, as Schwarz makes clear: “The press processes up to four sheets per second.” This is why Heidelberg turned the insights of Italian physicist Giovanni Battista Venturi to account. Air streams out of the jets and forms a cushion which carries the sheet. The jets’ form and the direction of the air flow simultaneously generate a suction effect which prevents any fluttering and transports the sheet safely.

An additional challenge is stacking in perfecting mode. Since both sides of the sheet are freshly printed, there is only limited space to position the sheet brakes. This is why, as a rule, production usually involves a maximum of three subtly angled sheet brakes in order to avoid sheet sagging.

With the ease of an athlete. The three-drum perfecting device is at the very heart of the perfecting models. The reduced-diameter reversing drum, combined with the patented pincer gripper system, ensures the expected level of register accuracy even with critical printing stock. During perfecting, the gripper completes a 180 degree turn before gripping the sheet at the trailing edge and transferring it accurately to the next impression cylinder. The ink-repellent impression cylinder jacket, PerfectJacket, for the cylinder located after the perfecting device, and the TransferJacket, located on the transfer cylinder, prevent the ink from smudging. This considerably reduces washup times. (See HN 256 for more on perfecting technology). The exchangeable transfer cylinder jacket’s specially coated surface means that there are no limitations in terms of printing stock compatibility.

It is even suitable for use with thick ink coatings. Ink supply systems InkLine and InkLine Direct control the amount of ink in the ink fountains and execute all automatic refills. The inking unit temperature control helps the temperature remain constant to prevent the inking unit overheating during continuous production, which secures stable printing quality over the entire run.

Convenient power package. Print shops wishing to apply coating on one side only can use the Modular Coating System (MCS) in the final printing unit instead of the blanket washup device. If the coating is required on both sides, an additional MCS is installed in the final printing unit before perfecting takes place. This Perfecting Coating Solution makes it possible to coat before and after perfecting, in a single pass. The advantage of this solution does not lie in the glossy results but in the fact that the run can be finished on record time. The use of double-sided dispersion coating means that sheets are practically dry when they arrive on the stack. And the dryer suited to this application, the DryStar Perfecting, is designed to cope with its special features. Another member of the DryStar family, the DryStar Combination, is used in conjunction with perfecting presses with coating units.

This abundance of technology can be controlled easily just by pushing a few buttons on the Prinect CP2000 control console. The preset function reduces the need for manual programming. Simply enter the format and printing stock thickness in the Prinect CP2000 Center, and it automatically adjusts blast air, vacuum levels and me-

chanical components according to the parameter in question. After the commission data has been inputted, the pull lay, side stops, lateral sheet separation blowers and the suction head navigate the format and adjust themselves to the printing stock automatically. The data and settings can be saved and recalled for any repeat commissions.

Stamina equals success. However, convenience, sophisticated technology and versatility alone are not sufficient to create a champion. Resilience is also required, and the Speedmaster SM 102 just happens to be a robust power package. “A SM 102-10-P in Australia produces between four and five million sheets a month, and, in the UK, a twelve-color SM 102 prints 50 million sheets in a year, maintaining consistently high print quality,” reports Schwarz. The SM 102 success story looks set to continue. It’s a fact: The Speedmaster SM 102 always keeps customers on the ball. ■

Facts & Figures

www.heidelberg.com/hd/SM102





Cutting-edge technology means that Andreas Schlüter's press room is almost as clean as an operating room.

SCHLÜTER GMBH, GERMANY

Spotless Printing

Companies printing primary and secondary packaging for the pharmaceutical industry are subject to strict guidelines in terms of hygiene, quality and printing standards. With five Speedmaster SM 102 models, the Schlüter GmbH & Co. KG from Schönebeck (Elbe), in Germany, is one of the most successful print shops operating within this market segment. Managing Director Andreas Schlüter reports on his experiences with SM 102.

Mr. Schlüter, which customer segment and job spectrum do you cater to?

ANDREAS SCHLÜTER: We are involved in advertising printing in the classical sense. We mostly produce primary and secondary packaging for the pharmaceutical industry, for which approximately 70 percent of our products are destined. This is the segment where we have experienced the strongest growth. While Germany is our most important market, we also supply goods to France, Austria, Italy, Switzerland and Poland. In our company, the manufacture is

divided spatially according to products, with primary and secondary packaging for the pharmaceutical industry housed in an adjoining complex of buildings.

The production not only of primary but also secondary packaging materials is carried out in accordance with the regulations for the manufacture of primary packaging. Access to the production halls takes place via security gates. Employees and visitors may only enter the halls which are equipped with cutting-edge air purification systems when dressed in hygienic, protective clothing.

This may seem excessive at first, but it ensures that all employees feel obliged to conform to uniformly high hygiene and quality standards which, after all, are designed for the customer's benefit.

The aluminium foil we print is used as covering foil in the production of blister packaging and thus comes into direct contact with drugs. This explains the extensive efforts and investment we have made to create quasi cleanroom conditions in our production halls.

Which requirements are your presses expected to fulfill?

ANDREAS SCHLÜTER: We believe in using only cutting-edge printing presses, from prepress to finishing, via flexographic printing and sheet offset. We are currently working to completely network our company.

Our oldest Speedmaster, an SM 102-2 with perfecting device and the CutStar sheeter, is a 2000 model. This is complemented by two more two-color Speedmaster SM 102 models, one of which is equipped with CutStar, another Speedmaster SM 102-8, an SM 102-10 with CutStar, an SM 52-4 and three flexo presses. All our printing presses are water-cooled to prevent them from releasing any emissions; this is a further important prerequisite when printing primary and secondary packaging. Our most recent measurement of air particles in the press room demonstrated that we maintain cleanroom conditions and that surgery could even be carried out there – hypothetically, of course. Standards of cleanliness like these can only be achieved with ultra-modern equipment.

What factors led you to the Speedmaster SM 102?

ANDREAS SCHLÜTER: We execute a large number of 1c/1c applications, such as the production of packaging inserts. In this area, our presses operate predominantly with 30, 40 or 50 g/m² paper grammages over three shifts five days a week. The Speedmaster SM 102-2 with perfecting device and CutStar is the optimum press for this segment. The high running speed resulting from using CutStar is also a winning formula for us. CutStar automatically adjusts the sheet cutting speed to the press's running speed, while the cutting format can be continuously adjusted between 16.5 and 28.3 inches (42 and 72 cm) via a computerized function. The use of reels is also more cost-effective, as buying paper off the reel is a much cheaper option.

We predominantly use the eight- and 10-color Speedmaster SM 102s to print flyers and catalogs, for the automotive industry, for example, as well as mini-catalogs and mini-magazines which are enclosed with the pharmaceutical packaging. Our print runs usually amount to around 3,000 copies per commission.

You already mentioned networking and data management – does the Speedmaster SM 102 offer additional benefits in this area, too?

ANDREAS SCHLÜTER: Certainly, since quality management is made extremely easy with the Prinect Image Control and the Prinect Auto Register. One of the main advantages of the Speed-

master SM 102 in this area is the additional preset functions. The most important characteristics for the preset functions are stored in the Prinect CP 2000, and, as soon as the job data is inputted, the pull lay, side stops, lateral sheet separation blowers and the suction head navigate the format automatically. In addition, the air supply for the suction tape, the pneumatically controlled pull lays and the driving rollers are adjusted to the printing stock but can also be manually readjusted as necessary. This saves a great deal of time and is extremely precise.

What makes Schlüter so successful?

ANDREAS SCHLÜTER: The combination of the production of primary and secondary packaging is quite rare in the pharmaceutical industry. We have adapted ourselves extensively to industry requirements in line with our customers' needs and have created two separate production areas. With this, we have succeeded in advancing to the top echelons of the packaging industry within the last ten years.

High standards, cutting-edge technology and motivated employees also pay off, as shown by our error and complaint rate at only around 0.2 percent. The majority of complaints are mainly related to pre-suppliers and shipping companies and are internal rather than made by our customers. The print quality doesn't cause any problems. These are extremely positive values, which are confirmed time and again by external audits and by encouraging feedback from our customers. ■

Facts & Figures

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The family enterprise was founded by Friedrich Schlüter in 1918. The 85 employees complete around 90 commissions per day. The company uses around 53,819 sq. yrd. (45,000 sq. m.) of printing plates, 2,500 tons of paper and 32 million sq. ft. (3 million sq. m.) of foil in the primary packaging area on an annual basis. The company's annual turnover is around 20 million US dollars (16 m. euros).

COLD-FOIL FINISHING WITH FOILSTAR

Cool Brilliance with Metallic Effects

The FoilStar module, newly developed for the Speedmaster CD 74 and CD 102 series, applies cold-foil based metallic finishes to printing stock using tried-and-tested offset printing. The new technology not only provides label, packaging and commercial printers with an interesting alternative to hot-foil application, but it also reveals a spectrum of completely novel applications.

