



NEWSLETTER

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drupa 2020 generates positive stimuli

drupa will provide decisive stimuli to the global print technology industry from 16 to 26 June 2020. The demand for exhibition space is strong. Shortly after the official registration deadline, 96 percent of the planned 160,000 square meter space is already booked. Companies from more than 40 countries have already confirmed their participation, including the large global players as well as many smaller companies and promising start-ups. A current list of exhibitors is available on www.drupa.com.

The offer profile of drupa 2020 ensures clear structures and encompasses the following product groups:

1. Prepress / Print
2. Premedia / Multichannel
3. Post press / Converting / Packaging
4. Future Technologies
5. Materials
6. Equipment / Services / Infrastructure

In 2020, in addition to printing and converting processes, the focus will be on package printing, industrial and functional printing as well as additive manufacturing. Especially the growth potential of inkjet and expansion into new areas drives fast changing innovation. The drupa hotspots will provide forums for knowledge transfer and dialogue that reflect the innovative spirit of the industry.

The drupa hotspot Touchpoint Packaging covers the entire spectrum of packaging production, from design to new materials, from printing to converting, from amazing embellishments to security and track & trace features. It will showcase multiple packaging applications in a tangible way providing inspiration for brand owners, designers and converters. It will be a drupa 2020 'must see' with guided tours, short lectures, panels and tangible samples.

The touchpoint 3D fab + print will reflect the entire spectrum of 3D technologies. State-of-the-art innovations and best-practice cases will be presented showing visionary opportunities for 3D printing.

dna is the hotspot standing for drupa next age. The special show is dedicated to the long-term future topics of the industry and stimulates productive exchanges between global players and start-ups aiming at innovation in a fast changing world.

drupa cube, the conference and event programme, will focus on the innovative power of print and the exciting potential of diverse print applications in a wide variety of industries and areas of life. This involves new technologies such as printed electronics and creative multichannel applications or the use of digital printing techniques in conventional sectors like packaging or

in vertical markets. The drupa cube's interdisciplinary approach bridges the gap between creative agencies, marketers and brand owners across numerous markets.

Up-to-date information about drupa 2020, the highlight topics and hotspots can be found on the Internet at www.drupa.com. The drupa blog informs about news and developments in the printing, media and packaging industries at <https://blog.drupa.com>.



German suppliers of printing and paper technology with joint pavilion at "All in Print China 2018"

Already the beginning was promising. On the day of the opening, more than 28,000 visitors came to the Shanghai New International Expo Center where about 1,000 exhibitors presented the latest printing and paper technology on 110,000 square metres. According to the organizers, the number of visitors from 24 to 28 October totalled 100,933 (+ 31 percent) signifying a new record in visitor numbers for the "China International Exhibition for All Printing Technology & Equipment".

Being the leading trade fair in the largest print market of the world, the attractiveness of the All in Print China has been more than regional for a long time. The more so since the growth of the printing industry there continues. According to forecasts, the market volume will probably rise to more than 200 billion US dollars in the course of this decade already – and then keep on growing at annual rates of approximately six percent. A German Pavilion had been organised again in order to make it easier for the interested companies to participate. The concept of joint participation at fairs with elaborate as well as strikingly designed stands also enables small companies to present themselves and their solutions in important export markets because a large portion of the organisational work is taken off their shoulders and they are enabled to participate in fairs at top positions and on favourable terms. As a result, they can concentrate fully on the content-related design of their presentation. Specifically for the Chinese market, the German exhibitors could offer the right solutions.

The exhibitors were pleased with the promising new contacts as well as the possibility to maintain existing customer relations and pointed out that this was not least due to the support given by the VDMA and PrintPromotion in the run-up to the fair and during the fair.



Ten German companies took advantage to present themselves under the label "Made in Germany".

At the Print China 2019 in Guangdong, visitors will again have the opportunity to visit the German Pavilion and see technology and solutions "Made in Germany".

Four weeks. Eleven specialist teachers.

One aim: Know-how transfer

In Malaysia, her home country, Intan Natasha Abdul Azim delivers lectures to students at Universiti Teknologi MARA (UiTM). But in June this year, the 33-year old university lecturer swapped her teacher's desk for a school bench. Instead of driving to the Faculty of Art & Design in Bandar Puncak Alam near Kuala Lumpur in the morning, she headed for the AZP training centre for print and media in Chemnitz. Together with ten colleagues from all over the world, Abdul Azim participated in this year's PrintPromotion Specialist Teacher Course. For four weeks, they deepened their knowledge about printing house processes: from data handling and color management in prepress to different methods applied in the printing department and the possibilities for print finishing and enhancement. During training sessions, they immediately applied the newly acquired theoretical knowledge in practice. The participants thus got to know the processes of quality-assured, largely standardized print workflows step by step. The agenda also included excursions to printing technology manufacturers and print services providers. Additionally, the eleven specialist teachers were given deep insights into the possibilities and the concrete

implementation of networked, fully automated process chains. And they witnessed the industrial use of modern printing and paper converting technology first-hand. "I wish to take home as much knowledge as possible and then impart it to my students," says Abdul Azim. With these words, she perfectly sums up the aim of the course. PrintPromotion GmbH offers advanced training for specialist teachers on a regular basis. Christos Trochoutsos, a 34-year old IT and printing specialist from Athens appreciated the close support and the small groups and that the working climate was friendly and very constructive from the get-go. At home, he works full-time as an IT manager with a leading printing services provider. In parallel he is writing his doctoral thesis about digital printing. He now shares his newly acquired know-how both with colleagues at his workplace and with his brother who also works in a printing company. Furthermore, Trochoutsos wishes to pass on his knowledge within the scope of his activities in the Hellenic Union of Graphic Arts and Media Technology Engineers (HELGRAMED). 38-year old André Aguiar works as a specialist teacher for prepress, print finishing and multi-media at the SENAI – National Industrial Training Service of the State

of Rio de Janeiro, one of the most important training organizations of South America. Aguiar is a teacher of young trainees, but also of experienced members of staff of companies who book upgrading courses at the institute, plus, as a third group, professionals and newcomers. Due to his practical experience as a specialist teacher, he is already a renowned expert.



For Intan Natasha Abdul Azim (second from left), Christos Trochoutsos (centre, second row) and André Aguiar (third from right) as well as all the other participants of this year's Specialist Teacher Course in Chemnitz, the practical sessions were not only interesting because of the theoretical topics such as quality assurance and standardization, but also thanks to the interaction with the colleagues from Asia, South America, Africa and Europe contributing different perspectives and technological backgrounds.

A letter from Uganda

At the end of August, PrintPromotion received the following letter:

Dear Team PrintPromotion,

It's now getting close to 2 months since you graduated us into very resourceful persons that will contribute to the overall development and promotion of various types of printing technologies in our respective countries. I must say that since returning to my home country Uganda, besides my other core roles as a Unit



Manager, a lot of planning and networking meetings in the interest of training have taken place with various stakeholders that include: The Deputy Principal, College of Engineering, Design, Art and Technology (CEDAT) – Dr. Venny Nakazibwe, interns from CEDAT, Isaac Neuwelt, a former trainee teacher with PrintPromotion in 2015, various suppliers for some of the training devices, former trainees and my staff of the printing department.

