



COATING & CONVERTING

Issue 7

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European paper, film and foil converting

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ICE CHINA
2008
TIME TO CLIMB ON
THE GRAVY TRAIN

WINDING WISDOM
NO NEED TO GET WOUND UP

WEB CONTAMINATION
WIPING THE SLATE CLEAN



Hot topics:
Consultancy (p. 25)



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Cotek Papers (p. 52)



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success through innovation



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Issue 7

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Front cover picture:

Narrow coil slitting in progress at the Cotek facility in the UK



EDITOR

Rodney Abbott

No need to fear the dreaded word

■ Dear readers,

The prospect of recession is not something that industry in general wishes to contemplate, least of all the converting sector which considers itself lucky to get by with profits ranging from as little as 5-10%. But, rogue French traders aside, the stock markets are pretty volatile at the moment and there is little point in burying our heads in the sand.

A steady hand at the wheel is certainly needed until matters improve, although one saving grace in our industry is that a lot of materials will always be required, recession or not. Volumes may drop but it is unlikely that there is ever going to be a situation where there is no market for a double-sided adhesive tape.

The general consensus of opinion is that requirements might shrink a little and customers might choose to order every two or three months,

rather than every month but, where technology has changed so much over the years, there is no way back.

Some companies may be more at risk than others, particularly those that have borrowed heavily in order to invest in new plant at one or more sites to develop niche products and maintain their position in the market. Plant doesn't come cheap and some companies may face site closures but a recession would definitely affect investment in plant and R+D.

So if the USA and parts of Europe stagnate or move into recession the more shrewd will look East to the Asian tigers – China and India – which are still growing at over 10% every year as visitors to ICE China 2008 recently discovered. The problem here is that the markets are in danger of overheating! Thank goodness we are no longer dependent on Uncle Sam alone.

HAEHNE

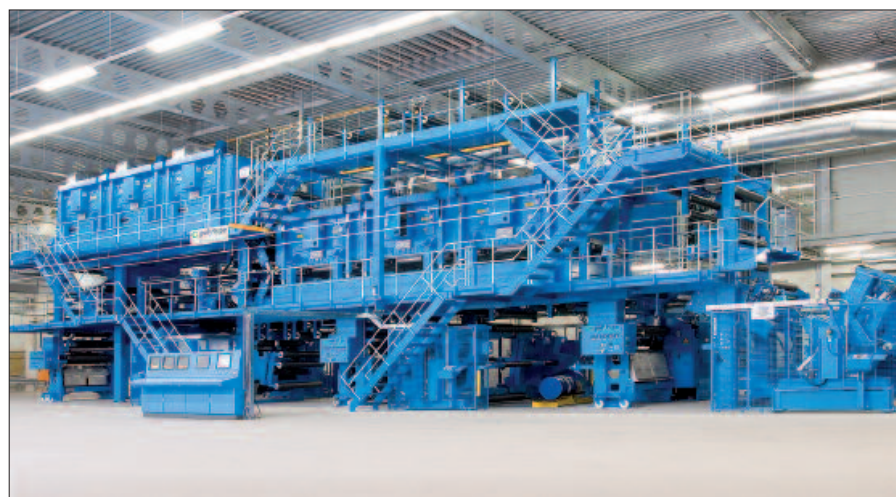
Web Tension Control




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Event	Dates	Location	Website	Organiser	Comments
2008					
EFTA Print Awards	Mar. 5	Royal Armouries, Leeds, UK	www.efta.co.uk	EFTA	Established annual flexo awards dinner
FINAT Technical Seminar	Mar. 6-7	Barcelona, Spain	www.finat.com	FINAT	Technical seminar for the European labels and labelling industry
AFERA Technical Seminar	Apr. 9-11	Marriott Hotel, Brussels, Belgium	www.atera.com	AFERA	4th technical seminar for the European self-adhesive tape industry
INDEX 2008	Apr. 15-18	Palexpo, Geneva, Switzerland	www.index08.org	Geneva Palexpo/Edana	Leading international trade fair for nonwovens
Interpack 2008	Apr. 24-30	Messe Düsseldorf, Germany	www.interpack.de	Messe Düsseldorf	Largest and most important international trade fair for packaging
DRUPA 2008	May 29-June 11	Messe Düsseldorf, Germany	www.drupa.com	Messe Düsseldorf	World leading trade fair for print, including paper and carton converting
Specialty Paper Industry Conference 2008	June 26-27	Berlin, Germany	www.awa-bv.com	AWA Alexander Watson Associates	Growth, opportunities, developments and trends in specialty papers
Interplas	Sep 30-Oct 2	NEC, Birmingham, UK	www.interplas-expo.com	Reed Exhibitions	UK plastics exhibition
Etiketka	Oct. 7-10	Moscow, Russia	www.labelshow.ru	MVK Holding	Russia's label and narrow web show
Self-adhesive Technology Seminar	Nov. 4-5	Hilton Hotel, Amsterdam, Netherlands	www.awa-bv.com	AWA Alexander Watson Associates	Annual seminar looking at different self-adhesive technologies
DecTec Europe – Labels & Labelling Technology Conference	Nov. 27-28	Cape Town, South Africa	www.awa-bv.com	AWA Alexander Watson Associates	Annual conference on labels and labelling



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Wiping the slate clean – a market overview

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Winding wisdom

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Solutions to a sticky problem

UFD technology from ITW Dynatec

Protecting reels after slitting rewinding

IMS Deltamatic claims to have the solution

Insight

New supplier [ON]line Laminating in the spotlight

Hot Topics

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Avoiding McKinsey

Business in China

European supplier survey

Events

ICE China 2008

A review of the launch exhibition in Shanghai

Radtech 2007

Report from the latest UV association gathering last November

AWA release liner label seminar

Report from the latest bi-annual event

Converter of the month

Cotek Papers - Variations on a theme

Webcheck

Web pages from Collano with a personal touch

The Final Word

Bernward Kurpisch and his love of vintage cars

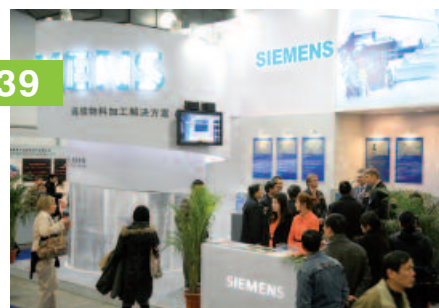
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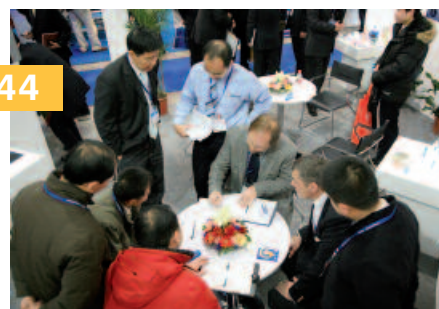
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Red hot start for ICE China

Asia's first dedicated converting fair makes successful debut in Shanghai

This shot of the ribbon-cutting opening ceremony shows the following gentlemen from left to right:

Kurt Schraudy, MD of co-organisers IMAG GmbH; Tan Jungiao, Senior Advisor to the Printing and Printing Equipment Industries Association of China (PEIAC); Manfred Wutzlhofer, CEO of co-organisers Messe München GmbH; Michael Boyle, MD of co-organisers nimble shows & media GmbH; Yang Ginhua, Vice Director of the PEIAC



■ ICE China took place at the Shanghai Mart expo centre from 16-18 January as the first dedicated converting trade fair in China, presenting some 100 leading exhibitors from Europe, the USA and Asia. A grand total of 1911 attendees, conference delegates and VIPs from China and further afield came to the 3-day event, with visitors impressed by the range of machinery, materials, products and services on show.

"Our objective was to enter the Chinese market," said PSA sales director Walter Brockhorst who was typical of those exhibiting. "ICE China has proven to be a vital step in achieving this goal. It has brought in a number of very good quality sales contacts."

As with other ICE events, the emphasis was on providing exhibitors with a stream of qualified leads from converters looking to source specific technology solutions. With this in mind a well-attended technical and educational conference was held alongside the exhibition, giving attendees a further opportunity to learn more about the latest technological developments in the industry.

The views of the 40 local Chinese exhibitors were upbeat and optimistic, including Zhang Liang of Beijing Comens Chemical Company, who commented: "We are grateful to ICE China for helping to identify a market here which did not have its own identity before. We hope to build on the community spirit and are proud to be part of this exciting new venture."

ICE China steering committee member Christian Wiesner, from Mahlo, went on record to say: "A beautiful start for the latest

show in the ICE portfolio. The Chinese market is growing and shows no sign of slowing and this show provides us with a strong platform to reach Chinese and Asian converters."

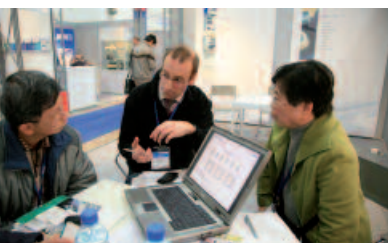
Exhibition director Michael Boyle summed up for the organisers: "The mood among exhibitors is similar to ICE 2003, with exhibitors delighted by the positive debut. The pioneers of the converting industry have shown that ICE China has the potential to become Asia's leading converting trade fair. In this dynamic market ICE China will grow even more rapidly than ICE has done in Europe in the last five years. We expect the next show in Shanghai, the dates of which will be announced shortly, to be substantially larger than this one."

Thorsten Frank of Hähl added that, "ICE China was a great success for us. On the first day alone we made over 60 new contacts and have arranged follow-up meetings with several of them over the next few weeks."

"China has been a dynamic growth market for us and we needed a strong exhibition," commented John Hailey of Esterlam. "ICE China gave us an opportunity to meet good quality people who we do not meet at other trade shows in the region."

Tim Emmerich of Nagy Instruments boasted: "We made a sale on the first day of the show. Besides that we have met many potential customers including some OEMs. In all we had over 30 good quality leads, people looking for specific solutions, not only from China but from across Asia."

A detailed show report starts on p.39.



Top: Several slitter rewinders were running during ICE China, this one from Dahua
Bottom: German exhibitor Olbrich completed a 'full house' for the coating and drying suppliers



Attentive delegates at the ICE China conference listened to presentations from leading suppliers

Hönle snaps up two companies and boosts revenue

■ UV systems supplier Dr. Hönle AG completed two acquisitions at the end of last year. In addition to acquiring 100% of the shares of specialist adhesives producer Panacol AG, Switzerland, Hönle took over 70% of the shares of competitor PrintConcept GmbH, based near Stuttgart, Germany.

It was also agreed that Printconcept CEO Jürgen Welle retains the rest of the shares, which will be handed over in three stages with planned completion in 2011. Hönle, headquartered near Munich, Germany, expects annualised consolidated revenue of €45M as a result of the PrintConcept acquisition.

Printpack kicks off plans for a converting plant in Poland

■ Printpack's decision to expand into central Europe will kick off with a flexible packaging plant located in Kutno, 150km from Warsaw. It will serve the packaging needs of consumer goods companies across Europe. Construction is already under way and the plant is expected to be operational in early 2009.

"The Kutno plant will be equipped with an extensive range of modern converting technology," says managing director of Printpack Europe David Read. "We will be able to serve more market segments since our capabilities will be broader than what we have in Europe today."

Printpack entered the European market through acquisitions in the UK in 1993. "Building a plant in Kutno is a key step in our strategy to expand our business in Europe," says Printpack vice president international business Jimmy Love. Kutno is centrally located in Europe, giving us access to a larger array of customers than we serve today from our UK operations."

Printpack is a privately owned manufacturer of flexible and specialty rigid packaging headquartered in Atlanta, Georgia, in the US. Founded in 1956, Printpack operates 26 manufacturing plants in the US, Mexico and UK.

ICE 2009 on track for early sell-out

■ Organisers of ICE 2009, Europe's only dedicated international event for the converting industry, are reporting a surge of interest with 30 first time exhibitors already committed.

In total over 240 exhibitors have now signed up, representing every area of the converting technology spectrum from an increasing number of countries, underlining the increasing reach of ICE.

"ICE removes the need for both converting suppliers and visitors to attend large unfocused shows where the visitor has a long trek around many halls to source the suppliers and information he needs," says exhibition director Michael Boyle.

"The strength of ICE is that converting suppliers often do more business than they

would at much longer events in one location and in three days."

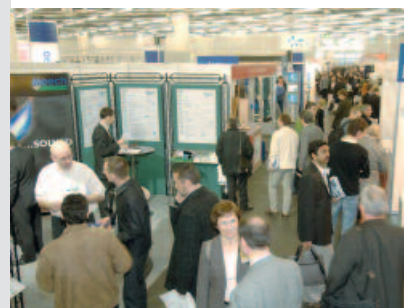
"The average size booth has grown from 25m² to 30m² and we have now already sold more space for ICE 2009 than we did for ICE 2007," adds ICE sales director Franz Hermann. "In the fourth and final hall at the M,O,C, centre in Munich we only have around 30 stands left to sell before we can call the show sold out."

ICE takes place at Munich's M,O,C, exhibition centre from November 24-26 2009. If you are interested in exhibiting please contact the ICE team on: +49 8033 30 26 26 0 or contact international sales manager Jeremy Beard at +49 761 88 88 332, j.beard@nimbleism.de

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■ BTG Instruments sells off Advanced Process Control

BTG Instruments has sold its Advanced Process Control business to Perceptive Engineering Ltd (PEL). BTG has already had an active partnership with this company over APC work in the pulp and paper industry. Based in Eclepen Switzerland, BTG is a supplier of instrumentation for the pulp and paper industry, providing consistency sensors, laboratory and online analysers to help customers raise their productivity. PEL, on the other hand, focuses on improving process performance, comprising performance audit and assessment, process modelling and analysis and advanced process control system design.



The success of ICE 2007 (pictured above) has created an increased demand from both old and new exhibitors and as a result the 2009 show is set to sell out soon



Chairman of the CBC
Barry Turner



PAFA chief executive
David Tyson



George Clarke, Picon
chairman and
managing director of
Heidelberg UK

UK plastic bag industry slams China's bag plan

■ Following the announcement that China is initiating a ban on lightweight plastic bags, the UK carrier bag industry has hit out at what it says is a misguided move which risks causing greater environmental damage and not less.

"It's encouraging to see China waking up to their environmental responsibilities but they have fallen into the trap of using the high-performance, low-impact plastic bag as an icon to drive home the responsibility of Chinese citizens to reduce, re-use, recycle and dispose of waste responsibly."

"Such actions as bans or charging for bags simply encourage heavier, higher impact alternatives which will, in turn, increase damage to the environment," says David Tyson on behalf of the UK Carrier Bag Consortium.

The UK trade body has fought continuously for governments across the globe to accept science over spin by recognising the very high resource efficiency of lightweight plastic bags and their extremely low environmental footprint over a full life cycle.

"Whilst there are clearly different cultural influences in China we have no doubt that it is better and more effective to educate people on their social and environmental responsibilities rather than remove consumer choice. In this context the State Council accepts that it is its citizens that create pollution rather than the carrier bag but it then opts to remove the product rather than educating the polluter," explains Tyson.

In a reference to similar misguided moves, the CBC statement made it clear that this is another example of politicians attempting to promote green credentials by acting against high profile but very low CO₂ impact products rather than tackling the macro issues on carbon emissions.

"In all of our work, including the defeat of a Scottish Parliament Bill, we have come across no evidence anywhere in the world that charging for bags or encouraging thicker bags will result in a proportional rise in re-use or a fall in overall environmental impacts," adds chairman of the CBC Barry Turner.

All that happens is that more plastic is used as the thicker bags take over and fabric bags need to be lined or coated in plastic to protect goods against the weather. Most importantly, consumers are driven to purchase bin liners and waste sacks as these are the most popular re-uses for the lightweight carrier bag. The end result is more waste not less."

CBC points to the fact that China is ironically the largest external supplier of plastic bags to the UK and Europe. "It will be interesting to see how this so called environmental move is monitored against their export markets. Clearly their internal markets in volume of plastic will increase as thicker bags take over but their competitors in lightweight bag production, both in Europe and the Far East, should gain competitive advantage as Chinese production resources are adapted to the heavier gauge bags," concludes Tyson.

Raft of initiatives are planned after Picon and APMI merger

■ Picon, the UK association for manufacturers and suppliers to the printing, paper making and paper converting sectors, has merged with the Association of Printing Machinery Importers to become Picon, the Printing Industry Confederation.

"The merger between these two long established industry bodies marks a significant point in Picon's 60 year history," says

George Clarke, Picon chairman and managing director of Heidelberg UK. "We have taken the best elements of both organisations to emerge as a stronger and leaner association, which is more closely tuned to the needs of suppliers to the printing industry today."

APMI president and managing director of Screen UK Brian Filler adds: "It's the right time for us to join together. A merger has

been suggested in the past but it wasn't until now that our objectives matched so closely. It will be a seamless process as the APMI members were already members of Picon." Mr Filler will take on the role of vice chairman of Picon.

Already established as a driving force in lobbying, networking and trend analysis, the

expanded Picon will continue to be proactive in providing a range of services, information and guidance to its members. "We are developing a whole new raft of initiatives and will be working closely with our members to ensure that we are a valuable and indispensable service to their business," concludes George Clarke.

Confused – advice on labels product maze is now at hand

■ Packaging designers, brand owners and label converters can now consult a new advisory service, Label Experts, that provides independent advice on self-adhesive label issues. The brainchild of Hervé Vigny, Label Experts is designed to help printers and users of labelstock find their way through the product maze to get the labelling results they need.

"We can help them make an informed, reliable choice of self-adhesive labelstock from a portfolio of different brands for a new product application. We can also help them identify and solve quality issues both on-press and on the label application line."

Based in Grenoble, France, Label Experts has laboratory facilities that can test mate-

rials to all the established industry standards in terms of printability, tensile strength, release tack, and adhesion not forgetting the importance of values, UV/chemical resistance, environmental challenges and compatibility with a selected substrate.

For new product development projects, Label Experts will undertake in-depth risk analysis with proposed self-adhesive labelstocks, utilising laboratory simulation to cover all eventualities and in addition deliver recommendations for materials suitable for real-time trials.

"At present, our operations are primarily focused on serving companies in France, but we have plans to extend our boundaries in the longer term," says Vigny.

Multi-trolley system for flexibility from Rotomec

■ The CL 850, Rotomec's latest duplex laminator, features a multi-trolley system design enabling the use of solvent- and water-based dry lamination, solventless lamination, in-register cold seal coating on pre-printed substrates and in-register printing of one additional colour.

A new dryer has combined impingement and flotation type nozzles and is designed to ensure optimum accessibility for web introduction, cleaning and maintenance. A sensitive web handling control is said to produce superior quality duplex structures with the widest of flexible material combinations.

Minimum levels of waste for cold seal coating and other in-register applications are

said to be guaranteed by a new development in register control between Rotomec and Registon, which enables reading of the longitudinal and lateral register on pre-printed material mark to mark.

Equipped with shafted winders with fully automatic splice from top and bottom at maximum line speed, the CL 850 is designed for fast job changeovers and maximum accessibility to all sections of the laminator for cleaning and maintenance.

The machine's standard width is 1350mm, with a maximum reel diameter of 1000mm and a top speed of 450m/min.

