THE CUSTOMERS AS CO-DEVELOPER

A new enveloping line delivery has been put through its paces by Richard Ilg.
Page 6

HIGH VOLUME INKJET PRINTING

The Digital Print Group is Europe's first user of the Océ Colorstream 3500.
Page 9

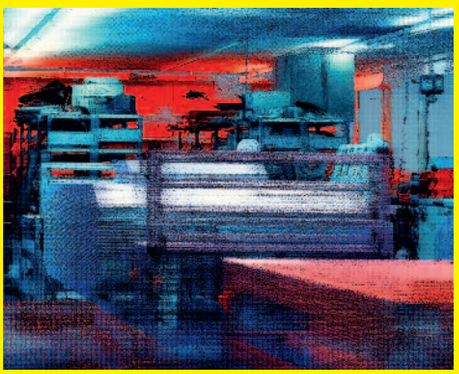
HOW ONLINE PRINTERS WORK

Online printers are showing the printing industry how to grow.
Page 14

Deutscher Drucker

INTERNATIONAL EDITION · FOR HIGH QUALITY PRINTERS WORLDWIDE June 2013

Your press hall as a point cloud
3D laser scanning



■ 3D laser scanning now offers companies access to up-to-date digital measurements. This is worth its weight in gold both for one-off installation projects and, to an even greater extent, for long-term building planning. **Page 2**

Measurement & control in printing
Fitness programme for presses

■ Digital Information and System Brunner worked closely with Druckerei Gutenberg AG of Schaan (Principality of Liechtenstein) when they launched their joint software package, Ink-Zone Instrument Flight. A ten-year old Speedmaster SM 74-5-P was fitted with the software and the printer enjoyed increased process reliability as well as securing an entry in the Guinness Book of Records.**Page 12**

↗ Imprint **Page 10**

Improving building planning

INVASION. *They come early one morning with long ladders and put up white balls and chequered panels all over the press hall. Then they set up a small measurement device on a tripod. What one might mistake for a delayed Christmas celebration on account of the white balls is in fact an aid to building planning and a way of improving workflow organization, whilst the visitors are in fact staff from Techno-Grafica. The measurement device is a 3D laser scanner that provides an innovative way of measuring up and digitizing the entire press hall. The balls and panels act as reference points so that the numerous individual scans can be assembled by the computer to create a comprehensive 3D digital point cloud of the building.*

WHY ALL THIS EFFORT? *It may seem hard to believe it but very few printing companies have current data about the state of their building and how the space is occupied. They have neither a 2D ground plan nor a three-dimensional CAD model. The architect's drawings from when the building was new have simply never been updated. Should the printer want to make alterations, add a new machine or alter the positioning of machines in order to improve material flow, the architectural practice called in for the project lacks the basic information required for the planning process. Laser scanning can build up a very detailed set of dimensions elegantly and in considerably less time and at less expense than by means of traditional measurement methods. What's more, such point clouds offer further benefits. They are a boon to building engineers in documenting the state of the facilities and they can also be used for photorealistic 3D animations. One particularly clever feature is that CAD models of machines can be directly inserted into the digital point cloud so that any possible problems when installing machines can be spotted early on.*

Efficiency optimization is the key aim in production and energy management but at the moment it's very unclear how much potential building planning has to offer for this.

ALL A MATTER OF PLANNING. *Techno-Grafica only began to offer this service a few months ago but there has been a great deal of interest in the technology, especially from Scandinavia. There and in the USA, BIM (Building Information Modelling) has long been a requirement when tendering for the building of public buildings. As a result, there is a greater awareness of the matter in industry, which is better informed about the advantages.*
However, things are slowly happening in Germany too. No wonder, because an industrial printer that decides to lay its workflows out more efficiently will not only ultimately benefit from an improved production process but also—and more immediately—from more efficient planning.

Best regards,

Michael Schüle
↦ **Reactions to: m.schuele@print.de**

Building planning using 3D laser scan: When the company becomes a point cloud

SURVEYING TECHNOLOGY ■ Ground plans, which are out of date or are available as analogue data, turn the planning of short-dated machine insertion projects and the long-dated building planning into an expensive and time-consuming mammoth task. The digital surveying of printing houses by means of 3D laser scan, offered by Techno-Grafica GmbH, will lead to improvements on this issue.

By Michael Schüle
Editor, Prepress
Deutscher Drucker

The image above shows a 3D laser scan of Techno-Grafica's assembly hall in Kämpfelbach which was merged out of several single scans. It is possible to zoom in to see more details, and also changing the point of view.

■ Be honest now: Do you have any current ground plans or facade plans of your printing house available as digital files or at least as analogue drawings? Are you sure? And what about the subsequently built-in separation barrier or the exhaust pipe system on the hall ceiling for your new six-colour printing press? Have all plans been updated by your architect or the responsible planning office? Probably not …

Almost every print services provider, who already wanted to build an extension, wanted to rebuild or only wanted to install a new machine in environments with limited space knows this problem: Up to date inventory data of the building and of the hall layout are not available – negative report. Even in large scale expanding printing houses would much prefer referring to digitally precisely dimensioned 3D data even before construction begins. For then one could be able to find out quickly the suitable machine layout which allows the optimum flow of materials and logistics workflow. In doing so, even safety aspects such as emergency escape routes and access provided for the fire brigade could be planned best possible. But since only architectural drawings form the beginning of the company will be available, a lot must be surveyed manually anew and planned again. This is an elaborate, time-consuming and above all a more expensive way.

DIGITIZATION OF BUILDINGS. An innovative solution for this problem comes now from a direction where you rather wouldn't necessarily expect it. The solution comes from Techno-Grafica, in its core competency actually a manufacturer of plate development lines and baking lines for large-format offset machines. But the conceptual leap from plate development to building planning is much shorter than is assumed. Because already for years, the staff of Techno-Grafica's managing director Peter Hanosek faces the said "lack of planning" during machine insertion projects when installing its space-consuming plate lines in printing plants. Thus, they began about four years ago to deal with such a virulent topic as this. Under the leadership Christian Hanosek, the son of the owner, Techno-Grafica came upon the laser scan technology. After an intensive phase of building-up the know-how (technology, handling of data/data storage), Techno-Grafica now offers the digital surveying as a service for about half a year. With a 3D-laser scanner they are able to record fully digitally the current "as-built" status of a multi-storeyed building or of an entire area. Technically, a point by point distance measurement by laser takes place by the running time of the light – similar to the equipment of land surveying technology. But using a 3D laser scanner, one million measurements per second will be performed by means of a rotating mirror system, which allows a point measurement 360° around the laser scanner. The result of this method is three dimensional "measurement point cloud" (not any photographic image), which is able to reproduce the reflections around the laser scanner at a distance of up to 120 meters. Thus all distances within this point cloud are dimensioned and recorded. The higher the set measuring point density the

Object to be scanned: The reference points for the measurements must be attached on the building. This will enable the subsequent "merging" of the single scans.

Quick and affordable recording of the inventory data in several steps: The scanning accuracy of the digital 3D laser measurement can be adjusted meeting the demands.

The 3D laser scanner originally generates "black and white point cloud images". However, these can be augmented with colour information later on due to an implemented camera function.

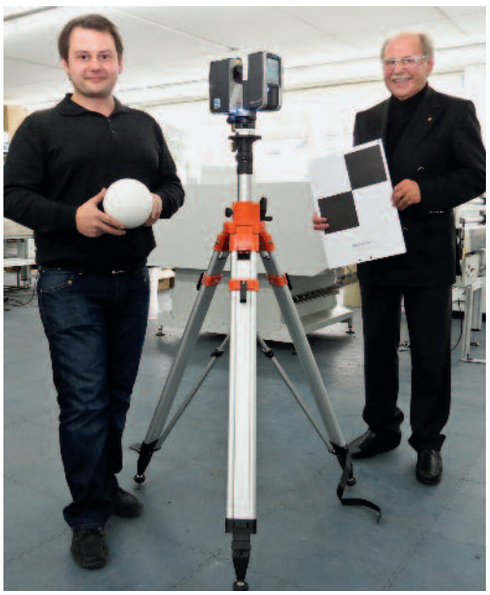
more detailed the result of the image, but this will slow down the scanning process. 10 meters away from the measuring equipment, a point distance of 7 mm will be the standard setting. The scanning precision can be increased up to 1.5 mm test point pitch. However, then the scan does not last just 10 minutes, but two hours.