The strategies to be applied will be based on

1. A concept report written to my bosses clearly outlining how my training in Germany will benefit the staff, the printing industry in general (private sector) and the university students at large.
2. Meetings with the CEDAT Deputy Principal, Dr. Venny where we discussed the possibility of inviting me to provide some expertise lectures to students from their respective class before they come to Printery for the internship programme.
3. Meetings with Isaac Neuwelt over plans to carry out training workshops in partnership with him to benefit the Makerere University Printery Staff to start with. This will start with lesson plans for one day, two days, three days respectively.
4. Meetings with my staff and laying out plans how I will pass on the knowledge in the short, medium and long run.

5. Scheduling visits to various printing houses that offer the different types of technologies and processes – Plans are in full gear to start with my staff and interns.
6. Making contributions to a social media platform - Whatsup that was created by Isaac Neuwelt (it is called Printer's Resource) so as to benefit fellow printers.
7. Writing a letter to Government thru Minister of Trade and Commerce to help influence policy as regards ring fencing jobs that are outsourced to other countries thus losing a lot of Forex.
8. Procuring some of the devices like the densitometer and spectrometer for color measurement – Quotations have been obtained hence the budgeting shall follow.
9. Other ideas that came up where inviting and hosting the PrintPromotion team in the near future to provide training in general to our students and the private sector and also to recommend Dr. Venny Nakazibwe, the CEDAT Deputy Principal, to be considered to be part of the trainee applicants for the PrintPromotion programme for 2019

Thank you once again for the rich programme, hard work and commitment of the PrintPromotion team.

Best regards, Joseph Kirabo

Next year, PrintPromotion will again welcome specialist teachers from around the world to the Specialist Teacher Course. It will be held at the azp Training Center for Graphic Arts in Chemnitz in Germany from 18 June to 18 July 2019.

Know-how for Colombia's printing industry

Adriana Rodríguez Lezaca normally teaches at the Centre for Design Technology and Business Productivity in Girardot, Colombia. At the end of August, however, she moved to another of the 117 training centres of the Servicio Nacional de Aprendizaje (SENA). For three days, from 28 to 30 August, the expert for prepress processes supported the current PrintPromotion GmbH Specialist Teacher Seminar at the SENA Centre in Medellín. Rodríguez Lezaca thus continues a guiding principle of teacher training: Last summer, she was one of the 15 participants in the four-week Specialist Teacher Training course at the AZP training center for print and media in Chemnitz. Now she stood side by side with her former trainer Jürgen Seidel in front of 30 trainers from her home country.

Dr. Markus Heering, Managing Director of PrintPromotion GmbH, is pleased with this change of roles: "If participants in our specialist teacher seminars use the new knowledge to further train colleagues, then this is exactly in line with our philosophy," he explains. The aim of PrintPromotion's qualification

measures is to raise awareness of quality standards and the possibilities of modern printing technology in an increasingly global printing industry. "Print shops - no matter where in the world - are in international competition today," says Heering. To succeed in this, high quality, flexibility and speed as well as lean, cost-effective processes are essential.

These messages were underpinned by the seminar in Medellín with concrete solutions and know-how transfer in the areas of pre-press and quality assurance, ranging from PDF generation and computer-to-plate production to the influence of press settings on printing processes or the possibilities of modern color management systems. The focus was on quality measurement methods and standards that lead print shops through the increasingly digital process world of modern printing and paper processing technology. The seminar was free of charge. Adriana Rodríguez Lezaca conveyed the complex content in her mother tongue which helped ensure that the participants learnt as much as possible - not only so that they

could pass the test to qualify for the Specialist Teacher Course in Germany in 2019, but above all for the benefit of the junior staff they train for their future in the printing and packaging Industry.



In Colombia, Adriana Rodríguez Lezaca, who attended last year's Specialist Teacher Course in Chemnitz, supported the PrintPromotion team by conveying the complex content of the seminar in her mother tongue – for the benefit of the Colombian specialist teachers and the junior staff they train.

Conferences boost networking Down Under and in Indonesia

With two Print Media Management Conferences in Melbourne on 17 September and in Sydney on 18 September 2018, PrintPromotion GmbH maintained and strengthened its network in Australia and Oceania.

In six presentations each, representatives of member companies of PrintPromotion GmbH demonstrated the potential of digitally networked, highly automated process chains for the graphic arts industry and the packaging market. Visitors also had the opportunity to make direct contact with the speakers and other company representatives. "It is important for us to intensify our contacts in the region and to present our modern solutions for highly efficient process and value chains in the printing and packaging market to users," explained Dr. Markus Heering, Managing Director of PrintPromotion GmbH. Specialist suppliers such as IST Metz and Polar Mohr explained energy- and resource-efficient drying and cutting processes. Representatives from Heidelberg, H.C. Moog as well as Kolbus explained how they integrate established printing, paper converting and decoration processes into Print 4.0 processes for the print and packaging market.

Heering pointed out to the worldwide trend toward high-quality, outstanding products with the market, at the same time, demanding individual, often personalized products, shorter delivery times and low-cost offers. In order to hold their own in the face of increasing competition, print shops and packaging manufacturers need highly flexible and efficient technological solutions. Especially in the area of retooling and machine setup for frequently changing print jobs and process quality control, automation is advancing rapidly.

The next stop of this tour was Indonesia with a "Print Pack Outlook Conference 2018" on 20 September 2018 at the INDOPLAS/INDOPACK/INDOPRINT 2018 – Indonesian International Plastics, Processing, Packaging and Printing Exhibition, which took place in Jakarta from 19 to 22 September and where 10 German companies used the German Pavilion as a platform to showcase their excellent products, services and technologies to key players and decision makers from all over the ASEAN region.

PrintPromotion organized the Conference there in cooperation with the US-American APTech (Association for Print Technologies). Four representatives of US-American companies joined the eight speakers representing German machinery manufacturers i.e. Heidelberg, H.C. Moog, IST Metz, Kama, Koenig & Bauer, Kolbus, Leonhard Kurz und Polar Mohr. According to Heering, the portfolios of the German suppliers and the US-American suppliers complement each other so that they are able to offer packaging printers all over the world future-proof technologies for the production of high-quality, sophisticated and more and more frequently individualised packaging.



Over two days in Melbourne and Sydney, the conference attendees were addressed by experts and representatives of German manufacturers. The presenters opened a window into the future of print, covering a broad range of topics from diversification to the improvement of manufacturing processes.

Company news

Digital business models are the future



Princt Production Manager allows print shops of all sizes access to every integration function of the Princt production workflow without having to purchase individual licenses.

New digital business models such as software subscription contracts focus on the possibilities of cost-efficient print shop industrialization as digitization continues apace. Under the theme "Heidelberg goes digital" the digital transformation of the whole print media industry is consequently driven by Heidelberg. Recently, the company announced that it has reached over 100 worldwide installations of Princt Production Manager. Released in drupa 2016, Princt Production Manager allows print shops of all sizes access to every integration function of the Princt production workflow without having to purchase individual licenses. The new subscription business model offers a cost effective solution and simplified approach towards enabling end-to-end workflow automation and achieving optimal productivity.