TICKER

■ CMR closes down

CMR srl, well-known Italian supplier of flexo and rotogravure printing machinery, coating and laminating lines as well as slitter rewinders, failed to reopen its offices in January. The privately owned company, which claimed to have installed 500 lines worldwide in the last 30 years, has registered for insolvency with the Italian courts. The news sent shockwaves across the Italian converting industry.



Rotomec's new CL 850 duplex laminator

Coating – Drytac offers ‘start to finish’ solutions

■ Drytac Europe has formed an industrial coatings division at its Bristol-based operation, providing ‘start to finish’ solutions for

markets ranging from automotive and medical industries through to arts and crafts and packaging.

The company has a range of R+D, coating, converting and slitting facilities offering hot melt, aqueous and solvent based, pressure sensitive and heat reactive systems.

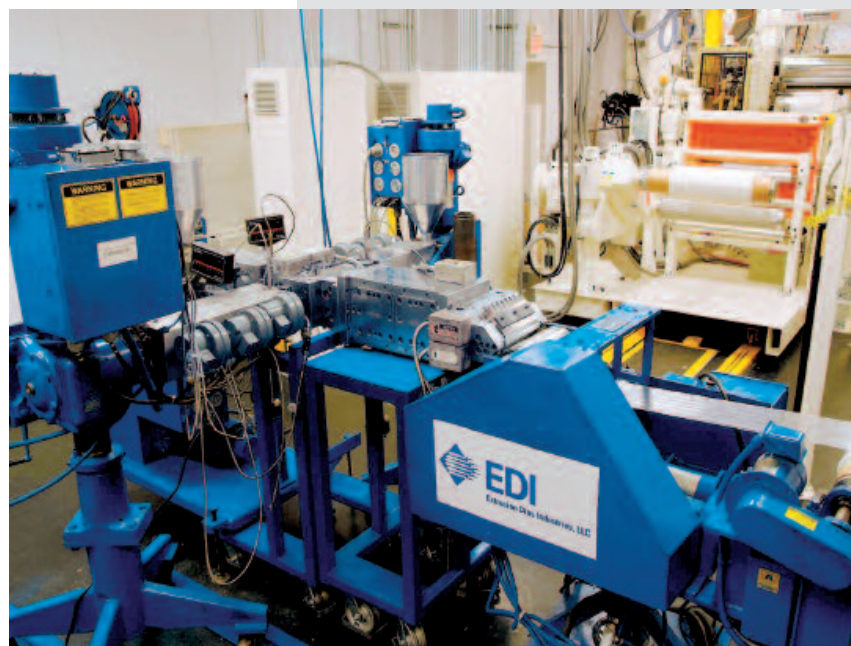
Steve Wright, who will be managing the new division, has over 22 years experience in pressure sensitive, adhesive manufacturing and coating industries. Wright is also an adhesive development chemist, enabling him to assist customers from the initial concept, machine trials and on through to the successful creation of their products within Drytac’s facilities.

Technical manager Dave Johnson, who will ensure that the desired end product is achieved to a high standard, will support him.

One of Drytac’s coaters installed at its new industrial coating division



New EDI technology centre to rent out labs



EDI’s cast film coextrusion laboratory

■ In the USA, Extrusion Dies Industries has purchased an extensive manufacturing facility close to its headquarters site that will become the new EDI Technology Centre, with laboratories for developing innovative die systems and for renting to processors and con-

verters to use in product development and process testing.

EDI expects all of the laboratories to be fully operational within three months. “Extrusion processors and web converters now can carry out product development and process testing without the high raw material costs and lost output of trial runs on their own commercial scale equipment,” the company says.

“These companies don’t have to be EDI customers to take advantage of our facilities. They can carry out their lab work in the strictest confidence, affirmed in a nondisclosure agreement that we sign with every company that rents our laboratories,” adds executive vice president of sales and marketing Christopher W Curtin.

Located at EDI’s world headquarters in Chippewa Falls, Wisconsin, the laboratories are equipped for cast film extrusion, extrusion coating and laminating, and slot die coating. The facility was purchased from Quality Machine and is close to EDI’s world headquarters. It has 1820m² of space, over 90% of it for manufacturing.

Cutting adhesive materials without deposit build-up

■ To reduce the amount of deposit build-up on knife edges during the slitting procedure, Dienes has developed a continuous knife lubrication system. Felt performs the axial knife movement. A spring constantly presses the felt against the knife edge. The swing-type design of this lubrication device allows for easy knife replacement.

The application of this lubrication system is recommended for cutting difficult materials like adhesive films and papers as well as

metal foils such as aluminium, copper and brass. The knife is lubricated either by engageable felt, which is imbued manually or by means of a drip oiler or by a lubrication device directly attached to the knife head.

In the case of adhesive films, the main objective is to minimise the amount of glue adhering to the knife edge. In the case of metal foils, the objective is to prevent fine metal particles, which are generated during the slitting process, building up on the knife edge.



Dienes continuous knife lubrication system

UV adhesives that masters pinholing

■ Pulse Roll Label Products has developed Coldfix, a UV curable adhesive formulated for cold, die-less foiling on a range of substrates. It is said to overcome the problem of pinholing through improved wetting of the substrate by the adhesive and the uniformity provided by UV curing.

The adhesive is supplied as a single component product ready to use press side from the container. Using the cold foil process also enables the press to run at higher speeds with

reduced cost compared to hot foil applications that require longer dwell times with the higher related expense of heated dies.

Coldfix is designed for use with the flexo process using an anilox roll to transfer the adhesive to a photopolymer plate in the selected image.

The substrate is subsequently 'printed' with the foil, which then passes between a nip roll and on through the UV lamp, curing the adhesive through the foil.



Coldfix, a UV curable adhesive from Pulse Roll Label Products

Getting to know your melt index values

■ Zwick's Mflow – one of a flurry of new products from the company – is a modularly designed plastometer, which covers all tests in accordance with process A (MFR determination) of the ISO and ASTM standards.

By adding a displacement sensor, the Mflow can be upgraded to measure the MFR in accordance with process B. An optional weight lift unit allows the machine to be operated automatically. The constant temperature in the extrusion barrel is said to meet the requirements of the draft ISO/CD 1133-2 standard (moisture sensitive and time-dependent materials).

The tester automatically selects those parameters which optimise measurement pre-

cision. The automatic detection and elimination of air bubble effects in the material guarantees reliable and understandable results.



The Mflow modularly designed plastometer from Zwick

TICKER

■ **Electrode for conductive webs**

With the Intelliblade-C, Softal can now offer its technology in a ceramic electrode. This new version of the Intelliblade is to be integrated in all corona systems used for the treatment of conductive and metallised webs to increase the safety and efficiency of the process.

■ **True returns to Montalvo**

The Montalvo Corporation, international specialists in industrial web control systems, has brought back Michael S. True to be production manager. "We're very fortunate to have Mike back with us to oversee production," says President Edwin Montalvo. "He is obviously experienced with what we manufacture here and knows how to keep things moving in the right direction."



Montalvo's Michael S. True

UPACO launches new PVC plasticiser barrier coating

■ With the PVC plasticiser barrier coating, called WZ-0732, the UPACO Specialty Adhesive & Coating division of US-based Worthen Industries has developed a high performance coating.

It can be used for pressure sensitive tape manufacturers and others who process vinyl materials to block the softening effects of migrating plasticisers that may reduce physical

properties of pressure sensitive adhesives or protective coatings upon ageing.

The coating is said to be a tough but flexible polymer with good vinyl adhesion characteristics that blocks the detrimental effects of migratory oils and flexibilisers. After oven drying, the coating is claimed to be resistant to acid, alkali, stain, abrasion and salt fog for many years.

HarperScientific gets a bout of the blues over a cleaner

■ The printing and coating supplies division of global anilox supplier Harper Corporation of America, HarperScientific, has introduced Altra Wash Blue.

This sister product to Altra Wash Green™, the non-corrosive cleaner designed for water-based inks, is a concentrated cleaner specifically formulated for cleaning UV and solvent-based inks in pressure washing systems, soak tanks and ultrasonic tanks.

It can also be used as an on-press anilox cleaner or for cleaning printing plates and is "perfectly safe for aluminium", says product

development engineer Tony Donato.

"Because aluminium is used in the construction of most wide-web and narrow-web anilox sleeves as well as lightweight anilox rolls, a non-corrosive cleaner with a safe pH level is critical for protecting anilox investments."

While the pH level of Altra Wash Blue is 11.8, the new cleaner's advanced surfactant technology is environmentally friendly, using no petroleum distillates or environmentally hazardous chemicals. It is biodegradable with low-VOC and has low vapour pressure.

Trouble-free reel spool spawns a new order

■ After a positive experience in 2003 with the first Svecom 640/PQL expanding reel spool for the reel-up on their tissue machine at Disley in the UK, Kruger Tissue International has now ordered a further two Svecom 640/PQL reel spools.

According to Steve Waring, Paper Machine Manager, no maintenance issues with the original shaft have occurred so far. All three spools are on stream now to produce Kruger's jumbo reels of tissue.

The Svecom system has the advantage that it does not require a multitude of heavy and expensive non-expanding reel spools to

wind, store or transport the product. The 640/PQL is available from Jarshire in diameters ranging from 150-600mm and up to 14m long.



Svecom 640PQL shaft from Jarshire

FSR film slitler rewinder converts most substrates

■ AB Graphic International has introduced the FSR film slitler rewinder to its range of Omega label converting lines. The FSR is specifically designed to meet the demands of inspecting, slitting and rewinding extensible and unsupported films for applications like wrap around, shrink sleeves and tamper evident closures.

It can also be used to convert traditional label and packaging materials. "With the increased use of servo driven printing presses, many of our customers are now required to convert a wider range of materials so we needed to provide a system that will enable them to process all the substrates they utilise including films," says sales manager Tony Bell.

Models of the FSR are able to handle maximum web widths of 330, 410 and 510mm. The FSR includes a driven unwind, closed loop taper tension control, slow down festoon with a splice table and web clamps and a twin rewind module with twin lay-on rollers and dancer tension control.

The company has already sold its first Omega FSR film rewinder to West Yorkshire based SA Labels Ltd.

The line is designed specifically to meet the demands of inspecting, slitting and rewinding unsupported films and was developed in response to the increasing demand for servo driven presses for flexible packaging applications.

TICKER

■ New facility for Grafotronic

Swedish manufacturer of slitler rewinders and die-cutting machines Grafotronic has set up a new assembly facility at its Landskrona site to handle increasing demand. The company can now assemble and test 10 machines at the same time in a modern and efficient working environment.

"At Labelexpo in Brussels and shortly after we sold more than 20 machines in Europe alone. We now have the capacity to meet our increasing business from other areas such as South America, Asia and Africa," says vice-president (sales) Mattias Malmqvist.

Victrex's plasma system yields peak results on APTIV film line

■ The UK's Victrex Technology Centre has installed its first atmospheric plasma surface treating system. The company selected Enercon's Plasma3™ surface treater to enable downstream converting of its high performance APTIV™ film made from VICTREX® PEEK™ polymer.

Plasma3™ is said to be able to modify surfaces unresponsive to traditional treatment methods while completely eliminating back-side treatment. The system is reputed to produce uniform plasma treatment that adds long-lasting and significantly enhanced wet-

tability, printability, and adhesion properties to the surface.



Victrex installs Enercon Plasma 3 system



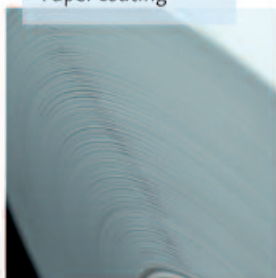
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Innovation that works.

Meech serves up an ‘energy beater’

The JetStream air knife system is available in two versions. An ionising version is used to remove dust, fibres and dirt from a surface. A non-ionising version is used to remove water and moisture from, or, cool a product or surface. This article examines an interesting solution to a recent problem using non-ionising technology.

Engineers at Meech International are said to enjoy solving challenging drying applications.

When a manufacturer of extruded polystyrene foam insulation boards approached the company, it was told that every system tried so far had failed to solve a particular problem.

What they needed was a powerful and effective drying system that could completely remove water from the insulation boards before they were sent to the trimming/cutting machine.

Although the application sounded relatively straightforward, there were some complicating factors. Manufacturing extruded polystyrene boards involves passing polystyrene crystals and additives through an extruder at high temperature and pressure and forcing the resulting mixture through a die.

As it exits the die, it expands to form foam. Before being shaped, the foam is floated on water to cool it down, but in order to ensure that the final cutting process is both clean and productive the boards need to be dry. This requires the residual water to be removed as efficiently as possible.

However, this wasn't as easy as it sounded due to the fact that the



Meech's JetStream air knife system

boards have a rough ‘orange peel’ surface. This increases the surface area and consequently traps more water, making it more difficult to dry.

As well as drying the foams for processing, the system needed to be capable of blowing off the water for recycling, and keeping the factory environment clean and dry for health and safety compliance.

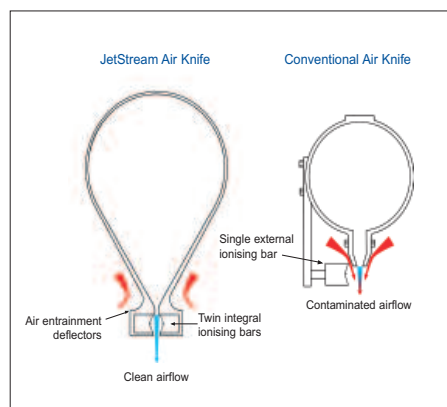
Having already proven the JetStream air knife system in other complex drying applications, Meech engineers were convinced it would do the job – and it did.

The basis of operation of the JetStream system is that high-pressure air is generated at the blower unit, delivered to the air knives through ducting and then discharged from the

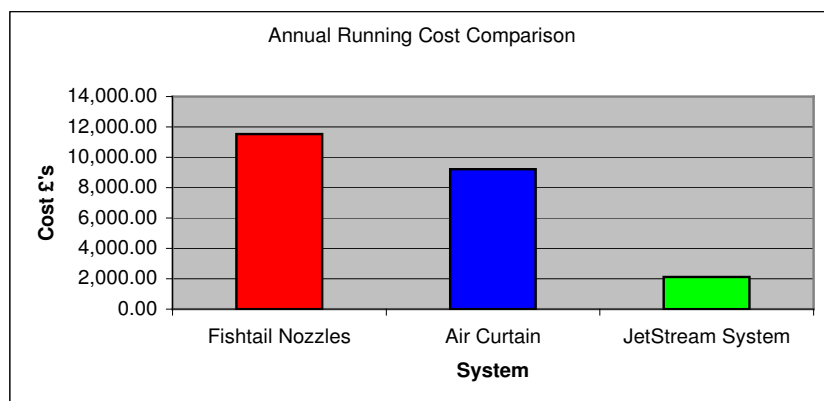
air knives at a very high velocity. In the case of the extruded polystyrene foam boards, JetStream manifolds were used to create a ‘letterbox’ and the boards passed through.

This arrangement ensured that the boards were completely dry before going on to the next stage of the process.

“JetStream has proved itself time and time again for challenging drying applications,” explains Meech’s international product manager for JetStream products Adam Battrick. “Not only does it dry efficiently but it can replace existing and costly compressed air systems that are commonly used. JetStream provides increased performance for considerably lower running costs.” ■



JetStream and conventional air knife systems compared



Running cost comparison, demonstrating the financial benefit of using a JetStream blower driven system instead of either compressed air fishtail nozzles or air curtains

Wiping the slate clean

Printers, converters and producers of paper, film and foil materials have struggled for years to deliver the cleanest product possible. This quest is constantly thwarted by the material to be processed or by the very processes that need to be undertaken in order to produce a finished product.

Slitting, sheeting, coating, laminating, bag making and other processes generate debris or particles that contaminate the web. Transporting the web through the production process causes a boundary layer of air that essentially traps the smaller particles.

Contact and separation of the web material with the machine rollers complicates the situation still further by generating static electricity, which tightly bonds any contaminants to the web. Furthermore, the faster the machine speed, the more complicated the problem of contamination becomes.

But it's not just processes and materials that contribute to the contamination of the web. The very environment itself is also a problem. Dust and dirt, flakes of paint, dried skin, and other airborne particles easily settle on a fast moving web.

Quality demands on label and other narrow web converters have increased the need for web cleaners as printers and converters struggle to balance profitability and productivity.

Contamination can lead to various problems. Dirty webs cause poor

print quality and ink contamination leading to customer dissatisfaction and high customer returns. They also result in excessive down time on printing presses for cleaning, high reject rates in laminating processes and unacceptable quality in pharmaceutical or food packaging.

And, when you're producing 147 000 tonnes of integrated pulp and 150 000 tonnes of natural kraft paper every year, productivity and product quality is of the utmost importance.

Paper dust problem

Gascogne Paper was looking for ways to reduce the amount of paper dust collecting in its final customer reels and on the factory floor around its Gorostidi twin drum winder. The company is one of the world's leading producers of matt/gloss natural kraft papers and an important European producer of natural sack kraft.

On line 6 at its paper mill in the South of France, Gascogne Paper produces a variety of paper grades at widths up to 4.1m. The company was looking to install a double-sided web cleaning system to remove loose

fibres and slitting dust. After researching a number of web cleaning options they chose Meech International and its SCT Series 1000 solution.

Engineers installed the narrow-profiled SCT1000 into the small space available and located the vacuum system on the floor level below the winder, keeping all space requirements to a minimum.

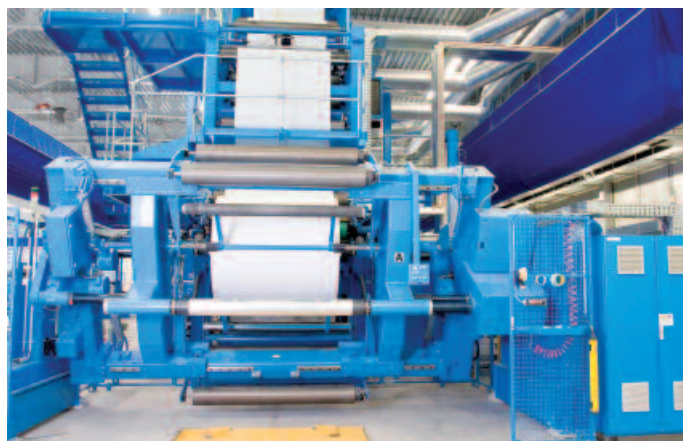
Since installation of the SCT1000 system Gascogne Paper has seen a significant reduction in slitting dust on the final product. As an added bonus, productivity has increased because the winder is stopped less often for cleaning.

The SCT1000 web cleaner was developed as a result of the company's experience in electrostatic and dust control systems. The system comprises two main elements – the cleaning head and the dust collection system.