To perform a complete 3D scanning of a production hall, several scans from different positions are necessary in order to "look" into all corners of the production hall. As a matter of course the equipment is not able to x-ray. Reference points, which have to be attached strategically and unchangeably in the room before the scanning process starts enable to merge the digital single scans to the desired overall result later on the computer. (White bowls and black and white checkerboard patterns are used for this purpose.) The numbers of the reference points to be set as well as the number of the necessary single scans (up to 100 scans) depend on the geometry and the contents of the room to be scanned. At approximately 70% inner rooms will be surveyed. However, a combination of outer scan and inner scan can be useful for example to measure the wall thickness or if anyone plans an external paper disposal or an energy supply on the roof (detection of connections, breakthroughs, pipe installations etc.).

FINALLY ACTUAL INVENTORY DATA! Four different applications are typical for 3D laser scans; one of them is a little specific:

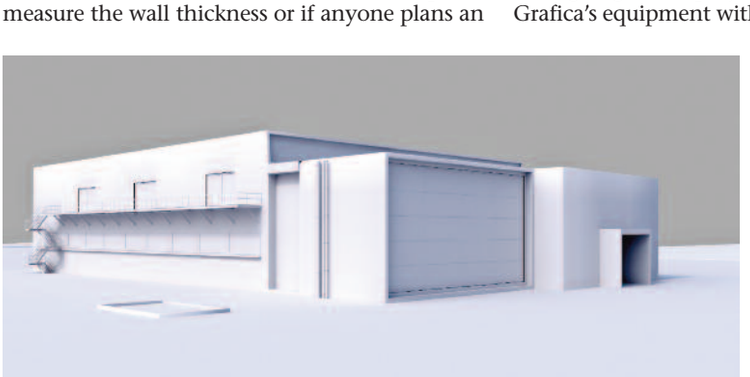
- *Short-term planning tasks:* The laser scan's images of the point cloud will be used directly in order to put CAD models of production plants in this context. Thus they are able to find out simply and quickly if there will occur any problems in practice when installing the machine or specific work flow, or stacker routes will be interrupted by possible changes of the machine layout.
- *Long-term digitization:* More detailed point clouds will be prepared to CAD ground plans or 3D models or 2D cross-sectional drawings, which then can be used as a basis for a long-term planning for building alterations, enlargements or for changing the process organisation. The CAD model can also be useful for the building services engineer when creating the plant documentation (facility management).
- *Only visualization function:* Creating of photo-realistic 3D animations from the CAD data of the planners especially for presentations or virtual walkarounds.
- *Engineering applications:* For the purpose of "reverse engineering", spare parts for machines which are no longer available can be developed by means of a similar scan technology (Procedure: from the damaged part to the CAD model and then back to the new manufactured spare part.).

Techno-Grafica itself has spent a lot of money to build up its second mainstay. Solely the basic equipment for scanning plus the special software for conversion to CAD or for the 3D visualization amounts approximately to Euro 200,000. The expense for the long-time development of the know-how being required by Techno-Grafica is likely to be somewhat higher – even in particular for storing data, which is often underestimated when dealing with such large volumes of data. It seems that all the efforts exerted have been worth it: Long since the company has bought a second 3D laser scanner due to the good utilization. A third one installed on a cantilever arm for outdoor use during large-scale projects will enhance Techno-Grafica's equipment within the next few days.

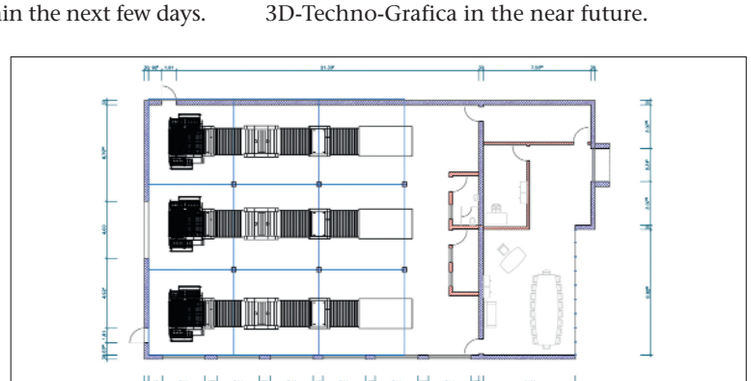


Christian (left) and Peter Hanosek presenting one of their 3D laser scanner from the Faro brand and the "reference points", which have firmly to be attached overlaying visible to the ceiling of the hall which is to be scanned. The strategic placement of these reference points needs a lot of experience. When scanning a common industrial hall, 10 up to 25 gigabyte of data will be stored on the SD card of the laser scanner.

Nonetheless, the service charges for the client are moderate, considering the costs and the expenditure of time of the usual way of surveying and planning. Techno-Grafica estimates for example two to three days time and effort for scanning (approx. 100 scans) an industrial unit of 5,000 square meters with common machinery equipment. The cost for the client is estimated at about Euro 6,000. This amount does not include the subsequent workout of layout plans on the basis of the scan data or the printing of 3D models (Rapid Prototyping), if desired. Techno-Grafica also offers these services to its clients. Thus each project is very individual, this makes general statements concerning the total costs more difficult. The fact that Techno-Grafica has high expectations for future development of its new business field (which also will extend far beyond the printing industry) is documented by the fact that the internal 3D laser scanning department will legally be renamed to 3D-Techno-Grafica in the near future.



The final result may be a three-dimensional BIM-model (Building Information Model) as shown above, or an architectural drawing, which combines the information ...



... from the inner scan and the outer scan. Working in opposite, based on such a plan a three-dimensional planning model can be generated.

"Sustainable building" means increasing production, logistics and energy efficiency

PRINTING PLANTS ■ Aumüller Druck in Regensburg has set itself up for the future. A new hall added another 3,000 square metres of production and logistics space. It was not, however, built on a greenfield site but right in the midst of the existing complex whilst production continued uninterrupted.

■ As Aumüller Druck has kept on growing so it has added more and more new buildings but by 2010 production and logistics were again up against the limits and, what's more, the waste heat from the presses was not being exploited and instead the waste heat from the presses was heating the neighbourhood.

"We are familiar with this from a number of printers", recall Christian and Stefan Aumüller, the owners and managing directors of one of the largest sheet-fed offset printers in Germany. "Many equivalent companies face similar challenges." However, the situation had become more acute over the last decade. "Logistics has become a real weak point for many printers. If a web offset printer purchases a new web offset press then it generally builds a new hall as well. For us in the sheet-fed offset segment it's just the presses that are changed and then, at some point, one is amazed to find that there is no longer enough space."

The Regensburg printer runs eight and ten colour Heidelberg Speedmaster XL 105s. At the start of 2012 a further Speedmaster was added. "The new presses require considerably more space. It's not just a question of slotting the press into the building. I need enough production space, storage for semi-finished products. The entire logistics needs to be adjusted. It's a triangle of machines, workers, space."

JUST A YEAR. There's nothing new about sustainability for a family company. The imperative to hand a flourishing company on to the next generation has been a given at Aumüller since 1888. What this means in the current stagnating market is securing the company's long-term position through advances in productivity. "Our current presses have 50 per cent more output than the models of five or six years ago."

Inverter heat pumps have been installed to reduce current operating costs.

SPACE, SPACE, SPACE. In 1989 Aumüller built its first extension on the industrial estate. In 2005 a narrow logistics hall was added. Then, in 2008, the building of a textile company on the neighbouring plot was acquired. "The alternatives at that time were to expand production here on the industrial estate or to build from scratch elsewhere. We opted for the neighbouring plot, even though it wasn't ideal."