With Princt Production Manager, the customer only pays for the volume he produces. The transparent monthly usage fee is based on a base fee with an included number of square meter TIFF's and an additional charge based on the number of square meter TIFF's produced above the base level. Included in the offering are all updates and upgrades. This ensures access to the latest version and newest functionalities with hotline and remote support included.

As a central platform, Princt seamlessly integrates all the steps involved in commercial, packaging and label print production into consistent processes, from the customer contact through to the finished product and billing, no matter whether the user produces with toner, inkjet or printing plates.

Heidelberg is planning to gradually further extend its portfolio. The vision is a cloud-based ecosystem that enables customers to combine modules according to their needs. Some 25,000 Princt modules are already linked to the Heidelberg cloud. The resulting wealth of data is used to develop software solutions for further boosting productivity.

Heidelberger Druckmaschinen AG

Heidelberg expects keen interest in customized printing on objects



The Omnifire 1000 now enables full-area and seamless, customized printing of even complex objects, thus opening up a whole new range of striking effects.

The general trend toward customization is a hallmark of the digital age. The option of custom-enhancing high-quality mass-produced items and thus reaching consumers or customers on a personal level opens up attractive new and profitable business models for manufacturers of branded goods and industrial production companies. For such orders, Heidelberg offers its Omnifire technology and the Omnifire 250 and 1000 models, which can be used to print customized three-dimensional objects of any shape made from a wide variety of materials. Both models can be integrated into industrial production processes and online marketing campaigns.

The Omnifire 1000 in particular has undergone considerable further development since it was unveiled two years ago. It now enables full-area, seamless printing of even complex shapes, without any visible transitions or joins between the tracks, the width of which is determined by the print heads. This is made possible thanks to a special process that joins these tracks together by seamlessly printing several in series, each with a width of 7 centimeters (2.76 inches). These activities in direct-to-shape printing and the continuous development of Omnifire technology underline just how serious Heidelberg is about unlocking business potential beyond the traditional markets.

Heidelberger Druckmaschinen AG

Heidelberg customers **successful in the growth market of labels**

Labels give products their unique identity and boost the impulse to buy at the point of sale. Heidelberg provides a comprehensive product portfolio with its subsidiary Gallus that supports label printers with digital and conventional machine systems. Since its introduction, over 20 of the Gallus Labelfire 340 which combines the latest digital printing technologies with the benefits of conventional press and postpress technology have already been sold.

Recently, the new Gallus Smartfire was launched. This entry-level model for digital label printing produces a fully die-cut label, ready to ship on a roll, in a single pass.

Asia is a big market for conventional Gallus machines. In South Korea, the label printer Fine Webtech Label Solution System installed its fourth Gallus EM 430 S this year. Fine Webtech is a leader in label production for the household, personal care, cosmetics, and industry market segments. The Indian company Sonic Labels in Mumbai decided on a Gallus ECS 340. Founded seven years ago, this label printer also serves the household, cosmetics, and industry market segments. The Gallus ECS 340 has been the most successful and highest selling label printing press in its class since its introduction in 2009. Nearly 500 machines have been sold worldwide.

Heidelberg and Gallus are working intensively on new service offerings to promote digitization in businesses and offer customers a concrete added value. For example, the product "M-Call" offers automated ticket creation based on an autonomous process from the machine to the Gallus help desk that enables a faster response by the service team. Customers also benefit from the virtually completed integration of the Gallus sales and service organizations into the Heidelberg Group.



In South Korea, Sunghwan Jang, Vice President of Fine Webtech Label Solution System, has already installed his fourth machine from Gallus this year.



Kapil Vaidya (left), Technical Manager, and Aditya Ojha, Head of Marketing at Sonic Labels in Mumbai in India, want to offer the company's customers an even better service with the new Gallus ECS 340.

Heidelberger Druckmaschinen AG

Curtains up **for LEDcure SCR for rotary and flexo applications**



The new LEDcure is the final element in the completely reengineered range of LED solutions supplied by IST in cooperation with its subsidiary Integration Technology.

In September this year, IST Metz, represented by IST America, the North American arm of IST Metz providing sales, service, parts and application support for the US, Canada and Mexico, released a specially designed retrofit concept for rotary and flexo presses called LEDcure SCR at Labelexpo Americas. LEDcure SCR fits perfectly

the needs for the production of labels and can easily be integrated into a new or existing press.

A smart modular basic concept in combination with a robust and compact design provide the user with maximum flexibility and versatility. The length of the system can be freely scaled (90–540 mm) and also adapted to suit all requirements of rotary and flexo presses. The new LEDcure is the final element in the completely reengineered range of LED solutions supplied by IST in collaboration with its subsidiary Integration Technology Ltd. (ITL). Synergies between the two companies have an increasing impact here – like the XT8 booster for up to 30% more output. The LEDcure SCR is supplied as fully configured package including cables, power supply, control and chiller, full light shielding and interlocking for total safety compliance. The system will be installed by experienced IST technicians.

IST METZ GmbH

UV solutions for packaging finishing

UV lamp systems are used primarily for print jobs with very exacting and diverse requirements. These are mainly highly-finished products such as packaging in the luxury segment, but also involve print jobs with stringent safety requirements in production – such as printing food packaging, for example. The BLK lamp system from IST Metz, which was developed for the highest industrial requirements, is predestined for this. Compared to conventional UV systems, the BLK LAMPcure offers an extraordinary increase in drying performance without increasing the UV lamp output. This means more productivity with reduced operating costs.

A specialty of UV printing is the curing of inks and coatings under oxygen-reduced conditions. In this form of UV curing, oxygen is replaced by an inert gas, usually nitrogen. IST Metz's inert UV systems are gaining in importance, especially in packaging printing, because they enable products with flawless sensory characteristics while at the same time complying with the legal requirements for food packaging.

IST METZ GmbH

Increased capacity for RFID tag production



The BW Tagliner, a new chip bonding concept for RFID tag production

Paragon ID, the leading provider of identification solutions for transport, e-ID, traceability and brand protection, is the first RFID tag manufacturer in the world to have invested in a BW Bielomatik TagLiner, a new chip bonding concept for RFID tag production which was officially launched in spring 2018 by BW Bielomatik, part of BW Papersystems. As a leading provider of RFID tags and contactless ticketing, with growing requirements from its customers and new contracts to fulfil, Paragon ID identified that it needed equipment that could deliver speed and increased capacity whilst providing high quality products in UHF (traceability and retail) and HF (secure authentication and customer engagement). The Tagliner has allowed Paragon ID to strengthen its global set-up of high performance centralized chip attachment, coupled with multiple converting sites in Romania, France, the UK and the US to serve its strategic markets: mass transit, health, pharma, defence, automotive, retail and fast-moving consumer goods.

The investment in the Tagliner already proved very beneficial to secure and support new contracts (100m+ UHF and NFC tags) due to the record speed, combined with an exceptional bonding strength of the RFID chip and an industry-leading output.