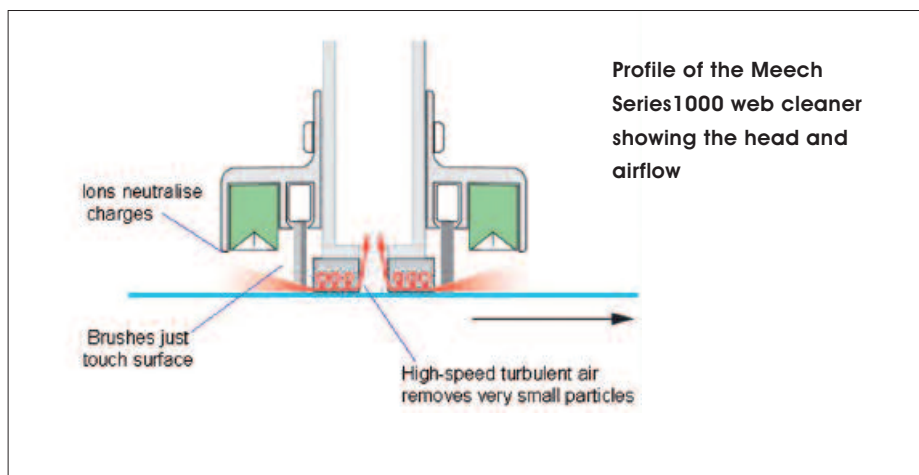
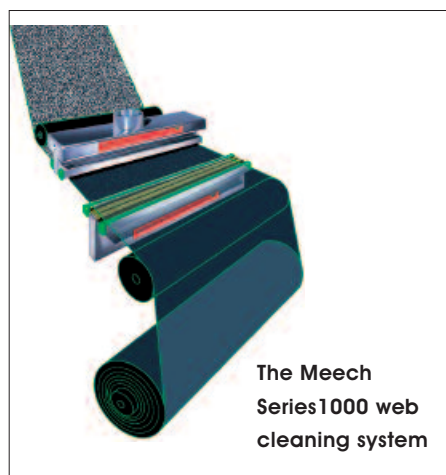
The cleaning head combines static eliminators, brushes and high power vacuum dust collection. Electrostatic charges on the dirt particles and web form a bond making the particles difficult to remove. A powerful static eliminator bar breaks the bond



Designing a press that provides contamination-free printing is a tall order but Meech and Edale solved the problem



Meech's double-sided web cleaning system forms part of this coating line



between the particles and the web as the material enters the web cleaner.

An additional static eliminator bar is located at the web exit of the web cleaner to ensure that the static charge on the web is neutralised, preventing contamination being attracted to the clean web.

The purpose designed Model 914 bars are integrated into the cleaning head to provide powerful and intense ion production. Because of the rapid decay time, they are equally effective at faster web speeds. For enhanced operator safety, the 914 bar incorporates resistively coupled emitter pins that make the whole system shockless. The pins are also manufactured in sharp titanium to reduce contamination and give a longer effective life.

The boundary layer associated with a moving web isolates small particles on the surface from external air flows. The brushes on the Series 1000 destroy this boundary layer, thereby allowing the removal of small particles.

The system uses two vacuum faceplates that are in contact with the web. The faceplates create highly turbulent airflows across the web surface that are reputed to remove all contaminants from the material surface. Flexible ducting delivers the contaminants to the collection system.

Driven by a proprietary three-phase centrifugal fan, the system generates a powerful vacuum at the cleaning head. Removed contamination is collected in a filter bag. Filtration is to 5 μ as standard. An optional centrifugal separator is also available.

The Meech Series1000 web cleaner may be used for the following industrial applications.

Laminating. Wherever materials are joined together they should be clean to prevent inclusions impairing the quality. This is a wide area including plastic films, pcb substrates, metal sheets and foils.

Food packaging. Thermoforming substrates must be clean before being formed. The Meech Series1000 also neutralises the static charge, which improves further handling.

Web-fed presses. Contaminated stock causes downtime for cleaning of image areas on web fed presses in offset, flexo, letterpress and gravure printing.

Papermaking and converting. Dust on paper machines, slitters, winders and tissue lines reduces productivity and quality.

Wood/furniture. Machining dust and contaminants must be removed from flat sheets of wood, MDF and laminated boards before finishing, decorating or coating.

Flooring. The high static charges generated during the manufacture of vinyl flooring attract large particles. If they are not removed they can become embedded into the product.

Screen printing. Plastic substrates from acrylic sheets to membrane switches attract dust, which must be removed before printing.

Coating. If the product to be coated is not clean the final quality will be poor. The Meech Series1000 is said to remove this contamination thoroughly and cost-effectively.

Board. Board converting processes, including diecutting and slitting, generate dust that needs to be removed before high quality printing and coating.

Pharmaceuticals. Vacuum forming materials for use in sensitive medical packaging can be cleaned to maintain the highest standards.

"The Series1000 SCT system has many advantages over conventional sticky roller and non-contact systems including easy set-up and sustained level of performance over time," says Meech International Product Manager Alan Chadwick. "No additional rollers are required and there are no expensive consumables to replace, saving both time and money. With no compressed air requirements, further savings can also be made."

Strong Scottish supplier

OEM's, printers and converters utilise Teknek contact cleaning systems for the effective removal of particles as small as 1 μ . In essence the concept involves the use of an elastomer roller with a high-energy grab surface that runs in contact with the web to remove image/quality-degrading particles.

The roller lifts the contaminants, transferring them to a reverse wound adhesive roll where the particulates become permanently trapped. The outer layer of the adhesive roll is simply removed once it becomes saturated to expose the next underlying layer ready for use.

Teknek unveiled new systems at last year's Labelexpo to meet the

increasingly stringent 'clean' operating demands of the narrow web converter. These systems are the NWP, and for ultra-narrow web applications, the MWC – the mini web cleaner.

In addition Teknek unveiled an adhesive roll 'oscillation' system and a new DVCM or 'diverter mount clean machine'. The former was shown on one of the two NWP contact cleaners displayed at Labelexpo. The latter has been specifically designed to provide single-sided cleaning for the narrow web sector.

Teknek product manager Hunter Paterson says that heavy contamination from slitting knives can leave dust on the edges of the web. This contamination will prematurely overload any adhesive roll in the two areas inline with the edges of the web.

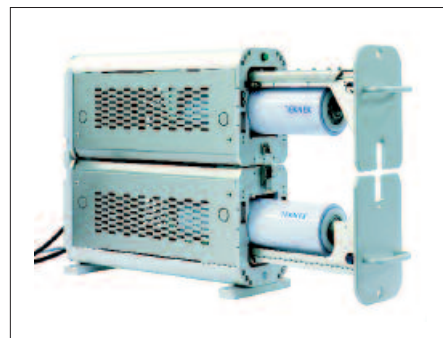
To address this the patent pending adhesive roll oscillation system moves the pre-sheated adhesive roll from side to side, spreading the contamination over a larger area. Integrating the adhesive roll oscillation

system in with the contact cleaning system increases the efficiency and life of the pre-sheated adhesive roll.

The firm's diverter mount clean machine (DMCM) uses the proven elastomer contact cleaning roll and pre-sheated adhesive roll for single side cleaning. Available in widths from 200-520mm wide, the system is automatic in operation and is switched on by the line.

It cleans the working side of the web and mounts to existing diverter rollers for quick and easy installation. Reported to be safe in operation, the DMCM needs no knives to refresh the adhesive layer, guaranteeing 100% usage of the roll.

The NWP contact cleaner for narrow web is said to substantially increase machine uptime while reducing scrap and defects. It is available in a variety of styles, either configurable for single side cantilevered machines or for double sided machines and in five length variations. Bespoke system sizes are available.



The NWP contact cleaner for narrow webs from Teknek is said to substantially increase machine uptime

The MWC mini web cleaner is suitable for small web sizes and slower, quality focussed applications. It offers multi-point installation framework, allowing the cleaning module to be transferred between host machines for contact cleaning flexibility. The MWC is suitable for many reel-to-reel applications such as label printing and taper automated bonding flexible circuit production.

In laminating applications it is vital that both the inner and outer



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The XCHP from Teknek is a compact JIT system that can be configured for both single and double sided cleaning at any angle

surfaces of each web are clean before entering the laminating rollers, otherwise contaminants will become trapped within the finished product, often rendering the product useless.

While it is virtually impossible to prevent contaminants from reaching a web-processing machine, systems and techniques have been developed which are highly effective at removing contaminants from a web prior to the marrying together of substrates.

One system available from Teknek, the XCHP, is said to be a compact and versatile JIT contact cleaner that can be configured for both single and double sided cleaning at any angle.

It can therefore be sited in-line with most coating and laminating processes. The contact-cleaning

concept developed by Teknek involves the use of an elastomer roller rotating in contact with the substrate. The high-surface energy roller removes the particulate contamination from the substrate, transferring it to a high-coat weight reverse wound adhesive roller where it is trapped. When the outer layer of the adhesive is covered, it is simply removed and discarded.

As the web rotates the roller, there is no scratching of the filmic substrate, no requirement to match speeds with motors, and no need for the use of chemicals. Having been cleaned by the roller, the web passes through static removal bars to eliminate any charge in the film.

The XCHP contact cleaner is claimed to maximise throughput, optimise product quality and minimise downtime. Other attendant benefits must surely include greater confidence on the part of the customer in the converter or processor and improved morale amongst operators in the converting shop and/or print room. Commercial benefits include the elimination of reworking, the avoidance of penalty clauses and the ability to speed products to market much quicker.

Various models are available. The XCHP3 incorporates Teknek's 3in adhesive roll and gives line speeds of up to 350m/min. The XCHP6 incorporates a 6in adhesive roll and is said to offer line speeds of up to 600m/min. Both the XCHP3 and XCHP6 offer cleaning widths of up to 2200mm. The XCHP6/200 on the

other hand utilises Teknek's 6in adhesive roll and a larger diameter elastomer roller. Cleaning widths range from 2200-4000mm.

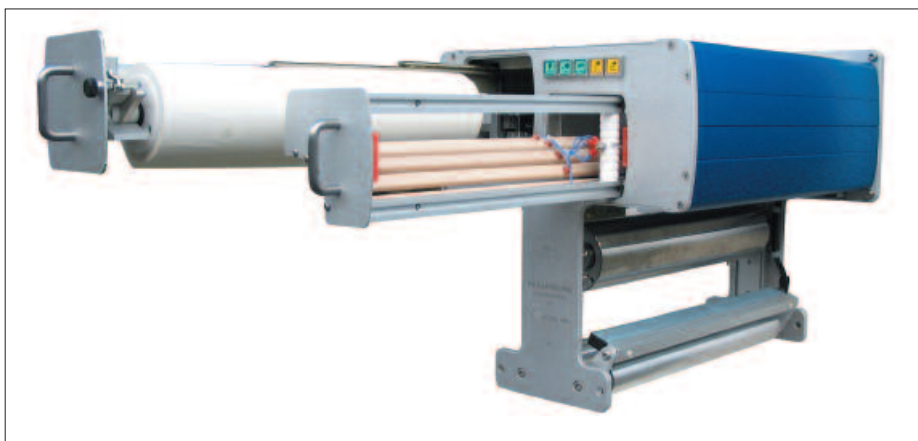
The XCHP has also been used in extrusion processes. Hunter Paterson says that rejects can be caused when the extruder becomes blocked and creates a line in the coating. It then has to be 'bumped' to clear the debris. Using the XCHP to clean the film before the extruder will prevent the debris getting into the extruder head.

Nordic know-how

Swedish web cleaning supplier Kelva provides solutions for both contact and non-contact web cleaning. A Kelva non-contact web cleaning system includes a web cleaning head with passive or active anti-static equipment, a filter fan unit, a dust collecting filter and a control unit.

A static discharger, located above and across the incoming web, de-ionises the web and the collected contamination on the surface. The filter-fan unit generates pressurised warm air, which reduces the surface tension and enables the removal of dust when the air is blown through the air slot in the cleaning head. Its patented design directs turbulent air towards the web.

This technology creates micro-vibrations on the web surface, which cause the particles to loosen and so make it possible for the vacuum air to remove them without touching the material. In addition, the web guiding and tension is not affected. The system is also reputed to offer low



The CC-Plus Corona cleaner, a joint product of Kelva and Vetaphone



Kelva's CWC-D double-sided contact cleaners



Emcebee's Cleanflow system will operate with web widths up to 7m and speeds up to 40m/sec



The visible result of effective web cleaning by Emcebee's Cleanflow® system

operation, maintenance and service costs with little wear on components.

Kelva's contact cleaning solutions are available for both single- and double-sided continuous contact web cleaning. Contaminates from the web surface are lifted and transferred to replaceable adhesive rolls with specially formulated polymer rollers. The static discharger, which is located after the cleaner, ensures that the web does not re-attract dust after being cleaned. This system is said to be easy to retrofit and operates silently.

Scandinavian partnership

In co-operation with Vetaphone, Kelva has developed the CC-Plus Corona for web cleaning, corona surface treatment and static neutralisation in one product. The unit combines easy thread-up, reduced space requirement, easy handling, complete machine integration and an improved film surface quality to increase functionality.

The Cleanflow system

Dutch supplier Emcebee offers a system called Cleanflow®, which is available both as a contact or non-contact system. Emcebee focuses on solutions for customers working with paper, film, foil and textiles. The Cleanflow system removes all loose fibres and fillers before they can get onto the rubber blankets, a process that Emcebee says cannot be reached through conventional means. Furthermore, washing and cleansing of the rubber blankets can be reduced up to 50%.

A combination of low-pressure, air pressure and ionisation loosens dust particles and fibre breakage from the laminar barrier layer of the paper web, even at production speeds above 18m/sec. The removed particles and fillers are collected by a self-cleaning jet filter, which leads to a reduction of environmental pollution.

Production and security costs are also said to be reduced because pro-

ductivity is improved and material consumption as well as paper waste is cut down. The system, which is self-cleaning, is claimed to guarantee constant pressure and speed for a reliable result.

Using digital function surveillance Vactron® technology the customer is able to track the effectiveness of the Cleanflow system. It gives real-time information about important parameters like airflow, speed, and differential pressure in the filter or active ionisation. The system gives optical or acoustic warning signs if certain tolerance limits are violated.

Baldwin's Jetstream

The Jetstream 1000™ from Baldwin Switzerland (formerly known as Hildebrand Systeme) is a web cleaner based on the latest stream technologies and is reputed to offer efficient decontamination of different materials. It is a non-contact dust removal system that cleans the web

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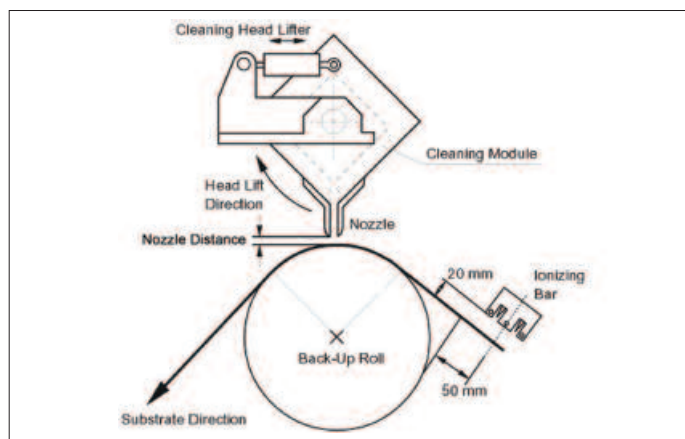
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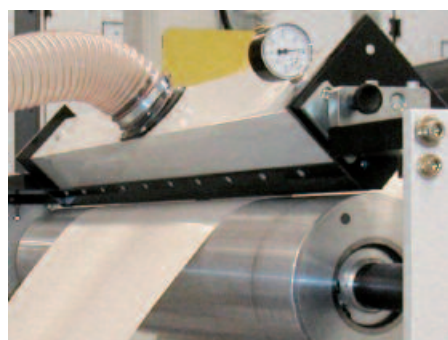


The mounting of a Baldwin Jetstream 1000 non-contact web cleaning system

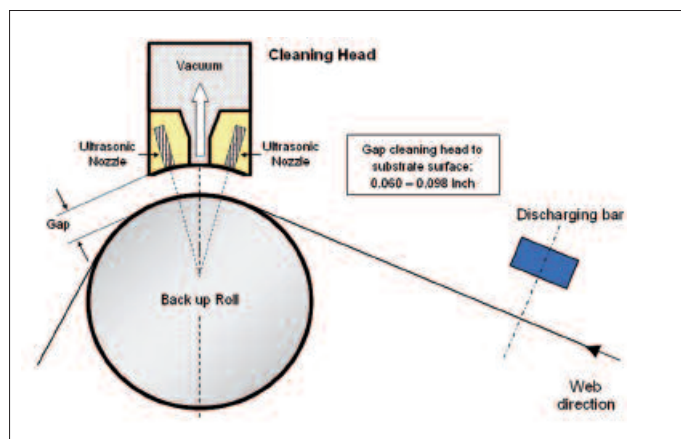
with a well-defined 'high-speed' air-flow. Even with low quality material, it is said to provide perfect cleaning. Papers with a high share of recycled paper can, for instance, be cleaned without problem.

In developing the Jetstream 1000 Baldwin made use of aerospace technologies. With the adoption of defined profile shapes, airflow is moved with high velocity in a certain direction. The specially shaped profile is mounted above the web with only a fractional distance between the cleaning head and substrate.

An air velocity of more than 60m/sec is created at the nozzle entry and under vacuum. The stream moves away from the surface and over the aerodynamic profile edge towards the cleaning head. This air stream breaks through the laminar flow that is built on surfaces during high substrate speeds and drags away the dust particles, which are then caught by a filter. Counts under a microscope showed that 99.6% of loose particles bigger than 35µm are exhausted.



A BHS flexographic printing press with the Jetstream 1000 technology inside



The construction of the UVU system with two ultrasonic nozzles

An ionisation unit before the dust removal module assures that the surface is not electrostatically charged and avoids the adherence of particles on the web. Since the Jetstream 1000 has compact measurements, it is easy to install. Maintenance is minimal.

Japanese offerings

Swiss-based Shinko Europe offers several solutions for contact and non-contact web cleaning, using Japanese technology. The patented UVU system with a double ultrasonic nozzle combined with a vacuum cleaning head enables the exhaustion of microscopically small, invisible particles from rolls and format material. This cleaning system does not have any contact with the substrate and removes particles from 1.6µm upwards.

Compared to conventional vacuum or air knife systems, the advantage of the UVU cleaner is that the double ultrasonic nozzles break through the laminar barrier and are able to loosen and remove the smallest of

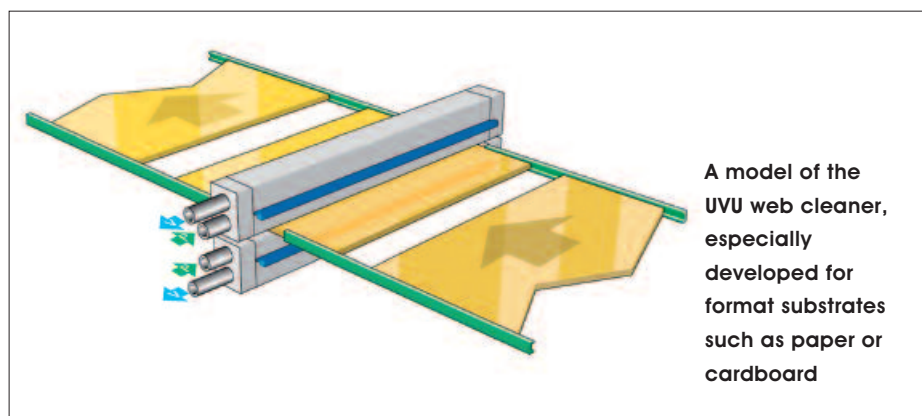
dust particles. It is mainly used in the production of film, foils, glass, electronic articles and before different substrates are imprinted. It works with web widths up to 10m.

For printing units and the production of paper and cardboard, special models were developed, combining a rotating brush and a narrow slot high velocity vacuum exhaustion.