Silver, gold or other metallic effects – “luxurization”, the term used by market researchers to describe the increase in the value of surfaces on the consumer goods market, is currently en vogue. Consumers expect subtle yet visible exclusivity, even in terms of packaging design. High-quality metallic effects may, until now, have been confined to hot-foil stamping, but Heidelberg’s FoilStar now offers a solution for offset printing which facilitates the total and partial application of metallic and diffraction film to printing stock. “Cold-foil application with FoilStar is perfect for label and packaging printers which print a range of hybrids and small runs. It is also ideal for enterprises producing high-class commercial jobs such as glossy magazines or art posters. This is because the foil’s application using conventional offset printing enables companies to react quickly and flexibly to commissions, offering their customers that certain something in terms of finishing,” stresses Martin Mainka, Product Manager at Heidelberg.

Faster, flexible and fully economic. FoilStar combines the assets of offset printing with those of foil finishing. Conventional analog or CTP printing plates are used in combination with a Speedmaster CD 74 or 102 press equipped with the FoilStar module. Adhesive is applied to the printing stock either partially or completely in the Speedmaster CD’s first unit. The FoilStar module, with the take-up and take-off units for the metallic film, is located on the second unit. The foil is fed through the print nip between the blanket and impression cylinders and pressed onto the parts of the printing stock to which adhesive has been applied. After the backing film has been removed, the metallic layer remains on the printing stock and can then be overprinted using normal offset ink and dispersion coating. Inline finishing is executed at the Speedmaster CD’s usual production rate. “Our field-test customers have reported that the shorter throughput times when compared with hot-foil stamping

saves them almost an entire shift, allowing them to process cold-foil commissions within 24 hours,” comments Mainka.

An additional plus is the procedure’s high flexibility and cost effectiveness. Unlike hot embossing forms, offset plates can be produced cheaply and at short notice, allowing small runs to be finished and any changes made rapidly and economically. “Production



The FoilStar module is easy to operate. It excels at fine lines and fonts and has extremely high registration precision.

“Fish” bookmark: The surfaces were first finished with cold foil and then overprinted with CMYK.

specialists really appreciate being able to deliver the front page of a magazine before the production deadline without endangering the entire run. They also benefit from the fact that offset printing does not use embossing plates which can sometimes emerge on the back of the printing stock as a negative imprint. This may happen if the front cover of a magazine is supposed to be finished with hot foil and the printing plate appears on the inside front cover as shading,” points out Mainka.

However, the finishing expert advises against seeing everything in black and white. Both the hot- and cold-foil methods have their pros and cons. “It’s worth weighing up which procedure makes more sense for your individual enterprise in both economical and technical terms. Cold foil is not always a fool-proof replacement for hot foil and vice versa,” he says. Hot foil is applied using heat and pressure, the resultant calender effect increasing gloss levels. On the other hand, the heat flattens structured papers while the cold foil technique means its contours are maintained.

Innovative applications. Mainka recommends exploring and exhausting FoilStar’s application possibilities – of which there are many. They include finishing heat-sensitive materials such as thin propylene film, which is used in the production of in-mould labels. This type of printing stock would warp during hot-foil application. Using a narrow web printing press is not always the best alternative, since this procedure cannot generate the same high quality as FoilStar finishing thanks to the flexo plates and the limited web widths.

Cold foil also attains very fine registration, such as hair registration. It also performs well when creating fine lines and fonts. The latter even look immaculate in dot size 6, while thick screens (25 l/cm) seem impressively glossy. There is an additional advantage in store for companies who have, until now, worked only with opaque white applications on aluminized paper: The partial application of cold foil reduces both the complexity of the procedure and also significantly increases the quality of the imprint, for instance, the barcode on back labels.

Opening the bag of tricks. “FoilStar is an additional, innovative tool which the offset printer can produce from its ‘box of tricks’, offering metallic applications whose quality was previously unattainable,” explains Mainka. Metallic effects used for chrome sections on cars or jewellery in high-powered commercial advertising now look far



more realistic than before. It is also comparatively easy for offset printers to familiarize themselves with the technique. The cold foil is applied like you would a special color, in a single inline pass with other colors and, if necessary, conserved using gloss coating or toned down with matt gloss. It is also easy to convert the Speedmaster CD 74 and CD 102 to normal print operations. The foil web is removed from the printing unit and the guiding elements are replaced by the blanket washup device.

FoilStar allows print shops to expand their range of finishes without having to make separate technological investments. “The combination of cold-foil application and offset printing is an ideal introduction to metallic foil finishing, especially if the existing clientele demands high quality. The technique also gives single source print shops complete control over quality and order processing,” concludes Mainka. ■

Facts & Figures

FoilStar characteristics:

- Presses: Speedmasters CD 102 and CD 74, with the future addition of Speedmaster XL 105
- Grammages: 70 – 400 g/m²
- Current operation: simultaneous operation of up to a maximum of two sheets; increasing to six sheets in future.

www.heidelberg.com/hd/ColdFoil

GERMANY'S PRINTING MARKET

CONQUERING THE CRISIS

Heidelberg News spoke with Werner Albrecht (58), who has been Chairman of the Executive Board at Heidelberg Druckmaschinen Vertrieb Deutschland GmbH and Director of the Market Center Germany/Switzerland since 2004, about the greatest challenges and opportunities facing the German printing industry.

Mr. Albrecht, what are the most important benchmark data for the printing industry in Germany?

WERNER ALBRECHT: The German printing industry is one of the most efficient and largest printing markets in the world. At Heidelberg, Germany was our worldwide number one market in terms of revenue in 2005 and in 2006 as well.

... even with the turbulent economy of the past four years?

WERNER ALBRECHT: Yes, because even after the slump of the past four years, there are still about 11,500 printing companies in Germany. True, this is about 4,000 companies and almost 40,000 employees less than in 2001, but we should not overlook the fact that the drop in these numbers is also due to some businesses closing and others being bought out. If you look at the remaining 11,500 companies, about 1,300 are positioned in the industrial sector, employing some 100,000 people. This makes up more than half of the approximately 180,000 people working in Germany's printing industry. At the same time, these companies do about two thirds of Germany's entire printing volume. This year Germany's entire printing production is valued at just under 23 billion US dollars (18 bn. euros), which corresponds to more than 13 percent of European or about 5 percent of worldwide print production.

Can we see the light at the end of the tunnel yet?

WERNER ALBRECHT: Well, actually, it's even better than that. I believe that quite possibly for the first time the number of start-ups will balance the number of companies shutting down. I am of course especially happy about these start-ups because they show that people are seeing opportunities in this craft – despite all the prophecies of doom.

What lessons can be learned from the past four years?

WERNER ALBRECHT: Even in this crisis, the structure of the printing industry has proven to be amazingly stable. This indicates that the percentage of small print shops has remained steady – and, interestingly – not only in Germany. In this country the percentage of small print shops is about 80 percent and is thus in about the same range as 10 or 30 years ago – before and after the boom periods and slumps we had during that period. Admittedly, there has been

a concentration of large printing companies or, put differently, the big companies have gotten bigger. At the same time, it would appear that the smaller print shops are profiting from their greater flexibility because at any given time they are developing alternative business models which help them compete with the industrial printing companies.

Can't a large printing company maneuver through an economic slump better than a small company?

WERNER ALBRECHT: No, actually it is the large printing companies that "suffer" because of their specialization and focus on high volume. In an economic slump, they cannot sufficiently utilize their printing presses which quickly becomes a serious problem because that equipment is so expensive. Typical commercial print jobs of rather short runs are often done more efficiently by small and regional print shops, especially since these are also closer to the customer – a key point. Proximity to the client and a wide customer base ensure survival for these smaller companies, even in tough times.

Is there such a thing as a typical German print shop?

WERNER ALBRECHT: The typical "German" print shop or printing industry is a thing of the past, just as there are no more typically "French" or "English" print shops. Print shops in France are pretty much like the ones in the United Kingdom, Germany or Poland. The printing industry has now become European. The surprising thing, however, is not "Europeanization" or internationalization; it's not the takeovers or mergers, but the fact that the structure of the business is identical throughout Europe. About 80 percent of these companies have less than 20 employees. Therefore I would rather use the term "the typical European print shop". These outfits are generally mid-market size, have a staff of 15 to 20, run two shifts, operate a midsize-format four-color printing press and perhaps one other small-format press, have their own prepress with CTP and a postpress that comprises a cutting system and folding machine. In a nutshell, these companies offer their customers the whole range of services and do not specialize in certain products. ▶



Do Western European print shops need to be afraid of “cheap” foreign competition from Eastern Europe or even Asia?