The company had secured more space but also problems. Postpress was now based a 100 metres away in the neighbouring building and there was a hole of more than 3,000 square metres.

In January 2011 the decision was taken to build on it and IGB AG of Weimar was called in to handle the design and realization. IGB is a firm that specializes in building for printers and it had just a year for the project and a mere five months for the building phase.

The extension project was combined with a sustainability programme and a long-term reconfiguration of the workflow, the logistics and all the utilities including the compressed air system. "Whilst operations continued", stresses Karsten Frühbote, IGB's project manager. "Aumüller was working the whole time we were building." The building work was also used as an opportunity for a comprehensive reorganization and this meant that a number of questions needed to be clarified. As Frühbote points out, "We were confronted by the question of the extent to which this large new hall should be integrated into the workflow? How could the space gained in this way be best fitted into the workflow? The first building is 40 years old."

RADICAL VARIANTS. IGB AG were able to offer Aumüller the benefit of the experience that they had gained from the 17 printing plants that they had previously planned and built. "We spent a lot of time together thinking about how the workflows could best be organized." Several solutions were considered at workshops during the project planning phase.

Christian Aumüller recalls, "even radical variants were thought about that would have completely turned around the direction of the production processes inside the building."

FORM FOLLOWS FUNCTION. IGB believes in the basic principle that form has to follow function. Matthias Stieff, head of IGB, explains that at the outset of every building project options abound but that he favours ones that are based on clear requirements. "Thinking about whether it brings the client closer to its goals or not is to understand design in strategic terms." Purely practical questions were also considered during the workshops. How is job management structured? How are the through flows organized? Is a loading platform required or will logistics be handled at ground level?"

The question of a loading platform for lorries served as the catalyst for a solution. "What one

The acquisition of new presses meant that a solution needed to be found quickly to the plant's lack of space.

The panels on the roof of Aumüller Druck are at a flatter angle than usual, which means that they cast less of a shadow on each other.

really wanted", explains Christian Aumüller, "was for everything to go in one direction. In at the front, out at the rear. Ultimately, we ended up with a circular flow. This had the advantage that goods inward and outwards were in one place." Production and postpress were reorganized on the basis of this model. "In doing so we have laid the foundations for the next generation." Since the redesign, the buildings have impacted on the workflow much less than previously and the space gained has meant that alternative forms of organization have become possible.

Flexibility was the order of the day right into the building phase. "In terms of process organization this might be seen as taking the form of sustainability. What resulted is a genuinely multi-functional hall", explains Ralf Nytz, the architect responsible for the hall. "A great deal was altered even during the building phase. "We constantly strove to ensure that what we ultimately built would box the client in as little as possible. The aim was that the building should predetermine subsequent use as little as possible and remain as open as possible."

CLIMATE CHANGE IS BUSINESS. Using waste heat sensibly, tapping the sun, reducing noise, complying with various regulations: a single hall roof has to cover a lot of things. "For us, heat recovery was especially important", recall the clients. "We knew that we lost a lot of heat through the roof."

In the press hall the waste heat from the presses is captured ahead of the coolers on the roof and buffered in large heat sinks that then feed the air heaters. Given current operating costs, it is difficult to ignore the fact that printers are very wasteful of energy and on top of that there is that feeling of guilt about the climate.

HEAT RECOVERY. However, when you are considering possible investments in buildings such losses need to be robustly quantified. As Christian Donner, green building specialist at IGB, puts it, "We don't simply assume that we have heat here or there. We track it with detailed sequences of measurements." The question is how much heat is available and when. "Aumüller has an extensive array of machinery. It produces 24 hours a day. It is hot. Nevertheless, it turned out that we could raise the temperature level in the cooling circuit of the presses by 6 or 7 degrees in order to constantly achieve the desired conditions." In this context, raising meant adjusting the cooling circuit, which had not been conceived as a heat source, to run at a higher temperature. "It was then a question finding a compromise between the heat level that we wanted and what the presses could tolerate in terms of heat. We moved towards this step by step so as to avoid a press failing due to overheating.

> **For us in the sheet-fed offset segment it's just the presses that are changed and then, at some point, one is amazed to find that there is no longer enough space.**
>
> Christian and Stefan Aumüller

COOLING IN SUMMER. The existing press hall has been fitted with inverter heat pumps that have a summer and a winter mode. "The decision to cool in summer was taken relatively late on."

Christian Donner kept on raising the question. In summer the thermometer climbed to 40 degrees. "Yes, there were extractor fans but these did not keep a lid on the temperature." "I asked, what's quality like in the heat? Doesn't it have an impact? What's it like for the workers?" In the end, the decision was taken when figures started to be quoted alongside these questions. "I was able to calculate that if the halls were cooled the running costs would be 50 euros per day. That finally led to the decision." The press hall was fitted with a large Daikin cooling unit. "The temperatures now fluctuate by less than two degrees whatever by the weather, however heavily the machines are being used. It's far from museum conditions but it's an acceptable figure."

What the heat pumps consume in power is offset by the new photovoltaic system on the roof. "We now have one of the largest solar roofs in Regensberg." Unusually, the panels are not oriented southwards but in an east-west direction and are set at a flatter angle than usual. As a result, the energy output per module is lower but there are more modules on the roof because by being flatter they cast less of a shadow on each other.

COMPRESSED AIR SYSTEM UPGRADED. The compressed air system was also a concern for the Aumüllers. The existing network had numerous faults and it didn't take any massive series of measurements to identify the problem. "If one went into the factory at the weekend when the presses were stopped you could hear it escaping from the leaks."

The entire network of compressed air pipes was renewed as part of the building project and there are now two compressors apiece for basic and peak demand at one end of the printing plant. The postpress machines now have PIAB systems, where suction is also generated from compressed air. These nozzles make less noise, generate less waste heat and are much less maintenance intensive than the previously used vacuum pumps.

OPERATING COST BENEFIT. Only the second of the old buildings, the former textile hall, remains outside the recovery system and is separately heated—by means of a gas-fired condensing boiler. The fuel savings amount to six per cent. "And"—just as importantly for Christian Aumüller—"we are enjoying an operating cost advantage over conventional oil or gas-fired heating of around 40 per cent. That's what I call sustainable."

Edited by Gerd Bergmann and Jana Oehring

Field testing

ENVELOPING LINE DELIVERY ■ The Palamides enveloping line delivery launched at Drupa was a perfect fit for the job structure of Richard Ilg GmbH of Mössingen, and so for several weeks it has been undergoing field trials and put through its paces in the production hall of this mailing specialist. This has been a real win-win situation for both customer and manufacturer.

By Martina Reinhardt
Editor, Postpress
Deutscher Drucker

Richard Ilg GmbH handles 90 million mailings per annum. Most material is delivered as reels and then cut, folded, enveloped and prepared for postal delivery by Ilg.

■ Richard Ilg doesn't beat about the bush. He says what he thinks and if he likes something or if he doesn't then he says so. When the owner and managing director of the letter shop that bears his name read about a new enveloping line delivery he got on the phone to its manufacturer, Palamides of Renningen. The product had attracted his interest and it seemed to be a perfect fit for his company's job structure. He wanted to try it out.

Launched at Drupa, the Cara310, as it is known officially, was developed to bundle up and strap personalized products in packages. This, in principle, was precisely what Ilg was looking for and so he became a field tester, running the machine in his production hall in Mössingen, Swabia for three months.

Richard Ilg GmbH specializes in the processing of personalized mailings of various different paginations, formats and forms. Generally, four colour mailings are delivered to Ilg as reels, where they are cut, folded and quite often combined with inserts that may also be personalized. This is all monitored by camera systems and they are then enveloped, sorted and delivered to the postal system for delivery around the world. Labels can also be applied and black and white printing is also possible for the covering latter or the address on the envelope. The company's customers are printers without their own postpress facilities, advertising and production agencies coordinating jobs for their customers and subcontracting each task out to the appropriate service provider or, in many cases, the final customers themselves.