The narrow slot high velocity web cleaner was developed for non-contact and efficient removal of particles from 20µm upwards. It works with a bigger air volume and vacuum than conventional systems.

A special nozzle construction accelerates the exhausted air up to 130m/s and allows the particles to be removed because the laminar barrier can be burst.

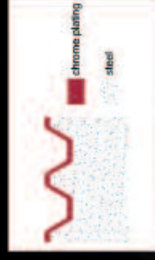
This specification allows the removal of lightly adhesive and embedded particles. A self-cleaning brush avoids additional contamination. Several patented brush materials that do not damage the substrates are available. ■



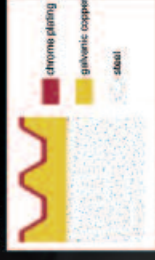
A model of the UVU web cleaner, especially developed for format substrates such as paper or cardboard

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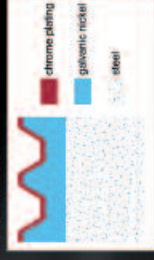
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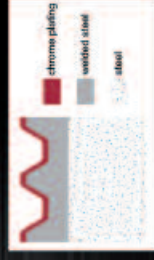
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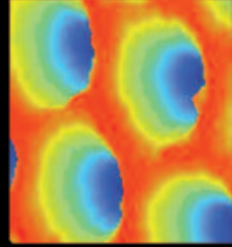
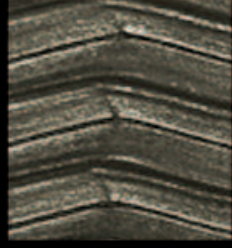
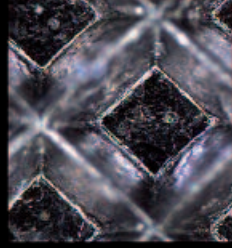
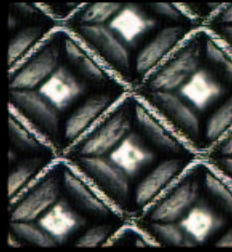
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Example of diameter rebuilding on an Anilox roll

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Mechanically engraved rolls for printing and coating industry



Two crusaders battle for solventless laminating

A year ago Thomas Offergeld and Michael Naumann, both former successful employees of a well-known international group, bid farewell to their past careers and picked up a big challenge, founding [ON]line Laminating in Düsseldorf, Germany, an enterprise dedicated to film laminating with solvent-free adhesives.

Equipment with a difference

Solventless laminating equipment does not require a drying channel for solvent evaporation. "We have seen a lot of good and very good machinery over the past 20 years. This knowledge has brought together the best parts of that into our own plant," co-owner Michael Naumann boasts.

[ON]line's business philosophy rests on two key pillars. One is toll producing for manufacturers of laminated films, strictly avoiding any competition with the customer. Thus, the company serves as a true partner for those producers, who otherwise would have to expand their capacity or invest in completely new plant for solvent-free operations.

On the other hand [ON]line, with its technology centre, provides two pilot production facilities for process study, elaboration and upgrading under real production conditions for tasks like printing ink, film, film composite or adhesive development and market introduction.

Making use of such resources, the customer can rely on the broad and deep-rooted knowledge of experts. Although success in the converting business normally takes time, after just one year a number of internationally renown converters have benefited from [ON]line services.

Future challenges

Naumann found that team building presented the biggest challenge but



Joint MDs Thomas Offergeld and Michael Naumann are 20 years in the industry

he told C2 Europe that, to a large extent, this task has been well accomplished although sharpening the sword turns out to be a never ending exercise.

In order to further penetrate the huge latent market for toll converting in Europe the advantages of toll production – cost cutting, importance of well-funded know-how and improvement of the whole value chain – have to be explained to prospective customers. Furthermore, [ON]line people regard themselves as crusaders on the battlefields of solvent-based process substitution.

Solvent-free technology?

Can film laminating really sacrifice solvent-borne adhesives across the board? Where are today's limits? Naumann's answer sounds somewhat ambiguous. "Each application has to be viewed individually."

There are limits. The sterilisable film composite polyester/aluminium/cpp, normally produced with solvent-borne adhesive in order to achieve the desired high bond strength, requires no more than 3.5g/m² dry weight adhesive for fixing the inner layer. It's difficult to accomplish this without the use of solvents as process aids on classical machinery, on the coating line as well as in the rewinding step.

Also packaged goods like some ketchups are too aggressive for modern kinds of solventless and standard adhesives. Here the [ON]line duo see future challenges ahead, not only focusing their efforts on proper adhesive development but seeking to optimise the complete film composite.

Growth potential

The trend towards avoiding organic solvent has been dominant for years now and will continue into the future. One influencing factor is higher investment cost due to solvent evaporation and recovery equipment. Others are ever demanding EU legislation, migration concerns in contact with foodstuff, and the general environmental concerns of people, in particular consumers. Nevertheless, the market offers good prospects for a challenging newcomer in a turbulent environment. ■



A laminating line at the production facilities in Düsseldorf

Ultra FoamMix™ hot melt foaming

In spite of the many excellent properties of today's hot melts, the foaming of hot melts and other thermoplastics offer new and exciting possibilities for production and markets like filters, tapes, potting of electronic components, gasketing applications and lightweight structural bonding. C2 Europe looks at some of the factors that are driving change.

The foaming method

Foaming is a purely physical, and not a chemical, process but it facilitates the use of a variety of classic hot melts without changing the formulation. Typical examples for foamable hot melts embrace PSA, EVA, Butyl, CO PES, CO PA and APAO as well as other thermoplastics including, say, special PE and PP.

The foaming method is based on a patented layout that enables the injection of gas at about 3-bar pressure into the adhesive volume stream. The relation of the rpm speed of the two pumps precisely defines the foam grade. When the adhesive is being applied the foaming effect comes into function, resulting in – if desired – up to 80% foam. Typically the foam grade is about 50%.

The resulting effects of foaming

The following effects are dependent upon the application:

- Greater gap filling, which enables the use of, say, critical surfaces
- Thinner film possibly due to higher compressibility compared to 100% material layer
- Longer open time due to the effect of bubbles
- Faster set time (smaller amount of heat has to be absorbed by substrate/air)
- Reduced heat per unit volume
- Increased material mileage or higher volume at given adhesive grammage

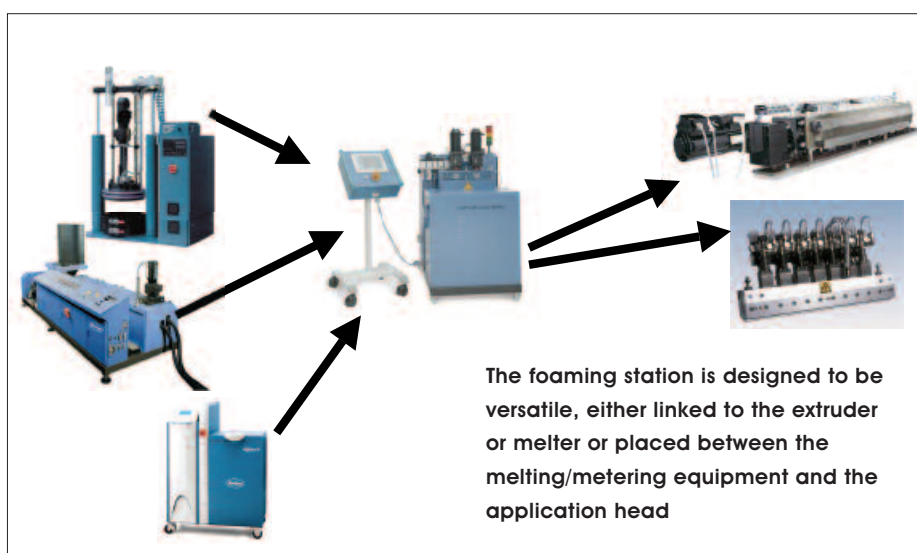
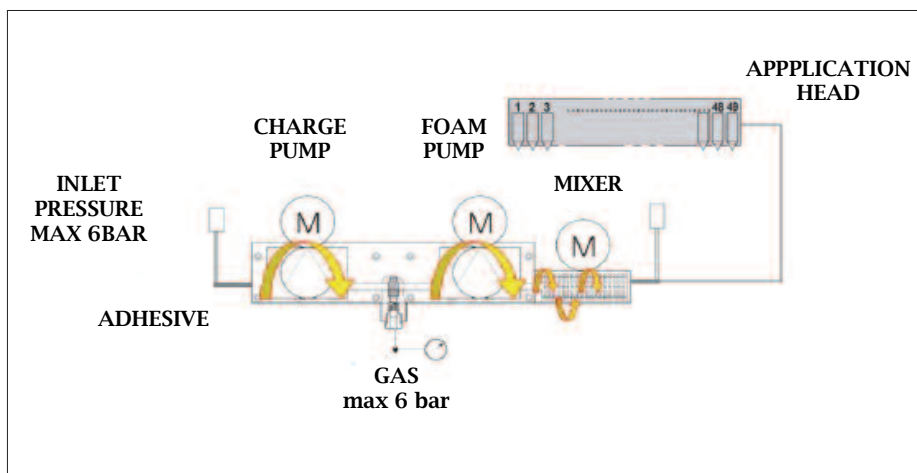
- Higher thixotropy gives application benefits especially in vertical applications
- Very high adhesion in, say, PSA adhesives

The equipment

In order to cope with the different uses, adhesive types and application technologies, the foaming station is designed as versatile equipment, which is either directly linked to the

extruder or melter or as a stand alone unit placed between the melting/metering equipment and the application head.

As a general statement it can be said that the Ultra FoamMix process offers new, exciting opportunities for new or improved end products. As only the change of a part of the production line is needed to create new products or new product properties, the time required to market is shortened. ■



Solution to a sticky problem

Patented non-contact application technology is accepted

Adhesive specialist ITW Dynatec, the application technology provider headquartered in Chicago, offers innovative application technology for the production of technical textiles. Uniform fibre deposition (UFD) technology allows for contactless adhesive application.

This is designed to enable a pronounced increase in productivity and production flexibility in the manufacturing of hospital pads, meat pads, isolation systems for modern roofing or the bonding of textiles and non-wovens in general. Furthermore, product properties are improved as compared to state-of-the-art doctor blade or roller application.

Freely breathing textiles

Due to open pores in the adhesive film used in uniform fibre deposition technology, the breathability of textiles and a soft textile-type grip is preserved. Patented stainless steel coating nozzles are particularly robust and guarantee high accuracy with regard to adhesive quantity and mode of coating.

Any kind of hot-melt adhesive, including PUR, is contactless spray applied on a multitude of substrates with the help of heated air without interrupting the adhesive thread. There are particular advantages in applying the contactless process to



The patented UFD coating nozzle consists of 11 precise laser formed miniature stainless steel plates

heat sensitive materials such as thin films. Modular layout of the equipment allows for web widths from no more than 5mm up to 2.5m and even more.

Desirable side effects

Uniform fibre deposition is also claimed to save up to 60% of adhesive consumption since a coating of less than 1g/m² may easily be reached. As there is no open-air adhesive circulation and, due to high precision application patterns, maintenance costs of the system are also reported to be low.



An almost limitless range of patterns is available, this example is of strips

Quick and easy change

The adhesive manufacturer H. B. Fuller and the adhesive application specialist ITW Dynatec have performed specific application tests in ITW Dynatec's technical centre, resulting in a proven solution especially for the fibreisation of reactive adhesives.

That allows a quick and easy entrance into the non-contact application for lamination and coating. In this way expensive tests in the laboratory or on the production line are avoided. ■

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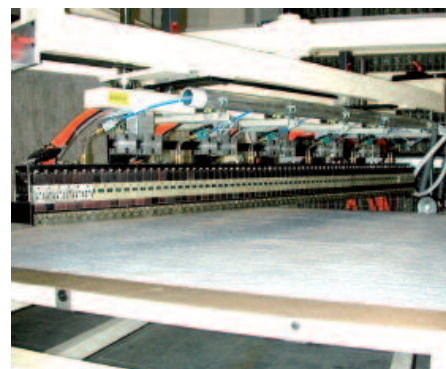
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Avoiding McKinsey

Many international groups have been reducing their workforce dramatically over the last few years and have been virtually stripped naked in terms of human resources. With less and less people with the expertise to accomplish certain jobs, particularly where long-term employees have been given notice due to early retirement programmes, a good consultant can boost morale and profitability.

Consultants can enjoy applying their knowledge to a broad range of problems in widely differing situations. They are able to use their highly specialist knowledge and experience in a wider context than one firm can provide, and they are able to gain a more varied experience of management problems.

Whereas management has been defined as the art of getting results through other people, consultancy is less easy to define. The key words are probably qualified and professional. Firstly the word qualified implies the experience of management, while the word professional implies an ethical or objective standard.

While it is often change that makes management necessary, it is the requirements of change that makes management difficult. Management consultancy is therefore primarily



Consultants need to look the part and tend to dress to impress

concerned with initiating and implementing technological and behavioural changes.

Objectivity

Management consultants are used first to provide wider additional expertise than is available within a single organisation. Secondly, they are used to provide objective appraisals where it is often easier for



Communication is the key, keeping in touch essential

the expert outsider to see the broader picture and recognise the long-term requirements.

Thirdly, the management consultant may be needed to provide additional assistance where there is a temporary increase in the management workload. This may be to cope with a major change or new development in any area of management responsibility.

A CONSULTANT'S LOT

A consultant's portfolio

Management consultants by their very nature are specialist and may provide expert guidance on such subjects as:

Business strategy

Involves long-range planning, the re-organisation of a company's structure, rationalisation of services and products, and a general business appraisal of the company.

Manufacturing and business services

Entails a review of the layout of a production department, production

control arrangements, productivity and incentive schemes or quality control problems.

Financial and management controls

Embraces the installation of budgetary control systems, profit planning or capital and revenue budgeting, office reorganisation and administrative arrangements.

Human resources

Involves advice on personnel policy, manpower planning, job enrichment, job evaluation and industrial relations.

Information technology

Entails defining information needs the provision of software, systems analysis and design, computer feasibility studies, implementing computer applications, and making computer hardware evaluations.

Environmental management

This includes urban and regional development planning, international economic research, cost benefit and social analysis studies and physical economic, ecological and sociological studies for the encouragement of quality of lifestyle.



One of the secrets of the consulting business is to keep smiling

Costs

Of course, if there is anything that is going to panic a company needing help into taking on 'McKinsey' it's the cost of procuring his skills. A good manager's first need is to know how much a good consultant should cost and, perhaps more importantly, understand how to recompense this hardened professional.

There are three ways to remunerate a consultant. One solution is a daily fee. The advantage of such an approach is that it is easier to estimate the expected fee and, in addition, any discomfort relating to payment is easily avoided. Typical daily fees for an 'ordinary' consultant ranges from €1500-2000/day. 'McKinsey', of course, is much more expensive.

The figures for the average consultant might seem to be expensive but always bear in mind that a manager's salary with similar qualifications could easily reach €150 000 or more a year. Then there is always the company car, social security expenses, and deferred compensation to take into consideration. That's a strong argument for hiring a qualified consultant with 'street cred'.

Another payment solution is to work it on a project-related basis. The advantage here is that it normally turns out somewhat cheaper compared to the daily fee concept.

However, the accountability of the consultant is then based on a lower level so it has to be clearly defined.

In order to circumvent any misunderstandings from the outset, a milestone plan should be agreed upon, defining a 'sub-project' fee for each section and including a contract clause of possible termination of contract after reaching a milestone. It is essential that the client clearly defines all projects, providing goals and milestones to be reached on the way getting there.

Then, of course, there is the success fee-related basis. A sum of money is agreed upon before starting the job, to be paid after successful accomplishment of the work. This might involve reaching a pre-defined turnover in the case of a commercial development project, a profitability level in the case of interim management, a successful company acquisition in a mergers and acquisitions project or a successful recruiting job.

The fee may be paid as a lump sum or as a certain percentage of turnover, profit or as a retainer and success fee. Although such a concept seems to exhibit a particular appeal since it minimises the risk for the client, no reputable consultant will base his remuneration solely on a success-dependent fee. Converting consultant Michael Gerstenberger

says: "Only desperados, who have nothing to lose and have no other chance than to gamble hard, will act that way."

The client will soon learn that his consultant will not work seriously on the project because he or she only views it as an 'opportunity' and, in the meantime, might have acquired another somewhat better paid alternative. Remember that, if you pay peanuts, your partners will be monkeys. Or, in other words, "if by chance you happen to find a solution to my problem, you may present it to me and, if I like it, I will pay for it". Remember no serious professional will find a viable solution to a problem just by chance.

Suspicious

Understandably, those new to the concept of consultancy are suspicious of what it entails and of those that practise its disciplines but there are three principal reasons why consultancy has much to offer the converting industry. Firstly, a good consultant has some kind of personal knowledge, know-how and business contacts that are not easily accessible to the company employing him or her.

Secondly, even if company know-how is available, resources (time and people) may be limited and cannot be allocated to a certain project in the short term. This reason has become increasingly important now that larger international companies are cutting back on staff levels, leading to a loss in expertise.

Thirdly, when awkward truths have to be expressed and tough measures have to be taken, such as re-organisation of a company or job reduction programmes, company managers find it easier to hide behind the consultant's decision. How often have we all heard those immortal words: "I would prefer not to sack 500 employees but 'McKinsey' strongly recommends that I do so if the company is to survive."

Separating wheat from chaff

Another uncertainty that haunts management is learning how to separate the wheat from the chaff, the



When an Asian delegation shows up on your stand you may need some help, One of the people in this picture is an advisor, but can you spot which one?

professional from the charlatan. The primary rule of thumb is to always distrust a consultant who claims to be able to serve all industries and sectors. A serious person only has experience in a limited number of fields such as the converting and chemical industries.

Within such business segments, however, he or she might be able to accomplish a number of different jobs, dependent on his or her previous background and experience. This particularly refers to interrelated fields such as market research and market development, strategy and organisation development, recruiting and interim management.

A consultant to industry should have a minimum of 10 years' practical experience within the branch of

industry he or she is serving. The consultant should also be able to show that he or she has successfully held managerial positions in similar kinds of jobs his clients are active in now. Only in this way will the consultant understand the language of the industry he is providing service to and know its problems inside out. He or she will particularly understand the importance of 'do's and don'ts' inside company networks.

Weak managers

Never hire a consultant unless you know that you and your company will benefit from doing so. Weak managers who protest that they have been told nothing new should remember that, prior to the consultant's appointment, they failed to put matters right for

MEMORANDUM

Nine factors

A typical consulting portfolio for the converting industry should embrace the following nine factors:

1. Strategy development/ corporate development
2. Technology assessment and transfer
3. Feasibility studies
4. Commercial development/ support to new product market introduction
5. Market and trend analysis
6. Mergers and acquisitions
7. Post merger integration
8. Executive and expert recruiting/coaching
9. Interim management

one reason or another. A good consultant is someone who puts a vision into action and makes things happen. Nevertheless, always consider the alternatives, review them and decide on the best approach as a result of a structured evaluation process.

Finally, remember the golden rule. If you are not perfectly sure that you are not able or not willing to accomplish the task without outside support, avoid consultancy and do the job yourself because, even if you had consulted God Almighty, you will always be dissatisfied with what he has done for you! ■

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Protecting reels after slitting and rewinding

The high standard in the food and beverage packaging lines requires adequate protection of the reels just after the slitting and rewinding process. Various types and levels of protection can be used in single or multiple packing.