WERNER ALBRECHT: No, quite the opposite. It’s not just a few companies in Eastern Europe that are afraid of the high productivity, quality, and low prices of their colleagues in Western Europe. After all, the slump we mentioned earlier resulted in tough competition and thus lowered prices. Not to mention, throughput times for assignments are getting shorter all the time, which makes short distances and smooth logistics imperative – not to mention lower transportation costs. For this reason, the big “sell-out” of Western European or German print shops everyone had been afraid of has not occurred.

“The typical ‘German’ print shop or printing industry is a thing of the past, just as there are no more typically ‘French’ or ‘English’ print shops.”

So – despite their high labor costs – Western Europeans are competitive?

WERNER ALBRECHT: People have been whining about high labor costs ever since the concept of employment was invented. What we need to do is talk about the causes. There is a direct correlation between wages and taxes. Our main problem in Germany is high taxes plus the lack of flexibility in working conditions. Nevertheless, printers are able to defend themselves against what they perceive to be low-cost suppliers, regardless of whether the suppliers are domestic or foreign. When a company is well run and has sound structures from a technical and HR point of view, competition is not a risk but rather provides a stimulus. Furthermore, the wage factor – which, as you know, is higher in Western Europe and is regarded as a key disadvantage vis-à-vis low-wage countries – is in reality only one component of the production costs. Capable printing companies are able to compensate for the high labor costs by higher productivity.

If the wage factor is not really such a big issue after all, in your opinion, then what is?

WERNER ALBRECHT: Let me explain. Most business owners understand that good employees are entitled to good pay. Highly productive staff contributes to the bottom line of a company. Or, put another way: Employees who are motivated and well paid are not a drag on the company. On the other hand, less efficient staff drag down the company’s growth and profit even if their wages are seemingly lower.

... so it would be more important to select the right staff than to try and drive down wage costs?

WERNER ALBRECHT: Yes, I would say so. There are countless examples that it is not the number of people on the payroll or their wages that are decisive for the success of a company but primarily their motivation and qualification – particularly in the industrial nations. Especially with today’s modern, high-tech machines you need well-trained staff if you want to offer your customers optimal results. This is particularly true for innovative application techniques and finishing processes at companies that want to stay ahead of the pack. Almost all printing equipment delivers good quality these days but it is the person operating who really leverages the full potential of the equipment.

Isn’t this also a problem of the printing companies’ corner office?

WERNER ALBRECHT: How the company is led is most certainly a key point. Creativity – especially the capability to make the right decisions in a crisis – is not something that everyone is gifted with. For instance, if successions in business are not prepared well, this can quickly lead to problems.

Here’s where Heidelberg comes in. We can help. For example, in our Print Media Academy we offer seminars on how to transition from one generation of corporate top management to another.

What costs should a printing company avoid by all means?

WERNER ALBRECHT: Depending on the company, 28 to 33 percent of costs are wages, whereas materials are between 37 to 42 percent, the lion’s share of which is paper. This is why waste paper is such a big issue for us. Here is an area where companies can actually cut costs and save big money. Many companies throw away too much money in this area because they do not calculate properly. Usually this is also due to poor data gathering. But total cost control is possible and it will soon pay for itself. This is why our integration solutions with Prinect are so successful.

What developments will characterize the German printing industry in the next years?

WERNER ALBRECHT: With a bit of luck, in the current year the printing industry will once again generate the same level of revenue it had in 2001. This is why we are very optimistic about the future. During the slump, German printing companies reacted by consistently streamlining their structures and processes. This has made them more productive than ever before. By now most companies realize that you cannot retain customers with price alone. The price spiral is moving only one way: down – towards a slow but certain collapse. This is what companies which engaged in these price wars have experienced. It takes years to work your way out of this rut – and this of course hurts the growth of the company in the long run. ▶





... and how do you keep a printing company successful in the long-term?

WERNER ALBRECHT: Successful companies seek to retain their customers by providing excellent service and customized solutions. Size alone is not really a decisive factor for surviving in the marketplace. These days cost, quality, flexibility, reliability and speed are all key. Companies waiting for customers to knock

“In the printing business, the basics are paper, cardboard, and color – and being able to work with these components in a sensible way. You’ve got to master this business 100 percent.”

on their door are a thing of the past. In forward-looking printing companies practically every employee is in sales because every individual employee is responsible for the whole company. If you lose a customer, it doesn’t really matter if you lost them because they were unhappy with your consultation, price, quality or because of poor service in delivering your product. Losing that customer hurts your entire staff and the whole company. Everybody has got to understand this.

Are there new growth areas in the printing industry?

WERNER ALBRECHT: You often hear that diversifying your field of activities will open up new revenue streams for printing companies, say in digital printing, cross media, or print and fulfillment. However, let’s not generate false expectations because, to begin with, all of these technologies cost money, require investments. And they also require a lot of patience before they pay for themselves. These fields of operation are only suitable for large, healthy companies. We should not succumb to some flowery illusion of the modern media world. In the printing business, the basics are paper, cardboard, and color – and being able to work with these components in a sensible way. You’ve got to master this business 100 percent. Only then should you look for additional mainstays. If these new operations work, then that is of course very positive for a printing company. And here is one other thing we need to hang on to. Just how do we wish to achieve this? Basically, every printing company’s client structure is the same. So is their printing equipment and the technology. Today everyone is capable of printing well. People simply expect this and it’s a prerequisite. Basically, anyone can buy and use the best equipment. The difference is – and I wish to stress this once more – well-trained staff who can squeeze just a little bit more out of the printing equipment, people who are able to improve customer retention thanks to their stellar focus on customer service.

How can Heidelberg help printing companies stay competitive?

WERNER ALBRECHT: We listen! We try to understand! We only want to sell equipment to our clients that they really need to grow their company profitably. Our R&D sector is also important because it continues to improve our technology. We are now seeing a resurgence of offset printing, among other things because of our R&D results. The pioneering spirit at Heidelberg and the power of

this printing technique – which is the most popular in the world – become apparent when you look at state-of-the-art platforms such as our Speedmaster XL 105 or our Anicolor short inking unit, recently premiered at IPEX 2006 in Birmingham, England. Or just take our comprehensive Prinect workflow management system, or our

Speedmaster XL 142 and XL 162 – our up and coming large-format printing presses. We still have a long way to go before we reach the end of the road in this area. With our cutting-edge technology, we will continue to advance offset printing as the decisive printing technology of the future. ■

Facts & Figures

Werner Albrecht – personal information

Werner Albrecht is married and father of a son and a daughter. He studied law and now lives with his wife in Nußloch near Heidelberg.

Mr. Albrecht, how do you keep in shape?

I like to jog with my co-workers. Every Friday at 5:45 a.m. we run through the woods in Sandhausen near Heidelberg. I am also a passionate marksman.

How do you renew your spirit?

A leader who does not read loses his power to lead. I enjoy reading biographies, philosophy and books on history. I am currently reading volume five of “Studies in German Histories” by Karl Lamprecht.

Professional Career

1978 Joined Heidelberg as head of the legal department.

1988 Appointed Sales Director.

1995 CEO of the Heidelberg holding for Eastern Europe in Vienna, Austria.

2001 President of Heidelberg Web Systems, Inc., headquartered in Dover, New Hampshire, USA, and thus responsible for all of Heidelberg’s web offset activities.

2004 Chairman of the Executive Board at Heidelberg Druckmaschinen Vertrieb Deutschland GmbH and Director of the Market Center Germany/Switzerland.



EUROBIND 4000

The Bond Among the Adhesive Binders

Fast cars, exclusive watches, sumptuous suits. His job is to link pure luxury with high-class brochures or magazines. His trademark functions, sophisticated and intelligent in design, make him stand out from the crowd. He is capable of fulfilling the most challenging of tasks, not by order of Her Majesty, but to customers' utmost satisfaction. And all this shaken and not blurred. His classy performance and top-quality impress clients even during smaller runs. And the name? Bind. Eurobind 4000.

A hand softly strokes the immaculate spine: no scratches, no unevenness, no unbecoming dribbles of adhesive – the ultimate pleasure. An Ivy League among brochures. And this up to 4,000 times an hour. Until now, results like these would, at most, have been the stuff of print shop bosses' wildest dreams. This is because the average adhesive binder is frequently incapable of delivering high-quality goods.

A hand softly strokes the immaculate spine: no scratches, no unevenness, no unbecoming dribbles of adhesive – the ultimate pleasure. An Ivy League among brochures. And this up to 4,000 times an hour. Until now, results like these would, at most, have been the stuff of print shop bosses' wildest dreams. This is because the average adhesive binder is frequently incapable of delivering high-quality goods.

A Head of Postpress Product Management at the Leipzig site. He promptly demonstrates this using a company report which snaps shut immediately. adhesive binders have their fair share of pitfalls. You can recognize a true champion from the thickness of the adhesive or the quality of the spine preparation: "The more inaccurate the brochure spines' preparation, the more adhesive is required to hold the sheets together. However, a thicker coat of adhesive hinders the operability," explains Martin Messy.