Richard Ilg jun. sees clear potential for savings in the new enveloping line delivery.

Ilg produces a total of some 90 million mailings per annum, which is a lot of paper for a 40-man company. According to Richard Ilg, although the overall runs are getting shorter, the range of mailing variants is increasing. As Ilg explains, "A few years ago, if somebody wanted to tell people about a lawnmower, for example, they simply sent out two million mailings... Now they know if somebody lives in a block of flats and probably has no need of a lawnmower. So they offer them window boxes instead." The enormous range of options has come about through the increasing ability to differentiate between the way consumers behave and knowledge about the living circumstances of individuals resulting from the ever finer selection of addresses offered by list brokers or made possible by customer card data.

AUTOMATION SOLUTION. Given the above, the new Palamides Cara is a perfect fit with Ilg's requirements. The fully automatic delivery is able to handle up to 10,000 envelopes from Din long up to B4 format per hour. "The machine can deliver a cross-strapped bundle every 1.8 seconds grouped by postal or customer specific criteria", states Marcus Gasser, director of the Palamides development department. This means, for example, that each bundle will only contain envelopes destined for the same post code or area. The latter need to be specially marked or be provided with a delivery slip. Each bundle must contain at least five letters and the maximum weight per bundle is 10 kilograms. Naturally enough, the German Post Office also insists that the strapping is able to ensure none of the envelopes fall out during delivery.

It is precisely these criteria that the Cara, which can be integrated downstream of virtually any enveloping machine, is capable of fulfilling. The envelopes are first fed into the alignment station, where special rollers squeeze the air out of the individual envelopes. A camera recognition system developed by Palamides itself identifies every individual item either by means of an imprinted code or the post code, and this allows it to be correctly assigned. Faulty envelopes are diverted to a separate delivery bin. It is also possible to determine precisely where in the machine the envelope is. Sensors check the height of the pile and its dimensions in order to allow the tension of the strapping bands to be appropriately adjusted.

According to Marcus Gasser, Palamides had to make a number of changes to the strapping machine before this worked properly. The finished bundle, which may have just a single strap or which may be cross strapped, is then delivered to the buffer table and can be removed by the operator.

Richard Ilg believes that the Cara has real potential for saving costs, since it considerably reduces manual labour. Previously, the enveloping machine had to be manned by one person and two people were needed to sort the finished mailings. Depending of course on the specific job, the Cara now allows one person to both feed the line and remove the cross-strapped bundles from the buffer table and pack them in the post boxes. Staff savings of between 30 and 60 per cent are therefore possible. These are figures that matter in a market where there is enormous pressure for rationalization.

DURING THE TRIAL. During the trials, the Palamides Development Director, Marcus Gasser, or his engineers were often on site at Ilg. As beta testers, Richard Ilg and his team were keen to really put the Cara through its paces under production conditions, and this is precisely what was expected of them. "We can test the machine in Renningen but not to the same extent that a genuine production facility can", comments Palamides' Sales Director, Jan Oldenkott. Even if one thinks just in terms of the product spectrum that the machine should be able to handle, Palamides is simply not able to simulate the unusual things that actually crop up in day-to-day production. "This makes a practical trial like this enormously important for us", comments Oldenkott. On the other hand, such a trial under real operating conditions means that not everything runs smoothly and in some cases it doesn't run at all. This is an area where the test company can really make a contribution because, ultimately, the aim is not to run the new machine at a consistently high speed but to work together; refining it on the basis of the experience gained and the actual requirements of customers and operators so that sooner or later it is ready for series production.

It is important for both sides to trust each other and to deal with the situation openly. "And that suits both sides", declare Jan Oldenkott and Richard Ilg as one.

The proof that this shared attitude amounted to more than just words became apparent right from the first job that was due to run on the Cara. "We wanted to handle polywrapped products", recalls Richard Ilg, "But the reflection from the film and the seam triggered the camera and made it impossible to capture the code or the address." It was also difficult to measure the product dimensions precisely, since the film constantly projected about 1.5 cm top and bottom and now and then this caused jamming. In short, the job wouldn't run. Palamides packed the machine back up and got to work on it. Six weeks later it was sent back to Ilg—and this time it was able to handle sealed mailings. "Now, for example, we use a capacitive sensor rather than a photocell because it recognizes the products reliably", reports Jan Oldenkott. "In the end this test, which failed first time round, gave us an important boost."

Palamides and Ilg have also been able to test the machine with tipped on samples and to improve its handling. The belts were changed and their position altered, the drive geometry adjusted in order to ensure that mailings with several inserts or thicker ones could be handled.

Richard Ilg GmbH

■ Richard Ilg GmbH is based in Mössingen Swabia and was originally a punched card data processor. Founded in 1972 by Richard Ilg senior, it started to take on subcontracted enveloping work for another company in 1989. This marked the beginning of Ilg as a letter shop.
With the widespread introduction of data processing in virtually all companies, data processing steadily declined in importance for Ilg, whilst its mailing service activities grew. Nowadays, Ilg is active both regionally and nationally as a direct marketing specialist and employs 40 full-time staff. Richard Ilg junior has been part of its management since 1990 and his father has now retired from day-to-day involvement.

Another requirement was that the delivery should be flexible enough to work inline with a variety of machines. The alignment of the buffer table can therefore be adjusted to the conditions in a company. All in all, both companies have benefited from their cooperation in what has been a win-win situation.

After its time at Richard Ilg GmbH, the machine has now been installed at a second company, which, amongst other functions, required it to be able to apply delivery notes. "Naturally, we are also anticipating useful feedback from this second trial, because the job spectrum is different. It is expected that the Cara310 will be ready for series production by mid 2013 and the test machine may well then head back to Mössingen.

The Palamides Cara310 has been undergoing field trials at Ilg for three months. Its flexibility allows it to work inline with a variety of machines. Ilg primarily uses Buhrs enveloping lines.


The Cara has a maximum output of one cross-strapped bundle every 1.8 seconds.

Automated cutting and jogging for non-stop production

CUTTING ■ When the time came for the Mohmedia subsidiary Vogel Druck und Medienservice to invest in a cutting system the company first turned for information to Druckerei Bonifatius in Paderborn; where a fully automatic Baumann-Wohlenberg cutting line that automates cutting and jogging has been running for some time.

The Baumann-Wohlenberg No 3 cutting system consists of a fully automatic Baumann BASA 3 jogging system with integrated pile logistics, a Baumann BFS-V gripper transport system, a Wohlenberg 132 high speed cutter and a Baumann BA 3 unloader.

■ Vogel Druck und Medienservice GmbH of Höchberg near Würzburg can look back over one hundred years of history. Founded in 1892 as Vogel Verlag in Pössneck, Thuringia, the publishing and printing company has been based in Würzburg since 1952. It has been part of the Mohnmedia Group and therefore the Bertelsmann-Arvato combine since 2006. It has 13,000 m2 of production space, where a workforce of around 380 people produces over 200 magazines for customers around Europe, as well as catalogues and brochures. It generates 80 per cent of its overall turnover from magazines and claims to have become the market leader in the web offset production of medium length A4 format magazines. Vogel Druck attributes this success to the use of modern equipment, the know-how of its highly qualified staff and its customer-focused approach. Vogel Druck und Medienservice sees itself as an innovative system supplier that handles a high proportion of what it does in house. To do so, it constantly strives to ensure that it is equipped with modern machines and equipment.

Steffen Raunecker

In the middle of July last year it commissioned a new high speed cutting line supplied by Baumann-Wohlenberg, which features a fully automatic jogging system together with innovative pallet logistics that is capable of feeding up to four pallets fully automatically.

ANALYSIS OF THE PRODUCTION DATA. The first step in the investment process was a careful analysis of its own production data in order to establish which systems would best be able to fulfil its requirements in terms of cutting volume, job structure and conditions specific to the company.