IMS Deltamatic (Calcinato, Italy), manufacturer of slitter rewinders, offers innovative, well integrated solutions for handling, packing and palletising the finished reels, tailored to customer needs according to the type of material, its production, the logistics and space available.

Advantages of IMS Deltamatic machinery are said to include:

- an integrated line with all required functions up to the delivery of the finished pallet
- optimised cycle times, and
- high reliability from top quality components and robotised systems

IMS Deltamatic has recently supplied two important companies in the plastic film market with fully automated slitting and palletising plants for high productivity and flexibility. This last benefit is becoming more and more important because of the



An overall view of the IMS Deltamatic plant

demand in the plastic film market for segmented orders and the sizes of the finished rolls are covering a wide range of diameters and lengths.

This means that, in combining the requested dimensions, the possible specifications for the rolls can be prolific. IMS Deltamatic systems are reputed to be able to manage this variability without negatively affecting production speed.

The implementation of robotised equipment after the slitting unit allows for perfect synchronisation with the working cycles of the slitter, even if the number and the size of the rolls influence their shape and weight.

The robot(s) can pick up the rolls in short sequence and select the most suitable handling system, according to the size. Each conveying line is then tailored for a certain range and



IMS Deltamatic slitter and palletising equipment

equipped with a specialised single weighing, packing and labelling unit. Intermediate exits are available for evacuating sample rolls.

After the packing, where several lines can also work in parallel, a robot provides the desired layout of the pallet, picks the packed rolls from different lines and adds the possible protecting sheets between the reel layers on the pallet. This particular job may also be programmed from the touch screen as well as from the factory computer.

Specialised in-house resources enable IMS Deltamatic to be in a position to customise, optimise and integrate the software of the robot. All working parameters are accessible within the customer factory net thanks to a flexible machine interface meeting most recent standards. ■

Preview for the next C2 Europe issue (March/April):

Show previews

- INDEX
- Interpack
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Focus and Hot Topics

- Adhesives/ adhesive application
- Tape converting
- Test and measurement
- Flexible packaging

...and much more

Advertisement deadline: 17 March

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No need to get wound up

In a bid to provide a polished guide to perfect winding C2 Europe set up a roundtable and asked three experts for their advice and thoughts on this exacting subject.

C2: Referring to flexible materials, which parameters must be considered when winding at high speeds and how do these vary depending on the converting process?

J. Aspinall: Processing and winding web at high speed requires a number of considerations, the first of which is the web material. Paper, film, foil or a combination of materials will determine a number of decisions.

- Path rollers need to be well balanced, otherwise they will cause vibration and tension oscillation within the web. As the process increases in speed this vibration will get worse and ultimately lead to mechanical failure.
- The path roller surface also needs to be correct so that the web does not float or wrinkle over the surface of the roller. Various surface preparations can be used.
- Depending on the web material, the distance between rollers should not be too excessive.
- Once the path rollers comply with these basic rules converters can transport flexible webs at high speed. Winding at high speed (above 400m/min) requires a number of additional features.
- Centre winders can be configured to run in either speed or torque control. If the web is robust and tough, then tension levels can be relatively high and torque control (the relatively simple option) can be used. If the web is delicate and low-tension levels are required then it will be necessary to configure the rewind motor for speed control. In both cases the rewind

motor and drive needs to be correctly tuned and closely calibrated to the master drive of the process.

- Both torque control and speed control rely on knowledge of the web speed (an analogue voltage signal from the process master drive) and knowledge of the winding reel diameter (analogue voltage which may be from an ultrasonic sensor or from a device which contacts the reel surface).

These two signals are fed into the rewind controller and are programmed to calculate the required rewind motor rev/min. In the case of the torque controller, the output speed will always be greater than the process speed (about 10%) with the web tension being controlled by regulating the current available to the rewind motor.

In the case of speed control, the two analogue feedback signals will attempt to calculate the exact speed match with the process web speed. As this is impossible, speed control uses a third feedback element – the PID trim signal. The third feedback element could be a load cell signal or a position signal from a pivoting dancer roller assembly.

Both of these assemblies will detect if the rewind motor is correctly speed matched and make the necessary regulation when not. Speed control removes the mechanical and frictional elements from a tension calculation and ensures that the selected tension is applied to the web.

The speed control option also allows very low-tension control on relative large mechanical assemblies. The best PID feedback device is the dancer roller assembly, since this will absorb web speed fluctuations caused by eccentric rewinding reels.

- When winding onto the rewind core/mandrel it should always be remembered that, the higher the rewind speed, the greater the problem of air exclusion. All webs carry a layer of air on their surface. When the web is moving slowly this layer of air is relatively easy to expel (there is time to squeeze the air off the surface of the web before it becomes a wrap around the reel).
- As the process speed increases then this layer of air is better able to force its way into the winding reel. If too much air gets into the reel, it will act as a lubricant and result in telescoping (the layers of the wind slipping between themselves and moving laterally). The main method of removing surface air from a web is to apply a contact lay-on roller to the winding reel surface.



John Aspinall has been working in the converting industry for 25 years. His present role at Double R Controls Ltd. (Heywood, GB) in addition to selling standard equipment, involves technical sales and applications engineering, typically taking enquiries for bespoke processes and submitting technical solutions



Carlos Martínez has been active in winding technologies for over 20 years. He co-founded Wintech Winding Technology in 1990 and in the following years gathered practical experience in the construction of winders. Mr. Martínez is now President & CEO of Swiss Winding Performance AG, Rapperswil-Jona (CH)



Jim Ward, Vice President of Engineering at Martin Automatic, Rockford, Illinois (USA) has over 25 years experience in machine manufacturing for printing, converting and automation. He holds several patents in web handling and related fields

transferring from the outside of a full roll to the core of a new roll. If a converting process includes operations that must be registered to each other, such as multiple printing decks or die cutting to a pre-printed web, then this tension change may upset the register accuracy if it is allowed to pass back upstream into the process. This is most evident on automatic transfer systems and a well designed outfeed may be necessary to isolate the process from the tension changes generated by the rewind.

C. Martínez: The winder is one of the most significant line components that will determine roll quality. This quality is of great importance for any converting business processing materials and in reflecting competence in both quality and winding. Customers are becoming less tolerant of defects of any kind. Perfect roll quality is provided by:

1. Good roll density (uniform roll hardness)
2. Good control of wound-in tension
3. A primary layer that is tight on the core (foundation)
4. Perfect edge quality – good in-line slitting tolerance
5. A product that stays round during storage and handling
6. Excellent film quality (tolerance, flatness, variations)
7. Absence of any kind of roll and web defects (marks and wrinkles)
8. A product that runs perfectly in subsequent processes
9. Perfect core quality – concentricity of core (in the centre of roll)

Loss in roll quality is determined by:

1. Temperature/cooling of material length
2. Incorrect web path in the winder
3. Incorrect division of tension measurement up to winding
4. Higher level of winding tension (tension)
5. Incorrect selection of winding mode

- Alternatively, if a product does not want surface contact with the lay-on roller (contact may damage the product in some way) then this roller can be made to control in what is called 'gap' mode. In this mode the lay-on roller maintains a fixed gap immediately before the winding reel. This ensures a fixed shallow angle of entry onto the winding reel, which reduces the ability of the air to enter the wind. It can therefore be advantageous to have a selectable contact or 'gap' mode of operation.
- These considerations would be applicable to all high-speed converting processes from coating and laminating to slitting and rewinding.

Jim Ward: To be honest, you could write a book on this question alone.

- The forces that are placed on a web during the winding process go well beyond just tension alone. There are compressive forces from the multiple layers of materials as well as the forces of drums and/or lay-on rollers. These forces can be high, particularly as the winding diameter increases, so the material itself will limit such parameters

as tension, taper tension, lay-on pressure and build-up ratio (the ratio of the roll diameter to the core size).

- Films are frequently slippery and relatively extensible. These properties pose winding challenges if problems such as telescoping and blocking are to be avoided.
- It is very unusual to wind good quality rolls without reducing the tension in the web as the roll builds from core to full diameter. This tension reduction is called taper tension. Taper tension may be linear (dropping in direct proportion to the diameter of the roll) or it may be shaped.

Extensible film webs are frequently wound with high starting tensions that drop rapidly as the roll begins to build in diameter and which then continue to build with a more gradual reduction in tension. Winding good quality film rolls becomes increasingly more difficult as the finished diameters increase and the challenge is to find a tension taper profile that meets all the material requirements.

- The requirement for taper tension will result in a step web tension change from low to high when

6. High lay-on pressure (nip)
7. Incorrect taper tension (torque)
8. Incorrect deployment of spreader rolls
9. Irregular winding from the primary layer
10. Poor roll start – primary layer on the core
11. Operator errors

The consequences of incorrect winding are incorrect roll density and roll hardness, blocking rolls, buckles in roll, crushed cores, air inclusions, dished and starred rolls, telescoping and uneven winding, out-of-round rolls and wrinkles in rolls.

The essentials in high-speed winding must be:

1. A good quality winding shaft
2. A good quality winding core
3. The right winding geometry (winding type)
4. The shortest web path possible
5. The best tension control concept – independent tension sections

- and control of in-wound tension
6. TNT control (tension, nip and torque) adjustments
7. Perfect alignment
8. A perfect cutting mechanism – a perfect roll start.

C2: Which materials and processes are the most demanding and why?

J. Aspinall: Many materials have individual characteristics that need to be considered. However, very thin products, which are prone to wrinkling, or highly extensible products (products that stretch) present challenges when winding. A number of different styles of spreader rollers are available and, as long as these are correctly positioned, they will assist in winding without wrinkles.

With highly extensible products combination drive systems (centre surface combinations), with taper tension profiles and/or taper lay-on pressures, can be applied. In all cases it is important to know the correct

tension range of the web. This can be determined by plotting load/extension graphs to establish the safe tension load range of the product.

Jim Ward: It is not so much any one material, as it is the variety of materials.

- Non-porous materials, such as films, don't let any of the boundary layer air escape. Consequently, the web has a tendency to surf over the rollers like a puck on an air hockey table if converters don't have the proper amount of tension or special roller surfaces to channel the air. Non-woven materials let the boundary layer air escape but then tension on the material becomes a concern. Too much tension and the fabric will stretch, too little tension and there won't be adequate pull through so speed, tension and porosity are always a concern.



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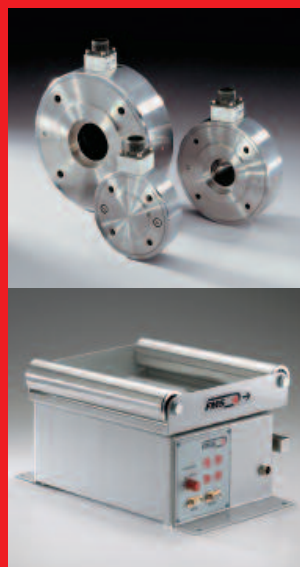
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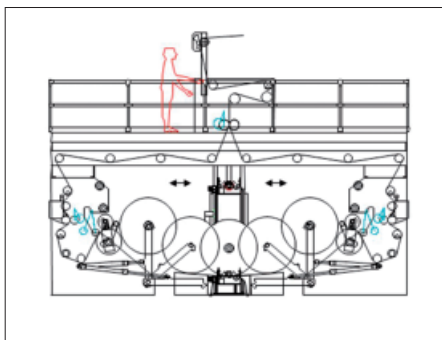
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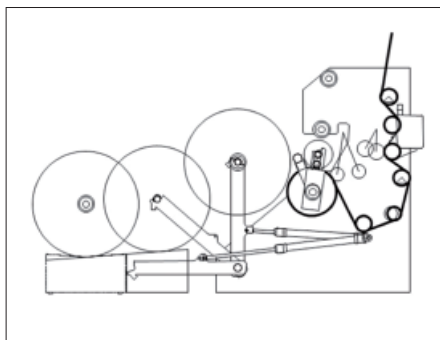
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● The Point is Technology





Blown film winder for very tacky masking films



Single winder for cast, coating and laminating

- Converters in today's economy need flexibility. When purchasing new capital equipment they want to make sure that the equipment can handle, not only what they are running today, but also anything they may want to run in the future. In the US we refer to this as 'soup to nuts', meaning that the equipment must run everything from unsupported foil to paperboard.
- Designing equipment that can process the lightest of webs to

the very heaviest is challenging. The drive system selected to run a paperboard material will require plenty of horsepower but it must also have the resolution and response at the low end of the scale to run extensible films. Multiple winding curves are also needed to wind quality rolls of the multiple substrates. All of this is possible but it comes at a high cost.

C. Martinez: The most demanding process is the adhesive coating of

thin films (masking film) at speeds over 400m/min and a working width of 3400mm. If one of the 'essentials in winding' is not perfect winding at these speeds and this working width is not possible. There must be no air inclusions in a masking film and roll quality requirements are high.

C2: Discuss the different challenges and typical problems a converter encounters with the unwind and the rewind?

J. Aspinall: It is important to isolate the unwind from the rewind and to isolate both from the process tension, particularly when processing at high speeds. On old processes, the isolation was typically poor and often did not need to be better. With the high speed unwind, which may be controlled by a pneumatic brake, there are issues with the mass and inertia effect of the roll.

If the roll size is very big and the acceleration and deceleration is relatively fast, a brake controlled system will be challenged, unable to absorb the mass effect of starting the reel from rotating and the inertia effect of slowing down a large reel. In this instance the brake controlled unwind will not maintain the required tension within an acceptable percentage.

In such cases a driven unwind will be desirable using a speed control configuration (an analogue process speed reference and an analogue diameter signal to calculate the approximate required motor rpm) with a PID trim signal such as a load cell or dancer roller to positively drive the unwinding reel.

Converters should enable an acceptable, low percentage tension variation at all times during acceleration, constant speed or deceleration at any diameter. The problems at the rewind can be associated with the need to rewind at a lower tension than that used for processing. The rewind tension may need to taper with increased diameter (the tension will reduce as the diameter increases). So a positive isolation from the process is necessary.

CUTTING

Cutting device for blown films

WINDING

Heated blade holder for films

CONVEYING

Heated blade holder

Pneumatic holder

Customer - specific blade holder

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Jim Ward: Unwinding systems typically take rolls of material that were produced by other companies at other facilities.

- The rolls have been handled many times before they are placed on the unwind at the converter's facility. This means that the rolls are frequently no longer round. They are 'egg-shaped' or have other defects from the shipping and handling. Unwinding these rolls can be very difficult and can play havoc with tension control going into a converting process. It is imperative that the operator understands the camber of the roll and how much tension needs to be added to adjust for roll discrepancies so that the unwinding system is capable of handling these rolls efficiently.
- Beyond tension control, an unwind must deliver the web to the process flat and without folds or

wrinkles. This means that the unwind must be properly equipped to handle these very problematic materials. Frequently, it is necessary to equip the unwinds and rewinds with specially profiled idler rollers to prevent the formation of creases and fold-overs. And, even if all the contingencies have been covered on the re-winder or the unwinder, there are still the effects of the rest of the process. Carbon fibre rollers and carefully tuned drives on the unwind can be easily overwhelmed by a high-mass idler in the press.

- Most modern converting processes now use automatic splicing systems at the unwind. Missed splices at the unwind can quickly erode the profitability of the converter. Even a few fractions of a percentage in splice efficiency can make a huge difference in waste and lost production over a year's time.

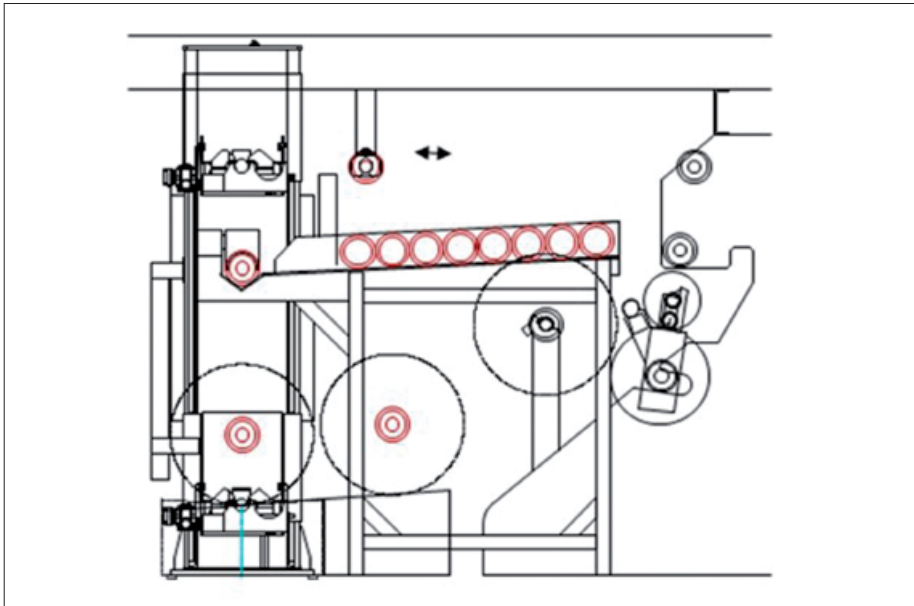
- Waste reduction has increasingly become a concern for many converters. Any material that is not converted into a product directly affects the bottom line. Not only is this a wasted resource, disposing of this waste is now more costly. Equipment manufacturers have developed many new methods to use all or nearly all of the material down to the core of an unwinding roll.

- Many converters are now incorporating slitting in-line with their process. This does add another level of complexity to a winding system. Many of the newer laminate materials are not uniform in thickness across the span of the web. This means that one slit will wind to a larger diameter more rapidly than another. Unless the winder is equipped with a differential winding system, roll diameters will be limited and increased down time will result.

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A fully automatic roll and shaft handling system - cycle time 45 sec.

- Slitting and web separation also pose problems when dealing with multiple substrates. A slitter that is optimised for paperboard may not be suitable for films. The same is true for bowed rollers providing web separation. As with the drive systems, broad solutions are available but they will increase the capital equipment costs.
- The basic issue with winding is that there are multiple adjustments that can be made (tension, taper tension, taper tension profiles, lay-on roller pressure) to wind a roll. A machine supplier can

provide equipment that is capable of winding virtually any web but, ultimately, it is the operator that will determine the success of the winder. Operator training and support from the machine supplier is vital to successful winder performance.

C. Martinez: We can't answer the question regarding unwinding because we do not supply unwinders but we think that roll splicing (mother rolls) is an important part of the process, as is the fact that a good splice is always relative to a perfectly wound mother roll.

C2: Do state-of-the-art systems offer a satisfactory solution? What must be done to improve the smooth running of converting machinery?

J. Aspinall: State-of-the-art systems (electronic line shaft, profibus or communications links between multiple drives, touch screen interface and multi-drive systems) mean that the potential for control and the flexibility of that control is greatly improved. If the mechanics of the system is deficient and/or the application is not fully understood then the best control system in the world will fall short of its potential.

Jim Ward: Newer drive and PLC systems have made a marked improvement on process performance and they have allowed for running a wider range of materials at higher speeds but this is only one piece of the puzzle. Electronics alone do nothing without sound web handling devices and techniques.

Advances in idler roller materials and technologies are helping converters achieve speeds that were unheard of even just a few months ago. All converting lines run 'smoother' and more efficiently when they do not stop and start. Automatic unwind and rewind systems that are effective and efficient play a huge role in the overall performance of the production line.