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BW Papersystems

New large-format inline sheeter



The new LFS 165 large-format inline sheeter

For many years, offset printers have installed inline sheeters to achieve greater speed and better reliability with light weight paper or plastic films, or to enjoy the cost difference between rolls and sheets. Over 700 units mainly in 105 or 106 formats are

operating today. Some of these printers have upgraded to large format 145 or 165 presses only to find that no inline sheeter option was available. The task of building a sheeter over 50% wider with increased speed and more automation is very challenging. These machines need to follow the press and are required to start and stop within milliseconds whilst maintaining sheet accuracy and sheet synchronization. The increased width and maximum sheet length result in greatly increased inertia, the enemy of fast start and stop.

The Stuttgart based design team of BW Papersystems utilized leading edge control technology and called on know-how from their US based colleagues to harness established BW Papersystems technology, to decrease the impact of this increased mass and inertia. The results have been stunning. During testing, the machine could switch from 200gsm material to 40gsm with virtually no manual intervention or impact on speed. The LFS 165 sheeter ran consistently at 300m/min matching the requirement of the latest large format sheet-fed offset presses. The model LFS 165 represents a large step forward in speed, light weight material performance and automation. It is available to all press manufacturers and can also be installed to machinery already in production.

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BW Papersystems

Major step towards digital printing machine for flexible packaging



Sven Michael, head of the digital team at W&H: "The new digital machine concept is characterized by higher quality and higher speed."

While digital printing is already firmly established in the label and commercial printing sector, flexible packaging continues to be a challenge: An economical and stable digital printing process has yet to be developed. W&H, machine builder and specialist for flexible packaging, has reached a first milestone in its development project with a machine concept for a new digital printing machine. Now the technology leader starts onboarding partners, including leading inkjet printhead manufacturer Xaar. The digital

printing machine from W&H is based on piezo inkjet technology.

"We see a need in the flexible packaging market to use digital printing in addition to the established processes. This is driven by the need for faster time-to-market and very short order lengths," explains Dr. Jürgen Vutz, CEO of W&H. "However, the application of flexible packaging has very special requirements, for example regarding the adhesion of the ink to the film. As specialists in this market, we bring expert knowledge to offer answers to these challenges. First, by continuously advancing the established processes such as flexo and gravure printing. Second, by opening up the possibilities of digital printing for flexible packaging."

W&H has been conducting research in the field of digital printing for several years. Since 2016, the

digital printing team drives forward the implementation with a development project involving investments in the millions. "We first collected practical requirements, evaluated technologies and tested new approaches. This has resulted in a machine concept that stands out from all existing approaches and provides our customers with added value. The new digital machine concept from W&H is characterized by higher quality and higher speeds," explains Sven Michael, head of the digital team at W&H. Dr. Jürgen Vutz, CEO of W&H, emphasizes that high availability and usability in daily use are top priorities. The company's goal is to go to market with a functioning and mature digital printing machine that delivers on the promises of digital printing for flexible packaging, driven by the need for faster time-to-market and very short order lengths.

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WINDMÖLLER & HÖLSCHER KG

Rapida ProductionApp for inventory management and consumables tracking via smartphone

Since the end of last year, Schur Pack Germany has been a pilot user of one of the Rapida LiveApps. The ProductionApp takes over the complete warehouse management in the company as well as the batch tracking required for the printing of food packaging.

First the inks were tracked, then a whole range of additional products such as varnishes, dampening solution additives, rubber coatings, but also oil, filter mats, rake lips, Vaseline and coating defoamers were added. The same goes for plate developers in prepress. Currently, 74 items are integrated into the warehouse management system.

The ProductionApp is simple and easy to use. As soon as the smartphone is held over an NFC tag in the warehouse or at the press, the camera scans the code or corresponding field for entries. All data is recorded as it is delivered.

Schur Pack Germany currently has 121 NFC tags in use, around 80 tags at the presses and around 40 in the warehouse, and this number is still rising significantly in the warehouse.

The advantages of the ProductionApp can clearly be seen in the inventory statistics. The manufacturer's e-mail address for each product can be stored. When a minimum stock level is reached, not only does the central purchasing department receive information, but the supplier can also receive advance information on what needs to be delivered in the near future. What is more, the shelf life and usability of each article can be determined. Automatic pre- and post batch tracking is also possible.

Especially when printing food packaging, the ProductionApp allows exact information on the inks, coatings, printing aids and other consumables used. This provides reassurance for manufacturers and retailers as well as for consumers.



Blanket change on a Rapida 145: the blanket is registered by app on the printing unit on which it is used and its service life can be precisely tracked and planned.

Koenig & Bauer AG

Large Format meets LED-UV

At the beginning of September, Koenig & Bauer placed large-format sheetfed offset in the spotlight again in Radebeul. The latest customer event left packaging printing to one side, however, and instead shifted the focus onto highly efficient commercial production, web-to-print and online applications. The press on show was an eight-color Rapida 145 with perfecting unit for 4-over-4 production.

The eight-color Rapida 145 in Radebeul was fitted with two LED-UV dryers, one above the storage drum of the perfecting unit and one in the swan neck of the delivery. It was also configured with a DriveTronic feeder, the sidelay-free infeed DriveTronic SIS, and simultaneous plate changing using DriveTronic SPC and Plate Ident. CleanTronic Synchro (including CleanTronic UV) provided for parallel and thus ultra-fast washing processes.

The print demonstrations began with the production of content pages for a magazine on 80 g/m² paper. This paper was supplied on a reel and cut into sheets at the full production speed of 15,000 sheets per hour on the reel sheeter.

Subsequently, the audience was able to witness fast conversion of the feeder for production using sheets from a pile, in preparation for printing of the magazine cover on 150 g/m² glossy paper.

The next jobs were three sections of a cookery book, for which the substrate was changed yet again to a 115 g/m² matt paper. The job changes between the individual sections were realised fully automatically in an AutoRun process. As a result, only 1.5 minutes passed between the last good sheet of the old job and the first good sheet of the new job. These jobs were followed by another cover on 200 g/m² glossy paper and two sections of a travel guide on 135 g/m² glossy paper. The presentation was rounded off with a series of five jobs typically handled by an online printer. The first three were corridor-free gang formes with flyers requiring run lengths of just 300 copies each. The jobs also switched back and forth between formes with high and low ink coverages. To conclude, two further gang formes



Immediately dry thanks to LED-UV: All the print samples were subjected to close scrutiny during the demonstrations.

with business and greeting cards were printed on 350 g/m² board. For these jobs, the printer disengaged three inking units at the press of a button, enabling 4/1 production to proceed without any delay for roller washing and without the need to apply roller oil in the unused units.

On external monitors, the visitors were able to follow how press data were gathered in the production planning system LogoTronic Professional and transferred to the management information system (MIS). All makeready times were documented and the OEE (overall equipment effectiveness) was calculated and displayed.

Further presentations were devoted to data-driven Connected Services, Visual PressSupport and use of the Rapida LiveApps (see above).

Koenig & Bauer AG

Lecturers from Egyptian educational institutions visit Koenig & Bauer



Happy faces after an interesting and intensive training week: Lecturers from Egyptian educational institutions proudly present their certificates.