The spine also needs to charm customers visually and stimulate their sense of touch. Angles at one end and curves on the other disrupt the overall appearance as much as a crease which fails to maintain an equal distance from the seam. The same goes when the spine lettering is not in the same position on each copy, resulting in undulating magazine titles which look as if they're indulging in surfing.

Straight to the top of the class. The demand for high quality standards in adhesive binding is on the rise, particularly in the field of publications for premium products such as luxury cars or designer furniture. Runs in these areas are usually small – between 1,000 and 5,000 copies: a lucrative market, you might think. However, commissions like these are usually executed by adhesive binders which can produce over 8,000 cycles, some of which are not automated and require three and a half hours of programming in return for 15 minutes of production time. They are bound by hand or outsourced to a bookbinder. Neither option is particularly profitable.

This is a clear-cut case, not for Bond detective "Q" from the R&D department of the British Secret Service, MI6, but for Heidelberg engineers. "We have integrated high-quality and, for this market sector, groundbreaking technology into the Eurobind 4000 to improve the quality of spine preparation, adhesive application or control panels. The handling has also been optimized, making the programming almost child's play," comments Messy.

The Eurobind 4000: A machine which reliably fulfills the most challenging of asks.



One technical highlight of this performance class is the tool separation, a common feature of large-scale industrial bookbinding systems. Contrary to conventional compact presses, which level, notch, roughen and brush in a single pass, the Eurobind 4000 fulfills these tasks in separate stages. "Independent functions guarantee 100 percent quality at every stage, allowing you to devote your full attention to each individual task instead of attempting to combine all the steps, which inevitably waters down the final quality," explains Messy. Compact presses with combination tools often impede the results of leveling and napping, processes which take place virtually at the same time as notching. The increased loads required for the notching process warp

the ideal block contour, with the result that the pre- and post-finishing stages, namely the leveling and roughening, are unable to attain the required milling depth, and the quality is inevitably compromised. These flaws often spread through the entire product. ▶

One adhesive is not enough. The spine must be precisely worked when applying PUR. Here, a mere 0.011 inches (0.3 mm) of adhesive is required for perfect page-turning. Too little for a hotmelt job, but exactly right for a PUR application, which only requires around one third of the adhesive spine strength of a hotmelt equivalent. The Eurobind 4000 processes both types of adhesive in flying change rotation, since the roller and nozzle systems used in the application of PUR and hotmelt adhesives can be exchanged easily and neatly in just a few maneuvers.

And, after application, the Eurobind 4000 presses the spine twice in succession to ensure that it meets the highest standards necessary in the case of art catalogs or company reports, which the Heidelberg adhesive binder also produces in oversized formats. The Eurobind 4000's repertoire includes products with block heights of between 5.5 and 17.7 inches (140 and 450 mm), block widths of between 3.9 and 12.5 inches (100 and 320 mm) and block thicknesses of between 0.07 and 2.3 inches (2 and 60 mm) in addition to complex commissions such as Otatabind and Swiss catalogs.

Getting straight to the point. The Eurobind 4000's throughput times and high-net performance are also more than satisfactory. Laborious adjustments and numerous stop checks are replaced by rapid, error-free production, revealing an additional advantage of separate milling tools. It is no longer necessary to take interactions with other functions into account. These can be programmed quickly and easily.



High-tech ensures truly top quality, such as in the transportation and alignment of the covers before pressing.

And it goes without saying that the Eurobind 4000 is just as high-tech as agent 007. It is not only possible to send the commission and presetting data directly to the adhesive binder via the Prinect Workflow and record this in a management information system for post calculation; the user can also operate the Eurobind 4000 via touch screen with the aid of the proven user interface plus self-explanatory symbols. It's true. The adhesive binder "thinks independently". It automatically presets the transport and input channels and the creasing and clamp openings and even makes suggestions for the start and stop positions for adhesive application if provided with parameters like block height, width and thickness.

Another added benefit is that all parameters can be altered while the press is operating at full speed, stresses Messy, demonstrating how this works. Examining the first brochure, Messy taps the upper corner of the cover on the screen, enters 0.15 inches (4 mm) and, lo and behold, the cover moves 0.15 inches forward, and fits like a glove. The amendment is automatically made to the next product on line.

The bound products then reach the cooling section, yet, instead of lying flat, the products stand on their spines, slightly tilted. This saves an enormous amount of space, since instead of a mere 2, around 12 brochures can now be transported into the cooling section.

Attracting lucrative commissions. "The Eurobind 4000 bridges the gap between the industrial machines beloved by bookbinders and the compact machines used by print shops. It's the ideal adhesive binder to start off with if you're looking to produce top-quality goods, and it opens the door to new and more profitable market sectors," sums up Messy. The Eurobind's extremely high levels of product safety and net performance mean that print shops can now offer smaller runs, even going as low as 1,000 copies. Even urgent commissions can be processed in a stress-free, smooth manner.

Offering customers a single source service and retaining complete control of the production is more profitable than outsourcing adhesive binding commissions, even if the binder isn't working to full capacity. Perhaps some print shops will even be able to earn themselves a "Goldfinger" from their own personal "binding Bond".

Facts & Figures: www.heidelberg.com/hd/Eurobind4000





United Nations Secretary-General Kofi A. Annan on the importance of education

Education – the Best Investment in a Globalizing Age

In 2000, all the world’s countries and all the world’s development institutions agreed to the “Millennium Development Goals” of the United Nations (UN). These include working to achieve universal primary education by 2015. UN Secretary-General Kofi A. Annan explains why education and knowledge are of critical importance in the age of the globalization.

Education is a human right. More than half a century ago, the Universal Declaration of Human Rights established that everyone has the right to education. And yet, at least 880 million adults worldwide are still illiterate. Most of them are women. A growing digital divide exists between those who have access to new technology and those who do not. According to conservative estimates, more than 115 million school-age children in developing countries are not attending school.

In addition, the communities where these children live are not only being denied a future labor force of healthy, literate and employable citizens: they are being denied the foundations for development and a future place in the global economy. They are, in fact, being denied the future itself. The fact that millions are still deprived of education should fill us all with shame.

Education is key to our work to translate into reality the Millennium Development Goals, the blueprint agreed by all the world’s governments for building a better world in the 21st century. Two of the goals are focused on education for girls and boys alike. These are not only Millennium Development Goals in their own right; how we fare in reaching them will be crucial to our ability to reach all the others, for every year of completed schooling is also a step towards eradicating poverty and disease.

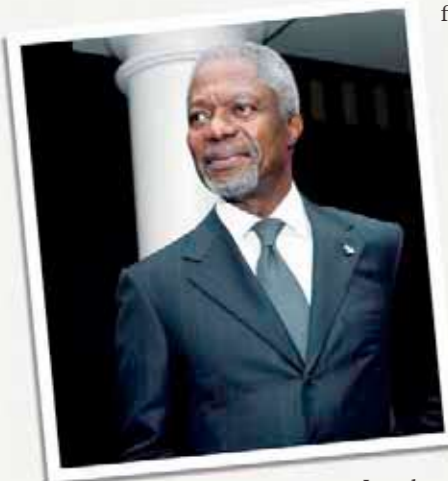
Beginning with primary school, education is becoming key to the new global economy. It is central to development, social progress and human freedom. In the academic world, information technology must be more than a vehicle for long-distance learning and degrees. It should be a tool that provides access to materials and enhances libraries, makes affordable periodicals and journals that would otherwise be prohibitively expensive, facilitates links with the rest of the world, and finally, enables scholars to contribute their research to the global bank of knowledge.

In other words, we should replace the digital divide with digital bridges. In the end, there is no substitute for good teachers, a good curriculum and good teaching materials, developed by, for and with the communities they are intended to serve.

The Millennium Development Goals can still be met by 2015 – but only if all involved break with business as usual and dramatically accelerate and scale up action – now. ■

Facts & Figures

www.un.org/millenniumgoals



ROUND-TABLE CONFERENCE ON THE “VALUE OF EDUCATION”, PART I

EDUCATION SUMMIT IN NEW YORK

For the first and only time in the printing industry, courtesy of Heidelberger Druckmaschinen AG, Germany, seven representatives from six nations met on August 9 in New York City, USA, to analyze the standards of education within the printing industry in their countries. The discussion on the “Value of Education” was chaired by Brian Ellis of Heidelberg Canada.

The participants:



Ir. Halim Azhar Mohd Yatim

Director, Industrial Technical Institute N.T.S. Arumugam Pillai Ministry of Human Resources, Malaysia.

"The printing industry is one of the oldest in the country. It has always played an important role in education, communication and the dissemination of knowledge and information. Because many people cannot afford modern media, in many areas of the country, printed products remain the most economical option for providing a large part of the population with education and information."