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C. Martinez: A state-of-the-art system could be satisfactory 'out of the box' but:

- Due to the quickly changing raw materials market and the great innovations and creativity in the packaging industry, a winder must have one very important characteristic in particular. It must be highly flexible in deployment through modularity – a line component with a universal character that transports the web with the least amount of property distortion or structural damage to wind rolls that satisfy your customer. The winder must be able to be expanded into a multi-functional winder for highly flexible use.
- The fully automatic roll and shaft handling systems are very important to winding technology. Today, high-speed winders require a cycle time of less than 40 seconds. Other significant factors are health (heavy weight for operators), safety (no access to winding area, eliminating risk for potential accidents), employee regulation (liability insurance), personnel cost savings (less operators per line), and quality (quality issues during handling, packaging/wrapping and shipping).

C2: Where are the major demands at the moment in Europe for retrofitting – which markets and which materials?

J. Aspinall: I believe that all converting processes and equipment, which have a considerable value as a new machine, can have a cost effective retrofit. I don't know which markets are experiencing the major demand.

Jim Ward: The emergence of international markets has stepped up the level of competition between producers. This increased pressure has accelerated the need for converters of all types to reduce waste and improve productivity. We are seeing a number of companies retrofitting

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automatic unwinds and rewinds to presses and processes, both old and new.

This trend is particularly noticeable to us in the pressure sensitive label industry where increasingly stringent environmental laws are forcing up the cost of waste disposal. In addition, we are seeing interest in hot and cold foil lamination, especially in the United States.

If a converter already has automated equipment at both ends of the press, then a non-splicing foil unwind and rewind can now be a productivity limitation. Printers and converters are considering whether to automate this increasingly popular function. Many customers are attempting to add in-line slitting to the primary converting processes in an effort to eliminate additional off-line operations.

C. Martinez: The major demand for retrofits at this moment worldwide are retrofits and upgrades for fully-automatic roll and shaft handling systems. It is driven by three essential factors:

- Saving production costs by adding handling equipment to winders
- Cycle time – quick roll change cycles
- Avoiding risks – safety concept for operators ■

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ICE China – time to climb on the gravy train

Many readers of this magazine may be familiar with ICE but, as the majority of C2 readers are located in Europe, most will not have travelled to Shanghai to witness and experience this exciting new launch. Those readers who did are mainly suppliers who exhibited and C2 Europe spoke with everybody during the course of ICE China. Several statements from European exhibitors appear at the end of this article on page 43. In this ICE China review we shall therefore try to give readers an illustrated report on the show.

Day one

The first thing to learn about trade fairs in China is that they peak early. This has an inherent advantage in that the exhibitors know by the first afternoon if the show is going to be a success or not. In the case of ICE China nearly 1000 of the total of 1911 attendees came on day one. Chinese visitors are hungry to see the exhibits, keen to see the machinery and talk business.

Add this to a natural curiosity in checking out a new show, busy VIP tour, pompous opening ceremony and well attended conference, the first day was an absolute success with stands and aisles bustling with people. What better way to end the day than a relaxing exhibitor party? This was held in a suitable restaurant overlooking the Huangpu River (pictures on page 42).

Days two and three

The second and third days were more of the same but it got less busy

as the week progressed. The exception was the conference, called 'Converting Technology Forum', and staged on the first floor.

Despite the isolated location and lack of real cutting edge delivery, all presentations were attended by between 35 and 50 attendees, mainly local Chinese. Companies such as Bastian, Softal, FMS, Polytype, Davis-Standard and Kroenert-BMB benefited from the high level of attendance. An interesting comparison is that, with the exception of the Fraunhofer session, ICE Munich conference sessions have always been poorly attended. Europeans are spoilt for choice with plenty of good conference material on all subjects, whereas the Chinese are not. It's all about supply and demand.

Trying to stop local Chinese exhibitors from breaking down their stand at 14.00 on the final day is just impossible. On the other hand for this to happen the show has to officially run for the whole day. In golf,

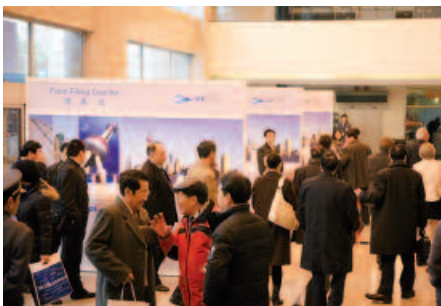


The Shanghai Mart in central Shanghai proved to be an ideal location, with good public transport connections, shops and catering facilities

such circumstances are called 'local rules'. If running exhibitions in China were a game, there would be a booklet of such 'local rules'.

Strengths and weaknesses

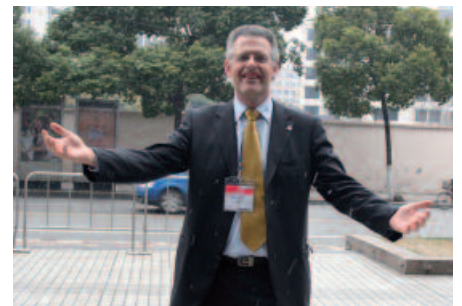
The show was nicely focused and well balanced both in terms of geographical location in the broader sense (half from Europe, half from Asia) and technology sectors. Coating, slitting and ancillary suppliers were, like ICE in Munich, the three



Some 1000 visitors filled the exhibition hall on the first day, above is a picture of the visitor registration area



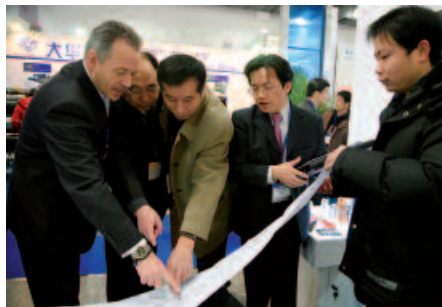
The press conference was well attended as interest among Chinese journalists and association representatives was extremely high



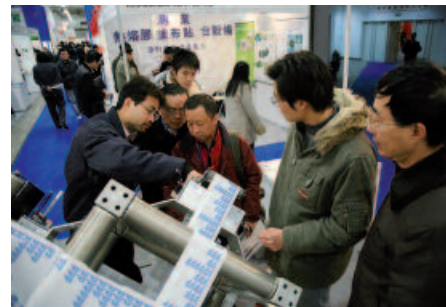
ICE Director Michael Boyle welcomes the snow to ICE China on the second day - maybe a present from his adopted Tyrolean homeland



The VIP tour on the first morning pays a visit to Pagendam and Polytype



Visitors examine a technical drawing on the Davis-Standard stand



Erhardt+Leimer was just one of the many leading international ancillary suppliers

strengths of ICE China. Other areas such as materials and rotogravure printing need developing. For this time and patience will be required.

The exhibition hall may not be the newest but it did the job. The decision not to run the show in the much bigger venue in Pudong proved to be the right one. As in Munich, and also in a general sense, ICE shows seem to do better in smaller halls and smaller venues. Even in China the converting community seems to

appreciate focus and ease of access. The organisers' fears that the Chinese would have a problem with a 'small' show proved to be unfounded.

Another positive was that local suppliers' stands were in the main of equal quality to those of international suppliers. The fact that the Europeans were 'playing away' and the Chinese 'playing at home' helped to balance things out and created a great atmosphere in the exhibition hall. The

beauty of exhibitions is that every exhibitor has exactly the same opportunities. They provide a level playing field.

Despite all these good points there were weaknesses. Many leading German and Italian exhibitors, some of which had been expected to exhibit as they do a lot of business in China, were notable by their absence. And where were the Korean and Japanese suppliers who also sell into the Chinese market? Even the

OFFICIAL STATEMENTS

Several local technical media such as World of Plastics Asia, industry associations such as the Printing and Printing Equipment Association of China and non-profit associations such as the Institute of Printing and Packaging supported the launch of ICE China. This is in stark contrast to the European market where associations and media have a reputation for 'not sticking their necks out', only supporting trade fairs when they are already established and not in the early years when their backing can be very valuable.

Ms. Fan Jun Hong, vice secretary general of the Guangdong Packaging Technology Association was one of several prominent local personalities to get behind ICE China. "With so many high level exhibitors and qualified visitors, this first ICE China is beyond our expectations. It will definitely become a unique

business platform for all local Chinese converters," he says.

Jeremy Beard, ICE International Sales Manager added, "ICE China was a great start to the latest in the ICE family of events. The market and potential in Asia and China for converted products is massive and is growing by leaps and bounds annually. This show finally gives converting suppliers direct access for the first time to major decision makers in this industry. Speaking to exhibitors on the last day, many confirmed that they have taken orders and generated new leads and are looking forward to enhancing their presence in this market and also to the next ICE China show."

Local exhibition director Mao Daben made some shrewd observations. "With the great success of this premier edition, ICE China has fulfilled

the expectation of its exhibitors, while providing trade visitors with cutting edge products and technical solutions. As we all know, the converting industry in China is developing fast, however, it has also lacked a coherent force to steer it along the way. I therefore hope that ICE China will somehow help stimulate the concept building of converting as well as becoming an ideal trade platform for the industry."

There are many examples of industry events helping to give industries or industry segments the framework necessary to develop an independent identity. ICE in Europe is one such example because 10 years ago the converting industry in places like Germany just did not exist. People didn't know what you were talking about and, even today, converting is a concept for the converted few.



The technical conference was extremely well attended

local Chinese stands often needed the help of their Taiwanese 'friends'. The show was a little small, with 80 stands somewhat smaller than nimble had forecast. But that is the learning curve in China. Theory and practice are often miles apart, as other exhibition organisers have discovered.

The timing in mid January was much criticised before the show, especially by the local press and associations. It is cold and grey in Shanghai in January and the Chinese New Year took place three weeks after the show but, more importantly, Chinese businesses are winding down at the end of their business



Siemens are extremely strong in China and had a high profile presence at the show with specific converting technology demos



Swiss supplier FAES presented their new range of colour co-ordinated slitter rewinders



An extensive visitor survey was carried out by C2

year and are not in a 'show visiting' frame of mind.

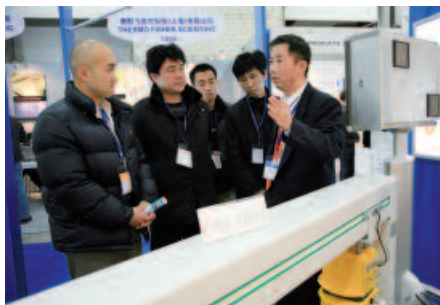
Nimble had defended the choice of dates vigorously, explaining that new shows can never find perfect dates (Shanghai exhibition centres are full at peak times of the year) and emphasising that ICE in Munich had prospered under similar circumstances. The key issue was finding a slot between K (October 2007) and DRUPA (May 2008) – the two main exhibitions for the majority of international exhibitors.

The future

Just because ICE China got off to a good start doesn't mean that the



Gawan Industries was one of several Taiwanese exhibitors, many have offices and facilities in mainland China



Betacontrol was one of many inline measurement suppliers exhibiting machinery

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Nagy Instruments and betacontrol relax at the exhibitor party after a hard day's selling



The VIP lounge at the exhibitor party with several representatives of local associations and media



Chinese exhibitors celebrate at the exhibitor party, in the background the famous Pudong night skyline

show will be a success long term. The market is large and competition is always likely to be looming round the corner. The exhibitor and visitor surveys have yet to be examined in detail and the jury is still out on the key question regarding show frequency. Local suppliers favour running ICE China annually while international suppliers generally prefer a biennial show – a more typical cycle for a converting fair.

Examples such as Chinaplas have shown that the issue of frequency

can be tricky to manage. One thing is for sure. There are no plans to move ICE China to other cities around China. It is generally accepted that Shanghai is the best location, the majority of major flexible converters having settled in the greater Shanghai area.

ICE organisers nimble shows & media may have found a competent local partner to run the first show but there are many examples of good expanding shows in China with great potential falling by the wayside. The

advantage nimble have is that they understand the dynamics of the converting market and have great loyalty from their European key accounts.

Without the technology leaders from Europe any other Chinese converting show will find it difficult to make the event attractive enough to buyers. Some European suppliers are already pushing nimble to run more ICE satellite shows around the world so it seems that the ICE brand is stronger than ever and is here to stay. Watch this space. ■

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EXHIBITOR STATEMENTS



Walter Brockhorst – Sales Director, PSA

"Our objective was to enter the Chinese market. ICE China has proven to be a great step in this plan and has helped us to identify professional converters in this country, without the show this would have been harder to achieve. ICE China has also brought in a number of very good quality sales contacts."



Jan Eisby – Sales Director, Vetaphone

"We are in the process of setting up a new office in China so the timing of ICE China was perfect for us in building market awareness here. As well as that we gained several many new leads, we look forward to the next ICE China."



Albert Biswanger – Managing Director, AFS

"The show was a great opportunity to meet a lot of new customers who previously had little or no knowledge of our company and were not too known to us either."



Karl-Heinz Meyer – Sales Director, Softal

"China is a very important market for us, but China needed a dedicated converting equipment show, which it hasn't had until now – ICE China perfectly fills this niche. We had over 30 good quality leads, people looking for specific solutions. Regarding the show itself we met not just people from China but from wider across Asia. In all an excellent debut."



Bruno Dätwyler – Sales Director, Polytype

"For a first show we are happy with the number and quality of visitors. Everyone we saw was from the coating and converting industry – this particular part of the converting community in China has proven to be difficult to identify until now."



Mike Liu, Far East Key Account Manager, BMB

"Our expectations were exceeded already after the first day. Once again ICE has delivered in some style and we are thrilled with the result."



Holger Meyer – Vice President, Bastian Wickeltechnik

"81 sales leads in 3 days is beyond my wildest dreams – a great result."

The market hots up

When C2 Europe questioned international exhibitors at ICE China about their business operations, the results were quite surprising as readers will see from the data detailed analysis below which was obtained from 35 responses.

Annual investment into China accounts for about €50bn and is growing by around 10% every year. It is not just the fastest growing market in the world but also the most exciting, with a massive internal market as well as an export market to be tapped. The Chinese economy shows no sign of slowing with the most recent projections demonstrating a rise of 11% and along with it fears of an over-heated economy.

Converting suppliers have long been active in the Chinese market and it's therefore no surprise to learn that half of our surveyed companies have been active for over 10 years. They chose to lead the way and establish themselves when China was still a potential market rather than the fast growing economic powerhouse of today.

Understandably, most manufacture is still handled outside Asia, but it was good to see the more adventurous building facilities and setting up shop in a country where the potential for profit is immense, espe-



China has moved into the 21st century with a big bang

cially when combined with extensive savings in labour and distribution costs – see question four. And as many as 20% of entrepreneurs had already taken advantage of the benefits of manufacturing product for a more global market, while the more adventurous – as many as 11.5% – had set up facilities elsewhere in Asia.

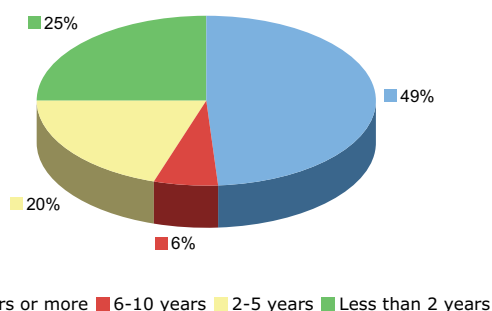
In tune with the recent growth over the last few years, a number of

companies are making up for lost time in the knowledge that the growth shows no signs of slowing and is opening up further opportunities for expansion that perhaps weren't so evident a decade or more ago.

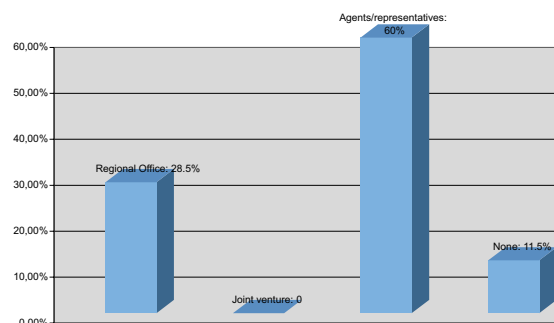
This is perhaps best expressed in the replies to question eight – how much will China grow as a market over the next five years? Only 14% of respondents think the Chinese

C2 EUROPE SURVEY RESULTS

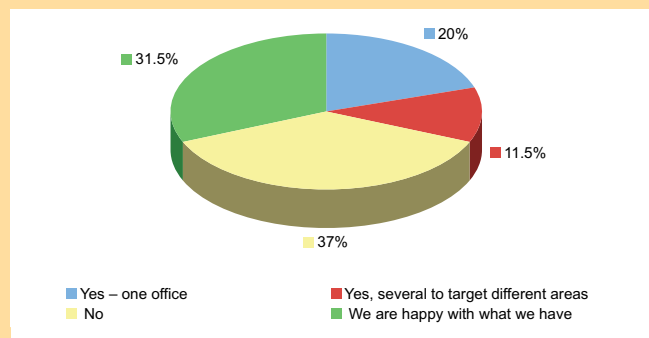
Question 1: How long have you been active in the Chinese market?



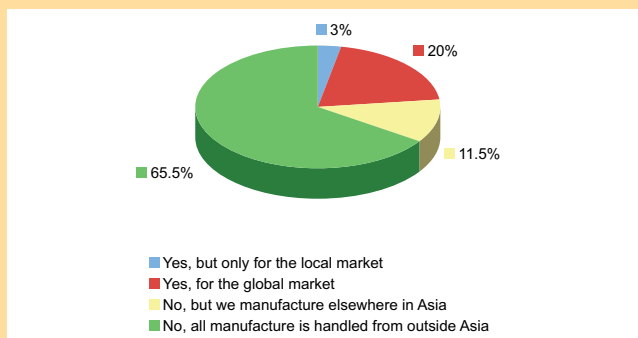
Question 2: What sort of representation do you have in China?



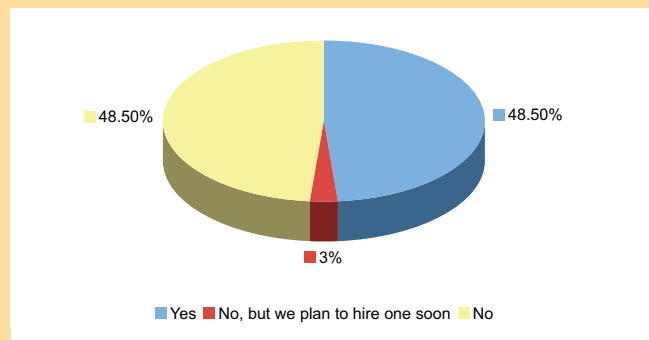
Question 3: Do you envisage opening new offices in China within the next five years?



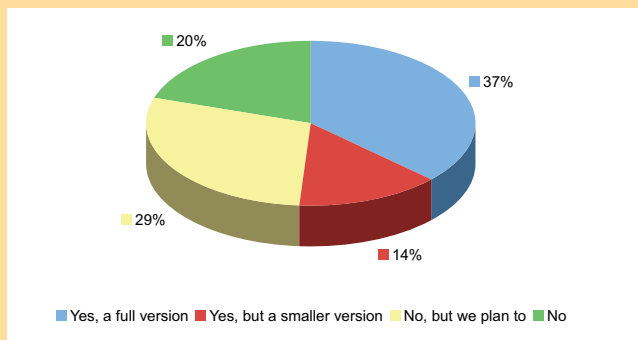
Question 4: Do you manufacture in China?