Accompanied by Baumann Maschinenbau Solms, Steffan Raunecker, Vogel's Technical Director, visited Bonifatius of Paderborn at the end of 2011. This is a company that has been working with a fully automatic cutting line that automates jogging and cutting for a number of years. Gerd Gellner, the Managing Director of Bonifatius, told Raunecker that the company was very pleased with the Baumann-Wohlenberg No 3 cutting system it was using and that the BASA automatic jogging system had even beaten the production figures that Baumann had originally quoted.

MODULAR AUTOMATION. The system comprises a fully automatic Baumann BASA 3 jogging system with integrated pile logistics, a Bauman BFS V gripper transport system, a Wohlenberg 132 high speed cutter and a Baumann BA 3 unloader.

The fully automatic BASA jogging system features a logistics system with automatic pile feed and automatic empty pallet ejection, making non-stop operation possible. The pile is fed with printed sheets by a chain conveyor and the empty pallets are removed. The jogging process itself is fully automatic and requires no operator intervention. It is possible to handle part layers that are up to 40 mm thick. The adjustments required for each new job are also made largely automatically by the latest generation of the BASA system and change-over times when switching jobs are now only eight to ten minutes, for cutter, BASA and logistics system combined.

The BFS-V gripper system takes the fully jogged layer from the BASA, carries it to one of a total of three buffer positions and deposits it there. Each time, the gripper system automatically delivers the next layer to the front table of the high speed cutter so that the operator can concentrate on the cutting. Automatic feeding via the front table of the high speed cutter allows the operator to make the first cut on the short side of the layer, whereas at Vogel Druck the first cut is made on the long side of the layer.

↗ Continued on page 10

High volume, colour, inkjet

MARKETS FOR DIGITAL PRINTING. ■ The Digital Print Group is the first graphic arts service provider to have invested in an Océ Colorstream 3500. Headquartered in Nuremberg, the company aims to use this high speed, full colour inkjet printer to expand the amount of business it does with publishing and industrial customers, with the emphasis being on products such as manuals, catalogues, books and magazines.

■ Oliver Schimek places a catalogue on the table. It's a really thick tome running to 1400 A4 pages but a print run of 300. "Normally, you wouldn't print that", declares the Managing Director of the Digital Print Group. "The print run is too short for offset, the pagination too high for digital. At the usual click prices, one digitally printed copy would cost 120 euros." Oliver Schimek, however, has managed to produce it for his customer for 24 euros. This can only be done at a loss or by somebody who has an Océ Colorstream 3500 and who has developed a smart business model for it.

INNOVATION FRIENDLY. The Digital Print Group based in Nuremberg is the first service provider in the graphic arts industry to have installed this high speed, full colour inkjet printing system and its Managing Director, Oliver Schimek, is somebody who is far from averse to investment and innovation. He started out in 1995 with a copy shop in Kitzingen and he has steadily built his company up into one of Germany's best-known digital printers. Now he has 80 employees based at five sites across Bavaria generating a turnover of some eight million euros per annum. Digital printing systems from Océ have accompanied this growth. In 2002 a twin system Demandstream 8070 was installed for the web printing of technical documentation and in 2009 two Varioprint 6250 Ultras were added for the production of books, manuals and educational material. Two Arizona flatbed systems are used by the Art & Pleasure division of the Digital Print Group to print on plexiglas, wood, tiles or stainless steel.

> **Dynamically assembled contents will play a major role in future in the design of printed products.**
>
> Oliver Schimek, Managing Director of the Digital Print Group

PUSHING BACK THE BOUNDS. With the Océ Colorstream 350 Oliver Schimek is aiming at a market segment that has to date been the preserve of offset printing: high volume, full colour printing. "Digital printing is moving ahead rapidly", he reports. "Click prices, production speeds, print quality are moving into entirely new dimensions. With inkjet technology we are pushing back the bounds of what is economically viable for digital production." The catalogue referred to at the outset is just one example of this. Increasingly frequently, technical documentation, educational material, books and loose-leaf products are being printed in full colour. Increasingly they are being printed as split runs and increasingly they are being individualized. So, up to what run length is digital printing economically still viable? Oliver Schimek has worked it out. "If we take a hard cover, 19 x 27 cm format book, printed in four colour on 115 gram paper, thread stitched and given a matt laminated cover then the limit lies at around 2,000 copies. For any run below this digital printing is more economical.

NEW POSSIBILITIES, NEW CONCEPTS. For publishers it pays to think about new possibilities and new concepts: full colour textbooks and loose-leaf works, split runs that eliminate warehousing costs and commercial risk; magazines as special interest products that are specifically themed, regionalized, personalized. "I am convinced that the dynamic assembly of contents will play a major role in the future production of printed products", declares Oliver Schimek. "Not everybody is interested in everything. So we will not print less but we will print more specifically." Schimek sees production costs as just one aspect of economic viability. He believes that, "anyone who really exploits the advantages of digital printing—individualization, personalization, speed achieved through the elimination of makeready times—will keep ahead of the competition." And, since the Digital Print Group aims to share these competitive advantages with the customer, Oliver Schimek is constantly talking to representatives of publishers and industry. "We evangelize in order to raise awareness of the possibilities of new printing technologies."

What was founded in 1995 as a copy shop has now become a digital printer with over 80 employees. Managing Director Oliver Schimek has relied on Océ printing systems throughout the process.

SERVICE FOR PRINT SERVICE PROVIDERS. The Digital Print Group is also using its Océ Colorstream 3500 to take aim at another interesting target group: print service providers. "Not everybody wants to invest in such technology", declares Schimek. "Therefore, we offer our know-how and capacity for high speed printing to other printers." Print service providers can register as customers at www.inkjet-druckerei.de, price their inkjet projects and then place an order—regardless of whether they are just looking for four colour printing or the entire production sequence, including postpress.

MORE THAN JUST PRINTING. Like many other print service providers, Oliver Schimek refers to 'process optimization', 'full service' and 'expertise along the entire added value chain'. If one looks behind the scenes at the Digital Print Group it becomes clear that these are more than emp-

Colorstream 3500: facts and figures

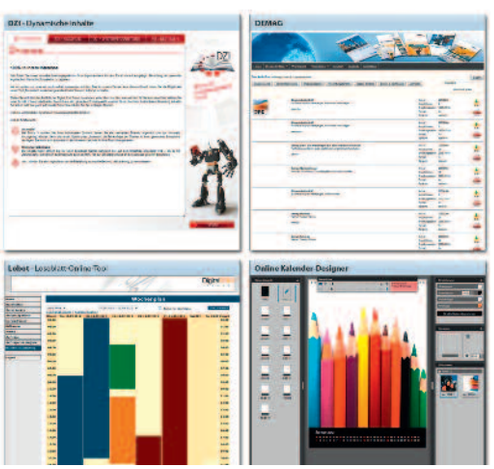
- Technology: piezoelectric inkjet printing based on Océ Digidot technology
- Resolution: 1200 dpi perceived image quality at full rated speed
- Speed: 75 metres or 1010 A4 pages per minute
- Printing width: 540 mm (21.25 inch)
- Configuration: perfecting with up to six colours
- Applications: transactional printing, transpromo, direct mailings, books, manuals

Continued from page 8

The purchase contract for the new system was signed at Drupa. L to r. Sven Schubert (Sales Director, Baumann Maschinenbau Solms) Peter Knoblauch (Purchasing Director, Vogel Druck) and Volkmar Assmann (Managing Director Baumann Maschinenbau Solms).

ty words. There are five programmers in Nuremberg handling data management, process control and logistics solutions. Linking up with the inventory control systems of publishing and industrial customers and the automatic maintenance of stock levels is every bit as much of a must as the dispatch of finished products to the final customer. "Lobot is just one example of our data expertise. Lobot is our loose-leaf online tool, which we developed ourselves to enable our customers to log in and work on their loose-leaf projects. Everything—updating PDFs, sorting, printing, delivery, invoicing—proceeds entirely automatically. What's more, anyone who prints a lot, and the Océ Colorstream prints up to 75 m/min or 32 million impressions per month, also needs to do a lot of finishing. To that end, the Digital Print Group is the first company in Europe to invest in a Müller Martini Diamant 30 Hybrid hardcover book machine together with a Universe thread stitching machine. Oliver Schimek doesn't go in for half measures.