E-mail: halim@ilpapnt.gov.my
www.ilpapnt.gov.my



Frank Cost

Professor, Associate Dean and Co-Director of the Printing Industry Center, Rochester Institute of Technology (RIT) – College of Imaging Arts & Sciences, Rochester, USA. Active for 26 years in student education at RIT and book author.

"The place of print in this emerging world will change. Until recently print has been under the exclusive control of the mediators. Digital technology is transferring control of the medium into the hands of its users. This new industry seeks to reintegrate the production and distribution of print with the enterprises that are served by it. The emerging print communications industry will be dominated by companies that provide the technologies that will enable this to happen."

E-mail: fjcpr@rit.edu
www.rit.edu



André Dion

General Director, The Quebec Institute of Graphic Communications, Quebec, Canada. His institute, founded ten years ago, is primarily financed by private funds as well as by research.

"We tailor our educational training precisely to the requirements of the enterprise. First, we carry out an onsite demand analysis that we use to create customized content and timetables. Of course, we also offer standard classes to serve primarily small companies or individuals."

E-mail: dion@icgq.qc.ca
www.icgq.qc.ca



Dr. Abhay Sharma
Director, Ryerson University – School of Graphic Communications Management, Toronto, Canada.

"The GCM program at Ryerson recognizes the dynamic nature of technology and its relationship to the graphic communications industry. The program curriculum is constantly revised in order to reflect and lead this change."

E-mail: sharma@ryerson.ca
www.ryerson.ca/gcm



Prof. Dr. Erich Steiner

Co-Principal, Hochschule der Medien, Stuttgart, Germany.

"We regard ourselves as a complete supplier to the print media industry, covering the entire production spectrum from conception to distribution, via all the various phases of production. The training program also includes a practical study semester in a company. The entire training program is extremely practice-oriented, hence our aim to combine academic know-how with the industry's requirements."

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Manoel Manteigas de Oliveira

Diretor, SENAI, Escola SENAI Theobaldo De Nigris, São Paulo, Brazil. SENAI is an association of Brazilian vocational schools with over 700 schools for 28 industrial sectors.

"The same educational opportunities for everyone – worldwide? These are high goals because, in many regions, we just do not have the means to afford this within a state. Creativity is often demanded in this case. If the pupils cannot come to the school, then the school must go to them – as is already common for us. That's why we have a total of 64 mobile schools in action for the various educational programs offered by SENAI."

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Les Claridge

Associate Dean, Director of FE Programme Studies, University of the Arts – London College of Communication – School of Printing and Publishing, London, Great Britain.

"Once we have shown the students what printing is actually about and the knowledge and fascination generated by the technology, it takes a hold of them. But we cannot give as many students the chance as we would like to. Unfortunately, it is often the case that the students prefer to go in the direction of the creative professions, such as design for example."

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UNESCO considers education as the key to sustainable human development and the key to overcoming poverty. The UN Secretary-General Kofi A. Annan has clearly drawn attention to this in his article (see page 46). At the "World Forum for Basic

Education" in 2000 in Dakar, 164 governments committed to halving the illiteracy rate within the next decade as well as creating modern learning opportunities around the globe. Access to education is thwarted by a lack of books, qualified teachers and school buildings, and many remote regions lack Internet access. There are also cultural barriers to overcome since predominately women are excluded from education, and they represent two thirds of the approximately 880 million illiterate people worldwide.

Education is an important key to equal rights, democratization, and social justice as well as social and economic progress. UNESCO therefore demands global standards for basic education and training – so-called basic qualifications – or, expressed in more general terms, an improvement in the quality of education in all areas. This provides a basis that makes it possible to strive towards technically oriented vocational training.

According to an international comparison made by UNESCO, sub-Saharan Africa, southern and western Asia, the Arabic countries as well as heavily populated countries such as Brazil, Indonesia, India, China, Egypt and Iran, have significant deficits in the area of literacy – which is a yardstick for general education in a country.

Round-table conference on the "Value of education"

What are the effects of poor education on an industry such as the printing industry, which was discovered more than over five centuries ago and first enabled the spread of knowledge to the masses? This question is the starting point for Heidelberg News' investigation of this topic. The prelude to the four-part series on the subject of education is a round-table discussion in the next two issues of Heidelberg News. Representatives from very different institutes, vocational schools and universities from a variety of countries were invited to join this panel of experts. During the discussion, it quickly became clear how little training is standardized within the industry and which challenges are faced by the institutes,

schools and universities as well as their pupils and students. The more than 10-hour exchange of opinions can only be published in part for reasons of space.

BRIAN ELLIS, CANADA: What possibilities do schools and enterprises have to optimize education in the printing industry and to bring it to a unified international standard? After all, only well-trained personnel are able to provide the level of quality and productivity that makes deployment of modern machines worthwhile and profitable from an economic perspective. How do you regard the position in your countries? Where do you see your challenges?

IR. HALIM AZHAR MOHD YATIM, MALAYSIA: The printing industry is one of the most important industries in my country as indeed it is in the majority of countries worldwide. It is characterized by growth, it is innovative and it provides many people with employment as well as making an important contribution to the gross social product. That is why we have begun to approach the subject of "training to be a printer" at a state level in Malaysia. My school is making its contribution and will provide an appropriate training course for 600 pupils starting next year. We can assume that there will be considerably more applicants than openings. We want to provide well-trained skilled workers as well as to support continuing education for those people who have already embarked on their working life. The school has been built for this purpose, based on the latest ideas with modern residential, sport and leisure-time facilities.

There is a shortage of skilled printers in Malaysia today. This disadvantage hampers growth and international competitiveness – and this although we operate in a region where the printing enterprises of other nations have long been working and exporting internationally.

Because of the technical facilities, the long tradition and skills that the country has gained in the printing industry and thanks to low labor costs, we could also play a greater role in this regard. For this reason, we need to become active in the educational field so we can become internationally competitive. ▶

MANOEL MANTEIGAS DE OLIVEIRA, BRAZIL: For more than 60 years, Brazil has recognized that without the relevant training and without education, there can generally be no industrialization. Whoever builds modern machines or even “just” wants to offer services has a requirement for well-trained people. This is an indispensable prerequisite for prosperity, economic growth and, as a



Ir. Halim Azhar Mohd Yatim

result, also political and social stability. To this end, SENAI was founded in 1942 – a vocational system to which my school also belongs. In Brazil, we have the additional problem that the country is huge. How do we get education to the people? If a school is hundreds – if not thousands – of kilometers away from its pupils, training becomes difficult. Basic education can be organized locally, but specialist training in what is a rather small industry such as printing simply calls for the concentration of resources in a few school locations. For the pupils, this means that they may have to come to us in São Paulo, far away from their families, in order to attend the vocational school.

In the meantime pupils are even coming to us from Argentina, Ecuador, Costa Rica, Panama, Paraguay and Uruguay since the training opportunities there are not as good as those we offer. For some time we have also provided mobile schools for the print courses in the form of two converted buses that are equipped with small

machines such as the Heidelberg Quickmaster, for example. They travel throughout the country – bringing education there where it is needed. Special training courses take place in them, including one-day seminars and even seminars lasting several days.

LES CLARIDGE, UNITED KINGDOM: High speed offset presses can only make full use of their performance spectrum if the machine operator is able – through the necessary level of training – to evaluate and adapt information. This impacts the efficient running of the press. I totally agree with the other participants. It is not really enough to acquaint an untrained worker with a machine. The relevant basic training is just as indispensable as the in-depth familiarization with the corresponding task.

On top of that, it is important for an enterprise that wants to grow and be successful to also have suitably qualified management personnel.

The printing and media industry is the fourth largest manufacturing sector in the UK, and the demand for skilled staff is therefore relatively high. As well as a need for good general formal education, we also have a well-embedded system for vocational training. The industry relies on Modern Apprenticeships and has just announced the intention to review training within the sector. Young people can undergo training in one of the media professions, and this is encouraged.

If the individual wants to develop themselves into managers or professional practitioners then they can look to a range of undergraduate and post graduate options with us at the School of Printing and Publishing in London. Together with three other schools, we form the London College of Communication. This is a collegiate member of the University of the Arts London, which itself is made up of the six London Art and Design colleges.

In addition to traditional printing and publishing skills, the School of Printing & Publishing also offers training in the field of digital media and applied arts. Our experience shows that many students are looking to enter the creative professions. As with our new MA in Print Media Management, jointly offered with the Heidelberg Print Media Academy, the opportunity to look at the printing industry as a career opportunity is a positive and meaningful experience.

ANDRÉ DION, CANADA: As all the others have already observed, well-trained printers are also a scarce commodity for us, but not just because there aren't enough training opportunities. This is why I would like to introduce into the discussion another aspect I regard as important. Our industry still has the reputation

for dirty hands and manual work, which means that interest in training is relatively low. Many young people do not recognize that this sector is an industry that remains constantly up to date with today's state-of-the-art software programs and high-tech machines. In the case of Canada at least, we could even train many more people and there are always more open jobs available than there are people looking for jobs in the printing industry.