Question 5: Do you currently employ Chinese speakers in your head office?



Question 6: Is your website available in Chinese?



SHINING EXAMPLES

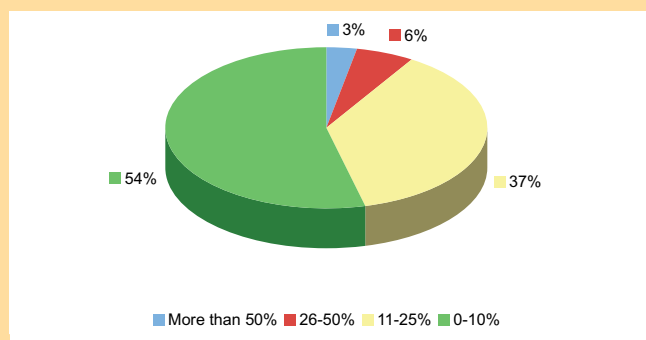
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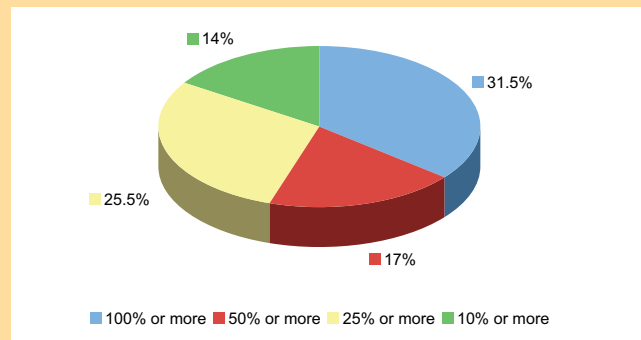
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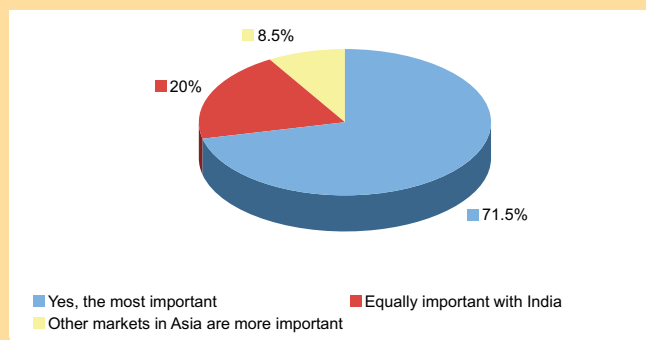
Question 7: How much of your company turnover derives from the Chinese market?



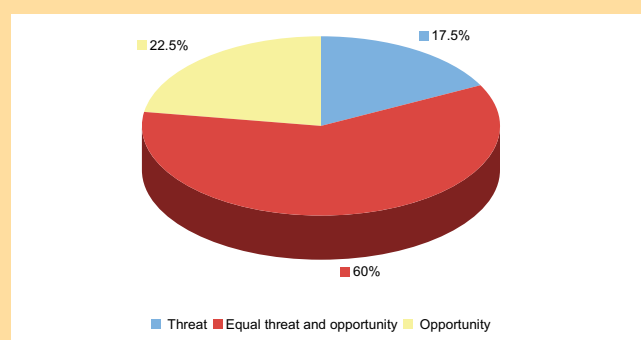
Question 8: How much do you expect your sales to grow in China in the next five years?



Question 9: Is China more important than any other Asian market?



Question 10: Do you think China represents more of a threat than an opportunity?



market will grow by 10% or less for them. Discounting the 'don't knows', a quarter of the survey envisage growth of up to 25%, while nearly half of those polled estimate growth rates of 50% and some suggest a 100% growth.

If an advisor were to show you a market that can provide this kind of short-term growth then I think most

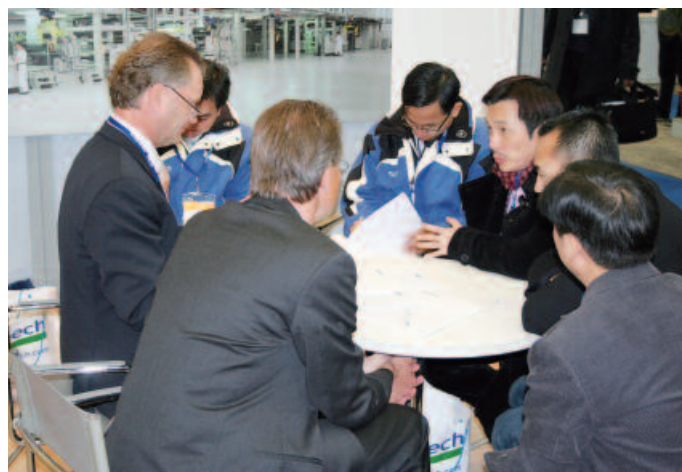
sectors of industry would be interested. China is not without its risks, and many also see the need to take a balanced stance between uncertainty and opportunity. Any visit to China or Asia in general will see a flood of western brand names being sold on the black market.

There are enough stories of broken copyrights and ineffectual

lawsuits against counterfeiters to suggest that investors need to choose their business partners wisely. Also making business difficult in China is the language barrier so it's interesting to note that many companies are employing Chinese interpreters in their head offices and promoting themselves to China with Chinese language web sites.



German roller supplier Hähl started production in China in 2003 and has a daughter company Hähl Technology (Suzhou) Co. Ltd



Polytype's Asian headquarters are in Thailand, so a mobile and multi-lingual sales force is essential



Softal electronic from Hamburg has been active in China for over 20 years

The growth in the Chinese market is nowhere near saturation and offers a lot of potential, even for newcomers to the market. The rise of the Chinese middle class – as expressed by those with disposable incomes equivalent to you or I in the West – is growing and with it will grow a demand for packaging. That means that converting as a process has an assured future as the consumption of paper, film and foil packaged goods rises per capita. ■

COMMENTARY

China is not a market for the purist but for the rational, the resourceful and the rule bender. Indeed, rules are not only broken in China but simply ignored if considered unsuitable. The Chinese have cleverly devised a system whereby business in China is done on their terms, despite the reliance on international know-how and technology.

Considering the pitfalls and obstacles, I admire the patience of business people who have taken the Chinese adventure in their stride and have found a way to make their business successful in a market which is as tricky as it is unpredictable.

Any visitor to China will see a flood of western brand names being aggressively sold on the black market. At first the experience can be intimidating, enlight-



Michael Boyle pictured at the ICE China opening ceremony

ening or simply fascinating. However you feel, there is no need to get upset. The fake markets will continue to thrive in the free market economy that China now represents.

Undoubtedly success in China long term requires complete commitment, dedication, and an abundance of patience... not forgetting plenty of practice using chopsticks of course.

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RadTech brings the cure to Vienna

Last November Radtech Europe's bi-annual conference opened its doors in the lovely Austrian metropolis of Vienna. Some 600 delegates participated in the first morning's plenary sessions. The following two and a half days of specialists' contributions were presented at three parallel sessions.

Market trends

Subjects covered application properties, equipment, wood and surface performance, graphic arts, printing, varnishing, laminating and adhesives. In addition, 200 visitors attended a 'table-top' exhibition, which ran in parallel with the conference, manned by about 45 exhibitors from the fields of machinery, raw materials and applications.

A considerable part of the plenary section was devoted to market trends. R. Bottacchiari (Lamberti, Italy) elaborated on the future of the European UV/EB market. In a nutshell the speaker concluded that radiation curing technologies in particular should benefit from REACH legislation, provided that all those involved in their respective markets (particularly coatings applications) achieve quick and maximum conformity.

Asian markets, according to P. De Micheli (Cytec Surface Specialties, Belgium), will enjoy noteworthy growth rates throughout the forthcoming years with Greater China attaining the premier position for radiation curing applications. The total Far Eastern markets for formulation consumption were estimated as

240kt by 2010 in comparison to resin binder materials at 140kt. With an overall annual growth rate of 9% the Asian markets will be world market leaders for the foreseeable future.

One component

Regarding the use of UV/EB laminating technology for packaging applications S. Lapin (Ashland, USA) said that the key advantage of such systems lay in the fact that they comprised one component and did not require mixing or adjustment steps. Start-up, stopping, and cleaning operations are easy since the adhesives remain unchanged until the radiation curing operation.

Instant bonding allows for immediate OC testing, further converting, such as slitting rewinding, and shipping of the finished goods. Radiation curing technologies in this field are currently employed for labelling, folding cartons and flexible packaging operations.

Problems with photoinitiator migration – the so-called ITX crisis – have caused considerable concerns about the use of radiation curing formulations, in particular those that are acrylics based. D. G. Anderson

(Lambson, GB) presented polymeric species. Newly developed functionalised polymers showed improved performance compared to their predecessors, leading to nearly equivalent performance provided by monomeric state-of-the-art products. Products are either solid or relatively low viscosity liquids offering high formulation flexibility.

L. Hahne (Eltex Elektrostatik, Germany) introduced an innovative UV inert system for newspaper printing applications. Developed for the fast running UV presses in newspaper production, the system boasts curing speeds above 12m/sec and no more than two UV lamps on each side of the web. Nitrogen consumption as well as photoinitiator contents of formulations may be reduced to a minimum.

Conductive adhesives

The presentation of T. Kowalik (Fraunhofer IFAM, Germany) was devoted to conductive adhesives for printed RFID (radio frequency identification) structures. Thermal curing and application today are limiting factors for conductive adhesives employed in RFIDs. Newly developed adhesives now allow for offset or



Between presentations delegates had plenty of time to network and have in-depth conversations at the table-top exhibition



Radtech Europe President Philippe Goethals

flexography applications and are UV cured up to a thickness of 50μ . They exhibit good volume resistance, which means that distance between the emitter and the receiver device may be expanded to about 0.9m. An



Crea Printing won the Innovation Award for Print and Packaging

easy production mode could mean an important step forward for RFID technology application.

J. Warmkessel (Ashland Performance Materials, USA) presented print-applied UV curable PSAs for industrial graphics. Respective products were compared to commercial state-of-the-art transfer tapes. They are differentiated by high quick stick and peel resistance, and enable improvement of the production process with considerable cost savings. The tapes offer design flexibility and waste reduction when the adhesive



The award for the best presentation went to Dr Weikard of Bayer Material Science

tape is printed only in areas where it is required. Solid state UV light sources – semiconductor light matrix – offer pronounced advantages over standard arc lamps in ink jet printing applications.


R. P. Karsten (Phoseon Technology, GB) highlighted the avoidance of mercury and ozone, much lower temperature (60°C as opposed to 350°C), reduction of energy consumption by about 80% and an increase of lifetime by a factor of 10. The total cost of ownership may consequently be reduced by up to 50%. ■

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Stability returns to release liners

Alexander Watson Associates' recent label release liner seminar, staged in Brussels last Autumn, showed a palpable increase in confidence in the industry's future as a result of advances in recycling and the reuse of both paper and film siliconised liner. The mood of the seminar was upbeat, with over 70 delegates participating in this dedicated forum.

Facts and figures

In his opening presentation on the state of the industry, AWA's president Corey M Reardon observed that labelstock still represents nearly 50% of the total global market for release liner, with calendered kraft papers (including glassine) still commanding 44% of consumption and films at a modest 15%. Films, however, are certainly the fastest-growing substrate, despite the pressures created by the continuing hike in oil prices.

Reardon provided a succinct checklist of current issues and opportunities across the release liner value chain including material cost inflation, accelerating global consolidation, emerging geographical markets and capacity issues – too much in the mature markets and not enough in the developing economies.

He also itemised packaging waste legislation and the broader technology base evident in the product decoration market, which now includes strong alternatives to self-adhesive labels including the different sleeving formats. That release liner remains a healthy industry, he said, is not in question. A moribund market would not attract the high level of private equity interest seen today in release liner.

AWA's senior consultant Elizabeth Park expanded on the label market's future. Self-adhesive labels are growing at 9.9% globally. In Europe 44% of consumption is in functional variable information print applications – retail, transport, and logistics – with a further 40% in primary product labels and the emphasis on the food and beverage, health and beauty, and pharmaceutical markets.

This introduction set the scene for a series of papers from experts across the value chain. Issues in paper and film release base were of course a major topic.

Release base

Ahlstrom Munich managing director Michael Bethge evaluated the role of specialty paper manufacturers in investing in innovation to the benefit of the self-adhesive labelstock industry. With just 6-7% of the world paper market, specialty papers are at the beck and call of the broader pulp and paper market and facing up to possible future supply shortages, particularly long-fibre pulp.

A successful future will depend upon achieving a balance between production efficiency and specialisation, he says, with raw material expertise and supply management being key factors.

Paper release base is also the concern of one of the world's leading forest products groups, UPM. The company's technology manager for specialty papers Petri Tani highlighted the forces driving release paper quality. Both labelstock producers and label printers need to

achieve higher capacity, efficiency, quality and cost-efficiency to meet the demands of the end user for new innovations coupled with quality and cost-efficiency.

Release liner, he says, has a key role to play in this. As demand grows for lower-gauge labelstocks – delivering more labels per reel for reduced on-press and dispensing line downtime – so we can expect to see the surface of paper release liner base move towards that of film liners. This brings with it the added ability to offer lower silicone coat weights and new operability and die-cutting properties.

The environment

R+D technical director for Avery Dennison Roll Materials Europe Lisa Hubbard took the environmental platform as her topic and, with release liner representing some 30% of self-adhesive label, it was central to her presentation. Downgauging goes part of the way to providing a solution but could linerless labels represent the Holy Grail?

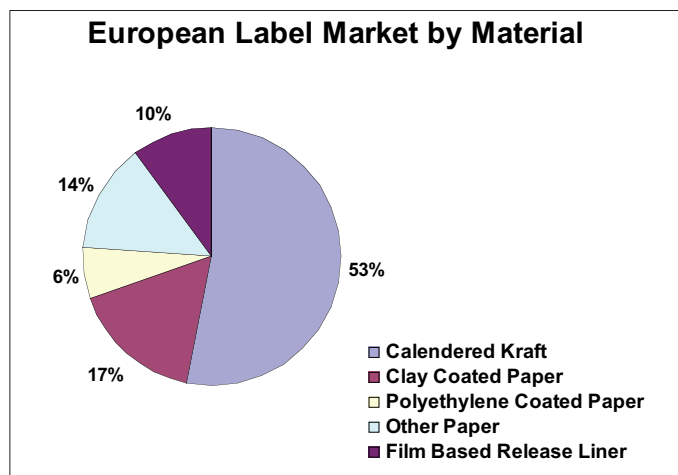
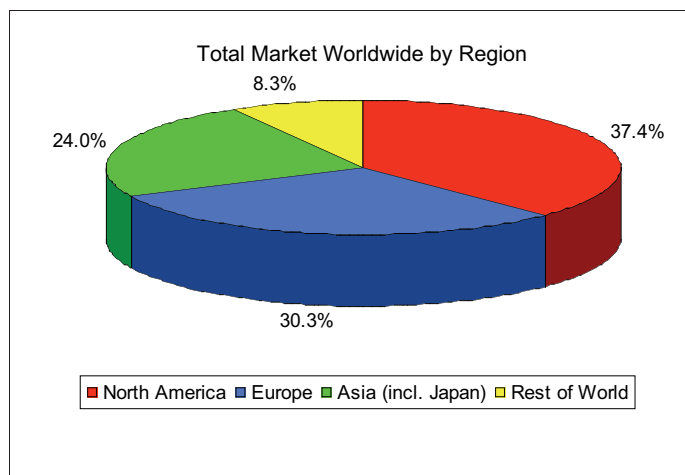
Hubbard suggested that the market could see rapid change in the next five years, and it seemed possible



'Sustainability is in and waste is out' was the message in Calvin Frost's paper



Jules Lejeune outlines FINAT's six-point 'green' initiative



that technological innovation could make linerless labels a more acceptable solution in arenas outside track-and-trace and print-on-demand applications.

Much of the industry's optimism has been kick-started by the evangelism of Calvin Frost and the Channelled Resources group of companies for pioneering and establishing liner recycling. 'Sustainability is in and waste is out' was the message in Frost's paper at the seminar.

FINAT, the self-adhesive label industry's trade association, has been promoting pro-active involvement in waste management without too much success but now may be poised to offer a truly practical solution, explained managing director Jules Lejeune as he outlined the association's new six-point 'green' initiative.

Siliconising

Degussa Goldschmidt has recently become part of Evonik Industries but remains a leading supplier of release liner siliconisation systems. Dr Philip Tomuschat from the label industry team proposed a new labelstock liner based on 30 micron BOPP film, a packaging industry commodity with UV-curing silicones.

The new release liner package is said to offer reduced caliper and lower silicone coat weight, more labels per reel, high-speed performance in all processing stages, better environmental credentials, globally-available raw materials, and a competitive price. Since BOPP can be sold for re-granu-

lation and re-use, liner waste could be reduced by 55% with this product, Tomuschat claimed.

Film growth

Loparex Europe business director David Courtney indicated pathways to future success, identifying film liners as a major growth prospect for Europe, perhaps not in PET but maybe in OPP and other film grades.

Partnered with the growing UV curing technology and solvent-free silicone systems, this broad platform of silicone release systems is something that only a commercial siliconiser can offer and not just for the label industry, he said.

Thinner-gauge film liners with added-value backside coatings such as print-receptive or writeable coatings, high-friction coatings, could extend end-use applications. Finally, and perhaps most importantly, Courtney says "the industry needs a new release base," and the industry sector with the most to gain from developing such a game-changer is the commercial siliconiser.

The Polytype Group has achieved an industry reputation in the field of high-speed siliconising and adhesive coating at speeds in excess of 1000m/min and this technology, as described by Reinhold Seher, is well placed to match current advances in silicone and adhesive chemistry.

At the sharp end

The label converter is at the sharp end of the market and in the most pressurised position as far as profi-

tability is concerned. ETI Converting Equipment took this situation as a starting point for their discussion of the possibilities of in-line coating and siliconising.

"There is a real need to change the industry to help converters retain margin," says ETI's president François Bayzelon. ETI's technology platform is said to offer a quality alternative to purchasing ready-laminated labelstocks, with benefits in cost savings, particularly for volume usage in food and beverage applications.

Bayzelon proposed the ETI technology platform as particularly appropriate for the developing geographical markets where self-adhesive labelstock may be difficult to access. For instance, 'last-minute' lamination could be useful in countries where high humidity is an issue.

Die cutting

Thin film release liners have their advantages but they require special care in die cutting as Kocher+Beck's Steve Horne showed.

To achieve optimal results and die life, all the key elements in the process have to be precisely adjusted and set, with variable anvil dies like the company's GapMaster offering good results.

So, in summary, it would seem that, after a lengthy period of change and repositioning characterised by mergers and acquisitions across the supply chain, some stability appears to be returning to the label release liner market. ■

Variations on a theme

Cotek puts its success down to a touch of 'black magic'

Cotek Papers is a small, conservative company that was founded in 1964 in a wooden mill in the English Midlands. In line with its safe but sure thinking its growth pattern has been slow but steady. Today, it employs 55 people and operates from its Moreton-in-Marsh-based site which is designed to allow for considerable expansion as it sets out to develop the mainland European market.