In July this year, university lecturers from Egypt visited Koenig & Bauer in Radebeul near Dresden. The aim of the one-week event was to provide participants with a comprehensive understanding of current solutions and concepts and to create a basis for the interactive exchange of knowledge at the educational institutions. The training program included print demonstrations, factory tours and practical workshops. The teachers familiarised themselves with automation solutions on the Rapida 106 as part of the week's practical part. Other workshops looked at inline measurement and control technology on sheetfed offset presses, the Rapida RDC 106 rotary die cutter and flatbed die cutters from KBA-Iberica. Naturally, the participants also visited a printing company that operates sheetfed offset technology from Koenig & Bauer.

Koenig & Bauer AG

New installations in Spain

Gómez Aparicio, a Spanish printer and binder located in Madrid, purchased a Polar 176 Plus to replace an older machine in VLF size. This new POLAR cutting system consists of 2 new stack lifts on each side of the cutter as well as the cutter N176 Plus. The guillotine works 8 hours per day and is focused on trimming paper size in VLF format for the printing presses. It also finishes products for the binding processes.

Gómez Aparicio is a printing and binding plant specialized in hard and soft cover books as well as magazines. They also have a digital press division which has been growing constantly in the past 5 years.

Since the guillotine has been in operation, the performance has increased in terms of speed, quantity, quality and precision. The system brings up to 20% more performance in comparison to a cutter without auxiliary equipment.

Additional saving potential was achieved through the POLAR OPTIKNIFE.

Core part of the Polar System 120 is the Polar cutter N176 Plus. The lift enables automatic material lifting onto an easy handling height for the operator to transfer the reams to the cutter. A second lift is placed to unload the material from the cutter. This can be optionally equipped with an angular plate which makes the unloading much easier. The descending is half automatic, i. e., the cycle has to be started manually and will be stopped by the photocell.

The company has 90 employees working 2 and 3 shifts per day in size 3b and VLF as well as sizes 6 and 7B. Beside the new cutter they have two other Polar cutters in sizes 115 and 137.



Luis Hedo, Managing Director of Gómez Aparicio, und Sales Manager Angel Grutzmann from Heidelberg Spain (right), with a machine operator and J. Pujol from Polar

Spanish label printer Grafiques Manlleu located in the city of Manlleu in the north of Catalonia recently purchased a Polar SC-21 square-cut label system.

This new system consists of the loading table on the rear part of the AC 115 cutter and the automatic feeder of the stacks to the automatic bander MB 105. It is running next to two Polar DC 11 die-cutting systems. This system speeds up the output in the cutting section of square labels while increasing the quality of the products. Grafiques Manlleu is specialized in the production of wet-glue labels in both square and die-cut shapes. The new investment enables to maintain the increasing production volume as well as cutting quality and even helped quadruple the square cutting productivity.

In square-cut label production the POLAR LabelSystem SC-21 provides maximum efficiency, because production steps are carried out in parallel mode. First of all, a POLAR high-speed cutter cuts the label material to strips, either in-line or off-line. Finishing is carried out on the automatic cutter POLAR Autocut 115, the central component of LabelSystem SC-21.

The precut strips are manually positioned on the POLAR LT-S loading table, before they are pushed onto the Autocut rear table where they are arranged with their sides and front precisely aligned. After the labels have been cut, they are automatically arranged on the front table. A deloading device pushes them into the BM-105 multi-station bander. After that the row pusher takes the complete label row to the banding device. After banding, they are pushed further onto the delivery table and can be manually removed for packaging.



Managing Director Jordi Contijoch (left) and Sales Manager Sergio Egea from Heidelberg Spain in front of the new system at Grafiques Manlleu

POLAR MOHR Maschinenvertriebsgesellschaft GmbH & Co. KG

Print finishing you can see through



The Lumafin semi-transparent stamping foil from Kurz with translucent underprinting

Leonhard Kurz has developed print finishing products with novel translucent effects. The new Lumafin series is intended to offer brand owners new possibilities for differentiating their product from the competition and for adding value. Furthermore, the new stamping foils will give packaging designers and graphic artists further creative scope. The Lumafin color layers, which can be transferred by hot stamping, cold foil transfer or digital finishing, exhibit the characteristic smooth surface of these finishing technologies and a very high level of gloss and transparency. On coarse and/or pre-printed substrates, this can produce attractive matt/gloss contrasts. Additional tactile accents can be added by means of structured or relief embossing but, in contrast to spot varnishing, this is not essential. Besides its exceptional visual

and haptic quality, Lumafin also offers the known process advantages for stamping foils. The product range encompasses a variety of different colors. Changing the color is as simple as exchanging the foil rolls.

The special characteristics of the translucent stamping foil really come into play when underprinting. Printed motifs overstamped with Lumafin obtain a distinct new coloring or depth of color and can appear as though behind glass or transparent plastic. The semi-transparent coating can produce special accents and unusual depth effects that maintain their overall appearance regardless of the viewing angle.

Lumafin is available not only in a high-gloss/transparent version in a wide variety of colors, but also in translucent metallic tones. When combined with underprinted colors, the metallic shimmer can take on the appearance of antique bronzing, and various patina and vintage tones can be produced with one and the same foil.

LEONHARD KURZ Stiftung & Co. KG

Protecting originals made easy



The reader recognizes the specific characteristics of the TTR Unique Verospec marking and confirms the authenticity of the product.

They look totally inconspicuous: barcodes printed by TTR (thermal transfer printing) in the usual black, on machine, automotive and replacement parts, on chemicals and building materials, on printed circuit boards and pharmaceutical packaging. Now they can be equipped with hidden, machine-readable authenticity features. By scanning these codes with a special reader, the authenticity of the labelled product can be verified unequivocally.

TTR Unique Verospec is the name of these thermal transfer ribbons with integrated, invisible counterfeit protection from Leonhard Kurz. TTR Unique Verospec provides not only a secure, but also an easy means of revealing counterfeit products. It contains special coatings combined in a customized way and is therefore as unmistakable as a fingerprint. These unique characteristics are stored in the analysis software of the reader, authenticity of the product is confirmed only if an exact match is obtained. The authenticity of the goods can be checked at every station of the supply chain by sampling them. Depending on the customer order, different variants of TTR Unique Verospec can be used.

Reliable counterfeit protection products require a security certification. Kurz can also certify a closed security environment for TTR Unique Verospec. It can guarantee that the customized TTR Unique Verospec color ribbon has been produced in a secure facility, and directly and solely delivered to the required destination.

LEONHARD KURZ Stiftung & Co. KG

Launch of brand-new pallet strapping machine

Mosca Emballage Sasu, founded in June 2018 as a subsidiary of Mosca in France, announced the presentation of Mosca's brand-new pallet strapping machine EVOLUTION SoniXs MS-6 KR-ZV at the All4Pack trade show in Paris in November. In addition to pallets, the machine is suitable for dollies and wire mesh containers. Thanks to low strap tension (450 Newton) and force-limited traversing units, the machine is CE-certified ex factory without a safety enclosure. This makes it less expensive to purchase. Operators do not have to leave a safety zone after inserting a package. The side position of the sealing unit on the EVOLUTION SoniXs MS-6 KR-ZV

helps keep debris from falling into the unit itself. In combination with the movable tongue, the positioning of the sealing unit enables the machine to handle low-height packages or floor-standing pallets. Mosca also showcased the KZV-111 for the vertical pallet strapping of bulky or heavily loaded pallets in conveyor heights from 0 to 650 mm, furthermore a Mosca EVOLUTION SoniXs MS-6-H horizontal strapping machine, capable of 180 triple strapping cycles per hour, as well as a UCB strapping machine for complex corrugated products such as four-point or six-point folding cartons.