This will increase significantly over the next few years as we are confronted with a change of generations. The demand for well-trained employees in the printing industry will, in fact, become even greater. As a school, it is essential that we deal with this issue. Nowadays, people prefer to enter other professions they regard as more attractive. The enterprises and professional associations must engage much more actively with the schools and universities to change the image so that a greater number of young people are attracted to come to us in the institutes.

PROF. DR. ERICH STEINER, GERMANY: Our university trains media specialists. We have a main focus on the printing industry and electronic media. We aim to teach our students the necessary skills to enable them to manage a department or a whole company one day, e.g. to draw up production plans and monitor both production and quality standards at a print shop. We have to overcome



Manoel Manteigas de Oliveira



Les Claridge, Dr. Abhay Sharma and Prof. Dr. Erich Steiner (left to right).

two challenges. On the one hand, there are some good universities in Germany in our field for the students to choose from. This competitive situation is however also an incentive for our institution. Added to this and aggravating the situation – and, actually, fortunately for our economy – there is a whole series of very attractive industries in the south of Germany, and especially around Stuttgart, that are more enticing than the printing industry in the eyes of young people.

That is why the majority of our students come to us through family connections because, for example, their parents have a printing company. Outside of this group, interest in training is relatively low.

In my opinion, international exchange with other universities is also inadequate. It would please me here if the globalization of the industry were to reach the heads of the universities – also in order to make training more attractive in the minds of the students. We have already gathered excellent experience in the exchange program with Chinese universities and ten percent of our 3,000 students come from abroad. It would surely make sense to offer semesters at selected partner universities abroad as a part of the training for all students – as it is already a matter of course in other university disciplines.

FRANK COST, USA: We have a large number of international students from throughout the world and we regard the international perspective in education as critical. In addition, I would like



André Dion

to see more enthusiasm for our academic programs, although I don't see the problem as a negative image of the industry but rather the plain lack of visibility. Do you remember the Pokémon collection cards? Children go really wild over these kinds of products. Some time ago in the Tokyo airport, I experienced two fathers arguing because they wanted the same card for their children but there was only one there. These are beautifully colored cards, but nobody ever thinks about how they are produced and what enormous technology and what complex know-how are required to print them.

These products awaken emotions in people that we should learn to exploit for the print industry.

For this reason, we should not only work on the image of the industry so that we can arouse more enthusiasm for the education programs in our institutes. We should also advertise the true nature of this exciting industry more actively. At the same time, it seems important to me that we should address not just the students but also their parents – because, in the end, they are the ones who finance the education. And, they will mostly only do this if they understand the value of such an education. One aspect of this is that the selected profession is actually viewed as desirable, that is to say it has a positive reputation, an interesting and challenging workplace and good potential for income growth and advancement throughout a career.

Another point is very important to me as only men are sitting at the table here and this could give the impression that the printing industry follows the general comments of Kofi A. Annan and that education in this industry excludes women. In our institute, half of the students, as well as the leadership of our printing school and our college, are women.

DR. ABHAY SHARMA, CANADA: It seems to me that there is a huge difference in the issue of education between the developing countries and the industrial nations. The desire for work in order to feed a family or to make a living is much higher in the developing countries. Professions are still selected there on the basis of motives such as good payment and a secure workplace, not as we have discussed because the image is right, or the work should be fun, or even because there is a choice and various industries in competition with one another are constantly touting for skilled workers. This luxury is not yet known in many parts of the world.

In developing countries, humans are a cheap production factor. Perhaps we could awaken greater appreciation of this human factor if the worker was made more valuable through in-depth education that costs both time and money to obtain. Then social, economic and business relationships will also change positively at a higher level.

In the industrial nations, a student with a university degree can quickly find a job. The number of foreign students in this academic field is also extremely high because, above all, students



Frank Cost



Dr. Abhay Sharma

from countries that do not have comparable educational opportunities look to us for this. I have given seminars at the university where I used to teach before I came to Ryerson where every single participant came from India. And Frank has also reported that more than half of his students are international.

An academic degree offers these people virtually limitless professional opportunities in their home country.

The industry attempts to poach our own students even before they have gained a university degree because there is a lack of good skilled labor. We firmly advise against this as a job can be lost at any time, but throughout life it is always possible to build on a university degree – just like on any other form of educational and vocational training. This is the true value of education for me.

BRIAN ELLIS, CANADA: Let me briefly summarize what I see as the outcome of the discussion at the end of the first session: Only well-trained employees can operate equipment in an optimum way. Good basic education is a prerequisite for this with appropriately based, technically oriented vocational training. Management personnel should be trained at the relevant institutes or universities according to the needs of the enterprise. In times of international competition, certain standards should be observed during the training. What I find important is also the observation that – based on your statements – the value of education is reflected on two levels: On the one hand, an education can result in good

and secure jobs but, of course, on the other hand, education also causes real costs in concrete terms – as in Brazil where the pupils sometimes have to study very far away from home. Accommodations require significant funding, not just the education itself.

It seems apparent to me that well-educated printers and executive personnel in the printing industry represent a much sought after and scarce commodity everywhere.

Nonetheless, the industry also suffers from certain image problems. This means that the professions offered are often not interesting to the desired applicants who prefer to go into other branches of the industry which they regard as more attractive.

We have gathered a lot of knowledge and information today that we want to go into in greater detail in the next step. I am already looking forward to the second part of the discussion with our panel of experts. ■



Brian Ellis

Facts & Figures

Take part in this discussion and get in touch with the participants by using the respective E-mail address. Your contact at Heidelberg is Brian Ellis. E-mail: brian.ellis@heidelberg.com



The hunter-gatherer of lost colors: Georg Kremer and his trademark, a bull painted in a brilliant shade of smalt blue.

TRADITIONAL COLOR PRODUCTION, GERMANY

Mother Nature's Most Beautiful Daughters

Natural colors unfurl in a unique display of fascinating brilliance when applied to walls and altars in old churches or used in paintings by great masters. They truly come into their own. Their ancient formula had almost sunk into oblivion when German chemist Georg Kremer from Aichstetten rediscovered the historical pigments and began to specialize in the production of the inks which are now coveted all over the world.



Renowned as color bases for centuries: indigo and seed lac.



In the summer of 2004, the world's media gathered around Dresden's restored Frauenkirche (Church of Our Lady) to watch as the famous cupola was ceremonially crowned with the cross. Fifty-nine years after its destruction, the cross, which stands 24.9 feet (7.60 meter) high and whose reconstruction remained true to that of its historical predecessor, shone resplendently once more, the sun's rays reflecting the 24 carat gold and a particularly brilliant blue. Only smalt, an ancient pigment which was discovered in 2000 B.C. and whose main component, cobalt, was formerly mined in Saxony, is capable of producing this heavenly blue luminosity. A truly special day – and not only for the regional capital of Germany's Free State of Saxony. This moment also struck a chord with chemist Dr. Georg Kremer. As the world's only manufacturer of smalt pigment, he alone is responsible for the brilliant blue of the cross, mixed with the very same smalt with which the "color man" began his career 40 years ago.

In the 1960s, a restorer and friend of Kremer embarked on a desperate search for the blue pigment which had not been produced since 1910. On hearing this, Kremer, a job-seeking chemistry student in Tübingen at the time, made some fledgling attempts to track down the pigment analytically in his mini laboratory. And, believe it or not, the reconstruction was a success. "At 2192°F (1200°C), cobalt ore, silica sand and potash melt into a blue glass nugget which is subsequently ground down into ultra-fine granules," reveals Kremer. However, the precise recipe is kept firmly under wraps, as the student's discovery simultaneously exposed a gap in the world market. Two years later, the portentous mixture would form the basis for Kremer's own enterprise.

Brews from a witch's cauldron. The chemist has succeeded in reconstructing more than 80 historical pigments in almost 40 years. Some of the ingredients seem more suited to a medieval alchemist's almanac, such as condensed cattle urine, dried lice, snail gland secretions, madder root and arsenic sulphur. "However, the majority of natural inks consist simply of dirt, of earth," comments Kremer prosaically. He doesn't believe at all in medieval mumbo-jumbo. He is merely a scientist capable of perceiving the subtlest differences

between colors, as a color test attested. "Analyzing, examining and re-examining – looking closely and trying to reproduce the various nuances – is my professional passion," Kremer says.

Over the years, he has converted an old flour mill in the village of Aichstetten, in the Allgäu region, into an international trading center for traditional pigments. Here, in the depths of Swabia, "Kremer Pigmente" currently employs 30 people, while 20 others work in his subsidiaries in Munich, Stuttgart and New York. Today, around 100,000 customers dabble their brushes in the colors treasured by geniuses in centuries gone by. They prefer the older formula to the modern synthetic, mass-produced industry shades. Artists and restorers, book illustrators, architects, interior decorators and violin makers alike have all developed a taste for this "natural alternative". More than half of the world's museums use Kremer pigments to restore their artistic treasures.