Edited by Judith Grajewski



The Digital Print Group offers a wide variety of digitally printed products, ranging from dynamic content to magazines, loose-leaf works and individually designed calendars.

The current generation of the Wohlenberg 132 high speed cutter features a new cutting cycle, which release the knife earlier and increases the number of cuts per minute. The benefits of this increased cutting speed increase the more cuts there are in the same direction on the same layer. Baumann-Wohlenberg have also fitted the latest generation of their high speed cutter with a simplified system for swapping the cutting sticks and the Wohlenberg 132 high speed cutter also has central clamping, which is important for cutting accuracy when handling smooth materials. It is also fitted with programmable pressure adjustment and automatic control.

The operator pushes the cut copies on to the table of the BA 3 unloader. This is a newly developed, micro-perforated table that is extremely flat and its 21 mm depth means that even small format copies can be stacked with precisely aligned edges. With a maximum pile height of 1400 mm, it is able to handle layers with a maximum layer weight of 150 kg. The BA 3 is fitted with semi automatic format recognition. The machine automatically adjusts itself for the format in question (manual sheet stop), so that the operator only needs to push the cut copies on to the table of the unloader and press the start button. From then on the copies are stacked with edges aligned to an accuracy of ± 0.5 mm.

ADVANTAGES OF THE SYSTEM? According to Baumann-Wohlenberg, the cutting system offers a 250 per cent increase in output compared with 'traditional' cutting systems. Depending upon the number of cuts per layer, it is possible to automatically jog and cut between 25 and 30 layers (around four piles) per hour. The short change-over times mean that even short runs can be handled automatically. All the tables are air tables, which makes the operator's task less strenuous, and it means that forwarding the layers into the cutting system requires less force than is the case with a 'standard' system. The ergonomic benefits to the system operator, who is relieved of the physically demanding task of jogging by the system, should not be overlooked. Studies of the impact on the health of the operator of a manual jogger are currently being carried out by the print and paper converting section of the health insurance association. Automatic pallet changing delivers further time savings.

CUTTING TIME VERSUS DOWN TIME. Generally speaking, the greater the degree of automation of a system, the greater the amount of the investment. This in turn means a higher hourly rate for the system operator. For the investment in such a system to pay off for the company the down times, that is the times during which the operator is not cutting but carrying out other tasks have to be reduced. The equipment associated with the cutter therefore needs to be organized in such a way that the operator has to carry out as few other tasks as possible besides the actual cutting. The result of this can be very high system productivity, with a single operator being able to process very high volumes in a short space of time.

Edited by Martina Reinhardt

IMPRINT

Deutscher Drucker – International Edition

Publisher: Deutscher Drucker Verlagsgesellschaft mbH & Co. KG, Riedstrasse 25, 73760 Ostfildern, Germany, Tel. ++49/(0)711/448170, Fax ++49/(0)711/4481782, www.print.de, info@print.de
Managing Director: Bernhard Niemela
E-Mail: b.niemela@print.de
Editor-in-Chief: Gerd Bergmann,
E-Mail: g.bergmann@print.de
Advertising and Translation: Neil Stratton, Babel Marketing Ltd., Dellstone, 6, Ivy Cottages, Hinksey Hill, Oxford OX1 5BQ, United Kingdom, Tel.: +44 (0)1865 739484,
E-Mail: n.stratton@print.de
Deutscher Drucker International Edition is published monthly and distributed worldwide via PDF file;
Single subscription: € 150/Year (excl. VAT)
Subscription: info@print.de

Functional die carrier on the magnetic cylinder of a rotary die cutter

PATENTS AND REGISTERED DESIGNS ■ The invention describes the positioning of a die carrier on the magnetic cylinder of a rotary die-cutting device that allows a large number of different jobs to be carried out with short change-over times in a simple, economical and functional way. A further role for the invention in question is the preparation of a suitable die carrier.

■ According to the patent application, die formes made from ferromagnetic material are used on the magnetic cylinders of rotary die-cutting devices or rotary die-cutters and the magnetic force exerted by the magnetic cylinder holds the magnetic die formes to the magnetic cylinder.

In the case of such magnetic die formes the carrier material forms a single integrated piece with the die and so individual elements cannot be added after the production of the magnetic die forme.

Such magnetic die formes have holes punched at one of their circumferential ends and they are positioned on suitably placed positioning or register pins. This allows an accurate positioning of the magnetic die forme on the magnetic cylinder. However, the opposite end of the magnetic die forme is positioned on the magnetic cylinder without any such a positioning or register pin arrangement.

As the patent application goes on to explain, rotary press grid sheet systems are not suitable for use with rotary die-cutting devices or rotary die-cutters with a magnetic cylinder since these cannot be reliably and functionally positioned and held against the magnetic cylinder by its magnetic force.

PURPOSE OF THE INVENTION. The purpose of the invention is therefore to create a die carrier that would both allow a large number of different jobs to be carried out with short change-over times simply, economically and reliably and that could also be positioned on the magnetic cylinder of a rotary die-cutting device. It would also have a further role in the preparation of a suitable die carrier.

Essentially, it envisages the positioning of a die carrier on a magnetic cylinder and the possibility of arranging at least one die in a specified pattern. The composite die carrier is held to the magnetic cylinder by magnetic force and features a plastic grid sheet. On the side that is visible when mounted it displays a grid for the positioning of dies.

The die can be precisely positioned on the grid sheet and then fixed (and, ideally, subsequently removed).

DESIGN RELATED ADVANTAGES. A grid sheet made from plastic of the kind envisaged by the invention that can be functionally and reliably held against a magnetic cylinder offers a series of advantages.

- Besides die-cutting sections or dies, it is possible to also or as an alternative accurately three-dimensionally position kiss cutting, perforating and or creasing tools or similar rules on such grid sheets.
- Unlike conventional magnetic die formes, these grid sheets allow perforation, cutting or creasing tools or rules to be used as desired and interchangeably, which should make the system more flexible to use.
- The specific die formes or patterns required to perforate, die-cut, kiss cut and/or crease for a particular job can be quickly and cheaply assembled by the user him- or herself on the grid system.
- Long delivery times for magnetic die formes are eliminated as a result and there is no need for the layout file required for the production of magnetic die formes.
- It should therefore be possible to substantially reduce production costs.
- Furthermore, grid sheets made from a plastic material should be simple and considerably cheaper in comparison with conventional magnetic die formes made from metal.

Schematic example of a grid sheet 1 of the type envisaged by the invention made from a plastic material (0.2 mm thick in this example) that features a grid 2 on the side shown in the diagram. Ideally, this is marked in millimetre intervals. With respect to the rectangular millimetre grid arrangement shown here, the grid lines in the circumferential direction y are so arranged that they are the same distance apart but this distance is less than the 1 mm spacing of the grid lines in the x direction along the axis of the cylinder. In the diagram, the grid sheet is shown flat and the edges that lie at opposite ends in the circumferential direction (3, 4) feature tabs (5, 6, 7) made from ferromagnetic spring steel. It is possible to accurately position die and/or kiss cutting and/or perforating and/or creasing dies or similar rules in three dimensions in accordance with a specified die pattern on such a sheet 1 and in particular on the grid pattern 2. Die and/or kiss cutting and/or perforating and/or creasing dies are stuck to the sheet 1 in accordance with the specified die pattern.