In addition, Mosca presented two real all-rounders: The RO-M Fusion and the EVOLUTION SoniXs TR-6. An automated table model, the RO-M Fusion is ideal for companies that occasionally need to strap compact bundles and boxes. Mosca supplements its machine portfolio with strapping materials. In addition to PP and PET straps, Mosca produces straps made from PLA, a biodegradable plastic.

Mosca GmbH

Mosca rolls out ONE service



The new ONE Service concept focuses on uniform service quality; it connects service units and subsidiaries worldwide, offering customers the same high-quality services around the globe.

Companies that need to secure goods for transport at multiple facilities around the world want to be able to do this under stable conditions with consistently high quality. Under the ONE Service label, Mosca offers its customers a truly unique service network comprising over 100 Mosca technicians, plus more than 30 other contracted partners in order to make sure that technicians can quickly be on site to handle any problems. The company's specialists also support customers by providing everything from maintenance, repairs, installations and relocations to training and Technical Expert Meetings focusing on the optimization potential of strapping machines. As of 2018, the same standards and norms apply to all 14 subsidiaries, ensuring consistent service quality around the globe.

Mosca GmbH

New website in the language of Bahasa Malay

After Mosca has been operating a production site in Johor Bahru, Malaysia, since 2009 and expanded its presence in Malaysia by opening a sales and service office in Kuala Lumpur in September 2017. Recently the company added a new language version Malaysia to the website. The new language page Malaysia can be found at www.mosca.com/my-my.

Mosca GmbH

natif – sustainable luxury packaging



natif, the new range of luxury box packaging produced on Kolbus machines

Scarcely anyone can be unaware of the ongoing discussion on the environmental impact of plastic packaging. This throws up questions such as whether communication is still the dominant consideration when designing product packaging. On the one hand, communication still ranks very high in the list of priorities for perfect packaging. On the other hand, promoting sustainability must now be added to that list. Put very simply this means that packaging will ideally be environmentally friendly; at the same time, the packaging will look so good that it will evoke a passion for

sustainability making any admonitory finger wagging unnecessary. The Luxury Packaging Team at Kolbus has long experience in working with paperboard and paper. This includes expertise in the economical use of materials, for example, judging the lightest possible paperboard commensurate with an application, or machine settings for uniformly thin glue application. The unsurpassed recyclability of paper raw materials has long supplied a second weighty argument. "natif" – the new range of luxury box packaging produced on Kolbus machines achieves perfection through a blend of simplicity and reduction to the minimum. All natif packaging is constructed from black and white solid paperboard. Pure quality also in the finishing: blind embossing and relief embossing open a new dimension of awareness. The dominant design influence is a tribute to classical modern styles.

Kolbus GmbH & Co. KG

Kolbus accelerates move into packaging

Kolbus Group have acquired all shares in Autobox Machinery. Autobox Group, with its main operating company British Converting Solutions Ltd (BCS) based in Houghton Regis in Bedfordshire, is a leading manufacturer of corrugated box making, printing and gluing machines. BCS-Autobox develops cutting edge technology for the specialist short run box market. The company will become part of Kolbus' corrugated technology division, which also operates a factory in Kalamazoo, Michigan, U.S.

For Kolbus, this acquisition completes the group's re-orientation from industrial bookbinding systems, where it was world market leader, towards manufacturing equipment for specialist, paper-based rigid packaging.

For Kai Büntemeyer, co-owner and Managing Director of Kolbus, BCS-Autobox is a perfect match for Kolbus. While there is absolutely no overlap between the companies' product ranges, BCS-Autobox fits perfectly

between the highly specialised grey-board packaging technology from Kolbus-Germany and the rotary die-cutters made by Kolbus' American Hycorr division. The newly-completed packaging technology division encompasses an impressive range of capabilities from luxury-brand-communication to sustainability and future e-commerce-needs.

Kolbus GmbH & Co. KG

Malindi Press in Tanzania modernizes its machinery



From left: Jules Dietz (Head of Sales at Müller Martini), Malindi Press CEO Edith Mackenzie, Production Director Optatus Semindu Martin and Gordon C. Weston (local representatives for Muller Martini Spicers Eastern Africa) at Müller Martini's Print Finishing Center in Zofingen

With the investment in several new machines, including three Müller Martini print finishing systems, state-owned Malindi Press, which is located in Dar-es-Salaam, is Tanzania's most modern graphic arts company. Because the government of this East African country,

which has a population of 57 million, wants to increasingly produce print products domestically, Malindi Press will be ramping up substantially over the coming months.

In addition to printing and folding machines, the update to the company's old machinery, which makes Malindi Press the top address in the graphic arts industry in Tanzania, also includes a Presto II saddle stitcher, a Vareo perfect binder and a Ventura MC 160 thread sewing machine.

Malindi Press CEO Edith Mackenzie and Production Manager Optatus Semindu Martin visited several bookbinderies before they decided on the three Müller Martini systems, which will commence operations next May.

Half the orders produced by Malindi Press, which was founded in 1982 and has 61 employees, are still for government and government-affiliated institutions and half for the open market – books as well as brochures, magazines and flyers. However, the share of government orders will probably rise in the near future, especially as confidential documents will no longer be produced abroad.

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Müller Martini AG

The new Vareo fills order books

Following the installation of a Müller Martini Vareo perfect binder at the beginning of this year, Tandym Print, located in Cape Town in South Africa, has seen a noticeable increase in digital print orders.

Traditional print products

and package printing for the food industry still make up the lion's share of Tandym Print's printing volume, but because the innovative company has lately been trying to make a name for itself in the areas of print on demand, web to print and variable data printing (VDP) as well, digital printing has become more important.

Since the company receives more and more orders with smaller and smaller print runs it strives to respond to changes in the market and customer structure with a seamless and integrated workflow. For this reason, Tandym Print has been producing its digital and some of its offset-printed softcover products – between one and 1,000 copies per job in the digital area with an average run of 150 to 200 – on a new Vareo for the past few months. This Müller Martini perfect binder runs at 1,350 cycles per hour and displays its strengths not only on ultra-short runs but also on medium print runs.

Tandym Print uses five sheet-fed presses (four offset and one digital) and has worked with Müller Martini since its founding in 1994 – using an Acoro A5 perfect binder and two BravoPlus saddle stitchers in addition to the Vareo. The books, annual reports and marketing print materials, ranging in size from A4 to A5, which are bound on the Vareo, are still cut offline. In a second phase, an investment will be made in an inline three-knife trimmer in order to reduce processing times further and increase productivity.