Baroque colors, full of joie de vivre. The 59-year-old boss makes regular pilgrimages across Europe, delivery truck and employees in tow, personally excavating over 40 secret sites in search of long-lost minerals. This often proves a laborious and protracted undertaking. For example, Kremer spent seven years searching for a particular shade of violet for the ceiling fresco in the Swiss Benedictine Abbey of Maria Einsiedel. He finally found it in the Maritime Alps in France. "This shade is simply unique and can't be imitated," he says. The more defined and crystalline a mineral is, the easier it is to find a reserve deposit. However, if the search involves a sedimentary rock type with a large number of substances, the deposit is usually unique. "Its impurity lends it extremely specific characteristics," the mineral expert explains.

The animated, baroque coloring used in the reconstruction of the Frauenkirche also required an extremely rare mineral. It goes without saying that only Kremer was able to procure the required





Kremer's son and grandson in the "treasure chamber" filled with historical pigments.



Many colors are produced by hand.



Chemist or alchemist? Kremer's formulae are the result of meticulous scientific analyses.



Precious colors from the Allgäu are dispatched on journeys around the world on a daily basis.

amount of "Bohemian green earth", although the only source lay in the middle of a restricted military area in the Czech Republic where he was never allowed to set foot. Kremer refuses to divulge exactly how he obtained the mineral despite these hindrances, yet it's clear that the long search to access this raw material has resulted in a deep affection for this particular shade of green. "It's one of my favorite colors – one of many. After all, Mother Nature simply has so many beautiful daughters," he says.

The world's most precious pigments. Lined up on the shelves in the open-plan office in the Allgäu mill, these beautiful daughters of mother nature form a colorful honor guard: innumerable transparent miniature plastic pots containing pulverized pigments, some of which are more precious than gold. There's magenta, for example, former symbol of power and the color of cardinals, emperors and popes. Only small amounts are now ordered, and this very rarely. The gland excretions of 8,000 magenta snails are required to produce a

single gram (0.3 ounces) of this precious substance which can be yours for 2,500 US dollars (2,000 euros). Today, this color, with its "transcendental character", is used almost exclusively for restorative purposes. Yet the most coveted pigment of all time goes a very long way – "a single gram (0.3 ounces) is enough for around 10 square feet (1 sq. m)," stresses Kremer.

On the other hand, the most expensive red, and one of the world's oldest pigments, is vermilion. "We obtain chunks of this extremely rare mineral via the Ministry of Health in a Chinese province, as vermilion contains mercury, which is considered healthful in China," comments Kremer. The succulent shade of red illuminates the renowned Isenheim altar by Matthias Grünewald in Colmar in Alsace (France) and remains in demand to this day, relatively cheap at



Leaf shellac, button lac, seed lac and madder root – the basis for valuable pigments.

"only" 2.50 US dollars (2 euros) per gram (0.3 ounces). "Those restoring Grünewald's works, wherever they are in the world, always come to us for our authentic vermilion," says Kremer proudly.

Kremer has renamed the purest, most precious blue powder on earth, lapis lazuli, "Fra-Angelico blue" after the creator of the world-famous frescos in the Monastery of San Marco in Florence. Kremer is now the world's sole manufacturer of this pigment. Some 2.2 pounds (approx. 1 kilo) of semi-precious stone from Afghanistan are required to produce a mere 7th of an ounce (20 grams) of pigment back in the Allgäu, in a month-long process involving three laboratory assistants. The precious raw material is initially broken up and ground to powder with a mortar before being sieved until ultra-fine. After this, the powder is combined with a secret mixture of oils, waxes and resins, transforming into a mash that is left to sit for a minimum of 48 hours. After this, kneading is the order of the day. Sewed into little linen sacks, the mash is worked again and again and rinsed in lukewarm water. After 14 days, the sediment can be dried and finally pressed through a hair sieve. The blue pigment is then dispatched to destinations around the world for 20 US dollars (16 euros) per gram (0.3 ounces). However, when an Italian artist once ordered over two pounds (1 kilo) of the pigment, patience was required. Kremer's men can produce no more than 3.5 ounces (100 grams) per month.

Natural colors vs. industrial colors. Even Kremer comes up against insurmountable obstacles, albeit very rarely. He is, for example, unable to deliver authentic "India Yellow" pigment. Animal rights activists outlaw its production, a ban which Kremer fully supports. To obtain it, cattle are fed only on mango leaves, with the famous yellow subsequently distilled from their urine. Nevertheless, no one has to forgo the yellow ink. After many protracted attempts, the chemist succeeded in finding an artificially produced pigment which is optically identical to the original India Yellow.

"Natural colors are far superior to synthetic industrial ones in terms of light resistance," stresses the chemist. They glow under the microscope like a starry sky composed of countless crystals. These reflect more strongly on the surface, making the color even more luminous. "Only pure, unblended material is capable of generating this brilliance and vibrancy," comments Kremer. Each pigment has its

own chemical and physical properties which cannot be achieved via mixing alone. "This also applies to printing; an extremely luminous ink cannot be created using an offset technique but only with a pure pigment."

Natural inks on modern offset printing presses? Kremer's pigments cannot be used on offset presses. "Wood printing, stone printing, linoleum printing, screen printing, all types of printing which are carried out step by step – these are fine. If you want to achieve a particular level of color, our pigments are perfect. However, if your aim is to attain typical printing press characteristics, it's better to look elsewhere," explains Kremer, adding: "The absolute limit would be the Heidelberg platen press." His pigments would create a fine, sandy effect, and, in the long run, cause the type's precise edges to blur slightly, making the print look washed-out. On the other hand, Gutenberg's black pigments were made up of amorphous, non-crystalline structures with tiny particles. "If someone wanted to order that, I'm sure it could be arranged," smiles the chemist, who is, after all, a clever Swabian entrepreneur. ■

Facts & Figures

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FLINT GROUP, GERMANY

“Drastically Shortening the Drying Times”

Heidelberg collaborates closely with all leading ink manufacturers to provide its customers with a perfect interplay between printing presses and inks. Jürgen Riedlinger, Director of Technical Management at the Stuttgart site of the Flint Group, the second largest ink manufacturer in the world, outlines current trends.

Mr. Riedlinger, is it still possible to print today using Gutenberg inks?

JÜRGEN RIEDLINGER: Print? Yes. However, it would be impossible to achieve the speeds and fulfill the qualitative standards which we take for granted nowadays.

To give you a couple of examples: Over the years, printing inks have had to be adjusted in line with rapidly increasing printing speeds. At 18,000 cylinder revolutions, new ink systems with considerably improved press performance are required. Simply imagine the centrifugal forces acting on the ink – and an aligned drying process. Today, a job has to be ready for finishing within a few hours.

So what exactly does a modern printing ink consist of?

JÜRGEN RIEDLINGER: Around 80 percent of any one offset ink is composed of natural products such as tree resins, and organic and mineral oils, and approximately 20 percent is pigment. Additives like waxes, dryers and antioxidants are also put in for extra abrasion resistance, and have a decisive effect on the ink's properties. We put all the raw materials we use through their paces in our research and development center first. A pre-determined quality assurance system guarantees that only those raw materials which fulfill the highest standards in terms of consistency are used in our ultra-modern production plant. This entire process serves a single purpose, namely to place a high-quality, reliable product at the printer's disposal at the end of the day.

After all, it has to be said that demanding end customers often prove more exacting in terms of the quality of their printed products than the offset printing industry itself. Nevertheless, the ink only represents a link in the chain: If, for example, a single blanket is altered in just one press, this may result in considerable fluctuations in terms of increases in tonal value. Cases like these require knowledge of the various inter-relationships, which we cover in depth in our training program “Print Plus”.

Apropos knowledge transfer: to what extent do you compare notes with press and paper manufacturers?

JÜRGEN RIEDLINGER: This knowledge transfer is enormously important in order to achieve optimum overall quality. For example, we are currently collaborating with Heidelberg, BASF AG and Sappi on the issue of “alcohol-free printing”. This is because stable results can only be achieved if all the manufacturers of the dampening solution and the inks, presses and paper pull together. No one could manage it alone.

Which future standards are you resigning yourself to?