These days, this leading UK producer of technical release papers and films operates from a new-build factory in the heart of the beautiful Cotswold countryside where literally everything is built from a warm local stone or something very similar. And that includes the Cotek factory where three coaters with gas-fired dryers, numerous slitters, including a new narrow coil slitting machine, and a plethora of complementary equipment serves up an annual turnover in excess of £10M a year.

Economic development

Cotek's growth rate is steady in most markets and, as one might expect, strong in the tape sector. In 2005, the company turned over £8.7M (€11.66M), the tape sector accounting for almost half. By 2007 turnover was in excess of £10M (€13.39M). The tape sector, which continued to dominate, had increased to nearly £4.5M (€6M).

Interestingly, in the same period income from new customers had more than doubled and the shift in market sector business had shown considerable change. In 2005, butyl/mastic/

bitumen products was the company's second strongest market but, by 2007, it had been replaced by pre-preg used in the aircraft, automotive, wind power and boatbuilding industries, and building and construction products. The company's business in film bags has shown some growth, while certain bakery products are waning because of the way the High Street now does its business.

Investment

One of the reasons for the company's success lies in its approach to investment. If there is a need to buy new the company will but, with a team of skilled engineers supervised by works manager Gary Henshaw, much line development is undertaken in-house. Turnkey projects are avoided wherever possible and much of the company's profit is ploughed back into the business.

"This summarises the way we build for our future," says sales manager Kevin Carroll. "We need to be constantly improving so that we can become bigger and better and produce faster. In today's economic cli-

mate it is not always possible to ask for, say, a 5% increase in prices."

"Prices need to remain stable as far as the supplier customer relationship is concerned. So we have to look for other ways to operate more effectively such as finding more economic material sources or using different chemistry, thereby improving line speeds. This is a far better way for us to maintain good customer relations, rather than enforcing unwanted price increases on large volume customers."

The last few years has seen the installation of a variety of equipment, including wide web filmic and paper slitters, thermal curing ovens, turretting unwinds and rewinds, multiple humidification units and a thin film coater, all fully funded. Planned future investments include modification to the thermal coating heads, an increase in line speeds and a new paper/film coating line.

Market development

"Market development is absolutely crucial to the way we move forward," says Carroll. "What we have done



Cotek's head office in the Cotswolds at Moreton-in-Marsh



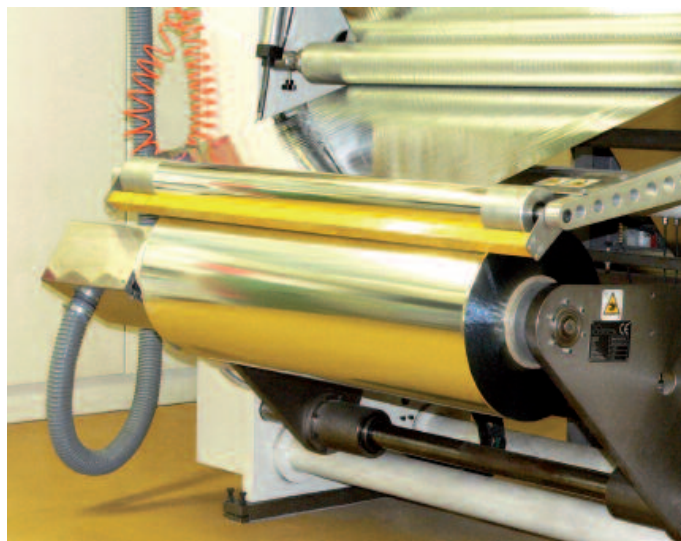
New warehouse racking makes good use of space



Cotek sales manager Kevin Carroll



The unwind station to coating line number one



12µ metallised polyester at 300m/min on coating line three

recently is to build on our experiences on the main coating line on silicone release films to produce the same range of modified release levels on very thin and thermally sensitive plastics.”

“We recognised about four or five years ago that technology wasn’t as reliable as we would like and decided that the machine we had wasn’t suitable for those products and certainly not for the way we wanted to grow the business. So we decided to invest in a new machine but this has yet to run at full capacity.”

“We still view this machine as a ‘development’ machine and one that, potentially, can produce 100,000m²/shift, providing that the product is fairly standard and there are no changeovers. In addition, we would be able to run this line 24 hours a day so we have quite a lot of room for growth and development there. We have been able to replicate on light-weight films what we have been doing for a number of years on heavier substrates – and that is reliable release values on two-sided coated films.”

“The next investment is to have a wider coating line. The current plant is restricted to 1.3m. That’s fine for 80-90% of the market because the business that we enjoy is mainly narrow slit at present. But the money and time we have invested in developing this line has opened our eyes to fresh markets that until now were beyond us.”

“Traditionally we have shied away from marginal single-sided coatings – traditional labelstock – and concentrated on double-sided coated papers on the main line while the new line has been used for certain types of films. The main coating line was originally made as a paper coating machine so we had difficulty in handling anything less than 36µ, particularly with HDPE, LDPE and some PET products – it’s just too big and butch!”

“With good tension control and UV equipment we can put all the heat-sensitive substrates on the new line so it is a good partner for the other machine.”

The company is not planning to develop fresh market sectors so much as refining the products already available on its extensive portfolio. In the first instance it plans to broaden the number of releases available for more of its silicone release films. They do this chemically, not by reducing the amount of silicone.

“It is important to understand your customers, their products and the release values necessary to prevent unwinding prior to use,” adds Carroll. “There is a fine balance in this and a certain amount of ‘black magic’ is involved, and not just in the product or the coating. For example, if conditions are hot and humid, the product reacts differently than when it’s cold.”

“When it’s hot and sticky you might need an easier release. In damp conditions papers can cockle and

curl. It can be a minefield unless the converter goes out of his way to understand his client and, similarly, customers must understand the range of products available and the way that they function.”

“This understanding is crucial, particularly if converters are working through middlemen or agents who often show little interest in the finer points of any market.”

International

As yet Cotek does not have any facilities overseas. “In some countries, we have agents representing us. This seems to work to a degree and we offer help and encouragement but sometimes there is no alternative than to walk away before we end up working for the agent, rather than the agent working for us. In Germany we have employed a consultant because the understanding of the culture is crucial.”

“Knowledge of the market goes without saying and the man that we have in Germany, Bernt Mandau, has been in our industry for a number of years. We first met him a number of years ago when he was representing a supplier and thought he might be a suitable partner for Cotek should the situation change.”

“He has been with us for four or five years now and he is working for us full time in Germany. Having been in the industry for 30-odd years, it goes without saying that he knows



A view of the company's flotation dryer

the customers and their products just as much as he now knows us. Our German customers do business with Mr Mandau, not Cotek!”

Environment

From a coatings point of view Cotek claims to be one of the first companies in the industry to be solvent-free from silicone coating. It has been solvent-free since 1993 when it installed a new coating line and it was able to lead the market for a number of years because of the configuration of the coater. Since then the company has continued to look at more environmentally responsible coatings including water-based products.

Quality control

Quality control is one of Cotek's USPs. It conforms to BS EN ISO 9001:2000 and has met the 9001 specification since 1995. Incoming supplies are thoroughly tested, although some is done by conformance to specification provided by long-term suppliers.

Testing on the coating line is clearly visible with online moisture measuring and monitoring systems, temperature and humidification controls and essential data logging equipment. In addition there is a temperature and humidity controlled R+D technical centre with new analytical test and research equipment.

Technicians check for silicone weight and coverage online in a bid to meet with the most demanding customer's requirements. As a secondary process, it takes samples from the machine and operator at the beginning of the roll and after conversion so that it has an 8-picture profile of

the overall roll. It also keeps a constant check on the release values and carries out all process control inline and in the laboratory. The only disadvantage in following such a strict discipline is that quick despatches of finished products are not always possible.

Innovation

Where innovation is concerned, because of the flat nature of the management structure agreement on the approach to a 'new' product is easily reached.

“The drawback of being a small company and having not so much limited machine resource but limited machine availability, is producing a brand new product. Often, the investment in new machinery required for a new product just isn't a viable proposition.”

Brand names

The company has considered branding its products because from an advertising and promotional aspect it would make life a lot easier.

However, it has not actively pursued this policy, preferring to rely on numerical references in line with its suppliers and many of its competitors. A numerical system is perfectly adequate when no end product is involved but, if it were to sell self-adhesive tapes direct to the public, for instance, it would reconsider its policy.

Suppliers

“We have a myriad of suppliers who provide us with our materials which continues to grow, predominantly because of the mix of papers and films that we offer. Each converted paper or film is given a process control document number and that basically is the recipe for the final format. In all Cotek can provide well over 1000 base products. We are one of the few producers who run double-coated inline as a matter of course.”

“Many companies, operating faster machinery, cannot coat two sides inline. They will coat one side and leave it to cure for days. Not every-

body has our expertise and, if the silicone is not fully cured as it proceeds through the oven, the chemistry would still be interacting and it would 'block' or gel together and obviously be unsuitable for onward conversion.”

Historically, the company has looked to Scandinavia for its papers but the number of mills that can provide the quality of papers suitable for double coated products is limited. Papers have to be sufficiently fine not to sop up the silicone.

Recession

As we go to press the stock markets have become volatile and there is talk of recession. Carroll is reasonably confident, however, that Cotek will weather the storm.

“We are a small company operating from one facility but on the cusp of expansion and looking for more business and more shifts but, if a recession were to bite hard, then this is something that we may have to postpone. Even so, if we were to just maintain our current levels or operate at slightly lower levels, a recession should not have a major impact on our company.”

“We are better placed than most, not only because we are a small company and everything is bought and paid for but also because of the diversity of the products that we make. We still need to meet the requirements of our end market and yes we need to invest in our future but, at this stage and with the machinery we have, we will not be so badly affected as some of our competitors might.”

“We have also seen some polarisation in the industry, with smaller and medium-sized companies being swallowed up by the conglomerates and we have had one or two offers over the years which managing director Scott Hazell has resisted and so we are not saddled with a faceless organisation and an ivory tower to finance. Today we use this scenario as an introduction to new business because there is a face to our business. I think that smaller, well run companies will ride any storm far better.” ■

Web pages with a personal touch

The latest in our series of website reports examines the Swiss company Collano AG. It claims to be an innovator in bonding processes and calls itself 'The Innovation Company'. Collano is a specialist materials supplier for the international converting industry with branches in Switzerland, Germany, France and the USA, and is best known as a provider of PSAs and speciality adhesives.

Browser compatibility and speed

The standard browsers as well as the less used browsers guarantee a flawless use of the web site. Downloads can be carried out in just a few seconds. The pages are displayed quickly and with a consistent design displaying a centred screen.

Mark: 10/10

Navigation

The Collano pages have a simple but sometimes slightly irritating design. The web site looks very clean and clinical and is very inviting to the eye. However, navigation is more difficult than it appears at first. There is no explicit main menu so the user has to decide between several different menus. The Collano logo is always located in the top right corner but, apart from the home page, the sub-head is too small to read. On the top left there is a separate menu with five sections to choose from – markets/products, Collano, innovation, downloads and contact.

At the bottom of the page, placed centrally, the user finds a second horizontal menu with contacts, site map etc. The labelling of some sub-sections is not always well chosen, as they do not clearly refer to the page content. For instance, the lower Collano link is identical to the home link, whereas the upper Collano link leads to an introduction page. After a little familiarisation, the user can navigate through the pages without any problem. The combination of a white background and grey-blue text is not really ideal and the rather small text is hard to read.

Mark: 13/20

Content and presentation

News: The news is not presented in its own category. Nevertheless, numerous interesting news items, for example about new adhesives, the Collano innovation Grant or PUR-film applications can be found through links. In the download section, the user can download press releases, data sheets and corporate publications, and download them as PDF files. The press releases can also be found by a direct link on the left side of the home page. The sub-section agenda informs the reader about current trade fair activities, lectures and symposia.

Products and applications: This field can be found in the main section markets/products, including 18 different sub-sections that provide plenty of content.

For the readers of C2 Europe, the label, tape, graphic industry, packaging and security sections are of greatest interest, as well as sections covering foam, the graphic industry and technical textiles. The sections report about products and applications as well as about the corresponding company expertise. A sub-section with the relevant contact persons, data sheets and product publications completes this section.



www.collano.com



The labels page illustrates Collano's UV-curable hot melt adhesives that exhibit excellent adhesion on low-energetic surfaces and are fully transparent



The 'Collano' page invites users to pay a personal visit and the possibility to register for the in-house magazine

Archives: There is no explicit archive section but the company's history since 1947 is presented chronologically and in detail. The downloadable PDF files can also be displayed in reverse chronological order.

Mark: 17/25

Languages

The web site of the adhesives specialist is available in German, French, Italian and English. The Italian pages do not offer the full web site content, but enhanced basic information such as the sales and distribution contacts and product data sheets. It is striking that the contents of the particular pages,

especially of the home pages, differ considerably and by this reflect the different focuses of the respective country.

Because Collano has no subsidiaries in South America, Eastern Europe and Asia, there are no Spanish, Russian, Chinese or Japanese pages. Potential customers from these language areas have to settle for the English, German or French pages.

Mark: 7/10

Contact information

In the Contact section, the user finds a list of all sites with the respective main contact details. This information is complemented by a

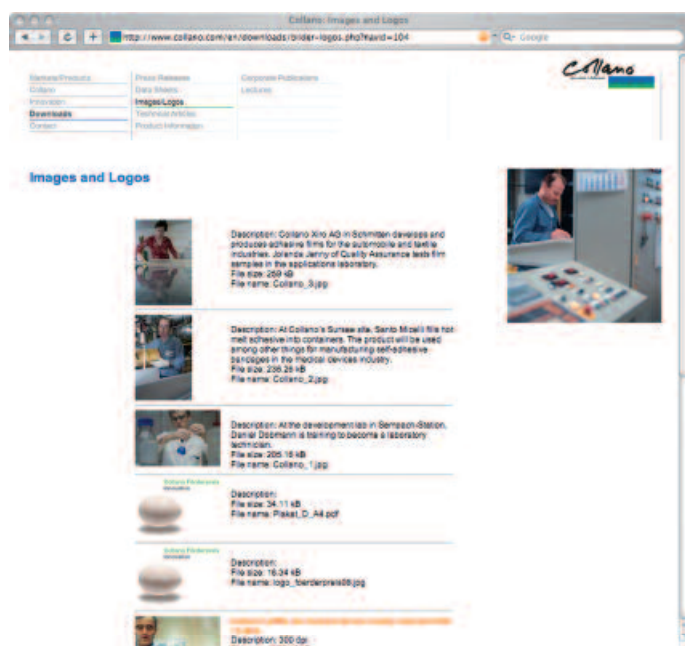
query form, with which the user can find and directly address any of the 350 Collano employees. After a successful query, a picture of the contact person with individual contact details appears.

Under the Collano section, the company directly and personally approaches the customers and interested readers. With the direct 'you-approach', readers are invited to visit the company, with the contact person and address attached.

We applaud this simple but effective marketing tool which certainly helps to make new contacts feel welcome.

Mark: 9/10





The download section is well illustrated and contains information on each file name and size



Under 'Corporate Culture' users find a four principle guide to a healthy working environment

Contact forms

There are no standardised contact forms because a personal e-mail-link for every employee is available. Under the contact section only general e-mail-links for the five sites are offered. The only point of criticism was that, after 72 hours, no answer to our test e-mail was received. In a fast and direct medium like the Internet though, the user expects an answer after 24 hours or at least an intermediate reply.

Mark: 5/10

Downloads

No matter whether data sheets, company reports, ISO certificates or information about job vacancies – all sorts of information can be downloaded easily and quickly. They are clearly structured in the download section within the sub-sections press releases, data sheets, images/logos, technical articles, product information, corporate publications and lectures. All PDF files are available in English, German French and some in Italian. The sizes of the picture files are specified and even a suitable caption is provided. This is a good service.

Mark: 9/10

Investor information

All annual reports, complemented by biannual reports since 2005, are available as PDF files but a company legal notice is nowhere to be found. Press releases concerning sales trends, award ceremonies or change of management personnel also offer important additional information to the investor.

Environmental performance figures and sustainability figures for the last few years present Collano as a transparent organisation with a proud environmental record. A well arranged site map in three languages is available.

Mark: 8/10

Miscellaneous

A REACH information sheet is provided as an interesting additional feature. Collano offers a job market with extensive information about all vacancies as PDF downloads.

Trainees can find information on a special page highlighting available apprenticeships. The search function is excellent. The opportunity to order the attractive looking in-house newsletter CollanoMoment by e-mail is an interesting new feature.

Mark: 4 bonus points

CONCLUSION

Total score: 82/100
Verdict: Very good



Informative and yet very personal, the Collano web pages offer readers a multitude of information that reflects the company's products and activities very well. The pleasant language used in the pages makes the user feel personally addressed and interested.

Quite unique is the friendly personal invitation on the Collano page and also the team pages, where every contact person at Collano appears with a portrait.

👍	90-100	Excellent
👉	80-89	Very good
👉	70-79	Good
👉	60-69	Average
👎	less than 60	Below average

Hamburg to Shanghai and back again

Did you notice the Rolls Royce emblem above the grill of the Silver Shadow II? It's red! It doesn't matter, you say? Oh yes it does! For a true lover of vintage cars, simply the fact that the legendary luxury emblem is red and not black is a sheer sensation. Since Charles Rolls, company founder and eponym, died in a plane crash in 1910, all cars wore a black emblem.

The colour was changed to red only for the special edition to celebrate the 75th company anniversary. If you still don't feel the urge to kneel down in front of this dream on wheels, here's some more mouth-watering information: 6.75 litres, V8 engine, 6750ccm and 220HP with 4500rpm. The red leather interior, a classic RR ambience, offers – in a playfully mechanical way instead of simply electronically – all the comforts of a modern car.

The Silver Shadow II was built exactly 8425 times from 1977 until 1980. Worldwide, only 75 cars from the last special edition II still exist... and one of them belongs to Bernward Kurpisch, managing director of Drytec in Hamburg.

As a child he was enthusiastic about cars and was especially 'into cars' that of course were not yet vintage cars at that time but already had something special about them. This fascination survived. It will come as no surprise to learn that his first car was no ordinary student ride but a Triumph TR 6.

The fascination of 'Emily'

Anyone who lost his heart and soul to vintage cars sooner or later cannot resist the temptation of 'Emily', the silver winged lady on the RR engine bonnet. Rolls Royce is still a synonym for luxury and desirable cars and, with the models Silver Ghost and Phantom, has built some true legends.

In 1982, Kurpisch finally purchased his first RR, a Bentley SII. Since then he has remained true to the luxury brand, even if his love for gleaming chrome and hand-polished wooden parts is not always shared by his family but tolerated.



Not just a Sunday car

In contrast to many other vintage car owners who hide their treasures in heated garages and only take them out for polishing on a Sunday, Kurpisch takes his Silver Shadow for a ride through the countryside, time and weather conditions permitting.

The fact that the SSII can easily cruise at 200km/h surely adds to his driving pleasure. Anyone who owns such a dream car sooner or later tires of simply driving from Hamburg to Barsbüttel and sets his sights on a real challenge. Kurpisch's dream is

to do the trip from Hamburg to Shanghai.

And the way the Silver Shadow is built, it would probably survive the ride through the Mongolian desert and the Chinese highland without a single repair. "With adequate quality and care you don't need another car for the rest of your life and you can even hand down the beauty to your children and grandchildren," trumpets one Internet fan. A bit exaggerated maybe but travelling with more style and elegance hardly seems possible. ■





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