Jerome Morkel, Managing Director of Tandym Print (left): "The Vareo is the ideal solution for run-of-one products for us." Right: Jules Dietz, Muller Martini Sales Manager

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Müller Martini AG

Attractive product refinement with sheet-fed gravure



Amazing effects achieved with sheet-fed gravure technology from Moog

Sheet-fed gravure is well known for short-runs, highest quality printing and fully recyclable packaging production. Gravure printing stations are the key technology for refinement with gold, bronze, silver, fluorescence, scent varnish, high gloss UV lacquers, tactile or pearl gloss. Sheet-fed gravure printing of silver or gold has a higher brilliance than the gold coating applied by indirect processes, which is in addition twice the cost. The available high gloss metallic pigments are equivalent to metallized substrates, but easily recyclable with standard processes. White board is printed partly, the white areas are used as the background instead of printing opacity white. With a single printing station customers can offer a wide variety of value added functions in printing and debossing without any modification of the basic machine. Today's essential

criteria is the totally odor-free and migration proof package, driven by the fact that some packed products are hygroscopic.

Since the printed sheet is dried immediately in the press, the surface is also resistant to any damage.

Sheet-fed gravure is increasingly applied in the product refinement area, as well as for adding new functionality to the sales packs in order to optimally position the product in the market place.

Combinations with other printing processes are possible, opening the door for a variety of synergy effects for the product.

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H.C. Moog GmbH

Planatol as partner of the printing industry on the way to the future

The changing printing industry and the associated challenges are also a central theme at Planatol. Declining circulation figures, increasing individualization and personalization are global trends that are also accompanied by increasing cost pressure. All developments at Planatol are aimed at making users even more flexible and efficient.

Nowadays, the pressure to innovate is confronted with a simultaneous inhibition of investment. This tension situation can be solved with the help of Planatol application systems and adhesives. Planatol System GmbH offers individual and comprehensive solutions - also for retrofitting existing systems. In addition to inventory assurance, productivity is increased and production flexibility is enhanced.

Planatol System offers individual upgrades for the most diverse requirements and for the modernisation of existing legacy systems. By retrofitting a printing press with a Planatol fold gluing system, the printed product can be additionally refined in just one operation. The added value of the higher-quality print product remains within the company.

Planatol System guarantees, not only through its After Sales Service, a long-term availability of the Combijet fold gluing systems far beyond the normal life cycle of a system. Particularly in the field of electronic components, component discontinuations by supplier companies occur time and again. Thanks to the modular design of the Planatol systems, delivery bottlenecks can be avoided by making short-term modifications and through alternative solutions for components that have already been discontinued.

If it becomes necessary to replace individual components, it may also be possible to use a new generation component that is seamlessly integrated into the system.

Planatol System has always paid great attention to ease of use when developing its fold gluing systems. With the new WLAN handheld operating panels, the operator has the option of operating the Combijet system wirelessly and variably at any position in and around the press. The fold gluing systems Combijet 9NET and 9PV can thus be easily and conveniently controlled and quickly set up via mobile VNC connection. Planatol System GmbH's many years



The new WLAN handheld operating panel: the Combijet system can be operated wirelessly and variably at any position in and around the press.

of know-how were incorporated into the development of the handheld in order to meet the requirements of progressive digitalisation.

The newly developed folding adhesives "Planatol Jetline" for standard papers meet the requirements of the market with regard to increasing cost pressure. The use of Planatol Jetline adhesives can be the more economical solution, especially for bonding simple papers. These new adhesives also stand out due to their high quality, as is customary with Planatol: Best processing properties, low-splash machine operation and short curing time, adapted to the respective application technology, are among the most important properties of the adhesives, which are of course free of solvents and plasticizers.

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Planatol System GmbH

The power of network integration

Automation, network integration and the communication between machines and IT systems are becoming more and more relevant in print production and for increased efficiency. Pre-press and print are already well connected. What is needed is to integrate the post-press machines such as the solutions for die cutting and folding/gluing in the workflow as well. The KAMA Job Manager software provides for data exchange between the customers' ERP/MIS-system and the KAMA machines. All relevant job data, machine settings and preparations for the applications are provided in a central device. The software runs on the Cockpit work station or on a computer provided by the customer.

The KAMA Job Manager receives all available job data (electronic job ticket) from the job preparation. For jobs with foil stamping effects, the KAMA Job Manager determines the optimum foil feed with minimal foil consumption and smooth foil transport and sends it to the ProCut 76 Foil. When stripping and blanking is needed, KAMA's inline SBU performs it with programmable rollers, without the need for any extra tools. The Job Manager calculates the settings for the rollers based on the print pdf and sends them to the die cutter.

While the job is running, the KAMA Job Manager collects all relevant data from the machines and transmits them (per JMF) to the MIS in real time, such as the number of processed sheets, waste sheets and quality sheets, speed of



production, remaining production time, etc. The job status and progress can also be displayed on mobile devices.

Once the job is done, the Job Manager software saves all data and machine settings and provides a job report as pdf-file or as a CSV or XML file: A good basis for evaluation and next job planning – and a "quick start" for repeat orders as the complete job data are available at once.

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Kama GmbH

BASS – Always a cut ahead

Following the completely automated jogging process Baumann now also automated the cutting process. The company's latest innovation is called BASS, standing for Baumann Automatic Cutting System. For all products that have the same cross-sectional layout, the integrated robot takes over the tasks of the operator. Before the cut, the layer is positioned at the back gauge and held in position until the clamping bar fixes the layer. After the cut, it takes over the alignment of the layer and then transports it to the next processing machine. This feeding can be done either to the right, left or, in alternation, to the right and left. In practice, for example, when cutting labels, two die cutters can simultaneously be fed – automatically and unmanned – so that two orders can be processed at the same time, round the clock, in 3-shifts. In combination with the fully automatic jogging system BASA, the multi buffers and additional processing systems, it allows to further increase efficiency. Further advantages include the physical and temporal relief of the skilled workers, as well as modern, future-oriented workplace designs. The programming of the robot is simple and fast and is carried out by the operator via an additional control panel in just a few steps. This guarantees minimum set-up times, even with changing orders. If required, the automatic cutting system can of course also be operated manually as a "simple" cutting machine. For this purpose, the robot is simply moved to its stop position above the machine, thus lying outside the working area of the operator.



The BASS automated cutting system, the latest innovation from Baumann Wohlenberg, enables to boost efficiency.

Baumann Maschinenbau Solms GmbH & Co. KG

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Printers' Guide

Basics of print data preparation I

Nowadays, the printing companies receive their print data from various sources. The traditional procedure in a printing house whereby the data are prepared in a uniform workflow and transferred to the printing machine direct ceased to be the only one long ago. Many self-employed media designers and advertising agencies can send their data to different printing houses. This is done nearly exclusively digitally, as, e.g., direct via web or server solutions.

By means of preflights, automatic / manual corrections or by clarifying specific questions with the customer, the printing houses can offer a certain degree of certainty in the event of data being incorrect. Everybody who is involved in print data preparation should, however, know a few basics and potential sources of faults. Many parameters like the color profile, the PDF version or the corresponding job settings in the software may result in faults without that being noticed.