JÜRGEN RIEDLINGER: I would say to faster presses, above all. Between 15,000 and 18,000 sheets an hour doesn't sound particularly revolutionary, but this has a decisive influence on the basic physical parameters. This is why we have to find new solutions for issues such as misting and drying and broaden our thinking in terms of qualitative aspects like “color space expansion” and “high-pigmented inks”. We're also currently working on water-based offset inks, and are testing several new ideas designed to stabilize alcohol-free printing. The realization of our vision of “dry sheets” is also extremely exciting, as I'm sure you'll agree. The objective of this project is to drastically shorten the drying times of conventional sheet offset inks – without UV! I'm extremely attached to this project, since I'm convinced that finding a solution to this problem is utterly crucial for the future of sheet offset. ■

Facts & Figures

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Tips & Tricks

Foggy Film-laminated Prints

Even the smallest of errors on exclusive packaging may attract unwanted attention. Nothing should detract from that first, positive impression. A good example is cosmetic packaging. A prerequisite for optimum packaging is often a high gloss effect, while the surface must also be protected against mechanical stress and strain. It is possible to fulfill these requirements to a certain extent using various coating systems. However, the desired characteristics are best attained using the glossy film lamination technique.

Film lamination is at its most effective when good contact between the film and the cardboard surface is maintained. Heterogeneous, unconnected materials result in pitting, which becomes visible when the product is viewed from an angle. In addition, the top view over the entire surface often reveals a type of greyness which clients find particularly disturbing.

Causes and remedies

If the film lamination process takes place in the later stages of production, an overly high amount of powder or an incorrect grain size during offset printing can lead, despite ink set-off, to contact problems. If this is the case, it is possible to remove the majority of excess powder grains from the surface by “pre-stretching” the paper in the offset press itself, that is, the paper is passed through the press with switched off inking units.

Contact between glue and film may be interrupted by wetting problems as the fluid glue moistens the film. These problems can be reduced through the use of pre-treated laminating film. Pre-treatment, which is usually carried out by the film's manufacturer, increases the interface tension. Printing stock with a smooth surface and a harmonized series of printing inks may also produce high-level laminating results.

Case study

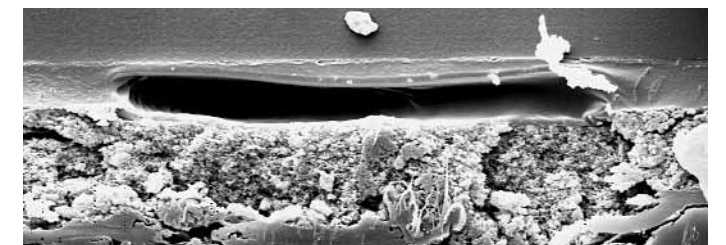
A folding carton for use in high-class cosmetic packaging was printed entirely in a shade of dark blue. Some days later, the glossy film lamination process was carried out by a finishing company. After taking delivery of the punched blanks, the ultimate buyer logged a complaint about the goods, commenting that, after tilting the blanks to the light, the top view had shown numerous dot-shaped light imperfections which created a foggy impression. We will now determine the cause of this foggy effect.

Analysis

An electronic screening microscope was used to determine whether this problem was caused by single particles under the film or by embedded air. The film was removed from the cardboard surface

for this purpose. Images were then made of the back of the film and of the front of the cardboard, the two surfaces which had previously been attached.

The images showed that the layer of glue had not adhered to the cardboard in places. No embedded particles were detected. Further images were made of cross-sections of the finished folding carton cardboard. As the illustration shows, the glue had been applied too thinly in places, or had not been applied at all, which resulted in the formation of cavities.



Cavities in the glue layer are visible in this cross-section.

The illustration demonstrates that the contact between the 20- μ m laminating foil and the 7 μ m glue layer is, in principle, satisfactory. The cavities appear only on the interfaces between the cardboard surface and the glue layer. This allows us to conclude that the imperfect film lamination was not caused by embedded particles (e.g. print dust powder) but by gaps in the glue layer. It was not possible to determine the precise cause of these cavities on the basis of the sample material.

Here are a few possibilities:

- Inadequate glue viscosity
- Air embedded in the glue (foam formation)
- Lack of or inadequate pre-treatment of the laminating film
- Uneven wetting of the cardboard surface ■

Facts & Figures

In collaboration with:

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Dates & Tradeshow

■ Asian Dates

India: India Label Show*

International conference devoted to label manufacture, featuring machine manufacturers, material suppliers, print shops and other service providers. The "India AIDC show", which focuses on new label-related technologies like RFID, barcodes or biometry, is due to take place at the same time.

Venue: New Delhi, India

Dates: December 6 – 9, 2006

Contact: Label Expositions (P) Ltd.

Phone: +91-22-27 81 20 93

Fax: +91-22-27 81 25 78

E-mail: info@indialabelshow.com

Internet: www.indialabelshow.com

India: PAMEX 2006*

This five-day international specialist trade fair will present the newest trends and developments from the fields of pre-printing, printing and finishing, in addition to packaging printing. The exhibition itself will be complemented by an event program including seminars, workshops and product presentations.

Venue: Mumbai, India

Dates: December 10 – 14, 2006

Contact: Ramesh Vartak

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E-mail: ramesh@pamexindia.com

Internet: www.pamexindia.com

■ European Dates

France: Intergraphic*

This specialist trade fair provides a platform where graphics-industry based enterprises and their customers and suppliers can find out about the newest technological developments, deepen their knowledge and exchange their experiences.

Venue: Paris, France

Dates: January 16 – 18, 2007

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■ North American Dates

Canada: Print World:

"The World of Shorter-Run Printing"*

Print World is North America's biggest trade fair specializing in small-format printing and shorter print runs. Over 200 exhibitors, including leading manufacturers of digital, inkjet and sheetfed offset presses, will be on hand to inform visitors about innovations in this market sector.



Venue: Toronto, Canada

Dates: November 18 – 20, 2006

Contact: Sandy Donald or Andrew Luke

Phone: +1-905-625-70 70

Fax: +1-905-625-48 56

E-mail: info@printworldshow.com

Internet: www.printworldshow.com

USA: Graph Expo and Converting Expo*

"Building your business from design to delivery" is the motto of the biggest American printing trade show with a comprehensive program related to commercial printing and converting. The exhibition presents worthwhile knowledge and the hottest topics in prepress, printing, converting, large format, mailing and fulfillment. Some 500 exhibitors are expected.

Venue: Chicago, USA

Dates: October 15 – 18, 2006

Contact: Graphic Arts Show Company

(GASC)

Phone: +1-703-264-72 00

E-mail: info@gasc.org

Internet: www.gasc.org

* Tradeshow where Heidelberg is participating

Winners of the Reader's Survey – HN 257

1st Prize: Trip to Heidelberg

Andreas Gögele, Druckerei Medus, Merano, Italy

2nd to 5th Prize: iPod

Antonio Carlos Quanelo, Editora Abril S/A, Sao Paulo, Brazil

Algimantas Pečiulis, UAB Pozicija, Vilnius, Lithuania

Lars Hegele, Sonopress France SAS, Forbach, France

Isaac Acquah, Hacquason Press Ltd., Tema, Ghana

6th to 10th Prize: XL 105 model

Sohail Hayai, Uniprint, Karachi, Pakistan

Albrecht Kittler, Saxoprint GmbH, Dresden, Germany

Helmut John Angulo Mogrovejo, Metrocolor S.A., Lima, Peru

Tom O'Brian, AccuCopy, Greenville, NC, USA

Jaak Lammaing, Grafisch Bedrijf Lammaing, Ostend, Belgium

HN Voices

Bill Walters, Appleton, WI, USA: I always like the more personal stories. As a small print shop, I'm interested in how other small businesses are successful – even using older technology.

Imran Falalkhan, Mombasa, Kenya: Extremely informative, and great innovations. I'd be interested in finding out more about environmentally-friendly printing and ecological inks.

Dr. Ursula Birner, Bamberg, Germany: I work with printed products rather than printing technology, and I have to say that many of these are absolutely awful. The Heidelberg News shows how classy printed products can be.

Harry Chassie, St. Augustine, Trinidad: Your magazine keeps me up to date with the latest technological innovations. Please include a couple of reports from the Caribbean.

Ignacio Nestor Gaglianone, Buenos Aires, Argentina: The articles on the history of printing and on the individuals who keep these techniques alive today fascinate me.

Christian Torneyezuku, Accra, Ghana: Your Tips&Tricks help us to solve the majority of problems we encounter at our print shop. In future, the magazine should include reports about all the world's continents. Very good, informative articles. Keep up the good work!

Irina Antonenko, Makeevka, Ukraine: Each time I get the Heidelberg News, I turn straight to the articles on the success and experiences of other print shops which use Heidelberg products – I really enjoy them.

Daniel Richter, Hahnbach, Germany: It's a pity that the Heidelberg News isn't published weekly. The articles and the design always make me want more!

John Procter, Leeds, UK: An excellent magazine with interesting articles and a good mixture of topics.

Erwin Lüber, Flawil, Switzerland: I always look forward to reading the new magazine. It provides an insight into all aspects of the graphics industry. Bravo!

Situma James Napokoli, Kampala, Uganda: I read the Heidelberg News on a regular basis and am always impressed by the high quality of its content and design.

IMPRINT

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