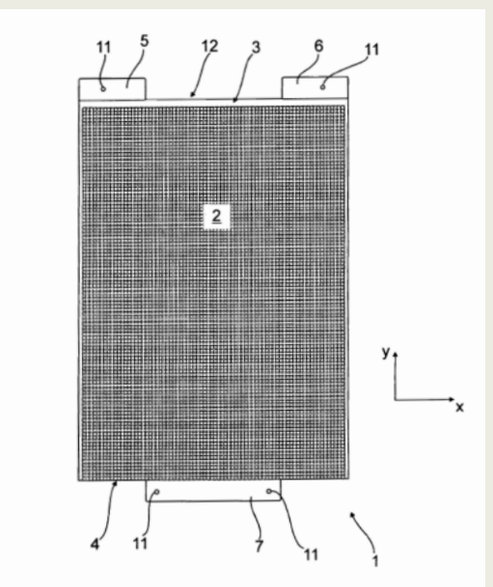


Fig. 1

DD SERIES
IDEAS FOR TOMORROW'S TECHNOLOGY

We take a look at patent and registered design activity in our industry. Here: Cito-System GmbH, 90571 Schwaig – patent application, document No. DE102011009523A1

Edited by Frank Lohmann

From solid density measurement to multi-dimensional process control

MEASUREMENT AND CONTROL IN PRINTING ■ When Digital Information and System Brunner launched their joint Ink-Zone Instrument Flight development the two manufacturers turned to Druckerei Gutenberg AG in Schaan (Principality of Liechtenstein) for beta testing, and the company's Speedmaster SM 74-5-P was the first Heidelberg in the world to be fitted with Ink-Zone Instrument Flight. What does the software offer?

■ Gutenberg AG in Schaan, Liechtenstein, invested in Ink Zone technology from Digital Information four years ago, fitting this colour control technology to what was then a six-year old Speedmaster SM 74-5-P. Techkon's motorized Spectro-Drive high speed scanning measurement device and Ink-Zone closed loop software speeded up makeready and greatly cut wastage on the five colour press. In the words of Gutenberg AG's Managing Director Remi Nescher, the cost saving and quality gain were both "considerable".

Production Manager Fabio Wellenzohn at the control desk of the press. The measurement and control functions of Instrument Flight featuring the familiar hexagon chart are visible in the background.

DEVELOPMENT PARTNERSHIP. Four years on, as Nescher puts it, "It was time to embark on the next fitness regime", for a sheet-fed offset press that, mechanically, was still running perfectly. When Digital Information and System Brunner launched their jointly developed Ink-Zone Instrument Flight product, Remi Nescher and Production Manager Fabio Wellenzohn agreed to undertake beta testing. The result was that after a test phase lasting several months the Speedmaster SM 74-5-P became the first Heidelberg in the world to be fitted with Ink-Zone Instrument Flight.

For Remi Nescher, the Managing Director of Gutenberg AG, the Spectro-Drive scanning measurement device and Ink-Zone closed loop software offer considerable cost savings and quality gains.

Ink-Zone technology continues to provide an unaltered framework. DI-Plot proofing software converts the bitmap data supplied by the prepress workflow into dot percentages and transfers the JDF file to the Ink-Zone Perfect preset software. Ink-Zone Loop is used to forward the correction values determined by Ink-Zone Instrument Flight during the printing process to the CP2000 control desk.

PROCESS OVERVIEW. Gutenberg AG achieved PSO certification four years ago and up until now it has used solid densities to control ink feed. However, this in no way covered all the variables that might possibly affect the quality of the printed result.
Ink-Zone Instrument Flight, on the other hand, monitors numerous other quantities that are important for a stable ink feed and does so to within tight tolerances:

- Tone value increase and
- Tone value spread,,
- Grey balance of superimposed cyan, magenta and yellow (CMY);
- Colour balance of the individual CMY colours in the mid tone (50%) and the solid (100%);
- Trapping of the three CMY solid (100%) chromatic colours and
- L*a*b* solid colouring (best match).

By taking these parameters into account Ink-Zone Instrument Flight is able to capture the complete dynamics of the offset printing process.

MULTI-DIMENSIONAL CONTROL. Ink feed during printing is controlled multi-dimensionally, which means that during the control process Ink-Zone Instrument Flight is constantly monitoring the extent to which changes in one parameter are affecting the other quantities. So, for example, a drift into the red region can be corrected either by cutting back the magenta and yellow ink feed or by increasing the cyan. Before Ink-Zone Instrument Flight executes the appropriate correction the system looks at other parameters such as the tone value increases and the colour and grey balance.

"The overall analysis of the interactions between the four inks at various tone values and the overprinting of the half-tone dots means that the best possible solution is sought for each control procedure and for each ink zone and that corrections are carried out in line with the colour perception of the printer", reports the Production Manager, Fabio Wellenzohn.

Ink-Zone Instrument Flight offers various priorities for balance control, which the printer

The chart shows the System Brunner based approach to process analysis and a simple 5 star quality rating for adherence to the chosen quality standard.

can specify depending upon the composition of the printing forme. Besides control prioritizing grey balance, ISO 12647-2 (PSO) and G7 guidelines, it also offers control emphasizing GCR (grey component replacement) or for repro dominated by solids. Solid dominated balance control comes into play when adherence to corporate colours based on solids and uniform half-tones is important to the printer's customers in areas such as packaging printing.

FIVE STAR RATING. Fabio Wellenzohn feels that the fundamental improvements are in process control. So far as makeready speed and reduced waste are concerned, we had already made the major advance four years ago with the installation of Ink-Zone Loop. What Ink-Zone Instrument Flight has now done is to allow us to significantly increase the stability of ink feed still further. By taking all the parameters into account we are now printing with much less fluctuation than would be possible with density control alone. Enhanced process control results in increased performance and further cost savings at makeready.

OPERATOR FRIENDLY. Increased process reliability is also the result of software that is easy to work with. The hexagons allow the printer to assess the quality of the ink feed of each individual ink zone across the entire width of the sheet. He or she can see at a glance what the situation is in relation to solids, tone value increases, colour balance in the individual colours (mid tone and solid), grey balance and superimposed printing (trapping). "The system recommends adjustments for each ink zone and uses arrow symbols to suggested opening or closing the ink sliders", explains Fabio Wellenzohn. A fully qualified print technologist, he feels that the 5 star rating system showing how closely the current situation corresponds to the standard really boosts quality by spurring the printer on to try and gain as many stars as possible.

PROCESS CALIBRATION VIA PRINT EXPERT. A reliable calibration of the platesetter is a must if the printing process is to be controlled on a known basis. Gutenberg AG uses Plate Checker software from the System Brunner Print Expert Suite for this. The package uses a scanning measurement device to capture 20 tone value steps of the plate zebra strip in a single pass. The resulting measurements are then compared with reference curves held by the system and the results displayed in the isocontour chart.

DETAILED PROCESS ANALYSIS. Ink-Zone Instrument Flight has not just improved technical processes at Gutenberg AG, it has also demonstrated the effect of cooperation between the departments. Fabio Wellenzohn, "The substantial information that the software provides us with encourages us to examine the processes in detail. The system allows us to precisely locate the causes of possible fluctuations and the measurements allow us to show exactly how far inside the tolerances the printed result lies or where corrective action needs to be taken before a problem crops up at the worst moment. This saves us time and money."

Edited by Frank Lohmann

Ink-Zone Instrument Flight and Guinness

■ The printing of stamps is one area where Gutenberg Druck AG is active. Most jobs are short runs of special stamps that are sometimes in polygonal shapes, which it prints for the Post Offices of Liechtenstein, Switzerland and other European countries. It has even invested in a special die-cutter for perforating the stamps.

In 2012 Gutenberg Druck AG and Philatelie Liechtenstein set a Guinness World Record when a special stamp was produced to mark the centenary of the Principality's first stamp. Production took a total of just 57 minutes and 50 seconds from the announcement of which of three proposed designs had been chosen to the purchase of the first stamp by the Editor in Chief of the Guinness World Record Craig Glenday at Liba 2012 (the Liechtenstein stamp show) in Schaan. "Ink-Zone Instrument Flight was a major factor in beating the previous record from Austria of one hour and 25 minutes by such a margin", remarked Remi Nescher in commenting on the success.