The basis of all image data that shall be printed and/or processed is the color space or, to be more precise, the embedded color profile. In prepress, many print data are in the RGB color space and must, in one way or another, be converted into the CMYK color space later-on. In order to standardize that, ICC profiles are used.

But what is an ICC profile?

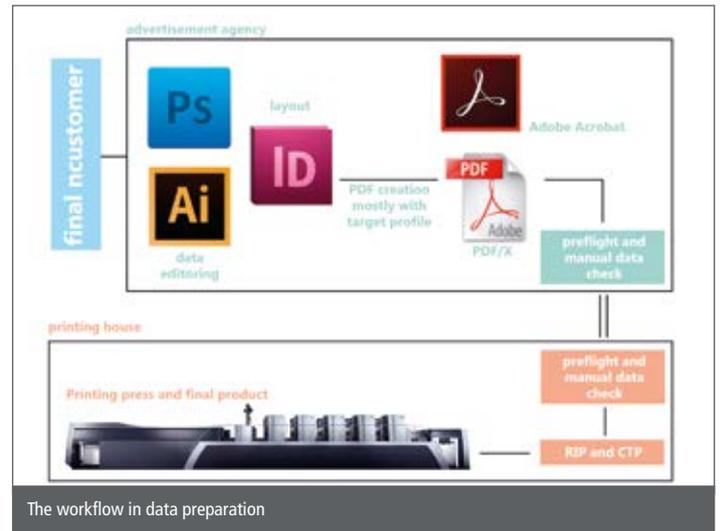
For every ICC profile, the so-called characterization data are used, e.g., the FOGRA 51 published by FOGRA in Germany for 4-color offset printing on coated paper. These data comprise all characteristics or, to be more accurate, the output properties for specific output conditions, in this case offset printing with process inks on coated paper. These characterization data can then be used in order to generate different print profiles.

Diverse standard profiles can be downloaded from the "Downloads" section of the website of the ECI European Color Initiative (www.eci.org).

The following are just some examples for offset printing:

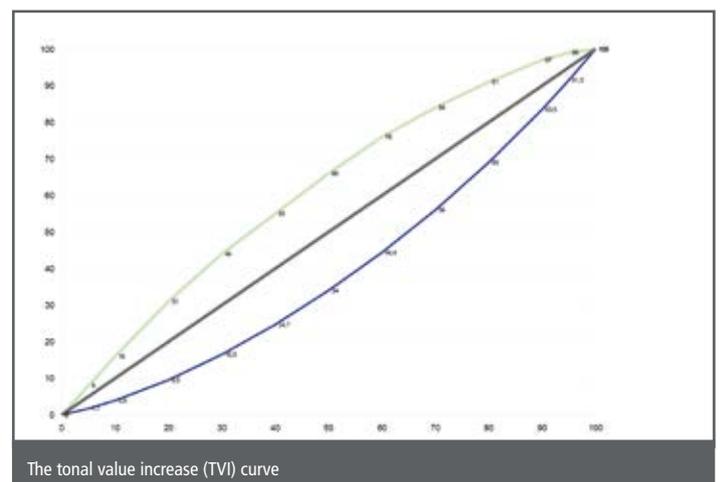
Name	Output on	Characterization data
ISOcoated_v2.icc	offset printing coated paper (old standard)	FOGRA 39
PSOcoated_v3.icc	offset printing coated paper (old standard)	FOGRA 51
ISOuncoated_v2.icc	offset printing uncoated paper (old standard)	FOGRA 47
PSOuncoated_v3.icc	offset printing uncoated paper (new standard)	FOGRA 51
WAN-IFRANewspaper26v5.icc	web offset news print paper	IFRA 26
eciCMYK.icc	universal exchange format	FOGRA 53
PSOcoated	offset printing coated paper	FOGRA 43
NPScreenISO12647.icc	non-periodic screen	

With the aid of these profiles, the user can optimally adjust the print data to the specific printing condition. He/she must be aware that the printed images will inevitably look different to those on the monitor depending on the output criterion. This cannot be prevented and must be communicated accordingly to the end customer.



And what exactly is changed?

- The color space is converted into CMYK. As a result, the color scope of all reproducible colors is different (CMYK is smaller than RGB). The user and/or the end customer must know and understand that.
- Maximum ink application is adjusted accordingly. The theoretically possible maximum ink application of 400 % cannot be used without causing any difficulties, as, e.g., ink set-off. Therefore, ink application is, for instance, reduced to 300–340 % in offset printing and, not least for cost reasons, to even 220 % in newspaper printing. Here as well, substantial differences, e.g., as to the contrast in the image depths, may occur.
- The tonal value increases in the printing machine standardized in ISO 12647-2 are automatically embedded into the ICC profile and then offset in the RIP later-on. If these data are not available and/or the wrong profile is selected, there will be problems in the tonal value increase in printing.
- The type of black generation in the image is selected through the color profile automatically. There are different ways to expand the theoretical subtractive color mixing (CMY) in printing through the color black.



black separation with maximum GCR



cyan



magenta



yellow



black



black separation without GCR



original picture CMYK

Black generation

With Under Color Removal (UCR), the chromatic colors (CMY) are reduced in the image depths, and black is added instead. As a result, the contrast is slightly increased and maximum ink application is reduced.

With Grey Component Replacement (GCR), the achromatic components of an image (equal portions of CMY generate grey) are replaced with black. With maximum GCR, maximum ink application can be reduced extremely, which thus saves ink and costs respectively. In addition, the image loses much contrast. This is above all done in the newsprint profiles. In sheetfed offset, in most cases a medium GCR is set.

→ The Rendering Intent, i.e., the ink conversion mode from one color space to the next, is set. With the perceptual rendering intent, all colors outside and within the target color space are proportionally adjusted. With the colorimetric rendering intent, only the colors outside the target color space are moved to its edge. These settings may, e.g., result in substantial changes of colors which can be reproduced in RGB but cannot be printed. The color impression, too, and/or the different color effects of two colors outside and inside the target color space may be different depending on the rendering intent.

These are just a few important changes which occur as a result of the conversion by means of an ICC profile. Due to the different technical basic principles of images on the monitor (RGB, additive color mixing) and the printed image (CMYK, subtractive color mixing), color and image differences occur inevitably. The user can, however, adjust his/her data optimally and consistently to the specific output condition by means of the ICC profile that is best suited for him/her.

Since some printing companies work with specifically prepared ICC profiles and due to the lack of knowledge on the part of the end customers and/or due to the fact that prepress staff is sometimes unskilled, another approach now prevails above all in large online printing companies. A standardized ICC profile, mostly ISOcoated_v2.icc, is taken as given, and then the printing company converts it into the correct target profile in its own workflow. In this case, however, losses of color may occur due to the multiple conversion. Here as well it can be seen that many users feel familiar with the widely used ISOcoated_v2.icc and have difficulties in accepting other and/or new color profiles like the PSOcoated_v3.

In order to ensure a certain degree of quality, the print data producer should, therefore, not only rely on mechanisms from third parties, but rather pay attention to the above-mentioned topics himself.

Now that some problems arising in connection with the use of color profiles have been explained, possible faults in PDF preparations will be dealt with in more details in the next edition of the Printers' Guide.

David Hofmann (azp Chemnitz)