Tanja Vetsch of Gutenberg Druck AG shows of the record certificate.

Online printing knows no borders

CTP AND WORKFLOW ■ In recent years it is the online printers that have shown the printing industry how to grow. Saxoprint, a subsidiary of the photo service provider Cewe Color since 1 February 2012, has been expanding steadily in this fieeld. Standardized processes, committed workers and the efficient use of technology, materials, workflow and logistics are what the company puts its success down to.

■ Based in Dresden, the online printer Saxoprint generates over 35 per cent of its turnover from international customers. Besides Germany, where web sales are channelled through saxoprint.de and cewe-print.de, the company has web sites for France, the UK, the Netherlands, Austria, Switzerland, Spain, Italy and—since the beginning of November 2012—Poland. 70 per cent of its 400 or so employees work in production, which runs round the clock in three shifts; with the week's production starting at 10.00 p.m. on a Sunday and ending at 6.00 a.m. on Saturday morning. "We see ourselves as printing industry discounters that offer premium products at low prices. Our business is a form of mass customization", explains Klaus Sauer, who, as Managing Director, is responsible for its operational activities. "We industrialize precisely defined processes and standardize the way they run."

It has its own call centre in Dresden to look after DACH customers whilst a multilingual team in London takes care of customers in the rest of Europe.So far as the print services it offers are concerned, the sheet-fed printer pursues a full range strategy. For short runs and variable content jobs it uses the digital resources of its parent, Cewe Color.

The portfolio also extends to packaging printing and, in a recent development, to web offset, which is actually undertaken by partners. Saxoprint itself prints on B1 and large format presses. In the B1 segment it is primarily producing classic signatures, whilst it uses the larger format 7 (1210 x 1620 mm) and 6 (1060 x 1450) presses for ganged-up formes. Sauer sees large format as being increasingly important. "Naturally we try to keep the sheets as large as possible in order to achieve as much added value as possible."

According to Klaus Sauer, high order volume is vital if ganged-up formes are to be produced efficiently and printed within a tight time frame; and volume is just what the Dresden online printer has. It turns several thousand jobs round every day. Print runs range from 250 to 200,000 copies, with an average of 2,500—figures that offer a clear idea of how frequent job changes and makereadies are. This in turn places considerable demands on platemaking performance. The presses consume some 1,200 B1 offset plates and 500 large format plates every day, with the latter having been imaged by two Kodak Magnus VLF 5570 platesetters since Saxoprint moved into large format in January 2012. The 70 l/cm Kodak Maxtone AM hybrid screen is used for every grade of paper and board that Saxoprint prints. For B1, it sets conventional UV sensitive plates.

For Klaus Sauer, Managing Director of Saxoprint GmbH, the industrialization of printing processes is vital to success as a print discounter.

AUTOMATED PLATESETTING. Saxoprint uses the X speed version of Kodak's large CtP systems. This means that each of the two Magnus VLFs can output more than 33 format 6 plates per hour. The thermal platesetter operates fully automatically and, according to the manufacturer, requires the minimum of operator intervention. Plates are fed into the Magnus VLF platesetters by Kodak APL plate loaders with two magazine segments and following imaging the plates are then processed inline. Since each segment of the APL has enough space for a pallet with up to 500 plates including interleaved paper, each Magnus VLF has enough plate capacity on tap for almost two day's production.

"Besides output quality, it is the operational stability and the level of automation of the CtP setters that is crucial for our business", explains Klaus Sauer. What we need is to be kept informed promptly about the latest development and Kodak has people that understand our business model. They alert us when there are improvements that could help us to move forward. For our part, as far as is possible, we like to deal with just one source so as to have no more partners than necessary."

Consequently, Saxoprint also sources its plates from Kodak. It uses the Kodak Trillian SP low chemistry plate that requires no preheating. Torsten Müller, head of prepress, reports that, "these plates behave very consistently and for us the advantages of the Trillian SP during platemaking compared with the type used previously are the longer developer lifespan and the reduced soiling of the plate processor line. As a result, we consume fewer chemicals and have fewer cleaning cycles."

WORKFLOW. Both the large Magnus VLF platesetters and the two CtP systems for setting the B1 plates are fed with output data via a Kodak Prinergy Connect workflow system. Due

Kodak's thermal CtP systems supply the online printer's large format sheet-fed offset presses with plates.


Torsten Müller

to the quantity and variety of the customer data that has to be processed every day, Saxoprint also has an additional data checking and adjustment stage upstream of the Prinergy Connect system in the form of a One Vision Asura system.

During prepress the Kodak Preps imposition software delivers PJTF files to the Prinergy Connect workflow together with sheet assembly or ganged-up forme information for plate output. Saxoprint also uses Prinergy Connect to turn customer data into PDF files that are optimized for digital printing. Kodak Prinergy 's rule-based automation (RBA) software helps to rationalize prepress workflows and takes over routine, recurring tasks from prepress staff. These automation rules enable the Prinergy system to automatically execute event-triggered processes: as soon as a specified event occurs in the process the RBA uses if-then statements to trigger certain actions. For example, for offset jobs Saxoprint uses an RBA rule that is triggered by the creation of a Prinergy job in order to refine and standardize data and to handle trapping and the generation of Prinergy VPS files (softproofs of the screened, output-ready data). If faults occur during processing, e-mail reports are sent automatically and the job status is altered. The final step—the output of forme proofs and plate imaging—does, however, require manual intervention.


The two fully automated Kodak Magnus VLF 5570 platesetters in action.

Torsten Muller describes another RBA rule, "A system rule automatically handles archiving and deletion functions once a job has reached 'completed' status. After a reasonable length of time its VPS files are automatically archived as evidence of what was output on the plate and the Prinergy Job deleted from the system."

The current CtP and workflow systems still have a certain amount of reserve capacity but, since online printing knows no bounds in either quantity or reach, this will increasingly be eaten into as Saxoprint substantially steps up its large format printing capacity in the near future.

Edited by Martina Reinhardt

INSIDER

There's more to planning than more of the same

Every new year every company draws up a fresh set of plans; but many SMEs simply take last year's sales figures and add a bit for growth. This may make it more likely to show a positive result but it prolongs the past rather than basing the corporate plan on what might happen in the future. Provided business is ticking along nicely, shareholders and lenders are happy with this quality of planning. During a crisis, however, there need to be fundamental improvements in planning methodology. However, old habits die hard even though new methods have long been available. In medicine the Greek idea of four humours persisted for over 2000 years and people believed that illnesses resulted from imbalances in bodily humours (yellow bile, black bile, phlegm and blood) and could be traced back to too much blood. As a result, sick people were bled right up until the eighteenth century.

Many planning methods are more reminiscent of 'bloodletting'.

In business too there are planning methods that were superseded long ago but which continue to be widely used. Many methods are more reminiscent of bleeding a patient than modern planning processes.

So, what does corporate planning involve? First of all, the manager has to formulate his vision. Where should the company be in three to five years? Which products and services will it sell to which customers? What skills will its staff need for this? In order to transform these ideas into a short- and long-term action plan it is essential to include the company's key players. They and the company's management need to fix who should do what and by when, with what results and for what cost. The planned effect of these actions are then transferred to the P&L model. Modelling software can help with or speed up this task and make the monthly comparison between the target and the actual routine. Finance should therefore be at the end of the planning process and not at the beginning.

A company strategy is a conscious decision to do certain things and not to do other things. The joint formulation of a company strategy by the company management and the key players is a modern form of management. If, as is so often said, people are the key factor in a company's growth, then they must be involved in the planning of a company's future right from the outset—without any ifs or buts.

Bernhard Maatz (62) is the founder of and majority shareholder in Symbio Consult GmbH. A business management graduate who specialized in marketing, his professional career has stretched over 40 years and has included the printing industry. He has now become an expert in corporate realignment, organizational development and intervention.

↦ **Reactions to?** insider@print.de